A series

Worm gear reducers and gearmotors

Contents

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Rossi for You

Innovation
Rossi offers a wide range of **solutions for an evolving industry**, flexible and innovative gearboxes and gearmotors for customer tailored solutions to maximize performance and minimize the total cost of ownership.

High quality, 3 years warranty
Our drive is to innovate and boost operations by manufacturing performing, precise, reliable and high-quality products all over the world. We are always one step forward in offering and developing solutions that can satisfy an unlimited number of application needs, even in the most demanding conditions.

Reliability
We are a reliable company with the right flexibility and know-how to respond to worldwide market requests, in all application fields, without leaving aside our commitment for the environment and value on human safety, to protect everyone's future.

Tools and processes
We continue to invest in new tools and processes, so our highly skilled specialist team in different fields are supporting you to find the best solution suitable for your demands, always by your side on every step of the project.

After-sale service
Highly trained mechanics and support teams can ensure a fast and efficient after-sale service providing support worldwide.

Digital support
Alongside our 24/7 **Rossi for You** support portal you have a suite of digital support tools enabling real time access to your order tracking, invoices, spare part tables download and contact to our service.

70 YEARS

Experience
Shaped by more than 60 years of history Rossi meets your unique needs whether you need a standard design or a customized solution.


Rossi

Global presence local service

Local support
Sales, customer service, technical support, spare parts

17 branches*

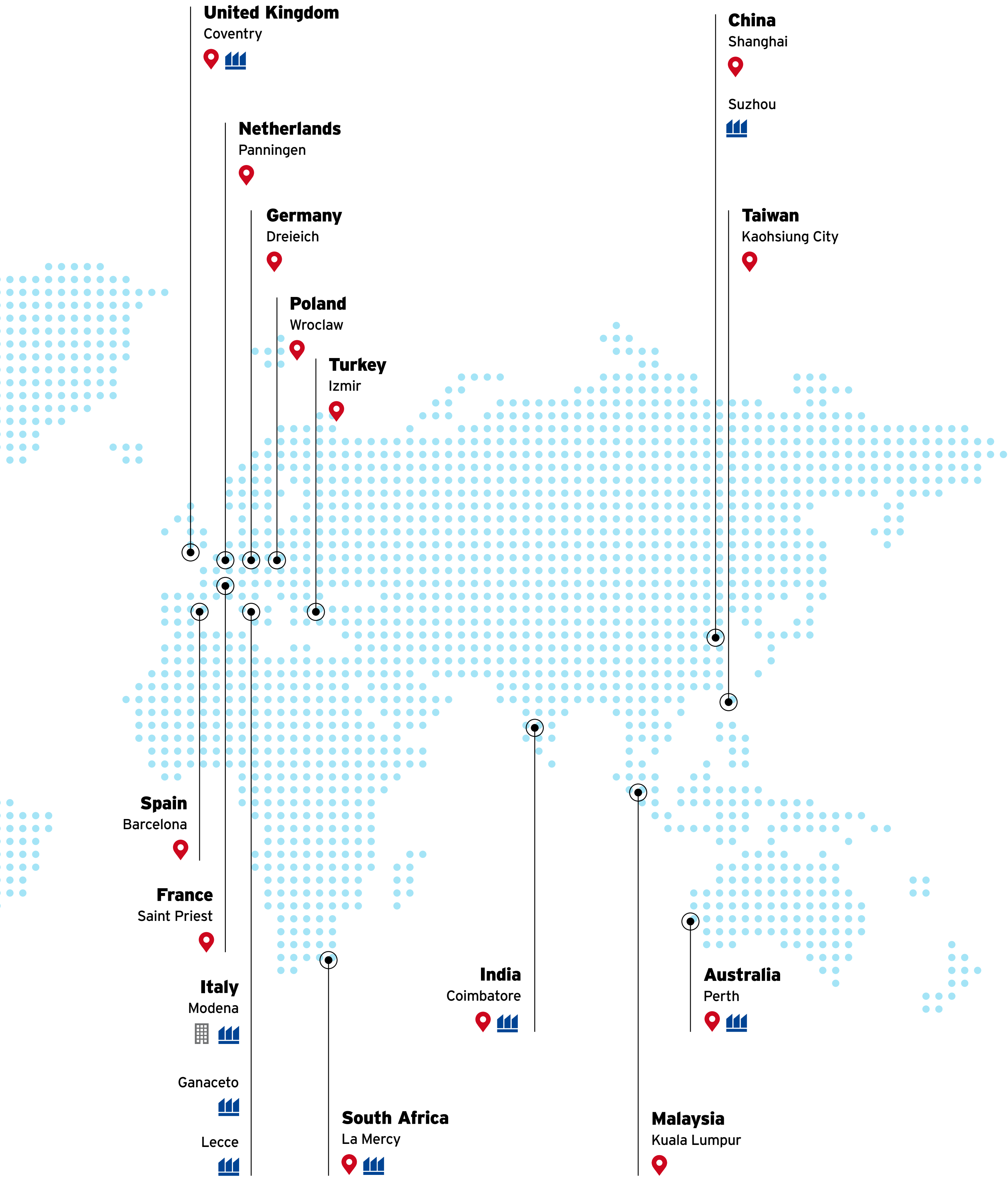
Worldwide distribution network*

A global network of subsidiaries and dealers. From design and execution to after-sales service. Rossi is always close to you: a local, reliable and flexible partner.

Alongside our 24/7 **Rossi for You** portal you have a suite of digital support tools enabling real time access to your order tracking, invoices, spare part tables download and contact to our service.

*All contacts available on **www.rossi.com**

Main offices | Affiliated companies | Production facilities/Assembly plants



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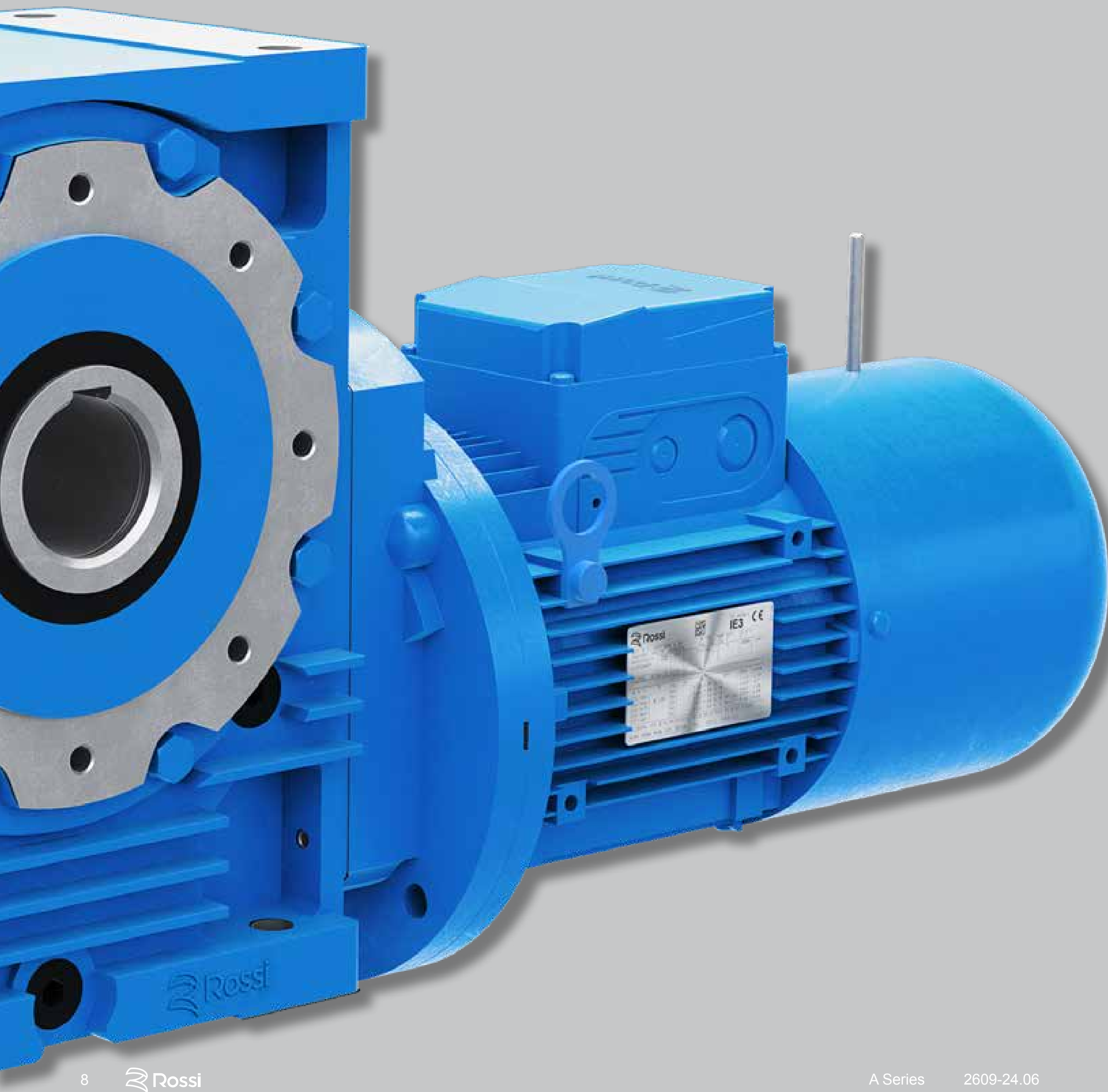
Features, benefits and range



Maximum performance

Suitable for wide variety of applications

Gear accuracy rating

High performance thanks to maximum gear accuracy rating

Modularity

Modular product for customized solutions

Reliability

Minimum maintenance, high efficiency and noiselessness

Digitalization

Rossi for You, the digital platform always available

Know-how

Our experience at your service

Worm gear reducers

32 ... 81

100 ... 250

R V
with worm gear pair

R IV
with 1 cylindrical gear pair plus worm

Worm gearmotors

32 ... 81

100 ... 250

MR V
with worm gear pair

MR IV
with 1 cylindrical gear pair plus worm

40 ... 81

100 ... 126

MR 2IV
with 2 cylindrical gear pairs plus worm

Combined gear reducer and gearmotors units

R V + R V

R V + R IV

MR V + R 2I, 3I

MR IV + R 2I, 3I

R V + MR V

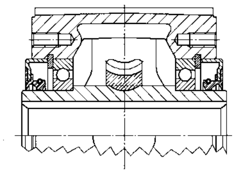
R V + MR IV

MR V + MR 2I, 3I

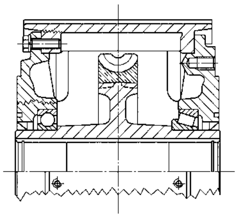
MR IV + MR 2I, 3I

Gear reducers and gearmotors (worm wheel)

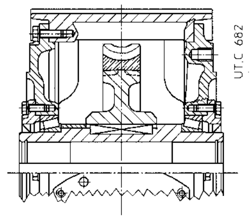
32 ... 50



63 ... 160 **161**

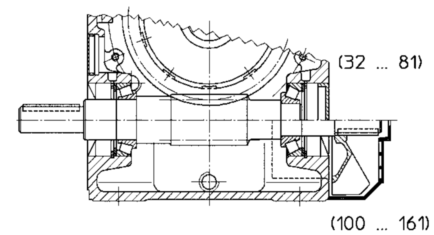


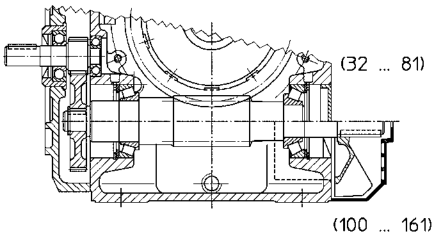
200, 250



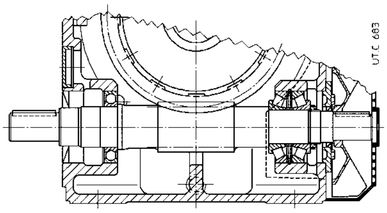
Gear reducers (worm)

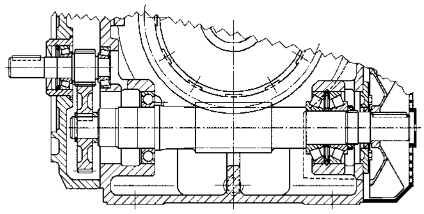
32* ... 161





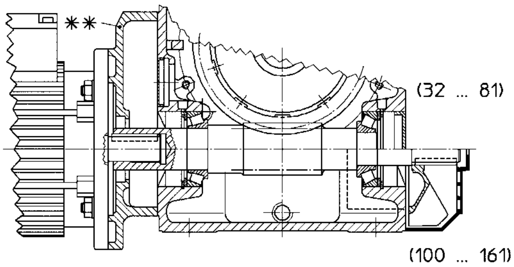
200, 250

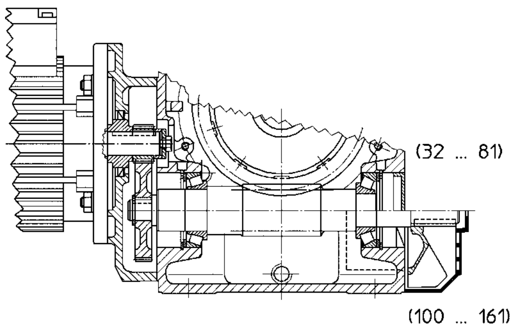


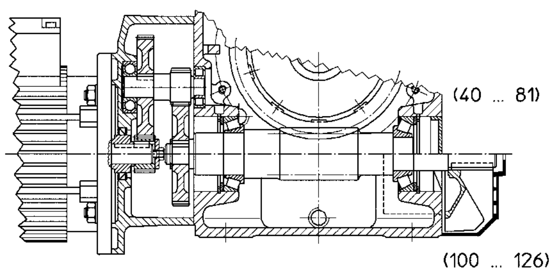


Gearmotors (worm)

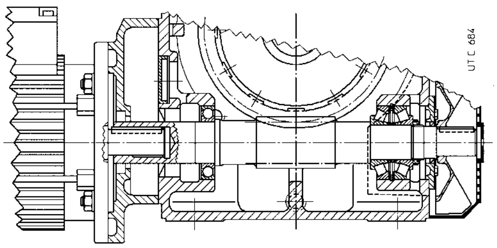
32* ... 161

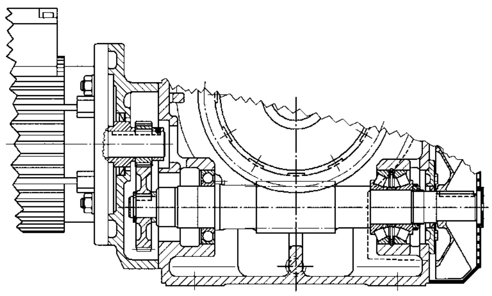






200, 250





** Size : double row angular contact ball bearing plus ball bearing.
** For: MR V 32, 40 with motor size **63** (11×140) and **71** (14×160) (see ch. 2b),
MR V 50 with motor size **71** (14×160) and **80** (19×200) (see ch. 2b),
MR V 63 ... 81 with motor size **80** (19×200) and **90** (24×200) (see c. 2b), motor flange is usually integral with housing.

Universal mounting having **feet integral with housing** on 3 faces (sizes 32 .. 81) or on 2 faces (sizes 100 ... 250) and **B14 flange** on 2 faces. Design and strength of the casing permit **interesting shaft mounting solutions**

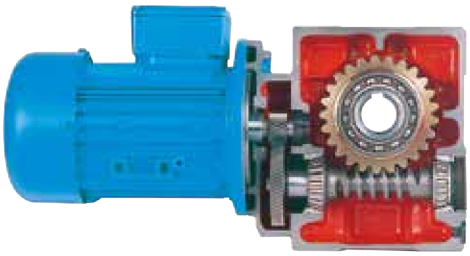
Thickened size and performance gradation (some sequential sizes are obtained with the same housing and many components in common)

High, reliable and tested performances (Ni bronze); optimization of worm gear pair performances (ZI involute profile and adequately conjugate worm wheel profile)

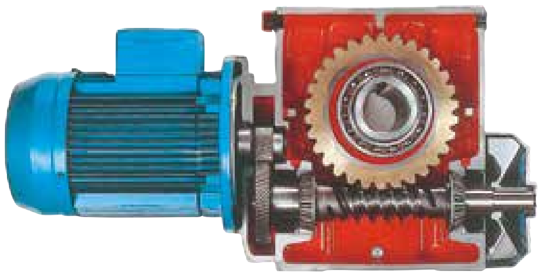
Compactness, standardized dimensions and compliance with standards

Motor standardized to IEC
Rigid and precise cast iron single-piece housing

Generous internal space between train of gears and housing allowing:
- high oil capacity;
- lower oil contamination;
- greater duration of worm wheel and worm bearings;
- lower running temperature.



32 ... 81



100 ... 250

Possibility of fitting particularly powerful motors and transmitting high nominal and maximum torques

Improved and up-graded modular construction both for component parts and assembled product which ensures manufacturing and product management flexibility

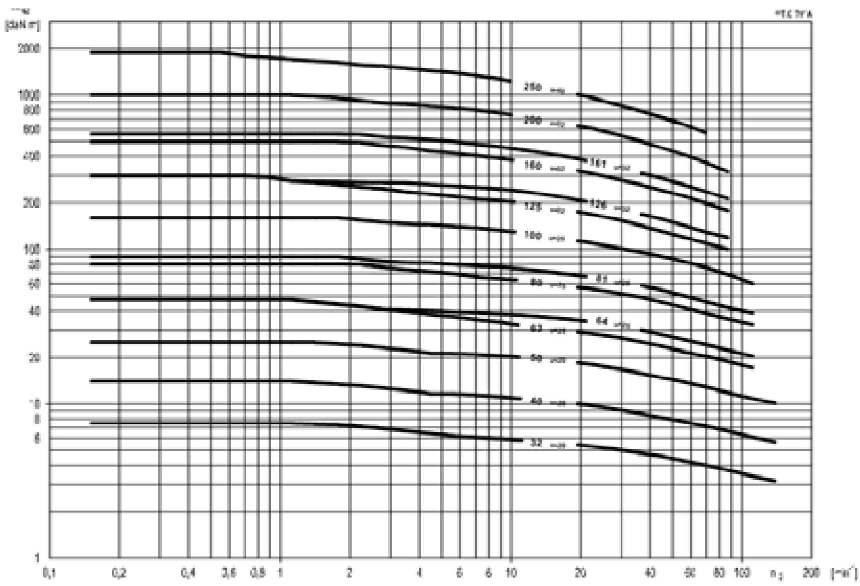
High manufacturing quality standard

Possibility of obtaining multiple drives and at synchronous speed

Wide design and acccessory availability: shaft-mounting arrangements, mixed keying systems with key and locking elements (rings for sizes 32 ... 50, bush for sizes 63 ... 250), **reduced backlash**, etc.

Reduced maintenance

A combination of modern concepts, analytical calculations carried out on **each single part**, use of the very latest machine tools, plus systematic checks on materials, assembling and workmanship, gives this series of gear reducers **high efficiency**, running **precision**, **regular** motion and **noiselessness**, **constant** performance, **life and reliability**, strength and overload withstanding and suitability for **heaviest applications**, wide size and ratio range, excellent service - **the advantages typically associated with high quality worm gear reducers produced in large series.**

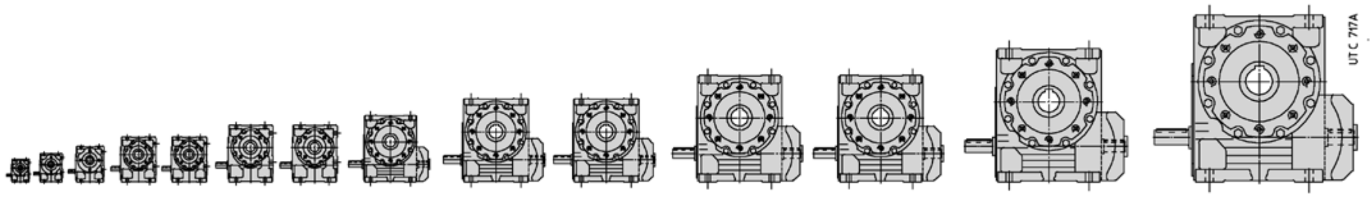


a - Gear reducer

Structural features

Main specifications are:

– **universal mounting** having **feet integral with housing** (lower, upper feet and vertical on the face opposite to motor for sizes 32 ... 81; lower and upper feet for sizes 100 ... 250) and **B14 flange** (integral with housing for sizes 32 ... 50) on 2 faces of hollow low speed shaft output. **B5 flange** with spigot «recess» which can be mounted onto B14 flanges (see chap. 5). Design and strength of the housing permit **interesting shaft mounting solutions**;



32	40	50	63	64	80	81	100	125	126	160	161	200	250	1)
71	82	100	125		150		180	225		280		335	410	H
48	56	67	80		100		125	150		180		225	280	H_0
19	24	28	32		38	40	48	60		70	75	90	110	D
4	7,1	12,8	21,9	26,1	42,2	50	83	133	158	245	291	462	802	M_{N2} *
7,5	14	25	47,5		80	90	160	300		500	560	1000	1900	$M_{2\ Grand.\ Size}$
180	250	355	530		800		1250	1800 (2000)		2650	3000	4500	6300 (7100)	F_{r2}

* concerning n_1 = 1 400 min^{-1} and transmission ratio stated in the scheme.
1) H_1 H_0 shaft height; D Ø low speed shaft end [mm]: M_{N2}, $M_{2\,Size}$ torque [daN m]; F_{r2} radial load [daN].

– thickened size (10 sizes with 4 size pairs with final centre distance 32 ... 250) and performance gradation; the size pairs are obtained with the same housing and with many components in common;

– gear reducer structure sized so as to accept particularly powerful motors – both MR V and MR IV – and to permit the transmission of high nominal and maximum torques at low output speeds, this being the particular advantage of worm gear pairs;

– gearmotor sizes 40 ... 126 with **2** cylindrical coaxial gear pair **first stage** in order to obtain high – **reversible** and irreversible – transmission ratios with standardized motor (63 ... 112) in a compact and economy way;

– normally, gearmotors MR V sizes 32, 40 (with motor sizes 63 and 71) 50 (with motor sizes 71 and 80) and 63 ... 81 (with motor sizes 80 and 90) have motor flange **integral** with the housing;

– hollow low speed shaft with keyway, and (sizes 63 ... 250) with circlip groove for removal purposes: in spheroidal cast iron (grey cast iron for sizes 32 and 40) integral with wormwheel (sizes 32 ... 161) or steel (sizes 200 and 250); standard (left or right extension) or double extension low speed shaft (see ch. 5).

– gear reducers: input face with machined surface (R V) or flange (R IV) and with fixing holes: wormshaft end with key, and reduced wormshaft end with circlip groove (the same as for R IV, MR IV, MR 2IV, MR V 160 ... 250 with coupling);

– gearmotors: **motor standardized to IEC directly** keyed into the worm (MR V), for motor sizes 200 ... 250 **patented** keying system to obtain easier installing and removing and avoid fretting corrosion; standardized motor with pinion directly mounted onto the shaft end (MR IV, MR 2IV);

– **fan cooling** (sizes 100 ... 250); use of **double extension worm-shaft** simply obtained by removing the fan cowl centre disc; for MR V 81 with motor 100 and 112, fan incorporated in motor mounting flange;

– bearings on worm: double row angular contact ball bearing plus ball bearing (size 32); face-to-face taper roller bearings (sizes 40 ... 161); paired back-to-back taper roller bearings plus one ball bearing (sizes 200 and 250);

– bearings on wormwheel: ball bearings (sizes 32 ... 160); taper roller bearings (sizes 161 ... 250);

– 200 UNI ISO 185 **cast iron single-piece housing** with transverse stiffening ribs, and high oil capacity;

– oil bath lubrication with **synthetic oil** (ch. 4) for **«long-life»** lubrication: units provided with one plug (sizes 32 ... 64) or two plugs (sizes 80 and 81) supplied **filled with oil**; with filler plug with **valve**, drain plug and level plug (sizes 100 ... 250) supplied **without oil**; sealed;

– **paint: external** coating in epoxy powder paint (sizes 32 ... 81) RAL 5010 ISO C3 H to ISO 12944-2 and 12944-1 or water based dual compound polyacrylic resin basis enamel (sizes 100 ... 250) RAL 5010 ISO C3 L to ISO 12944-2 and 12944-1 resistant to atmospheric and aggressive agents; suitable for further coats only with dual-compound products after degreasing and sanding; color blue RAL 5010 DIN 1843, other colors and/or painting cycles on request; **internal** protection with epoxy powder paint (sizes 32 ... 81) suitable to resist to synthetic oils or with synthetic paint (sizes 100 ... 250) suitable to resist synthetic oils.

– possibility of obtaining combined gear reducer and gearmotor units providing high transmission ratios with different train of gears depending on overall dimension, efficiency, and final output speed requirements.

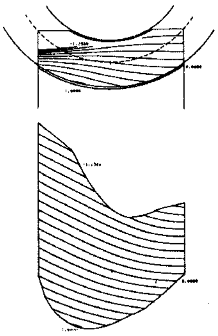
Features, benefits and range 2

Train of gears:

— worm gear pair; 1 cylindrical gear pair plus worm; with 2 cylindrical gear pairs plus worm gear pair (gearmotor only);
— worm gear pairs, with **whole-number** transmission ratios (*i* = 10 ... 63) **identical** for the different sizes; *i* = **7** for MR V 32 ... 81;
— 10 sizes having 4 sizes pairs (standard and strengthened) with final reduction center distance to R 10 series (32 ... 250) for a total of **14 sizes**;
— nominal transmission ratios to R 10 series (10 ... 315; up to 16 000 for combined units);
— casehardened and hardened cylindrical worm in 16 CrNi4 or 20 MnCr5 UNI 7846-78 steel (depending on size) with ground and **superfinished involute** profile **(ZI)**;
— wormwheel with profile especially conjugate to the worm through hob optimization, with hub in spheroidal or grey cast iron (depending on size) and **Ni bronze** CuSn12Ni2-B (EN1982-98) gear rim with high pureness and controlled phosphor contents;
— casehardened and hardened cylindrical gear pair in 16CrNi4 UNI 7846-78 steel with ground profile and helical toothing;
— train of gear load capacity calculated for breakage and wear; thermal capacity verified.

Specific standards:

— nominal transmission ratios and principal dimensions according to UNI 2016 standard numbers (DIN 323-74, NF X 01.001, BS 2045-65, ISO 3-73);
— basic rack to BS 721-83; involute profile (ZI) to UNI 4760/4-77 (DIN 3975-76), ISO/R 1122/2-69);
— shaft heights to UNI 2946-68 (DIN 747-67, NF E 01.051, BS 5186-75, ISO 496-73);
— fixing flanges B14 and B5 (the latter with spigot «recess») taken from UNIL 13501-69 (DIN 42948-65, IEC 72.2);
— medium series fixing holes to UNI 1728-83 (DIN 69-71, NF E 27.040, BS 4186-67, ISO/R 273);
— cylindrical shaft ends (long or short) to UNI ISO 775-88 (DIN 748, NF E 22.051, BS 4506-70, ISO/R775/88) with tapped butt-end hole to UNI 9321 (DIN 332 Bl. 2-70, NF E 22.056) excluding d-D diameter ratio;
— parallel keys to UNI 6604-69 (DIN 6885 Bl. 1-68, NF E 27.656 and 22.175, BS 4235.1-72, ISO/R 773-69) except for specific cases of motor-to-gear reducer coupling where key height is reduced;
– mounting positions taken from UNEL 05513-67 (DIN 42950-64, IEC 34;7);
— worm gear pair load capacity and efficiency to **BS 721-83** integrated with ISO/CD 14521.



Lines of contact and area of action determined by computer to check on each individual gear pair design.

Fan cowl centre disc removed so as to utilize double extension wormshaft.

Gear reducer design UO2B:
reduced wormshaft end (also suitable for R IV, MR IV, MR 2IV, MR V 160 ... 250 with coupling). Double extension low speed shaft.

b - Electric motor

Gearmotor dimensions and masses of present catalog (see ch. 3.8 and 3.10) refer to HB and HBZ motors (cat. TX).

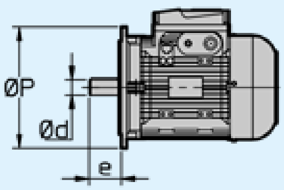
– motor **standardized to IEC**;
– asynchronous three-phase, totally-enclosed, externally ventilated, with cage rotor;
– single polarity, frequency 50 Hz, voltage Δ 230 V Y 400 V (size ≤ 132), Δ 400 V (size ≥ 160);
– IP 55 protection, insulation class F, temperature rise class B;
– rated power delivered on continuous duty S1 (excluding some cases of motor sizes with power not according to standard; see specific documentation) and referred to nominal voltage and frequency; maximum ambient temperature 40 °C and altitude 1 000 m;
– capacity to withstand one or more overloads up to 1,6 times the nominal load for a maximum total period of 2 min per single hour;
– starting torque with direct on-line start at least 1,6 times the nominal one (it is usually higher);
– mounting position B5 and derivates as shown in the following table;
– **suitable for inverter duty** (generous electromagnetic sizing, low-loss electrical stamping, phase separators, etc.)
– designs available for every application need: flywheel, independent cooling fan, independent cooling fan and encoder, etc.

Constructive features of HBZ brake motor

– particularly strong construction to withstand braking stresses; **maximum reduction of noise level**;
– spring-loaded d.c. electromagnetic brake; feeding from the terminal box; brake can also be independently fed directly from the line;
– braking torque **proportioned** to motor torque (usually $M_f \approx 2\ M_N$) and adjustable by adding or removing spring pairs;
– possibility of high frequency of starting;
– quick and rapid stop;
– hand lever for manual release with automatic return (on request for size ≤ 160S); removable lever rod.

For other specifications and details see **specific documentation of cat. TX**

Main coupling dimensions



IEC 60072
(UNEL 13117-17, DIN 43677 Bl. 1.A-65)

Motor mounting position

Motor size	IM **B5** Ød	e	-	ØP	**B5R** Ød	e	-	ØP	**B5A** Ød	e	-	ØP
63	11	23	-	140		–				–		
71	14	30	-	160	11	23	-	140	14	30	-	140
80	19	40	-	200	14	30	-	160	19	40	-	160
90	24	50	-	200	19	40	-	200		–		
100, 112	28	60	-	250	24	50	-	200		–		
132	38	80	-	300	28	60	-	250		–		
160	42	110	-	350	38	80	-	300		–		
180	48	110	-	350		–				–		
200	55	110	-	400	48	110	-	350		–		
225	60	140	-	450		–				–		
250	65	140	-	550	60	140	-	450		–		

Short time duty (S2) and intermittent periodic duty (S3); duty cycles S4 ... S10

In case of a duty-requirement type S2 ... S10 the motor power can be increased as per the following table; starting torque keeps unchanged.

Short time duty (S2). — Running at constant load for a given period of time less than that necessary to reach normal running temperature, followed by a rest period long enough for motor's return to ambient temperature.

Intermittent periodic duty (S3). — Succession of identical work cycles consisting of a period of running at constant load and a rest period. Current peaks on starting are not to be of an order that will influence motor heat to any significant extent.

Cyclic duration factor = $\frac{N}{N+R} \cdot 100\%$

where: N being running time at constant load,
R the rest period and $N + R \leq 10$ min (if longer consult us).

Duty			Motor size[1) 63 ... 90	100 ... 132	160 ... 280
S2	duration of running	90 min	1	1	1,06
		60 min	1	1,06	1,12
		30 min	1,12	1,18	1,25
		10 min	1,25	1,25	1,32
S3	cyclic duration factor	60%	1,12		
		40%	1,18		
		25%	1,25		
		15%	1,32		
S4 ... S10			consult us		

1) For motor sizes 90LC 4, 112MC 4, 132MC 4, consult us.

Frequency 60 Hz

Normal motors up to size 132 wound for 50 Hz can be fed at 60 Hz; in this case speed increases by 20%. If input-voltage corresponds to winding voltage, power remains unchanged, providing that higher temperature rise values are acceptable, and that the power requirement is not unduly demanding, whilst starting and maximum torques decrease by 17%. If input-voltage is 20% higher than winding voltage, power increases by 20% whilst starting and maximum torques keep unchanged.
For **brake** motors see **specific literature**.

From size 160 upwards motors — both standard and brake ones — should be would for 60 Hz exploiting the 20% power increase as a matter of course.

Power available with high ambient temperature or high altitude

When motor has to run at an ambient temperature higher than 40 °C or at altitude above sea level higher than 1 000 m, it has to be derated according to the following tables:

Ambient temperature [°C]	30	40	45	50	55	60
P/P_N [%]	106	100	96,5	93	90	86,5

Altitude a.s.l. [m]	1 000	1 500	2 000	2 500	3 000	3 500	4 000
P/P_N [%]	100	98	92	88	84	80	76

Specific standards:

- nominal powers and dimensions to CENELEC HD 231 (IEC 72-1, DIN 42677, NF C51-120, BS 5000-10 and BS 4999-141) for mounting positions IM B5, IM B14 and derivates;
- nominal performances and running specifications to CENELEC EN 60034-1 (IEC 34-1, CEI EN 60034-1, DIN VDE 0530-1, NF C51-111, BS EN 60034-1);
- protection to CENELEC EN 60034-5 (IEC 34-5, CEI 2-16, DIN EN 60034-5, NF C51-115, BS 4999-105);
- mounting positions to CENELEC EN 60034-7 (IEC 34-7, CEI EN 60034-7, DIN IEC 34-7, NF C51-117, BS EN 60034-7);
- balancing and vibration velocity (vibration under standard rating N) to CENELEC HD 53.14 S1 (IEC 34-14, ISO 2373 CEI 2-23, BS 4999-142); motors are balanced with half key inserted into shaft extension;
- cooling to CENELEC EN 60034-6 (CEI 2-7, IEC 34-6): standard type IC 411; type IC 416 for non-standard design with axial independent cooling fan.

Asynchronous three-phase motors, brake motors

HE - HB

Asynchronous three-phase motor

HEZ - HBZ

Asynchronous three-phase **brake motor** with **d.c. brake**

HBF

Asynchronous three-phase **brake motor** with **a.c. brake**

HBV

Asynchronous three-phase **brake motor** with **d.c. safety brake**

Advanced design motors sharing the **same stator windings**, the same **rotors**, the same **housings**, the same **flanges**, the same performance, and the majority of technical solutions with its twin brake motor series **(HEZ, HBZ, HBF, and HBV)**.

The generous electromagnetic sizing allow to achieve **high efficiency values** complying **with different energy saving regulations**:

– Efficiency class **IE3 (ErP)** for HB and HE;

– Efficiency class **IE3 (ErP)** for HEZ, on request for HBZ

The electric design (terminal block, name plate, etc.) has been studied to comply, as standard, also with **NEMA MG1-12** for the maximum application flexibility and facility.

The strength and the precision of mechanical construction, the generous bearings and the wide range of non-standard designs available on catalog make this motor particularly suitable for coupling with gearmotors.

Thanks to its outstanding **low noise**, **progressivity** and **dynamic** characteristics, it is specifically suitable for **coupling with gearmotor minimizing the dynamic overloads** deriving from **starting and braking phases** (especially in case of motion reversals) and maintaining a **very good braking torque value**.

The excellent **operation progressivity** - when starting and braking - is assured by the brake anchor which is less quick in the impact (compared to a.c. HBF) and by the slight quickness of d.c. brakes.

Offering a comprehensive **range of accessories and non-standard designs** in order to satisfy all possible gearmotor application fields.

The **high reactivity** typical of **a.c. brake** and the **high braking capacity** make this brake motor **particularly suitable for heavy duties** requiring **quick brakings** and a **high number of operations** (e.g.: lifts with high frequency of starting, usually for size > 132, and/or for jog operations).

Vice versa, its very **high dynamic characteristics** (rapidity and frequency of starting) **are not advisable for the use** in **gearmotor** coupling, especially when these features are not strictly necessary for the application (avoiding useless overloads on the whole transmission).

Comprehensive **range of accessories and non-standard designs** in order to satisfy all application needs of gearmotors (in particular for HBF: IP 56, IP 65, encoder, independent cooling fan, independent cooling fan and encoder, double extension shaft, etc.).

Featuring **maximum economy**, **very reduced overall dimensions and moderate braking torque**, it is suitable for the coupling with gearmotor and can be applied as brake for **safety or parking stops** (e.g. cutting machines) and for operations at deceleration ramp end **during the running with inverter**.

The standard cast iron fan supplies a flywheel effect increasing the very good progressivity of starting and braking (typical of d.c. brake) being particularly **suitable for «light»**[1] **traverse movements**.

1) Mechanism group M4 (max 180 starts/h) and on-load running L1 (light) or L2 (moderate) to ISO 4301/1, F.E.M./II 1997.

Symbols and units of measure

Symbols used in the catalogue and formulae, in alphabetical order, with relevant units of measure.

Symbol	Definition	Units of measure			Notes
		In catalog	In the formulae		
			Technical System	SI[1] System	
	dimensions	mm	–		
a	acceleration	–	m/s²		
d	diameter	–	m		
f	frequency	Hz	Hz		
fs	service factor				
ft	thermal factor				
F	force	–	kgf	N[2]	1 kgf ≈ 9,81 N ≈ 0,981 daN
F_r	radial load	daN	–		
F_a	axial loads	daN	–		
g	acceleration of gravity	–	m/s²		normal value 9,81 m/s²
G	weight (weight force)	–	kgf	N	
Gd^2	dynamic moment	–	kgf m²	–	
i	transmission ratio				$i = \frac{n_1}{n_2}$
I	electric current	–	A		
J	moment of inertia	kg m²	–	kg m²	
L_h	bearing life	h	–		
m	mass	kg	kgf s²/m	kg[3]	
M	torque	daN m	kgf m	N m	1 kgf m ≈ 9,81 N m ≈ 0,981 daN m
n	speed	min⁻¹	giri/min rev/min	–	1 min⁻¹ ≈ 0,105 rad/s
P	power	kW	CV	W	1 CV ≈ 736 W ≈ 0,736 kW
Pt	thermal power	kW	–		
r	radius	–	m		
R	variation ratio				$R = \frac{n_{2\,max}}{n_{2\,min}}$
s	distance	–	m		
t	Celsius temperature	°C	–		
t	time	s min h d	s		1 min = 60 s 1 h = 60 min = 3 600 s 1 d = 24 h = 86 400 s
U	voltage	V	V		
v	velocity	–	m/s		
W	work, energy	MJ	kgf m	J[4]	
z	frequency of starting	starts/h	–		
α	angular acceleration	–	rad/s²		
η	efficiency				
η_s	static efficiency				
μ	friction coefficient				
φ	plane angle	°	rad		1 rev = 2 π rad $1° = \frac{\pi}{180}$ rad
ω	angular velocity	–	–	rad/s	1 rad/s ≈ 9,55 min⁻¹

Additional indexes and other signs

Ind.	Definition
max	maximum
min	minimum
N	nominal
1	relating to high speed shaft (input)
2	relating to low speed shaft (output)
÷	from ... to
≈	approximately equal to
≥	greater than or equal to
≤	less than or equal to

1) SI are the initials of the International Unit System, defined and approved by the General Conference on Weights and Measures as the only system of units of measure.
Ref. CNR UNI 10 003-84 (DIN 1 301-93 NF X 02.004, BS 5 555-93, ISO 1 000-92).
UNI: Ente Nazionale Italiano di Unificazione.
DIN: Deutscher Normenausschuss (DNA).
NF: Association Française de Normalisation (AFNOR).
BS: British Standards Institution (BSI).
ISO: International Organization for Standardization.
2) Newton [N] is the force imparting an acceleration of 1 m/s² to a mass of 1 kg.
3) Kilogramme [kg] is the mass of the prototype kept at Sèvres (i.e. 1 dm³ of distilled water at 4 °C).
4) Joule [J] is the work done when the point of application of a force of 1 N is displaced through a distance of 1 m.

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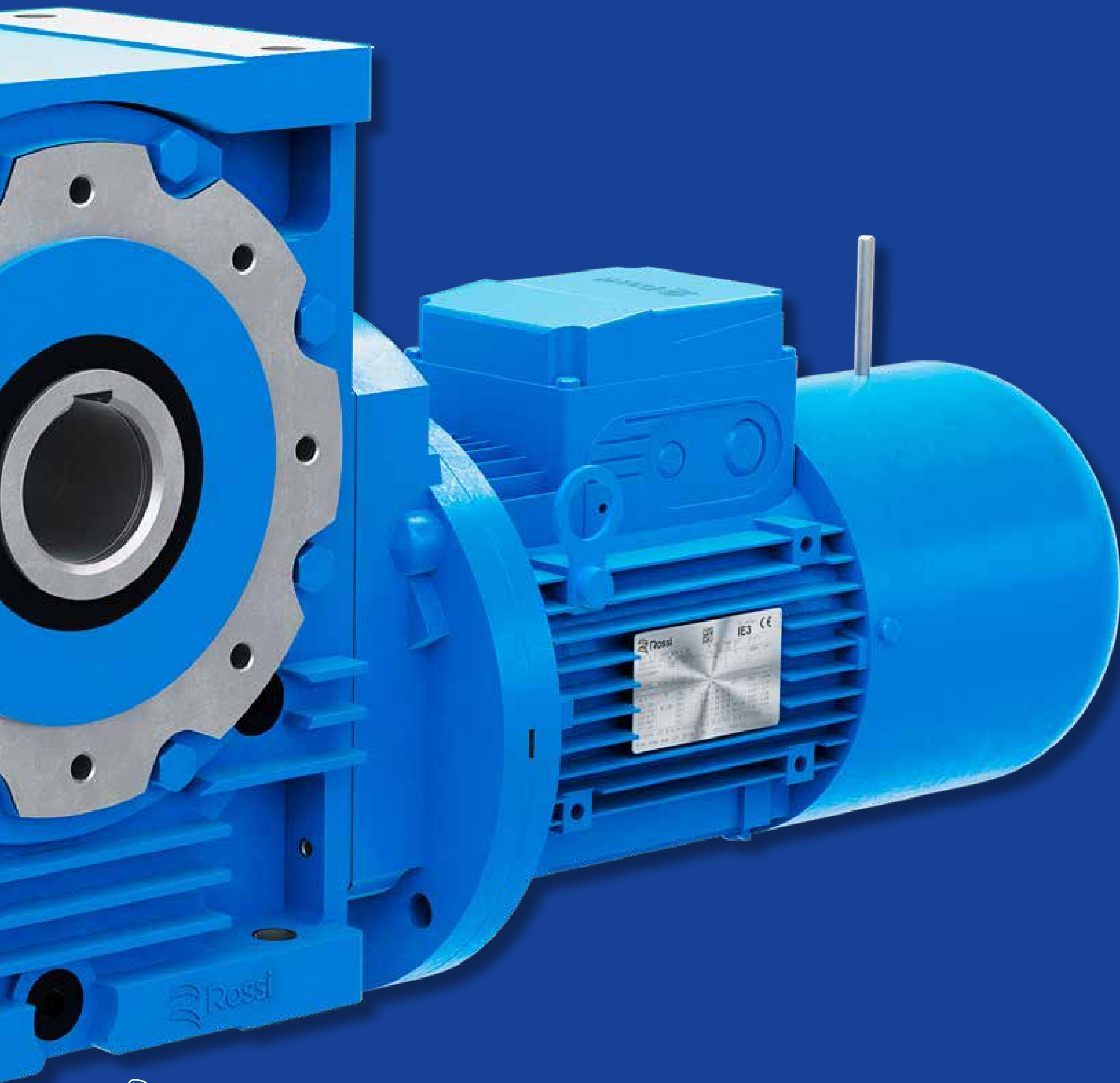
3

Product overview



Section content

Designation code

R	V	250	U	O	2	A			–	50	B3			
MR	V	80	U	O	3	A	-	24 × 200	–	25	V5		HB3 90L4 230.400-50 B5	TB3

TERMINAL BOX POSITION
(see page 25)

MOTOR DESIGNATION
(see page 25)

INPUT SPEED
(see page 25)

MOUNTING POSITION
(see page 25)

TRANSMISSION RATIO

IEC MOTOR COUPLING DIMENSIONS
Ød × Ø**P** (see ch. 2b)

DESIGN
- **A** normal
- **B** reduced worm shaft end
- **C** double extension worm shaft with reduced end
- **D** double extension worm shaft

MODEL
- **3** sizes 32 ... 81
- **2** sizes 100 ... 250

SHAFT POSITION
- **O** orthogonal

MOUNTING
- **U** universal

SIZE
- **32 ... 250** final reduction center distance [mm]

TRAIN OF GEARS
- **V** worm gear pair
- **IV** 1 cylindrical and 1 worm gear pair
- **2IV** 2 cylindrical gear pairs and 1 worm gear pair

MACHINE
- **R** gear reducer
- **MR** gearmotor

Gear reducer mounting position

Gear reducer and gearmotor mounting positions are described in ch. 3.6, 3.8 (the mounting position designation refers to foot mounting only, even if gear reducers are for universal mounting; e.g.: B14 flange fastening and derivatives; B5 flange fastening and derivatives, see ch.5).

When having no particular needs, **prefer B3 mounting position** for its technical and economic cost effectiveness (maximum simplification of lubrication system, lower oil splash, lower gear reducer heating, stock availability).

Input speed

Complete the designation stating the input speed n_1, in the following cases:
– n_1 > 1400 min^{-1};
– for gear reducer sizes 200 and 250 mounting position B7

Example:
R V 250 UO2A / 50 **n_1 = 560 min^{-1}, mounting position B7**

Motor

When the gearmotor is supplied **equipped with a standard Rossi motor,** fill in the designation stating the motor designation (ref. cat. TX).
Example:
MR V 200 UO2A - 48 × 350 – 25
HB3 180M 4 400-50 B5

When **brake motor** is required, insert the letters **HBZ** (ref. cat. TX).

Example:
MR V 200 UO2A - 48 × 350 – 25
HBZ 180M 4 400-50 B5

When the gearmotor is equipped **without motor**, omit the designation and add «without motor».

Esempio:
MR V 200 UO2A - 48350 – 25
without motor

When motor is supplied by the **Buyer**[1], complete the designation by stating the description of «motor supplied by us».

1) The motor, supplied by the Buyer must be to IEC with mating surfaces machined under accuracy rating IEC 60072-1 and is to be sent carriage and expenses paid to our factory for fitting to the gear reducer.

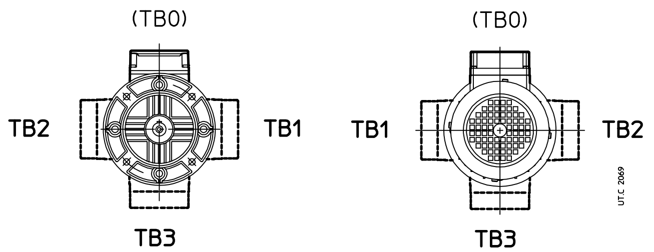
Example:
MR V 200 UO2A - 48350 – 25
motore supplied by us

Motor terminal box position

Complete the designation stating the motor terminal box position if differing from the standard one (TB0; see ch. 10 and scheme below); the cable input is Buyer's responsibility.

Example:
MR V 200 UO2A - 48350 / 25
HB3 180M 4 400-50 B5 **TB3**

View from drive end (D)



View from non-drive end (N)

Accessories and non-standard designs

In the event of a gear reducer or gearmotor being required in a design different from those stated above, specify it in detail (ch. 5).

Nominal thermal power Pt_N, written in red in the tables in the following page, is that which can be applied at the gear reducer input without exceeding 95 °C[1)] approximately oil temperature when operating in following running conditions:
- input speed n_1 = 1 400 min^{-1};
- mounting position B3;
- continuous duty S1;
- maximum ambient temperature 40 °C;
- maximum altitude 1 000 m above sea level;
- air speed ⩾ 1,25 m/s (typical value in presence of a gearmotor with self cooled motor).

Wherever nominal thermal power Pt_N is indicated in ch 3.5 and 3.7 it should be always verified that the applied power P_1 is less than or equal to gear reducer nominal thermal power Pt_N multiplied by the corrective coefficients ft_2, ft_3, ft_4, ft_5 (stated in the following tables) considering the several operational conditions:

$$P_1 \leqslant Pt_N \cdot ft_2 \cdot ft_3 \cdot ft_4 \cdot ft_5$$

When this condition is not satisfied consider the use of special lubricant or a cooling unit with heat exchanger: consult us.

Thermal power needs not be taken into account when maximum duration of continuous running time is 1 ÷ 3 h (from small to large gear reducer sizes) followed by rest periods long enough to restore the gear reducer to near ambient temperature (likewise 1 ÷ 3 h).
In case of maximum ambient temperature above 50 °C or below 0 °C consult us.

Thermal factor ft_2 according to **ambient temperature** and **duty**

Maximum ambient temperature [°C]	ft_2				
	Continuous duty **S1**	Intermittent duty **S3 ... S6** Cyclic duration factor for 60 min running[2)]			
		60	**40**	**25**	**15**
50	0,8	0,95	1,06	1,18	1,32
40	**1**	1,18	1,32	1,5	1,7
30	1,18	1,4	1,6	1,8	2
20	1,32	1,6	1,8	2	2,24
10	1,5	1,8	2	2,24	2,5

Thermal factor ft_3 according to **mounting position**

Train of gears	ft_3 Mounting position	
	B3, B8, V5, V6	**B6, B7**
V	1	0,9
IV, 2IV	1	1

Thermal factor ft_4 according to **altitude**

Altitude a.s.l [m]	ft_4
⩽ 1 000	**1**
1 000 ÷ 2 000	0,95
2 000 ÷ 3 000	0,9
3 000 ÷ 4 000	0,85
⩾ 4 000	0,8

Thermal factor ft_5 according to **air speed** on the housing

Air speed m/s	Working environment	ft_5
< 0,63	very small or no air movement or gear reducer shielded	consult us
0,63	small and with limited air movement	0,71
1	large and without ventilation	0,9
1,25	large and with slight ventilation (e.g. gearmotor with self-cooled motor)	**1**
2,5	outdoor ventilated	1,18
4	strong air movement	1,32

1) Corresponding to an average temperature of the external housing surface of approximately 85 °C; locally housing temperature can achieve the oil temperature.
7) (Duration of running on load / 60) · 100 [%].

Pt_N for gear reducers and gearmotors

size **32**

n_{worm} [1) min⁻¹]	u_{worm} 7	10	13	16	20	25	32	40	50	63
1 400	0,82	0,67	–	–	0,44	–	–	–	–	–
1 120	–	0,61	–	–	0,4	–	–	–	–	–
900	–	–	–	–	–	–	–	–	–	–
710	–	–	–	–	–	–	–	–	–	–
560	–	–	–	–	–	–	–	–	–	–
450	–	–	–	–	–	–	–	–	–	–

size **40**

n_{worm} [1) min⁻¹]	u_{worm} 7	10	13	16	20	25	32	40	50	63
1 400	1,14	0,93	0,84	0,77	0,6	0,55	0,49	–	–	–
1 120	1,04	0,84	0,76	0,69	0,55	0,49	0,45	–	–	–
900	0,94	0,76	0,7	0,64	0,5	0,46	–	–	–	–
710	0,87	0,7	0,63	0,58	0,45	0,41	–	–	–	–
560	0,8	0,64	–	–	0,41	–	–	–	–	–
450	–	–	–	–	0,38	–	–	–	–	–

size **50**

n_{worm} [1) min⁻¹]	u_{worm} 7	10	13	16	20	25	32	40	50	63
1 400	1,72	1,4	1,29	1,18	0,92	0,84	0,76	0,68	–	–
1 120	1,58	1,28	1,16	1,06	0,83	0,76	0,68	0,62	–	–
900	1,43	1,16	1,05	0,96	0,75	0,69	0,63	–	–	–
710	1,31	1,05	0,96	0,88	0,69	0,63	0,57	–	–	–
560	1,2	0,96	0,88	0,81	0,63	0,58	–	–	–	–
450	1,1	0,89	0,82	0,75	0,58	0,54	–	–	–	–
355	1,01	0,81	–	–	0,53	–	–	–	–	–
280	–	–	–	–	0,5	–	–	–	–	–

sizes **63, 64**

n_{worm} [1) min⁻¹]	u_{worm} 7	10	13	16	20	25	32	40	50	63
1 400	2,73	2,34	1,97	1,81	1,67	1,3	1,17	1,08	0,96	–
1 120	2,49	2,13	1,79	1,64	1,5	1,17	1,06	0,97	–	–
900	2,28	1,93	1,62	1,48	1,37	1,06	0,95	0,88	–	–
710	2,07	1,75	1,46	1,34	1,24	0,96	0,87	–	–	–
560	1,9	1,61	1,34	1,23	–	0,88	0,8	–	–	–
450	1,76	1,48	1,24	1,14	–	0,82	–	–	–	–
355	1,62	1,37	1,13	1,04	–	0,74	–	–	–	–
280	1,51	1,27	1,06	–	–	–	–	–	–	–

sizes **80, 81**

n_{worm} [1) min⁻¹]	u_{worm} 7	10	13	16	20	25	32	40	50	63
1 400	4,15	3,59	3,04	2,82	2,58	2,1	1,83	1,66	1,49	1,32
1 120	3,82	3,28	2,76	2,54	2,34	1,82	1,65	1,5	1,35	–
900	3,51	2,99	2,51	2,31	2,11	1,65	1,49	1,36	1,23	–
710	3,17	2,7	2,27	2,09	1,91	1,49	1,35	1,23	1,11	–
560	2,89	2,46	2,06	1,89	1,75	1,36	1,22	1,13	–	–
450	2,67	2,28	1,9	1,75	1,61	1,24	1,13	1,05	–	–
355	2,47	2,09	1,73	1,6	1,49	1,14	1,04	–	–	–
280	2,31	1,94	1,61	1,49	–	1,06	0,96	–	–	–
224	2,11	1,8	1,5	–	–	0,99	–	–	–	–
180	1,98	1,69	1,4	–	–	–	–	–	–	–
140	1,8	–	–	–	–	–	–	–	–	–
112	–	–	–	–	–	–	–	–	–	–

size **100**

n_{worm} [1) min⁻¹]	u_{worm} 7	10	13	16	20	25	32	40	50	63
1 400	–	9,8	8,5	7,8	7,2	5,7	5,1	–	–	–
1 120	–	8,5	7,3	6,6	6,2	4,84	4,32	–	–	–
900	–	7,2	6,2	5,6	5,3	4,12	3,67	3,4	–	–
710	–	6,2	5,3	4,8	4,45	3,5	3,11	2,87	–	–
560	–	5,3	4,49	4,08	3,79	2,97	2,64	2,44	–	–
450	–	4,59	3,9	3,54	3,3	2,56	2,3	–	–	–
355	–	4,02	3,41	3,09	2,89	2,24	2,01	–	–	–
280	–	3,55	3,01	2,76	2,57	1,99	1,79	–	–	–
224	–	3,18	2,69	2,44	–	1,78	1,59	–	–	–
180	–	2,88	2,42	2,21	–	1,6	–	–	–	–
140	–	2,52	2,12	–	–	1,4	–	–	–	–
112	–	2,25	1,9	–	–	–	–	–	–	–

sizes **125, 126**

n_{worm} [1) min⁻¹]	u_{worm} 7	10	13	16	20	25	32	40	50	63
1 400	–	15,2	14	12,2	11,2	10,4	8	7,1	6,6	5,9
1 120	–	13,1	11,9	10,3	9,5	8,8	6,7	6	5,6	–
900	–	11,3	10,2	8,9	8,1	7,5	5,8	5,1	4,76	–
710	–	9,6	8,7	7,5	6,9	6,4	4,89	4,36	4,03	–
560	–	8,3	7,4	6,4	5,8	5,4	4,17	3,7	3,44	–
450	–	7,2	6,4	5,6	5,1	4,7	3,6	3,21	2,99	–
355	–	6,2	5,6	4,81	4,4	4,11	3,12	2,81	–	–
280	–	5,5	4,99	4,27	3,92	3,64	2,77	2,49	–	–
224	–	4,91	4,46	3,81	3,49	3,24	2,48	2,23	–	–
180	–	4,42	3,98	3,4	3,11	–	2,21	2,01	–	–
140	–	3,9	3,51	3,01	2,75	–	1,97	–	–	–
112	–	3,48	3,14	2,68	–	–	1,75	–	–	–
90 [2)]	–	3,14	2,85	–	–	–	–	–	–	–

size **160, 161**

n_{worm} [1) min⁻¹]	u_{worm} 7	10	13	16	20	25	32	40	50	63
1 400	–	23,4	21,8	18,9	17,4	16,1	12,5	11,4	10,3	9,3
1 120	–	20,2	18,9	16,3	14,9	13,8	10,8	9,7	8,7	7,8
900	–	17,4	16,1	13,9	12,7	11,8	9,1	8,3	7,5	6,7
710	–	15	13,8	11,8	10,8	10	7,7	7	6,3	5,7
560	–	12,8	11,8	10,1	9,2	8,5	6,6	6	5,4	4,82
450	–	11,1	10,2	8,7	8	7,4	5,7	5,1	4,67	4,17
355	–	9,6	8,8	7,5	6,9	6,4	4,81	4,44	4,05	3,65
280	–	8,5	7,8	6,7	6,1	5,6	4,32	3,94	3,6	–
224	–	7,6	7	5,9	5,4	5	3,86	3,51	3,23	–
180	–	6,9	6,3	5,4	4,86	4,49	3,48	3,16	2,89	–
140	–	6	5,5	4,63	4,26	–	3,02	2,78	2,32	–
112	–	5,4	4,92	4,16	3,81	–	2,71	2,5	–	–
90 [2)]	–	4,81	4,42	3,74	3,43	–	2,46	2,25	–	–

size **200**

n_{worm} [1) min⁻¹]	u_{worm} 7	10	13	16	20	25	32	40	50	63
1 400	–	–	33,1	31,3	27	25,1	19,4	17,7	16,2	14,5
1 120	–	–	28,6	26,9	23,2	21,5	16,7	15	13,9	12,3
900	–	–	24,7	23,1	20	18,3	14,5	12,8	11,7	10,5
710	–	–	21,2	19,9	17	15,7	12,2	10,9	10	8,9
560	–	–	18,2	17	14,5	13,4	10,4	9,3	8,5	7,6
450	–	–	15,8	14,7	12,6	11,6	9	8	7,3	6,5
355	–	–	13,7	12,7	10,8	10	7,7	6,9	6,3	5,7
280	–	–	12	11,2	9,5	8,8	6,8	6,1	5,6	–
224	–	–	10,7	10	8,5	7,8	6	5,4	5	–
180	–	–	9,6	9	7,6	7	5,4	4,85	4,52	–
140	–	–	8,4	7,8	6,6	6,1	4,74	4,25	3,93	–
112	–	–	7,5	7,1	5,9	5,5	4,17	3,83	–	–
90 [2)]	–	–	6,8	6,3	5,3	4,93	3,79	3,46	–	–

size **250**

n_{worm} [1) min⁻¹]	u_{worm} 7	10	13	16	20	25	32	40	50	63
1 400	–	–	–	48,5	41,2	39,4	35,5	27,3	25,7	23,2
1 120	–	–	–	42,2	36	34	30,2	23,8	22,1	19,7
900	–	–	–	36,8	31	29,6	25,9	20,4	18,9	16,8
710	–	–	–	31,2	26,4	25	22,2	17,3	16	14,4
560	–	–	–	26,9	22,8	21,4	18,8	14,9	13,6	12,2
450	–	–	–	23,4	19,7	18,6	16,3	12,8	11,8	10,6
355	–	–	–	20,2	17	15,9	14	11	10,1	9,1
280	–	–	–	17,7	14,9	14	12,3	9,6	8,9	8
224	–	–	–	15,8	13,1	12,4	11	8,5	7,9	7,2
180	–	–	–	14,2	11,8	11,1	9,8	7,7	7,1	6,4
140	–	–	–	12,5	10,3	9,8	–	6,7	6,2	–
112	–	–	–	11	9,1	8,6	–	5,9	5,6	–
90 [2)]	–	–	–	9,9	8,3	7,8	–	5,4	5	–

1) For worm speed n_x intemediate between two stated values (n_{sup}, n_{inf}), select the nearest lower value or interpolate: $Pt_{N\text{-}nx} = (Pt_{N\text{-}n\,sup} - Pt_{N\text{-}n\,inf}) \cdot (n_x - n_{inf}) / (n_{sup} - n_{inf}) + Pt_{N\text{-}n\,inf}$
2) For n_{worm} < 90 min⁻¹, consult us.

Service factor *f*s takes into account the different running conditions (nature of load, running time, frequency of starting, other considerations) which must be referred to when performing calculations of gear reducer selection and verification.

The powers and torques shown in the catalogue are nominal (i.e. valid for *f*s = 1) for gear reducers, corresponding to the *f*s indicated for gearmotors.

Service factor based: on the nature of load and running time (this value is to be multiplied by the values shown in the tables alongside).

Nature of load of the driven machine		Running time [h]				
Ref.	Description	**3 150** ≤ 2 h/d	**6 300** 2 ÷ 4 h/d	**12 500** 4 ÷ 8 h/d	**25 000** 8 ÷ 16 h/d	**50 000** 16 ÷ 24 h/d
a	**Uniform**	0,67	0,85	1	1,25	1,6
b	**Moderate overloads** (1,6 × normal)	0,85	1,06	1,25	1,6	2
c	**Heavy overloads** (2,5 × normal)	1	1,25	1,5	1,9	2,36

Service factor based on frequency of starting referred to the nature of load.

Load ref.	Frequency of starting *z* [starts/h]							
	4	**8**	**16**	**32**	**63**	**125**	**250**	**500**
a	1	1,06	1,12	1,18	1,25	1,32	1,4	1,5
b	1	1	1,06	1,12	1,18	1,25	1,32	1,4
c	1	1	1	1,06	1,12	1,18	1,25	1,32

Details of service factor and considerations.
Given *f*s values are valid for:

— electric motor with cage rotor, direct on-line starting up to 9,2 kW, star-delta starting for higher power ratings; for direct on-line starting above 9,2 kW or for brake motors, select *f*s according to a frequency of starting double the actual frequency; for internal combustion engines multiply *f*s by 1,25 (multicylinder) or 1,5 (single-cylinder);
— maximum time on overload 15 s; on starting 3 s; if over and/or subject to heavy shock effect, consult us;
— a whole number of overload cycles (or start) **imprecisely** completed in 1, 2, 3 or 4 revolutions of low speed shaft; if **precisely** a continuous overloads should be assumed;
— **standard** level of reliability; if a **higher** degree of reliability is required (particularly difficult maintenance conditions, key importance of gear reducer to production, personnel safety, etc.) multiply *f*s by **1,25** ÷ **1,4**.

Motors having a starting torque not exceeding nominal values (star-delta starting, particular types of motor operating on direct current, and single-phase motors), and particular types of coupling between gear reducer and motor, and gear reducer and driven machine (flexible, centrifugal, fluid and safety couplings, clutches and belt drives) affect service factor favourably, allowing its reduction in certain heavy-duty applications; consult us if need be.

a - Gear reducer

Determining the gear reducer size

– Make available all necessary data: required output power P_2 of gear reducer, speeds n_2 and n_1, running conditions (nature of load, running time, frequency of starting z, other considerations) with reference to ch. 3.3.
– Determine service factor fs on the basis of running conditions (ch. 3.3).
– Select the gear reducer size (also, the train of gears and transmission ratio i at the same time) on the basis of n_2, n_1 and of a power P_{N2} greater than or equal to $P_2 \cdot f$s (ch. 3.5).
– Calculate power P_1 required at input side of gear reducer using – the formula $\frac{P_2}{\eta}$, where $\eta = \frac{P_{N2}}{P_{N1}}$ is the efficiency of the gear reducer (ch. 3.5).

When for reasons of motor standardization, power P_1 applied at input side of gear reducer turns out to be higher than the power required (considering motor/gear reducer efficiency), it must be certain that this excess power applied will never be required, and frequency of starting z is so low as not to affect service factor (ch. 3.3).

Otherwise, make the selection by multiplying P_{N2} by $\frac{P_1 \text{ applied}}{P_1 \text{ required}}$

Calculations can also be made on the basis of torque instead of power; this method is even preferable for low n_2 values.

Verifications

– Verify possible radial loads F_{r1}, F_{r2} and axial load F_{a2} by referring to instructions and values given in ch. 3.11 and 3.13.
– When the load chart is available, and/or there are overloads – due to starting on full load (mainly for high inertias and low transmission ratios), braking, shocks, irreversible or with low reversibility gear reducers in which the wormwheel becomes driving member due to the driven machine inertia, applied power higher than that required, other static or dynamic causes – verify that the maximum torque peak (ch. 3.13) is always less than M_{2max} (ch. 3.5); if it is higher or cannot be evaluated, in the above cases, install a safety device so that M_{2max} will never be exceeded.
– When nominal thermal power Pt_N is indicated in red in ch. 3.5, verify that $P_1 \leq Pt$ (ch. 3.2).

b - Gearmotor

Determining the gearmotor size

– Make available all necessary data: required output power P_2 of gearmotor, speed n_2, running conditions (nature of load, running time, frequency of starting z, other considerations) with reference to ch. 3.3.
– Determine service factor fs on the basis of running conditions (ch. 3.3).
– Select the gearmotor size on the basis of n_2, fs, P_2 (ch. 3.7).

When for reasons of motor standardization, power P_2 available in catalog is much greater than that required, the gearmotor can be selected on the

basis of a lower service factor ($f\text{s} \cdot \frac{P_2 \text{ required}}{P_2 \text{ available}}$)

provided it is certain that this excess power available will never be required and frequency of starting z is low enough not to affect service factor
(ch. 3.3).

Calculations can also be made on the basis of torque instead of power; this method is even preferable for low n_2 values.

Verifications

– Verify possible radial load F_{r2} and axial load F_{a2} referring to directions and values given in ch. 3.12.
– For the motor, verify frequency of starting z when higher than that normally permissible, referring to directions and values given in ch. 2b; this will normally be required for brake motors only.
– Verify, in case of **motors supplied by the customer**, that the s**tatic bending moment M_b** generated by motor weight on the counter flange of gear reducer is lower than the value allowed M_{bmax}, stated in the ch. 3.13.
Loads higher than permissible loads may be present in dynamical applications where the gearmotor is subjected to translations, rotations or oscillations (e.g.: **shaft mounting arrangements**): consult us for the study of every specific case

– When a load chart is available, and/or there are overloads – due to starting on full load (especially with high inertias and low transmission ratios), braking, shocks, irreversible or with low reversibility gear reducers in which the wormwheel becomes driving member due to the driven machine inertia, other static or dynamic causes – verify that the maximum torque peak (ch. 3.13) is always less than M_{2max} (ch. 3.5); if it is higher or cannot be evaluated, in the above instances, install suitable safety devices so that M_{2max} will never be exceeded. M_{2max} value can be read off in ch. 3.5 against the corresponding speed n_2 and transmission ratio i of the worm gear pair.
– When nominal thermal power Pt_N is indicated in red in ch. 3.7, verify that $P_1 \leq Pt$ (ch. 3.2).

c - Combined gear reducer and gearmotor units

Combined units are obtained by coupling together **normal single** gear reducers and/or gearmotors.

Determining the final gear reducer size

– Make available all necessary data relating to the output of the final gear reducer: required torque M_2 speed n_2, running conditions (nature of load, running time, frequency of starting z, other considerations) with reference to ch. 3.3.
– Determine service factor fs on the basis of running conditions (ch. 3.3) and of n_2 (see *, ** ch. 3.9).
– Select the final gear reducer size and the corresponding efficiency η (ch. 3.9, table A), on the basis of n_2 and a torque value M_{N2} greater than or equal to $M_2 \cdot fs$ (the η value shown can be taken as valid even if the final gear reducer's train of gears is type IV).
For $fs < 1$ verify that $M_2 \leq M_{2\ Size}$.

Determining the type of combined unit

– Select the final gear reducer basic reference, and the type and size of initial gear reducer or gearmotor (ch. 3.9 table B), on the basis of the final gear reducer size, and of the type of combined unit selected.

When selecting the type of unit, refer to the drawings in table B bearing in mind the following considerations:

gear reducer: gives greater operational flexibility; stress deriving from starting and heavy duty can be diminished thanks to the possibility of locating couplings (flexibile, centrifugal, fluid, safety or friction type), belt drives, etc. between gear reducer and motor;

gearmotor: provides a more compact and economical solution compared to the equivalent gear reducer combined unit;

combined units **R V** + R V or MR V; **R V** + R IV or MR IV: input and output shafts can be either parallel or orthogonal, overall dimensions are kept to a minimum, especially within the plane perpendicular to the low speed shafts; these units are normally irreversible; the latter two types give higher transmission ratios than the former two types as well as higher efficiency, with the same transmission ratio;

combined units **MR V** + R 2I, 3I or MR 2I, 3I: input and output shafts are orthogonal, overall dimensions kept at minimum along the direction of the low speed shaft; high efficiency;

combined units **MR IV** + R 2I, 3I or MR 2I, 3I: the same as above but with the possibility of higher transmission ratios, and with overall dimensions of the initial gear reducer or gearmotor contained within those planes defined by the mounting feet.

Selection of initial gear reducer or gearmotor

– Calculate the speed n_2 and the required power P_2 at the initial gear reducer or gearmotor output, using the following formulae:

$$n_2 \text{ initial} = n_2 \text{ final} \cdot i \text{ final}$$

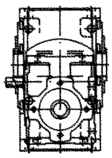
$$P_2 \text{ initial} = \frac{M_2 \text{ final} \cdot n_2 \text{ final}}{955 \cdot \eta \text{ final}} \text{ [kW]}$$

– In the case of gear reducer, establish input speed n_1 at the input of the initial gear reducer.
– Make the selection of initial gear reducer or gearmotor as shown in ch. 3.4, paragraph a) or b) of this catalog (in the case of worm gear reducers and gearmotors), or of catalogue E (in the case of coaxial gear reducers and gearmotors), bearing in mind that sizes are pre-established (and cannot be changed on account of couplings being standard) and that it is not necessary to verify the service factor.

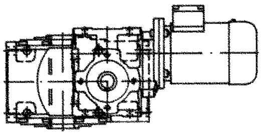
Designation for ordering

When ordering combined units, the single gear reducers or gearmotors must be designed **separately**, as indicated in ch. 3.1 paragraph a) or b), of this catalog (for the final gear reducer and initial worm gear reducer or gearmotor) or of catalog E (for initial coaxial gear reducer or gearmotor), bearing in mind the following):
– for all combined units, insert the words **coupled with** between the final gear reducer designation and that of the initial gear reducer or gearmotor;
– in the case of **R V** + R V or MR V and **R V** + R IV or MR IV, select the initial gear reducer or gearmotor stating the coupling **position** where applicable (ch. 3.10);
– when ordering **MR V** + R 2I, 3I or MR 2I, 3I and **MR IV** + R 2I, 3I or MR 2I, 3I always add the words **without motor** to the final gear reducer designation and select for the initial gear reducer or gearmotor **oversized B5 flange** design (for size 63 also add – **Ø 28**); in case of initial gear reducer or gearmotor size 32 or 40 select **FC1A** flange design;
– in order to make easier the individualization of mounting position of initial gear reducer or gearmotor see ch. 3.10.

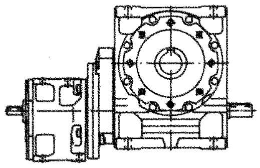
E.g: R V 100 UO2A/25
coupled with
R V 50 UO3A/32



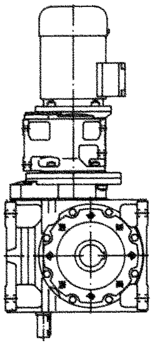
R V 100 UO2A/25 mounting position V5
coupled with
MR V 50 UO3A – 14 160 – 50 pos. 3
HB 71A 4 230.400 B5



MR V 200 UO2A – 48 350 – 32 without motor
coupled with
R 2I 100 UC2A/29,3 oversized B5 flange



MR IV 200 UO2A – 138 300 – 81,8 without motor, mounting position B6, double extension low speed shaft
coupled with
MR 3I 80 UC2A – 19 200 – 49,8 mounting position V5
oversized B5 flange
HB3 80A 4 230.400 B5



Considerations on selection

Motor power

Taking into account the efficiency of the gear reducer, and other drives — if any — motor power is to be as near as possible to the power rating required by the driven machine: accurate calculation is therefore recommended.

The power required by the machine can be calculated, seeing that it is related directly to several requirements of the work to be carried out, to friction (starting, sliding or rolling friction) and inertia (particularly when mass and/or acceleration or deceleration are considerable). It can also be determined experimentally on the basis of tests, comparison with existing applications, or readings taken with amperometers or wattmeters.

An oversized motor would involve: a greater starting current and consequently larger fuses and heavier cable; a higher running cost as power factor (cos φ) and efficiency would suffer; greater stress on the drive, causing danger of mechanical failure, drive being normally proportionate to the power rating required by the machine, not to motor power.

Only high values of ambient temperature, altitude, frequency of starting or other particular conditions require an increase in motor power.

Driving machines with high kinetic energy

When driving machines with high inertias and/or speeds, **avoid** the use of **irreversible** gear reducers or gearmotors, rather select a train of gears with higher efficiency (e.g. IV, 2IV in place of V), keeping the same transmission ratio, as stopping and braking can cause very high overloads (cap. 3.13).

Drives with low input speed (n_1 < 355 min^{-1})

Wherever possible select the following transmission i = 20 for sizes 32 ... 50, i = 25 for sizes 63 ... 100, i = 32 for sizes 125 ... 200, i = 40 for size 250, these being the ratios capable of transmitting highest torque (for performance figures see table A ch. 11; for sizes 32 and 40, consult us).

Input speed

For n_1 higher than 1 400 min^{-1}, **power** and **torque** ratings relating to a given transmission ratio vary as shown in the table alongside. In this case no loads should be imposed on the high speed shaft end.

For variable n_1, the selection should be carried out on the basis of $n_{1\ max}$; but it should also be verified on the basis of $n_{1\ min}$.

When there is a belt drive between motor and gear reducer, different input speeds n_1, should be examined in order to select the most suitable unit from engineering and economy standpoints alike (our catalog favours this method of selection as it shows a number of input speed values n_1 relating to a determined output speed n_{N2} in the same section).

Input speed should not be higher than 1 400 min^{-1}, unless conditions make it necessary; better to take advantage of the transmission, and use an input speed lower than 900 min^{-1}.

n_1 min^{-1}	P_{N2}	M_{N2}
2 800	1,4	0,71
2 240	1,25	0,8
1 800	1,12	0,9
1 400	1	1

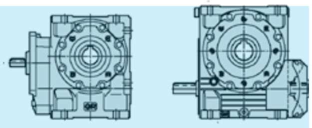
Operation at 60 Hz

When motor is supplied at 60 Hz frequency (ch. 2 b), the gearmotor specifications vary as follows.

— Speed n_2 increases by 20%.
— Power P_1 may either remain constant or increase (ch. 2 b).
— Torque M_2 and service factor fs vary as follows:

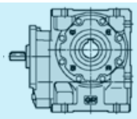
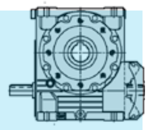
$$M_{2\ \text{at 60 Hz}} = M_{2\ \text{at 50 Hz}} \cdot \frac{P_{1\ \text{at 60 Hz}}}{1,2 \cdot P_{1\ \text{at 50 Hz}}}$$

$$fs_{\text{at 60 Hz}} = fs_{\text{at 50 Hz}} \cdot \frac{1,12 \cdot P_{1\ \text{at 50 Hz}}}{P_{1\ \text{at 60 Hz}}}$$



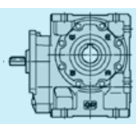
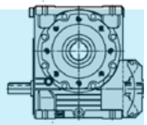
n_{N2} min⁻¹	n_1	Train of gears	i 1)	P [kW] M [daN m] 2)	32	40	50	63	64	80	81	100	125	126	160	161	200	250
140	1 400	**V**	10	P_{N1} P_{N2} M_{N2} M_{2max}	0,57 0,48 3,29 5,9	1,01 0,87 5,9 10,5	1,79 1,4 1,55 10,6 19,4	3,02 2,3 2,68 18,3 33,2	3,59 2,3 3,19 21,7 36,1	5,5 3,6 4,96 33,9 63	6,6 3,6 5,9 40,3 68	10,6 9,5 65 120	16,7 15,1 103 188	19,8 15 18 123 204	29,9 23 27,3 186 342	35,6 23 32,5 222 394	–	–
125	1 250	**V**	10	P_{N1} P_{N2} M_{N2} M_{2max}	0,53 0,44 3,4 6,2	0,94 0,8 6,1 11,2	1,66 1,3 1,44 11 19,9	2,82 2,2 2,5 19,1 35,1	3,36 2,2 2,97 22,7 38,1	5,2 3,4 4,65 35,6 65	6,2 3,4 5,5 42,3 70	9,9 8,9 68 124	15,7 14,2 109 195	18,7 14 16,9 129 212	28,1 22 25,6 196 357	33,5 22 30,5 233 410	–	–
112	1 400	**V**	13	P_{N1} P_{N2} M_{N2} M_{2max}	0,47 0,39 3,47 6,2	0,82 0,69 6,1 11,3	1,49 1,27 11,3 20,6	2,44 2 2,12 18,8 35,1	2,9 2 2,52 22,3 38,1	4,55 3 3,99 35,4 66	5,4 3 4,75 42,1 71	9 8 71 128	14,4 13 115 203	17,2 14 15,4 137 220	26,6 22 24 213 380	31,6 22 28,6 254 413	47,9 33 43,6 386 716	–
	1 120	**V**	10	P_{N1} P_{N2} M_{N2} M_{2max}	0,49 0,41 3,51 6,4	0,88 0,75 6,4 11,5	1,55 1,3 1,34 11,4 20,5	2,64 2,1 2,33 19,9 37	3,14 2,1 2,77 23,6 40,2	4,91 3,3 4,37 37,3 67	5,8 3,3 5,2 44,3 73	9,3 8,4 71 128	14,9 13,4 115 203	17,7 13 16 136 220	26,5 20 24 205 371	31,5 20 28,6 244 427	–	–
100	1 250	**V**	13	P_{N1} P_{N2} M_{N2} M_{2max}	0,43 0,36 3,58 6,4	0,76 0,64 6,4 11,6	1,39 1,18 11,8 21,1	2,28 1,9 1,97 19,6 36,9	2,72 1,9 2,35 23,3 40,1	4,25 2,9 3,71 36,8 69	5,1 2,9 4,41 43,8 75	8,5 7,5 74 135	13,6 12,1 121 219	16,1 13 14,4 143 238	25 20 22,6 225 412	29,8 20 26,9 267 448	45,4 31 41,2 409 748	–
	1 000	**V**	10	P_{N1} P_{N2} M_{N2} M_{2max}	0,45 0,38 3,62 6,6	0,82 0,69 6,6 11,8	1,44 1,2 1,23 11,8 21	2,46 2 2,16 20,6 38,2	2,92 2 2,57 24,5 41,5	4,57 3,1 4,05 38,7 70	5,4 3,1 4,82 46,1 77	8,7 7,8 74 134	14 12,6 120 214	16,7 12 15 143 233	24,7 19 22,4 214 393	29,4 19 26,7 255 452	–	–
90	1 400	**V**	16	P_{N1} P_{N2} M_{N2} M_{2max}	0,41 0,34 3,67 6,1	0,73 0,61 6,6 11,1	1,3 1,1 12 20,2	2,14 1,8 1,83 20 35,9	2,55 1,8 2,18 23,8 39	4,03 2,8 3,49 38,1 68	4,79 2,8 4,15 45,3 73	7,5 6,6 72 127	12 10,6 116 206	14,3 12 12,6 138 224	22,5 19 20,1 219 403	26,8 19 23,9 261 437	41,3 31 37,3 407 705	74 49 67 732 1273
	1 120	**V**	13	P_{N1} P_{N2} M_{N2} M_{2max}	0,4 0,33 3,7 6,6	0,71 0,6 6,6 11,9	1,3 1,1 12,2 21,7	2,14 1,8 1,84 20,4 38,5	2,55 1,8 2,19 24,3 41,8	3,97 2,8 3,45 38,3 72	4,73 2,8 4,11 45,5 79	8 7 78 141	12,8 11,4 126 227	15,2 12 13,5 150 246	23,6 19 21,3 236 427	28,1 19 25,3 281 464	43,1 29 39 433 781	–
	900	**V**	10	P_{N1} P_{N2} M_{N2} M_{2max}	0,42 0,35 3,73 6,7	0,77 0,65 6,9 12,1	1,35 1,15 12,2 21,5	2,3 1,9 2,01 21,3 39,4	2,74 1,9 2,39 25,4 42,7	4,28 3 3,78 40,1 74	5,1 3 4,5 47,7 80	8,2 7,3 78 140	13,2 11,9 126 225	15,8 11 14,2 150 245	23,3 17 21 223 407	27,7 17 25 265 468	–	–
80	1 250	**V**	16	P_{N1} P_{N2} M_{N2} M_{2max}	0,38 0,31 3,81 6,4	0,68 0,56 6,9 11,5	1,22 1,02 12,5 20,7	2 1,7 20,8 37	2,38 1,7 2,03 24,8 40,2	3,78 2,7 3,26 39,8 70	4,5 2,7 3,88 47,4 76	7,1 6,2 75 136	11,3 9,9 121 213	13,4 11 11,8 144 232	21,2 17 18,8 230 418	25,2 17 22,4 274 454	38,8 29 35 428 736	69 45 63 770 1329
	1 000	**V**	13	P_{N1} P_{N2} M_{N2} M_{2max}	0,37 0,31 3,82 6,8	0,66 0,55 6,8 12,3	1,21 1,02 12,6 22,2	2 1,7 1,71 21,2 39,6	2,38 1,7 2,03 25,2 43	3,71 2,6 3,21 39,9 74	4,42 2,6 3,82 47,4 80	7,4 6,5 81 145	12 10,7 133 234	14,3 11 12,7 158 254	22,1 17 19,9 247 442	26,4 17 23,7 294 481	40,7 27 36,7 456 814	–
	800	**V**	10	P_{N1} P_{N2} M_{N2} M_{2max}	0,39 0,32 3,85 7,1	0,71 0,59 7,1 12,7	1,25 1,06 12,6 22,8	2,12 1,85 22 40,4	2,52 1,8 2,2 26,2 43,9	3,96 2,8 3,48 41,5 76	4,71 2,8 4,14 49,4 83	7,6 6,8 81 143	12,4 10 11,1 132 233	14,7 10 13,2 157 253	21,7 16 19,5 233 429	25,8 16 23,3 278 493	–	–
71	1 400	**V**	20	P_{N1} P_{N2} M_{N2} M_{2max}	0,38 0,29 4,01 6,8	0,67 0,52 7,1 12,2	1,18 0,9 0,94 12,8 22,3	1,7 1,44 19,6 34,6	2,03 1,7 1,71 23,3 37,5	3,14 2,6 2,68 36,6 65	3,73 2,6 3,19 43,5 71	6,2 5,3 73 126	10,1 8,9 121 209	12,1 10,6 144 227	18,6 16,4 224 401	22,1 17 19,5 266 436	36,2 27 32,2 439 744	62 41 56 759 1308
	1 120	**V**	16	P_{N1} P_{N2} M_{N2} M_{2max}	0,36 0,29 3,95 6,6	0,64 0,52 7,1 12	1,15 0,96 13,1 21,2	1,87 1,59 21,6 38,1	2,23 1,6 1,89 25,7 41,4	3,55 2,5 3,05 41,6 72	4,23 2,5 3,63 49,5 78	6,6 5,8 79 139	10,6 9,3 127 220	12,6 10 11,1 151 239	20 16 17,7 242 432	23,8 16 21,1 288 470	36,6 27 33 450 767	65 42 59 808 1384
	900	**V**	13	P_{N1} P_{N2} M_{N2} M_{2max}	0,35 0,29 3,93 6,9	0,62 0,51 7 12,5	1,13 0,94 13 22,7	1,87 1,59 22 39,7	2,23 1,6 1,89 26,1 43,2	3,49 2,5 3 41,4 75	4,15 2,5 3,57 49,3 81	7 6,1 84 149	11,4 10,1 139 242	13,5 10 12 165 263	20,8 16 18,7 257 457	24,8 16 22,2 306 497	38,6 25 34,7 479 847	–
	710	**V**	10	P_{N1} P_{N2} M_{N2} M_{2max}	0,36 0,3 3,98 7,2	0,65 0,54 7,3 13	1,16 0,97 13,1 23,3	1,95 1,69 22,8 41,3	2,33 1,8 2,01 27,1 44,9	3,65 2,7 3,2 43 78	4,35 2,7 3,81 51 85	7,1 6,3 84 147	11,5 9,6 10,3 138 240	13,7 9,6 12,2 165 260	20,2 15 18,2 244 442	24 15 21,6 291 509	–	–

Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty see ch. 3.2).
For n_1 higher than 1 400 min⁻¹ or lower than 355 min⁻¹ see ch. 3.4 and page 32.
1) Values given for train of gears **IV** are nominal; see page 93 for effective transmission ratios.
2) M_{2max} represents maximum torque peak the gear reducer will withstand.

n_{N2} min⁻¹	n_1	Train of gears i 1)	P [kW] M [daN m] 2)	Gear reducer size 32	40	50	63	64	80	81	100	125	126	160	161	200	250
63	1 250	**V** 20	P_{N1} P_{N2} M_{N2} M_{2max}	0,35 0,27 4,15 6,9	0,63 0,49 7,4 12,7	1,1 0,9 0,87 13,4 22,8	1,59 1,33 20,3 36,7	1,89 1,6 1,58 24,2 39,9	2,93 2,4 2,49 38 69	3,49 2,4 2,96 45,3 75	5,8 4,98 76 129	9,6 8,3 127 224	11,4 9,9 151 243	17,4 15,3 234 415	20,8 16 18,2 279 451	34,2 25 30,3 463 790	59 38 52 798 1366
	1 000	**V** 16	P_{N1} P_{N2} M_{N2} M_{2max}	0,33 0,27 4,08 6,8	0,59 0,48 7,3 12,2	1,07 0,89 13,6 22,3	1,75 1,47 22,4 39,2	2,08 1,6 1,75 26,7 42,6	3,31 2,4 2,82 43,2 74	3,93 2,4 3,36 51 80	6,2 5,4 82 145	10 8,7 133 228	11,8 9,6 10,3 158 247	18,7 15 16,5 253 463	22,3 15 19,7 301 503	34,5 25 30,9 473 843	61 39 56 849 1441
	800	**V** 13	P_{N1} P_{N2} M_{N2} M_{2max}	0,32 0,26 4,07 7,2	0,57 0,47 7,3 12,9	1,04 0,86 13,4 23,9	1,74 1,47 22,8 42	2,07 1,5 1,75 27,1 45,6	3,24 2,4 2,78 43,1 79	3,86 2,4 3,3 51 86	6,5 5,6 87 152	10,6 9,3 145 257	12,6 9,4 11,1 172 280	19,5 15 17,4 270 477	23,2 15 20,7 321 518	36,1 23 32,4 503 907	—
	630	**V** 10	P_{N1} P_{N2} M_{N2} M_{2max}	0,33 0,27 4,09 7,5	0,6 0,5 7,5 13,6	1,06 0,89 13,5 23,7	1,8 1,55 23,5 43,5	2,14 1,7 1,85 28 47,2	3,37 2,6 2,94 44,5 80	4,01 2,6 3,5 53 87	6,5 5,8 87 150	10,7 9 9,5 144 247	12,7 9 11,3 171 268	18,8 14 16,8 255 463	22,3 14 20 303 533	—	—
56	1 400	**V** 25	P_{N1} P_{N2} M_{N2} M_{2max}	0,3 0,23 3,89 6,6	0,55 0,42 7,2 12,3	0,99 0,77 13,2 22,4	1,61 1,3 1,29 21,9 38,5	1,92 1,3 1,53 26,1 41,9	3,04 2,1 2,47 42,2 73	3,61 2,1 2,94 50 80	5,9 4,89 83 148	8,4 7,2 123 217	9,9 8,6 146 235	15,3 13,3 227 397	18,2 15,9 270 432	28,4 25 426 745	51 39 45,7 779 1341
	1 120	**V** 20	P_{N1} P_{N2} M_{N2} M_{2max}	0,33 0,25 4,28 7,1	0,59 0,45 7,7 13,2	1,04 0,8 0,81 13,9 23,3	1,48 1,23 21 37,8	1,76 1,47 25 41	2,74 2,32 39,5 71	3,26 2,3 2,76 47 77	5,4 4,65 79 132	9 7,8 133 231	10,7 9,3 158 251	16,4 14,3 245 429	19,5 15 17,1 291 466	32,4 23 28,6 488 836	55 36 49,2 838 1424
	900	**V** 16	P_{N1} P_{N2} M_{N2} M_{2max}	0,31 0,25 4,21 7,1	0,55 0,45 7,6 12,8	1 0,83 14 22,8	1,64 1,37 23,2 40,3	1,95 1,5 1,63 27,6 43,8	3,1 2,3 2,63 44,6 76	3,68 2,3 3,13 53 83	5,8 5 85 146	9,4 8,2 139 235	11,2 8,9 9,7 165 255	17,6 14 15,5 263 477	21 14 18,4 313 518	32,6 23 29,2 495 855	58 37 52 889 1498
	710	**V** 13	P_{N1} P_{N2} M_{N2} M_{2max}	0,3 0,24 4,22 7,3	0,53 0,43 7,5 13,3	0,95 0,79 13,8 24,3	1,61 1,36 23,7 42,9	1,92 1,5 1,61 28,2 46,6	3,01 2,3 2,56 44,8 82	3,58 2,3 3,05 53 89	6 5,2 91 156	9,8 8,6 151 265	11,7 8,7 10,3 180 287	18,2 14 16,2 283 494	21,7 14 19,3 337 528	33,7 21 30,2 528 929	—
	560	**V** 10	P_{N1} P_{N2} M_{N2} M_{2max}	0,3 0,25 4,21 7,7	0,55 0,45 7,7 13,9	0,98 0,82 13,9 24,9	1,66 1,43 24,3 44,3	1,97 1,6 1,7 29 48,2	3,11 2,5 2,7 46 82	3,7 2,5 3,21 55 89	6 5,3 90 153	9,9 8,3 8,8 149 253	11,8 8,3 10,4 178 275	17,5 13 15,6 266 476	20,8 13 18,6 316 548	—	—
50	1 250	**V** 25	P_{N1} P_{N2} M_{N2} M_{2max}	0,28 0,21 4,03 6,9	0,52 0,39 7,5 12,5	0,92 0,71 13,6 22,9	1,51 1,2 1,19 22,8 40,9	1,79 1,2 1,42 27,1 44,5	2,85 1,9 2,3 44 76	3,39 1,9 2,74 52 82	5,5 4,55 87 153	7,8 6,7 128 223	9,3 8 152 243	14,2 12,4 237 410	17 14,8 282 446	26,9 23,7 452 783	48,4 37 43 821 1395
	1 000	**V** 20	P_{N1} P_{N2} M_{N2} M_{2max}	0,31 0,23 4,43 7,4	0,54 0,42 7,9 13,6	0,97 0,8 0,75 14,4 24,5	1,38 1,14 21,8 38,8	1,64 1,36 25,9 42,1	2,55 2,15 41 73	3,04 2,2 2,55 48,8 80	5,1 4,33 83 140	8,4 7,3 139 238	10 8,6 165 258	15,3 13,4 255 458	18,3 14 15,9 304 498	30,5 21 26,8 512 869	52 33 46,3 884 1509
	800	**V** 16	P_{N1} P_{N2} M_{N2} M_{2max}	0,29 0,23 4,35 7,3	0,51 0,41 7,8 13,2	0,93 0,76 14,5 23	1,51 1,26 24 42,3	1,8 1,4 1,5 28,6 46	2,86 2,2 2,42 46,2 81	3,41 2,2 2,88 55 88	5,4 4,66 89 152	8,8 7,6 145 245	10,4 8,2 9 172 266	16,4 13 14,4 275 491	19,6 13 17,1 327 534	30,3 21 27,1 517 876	54 34 48,8 932 1608
	630	**V** 13	P_{N1} P_{N2} M_{N2} M_{2max}	0,27 0,22 4,34 7,6	0,49 0,39 7,8 13,9	0,87 0,72 14,2 25,2	1,49 1,25 24,6 45	1,78 1,4 1,48 29,2 48,9	2,78 2,2 2,36 46,5 85	3,31 2,2 2,81 55 92	5,6 4,79 94 161	9,1 8 157 272	10,8 8 9,5 187 295	17 13 15 296 513	20,2 13 17,9 352 575	31,5 20 28,2 555 951	—
	500	**V** 10	P_{N1} P_{N2} M_{N2} M_{2max}	0,28 0,23 4,31 7,9	0,5 0,41 7,9 14,5	0,9 0,75 14,3 25,7	1,53 1,31 25 46,4	1,82 1,5 1,56 29,7 50	2,86 2,3 2,48 47,3 85	3,41 2,3 2,95 56 92	5,6 4,88 93 161	9,1 7,7 8,1 154 265	10,9 7,7 9,6 183 287	16,3 12 14,5 276 490	19,4 12 17,2 329 563	—	—
45	1 400	**V** 32	P_{N1} P_{N2} M_{N2} M_{2max}	0,24 0,17 3,81 6,4	0,44 0,33 7,1 12	0,75 0,57 12,4 21,3	1,26 0,98 21,3 37,2	1,5 1,2 1,16 25,4 40,4	2,35 1,8 1,86 40,7 70	2,79 1,8 2,22 48,4 77	4,63 3,74 82 140	7,4 6,1 133 236	8,8 7,2 158 256	13,4 11,2 245 436	16 13 13,3 291 473	25 19 21,2 462 817	37,8 33,2 724 1287
	1 120	**V** 25	P_{N1} P_{N2} M_{N2} M_{2max}	0,26 0,2 4,17 7,1	0,48 0,36 7,7 12,8	0,86 0,66 14,1 23,4	1,41 1,2 1,11 23,7 42,1	1,68 1,2 1,32 28,2 45,7	2,68 1,8 2,15 45,8 78	3,19 1,8 2,56 54 84	5,2 4,24 90 156	7,3 6,2 132 230	8,6 7,4 157 250	13,4 11,6 247 423	15,9 13,8 294 460	25,6 22 22,4 478 819	45,8 34 40,5 863 1449

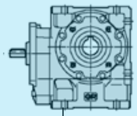
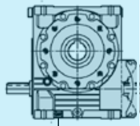
Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty see ch. 3.2).
For n_1 higher than 1 400 min⁻¹ or lower than 355 min⁻¹ see ch. 3.4 and page 32.
1) Values given for train of gears **IV** are nominal; see page 93 for effective transmission ratios.
2) M_{2max} represents maximum torque peak the gear reducer will withstand.

n_{N2} min^{-1}	n_1	Train of gears i 1)	P [kW] M [daN m] 2)	Gear reducer size													
				32	40	50	63	64	80	81	100	125	126	160	161	200	250
45	900	**V** 20	P_{N1}	0,29	0,51	0,91 0,8	1,29	1,53	2,39	2,85 2,1	4,78	7,9	9,4	14,4	17,2 13	28,8 20	49,4 31
			P_{N2}	0,22	0,38	0,7	1,06	1,26	2	2,38	4,06	6,8	8,1	12,5	14,9	25,3	43,7
			M_{N2}	4,58	8,2	14,9	22,5	26,7	42,4	50	86	144	172	265	316	536	928
			M_{2max}	7,8	14,1	25	39,6	43	75	82	143	245	266	472	513	900	1595
	710	**V** 16	P_{N1}	0,26	0,47	0,86	1,4	1,66 1,3	2,65 2,1	3,15 2,1	5,1	8,2	9,7 7,5	15,3 12	18,2 12	28,2 20	51 31
			P_{N2}	0,21	0,37	0,7	1,15	1,37	2,22	2,64	4,32	7	8,4	13,3	15,9	25,1	45,4
			M_{N2}	4,5	8,1	15	24,8	29,6	47,8	57	93	151	180	287	342	539	977
			M_{2max}	7,5	13,6	24,3	43,1	46,9	83	90	157	256	278	505	549	897	1619
	560	**V** 13	P_{N1}	0,25	0,45	0,8	1,38	1,64 1,3	2,58 2,1	3,07 2,1	5,2	8,4	10 7,4	15,8 12	18,8 12	29,5 18	
			P_{N2}	0,2	0,36	0,66	1,15	1,36	2,17	2,59	4,42	7,3	8,7	14	16,6	26,3	—
			M_{N2}	4,46	8	14,6	25,4	30,3	48,2	57	98	163	194	309	368	583	
			M_{2max}	7,8	14,2	25,9	46,8	51	88	95	167	279	303	530	576	973	
	450	**V** 10	P_{N1}	0,26	0,47	0,84	1,42	1,68	2,65	3,16 2,3	5,2	8,5 7,2	10,1 7,2	15,3 11	18,2 11		
			P_{N2}	0,21	0,38	0,69	1,21	1,44	2,29	2,72	4,54	7,5	8,9	13,5	16,1	—	—
			M_{N2}	4,42	8,1	14,7	25,7	30,5	48,5	58	96	158	188	287	342		
			M_{2max}	8,1	14,7	26,5	47,2	51	87	95	164	275	299	510	587		
40	1 250	**V** 32	P_{N1}	0,23	0,41	0,71	1,17	1,39 1,1	2,19 1,7	2,61 1,7	4,33	7	8,3	12,6	15 11	23,6 18	35,7
			P_{N2}	0,16	0,3	0,53	0,9	1,07	1,73	2,06	3,48	5,7	6,8	10,5	12,4	19,9	31,2
			M_{N2}	3,93	7,3	13	22	26,2	42,2	50	85	139	165	256	304	487	763
			M_{2max}	6,6	12,4	22	39,4	42,8	74	80	143	243	264	450	489	850	1335
	1 000	**V** 25	P_{N1}	0,25	0,45	0,81	1,32 1,1	1,57 1,1	2,5 1,7	2,98 1,7	4,82	6,7	8	12,5	14,8	24,1 20	43 31
			P_{N2}	0,18	0,33	0,61	1,03	1,22	1,99	2,37	3,92	5,7	6,8	10,7	12,8	21	37,9
			M_{N2}	4,31	7,9	14,6	24,5	29,2	47,6	57	94	137	163	256	305	501	904
			M_{2max}	7,4	13,4	24,2	43,9	47,6	81	88	162	240	261	436	473	863	1530
	800	**V** 20	P_{N1}	0,27	0,47	0,84	1,19	1,41	2,21	2,63 2	4,45	7,4	8,8	13,4	16 12	26,8 18	46,1 29
			P_{N2}	0,2	0,35	0,65	0,97	1,15	1,83	2,18	3,75	6,3	7,5	11,6	13,8	23,4	40,7
			M_{N2}	4,7	8,4	15,4	23,1	27,5	43,8	52	90	150	178	277	330	559	972
			M_{2max}	7,9	14,3	25,9	41,4	45	78	85	146	255	277	485	527	927	1653
	630	**V** 16	P_{N1}	0,24	0,43	0,79	1,28	1,53 1,3	2,44 2	2,9 2	4,69	7,6	9 7	14,2 11	16,9 11	26,2 18	46,9 29
			P_{N2}	0,19	0,34	0,64	1,05	1,26	2,03	2,42	3,96	6,5	7,7	12,3	14,7	23,2	42
			M_{N2}	4,61	8,3	15,4	25,6	30,4	49,3	59	96	157	187	299	355	562	1018
			M_{2max}	7,5	13,7	25,1	45,1	49	85	93	160	266	289	527	572	931	1683
	500	**V** 13	P_{N1}	0,23	0,41	0,74	1,28	1,52 1,3	2,39 2	2,84 2	4,79	7,8	9,3 6,9	14,7 11	17,5 11	27,5 17	
			P_{N2}	0,18	0,33	0,6	1,05	1,25	2	2,38	4,07	6,7	8	12,9	15,4	24,4	—
			M_{N2}	4,57	8,2	15	26,2	31,2	49,7	59	101	168	199	321	382	606	
			M_{2max}	8,1	14,6	26,7	47,8	52	89	97	172	290	315	552	600	1023	
	400	**V** 10	P_{N1}	0,24	0,43	0,77	1,32	1,54	2,44	2,89 2,2	4,8	7,8	9,3 6,7	14,2 10	16,9 10		
			P_{N2}	0,19	0,35	0,63	1,12	1,31	2,09	2,48	4,16	6,8	8,1	12,5	14,9	—	—
			M_{N2}	4,55	8,3	15,1	26,7	31,2	50	59	99	163	194	299	356		
			M_{2max}	8,3	14,9	26,9	48,6	53	90	98	171	284	309	523	602		
35,5	1 400	**V** 40	P_{N1}	0,19	0,34	0,6	1	1,19	1,86	2,21 1,7	3,64	5,7	6,8	10,9	12,9	19,8	35 27
			P_{N2}	0,13	0,24	0,44	0,76	0,9	1,44	1,71	2,88	4,58	5,4	8,9	10,6	16,5	29,4
			M_{N2}	3,6	6,6	11,9	20,7	24,6	39,2	46,7	79	125	149	243	289	449	802
			M_{2max}	6,1	11,1	20,3	36,3	39,4	69	75	133	227	247	432	469	817	1445
	1 120	**V** 32	P_{N1}	0,21	0,38	0,67	1,1	1,3 1,1	2,06 1,6	2,45 1,6	4,07	6,6	7,8	11,8	14,1 11	22,4 17	33,8
			P_{N2}	0,15	0,28	0,49	0,83	0,99	1,61	1,91	3,24	5,3	6,3	9,8	11,6	18,8	29,4
			M_{N2}	4,05	7,5	13,5	22,8	27,1	43,8	52	88	145	173	267	318	512	802
			M_{2max}	6,9	12,8	22,8	40,4	43,9	77	83	146	254	276	464	504	881	1385
	900	**V** 25	P_{N1}	0,23	0,42	0,76	1,24	1,48 1,1	2,35 1,7	2,8 1,7	4,51	6,3	7,5	11,7	13,9	22,8 18	40,4 30
			P_{N2}	0,17	0,31	0,57	0,96	1,14	1,86	2,21	3,64	5,3	6,3	10	11,9	19,7	35,5
			M_{N2}	4,44	8,1	15,1	25,4	30,2	49,3	59	97	141	168	265	315	524	943
			M_{2max}	7,5	13,6	25	45,6	49,5	84	92	168	250	272	448	487	874	1612
	710	**V** 20	P_{N1}	0,24	0,44	0,78	1,09	1,29	2,04	2,43 1,9	4,14	6,8	8,1	12,5	14,9 11	24,9 17	43,1 26
			P_{N2}	0,18	0,32	0,59	0,88	1,05	1,68	2	3,47	5,8	6,9	10,7	12,8	21,7	37,8
			M_{N2}	4,82	8,7	16	23,8	28,3	45,2	54	93	155	185	289	344	583	1018
			M_{2max}	8	14,6	26,7	42,1	45,8	81	88	153	265	288	499	541	948	1712
	560	**V** 16	P_{N1}	0,22	0,39	0,72	1,18	1,41	2,25 1,9	2,68 1,9	4,34	7	8,4 6,4	13,2 10	15,7 10	24,3 17	43,6 27
			P_{N2}	0,17	0,31	0,58	0,97	1,15	1,87	2,22	3,65	6	7,1	11,4	13,5	21,4	38,9
			M_{N2}	4,73	8,5	15,8	26,3	31,3	51	61	100	164	195	311	370	585	1061
			M_{2max}	7,7	14,1	25,8	45,8	49,8	88	96	163	277	301	548	595	965	1719
	450	**V** 13	P_{N1}	0,21	0,38	0,69	1,19	1,41	2,22	2,65 1,9	4,46	7,2	8,6 6,4	13,8 10	16,4 10	25,9 16	
			P_{N2}	0,17	0,31	0,56	0,98	1,16	1,86	2,21	3,78	6,3	7,4	12,1	14,4	22,8	—
			M_{N2}	4,68	8,4	15,4	27	32,1	51	61	104	173	205	334	397	630	
			M_{2max}	8,2	15	27,4	48,6	53	91	99	178	300	325	574	624	1043	

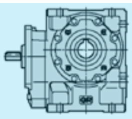
Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty see ch. 3.2).
For n_1 higher than 1 400 min^{-1} or lower than 355 min^{-1} see ch. 3.4 and page 32.
1) Values given for train of gears **IV** are nominal; see page 93 for effective transmission ratios.
2) M_{2max} represents maximum torque peak the gear reducer will withstand.

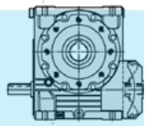
Nominal powers and torques (gear reducers)

n_{N2} min⁻¹	n_1	Train of gears i 1)	P [kW] M [daN m] 2)	Gear reducer size 32	40	50	63	64	80	81	100	125	126	160	161	200	250
35,5	355	**V** 10	P_{N1}	0,22	0,39	0,71	1,22	1,4	2,24	2,65 2,1	4,41	7,2	8,5 6,2	13,1 9,6	15,6 9,6	–	–
			P_{N2}	0,17	0,31	0,58	1,03	1,19	1,91	2,26	3,81	6,2	7,4	11,5	13,7		
			M_{N2}	4,69	8,4	15,6	27,7	31,9	51	61	102	168	200	311	370		
			M_{2max}	8,4	15,1	27,3	49,9	54	93	101	174	293	318	542	623		
31,5	1 250	**V** 40	P_{N1}	0,18	0,32	0,56	0,94	1,11	1,74	2,07 1,6	3,39	5,4	6,4	10,2	12,1	18,7	32,8 25
			P_{N2}	0,12	0,22	0,4	0,7	0,83	1,33	1,59	2,67	4,26	5,1	8,3	9,9	15,4	27,5
			M_{N2}	3,71	6,8	12,3	21,4	25,5	40,7	48,5	82	130	155	253	302	471	840
			M_{2max}	6,4	11,6	21	38,3	41,6	71	77	136	234	254	445	484	846	1501
	1 000	**V** 32	P_{N1}	0,2	0,35	0,62	1,02	1,22 1	1,91 1,6	2,28 1,6	3,79	6,1	7,3	11,1	13,2 9,8	21 15	31,6
			P_{N2}	0,14	0,25	0,45	0,77	0,92	1,48	1,76	2,99	4,95	5,9	9,1	10,8	17,6	27,4
			M_{N2}	4,19	7,7	13,9	23,6	28	45,3	54	91	151	180	277	330	536	838
			M_{2max}	7,1	12,9	23,2	42	45,6	79	85	152	261	283	493	536	929	1458
	800	**V** 25	P_{N1}	0,21	0,38	0,7	1,15	1,37 1	2,17 1,6	2,59 1,6	4,17	5,8	6,9	10,7	12,8	21,2 17	37,9 27
			P_{N2}	0,15	0,28	0,52	0,88	1,04	1,7	2,02	3,34	4,88	5,8	9,2	10,9	18,3	33,1
			M_{N2}	4,58	8,3	15,4	26,2	31,2	51	60	100	146	173	273	325	546	988
			M_{2max}	7,8	14,2	25,8	46,6	51	86	94	169	257	279	467	508	908	1668
	630	**V** 20	P_{N1}	0,22	0,4	0,72	0,99	1,18	1,87	2,23 1,8	3,83	6,3	7,5 6,3	11,6	13,8 10	23,1 16	40,3 24
			P_{N2}	0,16	0,3	0,54	0,8	0,95	1,53	1,83	3,19	5,3	6,3	9,9	11,8	20	35,3
			M_{N2}	4,96	9	16,5	24,3	28,9	46,5	55	97	161	192	300	357	606	1069
			M_{2max}	8,3	15	27,5	43,9	47,7	83	90	156	272	295	519	564	983	1778
	500	**V** 16	P_{N1}	0,2	0,36	0,66	1,09	1,29	2,07	2,46 1,8	4,01	6,5	7,8 6	12,3 9,4	14,6 9,4	22,4 16	40,3 25
			P_{N2}	0,16	0,28	0,53	0,88	1,05	1,71	2,03	3,35	5,5	6,6	10,5	12,5	19,7	35,7
			M_{N2}	4,84	8,7	16,2	26,9	32,1	52	62	102	169	201	322	383	601	1092
			M_{2max}	7,9	14,3	26,5	47,2	51	91	99	171	284	308	561	610	984	1754
	400	**V** 13	P_{N1}	0,2	0,35	0,63	1,09	1,3	2,05	2,44 1,8	4,12	6,6	7,9 6	12,8 9,5	15,2 9,5	23,9 15	–
			P_{N2}	0,15	0,28	0,51	0,89	1,06	1,7	2,03	3,47	5,7	6,8	11,1	13,3	21	
			M_{N2}	4,78	8,6	15,7	27,8	33	53	63	108	177	211	346	411	653	
			M_{2max}	8,4	15	27,8	49,9	54	95	103	181	309	335	588	638	1063	
28	1 400	**IV** 50	P_{N1}	0,2	0,34	0,63	1	1,2	1,91	2,28 1,7	3,72	6,2	7,4 5,6	11,5 8,7	13,7 8,7	20,8 15	37,4 23
			P_{N2}	0,14	0,26	0,49	0,79	0,94	1,54	1,83	3,03	5,1	6,1	9,6	11,5	17,8	32,5
			M_{N2}	5,1	8,9	16,6	27,6	32,8	53	64	105	174	208	334	397	618	1125
			M_{2max}	8,5	14,5	27,2	48,4	53	93	101	173	289	314	575	624	1002	1788
	1 400	**V** 50	P_{N1}	0,14	0,26	0,47	0,77	0,92	1,44	1,72	2,69	4,49	5,3	8,3	9,9	16	28,1
			P_{N2}	0,1	0,18	0,32	0,56	0,67	1,08	1,29	2,07	3,52	4,19	6,7	7,9	13	23,3
			M_{N2}	3,24	6	11,1	19,2	22,9	36,9	43,9	71	120	143	227	270	445	795
			M_{2max}	5,2	10	19,6	34,7	37,7	65	71	123	212	231	409	445	786	1408
	1 120	**V** 40	P_{N1}	0,16	0,3	0,52	0,88	1,04	1,63	1,94 1,5	3,18	5,1	6	9,6	11,4 9,7	17,6 15	30,9 24
			P_{N2}	0,11	0,2	0,37	0,65	0,77	1,24	1,47	2,48	3,98	4,74	7,7	9,2	14,5	25,8
			M_{N2}	3,81	7	12,7	22,1	26,3	42,2	50	85	136	162	264	315	494	879
			M_{2max}	6,5	11,8	21,7	39,2	42,6	72	79	139	241	261	458	498	876	1557
	900	**V** 32	P_{N1}	0,18	0,33	0,58	0,96	1,14 1	1,79 1,5	2,13 1,5	3,55	5,8	6,9 5,8	10,4	12,4 9,1	19,8 14	29,8
			P_{N2}	0,13	0,23	0,42	0,72	0,85	1,37	1,64	2,78	4,63	5,5	8,5	10,1	16,5	25,7
			M_{N2}	4,32	7,9	14,3	24,3	29	46,7	56	94	157	187	287	342	560	874
			M_{2max}	7,3	13,6	23,6	43,6	47,3	81	88	157	268	291	507	551	977	1530
	710	**V** 25	P_{N1}	0,2	0,35	0,64	1,06	1,27 1	2,01 1,5	2,39 1,5	3,85	5,4	6,4	9,9	11,7	19,7 16	35,4 25
			P_{N2}	0,14	0,25	0,47	0,8	0,96	1,55	1,85	3,06	4,48	5,3	8,4	10	16,9	30,8
			M_{N2}	4,73	8,5	15,8	27	32,2	52	62	103	151	179	282	335	569	1036
			M_{2max}	8	14,4	26,5	47,4	51	88	96	175	263	286	486	528	941	1704
	560	**V** 20	P_{N1}	0,21	0,37	0,67	0,91	1,08	1,72	2,05	3,54	5,8	6,9 5,8	10,7	12,8 9,2	21,4 15	37,7 23
			P_{N2}	0,15	0,27	0,5	0,73	0,87	1,4	1,67	2,93	4,89	5,8	9,1	10,9	18,5	32,9
			M_{N2}	5,1	9,3	17,1	24,8	29,6	47,8	57	100	167	199	312	371	629	1121
			M_{2max}	8,5	15,6	28,2	44,6	48,5	86	93	158	279	303	539	586	1017	1842
	450	**V** 16	P_{N1}	0,19	0,34	0,62	1,01	1,2	1,92	2,28 1,7	3,73	6,1	7,3 5,6	11,5 8,7	13,7 8,7	20,8 15	37,4 23
			P_{N2}	0,15	0,26	0,49	0,81	0,97	1,57	1,87	3,1	5,1	6,1	9,8	11,7	18,2	33,1
			M_{N2}	4,96	8,9	16,6	27,6	32,8	53	64	105	174	208	334	397	618	1125
			M_{2max}	8	14,5	27,2	48,4	53	93	101	173	289	314	575	624	1002	1788
	355	**V** 13	P_{N1}	0,18	0,32	0,58	1,01	1,2	1,89	2,25 1,7	3,79	6,1	7,2 5,6	11,8 8,8	14 8,8	22,1 14	–
			P_{N2}	0,14	0,25	0,46	0,82	0,97	1,56	1,86	3,17	5,2	6,2	10,2	12,2	19,4	
			M_{N2}	4,89	8,8	16,1	28,6	34	55	65	111	182	217	358	426	677	
			M_{2max}	8,5	15,7	28,2	51	56	96	104	183	317	345	597	649	1081	
25	1 250	**IV** 50	P_{N1}	0,19	0,31	0,58	0,92	1,09	1,75	2,09 1,7	3,42	5,7	6,8 5,2	10,7 8,1	12,7 8,1	19,1 14	34,6 22
			P_{N2}	0,13	0,24	0,44	0,72	0,86	1,4	1,67	2,77	4,68	5,6	8,9	10,6	16,3	29,9
			M_{N2}	5,2	9,1	16,9	28,1	33,4	55	65	108	178	212	345	410	634	1161
			M_{2max}	8,7	14,9	27,6	49,1	53	95	103	178	298	323	588	638	1047	1872

Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty see ch. 3.2).
For n_1 higher than 1 400 min⁻¹ or lower than 355 min⁻¹ see ch. 3.4 and page 32.
1) Values given for train of gears **IV** are nominal; see page 93 for effective transmission ratios.
2) M_{2max} represents maximum torque peak the gear reducer will withstand.

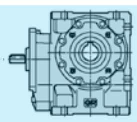
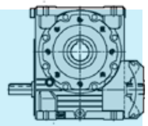




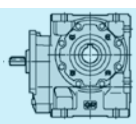
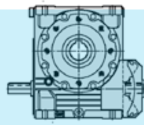
n_{N2} min⁻¹	n_1	Train of gears i 1)	P [kW] M [daN m] 2)	Gear reducer size 32	40	50	63	64	80	81	100	125	126	160	161	200	250
25	1 250	**V** 50	P_{N1}	0,13	0,24	0,43	0,72	0,85	1,34	1,6	2,5	4,17	4,96	7,8	9,3	15,2	26,6
			P_{N2}	0,09	0,16	0,3	0,52	0,61	1	1,18	1,91	3,25	3,86	6,2	7,4	12,3	22
			M_{N2}	3,29	6,1	11,4	19,7	23,5	38	45,3	73	124	148	237	282	469	840
			M_{2max}	5,2	10,1	19,8	35,5	38,6	67	73	127	225	244	428	465	840	1484
	1 000	**V** 40	P_{N1}	0,15	0,27	0,48	0,81	0,97	1,52	1,8 1,4	2,96	4,71	5,6	9	10,7 8,9	16,4	29 22
			P_{N2}	0,1	0,19	0,34	0,59	0,71	1,14	1,36	2,28	3,68	4,38	7,2	8,6	13,4	24,1
			M_{N2}	3,88	7,1	13	22,7	27	43,5	52	87	141	167	275	327	513	920
			M_{2max}	6,7	12,2	22,1	40,7	44,2	76	83	146	251	272	478	519	921	1610
	800	**V** 32	P_{N1}	0,17	0,3	0,54	0,89	1,05	1,66	1,98 1,4	3,3	5,4	6,4 5,3	9,7	11,5 8,4	18,6 13	27,5
			P_{N2}	0,12	0,21	0,39	0,65	0,78	1,26	1,5	2,56	4,27	5,1	7,8	9,3	15,3	23,6
			M_{N2}	4,46	8,1	14,7	25	29,7	48,2	57	98	163	194	299	356	584	901
			M_{2max}	7,5	13,6	24,6	44,3	48,1	85	92	162	279	303	520	565	1010	1562
	630	**V** 25	P_{N1}	0,18	0,32	0,59	0,98	1,17 0,9	1,85 1,4	2,2 1,4	3,56	4,93	5,9	9,1	10,8	18,1 14	32,7 23
			P_{N2}	0,13	0,23	0,43	0,73	0,87	1,42	1,69	2,8	4,09	4,87	7,7	9,1	15,5	28,4
			M_{N2}	4,84	8,8	16,3	27,8	33,1	54	64	106	155	185	291	346	588	1076
			M_{2max}	8,1	14,8	27,3	49,4	54	91	99	180	277	301	505	549	960	1739
	500	**V** 20	P_{N1}	0,19	0,34	0,62	0,83	0,99	1,58	1,88	3,26	5,4	6,4 5,4	10	11,9 8,5	19,8 13	35,2 21
			P_{N2}	0,14	0,25	0,46	0,66	0,79	1,28	1,52	2,69	4,47	5,3	8,4	10	17	30,5
			M_{N2}	5,2	9,5	17,5	25,3	30,1	48,8	58	103	171	203	322	383	650	1165
			M_{2max}	8,7	15,7	28,6	45,8	49,7	88	96	165	289	314	552	600	1051	1878
	400	**V** 16	P_{N1}	0,17	0,31	0,56	0,91	1,09	1,75	2,08 1,7	3,41	5,6	6,6 5,2	10,6 8,1	12,6 8,1	19 14	34,5 22
			P_{N2}	0,13	0,24	0,44	0,73	0,87	1,43	1,7	2,82	4,67	5,6	9	10,7	16,6	30,4
			M_{N2}	5,1	9,1	16,9	28,1	33,4	55	65	108	178	212	345	410	634	1161
			M_{2max}	8	14,9	27,6	49,1	53	95	103	178	298	323	588	638	1047	1872
22,4	1 400	**IV** 63	P_{N1}	0,16	0,33	0,59	0,76	0,91	1,45	1,73	3,02	5,1	6 5,1	9,3	11,1 8	18,5 13	33,1 20
			P_{N2}	0,11	0,23	0,42	0,59	0,7	1,15	1,36	2,42	4,11	4,89	7,7	9,1	15,5	28
			M_{N2}	4,96	9,7	18	25,7	30,6	49,8	59	105	175	208	333	396	671	1211
			M_{2max}	8,2	15,8	29	46,8	51	90	98	168	297	323	565	614	1083	1913
	1 400	**V** 63	P_{N1}	—	0,18	0,34	0,58	0,69	1,1	1,31	2,11	3,44	4,1	6,2	7,4	11,9	21,2
			P_{N2}		0,12	0,23	0,4	0,48	0,79	0,94	1,57	2,61	3,11	4,84	5,8	9,5	17,2
			M_{N2}		4,96	9,7	17,2	20,5	33,9	40,3	67	112	134	208	248	406	739
			M_{2max}		7,5	14,9	29	32,5	59	67	117	201	219	386	419	739	1339
	1 120	**IV** 50	P_{N1}	0,17	0,29	0,53	0,84	1	1,62	1,93 1,6	3,15	5,3	6,3 4,8	9,9 7,5	11,8 7,5	17,7 13	32,2 20
			P_{N2}	0,12	0,22	0,41	0,66	0,78	1,29	1,53	2,54	4,29	5,1	8,2	9,8	15	27,7
			M_{N2}	5,3	9,2	17,3	28,6	34	56	66	110	183	217	356	424	651	1198
			M_{2max}	8,9	15,1	27,9	49,7	54	96	104	183	306	332	597	649	1064	1903
	1 120	**V** 50	P_{N1}	0,12	0,22	0,41	0,67	0,79	1,25	1,49	2,33	3,89	4,63	7,4	8,8	14,4	25,3
			P_{N2}	0,08	0,15	0,28	0,47	0,56	0,92	1,09	1,76	3	3,57	5,8	6,9	11,6	20,8
			M_{N2}	3,34	6,3	11,7	20,2	24,1	39,2	46,6	75	128	152	247	294	494	887
			M_{2max}	5,2	10,1	19,9	36,4	39,5	69	75	132	231	251	446	484	869	1560
	900	**V** 40	P_{N1}	0,14	0,25	0,45	0,76	0,9	1,42	1,69 1,4	2,76	4,41	5,3	8,4	10 8,3	15,5 13	27,4 20
			P_{N2}	0,09	0,17	0,31	0,55	0,65	1,05	1,26	2,12	3,42	4,07	6,7	8	12,5	22,6
			M_{N2}	3,95	7,3	13,2	23,3	27,7	44,8	53	90	145	173	284	339	532	960
			M_{2max}	6,8	12,5	22,4	41,9	45,5	78	85	148	253	275	498	540	966	1666
	710	**V** 32	P_{N1}	0,16	0,28	0,5	0,82	0,97	1,54	1,83 1,4	3,06	5	6 4,9	9	10,7 7,7	17,3 12	25,3
			P_{N2}	0,11	0,19	0,35	0,6	0,71	1,15	1,37	2,35	3,93	4,68	7,2	8,6	14,2	21,6
			M_{N2}	4,6	8,3	15,2	25,6	30,5	49,7	59	101	169	201	312	371	610	929
			M_{2max}	7,7	13,9	25	45	48,9	87	94	167	289	314	534	579	1031	1593
	560	**V** 25	P_{N1}	0,17	0,3	0,54	0,9	1,07 0,9	1,71 1,4	2,03 1,4	3,29	4,54	5,4	8,4	10	16,7 13	30,3 21
			P_{N2}	0,12	0,21	0,39	0,67	0,8	1,3	1,55	2,57	3,74	4,46	7	8,4	14,2	26,2
			M_{N2}	4,96	9	16,7	28,6	34	55	66	109	160	190	300	357	607	1117
			M_{2max}	8,2	15,2	28	50	54	94	102	186	283	307	524	569	978	1773
	450	**V** 20	P_{N1}	0,18	0,32	0,58	0,76	0,91	1,46	1,73	3,03	4,98	5,9	9,3	11,1 8	18,5 13	33,1 20
			P_{N2}	0,13	0,23	0,42	0,61	0,72	1,17	1,4	2,48	4,12	4,9	7,8	9,3	15,8	28,5
			M_{N2}	5,3	9,7	18	25,7	30,6	49,8	59	105	175	208	333	396	671	1211
			M_{2max}	8,9	15,8	29	46,8	51	90	98	168	297	323	565	614	1083	1913
	355	**V** 16	P_{N1}	0,16	0,28	0,51	0,83	0,99	1,6	1,9 1,6	3,12	5,1	6,1 4,8	9,8 7,5	11,7 7,5	17,4 13	31,7 20
			P_{N2}	0,12	0,21	0,4	0,66	0,79	1,3	1,54	2,56	4,25	5,1	8,3	9,8	15,1	27,8
			M_{N2}	5,2	9,2	17,3	28,6	34	56	66	110	183	217	356	424	651	1198
			M_{2max}	8,1	15,1	27,9	49,7	54	96	104	183	306	332	597	649	1064	1903
18	1 400	**IV** 80	P_{N1}	0,13	0,26	0,47	0,76	0,91	1,46	1,73 1,2	2,84	3,95	4,7	7,2	8,5	14,2 12	26 19
			P_{N2}	0,09	0,17	0,33	0,55	0,65	1,07	1,27	2,13	3,15	3,75	5,8	6,9	11,7	21,8
			M_{N2}	4,89	9,3	17,4	29,7	35,3	58	69	116	168	200	315	375	634	1179
			M_{2max}	8	15,9	28,7	53	57	99	108	196	299	324	547	594	1039	1888

Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty see ch. 3.2).
For n_1 higher than 1 400 min⁻¹ or lower than 355 min⁻¹ see ch. 3.4 and page 32.
1) Values given for train of gears **IV** are nominal; see page 93 for effective transmission ratios.
2) M_{2max} represents maximum torque peak the gear reducer will withstand.

Nominal powers and torques (gear reducers) 3.5

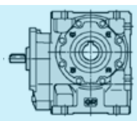
n_{N2} min⁻¹	n_1	Train of gears i 1)	P [kW] M [daN m] 2)	Gear reducer size   32	40	50	63	64	80	81	100	125	126	160	161	200	250
18	1 120	**IV** 63	P_{N1}	0,14	0,28	0,5	0,66	0,76	1,22	1,45	2,56	4,3	5,1	8	9,5 6,9	15,9 11	28,7 17
			P_{N2}	0,09	0,19	0,35	0,5	0,58	0,95	1,13	2,03	3,45	4,1	6,5	7,7	13,2	24
			M_{N2}	5,2	10,2	18,9	27,3	31,6	52	61	110	183	218	352	419	713	1301
			M_{2max}	8,6	16,5	30,5	47,1	53	93	101	176	306	332	599	651	1118	2032
	1 120	**V** 63	P_{N1}	—	0,15	0,29	0,5	0,58	0,95	1,13	1,83	2,97	3,54	5,4	6,4	10,5	18,8
			P_{N2}		0,09	0,18	0,34	0,39	0,66	0,79	1,32	2,21	2,63	4,12	4,9	8,2	15
			M_{N2}		5	9,8	18,1	21,1	35,7	42,4	71	119	141	221	263	441	808
			M_{2max}		7,6	15	29,2	32,7	60	67	118	218	236	407	442	789	1431
	900	**IV** 50	P_{N1}	0,15	0,24	0,44	0,71	0,84	1,37	1,63	2,69	4,45	5,3 4,3	8,5 6,7	10,1 6,7	15 11	27,3 18
			P_{N2}	0,1	0,18	0,34	0,55	0,65	1,07	1,28	2,14	3,6	4,28	7	8,3	12,7	23,3
			M_{N2}	5,5	9,5	17,8	29,5	34,9	58	69	116	190	227	377	448	682	1256
			M_{2max}	9	15,9	29,6	53	58	103	111	196	328	357	643	699	1144	2054
	900	**V** 50	P_{N1}	0,1	0,19	0,35	0,57	0,68	1,09	1,3	2,02	3,38	4,03	6,4	7,7	12,9	22,8 19
			P_{N2}	0,06	0,12	0,23	0,4	0,47	0,78	0,93	1,49	2,56	3,05	5	5,9	10,2	18,5
			M_{N2}	3,41	6,6	12,3	21,1	25,1	41,4	49,3	79	136	162	265	315	543	980
			M_{2max}	5,2	10,2	20	38,6	42	74	80	136	242	263	469	509	915	1665
	710	**V** 40	P_{N1}	0,12	0,21	0,38	0,64	0,76	1,21	1,44	2,36	3,83	4,56	7,3	8,7 7	13,4 11	23,8 17
			P_{N2}	0,08	0,14	0,26	0,45	0,54	0,88	1,05	1,77	2,91	3,46	5,7	6,8	10,7	19,3
			M_{N2}	4,13	7,5	13,8	24,4	29,1	47,5	57	95	157	186	308	366	578	1040
			M_{2max}	6,8	13,1	23,7	43,2	46,9	83	90	158	273	296	522	567	1004	1830
	560	**V** 32	P_{N1}	0,13	0,23	0,42	0,68	0,81	1,31	1,56 1,2	2,62	4,29	5,1 4,2	7,8 6,6	9,2 6,6	14,8 10	21,3
			P_{N2}	0,09	0,16	0,29	0,49	0,58	0,96	1,15	1,97	3,31	3,94	6,1	7,3	12	18
			M_{N2}	4,89	8,7	16	26,7	31,7	53	63	108	181	215	335	399	653	983
			M_{2max}	8	14,7	26,3	47,5	52	92	100	173	302	329	574	624	1100	1680
	450	**V** 25	P_{N1}	0,14	0,25	0,46	0,77	0,91	1,46	1,74 1,2	2,84	3,89	4,62	7,2	8,5	14,2 12	26 19
			P_{N2}	0,1	0,17	0,33	0,56	0,67	1,09	1,3	2,18	3,16	3,76	5,9	7,1	12	22,2
			M_{N2}	5,2	9,3	17,4	29,7	35,3	58	69	116	168	200	315	375	634	1179
			M_{2max}	8,6	15,9	28,7	53	57	99	108	196	299	324	547	594	1039	1888
	355	**V** 20	P_{N1}	0,15	0,27	0,49	0,65	0,75	1,2	1,43	2,53	4,17	4,96	7,9	9,4 6,9	15,7 11	28,3 17
			P_{N2}	0,1	0,19	0,35	0,51	0,59	0,96	1,14	2,05	3,41	4,05	6,5	7,8	13,3	24,2
			M_{N2}	5,5	10,2	18,9	27,3	31,6	52	61	110	183	218	352	419	713	1301
			M_{2max}	9	16,5	30,5	47,1	53	93	101	176	306	332	599	651	1118	2032
14	1 400	**IV** 100	P_{N1}	0,1	0,2	0,36	0,58	0,69	1,11	1,32	2,26	3,77	4,48 3,6	6,7 5,7	8 5,7	12,8 9	18,2
			P_{N2}	0,06	0,13	0,24	0,4	0,48	0,79	0,94	1,64	2,8	3,33	5,1	6,1	10	14,9
			M_{N2}	4,25	9,1	16,6	27,8	33	55	65	114	190	227	353	420	690	1030
			M_{2max}	6,9	15	27,6	49,8	54	94	102	182	322	350	600	652	1138	1686
	1 120	**IV** 80	P_{N1}	0,11	0,21	0,4	0,64	0,76	1,24	1,47 1,1	2,44	3,37	4,01	6,1	7,2	12 10	22,1 16
			P_{N2}	0,07	0,14	0,27	0,45	0,54	0,89	1,06	1,81	2,66	3,17	4,85	5,8	9,8	18,3
			M_{N2}	5,1	9,5	18,1	30,6	36,4	61	72	123	177	211	328	390	663	1236
			M_{2max}	8,1	16,2	29,7	55	59	102	111	202	302	333	577	626	1084	1997
	900	**IV** 63	P_{N1}	0,12	0,23	0,42	0,56	0,64	1,04	1,23	2,16	3,63	4,32	6,8	8,1 6,1	13,5 9,5	24,5 15
			P_{N2}	0,08	0,16	0,29	0,42	0,49	0,8	0,94	1,69	2,88	3,42	5,5	6,5	11,1	20,3
			M_{N2}	5,4	10,5	19,5	28,4	32,8	54	64	114	190	227	370	440	745	1368
			M_{2max}	8,8	17,4	31,7	48,3	54	97	105	188	328	356	643	699	1202	2136
	900	**V** 63	P_{N1}	—	0,13	0,24	0,43	0,49	0,82	0,97	1,57	2,56	3,04	4,68	5,6	9,2	16,5
			P_{N2}		0,08	0,15	0,28	0,32	0,55	0,66	1,11	1,86	2,21	3,5	4,16	7,1	13
			M_{N2}		5,1	9,9	19	21,6	37,1	44,1	74	124	148	234	278	474	870
			M_{2max}		7,6	15	29,3	32,8	60	67	119	228	247	438	476	848	1568
	710	**IV** 50	P_{N1}	0,12	0,2	0,37	0,6	0,68	1,12	1,33	2,22	3,68	4,38	7,1 5,9	8,5 5,9	12,4 10	22,7 16
			P_{N2}	0,08	0,15	0,27	0,46	0,52	0,87	1,04	1,75	2,94	3,5	5,8	6,9	10,3	19,2
			M_{N2}	5,7	9,8	18,4	31,2	35,6	60	71	120	198	235	395	470	707	1309
			M_{2max}	9,5	16,5	30,5	56	60	107	116	205	351	381	689	748	1171	2154
	710	**V** 50	P_{N1}	0,09	0,16	0,3	0,48	0,57	0,92	1,09	1,72	2,87	3,41	5,6	6,6	11,1	19,9 16
			P_{N2}	0,05	0,1	0,19	0,33	0,39	0,64	0,76	1,24	2,13	2,53	4,22	5	8,6	15,9
			M_{N2}	3,53	6,9	12,9	22	26,1	43	51	83	143	170	284	338	581	1068
			M_{2max}	5,3	10,2	20,1	39,3	44	76	83	144	260	282	504	547	975	1789
	560	**V** 40	P_{N1}	0,1	0,18	0,32	0,54	0,64	1,01	1,21	1,99	3,29	3,91	6,3	7,5 6	11,7 9,3	20,5 15
			P_{N2}	0,06	0,11	0,21	0,37	0,45	0,72	0,86	1,46	2,45	2,91	4,87	5,8	9,2	16,5
			M_{N2}	4,25	7,8	14,3	25,6	30,4	49,3	59	100	167	199	332	395	625	1125
			M_{2max}	6,9	13,4	24,8	45,4	49,3	85	93	162	285	310	560	608	1067	1898
	450	**V** 32	P_{N1}	0,11	0,2	0,36	0,58	0,69	1,12	1,33 1,1	2,26	3,7	4,41 3,6	6,7 5,7	8 5,7	12,8 9	18,2
			P_{N2}	0,07	0,13	0,24	0,41	0,49	0,81	0,96	1,67	2,8	3,34	5,2	6,2	10,2	15,2
			M_{N2}	5,1	9,1	16,6	27,8	33	55	65	114	190	227	353	420	690	1030
			M_{2max}	8,1	15	27,6	49,8	54	94	102	182	322	350	600	652	1138	1686

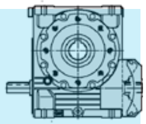
Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty see ch. 3.2).
For n_1 higher than 1 400 min⁻¹ or lower than 355 min⁻¹ see ch. 3.4 and page 32.
1) Values given for train of gears **IV** are nominal; see page 93 for effective transmission ratios.
2) M_{2max} represents maximum torque peak the gear reducer will withstand.

n_{N2} min^{-1}	n_1	Train of gears i 1)	P [kW] M [daN m] 2)	Gear reducer size 32	40	50	63	64	80	81	100	125	126	160	161	200	250
14	355	**V** 25	P_{N1} P_{N2} M_{N2} M_{2max}	0,12 0,08 5,4 8,8	0,21 0,14 9,5 16,2	0,39 0,27 18,1 29,7	0,63 0,45 30,6 55	0,75 0,54 36,4 59	1,22 0,9 61 102	1,46 1,1 1,07 72 111	2,42 1,82 123 202	3,27 2,63 177 302	3,89 3,13 211 333	6 4,88 328 577	7,1 5,8 390 626	11,9 10 9,9 663 1084	21,8 16 18,4 1236 1997
11,2	1 400	**IV** 125	P_{N1} P_{N2} M_{N2} M_{2max}	0,07 0,04 3,62 5,3	0,15 0,09 8 13,4	0,27 0,17 14,7 25,9	0,46 0,31 26,5 47,5	0,54 0,36 31,6 52	0,85 0,58 51 90	1,02 0,7 60 97	1,69 1,19 103 171	2,87 2,05 174 301	3,42 2,44 208 327	5,6 4,11 356 583	6,6 5,1 4,89 423 634	10,1 8 7,7 663 1100	17,8 13 13,7 1190 2013
	1 120	**IV** 100	P_{N1} P_{N2} M_{N2} M_{2max}	0,08 0,05 4,34 6,9	0,17 0,11 9,3 15,5	0,31 0,2 17,1 28,2	0,49 0,33 28,9 52	0,59 0,39 34,3 56	0,94 0,66 57 99	1,12 0,78 68 107	1,92 1,37 119 191	3,24 2,36 200 339	3,85 3,1 2,8 239 368	5,8 4,8 4,29 372 636	6,9 4,8 5,1 442 691	11 7,7 8,4 730 1201	15,6 12,6 1092 1792
	900	**IV** 80	P_{N1} P_{N2} M_{N2} M_{2max}	0,1 0,06 5,3 8,4	0,18 0,12 9,8 17	0,34 0,23 18,8 31,1	0,55 0,38 32 58	0,64 0,44 37,4 63	1,05 0,74 63 109	1,25 1,1 0,89 75 118	2,09 1,52 129 215	2,86 2,23 184 309	3,41 2,65 219 347	5,2 4,08 344 617	6,1 4,86 409 670	10,2 8,2 693 1149	18,7 14 15,3 1288 2094
	710	**IV** 63	P_{N1} P_{N2} M_{N2} M_{2max}	0,1 0,06 5,6 9,3	0,19 0,13 10,8 18,3	0,35 0,24 20,1 33,4	0,47 0,35 30 49,4	0,52 0,39 33,5 55	0,88 0,67 57 101	1,01 0,77 66 111	1,79 1,38 118 196	2,98 2,34 196 349	3,55 2,78 233 379	5,7 4,5 384 687	6,7 5,4 5,4 458 746	11,2 8,5 9,1 775 1286	20,4 13 16,7 1423 2292
	710	**V** 63	P_{N1} P_{N2} M_{N2} M_{2max}	—	0,1 0,06 5,1 7,7	0,2 0,12 10,1 15,1	0,36 0,23 19,7 29,5	0,41 0,26 22,1 33	0,69 0,46 38,8 60	0,81 0,54 45,5 68	1,34 0,92 78 119	2,16 1,53 130 233	2,57 1,83 155 261	3,99 2,92 247 458	4,74 3,47 294 497	7,9 6 505 877	14,1 11 929 1625
	560	**IV** 50	P_{N1} P_{N2} M_{N2} M_{2max}	0,1 0,07 5,8 9,9	0,16 0,12 10 16,9	0,3 0,22 18,8 32	0,5 0,38 32,9 59	0,55 0,42 36,2 62	0,94 0,72 63 113	1,1 0,85 73 122	1,82 1,42 124 217	3,02 2,39 203 366	3,6 2,84 242 397	5,9 4,74 410 735	7 5,4 5,6 488 798	10,2 8,5 732 1197	18,6 14 15,6 1350 2204
	560	**V** 50	P_{N1} P_{N2} M_{N2} M_{2max}	0,07 0,04 3,62 5,3	0,13 0,08 7 10,3	0,25 0,16 13,5 20,2	0,4 0,27 22,8 39,5	0,48 0,32 27,1 44,2	0,76 0,52 44,4 80	0,91 0,62 53 87	1,46 1,03 88 149	2,44 1,77 151 277	2,9 2,1 179 300	4,73 3,52 300 526	5,6 4,19 357 571	9,5 7,3 621 1007	16,9 14 13,3 1135 1850
	450	**V** 40	P_{N1} P_{N2} M_{N2} M_{2max}	0,08 0,05 4,34 6,9	0,15 0,09 8 13,4	0,27 0,17 14,7 25,9	0,46 0,31 26,5 47,5	0,55 0,37 31,6 52	0,85 0,6 51 90	1,02 0,71 60 97	1,69 1,22 103 171	2,82 2,05 174 301	3,36 2,44 208 327	5,6 4,19 356 583	6,6 5,1 4,99 423 634	10,1 8 7,8 663 1100	17,8 13 14 1190 2013
	355	**V** 32	P_{N1} P_{N2} M_{N2} M_{2max}	0,1 0,06 5,3 8,4	0,17 0,11 9,3 15,5	0,3 0,2 17,1 28,2	0,49 0,34 28,9 52	0,58 0,4 34,3 56	0,93 0,66 57 99	1,11 0,79 68 107	1,9 1,38 119 191	3,14 2,33 200 339	3,73 3,1 2,77 239 368	5,7 4,32 372 636	6,8 4,8 5,1 442 691	10,9 7,7 8,5 730 1201	15,4 12,7 1092 1792
9	1 400	**IV** 160	P_{N1} P_{N2} M_{N2} M_{2max}	—	0,11 0,07 7,2 10,3	0,22 0,13 13,9 20,2	0,35 0,22 23,8 39,6	0,41 0,26 28,1 44,3	0,64 0,42 45,8 81	0,77 0,5 54 91	1,24 0,84 91 156	2,13 1,48 157 284	2,54 1,76 187 308	4,03 2,88 312 558	4,8 3,43 371 606	8,2 6 653 1062	14,5 12 11 1189 1907
	1 120	**IV** 125	P_{N1} P_{N2} M_{N2} M_{2max}	0,06 0,03 3,69 5,3	0,12 0,08 8 13,4	0,23 0,14 15,2 26,3	0,38 0,25 27 48,5	0,45 0,3 32,1 53	0,72 0,48 52 94	0,85 0,57 62 102	1,43 0,99 107 178	2,45 1,71 182 316	2,91 2,04 217 343	4,79 3,46 374 614	5,7 4,4 4,12 446 667	8,8 6,9 6,5 703 1157	15,4 11 11,7 1270 2072
	900	**IV** 100	P_{N1} P_{N2} M_{N2} M_{2max}	0,07 0,04 4,37 6,9	0,14 0,09 9,6 16,3	0,26 0,17 17,8 29,7	0,42 0,28 30,1 54	0,49 0,33 35,3 59	0,81 0,55 59 105	0,96 0,65 71 114	1,64 1,15 124 204	2,74 1,96 208 361	3,27 2,8 2,34 248 392	4,95 3,63 391 680	5,9 4,3 4,32 466 739	9,5 6,8 7,1 767 1258	13,3 10,6 1141 1830
	710	**IV** 80	P_{N1} P_{N2} M_{N2} M_{2max}	0,08 0,05 5,5 8,8	0,15 0,1 10,2 17,8	0,28 0,18 19,4 32,7	0,47 0,32 33,8 61	0,52 0,36 38 65	0,87 0,6 65 113	1,03 0,72 77 123	1,74 1,24 133 229	2,4 1,85 194 316	2,82 2,17 227 354	4,38 3,42 365 634	5,1 3,99 426 710	8,4 6,7 713 1227	15,4 12 12,4 1326 2240
	560	**IV** 63	P_{N1} P_{N2} M_{N2} M_{2max}	0,08 0,05 5,7 9,5	0,16 0,1 11,1 19,1	0,29 0,19 20,5 35	0,39 0,29 31,5 50	0,43 0,32 34,3 56	0,74 0,55 60 104	0,84 0,63 68 116	1,45 1,11 120 203	2,46 1,9 202 364	2,9 2,24 239 395	4,67 3,68 398 716	5,6 4,37 473 778	9,3 7,6 7,4 803 1370	16,6 12 13,5 1457 2448
	560	**V** 63	P_{N1} P_{N2} M_{N2} M_{2max}	—	0,09 0,05 5,2 7,7	0,16 0,1 10,4 15,2	0,3 0,19 20,2 29,6	0,34 0,21 22,6 33,1	0,59 0,38 40,6 61	0,67 0,43 46,4 68	1,13 0,75 81 120	1,85 1,28 137 234	2,2 1,52 163 262	3,4 2,43 261 489	4,02 2,87 309 531	6,8 4,98 535 904	12,1 9,2 984 1720

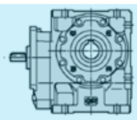
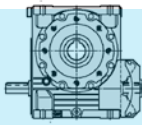
Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty see ch. 3.2).
For n_1 higher than 1 400 min^{-1} or lower than 355 min^{-1} see ch. 3.4 and page 32.
1) Values given for train of gears **IV** are nominal; see page 93 for effective transmission ratios.
2) M_{2max} represents maximum torque peak the gear reducer will withstand.





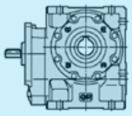
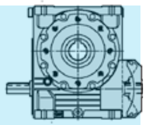
n_{N2}	n_1 min⁻¹	Train of gears i 1)	P [kW] M [daN m] 2)	Gear reducer size 32	40	50	63	64	80	81	100	125	126	160	161	200	250
9	450	**IV** 50	P_{N1}	0,08	0,13	0,25	0,42	0,46	0,81	0,91	1,54	2,6	2,99	4,97	5,9 4,6	8,6	15,5 12
			P_{N2}	0,05	0,1	0,18	0,31	0,34	0,61	0,69	1,19	2,03	2,34	3,95	4,67	7,1	12,9
			M_{N2}	6	10,2	19,2	34	36,8	66	75	128	215	248	425	503	762	1392
			M_{2max}	10,4	17,3	33,5	61	62	119	127	224	388	418	766	832	1226	2281
	450	**V** 50	P_{N1}	0,06	0,11	0,21	0,35	0,41	0,65	0,77	1,24	2,09	2,49	4,03	4,8	8,2	14,5 12
			P_{N2}	0,03	0,07	0,13	0,22	0,26	0,43	0,51	0,86	1,48	1,76	2,94	3,49	6,2	11,2
			M_{N2}	3,69	7,2	13,9	23,8	28,1	45,8	54	91	157	187	312	371	653	1189
			M_{2max}	5,3	10,3	20,2	39,6	44,3	81	91	156	284	308	558	606	1062	1907
	355	**V** 40	P_{N1}	0,07	0,12	0,22	0,38	0,45	0,71	0,84	1,41	2,37	2,82	4,72	5,6 4,4	8,6 6,9	15,2 11
			P_{N2}	0,04	0,07	0,14	0,25	0,3	0,49	0,58	1	1,69	2,02	3,48	4,14	6,5	11,8
			M_{N2}	4,37	8	15,2	27	32,1	52	62	107	182	217	374	446	703	1270
			M_{2max}	6,9	13,4	26,3	48,5	53	94	102	178	316	343	614	667	1157	2072
7,1	1 400	**IV** 200	P_{N1}	–	0,07	0,14	0,25	0,28	0,5	0,56	1,34	2,18	2,59	4,04	4,8 3,9	7,8 6	10,8
			P_{N2}		0,04	0,08	0,15	0,17	0,31	0,35	0,92	1,53	1,82	2,91	3,47	5,8	8,5
			M_{N2}		5,4	10,6	20,6	23	42,2	47,3	128	213	253	406	483	802	1181
			M_{2max}		7,7	15,2	29,6	33,1	61	68	212	376	409	725	787	1344	1865
	1 120	**IV** 160	P_{N1}	–	0,1	0,18	0,29	0,34	0,55	0,65	1,05	1,82	2,16	3,42	4,07	7	12,3 10
			P_{N2}		0,06	0,11	0,18	0,21	0,35	0,42	0,7	1,24	1,47	2,39	2,84	5	9,1
			M_{N2}		7,3	14,3	24,7	28,9	47,6	57	95	165	195	323	385	677	1236
			M_{2max}		10,3	20,3	39,6	44,4	81	91	160	297	322	572	621	1089	2007
	900	**IV** 125	P_{N1}	0,05	0,11	0,19	0,33	0,38	0,61	0,72	1,2	2,07	2,46	4,06	4,83 3,9	7,6 6,1	13,4 9,6
			P_{N2}	0,03	0,06	0,12	0,21	0,24	0,4	0,47	0,82	1,42	1,69	2,88	3,43	5,5	9,9
			M_{N2}	3,77	8,3	15,4	28,5	32,4	54	64	110	188	223	388	462	748	1340
			M_{2max}	5,3	13,7	26,9	51	55	97	106	186	337	366	655	712	1210	2220
	710	**IV** 100	P_{N1}	0,05	0,12	0,22	0,36	0,41	0,66	0,79	1,36	2,25	2,68	4,12	4,9 3,9	7,9 6	11
			P_{N2}	0,03	0,07	0,14	0,23	0,26	0,44	0,53	0,93	1,58	1,88	2,97	3,54	5,9	8,6
			M_{N2}	4,49	9,8	18,4	31,7	36,1	61	73	128	213	253	406	483	802	1181
			M_{2max}	7,1	16,7	30,6	57	61	109	119	212	376	409	725	787	1344	1865
	560	**IV** 80	P_{N1}	0,06	0,12	0,23	0,39	0,43	0,72	0,84	1,45	1,99	2,29	3,64	4,19	6,9	12,6
			P_{N2}	0,04	0,08	0,15	0,26	0,29	0,49	0,58	1,02	1,51	1,74	2,81	3,23	5,4	10,1
			M_{N2}	5,6	10,4	19,8	34,9	38,8	66	78	138	201	232	380	437	734	1362
			M_{2max}	9	18,3	34,2	63	66	119	129	238	322	361	647	724	1263	2386
	450	**IV** 63	P_{N1}	0,07	0,13	0,24	0,33	0,35	0,63	0,71	1,22	2,11	2,41	3,95	4,66	7,8	13,8 10
			P_{N2}	0,04	0,09	0,16	0,24	0,26	0,47	0,53	0,92	1,61	1,84	3,07	3,62	6,1	11,1
			M_{N2}	5,8	11,5	21	32,5	34,6	63	71	124	214	244	414	488	826	1491
			M_{2max}	9,8	19,6	36,6	52	58	106	119	208	385	413	746	810	1425	2605
	450	**V** 63	P_{N1}	–	0,07	0,14	0,25	0,28	0,5	0,56	0,95	1,59	1,89	2,95	3,48	5,8	10,3
			P_{N2}		0,04	0,08	0,15	0,17	0,32	0,35	0,62	1,07	1,28	2,05	2,42	4,15	7,7
			M_{N2}		5,4	10,6	20,6	23	42,2	47,3	83	144	171	275	323	555	1030
			M_{2max}		7,7	15,2	29,6	33,1	61	68	120	234	262	491	548	952	1769
	355	**IV** 50	P_{N1}	0,07	0,11	0,2	0,35	0,37	0,66	0,75	1,25	2,14	2,45	4,1	4,79	7,1	12,9
			P_{N2}	0,04	0,08	0,15	0,26	0,27	0,5	0,56	0,96	1,66	1,89	3,22	3,77	5,8	10,6
			M_{N2}	6,1	10,4	19,6	35,6	37,4	68	77	131	222	254	440	515	786	1448
			M_{2max}	10,6	17,7	34,3	64	64	123	130	235	400	423	809	875	1250	2329
	355	**V** 50	P_{N1}	0,05	0,09	0,18	0,29	0,34	0,54	0,64	1,04	1,77	2,09	3,37	4,02	6,9	12,2 10
			P_{N2}	0,03	0,05	0,11	0,18	0,21	0,35	0,42	0,7	1,23	1,45	2,4	2,86	5	9,2
			M_{N2}	3,77	7,3	14,3	24,7	28,9	47,6	57	95	165	195	323	385	677	1236
			M_{2max}	5,3	10,3	20,3	39,6	44,4	81	91	160	297	322	572	621	1089	2007
5,6	1 400	**IV** 250	P_{N1}	–	–	–	–	–	–	–	0,98	1,67	1,98	3,28	3,91	6,2	11 8,5
			P_{N2}								0,65	1,12	1,33	2,29	2,72	4,45	8
			M_{N2}								114	195	230	398	474	775	1400
			M_{2max}								193	351	381	696	756	1289	2319
	1 120	**IV** 200	P_{N1}	–	0,06	0,12	0,21	0,24	0,42	0,47	1,12	1,85	2,17	3,41	4,06	6,5 5,4	9,1
			P_{N2}		0,03	0,06	0,12	0,14	0,25	0,28	0,76	1,27	1,49	2,42	2,88	4,74	7,1
			M_{N2}		5,5	10,8	21	23,5	43,1	48,2	132	220	259	421	501	826	1228
			M_{2max}		7,7	15,2	29,6	33,1	61	68	220	391	425	754	819	1430	1948
	900	**IV** 160	P_{N1}	–	0,08	0,15	0,25	0,29	0,47	0,55	0,89	1,59	1,82	2,94	3,44	5,9	10,5 8,9
			P_{N2}		0,05	0,09	0,15	0,17	0,29	0,34	0,58	1,06	1,22	2,01	2,35	4,19	7,6
			M_{N2}		7,5	14,7	26,1	29,5	49,5	58	97	175	201	339	396	706	1284
			M_{2max}		10,5	20,7	40,4	45,3	83	93	163	315	343	610	662	1162	2098
	710	**IV** 125	P_{N1}	0,04	0,09	0,16	0,27	0,31	0,52	0,59	1	1,73	2,04	3,35	3,99	6,4	11,2 8,5
			P_{N2}	0,02	0,05	0,09	0,17	0,19	0,33	0,38	0,66	1,16	1,37	2,33	2,78	4,54	8,2
			M_{N2}	3,85	8,5	15,8	29,4	32,7	57	65	114	195	230	398	474	775	1400
			M_{2max}	5,4	14	27,4	53	56	103	111	193	351	381	696	756	1289	2319

Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty see ch. 3.2).
For n_1 higher than 1 400 min⁻¹ or lower than 355 min⁻¹ see ch. 3.4 and page 32.
1) Values given for train of gears **IV** are nominal; see page 93 for effective transmission ratios.
2) M_{2max} represents maximum torque peak the gear reducer will withstand.

n_{N2} min⁻¹	n_1	Train of gears i 1)	P [kW] M [daN m] 2)	Gear reducer size 32	40	50	63	64	80	81	100	125	126	160	161	200	250
5,6	560	**IV** 100	P_{N1}	0,05	0,1	0,18	0,3	0,33	0,56	0,65	1,13	1,88	2,21	3,43	4,08	6,6 5,4	9,1
			P_{N2}	0,03	0,06	0,11	0,19	0,21	0,37	0,43	0,76	1,29	1,52	2,43	2,89	4,77	7,1
			M_{N2}	4,6	10	18,7	32,6	36,6	64	74	132	220	259	421	501	826	1228
			M_{2max}	7,2	17,1	31,9	59	61	115	123	220	391	425	754	819	1430	1948
	450	**IV** 80	P_{N1}	0,05	0,1	0,19	0,33	0,36	0,62	0,7	1,21	1,71	1,92	3,07	3,54	5,9	10,5
			P_{N2}	0,03	0,07	0,12	0,22	0,23	0,41	0,47	0,84	1,28	1,44	2,34	2,7	4,56	8,3
			M_{N2}	5,6	10,8	20,2	36,7	39,4	70	80	141	212	238	395	454	768	1402
			M_{2max}	9,2	18,7	35,1	66	67	123	134	250	329	369	661	740	1290	2484
	355	**IV** 63	P_{N1}	0,05	0,11	0,19	0,27	0,28	0,52	0,57	0,98	1,74	1,97	3,33	3,8	6,4	11,3 9,1
			P_{N2}	0,03	0,07	0,13	0,2	0,2	0,38	0,42	0,74	1,31	1,49	2,56	2,92	4,97	9
			M_{N2}	6	11,6	21,3	33,4	34,7	65	73	126	220	249	437	499	849	1531
			M_{2max}	10,2	20,1	37,5	53	59	108	121	212	397	417	786	848	1481	2709
	355	**V** 63	P_{N1}	—	0,06	0,11	0,21	0,23	0,41	0,46	0,78	1,36	1,57	2,54	2,92	4,81	8,7
			P_{N2}		0,03	0,06	0,12	0,14	0,25	0,28	0,5	0,9	1,04	1,73	1,99	3,38	6,3
			M_{N2}		5,5	10,8	21	23,5	43,1	48,2	85	153	176	293	337	572	1067
			M_{2max}		7,7	15,2	29,6	33,1	61	68	120	234	262	491	550	959	1856
4,5	1 400	**IV** 315	P_{N1}	—	—	—	—	—	—	—	0,73	1,29	1,49	2,46	2,81	4,81	8,5
			P_{N2}								0,46	0,84	0,97	1,65	1,89	3,32	6,1
			M_{N2}								100	182	211	359	411	724	1322
			M_{2max}								166	326	356	647	703	1235	2235
	1 120	**IV** 250	P_{N1}	—	—	—	—	—	—	—	0,83	1,42	1,65	2,73	3,25	5,3	9,2 7,7
			P_{N2}								0,54	0,93	1,08	1,86	2,22	3,68	6,6
			M_{N2}								117	202	235	405	482	802	1440
			M_{2max}								203	364	396	724	786	1368	2467
	900	**IV** 200	P_{N1}	—	0,05	0,1	0,18	0,2	0,35	0,39	0,94	1,57	1,81	2,89	3,43	5,5	7,7
			P_{N2}		0,03	0,05	0,1	0,11	0,21	0,23	0,62	1,06	1,23	2,01	2,38	3,92	5,9
			M_{N2}		5,6	11	21,4	23,9	43,9	49,1	135	230	264	435	516	851	1274
			M_{2max}		7,8	15,5	30,1	33,7	62	69	230	413	446	784	851	1487	1984
	710	**IV** 160	P_{N1}	—	0,07	0,13	0,21	0,24	0,4	0,45	0,74	1,33	1,54	2,51	2,87	4,9	8,7
			P_{N2}		0,04	0,07	0,13	0,14	0,24	0,28	0,47	0,87	1	1,68	1,93	3,39	6,2
			M_{N2}		7,6	14,9	26,9	29,8	52	59	100	182	211	359	411	724	1322
			M_{2max}		10,7	21,1	41,1	46,1	84	94	166	326	356	647	703	1235	2235
	560	**IV** 125	P_{N1}	0,03	0,07	0,13	0,23	0,25	0,43	0,49	0,83	1,44	1,68	2,75	3,27	5,3	9,3 7,7
			P_{N2}	0,02	0,04	0,08	0,14	0,15	0,27	0,31	0,54	0,95	1,1	1,87	2,23	3,7	6,7
			M_{N2}	3,92	8,7	16,2	30,8	33,5	59	67	117	202	235	405	482	802	1440
			M_{2max}	5,5	14,2	27,9	54	57	106	114	203	364	396	724	786	1368	2467
	450	**IV** 100	P_{N1}	0,04	0,08	0,15	0,25	0,27	0,47	0,54	0,95	1,6	1,84	2,91	3,45	5,5	7,7
			P_{N2}	0,02	0,05	0,09	0,16	0,17	0,3	0,35	0,62	1,08	1,25	2,02	2,39	3,95	5,9
			M_{N2}	4,79	10,2	19	33,6	37	66	75	135	230	264	435	516	851	1274
			M_{2max}	7,3	17,5	32,7	61	62	118	126	230	413	446	784	851	1487	1984
	355	**IV** 80	P_{N1}	0,04	0,08	0,15	0,27	0,29	0,51	0,58	1	1,41	1,55	2,58	2,94	4,83	8,7
			P_{N2}	0,03	0,05	0,1	0,18	0,19	0,34	0,38	0,68	1,04	1,14	1,94	2,21	3,7	6,8
			M_{N2}	5,7	11,1	20,5	37,8	40,1	72	82	145	218	240	415	473	790	1444
			M_{2max}	9,6	19,5	35,9	68	68	127	137	257	335	375	672	753	1313	2563
3,55	1 120	**IV** 315	P_{N1}	—	—	—	—	—	—	—	0,61	1,09	1,25	2,09	2,41	4	7,2
			P_{N2}								0,38	0,7	0,8	1,37	1,58	2,71	5
			M_{N2}								103	189	216	373	429	738	1366
			M_{2max}								169	331	367	672	730	1283	2372
	900	**IV** 250	P_{N1}	—	—	—	—	—	—	—	0,7	1,22	1,38	2,3	2,72	4,42	7,8
			P_{N2}								0,44	0,79	0,89	1,54	1,82	3,03	5,5
			M_{N2}								120	213	241	417	494	820	1495
			M_{2max}								209	383	410	751	815	1420	2615
	710	**IV** 200	P_{N1}	—	0,04	0,08	0,15	0,16	0,29	0,32	0,77	1,3	1,49	2,44	2,81	4,55	6,3
			P_{N2}		0,02	0,04	0,08	0,09	0,17	0,19	0,5	0,86	0,99	1,67	1,92	3,19	4,8
			M_{N2}		5,7	11,2	21,7	24,3	44,6	50	136	237	270	459	528	876	1318
			M_{2max}		8	15,7	30,6	34,3	63	70	236	426	450	826	893	1544	2015
	560	**IV** 160	P_{N1}	—	0,05	0,1	0,18	0,19	0,33	0,37	0,61	1,11	1,27	2,11	2,42	4,02	7,2
			P_{N2}		0,03	0,06	0,1	0,11	0,2	0,22	0,38	0,71	0,81	1,38	1,59	2,73	5
			M_{N2}		7,7	15,2	28,2	30,5	54	61	103	189	216	373	429	738	1366
			M_{2max}		10,9	21,4	41,8	46,8	86	96	169	331	367	672	730	1283	2372
	450	**IV** 125	P_{N1}	0,03	0,06	0,11	0,19	0,21	0,37	0,41	0,7	1,25	1,41	2,31	2,74	4,44	7,9 6,7
			P_{N2}	0,01	0,03	0,06	0,12	0,12	0,23	0,26	0,45	0,8	0,91	1,55	1,83	3,04	5,5
			M_{N2}	3,98	9	16,6	31,7	33,8	62	69	120	213	241	417	494	820	1495
			M_{2max}	5,6	14,5	28,4	55	57	111	118	209	383	410	751	815	1420	2615
3,55	355	**IV** 100	P_{N1}	0,03	0,07	0,12	0,2	0,22	0,39	0,44	0,77	1,33	1,52	2,46	2,83	4,58	6,4
			P_{N2}	0,02	0,04	0,07	0,13	0,14	0,25	0,28	0,5	0,88	1,01	1,68	1,93	3,21	4,82
			M_{N2}	4,98	10,4	19,3	34,6	37,4	68	77	136	237	270	459	528	876	1318
			M_{2max}	7,4	18,2	34	62	62	122	129	236	426	450	826	893	1544	2015

Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty see ch. 3.2).
For n_1 higher than 1 400 min⁻¹ or lower than 355 min⁻¹ see ch. 3.4 and page 32.
1) Values given for train of gears **IV** are nominal; see page 93 for effective transmission ratios.
2) M_{2max} represents maximum torque peak the gear reducer will withstand.

n_{N2} | n_1 min^{-1}		Train of gears i 1)	P [kW] M [daN m] 2)	Gear reducer size 32	40	50	63	64	80	81	100	125	126	160	161	200	250
2,8	900	**IV** 315	P_{N1} P_{N2} M_{N2} M_{2max}	–	–	–	–	–	–	–	0,51 0,31 105 172	0,94 0,59 198 337	1,05 0,66 222 377	1,77 1,14 386 696	2,03 1,31 443 754	3,37 2,23 755 1331	6 4,14 1402 2463
	710	**IV** 250	P_{N1} P_{N2} M_{N2} M_{2max}	–	–	–	–	–	–	–	0,57 0,36 122 218	1,01 0,64 219 395	1,14 0,72 246 412	1,94 1,28 438 778	2,22 1,46 501 850	3,62 2,44 838 1473	6,5 4,48 1540 2713
	560	**IV** 200	P_{N1} P_{N2} M_{N2} M_{2max}	–	0,03 0,02 5,7 8,1	0,07 0,03 11,3 16	0,12 0,06 22,1 31,1	0,13 0,07 24,7 34,8	0,24 0,13 45,3 64	0,27 0,15 51 72	0,62 0,4 139 242	1,09 0,71 248 446	1,19 0,78 271 460	2,02 1,36 472 840	2,29 1,54 536 911	3,71 2,56 891 1622	5,2 3,85 1343 2044
	450	**IV** 160	P_{N1} P_{N2} M_{N2} M_{2max}	–	0,04 0,02 7,9 11,1	0,09 0,05 15,5 21,8	0,15 0,09 29 42,6	0,16 0,09 30,7 47,7	0,28 0,17 56 87	0,32 0,19 63 98	0,52 0,31 105 172	0,96 0,6 198 337	1,07 0,67 222 377	1,78 1,15 386 696	2,04 1,32 443 754	3,39 2,24 755 1331	6,1 4,16 1402 2463
	355	**IV** 125	P_{N1} P_{N2} M_{N2} M_{2max}	0,02 0,01 4,05 5,7	0,05 0,03 9,4 14,7	0,09 0,05 17,3 28,9	0,16 0,1 32,6 56	0,16 0,1 33,8 57	0,3 0,19 64 114	0,34 0,21 71 119	0,57 0,36 122 218	1,03 0,65 219 395	1,16 0,73 246 412	1,95 1,28 438 778	2,23 1,47 501 850	3,64 2,45 838 1473	6,5 4,51 1540 2713
2,24	710	**IV** 315	P_{N1} P_{N2} M_{N2} M_{2max}	–	–	–	–	–	–	–	0,43 0,26 110 174	0,78 0,48 203 342	0,85 0,52 223 378	1,5 0,94 405 718	1,7 1,07 460 774	2,77 1,8 772 1397	5 3,36 1444 2554
	560	**IV** 250	P_{N1} P_{N2} M_{N2} M_{2max}	–	–	–	–	–	–	–	0,46 0,28 124 223	0,85 0,53 229 413	0,92 0,57 248 422	1,61 1,03 451 790	1,82 1,17 510 850	2,96 1,96 853 1536	5,3 3,59 1562 2812
	450	**IV** 200	P_{N1} P_{N2} M_{N2} M_{2max}	–	0,03 0,01 5,8 8,2	0,05 0,03 11,5 16,2	0,1 0,05 22,4 31,6	0,11 0,06 25,1 35,4	0,2 0,11 46,1 65	0,22 0,12 52 73	0,5 0,32 138 249	0,91 0,59 254 458	0,98 0,63 272 463	1,72 1,14 494 850	1,94 1,28 556 921	3,15 2,13 923 1662	4,27 3,15 1364 2073
	355	**IV** 160	P_{N1} P_{N2} M_{N2} M_{2max}	–	0,04 0,02 8 11,3	0,07 0,04 15,7 22,1	0,12 0,07 29,5 43,2	0,13 0,07 31,1 48,4	0,23 0,13 58 89	0,26 0,15 64 99	0,43 0,26 110 174	0,79 0,48 203 342	0,87 0,53 223 378	1,51 0,95 405 718	1,71 1,08 460 774	2,78 1,81 772 1397	5 3,38 1444 2554
1,8	560	**IV** 315	P_{N1} P_{N2} M_{N2} M_{2max}	–	–	–	–	–	–	–	0,35 0,21 112 177	0,64 0,39 209 347	0,68 0,41 224 381	1,24 0,76 416 728	1,39 0,86 469 774	2,29 1,46 795 1426	4,13 2,73 1484 2671
	450	**IV** 250	P_{N1} P_{N2} M_{N2} M_{2max}	–	–	–	–	–	–	–	0,38 0,24 128 226	0,71 0,44 236 424	0,75 0,46 249 424	1,35 0,86 465 800	1,52 0,96 522 850	2,49 1,61 874 1573	4,5 3 1628 2931
	355	**IV** 200	P_{N1} P_{N2} M_{N2} M_{2max}	–	0,02 0,01 5,9 8,4	0,04 0,02 11,7 16,5	0,08 0,04 22,8 32,1	0,09 0,05 25,5 35,9	0,16 0,09 46,7 66	0,18 0,1 52 74	0,42 0,26 144 252	0,75 0,48 263 468	0,79 0,5 275 467	1,39 0,91 500 850	1,56 1,02 560 921	2,62 1,75 961 1730	3,44 2,52 1384 2102
1,4	450	**IV** 315	P_{N1} P_{N2} M_{N2} M_{2max}	–	–	–	–	–	–	–	0,29 0,17 116 179	0,54 0,32 216 352	0,56 0,34 226 384	1,03 0,63 428 738	1,15 0,7 477 774	1,95 1,22 827 1446	3,5 2,26 1532 2757
	355	**IV** 250	P_{N1} P_{N2} M_{N2} M_{2max}	–	–	–	–	–	–	–	0,32 0,19 131 226	0,58 0,36 243 428	0,6 0,37 251 427	1,11 0,7 481 810	1,24 0,78 534 850	2,03 1,3 894 1597	3,71 2,43 1666 2995
1,12	355	**IV** 315	P_{N1} P_{N2} M_{N2} M_{2max}	–	–	–	–	–	–	–	0,24 0,14 120 181	0,45 0,26 225 356	0,45 0,27 229 385	0,85 0,51 442 748	0,94 0,57 489 774	1,59 0,98 845 1465	2,88 1,84 1579 2769

Summary of transmission ratios i and torques valid for $n_1 \leqslant 90\ \text{min}^{-1}$

M_{N2} and M_{2max} are the nominal torque and the peak torque, respectively, valid for $n_1 \leqslant$ **90 min**$^{-1}$.

R V

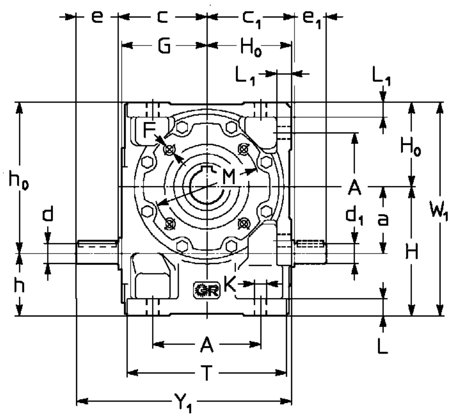
i	*M* [daN m]	Gear reducer size 32	40	50	63	64	80	81	100	125	126	160	161	200	250
10	M_{N2}	6,1	11,1	20,4	37,5	38,7	72	80	132	229	252	434	493	–	–
	M_{2max}	11	20	36,7	68	68	129	136	238	411	428	781	888		
13	M_{N2}	6,1	11,2	20,7	37,3	38,5	73	81	139	243	265	468	530	886	–
	M_{2max}	11	20,1	37,3	67	67	131	137	250	410	451	842	902	1 537	
16	M_{N2}	5,9	10,7	19,9	36,6	37,5	70	78	134	233	255	464	526	824	1 495
	M_{2max}	9,2	18	35,4	66	66	126	132	241	420	434	835	894	1 274	2 374
20	M_{N2}	6,4[1]	11,6[1]	21,3[1]	34,9	35,4	67	74	127	231	252	450	510	863	1 563
	M_{2max}	11,5	20,9	38,4	53	60	110	123	216	416	428	810	866	1 554	2 813
25	M_{N2}	6,2	11,3	20,8	39,4[1]	40,6[1]	74[1]	82[1]	146[1]	225	242	427	482	817	1 508
	M_{2max}	10,9	20,1	37,4	71	71	132	140	263	341	381	683	766	1 335	2 605
32	M_{N2}	5,9	10,6	19,6	36,1	37,8	70	78	139	248[1]	271[1]	472[1]	536[1]	891[1]	1 343
	M_{2max}	9,9	18,6	34,9	65	65	125	131	242	446	460	840	911	1 622	2 044
40	M_{N2}	5,4	9,8	17,9	33,5	34,4	65	72	124	229	248	451	510	853	1 562[1]
	M_{2max}	7,7	14,9	29,3	57	58	117	119	223	413	422	790	850	1 536	2 812
50	M_{N2}	4,17	8,1	15,9	30	31,2	60	66	112	209	224	416	469	795	1 484
	M_{2max}	5,9	11,4	22,4	43,8	49	90	100	177	347	381	728	774	1 426	2 671
63	M_{N2}	–	6	11,8	23	25,6	47,3	53	93	182	201	379	426	707	1 353
	M_{2max}		8,5	16,7	32,5	36,4	67	75	131	257	288	540	604	1 054	2 056

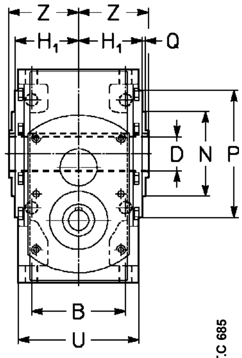
R IV

i_N	Gear reducer size 32 *i*	2)	40, 50, 125, 126 *i*	2)	63, 64, 80, 81, 100 *i*	2)	160, 161, 200, 250 *i*	2)	*M* [daN m]	Gear reducer size 32	40	50	63, 64	80	81	100	125, 126	160	161	200	250
50	51,8	2,59	49,9	3,12[3]	50,9	3,18	50,8	3,17	M_{N2}	7,3	13	24,1	44,3	78	84	144	272	487	540	824	1 495
									M_{2max}	11,5	19,5	37,7	70	133	138	250	455	880	953	1383	2 406
63	64,8		62,4		63,6		63,5		M_{N2}	7,1	13,7	25	41	76	86	151	277	487	540	925	1 718
									M_{2max}	10,9	21,4	40,2	65	119	128	233	453	880	910	1 597	2 863
80	82,9		78		79,5		79,3		M_{N2}	6,7	13,3	24,4	47,5	80	90	160	260	487	540	957	1 743
									M_{2max}	10	20,2	38	73	133	141	268	384	735	824	1 436	2 802
100	104		99,8		102		102		M_{N2}	5,7	12,6	23,2	43,3	78	88	155	295[1]	500	560	1 000	1 438
									M_{2max}	8,1	18,6	34,9	66	128	131	252	468	850	921	1 736	2 227
125	130		125		127		127		M_{N2}	4,38	11,3	21,2	40,6	75	85	146	273	487	540	975	1 800[1]
									M_{2max}	6,2	15,9	31,2	60	119	124	226	428	820	850	1 597	3 034
160	–		156		159		159		M_{N2}	–	8,6	16,9	33	68	76	133	252	487	540	925	1 748
									M_{2max}		12,1	23,8	49	95	107	188	385	774	774	1 470	2 769
200	–		197		200		–		M_{N2}	–	6,3	12,5	26,4	50	56	–	–	–	–	–	–
									M_{2max}		8,9	17,7	38,5	71	79						
200	–		203	6,36	204	6,38	204	6,38	M_{N2}	–	–	–	–	–	–	156	300	500	560	1 000	1 483
									M_{2max}							252	468	850	921	1 736	2 291
250	–		254		255		255		M_{N2}	–	–	–	–	–	–	150	289	487	540	975	1 900
									M_{2max}							226	428	820	850	1 597	3 134
315	–		318		319		319		M_{N2}	–	–	–	–	–	–	137	268	487	540	975	1 850
									M_{2max}							193	385	774	774	1 470	2 769

1) For these transmission ratios (which will transmit higher torques at lower speeds) torque increases further as n_1 decreases, as stated in table A ch. 3.9; for sizes 32 and 40 consult us.
2) Gear ratio of input cylindrical gear pair.
3) For sizes 125 and 126 it is equal to 3,13.

Notes of page 42
Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty see ch. 3.2).
For n_1 higher than 1 400 min^{-1} or lower than 355 min^{-1} see ch. 3.4 and page 32.
1) Values given for train of gears **IV** are nominal; see page 32 for effective transmission ratios.
2) M_{2max} represents maximum torque peak the gear reducer will withstand.





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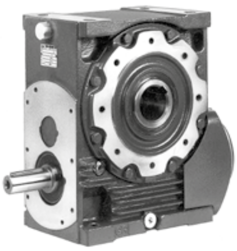
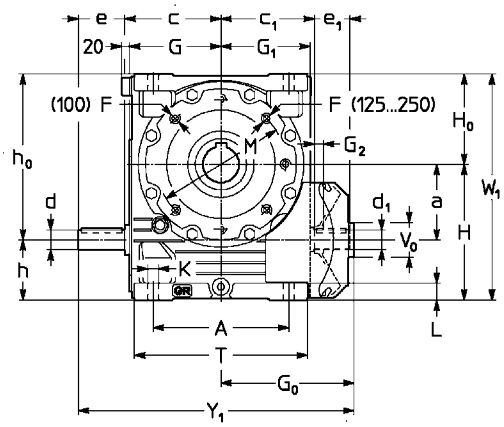
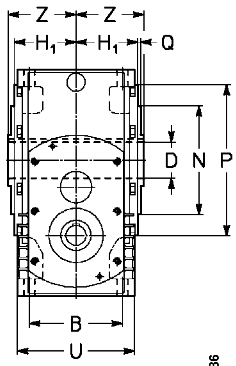
R V 32 ... 81

Design

standard	**UO3A**1) 5)
double extension worm	**UO3D**1) 5)
reduced worm shaft end	**UO3B**1) 5)
double extension worm with reduced shaft end	**UO3C**1) 5)







UT.C 686

R V 100 ... 250

Design

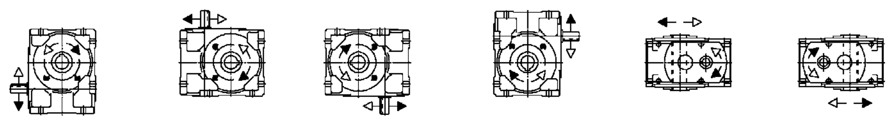
standard	**UO2A**5) 5)
reduced worm shaft end	**UO2B**1) 5)

Size	a	A	B	D Ø H7	c / c_1	d Ø	e	c (UO3B1) UO3C1) UO2B1))	d Ø (UO3B1) UO3C1) UO2B1))	e (UO3B1) UO3C1) UO2B1))	Y_1 Ø (UO3B1) UO3C1) UO2B1))	d_1	e_1	F 2)	G_0	G_1	G_2	H h11	H_0 h11 / G	H_1 h12	h h11	h_0 h11	K Ø	L	L_1	M Ø h6	N Ø	P Ø	Q	T	U max	V_0 Ø	W_1	Y_1	Z kg	Mass
32	32	61	52	19	51	14	25	50	10	14	112	11	20	M5 6)	—	—	—	71	48	34,5	39	80	7	10	8,5	75	55 7)	90	3	91	66	—	119	124	39	3
40	40	70	62	24	59,5 4)	16	30	59,5	12	14	130	14	25	M6 6)	—	—	—	82	56	41,5	42	96	9,5	12	10	85	68 7)	105	3	106	80	—	138	146	46	5
50	50	86	75	28	70,5	19	30	70,5	12	14	152	16	30	M6 6)	—	—	—	100	67	49	50	117	9,5	13	12	100	85 7)	120	3	126	95	—	167	168	53	9
63, 64	63	102	90	32	83	19	40	85	17	17	182	19	30	M8	—	—	—	125	80	58,5	62	143	11,5	16	14	100	80	120	3	151	114	—	205	203	63	14
80 **81**	80	132	106	38 40	103	24	50	105	17	17	222	24	36	M10	—	—	—	150	100	69,5	70	180	14	20	17	130	110	160	3,5	189	135	— —	250	253	75	24
100	100	180	131	48	130	28	60	130	20	21	331	28	42	M12	180	122	11	180	125	84,5	80	225	16	23	—	165	130	200	3,5	236	165	45	305	370	90	43
125, 126	125	225	155	60	155	32	80	155	25	26	402	32	58	M12 8	221	148	15	225	150	99,5	100	275	18	28	—	215	180	250	4	287	194	50	375	456	106	74
160 **161**	160	272	183	70 75	187	38	80	181	35	36	472	38	58	M14 8	255	178	15	280	180	118,5	120	340	22	33	—	265	230	300	4	345	232	60	460	522	125	130
200	200	342	214	90	232 4)	48	110	226	35	36	586	48	82	M16 8	324	222	20	335	225	137,5	135	425	27	40	—	300	250	350	5	431	270	80	560	666	150	233
250	250	425	250	110	292 4)	60	105	281	40	46	706	55	82	M20 8 3)	379	277	20	410	280	163	160	530	33	50	—	400	350	450	5	537	320	80	690	776	180	382

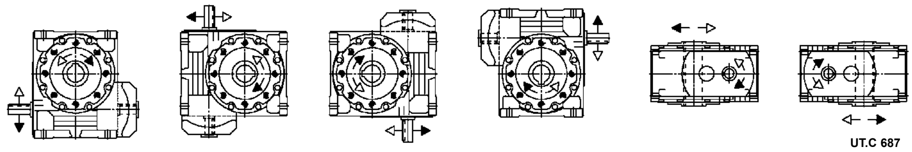
1) Only for i ⩾ 16.
2) Working length of thread 2 · F.
3) Holes turned through 22° 30' with respect to the drawing.
4) Size 40: c_1 = 57,5; size 200: c_1 = 235; size 250: c_1 = 287.
5) Prearranged design for double extension worm shaft (see ch. 2).
6) Holes turned through 45° with respect to the drawing.
7) Tolerance t8.

Mounting positions - direction of rotation **- and oil quantities** [l]

B3 **B6** **B7** **B8** **V5** **V6**



B3 **B6** **B7**1) **B8** **V5** **V6**



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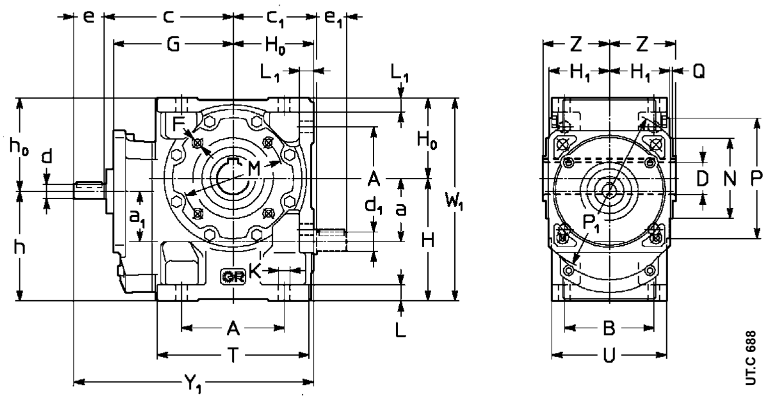
Size	B3	B6, B7	B8	V5, V6
32	0,16	0,2	0,16	0,16
40	0,26	0,35	0,26	0,26
50	0,4	0,6	0,4	0,4
63, 64	0,8	1,15	0,8	0,8
80, 81	1,3	2,2	1,7	1,3
100	1,9	5,4	4,2	3
125, 126	3,4	10	8,2	5,7
160, 161	5,6	18	15	10
200	9,5	33	30	20
250	17	57	51	34

1) Sizes 200 and 250 in mounting position **B7**, with n_1 > 710 min^{-1} carry a price addition.

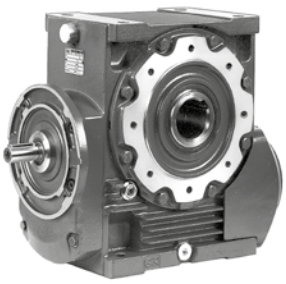


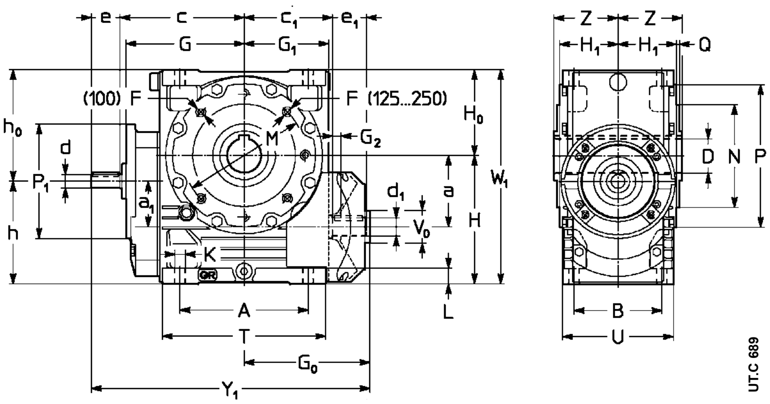
R IV 32 ... 81

Design

standard **UO3A**[1)]

worm extension **UO3D**[1)]





R IV 100 ... 250

Design

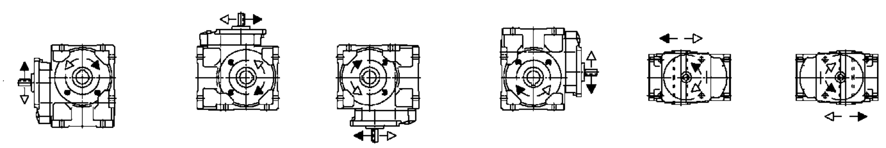
standard **UO2A**[1)]

Size	a	a_1	A	B	c	c_1	D Ø H7	d Ø	e	d_1 Ø	e_1	F 2)	G	G_0	G_1	G_2	H h11	H_0 h11	H_1 h12	h h11	h_0 h11	K Ø	L	L_1	M Ø	N Ø h6	P Ø	P_1 Ø	Q	T	U	V_0 Ø max	W_1	Y_1	Z	Mass kg
32	32	32	61	52	81	51	19	11	20	11	20	M5[4)]	76	—	—	—	71	48	34,5	71	48	7	10	8,5	75	55[5)]	90	140[6)]	3	91	66	—	124	149	39	5
40	40	40	70	62	96	57,5	24	11	23	14	25	M6[4)]	87	—	—	—	82	56	41,5	82	56	9,5	12	10	85	68[5)]	105	140[6)]	3	106	80	—	138	175	46	7
50	50	40	86	75	107	70,5	28	11	23	16	30	M6[4)]	98	—	—	—	100	67	49	90	77	9,5	13	12	100	85[5)]	120	140[6)]	3	126	95	—	167	197	53	11
63, 64	63	50	102	90	127	83	32	14	30	19	30	M8	118	—	—	—	125	80	58,5	112	93	11,5	16	14	100	80	120	160[6)]	3	151	114	—	205	237	63	17
80 **81**	80	50	132	106	147	103	38 40	14	30	24	36	M10	138	—	—	—	150	100	69,5	120	130	14	20	17	130	110	160	160[6)]	3,5	189	135	—	250	277	75	27
100	100	63	180	131	181	130	48	19*	40*	28	42	M12	170	180	122	11	180	125	84,5	143	162	16	23	—	165	130	200	200	3,5	236	165	45	305	401	90	48
125, 126	125	80	225	155	216	155	60	24*	50*	32	58	M12[8]	205	221	148	15	225	150	99,5	180	195	18	28	—	215	180	250	200	4	287	194	50	375	487	106	82
160 **161**	160	100	272	183	258	187	70 75	28*	60*	38	58	M14[8]	247	255	178	15	280	180	118,5	220	240	22	33	—	265	230	300	250	4	345	232	60	460	573	125	146
200	200	100	342	214	303	235	90	28*	60*	48	82	M16[8]	292	324	222	20	335	225	137,5	235	325	27	40	—	300	250	350	250	5	431	270	80	560	687	150	249
250	250	125	425	250	373	287	110	32	80	55	82	M20[8 3)]	360	379	277	20	410	280	163	285	405	33	50	—	400	350	450	300	5	537	320	80	690	832	180	408

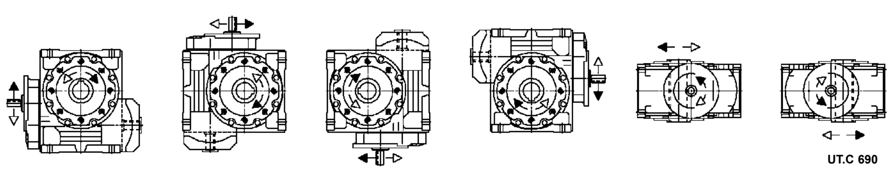
1) Prearranged design for worm shaft extension (see ch. 2).
2) Working length of thread 2 · F.
3) Holes turned through 22° 30' with respect to the drawing.
4) Holes turned through 45° with respect to the drawing.
5) Tolerance t8.
6) Square flange: for dimensions see ch. 15.
* When $i_N \geqslant 200$ the shaft end will be:
size 100: d = 16, e = 30;
sizes 125, 126: d = 19, e = 40;
sizes 160 ... 200: d = 24, e = 50.

Mounting positions - direction of rotation **- and oil quantities** [l]

B3 **B6** **B7** **B8** **V5** **V6**

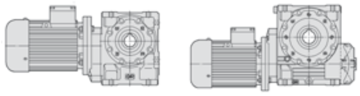


B3 **B6**[1)] **B7** **B8** **V5** **V6**



Size	B3	B6, B7	B8	V5, V6
32	0,2	0,25	0,2	0,2
40	0,32	0,4	0,32	0,32
50	0,5	0,7	0,5	0,5
63, 64	1	1,3	1	1
80, 81	1,5	2,5	2	1,5
100	2,1	6,3	4,5	3,3
125, 126	3,8	11,6	8,8	6,3
160, 161	6,5	20,8	16,5	11,2
200	10,4	38	31,5	21,2
250	18,3	67	53	35,7

1) Sizes 100 ... 250 in mounting position **B6** carry a price addition.



P_1 kW 1)	n_2 min^{-1}	P_2 kW	M_2 daN m	fs	Riduttore - Motore / Gear reducer - Motor 2)	i
0,09	2,06	0,05	23,3	0,8	MR 2IV 50 - 11 × 140 63 A 6	437
	2,58	0,05	19,7	1	MR 2IV 50 - 11 × 140 63 A 6	349
	3,3	0,06	15,9	0,71	MR 2IV 40 - 11 × 140 63 A 6	273
	3,3	0,06	16,2	1,32	MR 2IV 50 - 11 × 140 63 A 6	273
	4,12	0,06	13,3	0,9	MR 2IV 40 - 11 × 140 63 A 6	218
	4,12	0,06	13,5	1,6	MR 2IV 50 - 11 × 140 63 A 6	218
	4,08	0,05	11,3	1	MR IV 50 - 11 × 140 63 A 6	221
	5,07	0,06	10,6	1	MR 2IV 40 - 11 × 140 63 A 6	178
	5,14	0,05	9,4	0,8	MR IV 40 - 11 × 140 63 A 6	175
	5,07	0,06	10,8	1,9	MR 2IV 50 - 11 × 140 63 A 6	178
	5,14	0,05	9,6	1,5	MR IV 50 - 11 × 140 63 A 6	175
	6,33	0,06	8,8	1,32	MR 2IV 40 - 11 × 140 63 A 6	142
	6,43	0,05	8	1,06	MR IV 40 - 11 × 140 63 A 6	140
	6,43	0,06	8,2	1,9	MR IV 50 - 11 × 140 63 A 6	140
	7,92	0,07	7,9	1,32	MR 2IV 40 - 11 × 140 63 A 6	114
	8,04	0,06	6,8	1,4	MR IV 40 - 11 × 140 63 A 6	112
	8,04	0,06	6,9	2,65	MR IV 50 - 11 × 140 63 A 6	112
	8,68	0,05	6	0,71	MR IV 32 - 11 × 140 63 A 6	104
	10,3	0,06	5,5	1,8	MR IV 40 - 11 × 140 63 A 6	87,5
	10,9	0,06	5,1	1,06	MR IV 32 - 11 × 140 63 A 6	82,9
	12,9	0,06	4,59	2,36	MR IV 40 - 11 × 140 63 A 6	70
	13,9	0,06	4,16	1,32	MR IV 32 - 11 × 140 63 A 6	64,8
	14,3	0,05	3,62	1,4	MR V 40 - 11 × 140 63 A 6	63
	17,4	0,06	3,45	1,6	MR IV 32 - 11 × 140 63 A 6	51,8
	18	0,06	3	1,12	MR V 32 - 11 × 140 63 A 6	50
	18	0,06	3,08	2,12	MR V 40 - 11 × 140 63 A 6	50
	21,7	0,07	3,02	1,7	MR IV 32 - 11 × 140 63 A 6	41,5
	22,5	0,06	2,53	1,6	MR V 32 - 11 × 140 63 A 6	40
	28,1	0,06	2,12	2	MR V 32 - 11 × 140 63 A 6	32
	36	0,07	1,73	2,5	MR V 32 - 11 × 140 63 A 6	25
0,12	2,58	0,07	26,3	0,75	MR 2IV 50 - 11 × 140 63 B 6	349
	3,21	0,07	20,6	0,8	MR 2IV 50 - 11 × 140 63 A 4	437
	3,3	0,07	21,6	1	MR 2IV 50 - 11 × 140 63 B 6	273
	4,01	0,07	17,4	1,12	MR 2IV 50 - 11 × 140 63 A 4	349
	4,12	0,08	18	1,25	MR 2IV 50 - 11 × 140 63 B 6	218
	4,08	0,06	15	0,75	MR IV 50 - 11 × 140 63 B 6	221
	5,13	0,08	14	0,8	MR 2IV 40 - 11 × 140 63 A 4	273
	5,13	0,08	14,3	1,4	MR 2IV 50 - 11 × 140 63 A 4	273
	5,14	0,07	12,8	1,18	MR IV 50 - 11 × 140 63 B 6	175
	6,41	0,08	11,7	1	MR 2IV 40 - 11 × 140 63 A 4	218
	6,43	0,07	10,7	0,8	MR IV 40 - 11 × 140 63 B 6	140
	6,41	0,08	11,8	1,8	MR 2IV 50 - 11 × 140 63 A 4	218
	6,35	0,07	10,2	1,06	MR IV 50 - 11 × 140 63 A 4	221
	6,43	0,07	10,9	1,4	MR IV 50 - 11 × 140 63 B 6	140
	7,88	0,08	9,3	1,12	MR 2IV 40 - 11 × 140 63 A 4	178
	8	0,07	8,4	0,85	MR IV 40 - 11 × 140 63 A 4	175
	8,04	0,08	9	1,06	MR IV 40 - 11 × 140 63 B 6	112
	7,88	0,08	9,5	2,12	MR 2IV 50 - 11 × 140 63 A 4	178
	8	0,07	8,7	1,6	MR IV 50 - 11 × 140 63 A 4	175
	8,04	0,08	9,2	2	MR IV 50 - 11 × 140 63 B 6	112
	9,85	0,08	7,7	1,4	MR 2IV 40 - 11 × 140 63 A 4	142
	10	0,07	7,1	1,12	MR IV 40 - 11 × 140 63 A 4	140
	10,3	0,08	7,4	1,32	MR IV 40 - 11 × 140 63 B 6	87,5
	10	0,08	7,3	2	MR IV 50 - 11 × 140 63 A 4	140
	10,9	0,08	6,7	0,8	MR IV 32 - 11 × 140 63 B 6	82,9
	12,3	0,09	6,9	1,4	MR 2IV 40 - 11 × 140 63 A 4	114
	12,5	0,08	6	1,5	MR IV 40 - 11 × 140 63 A 4	112
	12,9	0,08	6,1	1,7	MR IV 40 - 11 × 140 63 B 6	70
	13,5	0,08	5,4	0,8	MR IV 32 - 11 × 140 63 A 4	104
	13,9	0,08	5,5	0,95	MR IV 32 - 11 × 140 63 B 6	64,8
	14,3	0,07	4,83	1,06	MR V 40 - 11 × 140 63 B 6	63
	14,3	0,07	4,99	2	MR V 50 - 11 × 140 63 B 6	63
	16,9	0,08	4,51	1,06	MR IV 32 - 11 × 140 63 A 4	82,9
	16	0,08	4,94	1,9	MR IV 40 - 11 × 140 63 A 4	87,5
	17,4	0,08	4,6	1,18	MR IV 32 - 11 × 140 63 B 6	51,8
0,12	18	0,08	4	0,85	MR V 32 - 11 × 140 63 B 6	50
	18	0,08	4,1	1,6	MR V 40 - 11 × 140 63 B 6	50
	20	0,09	4,08	2,5	MR IV 40 - 11 × 140 63 A 4	70
	21,6	0,08	3,7	1,32	MR IV 32 - 11 × 140 63 A 4	64,8
	22,5	0,08	3,37	1,18	MR V 32 - 11 × 140 63 B 6	40
	22,2	0,08	3,29	1,5	MR V 40 - 11 × 140 63 A 4	63
	22,5	0,08	3,44	2,12	MR V 40 - 11 × 140 63 B 6	40
	27	0,09	3,06	1,7	MR IV 32 - 11 × 140 63 A 4	51,8
	28	0,08	2,7	1,18	MR V 32 - 11 × 140 63 A 4	50
	28,1	0,08	2,83	1,5	MR V 32 - 11 × 140 63 B 6	32
	28	0,08	2,77	2,12	MR V 40 - 11 × 140 63 A 4	50
	33,8	0,09	2,65	1,8	MR IV 32 - 11 × 140 63 A 4	41,5
	35	0,08	2,27	1,6	MR V 32 - 11 × 140 63 A 4	40
	36	0,09	2,31	1,9	MR V 32 - 11 × 140 63 B 6	25
	35	0,08	2,32	2,8	MR V 40 - 11 × 140 63 A 4	40
	43,8	0,09	1,89	2	MR V 32 - 11 × 140 63 A 4	32
	45	0,09	1,91	2,36	MR V 32 - 11 × 140 63 B 6	20
	56	0,09	1,54	2,5	MR V 32 - 11 × 140 63 A 4	25
	70	0,09	1,27	3,15	MR V 32 - 11 × 140 63 A 4	20
	87,5	0,1	1,08	3,35	MR V 32 - 11 × 140 63 A 4	16
	108	0,1	0,89	4	MR V 32 - 11 × 140 63 A 4	13
	140	0,1	0,7	4,75	MR V 32 - 11 × 140 63 A 4	10
0,18	1,49	0,1	65	0,95	MR 2IV 80 - 14 × 160 71 A 6	605
	1,49	0,1	65	1,06	MR 2IV 81 - 14 × 160 71 A 6	605
	1,86	0,11	55	1,25	MR 2IV 80 - 14 × 160 71 A 6	484
	1,86	0,11	55	1,32	MR 2IV 81 - 14 × 160 71 A 6	484
	2,33	0,11	44,7	0,85	MR 2IV 63 - 14 × 160 71 A 6	387
	2,33	0,11	45,8	1,6	MR 2IV 80 - 14 × 160 71 A 6	387
	2,33	0,11	45,8	1,7	MR 2IV 81 - 14 × 160 71 A 6	387
	2,98	0,11	36,6	1,12	MR 2IV 63 - 14 × 160 71 A 6	302
	2,98	0,12	37,6	2	MR 2IV 80 - 14 × 160 71 A 6	302
	2,98	0,12	37,6	2,24	MR 2IV 81 - 14 × 160 71 A 6	302
	3,56	0,12	31,1	1,25	MR 2IV 63 - 14 × 160 71 A 6	253
	3,56	0,12	31,7	2,36	MR 2IV 80 - 14 × 160 71 A 6	253
	3,56	0,12	31,7	2,65	MR 2IV 81 - 14 × 160 71 A 6	253
	4,01	0,11	26	0,75	MR 2IV 50 - 11 × 140 63 B 4	349
	3,76	0,1	25,8	0,85	MR IV 63 - 14 × 160 71 A 6	239
	3,76	0,1	25,8	0,95	MR IV 64 - 14 × 160 71 A 6	239
	3,76	0,11	26,7	1,7	MR IV 80 - 14 × 160 71 A 6	239
	3,76	0,11	26,7	1,9	MR IV 81 - 14 × 160 71 A 6	239
	4,55	0,11	24	0,85	MR 2IV 50 - 14 × 160 71 A 6	198
	4,42	0,11	24,5	1,4	MR 2IV 63 - 14 × 160 71 A 6	204
	4,74	0,11	21,9	1,25	MR IV 63 - 14 × 160 71 A 6	190
	4,74	0,11	21,9	1,32	MR IV 64 - 14 × 160 71 A 6	190
	4,74	0,11	22,6	2,36	MR IV 80 - 14 × 160 71 A 6	190
	5,13	0,11	21,4	0,95	MR 2IV 50 - 11 × 140 63 B 4	273
	5,69	0,12	19,9	1,06	MR 2IV 50 - 14 × 160 71 A 6	158
	5,66	0,12	20	1,8	MR 2IV 63 - 14 × 160 71 A 6	159
	5,92	0,11	18,5	1,6	MR IV 63 - 14 × 160 71 A 6	152
	5,92	0,11	18,5	1,8	MR IV 64 - 14 × 160 71 A 6	152
	6,41	0,12	17,7	1,18	MR 2IV 50 - 11 × 140 63 B 4	218
	6,35	0,1	15,3	0,71	MR IV 50 - 11 × 140 63 B 4	221
	6,99	0,12	15,9	1,25	MR 2IV 50 - 14 × 160 71 A 6	129
	7,1	0,11	14,5	1	MR IV 50 - 14 × 160 71 A 6	127
	7,4	0,12	15,4	2	MR IV 63 - 14 × 160 71 A 6	122
	7,88	0,12	14	0,75	MR 2IV 40 - 11 × 140 63 B 4	178
	7,88	0,12	14,2	1,4	MR 2IV 50 - 11 × 140 63 B 4	178
	8	0,11	13	1,06	MR IV 50 - 11 × 140 63 B 4	175
	8,87	0,11	12	0,67	MR IV 40 - 14 × 160 71 A 6	101
	8,74	0,12	13,2	1,6	MR 2IV 50 - 14 × 160 71 A 6	103
	8,87	0,11	12,3	1,25	MR IV 50 - 14 × 160 71 A 6	101
	8,84	0,12	13,2	2,24	MR IV 63 - 14 × 160 71 A 6	102
	9,85	0,12	11,6	0,95	MR 2IV 40 - 11 × 140 63 B 4	142
	10	0,11	10,7	0,75	MR IV 40 - 11 × 140 63 B 4	140
	9,85	0,12	11,8	1,7	MR 2IV 50 - 11 × 140 63 B 4	142

1) Powers valid for continuous duty S1; **increase** possible for S2 ... S10 (see ch. 2b) in which case P_2, M_2 increase and fs decreases proportionately.
2) For complete designation when ordering see ch. 3.1.

P_1 kW 1)	n_2 min^{-1}	P_2 kW	M_2 daN m	fs	Riduttore - Motore Gear reducer - Motor 2)					i
0,18	10	0,12	11	1,32	MR	IV	50 - 11 × 140	63 B	4	140
	11,1	0,12	10,1	0,9	MR	IV	40 - 14 × 160	71 A	6	81,1
	11,1	0,12	10,3	1,7	MR	IV	50 - 14 × 160	71 A	6	81,1
	12,3	0,13	10,3	0,95	MR	2IV	40 - 11 × 140	63 B	4	114
	12,5	0,12	9,1	1	MR	IV	40 - 11 × 140	63 B	4	112
	12,5	0,12	9,2	1,8	MR	IV	50 - 11 × 140	63 B	4	112
	14,2	0,12	8,3	1,18	MR	IV	40 - 14 × 160	71 A	6	63,4
	14,3	0,11	7,2	0,71	MR	V	40 - 14 × 160	71 A	6	63
	14,2	0,13	8,4	2,12	MR	IV	50 - 14 × 160	71 A	6	63,4
	14,3	0,11	7,5	1,32	MR	V	50 - 14 × 160	71 A	6	63
	16,9	0,12	6,8	0,71	MR	IV	32 - 11 × 140	63 B	4	82,9
	16	0,12	7,4	1,25	MR	IV	40 - 11 × 140	63 B	4	87,5
	16	0,13	7,6	2,36	MR	IV	50 - 11 × 140	63 B	4	87,5
	17,7	0,13	6,8	1,5	MR	IV	40 - 14 × 160	71 A	6	50,7
	18	0,12	6,2	1,06	MR	V	40 - 14 × 160	71 A	6	50
	17,7	0,13	7	2,65	MR	IV	50 - 14 × 160	71 A	6	50,7
	18	0,12	6,3	2	MR	V	50 - 14 × 160	71 A	6	50
	20	0,13	6,1	1,6	MR	IV	40 - 11 × 140	63 B	4	70
	21,6	0,13	5,5	0,9	MR	IV	32 - 11 × 140	63 B	4	64,8
	22,2	0,14	6	1,5	MR	IV	40 - 14 × 160	71 A	6	40,6
	22,2	0,11	4,93	1	MR	V	40 - 11 × 140	63 B	4	63
	22,5	0,12	5,2	1,4	MR	V	40 - 14 × 160	71 A	6	40
	22,2	0,12	5,1	1,9	MR	V	50 - 11 × 140	63 B	4	63
	25	0,14	5,3	1,7	MR	IV	40 - 11 × 140	63 B	4	56
	27	0,13	4,59	1,12	MR	IV	32 - 11 × 140	63 B	4	51,8
	28	0,12	4,05	0,8	MR	V	32 - 11 × 140	63 B	4	50
	28,1	0,12	4,24	1	MR	V	32 - 11 × 140	71 A	* 6	32
	28	0,12	4,16	1,4	MR	V	40 - 11 × 140	63 B	4	50
	28,1	0,13	4,33	1,8	MR	V	40 - 14 × 160	71 A	6	32
	28	0,13	4,28	2,65	MR	V	50 - 11 × 140	63 B	4	50
	33,8	0,14	3,98	1,18	MR	IV	32 - 11 × 140	63 B	4	41,5
	35	0,12	3,4	1,06	MR	V	32 - 11 × 140	63 B	4	40
	36	0,13	3,47	1,32	MR	V	32 - 11 × 140	71 A	* 6	25
	35	0,13	3,48	1,9	MR	V	40 - 11 × 140	63 B	4	40
	36	0,13	3,51	2,36	MR	V	40 - 14 × 160	71 A	6	25
	43,8	0,13	2,84	1,32	MR	V	32 - 11 × 140	63 B	4	32
	45	0,13	2,86	1,6	MR	V	32 - 11 × 140	71 A	* 6	20
	43,8	0,13	2,9	2,5	MR	V	40 - 11 × 140	63 B	4	32
	56	0,14	2,31	1,7	MR	V	32 - 11 × 140	63 B	4	25
	56	0,14	2,34	3,15	MR	V	40 - 11 × 140	63 B	4	25
	70	0,14	1,9	2,12	MR	V	32 - 11 × 140	63 B	4	20
	87,5	0,15	1,61	2,24	MR	V	32 - 11 × 140	63 B	4	16
	108	0,15	1,34	2,65	MR	V	32 - 11 × 140	63 B	4	13
	140	0,15	1,05	3,15	MR	V	32 - 11 × 140	63 B	4	10
	175	0,15	0,84	3,35	MR	V	32 - 11 × 140	63 A	2	16
	200	0,16	0,76	3,75	MR	V	32 - 11 × 140	63 B	4	7
	215	0,16	0,69	4	MR	V	32 - 11 × 140	63 A	2	13
	280	0,16	0,54	4,75	MR	V	32 - 11 × 140	63 A	2	10
0,25	1,49	0,14	90	0,67	MR	2IV	80 - 14 × 160	71 B	6	605
	1,49	0,14	90	0,75	MR	2IV	81 - 14 × 160	71 B	6	605
	1,86	0,15	77	0,9	MR	2IV	80 - 14 × 160	71 B	6	484
	1,86	0,15	77	0,95	MR	2IV	81 - 14 × 160	71 B	6	484
	2,32	0,15	60	0,95	MR	2IV	80 - 14 × 160	71 A	4	605
	2,32	0,15	60	1,06	MR	2IV	81 - 14 × 160	71 A	4	605
	2,33	0,16	64	1,12	MR	2IV	80 - 14 × 160	71 B	6	387
	2,33	0,16	64	1,25	MR	2IV	81 - 14 × 160	71 B	6	387
	2,98	0,16	51	0,8	MR	2IV	63 - 14 × 160	71 B	6	302
	2,89	0,15	51	1,25	MR	2IV	80 - 14 × 160	71 A	4	484
	2,89	0,15	51	1,4	MR	2IV	81 - 14 × 160	71 A	4	484
	2,98	0,16	52	1,5	MR	2IV	80 - 14 × 160	71 B	6	302
	2,98	0,16	52	1,6	MR	2IV	81 - 14 × 160	71 B	6	302
	3,62	0,16	41	0,85	MR	2IV	63 - 14 × 160	71 A	4	387
	3,62	0,16	41	0,9	MR	2IV	64 - 14 × 160	71 A	4	387
	3,56	0,16	43,2	0,9	MR	2IV	63 - 14 × 160	71 B	6	253
	3,62	0,16	41,9	1,6	MR	2IV	80 - 14 × 160	71 A	4	387
0,25	3,62	0,16	41,9	1,8	MR	2IV	81 - 14 × 160	71 A	4	387
	3,56	0,16	44,1	1,7	MR	2IV	80 - 14 × 160	71 B	6	253
	3,56	0,16	44,1	1,9	MR	2IV	81 - 14 × 160	71 B	6	253
	3,76	0,14	35,8	0,71	MR	IV	64 - 14 × 160	71 B	6	239
	3,76	0,15	37,1	1,18	MR	IV	80 - 14 × 160	71 B	6	239
	3,76	0,15	37,1	1,32	MR	IV	81 - 14 × 160	71 B	6	239
	4,63	0,16	33,6	1,12	MR	2IV	63 - 14 × 160	71 A	4	302
	4,63	0,16	33,6	1,18	MR	2IV	64 - 14 × 160	71 A	4	302
	4,74	0,15	30,4	0,9	MR	IV	63 - 14 × 160	71 B	6	190
	4,74	0,15	30,4	1	MR	IV	64 - 14 × 160	71 B	6	190
	4,63	0,17	34,2	2,12	MR	2IV	80 - 14 × 160	71 A	4	302
	4,63	0,17	34,2	2,36	MR	2IV	81 - 14 × 160	71 A	4	302
	4,74	0,16	31,4	1,7	MR	IV	80 - 14 × 160	71 B	6	190
	4,74	0,16	31,4	1,9	MR	IV	81 - 14 × 160	71 B	6	190
	5,13	0,16	29,7	0,67	MR	2IV	50 - 11 × 140	63 C	4	273
	5,69	0,16	27,6	0,75	MR	2IV	50 - 14 × 160	71 B	6	158
	5,53	0,16	28,4	1,32	MR	2IV	63 - 14 × 160	71 A	4	253
	5,53	0,16	28,4	1,4	MR	2IV	64 - 14 × 160	71 A	4	253
	5,85	0,15	24,3	0,85	MR	IV	63 - 14 × 160	71 A	4	239
	5,85	0,15	24,3	0,95	MR	IV	64 - 14 × 160	71 A	4	239
	5,92	0,16	25,7	1,12	MR	IV	63 - 14 × 160	71 B	6	152
	5,92	0,16	25,7	1,25	MR	IV	64 - 14 × 160	71 B	6	152
	5,85	0,15	25	1,7	MR	IV	80 - 14 × 160	71 A	4	239
	5,85	0,15	25	1,9	MR	IV	81 - 14 × 160	71 A	4	239
	6,41	0,17	24,6	0,85	MR	2IV	50 - 11 × 140	63 C	4	218
	7,08	0,16	21,9	0,9	MR	2IV	50 - 14 × 160	71 A	4	198
	7,1	0,15	20,2	0,71	MR	IV	50 - 14 × 160	71 B	6	127
	6,88	0,16	22,5	1,4	MR	2IV	63 - 14 × 160	71 A	4	204
	6,88	0,16	22,5	1,6	MR	2IV	64 - 14 × 160	71 A	4	204
	7,37	0,16	20,5	1,18	MR	IV	63 - 14 × 160	71 A	4	190
	7,37	0,16	20,5	1,4	MR	IV	64 - 14 × 160	71 A	4	190
	7,4	0,17	21,4	1,5	MR	IV	63 - 14 × 160	71 B	6	122
	7,4	0,17	21,4	1,7	MR	IV	64 - 14 × 160	71 B	6	122
	7,88	0,16	19,8	1	MR	2IV	50 - 11 × 140	63 C	4	178
	8	0,15	18,1	0,8	MR	IV	50 - 11 × 140	63 C	4	175
	8,85	0,17	18,1	1,12	MR	2IV	50 - 14 × 160	71 A	4	158
	8,87	0,16	17,1	0,9	MR	IV	50 - 14 × 160	71 B	6	101
	9,21	0,17	17,2	1,6	MR	IV	63 - 14 × 160	71 A	4	152
	9,21	0,17	17,2	1,8	MR	IV	64 - 14 × 160	71 A	4	152
	9,85	0,17	16,4	1,25	MR	2IV	50 - 11 × 140	63 C	4	142
	10	0,16	15,3	1	MR	IV	50 - 11 × 140	63 C	4	140
	11,1	0,16	14	0,67	MR	IV	40 - 14 × 160	71 B	6	81,1
	10,9	0,17	14,7	1,25	MR	2IV	50 - 14 × 160	71 A	4	129
	11	0,16	13,6	1	MR	IV	50 - 14 × 160	71 A	4	127
	11,1	0,17	14,3	1,18	MR	IV	50 - 14 × 160	71 B	6	81,1
	11,5	0,17	14,3	2	MR	IV	63 - 14 × 160	71 A	4	122
	12,5	0,16	12,6	0,75	MR	IV	40 - 11 × 140	63 C	4	112
	12,5	0,17	12,8	1,32	MR	IV	50 - 11 × 140	63 C	4	112
	13,8	0,16	11,1	0,71	MR	IV	40 - 14 × 160	71 A	4	101
	14,2	0,17	11,5	0,85	MR	IV	40 - 14 × 160	71 B	6	63,4
	13,6	0,17	12,2	1,6	MR	2IV	50 - 14 × 160	71 A	4	103
	13,8	0,17	11,5	1,25	MR	IV	50 - 14 × 160	71 A	4	101
	14,2	0,17	11,7	1,5	MR	IV	50 - 14 × 160	71 B	6	63,4
	14,3	0,16	10,4	0,95	MR	V	50 - 14 × 160	71 B	6	63
	13,8	0,18	12,2	2,24	MR	IV	63 - 14 × 160	71 A	4	102
	14,3	0,16	11	1,7	MR	V	63 - 14 × 160	71 B	6	63
	14,3	0,16	11	1,9	MR	V	64 - 14 × 160	71 B	6	63
	16	0,17	10,3	0,9	MR	IV	40 - 11 × 140	63 C	4	87,5
	17	0,19	10,6	1,7	MR	2IV	50 - 14 × 160	71 A	4	82,4
	16	0,18	10,5	1,7	MR	IV	50 - 11 × 140	63 C	4	87,5
	17,3	0,17	9,4	0,9	MR	IV	40 - 14 × 160	71 A	4	81,1
	17,7	0,18	9,5	1,06	MR	IV	40 - 14 × 160	71 B	6	50,7
	18	0,16	8,5	0,75	MR	V	40 - 14 × 160	71 B	6	50
	17,3	0,17	9,6	1,7	MR	IV	50 - 14 × 160	71 A	4	81,1
	17,7	0,18	9,7	1,9	MR	IV	50 - 14 × 160	71 B	6	50,7
	18	0,17	8,8	1,4	MR	V	50 - 14 × 160	71 B	6	50
	18	0,17	9,2	2,24	MR	V	63 - 14 × 160	71 B	6	50
	20	0,18	8,5	1,18	MR	IV	40 - 11 × 140	63 C	4	70
	20	0,18	8,7	2,12	MR	IV	50 - 11 × 140	63 C	4	70

1) Powers valid for continuous duty S1; **increase** possible for S2 ... S10 (see ch. 2b) in which case P_2, M_2 increase and *fs* decreases proportionately.
2) For complete designation when ordering see ch. 3.1.
***** Mounting position **B5R**; available also for mounting position **B5** (see table ch. 2b).

P_1 kW 1)	n_2 min^{-1}	P_2 kW	M_2 daN m	fs	Riduttore - Motore / Gear reducer - Motor 2)	i
0,25	22,1	0,18	7,7	1,18	MR IV 40 - 14 × 160 71 A 4	63,4
	22,2	0,16	6,9	0,71	MR V 40 - 11 × 140 63 C 4	63
	22,2	0,16	6,9	0,71	MR V 40 - 14 × 160 71 A 4	63
	22,5	0,17	7,2	1	MR V 40 - 14 × 160 71 B 6	40
	22,1	0,18	7,8	2,12	MR IV 50 - 14 × 160 71 A 4	63,4
	22,2	0,16	7,1	1,4	MR V 50 - 14 × 160 71 A 4	63
	22,5	0,17	7,4	1,8	MR V 50 - 14 × 160 71 B 6	40
	22,2	0,17	7,5	2,36	MR V 63 - 14 × 160 71 A 4	63
	25	0,19	7,4	1,25	MR IV 40 - 11 × 140 63 C 4	56
	27	0,18	6,4	0,8	MR IV 32 - 11 × 140 63 C 4	51,8
	28,1	0,17	5,9	0,75	MR V 32 - 11 × 140 71 B * 6	32
	27,6	0,18	6,3	1,5	MR IV 40 - 14 × 160 71 A 4	50,7
	28	0,17	5,8	1,06	MR V 40 - 11 × 140 63 C 4	50
	28	0,17	5,8	1,06	MR V 40 - 14 × 160 71 A 4	50
	28,1	0,18	6	1,32	MR V 40 - 14 × 160 71 B 6	32
	27,6	0,19	6,4	2,65	MR IV 50 - 14 × 160 71 A 4	50,7
	28	0,17	5,9	1,9	MR V 50 - 14 × 160 71 A 4	50
	28,1	0,18	6,1	2,36	MR V 50 - 14 × 160 71 B 6	32
	33,8	0,2	5,5	0,85	MR IV 32 - 11 × 140 63 C 4	41,5
	35	0,17	4,73	0,75	MR V 32 - 11 × 140 63 C 4	40
	36	0,18	4,81	0,9	MR V 32 - 11 × 140 71 B * 6	25
	34,5	0,2	5,5	1,6	MR IV 40 - 14 × 160 71 A 4	40,6
	35	0,18	4,83	1,32	MR V 40 - 11 × 140 63 C 4	40
	35	0,18	4,83	1,32	MR V 40 - 14 × 160 71 A 4	40
	36	0,18	4,88	1,7	MR V 40 - 14 × 160 71 B 6	25
	35	0,18	4,97	2,36	MR V 50 - 14 × 160 71 A 4	40
	43,8	0,18	3,94	0,95	MR V 32 - 11 × 140 63 C 4	32
	43,8	0,18	3,94	0,95	MR V 32 - 11 × 140 71 A * 4	32
	45	0,19	3,97	1,18	MR V 32 - 11 × 140 71 B * 6	20
	43,8	0,18	4,03	1,8	MR V 40 - 11 × 140 63 C 4	32
	43,8	0,18	4,03	1,8	MR V 40 - 14 × 160 71 A 4	32
	45	0,19	4,01	2	MR V 40 - 14 × 160 71 B 6	20
	56	0,19	3,21	1,18	MR V 32 - 11 × 140 63 C 4	25
	56	0,19	3,21	1,18	MR V 32 - 11 × 140 71 A * 4	25
	56	0,19	3,26	2,24	MR V 40 - 11 × 140 63 C 4	25
	56	0,19	3,26	2,24	MR V 40 - 14 × 160 71 A 4	25
	70	0,19	2,64	1,5	MR V 32 - 11 × 140 63 C 4	20
	70	0,19	2,64	1,5	MR V 32 - 11 × 140 71 A * 4	20
	70	0,2	2,67	2,65	MR V 40 - 14 × 160 71 A 4	20
	87,5	0,21	2,24	1,6	MR V 32 - 11 × 140 63 C 4	16
	87,5	0,21	2,24	1,6	MR V 32 - 11 × 140 71 A * 4	16
	87,5	0,21	2,27	2,8	MR V 40 - 14 × 160 71 A 4	16
	108	0,21	1,86	1,9	MR V 32 - 11 × 140 63 C 4	13
	108	0,21	1,86	1,9	MR V 32 - 11 × 140 71 A * 4	13
	140	0,21	1,45	2,24	MR V 32 - 11 × 140 63 C 4	10
	140	0,21	1,45	2,24	MR V 32 - 11 × 140 71 A * 4	10
	175	0,21	1,16	2,5	MR V 32 - 11 × 140 63 B 2	16
	200	0,22	1,05	2,65	MR V 32 - 11 × 140 63 C 4	7
	200	0,22	1,05	2,65	MR V 32 - 11 × 140 71 A * 4	7
	215	0,22	0,96	2,8	MR V 32 - 11 × 140 63 B 2	13
	280	0,22	0,75	3,55	MR V 32 - 11 × 140 63 B 2	10
	400	0,22	0,54	4,25	MR V 32 - 11 × 140 63 B 2	7
0,37	1,49	0,22	138	0,85	MR 2IV 100 - 19 × 200 80 A 6	605
	1,86	0,23	116	1,12	MR 2IV 100 - 19 × 200 80 A 6	484
	2,32	0,22	89	0,67	MR 2IV 80 - 14 × 160 71 B 4	605
	2,32	0,22	89	0,71	MR 2IV 81 - 14 × 160 71 B 4	605
	2,33	0,23	94	0,75	MR 2IV 80 - 14 × 160 71 C 6	387
	2,33	0,23	94	0,85	MR 2IV 81 - 14 × 160 71 C 6	387
	2,33	0,23	96	1,4	MR 2IV 100 - 19 × 200 80 A 6	387
	2,89	0,23	75	0,85	MR 2IV 80 - 14 × 160 71 B 4	484
	2,89	0,23	75	0,95	MR 2IV 81 - 14 × 160 71 B 4	484
	2,98	0,24	77	1	MR 2IV 80 - 14 × 160 71 C 6	302
	2,98	0,24	77	1,06	MR 2IV 81 - 14 × 160 71 C 6	302
	2,98	0,25	79	1,9	MR 2IV 100 - 19 × 200 80 A 6	302
	3,62	0,24	62	1,06	MR 2IV 80 - 14 × 160 71 B 4	387
	3,62	0,24	62	1,25	MR 2IV 81 - 14 × 160 71 B 4	387
	3,56	0,25	67	2,24	MR 2IV 100 - 19 × 200 80 A 6	253
0,37	3,76	0,22	55	0,8	MR IV 80 - 14 × 160 71 C 6	239
	3,76	0,22	55	0,9	MR IV 81 - 14 × 160 71 C 6	239
	3,76	0,23	57	1,5	MR IV 100 - 19 × 200 80 A 6	239
	4,63	0,24	49,7	0,75	MR 2IV 63 - 14 × 160 71 B 4	302
	4,63	0,24	49,7	0,8	MR 2IV 64 - 14 × 160 71 B 4	302
	4,74	0,22	45	0,67	MR IV 64 - 14 × 160 71 C 6	190
	4,63	0,25	51	1,4	MR 2IV 80 - 14 × 160 71 B 4	302
	4,63	0,25	51	1,6	MR 2IV 81 - 14 × 160 71 B 4	302
	4,74	0,23	46,5	1,12	MR IV 80 - 14 × 160 71 C 6	190
	4,74	0,23	46,5	1,25	MR IV 81 - 14 × 160 71 C 6	190
	4,74	0,24	48,1	2,12	MR IV 100 - 19 × 200 80 A 6	190
	5,53	0,24	42	0,85	MR 2IV 63 - 14 × 160 71 B 4	253
	5,53	0,24	42	0,95	MR 2IV 64 - 14 × 160 71 B 4	253
	5,85	0,22	35,9	0,67	MR IV 64 - 14 × 160 71 B 4	239
	5,92	0,24	38	0,75	MR IV 63 - 14 × 160 71 C 6	152
	5,92	0,24	38	0,85	MR IV 64 - 14 × 160 71 C 6	152
	5,53	0,25	42,8	1,6	MR 2IV 80 - 14 × 160 71 B 4	253
	5,53	0,25	42,8	1,9	MR 2IV 81 - 14 × 160 71 B 4	253
	5,85	0,23	37	1,18	MR IV 80 - 14 × 160 71 B 4	239
	5,85	0,23	37	1,32	MR IV 81 - 14 × 160 71 B 4	239
	5,92	0,24	39,2	1,5	MR IV 80 - 14 × 160 71 C 6	152
	5,92	0,24	39,2	1,7	MR IV 81 - 14 × 160 71 C 6	152
	6,88	0,24	33,4	0,95	MR 2IV 63 - 14 × 160 71 B 4	204
	6,88	0,24	33,4	1,06	MR 2IV 64 - 14 × 160 71 B 4	204
	7,09	0,25	33,2	1,06	MR 2IV 63 - 19 × 200 80 A 6	127
	7,09	0,25	33,2	1,18	MR 2IV 64 - 19 × 200 80 A 6	127
	7,37	0,23	30,3	0,8	MR IV 63 - 14 × 160 71 B 4	190
	7,37	0,23	30,3	0,95	MR IV 64 - 14 × 160 71 B 4	190
	7,4	0,25	31,6	1	MR IV 63 - 14 × 160 71 C 6	122
	7,4	0,25	31,6	1,12	MR IV 64 - 14 × 160 71 C 6	122
	6,88	0,25	34,4	1,8	MR 2IV 80 - 14 × 160 71 B 4	204
	6,88	0,25	34,4	2,12	MR 2IV 81 - 14 × 160 71 B 4	204
	7,37	0,24	31,3	1,5	MR IV 80 - 14 × 160 71 B 4	190
	7,37	0,24	31,3	1,8	MR IV 81 - 14 × 160 71 B 4	190
	7,4	0,25	32,6	1,9	MR IV 80 - 14 × 160 71 C 6	122
	7,4	0,25	32,6	2,24	MR IV 81 - 14 × 160 71 C 6	122
	8,85	0,25	26,8	0,75	MR 2IV 50 - 14 × 160 71 B 4	158
	8,8	0,25	27,2	1,25	MR 2IV 63 - 14 × 160 71 B 4	159
	8,8	0,25	27,2	1,4	MR 2IV 64 - 14 × 160 71 B 4	159
	9,21	0,25	25,5	1,06	MR IV 63 - 14 × 160 71 B 4	152
	9,21	0,25	25,5	1,25	MR IV 64 - 14 × 160 71 B 4	152
	8,84	0,25	27	1,12	MR IV 63 - 14 × 160 71 C 6	102
	8,84	0,25	27	1,32	MR IV 64 - 14 × 160 71 C 6	102
	9,21	0,25	26,3	2	MR IV 80 - 14 × 160 71 B 4	152
	9,21	0,25	26,3	2,36	MR IV 81 - 14 × 160 71 B 4	152
	10,9	0,25	21,8	0,85	MR 2IV 50 - 14 × 160 71 B 4	129
	11	0,23	20,2	0,67	MR IV 50 - 14 × 160 71 B 4	127
	11,1	0,25	21,2	0,8	MR IV 50 - 14 × 160 71 C 6	81,1
	11,5	0,25	21,1	1,4	MR IV 63 - 14 × 160 71 B 4	122
	11,5	0,25	21,1	1,6	MR IV 64 - 14 × 160 71 B 4	122
	11,5	0,26	21,7	2,65	MR IV 80 - 14 × 160 71 B 4	122
	13,6	0,26	18	1,06	MR 2IV 50 - 14 × 160 71 B 4	103
	13,8	0,25	17	0,85	MR IV 50 - 14 × 160 71 B 4	101
	14,2	0,26	17,3	1,06	MR IV 50 - 14 × 160 71 C 6	63,4
	13,9	0,25	17,4	0,95	MR IV 50 - 19 × 200 80 A 6	65
	13,8	0,26	18	1,5	MR IV 63 - 14 × 160 71 B 4	102
	13,8	0,26	18	1,8	MR IV 64 - 14 × 160 71 B 4	102
	14,3	0,24	16,2	1,18	MR V 63 - 14 × 160 71 C 6	63
	14,3	0,24	16,2	1,18	MR V 63 - 19 × 200 80 A 6	63
	14,3	0,24	16,2	1,32	MR V 64 - 19 × 200 80 A 6	63
	14,3	0,25	16,8	2,24	MR V 80 - 19 × 200 80 A 6	63
	17	0,28	15,8	1,12	MR 2IV 50 - 14 × 160 71 B 4	82,4
	17,7	0,26	14,1	0,71	MR IV 40 - 14 × 160 71 C 6	50,7
	17,3	0,26	14,2	1,12	MR IV 50 - 14 × 160 71 B 4	81,1
	17,7	0,27	14,3	1,32	MR IV 50 - 14 × 160 71 C 6	50,7
	17,7	0,26	14,2	1,25	MR IV 50 - 19 × 200 80 A 6	50,8
	18	0,24	13	0,95	MR V 50 - 14 × 160 71 C 6	50
	17,6	0,27	14,7	2	MR IV 63 - 14 × 160 71 B 4	79,5
	18	0,26	13,6	1,5	MR V 63 - 14 × 160 71 C 6	50
	18	0,26	13,6	1,5	MR V 63 - 19 × 200 80 A 6	50
	18	0,26	13,6	1,8	MR V 64 - 19 × 200 80 A 6	50

1) Powers valid for continuous duty S1; **increase** possible for S2 ... S10 (see ch. 2b) in which case P_2, M_2 increase and fs decreases proportionately.
2) For complete designation when ordering see ch. 3.1.
* Mounting position **B5R**; available also for mounting position **B5** (see table ch. 2b).

P_1 kW 1)	n_2 min^{-1}	P_2 kW	M_2 daN m	fs	Riduttore - Motore / Gear reducer - Motor 2)	i
0,37	22,1	0,26	11,4	0,8	MR IV 40 - 14 × 160 71 B 4	63,4
	22,5	0,25	10,6	0,67	MR V 40 - 14 × 160 71 C 6	40
	22,1	0,27	11,6	1,4	MR IV 50 - 14 × 160 71 B 4	63,4
	22,2	0,29	12,5	1,4	MR IV 50 - 14 × 160 71 C 6	40,6
	22,2	0,24	10,5	0,95	MR V 50 - 14 × 160 71 B 4	63
	22,5	0,26	10,9	1,18	MR V 50 - 14 × 160 71 C 6	40
	22	0,29	12,7	2	MR IV 63 - 14 × 160 71 B 4	63,6
	22,2	0,26	11	1,6	MR V 63 - 14 × 160 71 B 4	63
	22,2	0,26	11	1,9	MR V 64 - 14 × 160 71 B 4	63
	22,5	0,27	11,4	2	MR V 63 - 14 × 160 71 C 6	40
	22,5	0,27	11,4	2	MR V 63 - 19 × 200 80 A 6	40
	27,6	0,27	9,4	1	MR IV 40 - 14 × 160 71 B 4	50,7
	28	0,25	8,6	0,71	MR V 40 - 14 × 160 71 B 4	50
	28,1	0,26	8,9	0,9	MR V 40 - 14 × 160 71 C 6	32
	27,6	0,28	9,5	1,8	MR IV 50 - 14 × 160 71 B 4	50,7
	27,7	0,29	10,1	1,6	MR IV 50 - 19 × 200 80 A 6	32,5
	28	0,26	8,8	1,25	MR V 50 - 14 × 160 71 B 4	50
	28,1	0,27	9,1	1,6	MR V 50 - 14 × 160 71 C 6	32
	28	0,27	9,2	2,12	MR V 63 - 14 × 160 71 B 4	50
	34,5	0,29	8,1	1,06	MR IV 40 - 14 × 160 71 B 4	40,6
	35	0,26	7,1	0,9	MR V 40 - 14 × 160 71 B 4	40
	36	0,27	7,2	1,12	MR V 40 - 14 × 160 71 C 6	25
	34,5	0,3	8,2	1,9	MR IV 50 - 14 × 160 71 B 4	40,6
	35	0,27	7,4	1,6	MR V 50 - 14 × 160 71 B 4	40
	36	0,28	7,4	2	MR V 50 - 14 × 160 71 C 6	25
	35	0,28	7,6	2,65	MR V 63 - 14 × 160 71 B 4	40
	43,8	0,27	5,8	0,67	MR V 32 - 11 × 140 71 B * 4	32
	45	0,28	5,9	0,8	MR V 32 - 11 × 140 71 C * 6	20
	43,8	0,27	6	1,18	MR V 40 - 14 × 160 71 B 4	32
	45	0,28	5,9	1,4	MR V 40 - 14 × 160 71 C 6	20
	43,8	0,28	6,1	2	MR V 50 - 14 × 160 71 B 4	32
	45	0,29	6,1	2,5	MR V 50 - 14 × 160 71 C 6	20
	56	0,28	4,75	0,8	MR V 32 - 11 × 140 71 B * 4	25
	56	0,28	4,82	1,5	MR V 40 - 14 × 160 71 B 4	25
	56	0,29	4,93	2,65	MR V 50 - 14 × 160 71 B 4	25
	70	0,29	3,91	1	MR V 32 - 11 × 140 71 B * 4	20
	70	0,29	3,96	1,8	MR V 40 - 14 × 160 71 B 4	20
	87,5	0,3	3,31	1,12	MR V 32 - 11 × 140 71 B * 4	16
	87,5	0,31	3,36	1,9	MR V 40 - 14 × 160 71 B 4	16
	108	0,31	2,75	1,25	MR V 32 - 11 × 140 71 B * 4	13
	108	0,31	2,78	2,24	MR V 40 - 14 × 160 71 B 4	13
	140	0,32	2,15	1,5	MR V 32 - 11 × 140 71 B * 4	10
	140	0,32	2,17	2,8	MR V 40 - 14 × 160 71 B 4	10
	175	0,32	1,72	1,7	MR V 32 - 11 × 140 63 C 2	16
	175	0,32	1,72	1,7	MR V 32 - 11 × 140 71 A * 2	16
	175	0,32	1,74	2,8	MR V 40 - 14 × 160 71 A 2	16
	200	0,33	1,55	1,8	MR V 32 - 11 × 140 71 B * 4	7
	200	0,33	1,57	3,35	MR V 40 - 14 × 160 71 B 4	7
	215	0,32	1,42	1,9	MR V 32 - 11 × 140 63 C 2	13
	215	0,32	1,42	1,9	MR V 32 - 11 × 140 71 A * 2	13
	280	0,32	1,11	2,36	MR V 32 - 11 × 140 63 C 2	10
	280	0,32	1,11	2,36	MR V 32 - 11 × 140 71 A * 2	10
	400	0,33	0,79	2,8	MR V 32 - 11 × 140 63 C 2	7
	400	0,33	0,79	2,8	MR V 32 - 11 × 140 71 A * 2	7
0,55	1,86	0,34	173	0,75	MR 2IV 100 - 19 × 200 80 B 6	484
	2,32	0,33	135	0,8	MR 2IV 100 - 19 × 200 80 A 4	605
	2,33	0,35	143	0,95	MR 2IV 100 - 19 × 200 80 B 6	387
	2,89	0,35	114	1,06	MR 2IV 100 - 19 × 200 80 A 4	484
	2,98	0,37	117	1,25	MR 2IV 100 - 19 × 200 80 B 6	302
	3,62	0,35	92	0,75	MR 2IV 80 - 14 × 160 71 C 4	387
	3,62	0,35	92	0,85	MR 2IV 81 - 14 × 160 71 C 4	387
	3,62	0,36	94	1,4	MR 2IV 100 - 19 × 200 80 A 4	387
	3,56	0,37	99	1,5	MR 2IV 100 - 19 × 200 80 B 6	253
	3,76	0,34	85	1,06	MR IV 100 - 19 × 200 80 B 6	239
	4,63	0,36	75	0,95	MR 2IV 80 - 14 × 160 71 C 4	302
	4,63	0,36	75	1,06	MR 2IV 81 - 14 × 160 71 C 4	302
0,55	4,33	0,35	76	0,75	MR 2IV 80 - 19 × 200 80 A 4	323
	4,33	0,35	76	0,9	MR 2IV 81 - 19 × 200 80 A 4	323
	4,63	0,37	77	1,9	MR 2IV 100 - 19 × 200 80 A 4	302
	4,74	0,35	72	1,4	MR IV 100 - 19 × 200 80 B 6	190
	5,53	0,37	64	1,12	MR 2IV 80 - 14 × 160 71 C 4	253
	5,53	0,37	64	1,25	MR 2IV 81 - 14 × 160 71 C 4	253
	5,42	0,36	64	1	MR 2IV 80 - 19 × 200 80 A 4	258
	5,42	0,36	64	1,18	MR 2IV 81 - 19 × 200 80 A 4	258
	5,85	0,34	55	0,8	MR IV 80 - 14 × 160 71 C 4	239
	5,85	0,34	55	0,9	MR IV 81 - 14 × 160 71 C 4	239
	5,63	0,34	57	0,75	MR IV 80 - 19 × 200 80 B 6	160
	5,63	0,34	57	0,85	MR IV 81 - 19 × 200 80 B 6	160
	5,53	0,38	66	2,12	MR 2IV 100 - 19 × 200 80 A 4	253
	5,85	0,35	57	1,5	MR IV 100 - 19 × 200 80 A 4	239
	5,92	0,37	60	1,9	MR IV 100 - 19 × 200 80 B 6	152
	6,93	0,37	50	0,71	MR 2IV 63 - 19 × 200 80 A 4	202
	6,93	0,37	50	0,75	MR 2IV 64 - 19 × 200 80 A 4	202
	6,93	0,38	52	1,32	MR 2IV 80 - 19 × 200 80 A 4	202
	6,93	0,38	52	1,5	MR 2IV 81 - 19 × 200 80 A 4	202
	7,37	0,36	46,5	1	MR IV 80 - 14 × 160 71 C 4	190
	7,37	0,36	46,5	1,18	MR IV 81 - 14 × 160 71 C 4	190
	7,09	0,36	48,3	1	MR IV 80 - 19 × 200 80 B 6	127
	7,09	0,36	48,3	1,18	MR IV 81 - 19 × 200 80 B 6	127
	7,37	0,37	48,1	2	MR IV 100 - 19 × 200 80 A 4	190
	8,8	0,37	40,5	0,85	MR 2IV 63 - 14 × 160 71 C 4	159
	8,8	0,37	40,5	0,95	MR 2IV 64 - 14 × 160 71 C 4	159
	8,62	0,36	40,4	0,75	MR 2IV 63 - 19 × 200 80 A 4	162
	8,62	0,36	40,4	0,85	MR 2IV 64 - 19 × 200 80 A 4	162
	9,21	0,36	37,8	0,71	MR IV 63 - 14 × 160 71 C 4	152
	9,21	0,36	37,8	0,85	MR IV 64 - 14 × 160 71 C 4	152
	8,86	0,36	39,3	0,67	MR IV 63 - 19 × 200 80 B 6	102
	8,86	0,36	39,3	0,8	MR IV 64 - 19 × 200 80 B 6	102
	8,62	0,37	41,4	1,4	MR 2IV 80 - 19 × 200 80 A 4	162
	8,62	0,37	41,4	1,7	MR 2IV 81 - 19 × 200 80 A 4	162
	9,21	0,38	39,1	1,32	MR IV 80 - 14 × 160 71 C 4	152
	9,21	0,38	39,1	1,6	MR IV 81 - 14 × 160 71 C 4	152
	8,75	0,36	38,8	1,06	MR IV 80 - 19 × 200 80 A 4	160
	8,75	0,36	38,8	1,18	MR IV 81 - 19 × 200 80 A 4	160
	8,86	0,38	40,6	1,32	MR IV 80 - 19 × 200 80 B 6	102
	8,86	0,38	40,6	1,5	MR IV 81 - 19 × 200 80 B 6	102
	9,21	0,39	40,3	2,65	MR IV 100 - 19 × 200 80 A 4	152
	11	0,38	32,8	0,95	MR 2IV 63 - 19 × 200 80 A 4	127
	11	0,38	32,8	1,12	MR 2IV 64 - 19 × 200 80 A 4	127
	11,5	0,38	31,4	0,9	MR IV 63 - 14 × 160 71 C 4	122
	11,5	0,38	31,4	1,12	MR IV 64 - 14 × 160 71 C 4	122
	11	0,36	31,5	0,71	MR IV 63 - 19 × 200 80 A 4	127
	11	0,36	31,5	0,85	MR IV 64 - 19 × 200 80 A 4	127
	11,1	0,38	32,6	0,9	MR IV 63 - 19 × 200 80 B 6	81,2
	11,1	0,38	32,6	1,06	MR IV 64 - 19 × 200 80 B 6	81,2
	11	0,39	33,7	1,9	MR 2IV 80 - 19 × 200 80 A 4	127
	11	0,39	33,7	2,24	MR 2IV 81 - 19 × 200 80 A 4	127
	11,5	0,39	32,3	1,8	MR IV 80 - 14 × 160 71 C 4	122
	11,5	0,39	32,3	2,12	MR IV 81 - 14 × 160 71 C 4	122
	11	0,38	32,5	1,4	MR IV 80 - 19 × 200 80 A 4	127
	11	0,38	32,5	1,6	MR IV 81 - 19 × 200 80 A 4	127
	11,1	0,39	33,6	1,7	MR IV 80 - 19 × 200 80 B 6	81,2
	11,1	0,39	33,6	2	MR IV 81 - 19 × 200 80 B 6	81,2
	13,8	0,39	26,8	1,06	MR IV 63 - 14 × 160 71 C 4	102
	13,8	0,39	26,8	1,25	MR IV 64 - 14 × 160 71 C 4	102
	13,8	0,38	26,5	0,95	MR IV 63 - 19 × 200 80 A 4	102
	13,8	0,38	26,5	1,12	MR IV 64 - 19 × 200 80 A 4	102
	14,2	0,39	26,5	1,18	MR IV 63 - 19 × 200 80 B 6	63,5
	14,2	0,39	26,5	1,4	MR IV 64 - 19 × 200 80 B 6	63,5
	14,3	0,36	24,1	0,8	MR V 63 - 19 × 200 80 B 6	63
	14,3	0,36	24,1	0,9	MR V 64 - 19 × 200 80 B 6	63
	13,8	0,4	27,6	2	MR IV 80 - 14 × 160 71 C 4	102
	13,8	0,4	27,6	2,36	MR IV 81 - 14 × 160 71 C 4	102
	13,8	0,39	27,1	1,8	MR IV 80 - 19 × 200 80 A 4	102
	13,8	0,39	27,1	2,12	MR IV 81 - 19 × 200 80 A 4	102
	14,3	0,37	25	1,5	MR V 80 - 19 × 200 80 B 6	63
	14,3	0,37	25	1,8	MR V 81 - 19 × 200 80 B 6	63
	17,3	0,38	21,2	0,75	MR IV 50 - 14 × 160 71 C 4	81,1

1) Powers valid for continuous duty S1; **increase** possible for S2 ... S10 (see ch. 2b) in which case P_2, M_2 increase and fs decreases proportionately.
2) For complete designation when ordering see ch. 3.1.
* Mounting position **B5R**; available also for mounting position **B5** (see table ch. 2b).

P_1 kW 1)	n_2 min^{-1}	P_2 kW	M_2 daN m	*fs*	Riduttore - Motore / Gear reducer - Motor 2)	*i*
0,55	17,7	0,39	21,1	0,8	MR IV 50 - 19 × 200 80 B 6	50,8
	17,6	0,4	21,8	1,4	MR IV 63 - 14 × 160 71 C 4	79,5
	17,6	0,4	21,8	1,6	MR IV 64 - 14 × 160 71 C 4	79,5
	17,2	0,39	21,8	1,18	MR IV 63 - 19 × 200 80 A 4	81,2
	17,2	0,39	21,8	1,5	MR IV 64 - 19 × 200 80 A 4	81,2
	18	0,38	20,2	1,06	MR V 63 - 19 × 200 80 B 6	50
	18	0,38	20,2	1,25	MR V 64 - 19 × 200 80 B 6	50
	17,6	0,41	22,3	2,65	MR IV 80 - 14 × 160 71 C 4	79,5
	17,6	0,41	22,3	3,15	MR IV 81 - 14 × 160 71 C 4	79,5
	17,2	0,4	22,4	2,36	MR IV 80 - 19 × 200 80 A 4	81,2
	17,2	0,4	22,4	2,8	MR IV 81 - 19 × 200 80 A 4	81,2
	18	0,39	20,9	2	MR V 80 - 19 × 200 80 B 6	50
	18	0,39	20,9	2,36	MR V 81 - 19 × 200 80 B 6	50
	22,1	0,4	17,2	0,95	MR IV 50 - 14 × 160 71 C 4	63,4
	21,5	0,39	17,3	0,9	MR IV 50 - 19 × 200 80 A 4	65
	22,2	0,4	17,4	1,06	MR IV 50 - 19 × 200 80 B 6	40,6
	22,5	0,38	16,2	0,8	MR V 50 - 19 × 200 80 B 6	40
	22	0,44	18,9	1,32	MR IV 63 - 14 × 160 71 C 4	63,6
	22	0,44	18,9	1,6	MR IV 64 - 14 × 160 71 C 4	63,6
	22,1	0,41	17,7	1,6	MR IV 63 - 19 × 200 80 A 4	63,5
	22,1	0,41	17,7	1,9	MR IV 64 - 19 × 200 80 A 4	63,5
	22,2	0,38	16,4	1,06	MR V 63 - 14 × 160 71 C 4	63
	22,2	0,38	16,4	1,25	MR V 64 - 14 × 160 71 C 4	63
	22,2	0,38	16,4	1,06	MR V 63 - 19 × 200 80 A 4	63
	22,2	0,38	16,4	1,25	MR V 64 - 19 × 200 80 A 4	63
	22,5	0,4	16,9	1,4	MR V 63 - 19 × 200 80 B 6	40
	22,5	0,4	16,9	1,6	MR V 64 - 19 × 200 80 B 6	40
	22,2	0,39	16,9	2	MR V 80 - 19 × 200 80 A 4	63
	22,2	0,39	16,9	2,36	MR V 81 - 19 × 200 80 A 4	63
0,41	27,6	0,4	13,9	0,67	MR IV 40 - 14 × 160 71 C 4	50,7
	27,6	0,41	14,2	1,18	MR IV 50 - 14 × 160 71 C 4	50,7
	27,6	0,41	14	1,12	MR IV 50 - 19 × 200 80 A 4	50,8
	28	0,38	13,1	0,85	MR V 50 - 14 × 160 71 C 4	50
	28	0,38	13,1	0,85	MR V 50 - 19 × 200 80 A 4	50
	28,1	0,4	13,5	1,06	MR V 50 - 19 × 200 80 B 6	32
	27,5	0,44	15,4	1,8	MR IV 63 - 14 × 160 71 C 4	50,9
	27,5	0,44	15,4	2,12	MR IV 64 - 14 × 160 71 C 4	50,9
	27,6	0,44	15,3	1,6	MR IV 63 - 19 × 200 80 A 4	50,8
	27,6	0,44	15,3	1,9	MR IV 64 - 19 × 200 80 A 4	50,8
	28	0,4	13,7	1,4	MR V 63 - 14 × 160 71 C 4	50
	28	0,4	13,7	1,7	MR V 64 - 14 × 160 71 C 4	50
	28	0,4	13,7	1,4	MR V 63 - 19 × 200 80 A 4	50
	28	0,4	13,7	1,7	MR V 64 - 19 × 200 80 A 4	50
	28,1	0,41	13,9	1,7	MR V 63 - 19 × 200 80 B 6	32
	28,1	0,41	13,9	2,12	MR V 64 - 19 × 200 80 B 6	32
	34,5	0,43	12	0,71	MR IV 40 - 14 × 160 71 C 4	40,6
0,46	36	0,4	10,7	0,75	MR V 40 - 14 × 160 80 B * 6	25
	34,5	0,44	12,2	1,32	MR IV 50 - 14 × 160 71 C 4	40,6
	34,5	0,42	11,5	1,4	MR IV 50 - 19 × 200 80 A 4	40,6
	35	0,4	10,9	1,06	MR V 50 - 14 × 160 71 C 4	40
	35	0,4	10,9	1,06	MR V 50 - 19 × 200 80 A 4	40
	36	0,41	11	1,4	MR V 50 - 19 × 200 80 B 6	25
	34,5	0,45	12,4	2,12	MR IV 63 - 19 × 200 80 A 4	40,6
	35	0,42	11,4	1,8	MR V 63 - 14 × 160 71 C 4	40
	35	0,42	11,4	1,8	MR V 63 - 19 × 200 80 A 4	40
	43,8	0,41	8,9	0,8	MR V 40 - 14 × 160 71 C 4	32
	45	0,42	8,8	0,9	MR V 40 - 14 × 160 80 B * 6	20
	43,1	0,45	9,9	1,5	MR IV 50 - 19 × 200 80 A 4	32,5
	43,8	0,42	9,1	1,4	MR V 50 - 14 × 160 71 C 4	32
	43,8	0,42	9,1	1,4	MR V 50 - 19 × 200 80 A 4	32
	45	0,42	9	1,7	MR V 50 - 19 × 200 80 B 6	20
	43,8	0,43	9,3	2,24	MR V 63 - 19 × 200 80 A 4	32
	56	0,42	7,2	1	MR V 40 - 14 × 160 71 C 4	25
	56	0,42	7,2	1	MR V 40 - 14 × 160 80 A * 4	25
	56	0,43	7,3	1,8	MR V 50 - 14 × 160 71 C 4	25
	56	0,43	7,3	1,8	MR V 50 - 19 × 200 80 A 4	25
0,44	70	0,43	5,8	0,71	MR V 32 - 11 × 140 71 C * 4	20
	70	0,43	5,9	1,18	MR V 40 - 14 × 160 71 C 4	20
	70	0,43	5,9	1,18	MR V 40 - 14 × 160 80 A * 4	20
	70	0,44	6	2,12	MR V 50 - 14 × 160 71 C 4	20
	70	0,44	6	2,12	MR V 50 - 19 × 200 80 A 4	20
	87,5	0,45	4,93	0,75	MR V 32 - 11 × 140 71 C * 4	16
0,55	87,5	0,46	4,99	1,32	MR V 40 - 14 × 160 71 C 4	16
	87,5	0,46	4,99	1,32	MR V 40 - 14 × 160 80 A * 4	16
	87,5	0,46	5,1	2,36	MR V 50 - 14 × 160 71 C 4	16
	87,5	0,46	5,1	2,36	MR V 50 - 19 × 200 80 A 4	16
	108	0,46	4,09	0,85	MR V 32 - 11 × 140 71 C * 4	13
	108	0,47	4,13	1,5	MR V 40 - 14 × 160 71 C 4	13
	108	0,47	4,13	1,5	MR V 40 - 14 × 160 80 A * 4	13
	108	0,47	4,18	2,65	MR V 50 - 14 × 160 71 C 4	13
	108	0,47	4,18	2,65	MR V 50 - 19 × 200 80 A 4	13
	140	0,47	3,19	1	MR V 32 - 11 × 140 71 C * 4	10
	140	0,47	3,23	1,8	MR V 40 - 14 × 160 71 C 4	10
	140	0,47	3,23	1,8	MR V 40 - 14 × 160 80 A * 4	10
	175	0,47	2,56	1,12	MR V 32 - 11 × 140 71 B * 2	16
	175	0,47	2,58	2	MR V 40 - 14 × 160 71 B 2	16
	200	0,48	2,31	1,25	MR V 32 - 11 × 140 71 C * 4	7
	200	0,49	2,33	2,24	MR V 40 - 14 × 160 71 C 4	7
	200	0,49	2,33	2,24	MR V 40 - 14 × 160 80 A * 4	7
	215	0,48	2,11	1,32	MR V 32 - 11 × 140 71 B * 2	13
	215	0,48	2,13	2,24	MR V 40 - 14 × 160 71 B 2	13
	280	0,48	1,64	1,6	MR V 32 - 11 × 140 71 B * 2	10
	280	0,49	1,66	2,8	MR V 40 - 14 × 160 71 B 2	10
	400	0,49	1,18	1,9	MR V 32 - 11 × 140 71 B * 2	7
	400	0,5	1,19	3,35	MR V 40 - 14 × 160 71 B 2	7
0,75	1,5	0,45	286	0,75	MR 2IV 125 - 24 × 200 90 S 6	602
	1,87	0,46	236	1	MR 2IV 125 - 24 × 200 90 S 6	481
	2,33	0,48	195	0,71	MR 2IV 100 - 19 × 200 80 C 6	387
	2,34	0,48	198	1,32	MR 2IV 125 - 24 × 200 90 S 6	385
	2,89	0,47	155	0,8	MR 2IV 100 - 19 × 200 80 B 4	484
	2,98	0,5	160	0,95	MR 2IV 100 - 19 × 200 80 C 6	302
	2,88	0,49	162	1,5	MR 2IV 125 - 24 × 200 90 S 6	312
	2,88	0,49	162	1,7	MR 2IV 126 - 24 × 200 90 S 6	312
	3,62	0,49	128	1,06	MR 2IV 100 - 19 × 200 80 B 4	387
	3,55	0,48	130	1,6	MR 2IV 125 - 24 × 200 90 S 6	254
	3,55	0,48	130	1,9	MR 2IV 126 - 24 × 200 90 S 6	254
	3,7	0,47	121	1,32	MR IV 125 - 24 × 200 90 S 6	243
	3,7	0,47	121	1,6	MR IV 126 - 24 × 200 90 S 6	243
	3,76	0,46	116	0,75	MR IV 100 - 19 × 200 80 C 6	239
	4,46	0,5	107	0,75	MR 2IV 81 - 19 × 200 80 C 6	202
	4,63	0,51	105	1,4	MR 2IV 100 - 19 × 200 80 B 4	302
	4,74	0,48	98	1	MR IV 100 - 19 × 200 80 C 6	190
	4,67	0,5	102	1,8	MR IV 125 - 24 × 200 90 S 6	193
	4,67	0,5	102	2,12	MR IV 126 - 24 × 200 90 S 6	193
	5,42	0,49	87	0,75	MR 2IV 80 - 19 × 200 80 B 4	258
	5,42	0,49	87	0,85	MR 2IV 81 - 19 × 200 80 B 4	258
	5,53	0,52	89	1,6	MR 2IV 100 - 19 × 200 80 B 4	253
	5,85	0,48	78	1,06	MR IV 100 - 19 × 200 80 B 4	239
	5,92	0,51	82	1,4	MR IV 100 - 19 × 200 80 C 6	152
	5,83	0,51	84	2,36	MR IV 125 - 24 × 200 90 S 6	154
	6,93	0,51	71	0,95	MR 2IV 80 - 19 × 200 80 B 4	202
	6,93	0,51	71	1,12	MR 2IV 81 - 19 × 200 80 B 4	202
	7,09	0,49	66	0,71	MR IV 80 - 19 × 200 80 C 6	127
	7,09	0,49	66	0,85	MR IV 81 - 19 × 200 80 C 6	127
	6,88	0,51	71	1,8	MR 2IV 100 - 19 × 200 80 B 4	204
	7,37	0,51	66	1,4	MR IV 100 - 19 × 200 80 B 4	190
	7,4	0,52	68	1,9	MR IV 100 - 19 × 200 80 C 6	122
	8,62	0,51	57	1,06	MR 2IV 80 - 19 × 200 80 B 4	162
	8,62	0,51	57	1,25	MR 2IV 81 - 19 × 200 80 B 4	162
	8,75	0,48	53	0,75	MR IV 80 - 19 × 200 80 B 4	160
	8,75	0,48	53	0,9	MR IV 81 - 19 × 200 80 B 4	160
	8,86	0,51	55	0,95	MR IV 80 - 19 × 200 80 C 6	102
	8,86	0,51	55	1,12	MR IV 81 - 19 × 200 80 C 6	102
	9,21	0,53	55	2	MR IV 100 - 19 × 200 80 B 4	152
	11	0,52	44,8	0,71	MR 2IV 63 - 19 × 200 80 B 4	127
	11	0,52	44,8	0,85	MR 2IV 64 - 19 × 200 80 B 4	127
	11,1	0,52	44,4	0,67	MR IV 63 - 19 × 200 80 C 6	81,2
	11,1	0,52	44,4	0,75	MR IV 64 - 19 × 200 80 C 6	81,2
	11	0,53	45,9	1,4	MR 2IV 80 - 19 × 200 80 B 4	127

Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty, see ch. 3.2).

Motor (cat.TX) with efficiency value not according to IE3 class (IEC 60034-30).
Nominal power and nameplate data refer to intermittent periodic duty S3 70%.

1) Powers valid for continuous duty S1; **increase** possible for S2 ... S10 (see ch. 2b) in which case P_2, M_2 increase and *fs* decreases proportionately.
2) For complete designation when ordering see ch. 3.1.
* Mounting position **B5R**; available also for mounting position **B5** (see table ch. 2b).

P_1 kW 1)	n_2 min^{-1}	P_2 kW	M_2 daN m	fs	Riduttore - Motore / Gear reducer - Motor 2)	i
0,75	11	0,53	45,9	1,6	MR 2IV 81 - 19 × 200 80 B 4	127
	11	0,51	44,4	1	MR IV 80 - 19 × 200 80 B 4	127
	11	0,51	44,4	1,18	MR IV 81 - 19 × 200 80 B 4	127
	11,1	0,53	45,8	1,25	MR IV 80 - 19 × 200 80 C 6	81,2
	11,1	0,53	45,8	1,5	MR IV 81 - 19 × 200 80 C 6	81,2
	11,5	0,54	45,2	2,65	MR IV 100 - 19 × 200 80 B 4	122
	13,8	0,52	36,1	0,71	MR IV 63 - 19 × 200 80 B 4	102
	13,8	0,52	36,1	0,85	MR IV 64 - 19 × 200 80 B 4	102
	14,2	0,54	36,2	0,85	MR IV 63 - 19 × 200 80 C 6	63,5
	14,2	0,54	36,2	1	MR IV 64 - 19 × 200 80 C 6	63,5
	14,1	0,53	35,8	0,8	MR IV 63 - 24 × 200 90 S 6	64
	14,3	0,49	32,9	0,67	MR V 64 - 19 × 200 80 C 6	63
	14,3	0,49	32,9	0,67	MR V 64 - 24 × 200 90 S 6	63
	13,8	0,53	37	1,32	MR IV 80 - 19 × 200 80 B 4	102
	13,8	0,53	37	1,6	MR IV 81 - 19 × 200 80 B 4	102
	14,2	0,55	37,1	1,6	MR IV 80 - 19 × 200 80 C 6	63,5
	14,2	0,55	37,1	1,9	MR IV 81 - 19 × 200 80 C 6	63,5
	14,3	0,51	34,1	1,06	MR V 80 - 24 × 200 90 S 6	63
	14,3	0,51	34,1	1,32	MR V 81 - 24 × 200 90 S 6	63
	14,3	0,53	35,4	2,12	MR V 100 - 24 × 200 90 S 6	63
	17,2	0,54	29,8	0,9	MR IV 63 - 19 × 200 80 B 4	81,2
	17,2	0,54	29,8	1,06	MR IV 64 - 19 × 200 80 B 4	81,2
	18	0,55	29,1	1	MR IV 63 - 24 × 200 90 S 6	50
	18	0,55	29,1	1,18	MR IV 64 - 24 × 200 90 S 6	50
	18	0,52	27,6	0,75	MR V 63 - 19 × 200 80 C 6	50
	18	0,52	27,6	0,9	MR V 64 - 19 × 200 80 C 6	50
	18	0,52	27,6	0,75	MR V 63 - 24 × 200 90 S 6	50
	18	0,52	27,6	0,9	MR V 64 - 24 × 200 90 S 6	50
	17,2	0,55	30,6	1,7	MR IV 80 - 19 × 200 80 B 4	81,2
	17,2	0,55	30,6	2	MR IV 81 - 19 × 200 80 B 4	81,2
	18	0,56	29,8	1,9	MR IV 80 - 24 × 200 90 S 6	50
	18	0,54	28,5	1,5	MR V 80 - 24 × 200 90 S 6	50
	18	0,54	28,5	1,7	MR V 81 - 24 × 200 90 S 6	50
	18	0,55	29,4	2,65	MR V 100 - 24 × 200 90 S 6	50
0,58	22,2	0,55	23,7	0,75	MR IV 50 - 19 × 200 80 C 6	40,6
	22,1	0,56	24,1	1,18	MR IV 63 - 19 × 200 80 B 4	63,5
	22,1	0,56	24,1	1,4	MR IV 64 - 19 × 200 80 B 4	63,5
	22,2	0,52	22,4	0,75	MR V 63 - 19 × 200 80 B 4	63
	22,2	0,52	22,4	0,9	MR V 64 - 19 × 200 80 B 4	63
	22,5	0,54	23	1	MR V 63 - 19 × 200 80 C 6	40
	22,5	0,54	23	1,18	MR V 64 - 19 × 200 80 C 6	40
	22,5	0,54	23	1	MR V 63 - 24 × 200 90 S 6	40
	22,5	0,54	23	1,18	MR V 64 - 24 × 200 90 S 6	40
	22,1	0,57	24,7	2,24	MR IV 80 - 19 × 200 80 B 4	63,5
	22,1	0,57	24,7	2,65	MR IV 81 - 19 × 200 80 B 4	63,5
	22,2	0,54	23,1	1,5	MR V 80 - 19 × 200 80 B 4	63
	22,2	0,54	23,1	1,7	MR V 81 - 19 × 200 80 B 4	63
	22,5	0,56	23,7	1,9	MR V 80 - 24 × 200 90 S 6	40
	22,5	0,56	23,7	2,24	MR V 81 - 24 × 200 90 S 6	40
0,63	27,6	0,55	19,2	0,85	MR IV 50 - 19 × 200 80 B 4	50,8
0,63	28,1	0,54	18,4	0,8	MR V 50 - 19 × 200 80 C 6	32
	27,6	0,6	20,8	1,18	MR IV 63 - 19 × 200 80 B 4	50,8
	27,6	0,6	20,8	1,4	MR IV 64 - 19 × 200 80 B 4	50,8
	28,1	0,6	20,5	1,32	MR IV 63 - 24 × 200 90 S 6	32
	28,1	0,6	20,5	1,6	MR IV 64 - 24 × 200 90 S 6	32
	28	0,55	18,6	1,06	MR V 63 - 19 × 200 80 B 4	50
	28	0,55	18,6	1,25	MR V 64 - 19 × 200 80 B 4	50
	28,1	0,56	19	1,32	MR V 63 - 19 × 200 80 C 6	32
	28,1	0,56	19	1,5	MR V 64 - 19 × 200 80 C 6	32
	28,1	0,56	19	1,32	MR V 63 - 24 × 200 90 S 6	32
	28,1	0,56	19	1,5	MR V 64 - 24 × 200 90 S 6	32
	27,6	0,61	21,2	2,24	MR IV 80 - 19 × 200 80 B 4	50,8
	27,6	0,61	21,2	2,65	MR IV 81 - 19 × 200 80 B 4	50,8
	28	0,56	19,2	1,9	MR V 80 - 19 × 200 80 B 4	50
	28	0,56	19,2	2,24	MR V 81 - 19 × 200 80 B 4	50
	28,1	0,57	19,5	2,36	MR V 80 - 24 × 200 90 S 6	32
	34,5	0,57	15,7	1	MR IV 50 - 19 × 200 80 B 4	40,6
	35	0,55	14,9	0,8	MR V 50 - 19 × 200 80 B 4	40
	36	0,56	14,9	1	MR V 50 - 19 × 200 80 C 6	25
	34,5	0,61	17	1,6	MR IV 63 - 19 × 200 80 B 4	40,6
	34,5	0,61	17	1,8	MR IV 64 - 19 × 200 80 B 4	40,6
	35	0,57	15,5	1,32	MR V 63 - 19 × 200 80 B 4	40
0,75	35	0,57	15,5	1,6	MR V 64 - 19 × 200 80 B 4	40
	36	0,58	15,3	1,7	MR V 63 - 19 × 200 80 C 6	25
	36	0,58	15,3	2	MR V 64 - 19 × 200 80 C 6	25
	36	0,58	15,3	1,7	MR V 63 - 24 × 200 90 S 6	25
	36	0,58	15,3	2	MR V 64 - 24 × 200 90 S 6	25
	35	0,58	15,8	2,5	MR V 80 - 19 × 200 80 B 4	40
0,5	45	0,57	12	0,67	MR V 40 - 14 × 160 80 C * 6	20
	43,1	0,61	13,5	1,12	MR IV 50 - 19 × 200 80 B 4	32,5
	43,8	0,57	12,4	1	MR V 50 - 19 × 200 80 B 4	32
	45	0,58	12,3	1,18	MR V 50 - 19 × 200 80 C 6	20
	43,8	0,58	12,7	1,7	MR V 63 - 19 × 200 80 B 4	32
	43,8	0,58	12,7	2	MR V 64 - 19 × 200 80 B 4	32
0,55	56	0,57	9,8	0,75	MR V 40 - 14 × 160 80 B * 4	25
	56	0,59	10	1,32	MR V 50 - 19 × 200 80 B 4	25
	56	0,6	10,2	2,12	MR V 63 - 19 × 200 80 B 4	25
0,6	70	0,59	8	0,9	MR V 40 - 14 × 160 80 B * 4	20
	70	0,6	8,2	1,6	MR V 50 - 19 × 200 80 B 4	20
	70	0,63	8,6	2,24	MR V 63 - 19 × 200 80 B 4	20
	87,5	0,62	6,8	0,95	MR V 40 - 14 × 160 80 B * 4	16
	87,5	0,63	6,9	1,7	MR V 50 - 19 × 200 80 B 4	16
	87,5	0,64	7	2,8	MR V 63 - 19 × 200 80 B 4	16
	108	0,63	5,6	1,12	MR V 40 - 14 × 160 80 B * 4	13
	108	0,64	5,7	2	MR V 50 - 19 × 200 80 B 4	13
	140	0,61	4,16	0,75	MR V 32 - 11 × 140 71 C * 2	20
	140	0,65	4,4	1,32	MR V 40 - 14 × 160 80 B * 4	10
	140	0,65	4,44	2,36	MR V 50 - 19 × 200 80 B 4	10
	175	0,64	3,49	0,8	MR V 32 - 11 × 140 71 C * 2	16
	175	0,64	3,52	1,4	MR V 40 - 14 × 160 71 C 2	16
	175	0,64	3,52	1,4	MR V 40 - 14 × 160 80 A * 2	16
	175	0,65	3,56	2,5	MR V 50 - 14 × 160 71 C 2	16
	175	0,65	3,56	2,5	MR V 50 - 19 × 200 80 A 2	16
	200	0,66	3,18	1,6	MR V 40 - 14 × 160 80 B * 4	7
	200	0,67	3,2	3	MR V 50 - 19 × 200 80 B 4	7
	215	0,65	2,88	0,95	MR V 32 - 11 × 140 71 C * 2	13
	215	0,65	2,9	1,7	MR V 40 - 14 × 160 71 C 2	13
	215	0,65	2,9	1,7	MR V 40 - 14 × 160 80 A * 2	13
	215	0,66	2,93	3	MR V 50 - 14 × 160 71 C 2	13
	215	0,66	2,93	3	MR V 50 - 19 × 200 80 A 2	13
	280	0,66	2,24	1,18	MR V 32 - 11 × 140 71 C * 2	10
	280	0,66	2,26	2	MR V 40 - 14 × 160 71 C 2	10
	280	0,66	2,26	2	MR V 40 - 14 × 160 80 A * 2	10
	400	0,67	1,61	1,4	MR V 32 - 11 × 140 71 C * 2	7
	400	0,68	1,62	2,5	MR V 40 - 14 × 160 71 C 2	7
	400	0,68	1,62	2,5	MR V 40 - 14 × 160 80 A * 2	7
1,1	1,87	0,68	346	0,71	MR 2IV 126 - 24 × 200 90 L 6	481
	2,33	0,67	277	0,75	MR 2IV 125 - 24 × 200 90 S 4	602
	2,33	0,67	277	0,8	MR 2IV 126 - 24 × 200 90 S 4	602
	2,34	0,71	290	0,9	MR 2IV 125 - 24 × 200 90 L 6	385
	2,34	0,71	290	0,95	MR 2IV 126 - 24 × 200 90 L 6	385
	2,91	0,7	228	0,95	MR 2IV 125 - 24 × 200 90 S 4	481
	2,91	0,7	228	1,06	MR 2IV 126 - 24 × 200 90 S 4	481
	2,88	0,72	238	1,06	MR 2IV 125 - 24 × 200 90 L 6	312
	3,62	0,71	188	0,71	MR 2IV 100 - 19 × 200 80 C 4	387
	3,64	0,73	192	1,25	MR 2IV 125 - 24 × 200 90 S 4	385
	3,64	0,73	192	1,4	MR 2IV 126 - 24 × 200 90 S 4	385
	3,7	0,69	178	0,95	MR IV 125 - 24 × 200 90 L 6	243
	3,7	0,69	178	1,06	MR IV 126 - 24 × 200 90 L 6	243
	4,63	0,75	154	0,95	MR 2IV 100 - 19 × 200 80 C 4	302
	4,49	0,75	159	1,4	MR 2IV 125 - 24 × 200 90 S 4	312
	4,49	0,75	159	1,7	MR 2IV 126 - 24 × 200 90 S 4	312
	4,67	0,73	149	1,18	MR IV 125 - 24 × 200 90 L 6	193
	4,67	0,73	149	1,4	MR IV 126 - 24 × 200 90 L 6	193
	5,53	0,76	131	1,06	MR 2IV 100 - 19 × 200 80 C 4	253
	5,42	0,74	131	1	MR 2IV 100 - 24 × 200 90 S 4	258
	5,85	0,7	115	0,75	MR IV 100 - 19 × 200 80 C 4	239
	5,63	0,7	119	0,71	MR IV 100 - 24 × 200 90 L 6	160
	5,52	0,74	128	1,5	MR 2IV 125 - 24 × 200 90 S 4	254
	5,52	0,74	128	1,8	MR 2IV 126 - 24 × 200 90 S 4	254

Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty, see ch. 3.2).

Motor (cat.TX) with efficiency value not according to IE3 class (IEC 60034-30).
Nominal power and nameplate data refer to intermittent periodic duty S3 70%.

1) Powers valid for continuous duty S1; **increase** possible for S2 ... S10 (see ch. 2b) in which case P_2, M_2 increase and *fs* decreases proportionately.
2) For complete designation when ordering see ch. 3.1.
* Mounting position **B5R**; available also for mounting position **B5** (see table ch. 2b).

P_1 kW 1)	n_2 min^{-1}	P_2 kW	M_2 daN m	fs	Riduttore - Motore / Gear reducer - Motor 2)	i
1,1	5,76	0,73	120	1,25	MR IV 125 - 24 × 200 90 S 4	243
	5,76	0,73	120	1,5	MR IV 126 - 24 × 200 90 S 4	243
	5,83	0,75	123	1,6	MR IV 125 - 24 × 200 90 L 6	154
	5,83	0,75	123	1,9	MR IV 126 - 24 × 200 90 L 6	154
0,92	6,93	0,75	104	0,75	MR 2IV 81 - 19 × 200 80 C 4	202
	6,93	0,77	106	1,32	MR 2IV 100 - 24 × 200 90 S 4	202
	7,37	0,74	96	1	MR IV 100 - 19 × 200 80 C 4	190
	7,09	0,74	100	0,95	MR IV 100 - 24 × 200 90 L 6	127
	6,9	0,77	107	2	MR 2IV 125 - 24 × 200 90 S 4	203
	7,26	0,76	100	1,6	MR IV 125 - 24 × 200 90 S 4	193
	7,26	0,76	100	1,9	MR IV 126 - 24 × 200 90 S 4	193
	7,2	0,77	102	1,8	MR IV 125 - 24 × 200 90 L 6	125
	8,62	0,75	83	0,71	MR 2IV 80 - 19 × 200 80 C 4	162
	8,62	0,75	83	0,85	MR 2IV 81 - 19 × 200 80 C 4	162
	9	0,73	78	0,71	MR IV 81 - 24 × 200 90 L 6	100
	8,8	0,79	85	1,6	MR 2IV 100 - 19 × 200 80 C 4	159
	8,62	0,77	85	1,5	MR 2IV 100 - 24 × 200 90 S 4	162
	9,21	0,78	81	1,32	MR IV 100 - 19 × 200 80 C 4	152
	8,75	0,74	80	1	MR IV 100 - 24 × 200 90 S 4	160
	8,86	0,78	84	1,25	MR IV 100 - 24 × 200 90 L 6	102
	9,07	0,79	83	2,24	MR IV 125 - 24 × 200 90 S 4	154
	11	0,78	67	0,95	MR 2IV 80 - 19 × 200 80 C 4	127
	11	0,78	67	1,12	MR 2IV 81 - 19 × 200 80 C 4	127
	11	0,75	65	0,71	MR IV 80 - 19 × 200 80 C 4	127
	11	0,75	65	0,8	MR IV 81 - 19 × 200 80 C 4	127
	11,1	0,73	63	0,71	MR IV 81 - 24 × 200 90 S 4	126
	11,3	0,77	65	0,8	MR IV 80 - 24 × 200 90 L 6	80
	11,3	0,77	65	0,9	MR IV 81 - 24 × 200 90 L 6	80
	11	0,8	69	1,9	MR 2IV 100 - 24 × 200 90 S 4	127
	11,5	0,8	66	1,8	MR IV 100 - 19 × 200 80 C 4	122
	11	0,78	67	1,32	MR IV 100 - 24 × 200 90 S 4	127
	11,1	0,8	69	1,7	MR IV 100 - 24 × 200 90 L 6	81,2
	13,8	0,84	58	0,9	MR 2IV 80 - 19 × 200 80 C 4	102
	13,8	0,84	58	1,06	MR 2IV 81 - 19 × 200 80 C 4	102
	13,8	0,78	54	0,9	MR IV 80 - 19 × 200 80 C 4	102
	13,8	0,78	54	1,06	MR IV 81 - 19 × 200 80 C 4	102
	14	0,77	52	0,8	MR IV 80 - 24 × 200 90 S 4	100
	14	0,77	52	1	MR IV 81 - 24 × 200 90 S 4	100
	14,1	0,8	54	1	MR IV 80 - 24 × 200 90 L 6	64
	14,1	0,8	54	1,18	MR IV 81 - 24 × 200 90 L 6	64
	14,3	0,75	50	0,75	MR V 80 - 24 × 200 90 L 6	63
	14,3	0,75	50	0,9	MR V 81 - 24 × 200 90 L 6	63
	13,8	0,86	60	1,9	MR 2IV 100 - 24 × 200 90 S 4	102
	13,8	0,81	56	2	MR IV 100 - 19 × 200 80 C 4	102
	13,8	0,81	56	1,8	MR IV 100 - 24 × 200 90 S 4	102
	14,2	0,83	56	2,24	MR IV 100 - 24 × 200 90 L 6	63,5
	14,3	0,78	52	1,4	MR V 100 - 24 × 200 90 L 6	63
0,8	17,2	0,79	43,7	0,71	MR IV 64 - 19 × 200 80 C 4	81,2
0,82	18	0,8	42,6	0,71	MR IV 63 - 24 × 200 90 L 6	50
0,82	18	0,8	42,6	0,85	MR IV 64 - 24 × 200 90 L 6	50
	17,2	0,81	44,8	1,18	MR IV 80 - 19 × 200 80 C 4	81,2
	17,2	0,81	44,8	1,4	MR IV 81 - 19 × 200 80 C 4	81,2
	17,5	0,8	43,6	1,06	MR IV 80 - 24 × 200 90 S 4	80
	17,5	0,8	43,6	1,32	MR IV 81 - 24 × 200 90 S 4	80
	18	0,82	43,7	1,32	MR IV 80 - 24 × 200 90 L 6	50
	18	0,82	43,7	1,6	MR IV 81 - 24 × 200 90 L 6	50
	18	0,79	41,7	1	MR V 80 - 24 × 200 90 L 6	50
	18	0,79	41,7	1,18	MR V 81 - 24 × 200 90 L 6	50
	17,2	0,83	45,9	2,36	MR IV 100 - 24 × 200 90 S 4	81,2
	18	0,81	43,2	1,8	MR V 100 - 24 × 200 90 L 6	50
0,88	22,1	0,82	35,4	0,8	MR IV 63 - 19 × 200 80 C 4	63,5
0,88	22,1	0,82	35,4	0,95	MR IV 64 - 19 × 200 80 C 4	63,5
0,87	21,9	0,8	35,1	0,75	MR IV 63 - 24 × 200 90 S 4	64
0,87	21,9	0,8	35,1	0,85	MR IV 64 - 24 × 200 90 S 4	64
0,88	22,5	0,8	33,8	0,8	MR V 64 - 24 × 200 90 L 6	40
	22,1	0,84	36,2	1,5	MR IV 80 - 19 × 200 80 C 4	63,5
	22,1	0,84	36,2	1,8	MR IV 81 - 19 × 200 80 C 4	63,5
	21,9	0,83	36,1	1,4	MR IV 80 - 24 × 200 90 S 4	64
	21,9	0,83	36,1	1,6	MR IV 81 - 24 × 200 90 S 4	64
	22,2	0,79	33,8	1	MR V 80 - 19 × 200 80 C 4	63
	22,2	0,79	33,8	1,18	MR V 81 - 19 × 200 80 C 4	63
	22,2	0,79	33,8	1	MR V 80 - 24 × 200 90 S 4	63
1,1	22,2	0,79	33,8	1,18	MR V 81 - 24 × 200 90 S 4	63
	22,5	0,82	34,7	1,32	MR V 80 - 24 × 200 90 L 6	40
	22,5	0,82	34,7	1,5	MR V 81 - 24 × 200 90 L 6	40
	22,1	0,86	37,2	3	MR IV 100 - 24 × 200 90 S 4	63,5
	22,2	0,82	35	1,9	MR V 100 - 24 × 200 90 S 4	63
	27,6	0,88	30,6	0,8	MR IV 63 - 19 × 200 80 C 4	50,8
	27,6	0,88	30,6	0,95	MR IV 64 - 19 × 200 80 C 4	50,8
	28	0,83	28,4	0,95	MR IV 63 - 24 × 200 90 S 4	50
	28	0,83	28,4	1,12	MR IV 64 - 24 × 200 90 S 4	50
	28,1	0,89	30,1	0,9	MR IV 63 - 24 × 200 90 L 6	32
	28	0,8	27,3	0,71	MR V 63 - 19 × 200 80 C 4	50
	28	0,8	27,3	0,85	MR V 64 - 19 × 200 80 C 4	50
	28	0,8	27,3	0,71	MR V 63 - 24 × 200 90 S 4	50
	28	0,8	27,3	0,85	MR V 64 - 24 × 200 90 S 4	50
	28,1	0,82	27,8	0,85	MR V 63 - 24 × 200 90 L 6	32
	28,1	0,82	27,8	1,06	MR V 64 - 24 × 200 90 L 6	32
	27,6	0,9	31	1,5	MR IV 80 - 19 × 200 80 C 4	50,8
	27,6	0,9	31	1,8	MR IV 81 - 19 × 200 80 C 4	50,8
	28	0,85	29,1	1,8	MR IV 80 - 24 × 200 90 S 4	50
	28	0,85	29,1	2,12	MR IV 81 - 24 × 200 90 S 4	50
	28	0,82	28,1	1,32	MR V 80 - 19 × 200 80 C 4	50
	28	0,82	28,1	1,6	MR V 81 - 19 × 200 80 C 4	50
	28	0,82	28,1	1,32	MR V 80 - 24 × 200 90 S 4	50
	28	0,82	28,1	1,6	MR V 81 - 24 × 200 90 S 4	50
	28,1	0,84	28,6	1,6	MR V 80 - 24 × 200 90 L 6	32
	28,1	0,84	28,6	1,9	MR V 81 - 24 × 200 90 L 6	32
0,69	34,5	0,83	23,1	0,71	MR IV 50 - 19 × 200 80 C 4	40,6
0,69	36	0,83	21,9	0,67	MR V 50 - 19 × 200 90 L * 6	25
	34,5	0,9	24,9	1,06	MR IV 63 - 19 × 200 80 C 4	40,6
	34,5	0,9	24,9	1,25	MR IV 64 - 19 × 200 80 C 4	40,6
	35	0,89	24,4	1	MR IV 63 - 24 × 200 90 S 4	40
	35	0,89	24,4	1,18	MR IV 64 - 24 × 200 90 S 4	40
	35	0,83	22,7	0,9	MR V 63 - 19 × 200 80 C 4	40
	35	0,83	22,7	1,06	MR V 64 - 19 × 200 80 C 4	40
	35	0,83	22,7	0,9	MR V 63 - 24 × 200 90 S 4	40
	35	0,83	22,7	1,06	MR V 64 - 24 × 200 90 S 4	40
	36	0,85	22,5	1,12	MR V 63 - 24 × 200 90 L 6	25
	36	0,85	22,5	1,32	MR V 64 - 24 × 200 90 L 6	25
	34,5	0,91	25,3	2	MR IV 80 - 19 × 200 80 C 4	40,6
	34,5	0,91	25,3	2,36	MR IV 81 - 19 × 200 80 C 4	40,6
	35	0,91	24,7	1,8	MR IV 80 - 24 × 200 90 S 4	40
	35	0,91	24,7	2,12	MR IV 81 - 24 × 200 90 S 4	40
	35	0,85	23,2	1,7	MR V 80 - 19 × 200 80 C 4	40
	35	0,85	23,2	2	MR V 81 - 19 × 200 80 C 4	40
	35	0,85	23,2	1,7	MR V 80 - 24 × 200 90 S 4	40
	35	0,85	23,2	2	MR V 81 - 24 × 200 90 S 4	40
	36	0,87	23	2,12	MR V 80 - 24 × 200 90 L 6	25
0,88	43,1	0,89	19,8	0,75	MR IV 50 - 19 × 200 80 C 4	32,5
0,76	43,8	0,83	18,2	0,67	MR V 50 - 19 × 200 80 C 4	32
0,75	45	0,85	18	0,85	MR V 50 - 19 × 200 90 L * 6	20
	43,8	0,91	19,8	1,25	MR IV 63 - 24 × 200 90 S 4	32
	43,8	0,91	19,8	1,5	MR IV 64 - 24 × 200 90 S 4	32
	43,8	0,85	18,6	1,12	MR V 63 - 19 × 200 80 C 4	32
	43,8	0,85	18,6	1,32	MR V 64 - 19 × 200 80 C 4	32
	43,8	0,85	18,6	1,12	MR V 63 - 24 × 200 90 S 4	32
	43,8	0,85	18,6	1,32	MR V 64 - 24 × 200 90 S 4	32
	45	0,9	19,2	1,4	MR V 64 - 24 × 200 90 L 6	20
	43,8	0,92	20,1	2,36	MR IV 80 - 24 × 200 90 S 4	32
	43,8	0,92	20,1	2,8	MR IV 81 - 24 × 200 90 S 4	32
	43,8	0,87	19,1	2,12	MR V 80 - 19 × 200 80 C 4	32
	43,8	0,87	19,1	2,5	MR V 81 - 19 × 200 80 C 4	32
	43,8	0,87	19,1	2,12	MR V 80 - 24 × 200 90 S 4	32
	43,8	0,87	19,1	2,5	MR V 81 - 24 × 200 90 S 4	32
0,84	56	0,86	14,7	0,9	MR V 50 - 19 × 200 80 C 4	25
0,84	56	0,86	14,7	0,9	MR V 50 - 19 × 200 90 S * 4	25
	56	0,88	15	1,5	MR V 63 - 19 × 200 80 C 4	25
	56	0,88	15	1,7	MR V 64 - 19 × 200 80 C 4	25
	56	0,88	15	1,5	MR V 63 - 24 × 200 90 S 4	25
	56	0,88	15	1,7	MR V 64 - 24 × 200 90 S 4	25
	56	0,9	15,3	2,8	MR V 80 - 24 × 200 90 S 4	25
	56	0,9	15,3	3,35	MR V 81 - 24 × 200 90 S 4	25
0,92	70	0,88	12	1,06	MR V 50 - 19 × 200 80 C 4	20

Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty, see ch. 3.2).

Motor (cat.TX) with efficiency value not according to IE3 class (IEC 60034-30).
Nominal power and nameplate data refer to intermittent periodic duty S3 70%.

1) Powers valid for continuous duty S1; **increase** possible for S2 ... S10 (see ch. 2b) in which case P_2, M_2 increase and fs decreases proportionately.
2) For complete designation when ordering see ch. 3.1.
* Mounting position **B5R**; available also for mounting position **B5** (see table ch. 2b).

P_1 kW 1)		n_2 min⁻¹	P_2 kW	M_2 daN m	fs	Riduttore - Motore / Gear reducer - Motor 2)			i
1,1	0,92	70	0,88	12	1,06	MR V 50 - 19 × 200	90 S	* 4	20
		70	0,93	12,7	1,5	MR V 63 - 19 × 200	80 C	4	20
		70	0,93	12,7	1,8	MR V 64 - 19 × 200	80 C	4	20
		70	0,93	12,7	1,5	MR V 63 - 24 × 200	90 S	4	20
		70	0,93	12,7	1,8	MR V 64 - 24 × 200	90 S	4	20
		69,2	0,93	12,9	1,7	MR V 63 - 24 × 200	90 L	6	13
		69,2	0,93	12,9	2	MR V 64 - 24 × 200	90 L	6	13
	0,77	87,5	0,91	10	0,67	MR V 40 - 14 × 160	80 C	* 4	16
		87,5	0,93	10,1	1,18	MR V 50 - 19 × 200	80 C	4	16
		87,5	0,93	10,1	1,18	MR V 50 - 19 × 200	90 S	* 4	16
		87,5	0,94	10,3	1,9	MR V 63 - 19 × 200	80 C	4	16
		87,5	0,94	10,3	1,9	MR V 63 - 24 × 200	90 S	4	16
	0,84	108	0,93	8,3	0,75	MR V 40 - 14 × 160	80 C	* 4	13
		108	0,94	8,4	1,32	MR V 50 - 19 × 200	80 C	4	13
		108	0,94	8,4	1,32	MR V 50 - 19 × 200	90 S	* 4	13
		108	0,95	8,5	2,24	MR V 63 - 24 × 200	90 S	4	13
	0,93	140	0,95	6,5	0,9	MR V 40 - 14 × 160	80 C	* 4	10
		140	0,96	6,5	1,6	MR V 50 - 19 × 200	80 C	4	10
		140	0,96	6,5	1,6	MR V 50 - 19 × 200	90 S	* 4	10
		140	0,98	6,7	2,8	MR V 63 - 24 × 200	90 S	4	10
		175	0,95	5,2	0,95	MR V 40 - 14 × 160	80 B	* 2	16
		175	0,96	5,2	1,7	MR V 50 - 19 × 200	80 B	2	16
		175	0,97	5,3	2,8	MR V 63 - 19 × 200	80 B	2	16
		200	0,98	4,66	1,12	MR V 40 - 14 × 160	80 C	* 4	7
		200	0,98	4,69	2	MR V 50 - 19 × 200	80 C	4	7
		200	0,98	4,69	2	MR V 50 - 19 × 200	90 S	* 4	7
		215	0,96	4,25	1,12	MR V 40 - 14 × 160	80 B	* 2	13
		215	0,97	4,29	2	MR V 50 - 19 × 200	80 B	2	13
		280	0,97	3,31	1,4	MR V 40 - 14 × 160	80 B	* 2	10
		280	0,98	3,34	2,36	MR V 50 - 19 × 200	80 B	2	10
		400	0,99	2,37	1,7	MR V 40 - 14 × 160	80 B	* 2	7
		400	1	2,39	3	MR V 50 - 19 × 200	80 B	2	7
1,5		2,91	0,95	311	0,71	MR 2IV 125 - 24 × 200	90 L	4	481
		2,91	0,95	311	0,8	MR 2IV 126 - 24 × 200	90 L	4	481
		3,64	1	262	0,9	MR 2IV 125 - 24 × 200	90 L	4	385
		3,64	1	262	1,06	MR 2IV 126 - 24 × 200	90 L	4	385
		3,7	0,94	243	0,67	MR IV 125 - 24 × 200	90 LC	6	243
		3,7	0,94	243	0,8	MR IV 126 - 24 × 200	90 LC	6	243
		3,57	0,98	261	1,25	MR IV 160 - 28 × 250	100 LA	6	252
		3,57	0,98	261	1,4	MR IV 161 - 28 × 250	100 LA	6	252
		4,49	1,02	216	1,06	MR 2IV 125 - 24 × 200	90 L	4	312
		4,49	1,02	216	1,25	MR 2IV 126 - 24 × 200	90 L	4	312
		4,57	0,97	202	0,8	MR IV 125 - 28 × 250	100 LA	6	197
		4,57	0,97	202	0,9	MR IV 126 - 28 × 250	100 LA	6	197
		4,67	1	204	0,9	MR IV 125 - 24 × 200	90 LC	6	193
		4,67	1	204	1,06	MR IV 126 - 24 × 200	90 LC	6	193
		4,5	1,03	218	1,6	MR IV 160 - 28 × 250	100 LA	6	200
		4,5	1,03	218	1,9	MR IV 161 - 28 × 250	100 LA	6	200
		5,42	1,01	178	0,75	MR 2IV 100 - 24 × 200	90 L	4	258
		5,52	1,01	174	1,12	MR 2IV 125 - 24 × 200	90 L	4	254
		5,52	1,01	174	1,32	MR 2IV 126 - 24 × 200	90 L	4	254
		5,47	1,03	180	1,25	MR 2IV 125 - 28 × 250	100 LA	6	165
		5,76	0,99	164	0,95	MR IV 125 - 24 × 200	90 L	4	243
		5,76	0,99	164	1,06	MR IV 126 - 24 × 200	90 L	4	243
		5,76	1,02	169	1,06	MR IV 125 - 28 × 250	100 LA	6	156
		5,76	1,02	169	1,18	MR IV 126 - 28 × 250	100 LA	6	156
		5,83	1,03	168	1,18	MR IV 125 - 24 × 200	90 LC	6	154
		5,83	1,03	168	1,4	MR IV 126 - 24 × 200	90 LC	6	154
		5,63	1,07	181	2,24	MR IV 160 - 28 × 250	100 LA	6	160
		5,63	1,07	181	2,65	MR IV 161 - 28 × 250	100 LA	6	160
		6,93	1,05	145	0,95	MR 2IV 100 - 24 × 200	90 L	4	202
		7,37	1,01	131	0,71	MR IV 100 - 19 × 200	90 L	* 4	190
		7,09	1,01	136	0,71	MR IV 100 - 24 × 200	90 LC	6	127
		6,9	1,06	146	1,5	MR 2IV 125 - 24 × 200	90 L	4	203
		6,9	1,06	146	1,7	MR 2IV 126 - 24 × 200	90 L	4	203
		7,26	1,04	137	1,18	MR IV 125 - 24 × 200	90 L	4	193
		7,26	1,04	137	1,4	MR IV 126 - 24 × 200	90 L	4	193
		7,2	1,05	139	1,32	MR IV 125 - 28 × 250	100 LA	6	125
		7,2	1,05	139	1,6	MR IV 126 - 28 × 250	100 LA	6	125
1,5		7,2	1,05	139	1,32	MR IV 125 - 24 × 200	90 LC	6	125
		7,2	1,05	139	1,6	MR IV 126 - 24 × 200	90 LC	6	125
		7,09	1,09	146	2,65	MR IV 160 - 28 × 250	100 LA	6	127
		8,62	1,05	116	1,06	MR 2IV 100 - 24 × 200	90 L	4	162
		9,21	1,06	110	1	MR IV 100 - 19 × 200	90 L	* 4	152
		8,75	1	110	0,75	MR IV 100 - 24 × 200	90 L	4	160
		9	1,04	110	0,85	MR IV 100 - 28 × 250	100 LA	6	100
		8,83	1,15	125	1,8	MR 2IV 126 - 24 × 200	90 L	4	159
		9,07	1,07	113	1,6	MR IV 125 - 24 × 200	90 L	4	154
		9,07	1,07	113	1,9	MR IV 126 - 24 × 200	90 L	4	154
		9	1,09	116	1,8	MR IV 125 - 24 × 200	90 LC	6	100
		9	1,09	116	2,12	MR IV 126 - 24 × 200	90 LC	6	100
	1,05	11,3	1,05	89	0,71	MR IV 81 - 24 × 200	90 LC	6	80
		11	1,09	94	1,4	MR 2IV 100 - 24 × 200	90 L	4	127
		11,5	1,09	90	1,32	MR IV 100 - 19 × 200	90 L	* 4	122
		11	1,06	92	0,95	MR IV 100 - 24 × 200	90 L	4	127
		11,3	1,08	92	1,12	MR IV 100 - 28 × 250	100 LA	6	80
		11,1	1,09	94	1,25	MR IV 100 - 24 × 200	90 LC	6	81,2
		11,2	1,09	93	1,9	MR IV 125 - 24 × 200	90 L	4	125
		11,1	1,11	96	2,12	MR IV 125 - 28 × 250	100 LA	6	81,1
	1,13	13,8	1,07	74	0,67	MR IV 80 - 19 × 200	90 L	* 4	102
	1,13	13,8	1,07	74	0,8	MR IV 81 - 19 × 200	90 L	* 4	102
	1,11	14	1,05	71	0,71	MR IV 81 - 24 × 200	90 L	4	100
	1,13	14,1	1,08	74	0,75	MR IV 80 - 24 × 200	90 LC	6	64
	1,13	14,1	1,08	74	0,9	MR IV 81 - 24 × 200	90 LC	6	64
		13,8	1,18	81	1,4	MR 2IV 100 - 24 × 200	90 L	4	102
		13,8	1,11	77	1,5	MR IV 100 - 19 × 200	90 L	* 4	102
		13,8	1,1	76	1,32	MR IV 100 - 24 × 200	90 L	4	102
		14,1	1,11	75	1,5	MR IV 100 - 28 × 250	100 LA	6	64
		14,2	1,13	76	1,6	MR IV 100 - 24 × 200	90 LC	6	63,5
		14,3	1,06	71	1,06	MR V 100 - 28 × 250	100 LA	6	63
		14,3	1,06	71	1,06	MR V 100 - 24 × 200	90 LC	6	63
		14	1,14	77	2,5	MR IV 125 - 24 × 200	90 L	4	100
		14,3	1,09	73	1,7	MR V 125 - 28 × 250	100 LA	6	63
		14,3	1,09	73	2	MR V 126 - 28 × 250	100 LA	6	63
	1,22	17,2	1,1	61	0,85	MR IV 80 - 19 × 200	90 L	* 4	81,2
	1,23	17,5	1,09	60	0,8	MR IV 80 - 24 × 200	90 L	4	80
	1,22	17,2	1,1	61	1	MR IV 81 - 19 × 200	90 L	* 4	81,2
	1,23	17,5	1,09	60	0,95	MR IV 81 - 24 × 200	90 L	4	80
	1,24	18	1,12	60	0,95	MR IV 80 - 24 × 200	90 LC	6	50
	1,24	18	1,12	60	1,18	MR IV 81 - 24 × 200	90 LC	6	50
	1,23	18	1,07	57	0,71	MR V 80 - 28 × 250	100 LA	6	50
		18	1,07	57	0,85	MR V 81 - 28 × 250	100 LA	6	50
	1,23	18	1,07	57	0,71	MR V 80 - 24 × 200	90 LC	6	50
	1,23	18	1,07	57	0,85	MR V 81 - 24 × 200	90 LC	6	50
		17,6	1,15	62	1,9	MR IV 100 - 19 × 200	90 L	* 4	79,5
		17,2	1,13	63	1,7	MR IV 100 - 24 × 200	90 L	4	81,2
		18	1,15	61	1,9	MR IV 100 - 28 × 250	100 LA	6	50
		18	1,11	59	1,32	MR V 100 - 28 × 250	100 LA	6	50
		18	1,11	59	1,32	MR V 100 - 24 × 200	90 LC	6	50
		18	1,14	60	2,24	MR V 125 - 28 × 250	100 LA	6	50
		22,1	1,14	49,4	1,12	MR IV 80 - 19 × 200	90 L	* 4	63,5
		21,9	1,13	49,2	1	MR IV 80 - 24 × 200	90 L	4	64
		22,1	1,14	49,4	1,32	MR IV 81 - 19 × 200	90 L	* 4	63,5
		21,9	1,13	49,2	1,18	MR IV 81 - 24 × 200	90 L	4	64
		22,2	1,07	46,1	0,75	MR V 80 - 24 × 200	90 L	4	63
		22,2	1,07	46,1	0,85	MR V 81 - 24 × 200	90 L	4	63
		22,5	1,11	47,3	0,95	MR V 80 - 28 × 250	100 LA	6	40
		22,5	1,11	47,3	1,12	MR V 81 - 28 × 250	100 LA	6	40
		22,5	1,11	47,3	0,95	MR V 80 - 24 × 200	90 LC	6	40
		22,5	1,11	47,3	1,12	MR V 81 - 24 × 200	90 LC	6	40
		22,1	1,17	51	2,12	MR IV 100 - 24 × 200	90 L	4	63,5
		22,2	1,11	47,8	1,4	MR V 100 - 24 × 200	90 L	4	63
		22,5	1,15	48,8	1,8	MR V 100 - 28 × 250	100 LA	6	40
		22,5	1,15	48,8	1,8	MR V 100 - 24 × 200	90 LC	6	40
	0,96	28	1,13	38,7	0,71	MR IV 63 - 24 × 200	90 L	4	50
	0,96	28	1,13	38,7	0,85	MR IV 64 - 24 × 200	90 L	4	50
	0,95	28,1	1,12	38	0,75	MR V 64 - 24 × 200	90 LC	6	32
		28	1,16	39,6	1,32	MR IV 80 - 24 × 200	90 L	4	50
		28	1,16	39,6	1,6	MR IV 81 - 24 × 200	90 L	4	50
		28	1,12	38,3	0,95	MR V 80 - 24 × 200	90 L	4	50
		28	1,12	38,3	1,12	MR V 81 - 24 × 200	90 L	4	50

Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty, see ch. 3.2).

Motor (cat.TX) with efficiency value not according to IE3 class (IEC 60034-30). Nominal power and nameplate data refer to intermittent periodic duty S3 70%.

1) Powers valid for continuous duty S1; **increase** possible for S2 ... S10 (see ch. 2b) in which case P_2, M_2 increase and fs decreases proportionately.
2) For complete designation when ordering see ch. 3.1.
* Mounting position **B5R**; available also for mounting position **B5** (see table ch. 2b).

P_1 kW 1)	n_2 min⁻¹	P_2 kW	M_2 daN m	*fs*	Riduttore - Motore / Gear reducer - Motor 2)	*i*
1,5	28,1	1,15	39	1,18	MR V 80 - 28 × 250 100 LA 6	32
	28,1	1,15	39	1,4	MR V 81 - 28 × 250 100 LA 6	32
	28,1	1,15	39	1,18	MR V 80 - 24 × 200 90 LC 6	32
	28,1	1,15	39	1,4	MR V 81 - 24 × 200 90 LC 6	32
	27,6	1,24	43	2,36	MR IV 100 - 24 × 200 90 L 4	50,8
	28	1,15	39,4	1,8	MR V 100 - 24 × 200 90 L 4	50
1,24	35	1,22	33,2	0,71	MR IV 63 - 24 × 200 90 L 4	40
1,24	35	1,22	33,2	0,85	MR IV 64 - 24 × 200 90 L 4	40
1,08	35	1,14	31	0,67	MR V 63 - 24 × 200 90 L 4	40
1,08	35	1,14	31	0,8	MR V 64 - 24 × 200 90 L 4	40
1,06	36	1,16	30,7	0,85	MR V 63 - 24 × 200 100 LA * 6	25
1,06	36	1,16	30,7	1	MR V 64 - 24 × 200 100 LA * 6	25
1,06	36	1,16	30,7	0,85	MR V 63 - 24 × 200 90 LC 6	25
1,06	36	1,16	30,7	1	MR V 64 - 24 × 200 90 LC 6	25
	34,5	1,24	34,5	1,5	MR IV 80 - 19 × 200 90 L * 4	40,6
	35	1,24	33,7	1,32	MR IV 80 - 24 × 200 90 L 4	40
	34,5	1,24	34,5	1,8	MR IV 81 - 19 × 200 90 L * 4	40,6
	35	1,24	33,7	1,6	MR IV 81 - 24 × 200 90 L 4	40
	35	1,16	31,7	1,25	MR V 80 - 24 × 200 90 L 4	40
	35	1,16	31,7	1,5	MR V 81 - 24 × 200 90 L 4	40
	36	1,18	31,4	1,6	MR V 80 - 28 × 250 100 LA 6	25
	36	1,18	31,4	1,9	MR V 81 - 28 × 250 100 LA 6	25
	36	1,18	31,4	1,6	MR V 80 - 24 × 200 90 LC 6	25
	36	1,18	31,4	1,9	MR V 81 - 24 × 200 90 LC 6	25
	34,5	1,26	34,9	2,8	MR IV 100 - 24 × 200 90 L 4	40,6
	35	1,19	32,4	2,36	MR V 100 - 24 × 200 90 L 4	40
	43,8	1,24	27	0,9	MR IV 63 - 24 × 200 90 L 4	32
	43,8	1,24	27	1,12	MR IV 64 - 24 × 200 90 L 4	32
1,17	43,8	1,16	25,4	0,85	MR V 63 - 24 × 200 90 L 4	32
1,17	43,8	1,16	25,4	1	MR V 64 - 24 × 200 90 L 4	32
	43,8	1,26	27,5	1,7	MR IV 80 - 24 × 200 90 L 4	32
	43,8	1,26	27,5	2,12	MR IV 81 - 24 × 200 90 L 4	32
	43,8	1,19	26	1,6	MR V 80 - 24 × 200 90 L 4	32
	43,8	1,19	26	1,9	MR V 81 - 24 × 200 90 L 4	32
0,84	56	1,17	20	0,67	MR V 50 - 19 × 200 90 L * 4	25
	56	1,2	20,4	1,06	MR V 63 - 24 × 200 90 L 4	25
	56	1,2	20,4	1,25	MR V 64 - 24 × 200 90 L 4	25
	56,3	1,25	21,3	1,12	MR V 63 - 24 × 200 100 LA * 6	16
	56	1,22	20,8	2	MR V 80 - 24 × 200 90 L 4	25
	56	1,22	20,8	2,36	MR V 81 - 24 × 200 90 L 4	25
0,92	70	1,2	16,3	0,8	MR V 50 - 19 × 200 90 L * 4	20
	70	1,27	17,3	1,12	MR V 63 - 24 × 200 90 L 4	20
	70	1,27	17,3	1,32	MR V 64 - 24 × 200 90 L 4	20
	69,2	1,27	17,6	1,5	MR V 64 - 24 × 200 100 LA * 6	13
	69,2	1,27	17,6	1,25	MR V 63 - 24 × 200 90 LC 6	13
	69,2	1,27	17,6	1,5	MR V 64 - 24 × 200 90 LC 6	13
	70	1,28	17,5	2,12	MR V 80 - 24 × 200 90 L 4	20
	70	1,28	17,5	2,5	MR V 81 - 24 × 200 90 L 4	20
1,18	87,5	1,26	13,8	0,85	MR V 50 - 19 × 200 90 L * 4	16
	87,5	1,28	14	1,4	MR V 63 - 24 × 200 90 L 4	16
	87,5	1,28	14	1,7	MR V 64 - 24 × 200 90 L 4	16
	87,5	1,3	14,2	2,65	MR V 80 - 24 × 200 90 L 4	16
	87,5	1,3	14,2	3,15	MR V 81 - 24 × 200 90 L 4	16
	108	1,29	11,4	1	MR V 50 - 19 × 200 90 L * 4	13
	108	1,3	11,5	1,6	MR V 63 - 24 × 200 90 L 4	13
	108	1,3	11,5	1,9	MR V 64 - 24 × 200 90 L 4	13
0,89	140	1,23	8,4	0,67	MR V 40 - 14 × 160 80 C * 2	20
	140	1,3	8,9	1,18	MR V 50 - 19 × 200 90 L * 4	10
	140	1,33	9,1	2	MR V 63 - 24 × 200 90 L 4	10
1,15	175	1,29	7	0,71	MR V 40 - 14 × 160 80 C * 2	16
	175	1,3	7,1	1,25	MR V 50 - 19 × 200 80 C 2	16
	175	1,3	7,1	1,32	MR V 50 - 19 × 200 90 S * 2	16
	175	1,32	7,2	2,12	MR V 63 - 19 × 200 80 C 2	16
	175	1,32	7,2	2,12	MR V 63 - 24 × 200 90 S 2	16
	200	1,34	6,4	1,5	MR V 50 - 19 × 200 90 L * 4	7
	200	1,36	6,5	2,5	MR V 63 - 24 × 200 90 L 4	7
1,25	215	1,31	5,8	0,85	MR V 40 - 14 × 160 80 C * 2	13
	215	1,32	5,9	1,5	MR V 50 - 19 × 200 80 C 2	13
	215	1,32	5,9	1,5	MR V 50 - 19 × 200 90 S * 2	13
	215	1,33	5,9	2,36	MR V 63 - 19 × 200 80 C 2	13
	215	1,33	5,9	2,36	MR V 63 - 24 × 200 90 S 2	13

P_1 kW 1)	n_2 min⁻¹	P_2 kW	M_2 daN m	*fs*	Riduttore - Motore / Gear reducer - Motor 2)	*i*
1,5	280	1,32	4,52	1	MR V 40 - 14 × 160 80 C * 2	10
	280	1,33	4,55	1,7	MR V 50 - 19 × 200 80 C 2	10
	280	1,33	4,55	1,7	MR V 50 - 19 × 200 90 S * 2	10
	400	1,36	3,24	1,25	MR V 40 - 14 × 160 80 C * 2	7
	400	1,36	3,25	2,24	MR V 50 - 19 × 200 80 C 2	7
	400	1,36	3,25	2,24	MR V 50 - 19 × 200 90 S * 2	7
1,85	3,64	1,23	323	0,75	MR 2IV 125 - 24 × 200 90 LB 4	385
	3,64	1,23	323	0,85	MR 2IV 126 - 24 × 200 90 LB 4	385
	3,57	1,2	322	1	MR IV 160 - 28 × 250 100 LB 6	252
	3,57	1,2	322	1,18	MR IV 161 - 28 × 250 100 LB 6	252
	3,57	1,24	332	1,8	MR IV 200 - 28 × 250 100 LB 6	252
	4,49	1,25	267	0,85	MR 2IV 125 - 24 × 200 90 LB 4	312
	4,49	1,25	267	1	MR 2IV 126 - 24 × 200 90 LB 4	312
	4,57	1,19	250	0,75	MR IV 126 - 28 × 250 100 LB 6	197
	4,5	1,27	269	1,32	MR IV 160 - 28 × 250 100 LB 6	200
	4,5	1,27	269	1,5	MR IV 161 - 28 × 250 100 LB 6	200
	5,52	1,24	215	0,9	MR 2IV 125 - 24 × 200 90 LB 4	254
	5,52	1,24	215	1,06	MR 2IV 126 - 24 × 200 90 LB 4	254
	5,47	1,27	222	1	MR 2IV 125 - 28 × 250 100 LB 6	165
	5,47	1,27	222	1,18	MR 2IV 126 - 28 × 250 100 LB 6	165
	5,76	1,22	203	0,75	MR IV 125 - 24 × 200 90 LB 4	243
	5,76	1,22	203	0,85	MR IV 126 - 24 × 200 90 LB 4	243
	5,76	1,26	209	0,85	MR IV 125 - 28 × 250 100 LB 6	156
	5,76	1,26	209	0,95	MR IV 126 - 28 × 250 100 LB 6	156
	5,63	1,31	223	1,8	MR IV 160 - 28 × 250 100 LB 6	160
	5,63	1,31	223	2,12	MR IV 161 - 28 × 250 100 LB 6	160
	6,93	1,3	179	0,75	MR 2IV 100 - 24 × 200 90 LB 4	202
	6,9	1,3	180	1,18	MR 2IV 125 - 24 × 200 90 LB 4	203
	6,9	1,3	180	1,4	MR 2IV 126 - 24 × 200 90 LB 4	203
	7,26	1,28	169	1	MR IV 125 - 24 × 200 90 LB 4	193
	7,26	1,28	169	1,18	MR IV 126 - 24 × 200 90 LB 4	193
	7,2	1,29	172	1,12	MR IV 125 - 28 × 250 100 LB 6	125
	7,2	1,29	172	1,32	MR IV 126 - 28 × 250 100 LB 6	125
	7,09	1,34	181	2,12	MR IV 160 - 28 × 250 100 LB 6	127
	7,09	1,34	181	2,5	MR IV 161 - 28 × 250 100 LB 6	127
	8,62	1,29	143	0,85	MR 2IV 100 - 24 × 200 90 LB 4	162
	9,21	1,31	135	0,8	MR IV 100 - 19 × 200 90 LB * 4	152
	9	1,28	136	0,67	MR IV 100 - 28 × 250 100 LB 6	100
	8,83	1,42	154	1,25	MR 2IV 125 - 24 × 200 90 LB 4	159
	8,83	1,42	154	1,5	MR 2IV 126 - 24 × 200 90 LB 4	159
	9,07	1,32	139	1,32	MR IV 125 - 24 × 200 90 LB 4	154
	9,07	1,32	139	1,6	MR IV 126 - 24 × 200 90 LB 4	154
	11	1,34	116	1,12	MR 2IV 100 - 24 × 200 90 LB 4	127
	11,5	1,34	111	1,06	MR IV 100 - 19 × 200 90 LB * 4	122
	11	1,3	113	0,8	MR IV 100 - 24 × 200 90 LB 4	127
	11,3	1,33	113	0,9	MR IV 100 - 28 × 250 100 LB 6	80
	11,2	1,35	115	1,5	MR IV 125 - 24 × 200 90 LB 4	125
	11,2	1,35	115	1,8	MR IV 126 - 24 × 200 90 LB 4	125
	11,1	1,37	118	1,7	MR IV 125 - 28 × 250 100 LB 6	81,1
	11,1	1,37	118	2	MR IV 126 - 28 × 250 100 LB 6	81,1
1,13	14,1	1,34	91	0,71	MR IV 81 - 24 × 200 100 LB * 6	64
	13,8	1,45	101	1,12	MR 2IV 100 - 24 × 200 90 LB 4	102
	13,8	1,37	95	1,18	MR IV 100 - 19 × 200 90 LB * 4	102
	13,8	1,36	94	1,06	MR IV 100 - 24 × 200 90 LB 4	102
	14,1	1,37	93	1,25	MR IV 100 - 28 × 250 100 LB 6	64
	14,3	1,31	87	0,85	MR V 100 - 28 × 250 100 LB 6	63
	14	1,4	96	2	MR IV 125 - 24 × 200 90 LB 4	100
	14,3	1,35	90	1,4	MR V 125 - 28 × 250 100 LB 6	63
	14,3	1,35	90	1,6	MR V 126 - 28 × 250 100 LB 6	63
1,22	17,2	1,36	75	0,71	MR IV 80 - 19 × 200 90 LB * 4	81,2
1,22	17,2	1,36	75	0,85	MR IV 81 - 19 × 200 90 LB * 4	81,2
1,23	17,5	1,35	73	0,75	MR IV 81 - 24 × 200 90 LB 4	80
1,24	18	1,38	73	0,8	MR IV 80 - 24 × 200 100 LB * 6	50
1,24	18	1,38	73	0,95	MR IV 81 - 24 × 200 100 LB * 6	50
1,37	18	1,32	70	0,71	MR V 81 - 28 × 250 100 LB 6	50
	17,6	1,42	77	1,5	MR IV 100 - 19 × 200 90 LB * 4	79,5
	17,2	1,39	77	1,4	MR IV 100 - 24 × 200 90 LB 4	81,2
	18	1,37	73	1,12	MR V 100 - 28 × 250 100 LB 6	50
	17,9	1,51	80	2,12	MR IV 125 - 24 × 200 90 LB 4	78,1
	18	1,4	74	1,8	MR V 125 - 28 × 250 100 LB 6	50

Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty, see ch. 3.2).

(grey shading) Motor (cat.TX) with efficiency value not according to IE3 class (IEC 60034-30). Nominal power and nameplate data refer to intermittent periodic duty S3 70%.

1) Powers valid for continuous duty S1; **increase** possible for S2 ... S10 (see ch. 2b) in which case P_2, M_2 increase and *fs* decreases proportionately.
2) For complete designation when ordering see ch. 3.1.
* Mounting position **B5R**; available also for mounting position **B5** (see table ch. 2b).

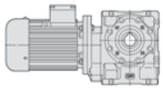
P_1 kW 1)	n_2 min⁻¹	P_2 kW	M_2 daN m	fs	Riduttore - Motore / Gear reducer - Motor 2)	i
1,85	18	1,4	74	2,12	MR V 126 - 28 × 250 100 LB 6	50
1,36	22,1	1,41	61	0,9	MR IV 80 - 19 × 200 90 LB * 4	63,5
1,35	21,9	1,39	61	0,8	MR IV 80 - 24 × 200 90 LB 4	64
1,36	22,1	1,41	61	1,06	MR IV 81 - 19 × 200 90 LB * 4	63,5
1,35	21,9	1,39	61	1	MR IV 81 - 24 × 200 90 LB 4	64
1,32	22,2	1,32	57	0,71	MR V 81 - 24 × 200 90 LB 4	63
1,36	22,5	1,38	58	0,75	MR V 80 - 28 × 250 100 LB 6	40
1,52	22,5	1,38	58	0,9	MR V 81 - 28 × 250 100 LB 6	40
	22,1	1,44	63	1,8	MR IV 100 - 24 × 200 90 LB 4	63,5
	22,2	1,37	59	1,12	MR V 100 - 24 × 200 90 LB 4	63
	22,5	1,42	60	1,5	MR V 100 - 28 × 250 100 LB 6	40
	22,5	1,43	61	2,36	MR V 125 - 28 × 250 100 LB 6	40
0,96	28	1,4	47,7	0,67	MR IV 64 - 24 × 200 90 LB 4	50
1,49	28	1,43	48,9	1,06	MR IV 80 - 24 × 200 90 LB 4	50
1,49	28	1,43	48,9	1,25	MR IV 81 - 24 × 200 90 LB 4	50
1,49	28	1,39	47,2	0,8	MR V 80 - 24 × 200 90 LB 4	50
1,49	28	1,39	47,2	0,95	MR V 81 - 24 × 200 90 LB 4	50
1,49	28,1	1,42	48,1	0,95	MR V 80 - 28 × 250 100 LB 6	32
	28,1	1,42	48,1	1,18	MR V 81 - 28 × 250 100 LB 6	32
	27,5	1,54	53	2	MR IV 100 - 19 × 200 90 LB * 4	50,9
	27,6	1,53	53	1,9	MR IV 100 - 24 × 200 90 LB 4	50,8
	28	1,42	48,6	1,5	MR V 100 - 24 × 200 90 LB 4	50
	28,1	1,45	49,2	1,9	MR V 100 - 28 × 250 100 LB 6	32
1,24	35	1,5	41	0,71	MR IV 64 - 24 × 200 90 LB 4	40
1,06	36	1,43	37,8	0,67	MR V 63 - 24 × 200 100 LB * 6	25
1,06	36	1,43	37,8	0,8	MR V 64 - 24 × 200 100 LB * 6	25
	34,5	1,53	42,5	1,18	MR IV 80 - 19 × 200 90 LB * 4	40,6
	35	1,52	41,6	1,06	MR IV 80 - 24 × 200 90 LB 4	40
	34,5	1,53	42,5	1,4	MR IV 81 - 19 × 200 90 LB * 4	40,6
	35	1,52	41,6	1,32	MR IV 81 - 24 × 200 90 LB 4	40
	35	1,43	39,1	1	MR V 80 - 24 × 200 90 LB 4	40
	35	1,43	39,1	1,18	MR V 81 - 24 × 200 90 LB 4	40
	36	1,46	38,7	1,25	MR V 80 - 28 × 250 100 LB 6	25
	36	1,46	38,7	1,5	MR V 81 - 28 × 250 100 LB 6	25
	34,5	1,55	43,1	2,36	MR IV 100 - 24 × 200 90 LB 4	40,6
	35	1,47	40	2	MR V 100 - 24 × 200 90 LB 4	40
1,34	43,8	1,53	33,3	0,75	MR IV 63 - 24 × 200 90 LB 4	32
1,34	43,8	1,53	33,3	0,9	MR IV 64 - 24 × 200 90 LB 4	32
1,17	43,8	1,43	31,3	0,67	MR V 63 - 24 × 200 90 LB 4	32
1,17	43,8	1,43	31,3	0,8	MR V 64 - 24 × 200 90 LB 4	32
	43,8	1,55	33,9	1,4	MR IV 80 - 24 × 200 90 LB 4	32
	43,8	1,55	33,9	1,7	MR IV 81 - 24 × 200 90 LB 4	32
	43,8	1,47	32,1	1,25	MR V 80 - 24 × 200 90 LB 4	32
	43,8	1,47	32,1	1,5	MR V 81 - 24 × 200 90 LB 4	32
	43,8	1,49	32,6	2,5	MR V 100 - 24 × 200 90 LB 4	32
1,3	56	1,48	25,2	0,85	MR V 63 - 24 × 200 90 LB 4	25
1,3	56	1,48	25,2	1	MR V 64 - 24 × 200 90 LB 4	25
	56	1,51	25,7	1,6	MR V 80 - 24 × 200 90 LB 4	25
	56	1,51	25,7	1,9	MR V 81 - 24 × 200 90 LB 4	25
	70	1,56	21,3	0,9	MR V 63 - 24 × 200 90 LB 4	20
	70	1,56	21,3	1,12	MR V 64 - 24 × 200 90 LB 4	20
	70	1,58	21,6	1,7	MR V 80 - 24 × 200 90 LB 4	20
	70	1,58	21,6	2	MR V 81 - 24 × 200 90 LB 4	20
1,18	87,5	1,56	17	0,71	MR V 50 - 19 × 200 90 LB * 4	16
	87,5	1,58	17,3	1,18	MR V 63 - 24 × 200 90 LB 4	16
	87,5	1,58	17,3	1,4	MR V 64 - 24 × 200 90 LB 4	16
	87,5	1,6	17,5	2,12	MR V 80 - 24 × 200 90 LB 4	16
	87,5	1,6	17,5	2,65	MR V 81 - 24 × 200 90 LB 4	16
1,29	108	1,58	14,1	0,8	MR V 50 - 19 × 200 90 LB * 4	13
	108	1,6	14,2	1,32	MR V 63 - 24 × 200 90 LB 4	13
	108	1,6	14,2	1,6	MR V 64 - 24 × 200 90 LB 4	13
	108	1,62	14,4	2,5	MR V 80 - 24 × 200 90 LB 4	13
	108	1,62	14,4	3	MR V 81 - 24 × 200 90 LB 4	13
1,4	140	1,61	11	0,95	MR V 50 - 19 × 200 90 LB * 4	10
	140	1,64	11,2	1,6	MR V 63 - 24 × 200 90 LB 4	10
	140	1,64	11,2	1,9	MR V 64 - 24 × 200 90 LB 4	10
	175	1,61	8,8	1	MR V 50 - 19 × 200 90 SB * 2	16
	175	1,62	8,9	1,7	MR V 63 - 24 × 200 90 SB 2	16
	175	1,62	8,9	2	MR V 64 - 24 × 200 90 SB 2	16
	200	1,65	7,9	1,18	MR V 50 - 19 × 200 90 LB * 4	7

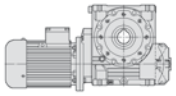
P_1 kW 1)	n_2 min⁻¹	P_2 kW	M_2 daN m	fs	Riduttore - Motore / Gear reducer - Motor 2)	i
1,85	200	1,67	8	2	MR V 63 - 24 × 200 90 LB 4	7
	215	1,63	7,2	1,18	MR V 50 - 19 × 200 90 SB * 2	13
	215	1,64	7,3	2	MR V 63 - 24 × 200 90 SB 2	13
	280	1,64	5,6	1,4	MR V 50 - 19 × 200 90 SB * 2	10
	280	1,67	5,7	2,36	MR V 63 - 24 × 200 90 SB 2	10
	400	1,68	4,01	1,8	MR V 50 - 19 × 200 90 SB * 2	7
	400	1,7	4,05	3	MR V 63 - 24 × 200 90 SB 2	7
2,2 1,75	3,64	1,46	384	0,71	MR 2IV 126 - 24 × 200 90 LC 4	385
	3,57	1,43	383	0,85	MR IV 160 - 28 × 250 112 M 6	252
	3,57	1,43	383	0,95	MR IV 161 - 28 × 250 112 M 6	252
	3,57	1,48	395	1,5	MR IV 200 - 28 × 250 112 M 6	252
	4,49	1,49	317	0,71	MR 2IV 125 - 24 × 200 90 LC 4	312
	4,49	1,49	317	0,85	MR 2IV 126 - 24 × 200 90 LC 4	312
	4,5	1,51	320	1,12	MR IV 160 - 28 × 250 112 M 6	200
	4,5	1,51	320	1,32	MR IV 161 - 28 × 250 112 M 6	200
	4,5	1,55	329	2,24	MR IV 200 - 28 × 250 112 M 6	200
	5,53	1,51	261	0,85	MR 2IV 125 - 28 × 250 100 LA 4	253
	5,53	1,51	261	1	MR 2IV 126 - 28 × 250 100 LA 4	253
	5,76	1,45	241	0,71	MR IV 126 - 24 × 200 90 LC 4	243
	5,76	1,5	248	0,71	MR IV 125 - 28 × 250 112 M 6	156
	5,76	1,5	248	0,8	MR IV 126 - 28 × 250 112 M 6	156
	5,56	1,5	257	1,12	MR IV 160 - 28 × 250 100 LA 4	252
	5,56	1,5	257	1,32	MR IV 161 - 28 × 250 100 LA 4	252
	5,63	1,56	265	1,5	MR IV 160 - 28 × 250 112 M 6	160
	5,63	1,56	265	1,8	MR IV 161 - 28 × 250 112 M 6	160
	6,8	1,51	212	0,9	MR 2IV 125 - 28 × 250 100 LA 4	206
	6,8	1,51	212	1,06	MR 2IV 126 - 28 × 250 100 LA 4	206
	6,9	1,55	214	1	MR 2IV 125 - 24 × 200 90 LC 4	203
	6,9	1,55	214	1,18	MR 2IV 126 - 24 × 200 90 LC 4	203
	7,11	1,49	199	0,71	MR IV 125 - 28 × 250 100 LA 4	197
	7,11	1,49	199	0,85	MR IV 126 - 28 × 250 100 LA 4	197
	7,26	1,53	201	0,8	MR IV 125 - 24 × 200 90 LC 4	193
	7,26	1,53	201	0,95	MR IV 126 - 24 × 200 90 LC 4	193
	7,2	1,54	204	0,9	MR IV 125 - 28 × 250 112 M 6	125
	7,2	1,54	204	1,12	MR IV 126 - 28 × 250 112 M 6	125
	7	1,57	214	1,5	MR IV 160 - 28 × 250 100 LA 4	200
	7	1,57	214	1,8	MR IV 161 - 28 × 250 100 LA 4	200
	7,09	1,59	215	1,8	MR IV 160 - 28 × 250 112 M 6	127
	7,09	1,59	215	2,12	MR IV 161 - 28 × 250 112 M 6	127
1,79	8,62	1,54	170	0,71	MR 2IV 100 - 24 × 200 90 LC 4	162
	8,5	1,57	177	1,18	MR 2IV 125 - 28 × 250 100 LA 4	165
	8,5	1,57	177	1,4	MR 2IV 126 - 28 × 250 100 LA 4	165
	8,96	1,56	166	0,95	MR IV 125 - 28 × 250 100 LA 4	156
	8,96	1,56	166	1,12	MR IV 126 - 28 × 250 100 LA 4	156
	9,07	1,57	165	1,12	MR IV 125 - 24 × 200 90 LC 4	154
	9,07	1,57	165	1,32	MR IV 126 - 24 × 200 90 LC 4	154
	8,87	1,57	169	1,06	MR IV 125 - 28 × 250 112 M 6	101
	8,87	1,57	169	1,32	MR IV 126 - 28 × 250 112 M 6	101
	8,75	1,62	177	2,12	MR IV 160 - 28 × 250 100 LA 4	160
	8,75	1,62	177	2,5	MR IV 161 - 28 × 250 100 LA 4	160
	11	1,6	138	0,95	MR 2IV 100 - 24 × 200 90 LC 4	127
	11	1,55	134	0,67	MR IV 100 - 24 × 200 90 LC 4	127
	11,3	1,58	134	0,75	MR IV 100 - 28 × 250 112 M 6	80
	11,2	1,6	137	1,25	MR IV 125 - 28 × 250 100 LA 4	125
	11,2	1,6	137	1,5	MR IV 126 - 28 × 250 100 LA 4	125
	11,2	1,6	137	1,25	MR IV 125 - 24 × 200 90 LC 4	125
	11,2	1,6	137	1,5	MR IV 126 - 24 × 200 90 LC 4	125
	11,1	1,63	141	1,4	MR IV 125 - 28 × 250 112 M 6	81,1
	11,1	1,63	141	1,7	MR IV 126 - 28 × 250 112 M 6	81,1
	11	1,66	143	2,5	MR IV 160 - 28 × 250 100 LA 4	127
	11	1,66	143	3	MR IV 161 - 28 × 250 100 LA 4	127
	13,8	1,73	120	0,95	MR 2IV 100 - 24 × 200 90 LC 4	102
	14	1,59	108	0,75	MR IV 100 - 28 × 250 100 LA 4	100
	13,8	1,61	112	0,9	MR IV 100 - 24 × 200 90 LC 4	102
	14,1	1,63	110	1	MR IV 100 - 28 × 250 112 M 6	64
	14,3	1,56	104	0,71	MR V 100 - 28 × 250 112 M 6	63
	13,8	1,64	113	1,5	MR IV 125 - 28 × 250 100 LA 4	101
	13,8	1,64	113	1,8	MR IV 126 - 28 × 250 100 LA 4	101
	14	1,67	114	1,7	MR IV 125 - 24 × 200 90 LC 4	100
	14	1,67	114	2	MR IV 126 - 24 × 200 90 LC 4	100

Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty, see ch. 3.2).

Motor (cat.TX) with efficiency value not according to IE3 class (IEC 60034-30). Nominal power and nameplate data refer to intermittent periodic duty S3 70%.

1) Powers valid for continuous duty S1; **increase** possible for S2 ... S10 (see ch. 2b) in which case P_2, M_2 increase and fs decreases proportionately.
2) For complete designation when ordering see ch. 3.1.
* Mounting position **B5R**; available also for mounting position **B5** (see table ch. 2b).





P_1 kW 1)	n_2 min⁻¹	P_2 kW	M_2 daN m	fs	Riduttore - Motore / Gear reducer - Motor 2)	i
2,2	14,3	1,6	107	1,18	MR V 125 - 28 × 250 112 M 6	63
	14,3	1,6	107	1,4	MR V 126 - 28 × 250 112 M 6	63
	14,3	1,65	110	2,12	MR V 160 - 28 × 250 112 M 6	63
	17,5	1,65	90	1,06	MR IV 100 - 28 × 250 100 LA 4	80
	17,2	1,66	92	1,18	MR IV 100 - 24 × 200 90 LC 4	81,2
	18	1,69	89	1,32	MR IV 100 - 28 × 250 112 M 6	50
	18	1,63	86	0,9	MR V 100 - 28 × 250 112 M 6	50
	17,3	1,7	94	1,9	MR IV 125 - 28 × 250 100 LA 4	81,1
	17,9	1,79	95	1,8	MR IV 125 - 24 × 200 90 LC 4	78,1
	18	1,66	88	1,5	MR V 125 - 28 × 250 112 M 6	50
	18	1,66	88	1,8	MR V 126 - 28 × 250 112 M 6	50
1,35	21,9	1,65	72	0,71	MR IV 80 - 24 × 200 90 LC 4	64
1,35	21,9	1,65	72	0,85	MR IV 81 - 24 × 200 90 LC 4	64
1,52	22,5	1,64	69	0,75	MR V 81 - 28 × 250 112 M 6	40
	21,9	1,69	74	1,4	MR IV 100 - 28 × 250 100 LA 4	64
	22,1	1,72	74	1,5	MR IV 100 - 24 × 200 90 LC 4	63,5
	22,2	1,63	70	0,95	MR V 100 - 28 × 250 100 LA 4	63
	22,2	1,63	70	0,95	MR V 100 - 24 × 200 90 LC 4	63
	22,5	1,69	72	1,25	MR V 100 - 28 × 250 112 M 6	40
	22,1	1,82	78	2	MR IV 125 - 28 × 250 100 LA 4	63,4
	22,2	1,67	72	1,6	MR V 125 - 28 × 250 100 LA 4	63
	22,2	1,67	72	1,9	MR V 126 - 28 × 250 100 LA 4	63
	22,5	1,7	72	2	MR V 125 - 28 × 250 112 M 6	40
1,49	28	1,7	58	0,9	MR IV 80 - 24 × 200 90 LC 4	50
1,49	28	1,7	58	1,06	MR IV 81 - 24 × 200 90 LC 4	50
1,49	28	1,65	56	0,67	MR V 80 - 28 × 250 100 LA 4	50
1,74	28	1,65	56	0,8	MR V 81 - 28 × 250 100 LA 4	50
1,49	28	1,65	56	0,67	MR V 80 - 24 × 200 90 LC 4	50
1,49	28	1,65	56	0,8	MR V 81 - 24 × 200 90 LC 4	50
1,49	28,1	1,69	57	0,8	MR V 80 - 28 × 250 112 M 6	32
1,66	28,1	1,69	57	0,95	MR V 81 - 28 × 250 112 M 6	32
	28	1,75	60	1,7	MR IV 100 - 28 × 250 100 LA 4	50
	27,6	1,82	63	1,6	MR IV 100 - 24 × 200 90 LC 4	50,8
	28	1,69	58	1,25	MR V 100 - 28 × 250 100 LA 4	50
	28	1,69	58	1,25	MR V 100 - 24 × 200 90 LC 4	50
	28,1	1,72	58	1,6	MR V 100 - 28 × 250 112 M 6	32
	27,6	1,84	64	2,65	MR IV 125 - 28 × 250 100 LA 4	50,7
	28	1,73	59	2	MR V 125 - 28 × 250 100 LA 4	50
	35	1,81	49,5	0,9	MR IV 80 - 24 × 200 90 LC 4	40
	35	1,81	49,5	1,06	MR IV 81 - 24 × 200 90 LC 4	40
1,66	35	1,7	46,5	0,85	MR V 80 - 28 × 250 100 LA 4	40
	35	1,7	46,5	1	MR V 81 - 28 × 250 100 LA 4	40
1,66	35	1,7	46,5	0,85	MR V 80 - 24 × 200 90 LC 4	40
1,66	35	1,7	46,5	1	MR V 81 - 24 × 200 90 LC 4	40
1,65	36	1,74	46,1	1,06	MR V 80 - 28 × 250 112 M 6	25
1,84	36	1,74	46,1	1,25	MR V 81 - 28 × 250 112 M 6	25
	35	1,84	50	1,9	MR IV 100 - 28 × 250 100 LA 4	40
	34,5	1,85	51	1,9	MR IV 100 - 24 × 200 90 LC 4	40,6
	35	1,74	47,6	1,7	MR V 100 - 28 × 250 100 LA 4	40
	35	1,74	47,6	1,7	MR V 100 - 24 × 200 90 LC 4	40
	36	1,78	47,1	2	MR V 100 - 28 × 250 112 M 6	25
	35	1,76	48,1	2,65	MR V 125 - 28 × 250 100 LA 4	40
1,34	43,8	1,82	39,6	0,75	MR IV 64 - 24 × 200 90 LC 4	32
1,17	43,8	1,71	37,2	0,67	MR V 64 - 24 × 200 90 LC 4	32
	43,8	1,85	40,3	1,18	MR IV 80 - 24 × 200 90 LC 4	32
	43,8	1,85	40,3	1,4	MR IV 81 - 24 × 200 90 LC 4	32
1,83	43,8	1,75	38,2	1,06	MR V 80 - 28 × 250 100 LA 4	32
	43,8	1,75	38,2	1,25	MR V 81 - 28 × 250 100 LA 4	32
1,83	43,8	1,75	38,2	1,06	MR V 80 - 24 × 200 90 LC 4	32
1,83	43,8	1,75	38,2	1,25	MR V 81 - 24 × 200 90 LC 4	32
	43,8	1,87	40,8	2,24	MR IV 100 - 28 × 250 100 LA 4	32
	43,8	1,78	38,8	2,12	MR V 100 - 28 × 250 100 LA 4	32
1,3	56	1,76	29,9	0,75	MR V 63 - 24 × 200 100 LA * 4	25
1,3	56	1,76	29,9	0,85	MR V 64 - 24 × 200 100 LA * 4	25
1,3	56	1,76	29,9	0,75	MR V 63 - 24 × 200 90 LC 4	25
1,3	56	1,76	29,9	0,85	MR V 64 - 24 × 200 90 LC 4	25
	56	1,79	30,5	1,4	MR V 80 - 28 × 250 100 LA 4	25
	56	1,79	30,5	1,6	MR V 81 - 28 × 250 100 LA 4	25
	56	1,79	30,5	1,4	MR V 80 - 24 × 200 90 LC 4	25
	56	1,79	30,5	1,6	MR V 81 - 24 × 200 90 LC 4	25
	56	1,83	31,1	2,65	MR V 100 - 28 × 250 100 LA 4	25
1,67	70	1,86	25,3	0,75	MR V 63 - 24 × 200 100 LA * 4	20

P_1 kW 1)	n_2 min⁻¹	P_2 kW	M_2 daN m	fs	Riduttore - Motore / Gear reducer - Motor 2)	i
2,2 1,67	70	1,86	25,3	0,9	MR V 64 - 24 × 200 100 LA * 4	20
1,67	70	1,86	25,3	0,75	MR V 63 - 24 × 200 90 LC 4	20
1,67	70	1,86	25,3	0,9	MR V 64 - 24 × 200 90 LC 4	20
	70	1,88	25,7	1,4	MR V 80 - 28 × 250 100 LA 4	20
	70	1,88	25,7	1,7	MR V 81 - 28 × 250 100 LA 4	20
	70	1,88	25,7	1,4	MR V 80 - 24 × 200 90 LC 4	20
	70	1,88	25,7	1,7	MR V 81 - 24 × 200 90 LC 4	20
	69,2	1,89	26,1	1,6	MR V 80 - 28 × 250 112 M 6	13
	69,2	1,89	26,1	1,9	MR V 81 - 28 × 250 112 M 6	13
	70	1,9	26	2,8	MR V 100 - 28 × 250 100 LA 4	20
1,81	87,5	1,88	20,5	0,95	MR V 63 - 24 × 200 100 LA * 4	16
1,81	87,5	1,88	20,5	1,18	MR V 64 - 24 × 200 100 LA * 4	16
1,81	87,5	1,88	20,5	0,95	MR V 63 - 24 × 200 90 LC 4	16
1,81	87,5	1,88	20,5	1,18	MR V 64 - 24 × 200 90 LC 4	16
	87,5	1,91	20,8	1,8	MR V 80 - 28 × 250 100 LA 4	16
	87,5	1,91	20,8	2,12	MR V 81 - 28 × 250 100 LA 4	16
	87,5	1,91	20,8	1,8	MR V 80 - 24 × 200 90 LC 4	16
	87,5	1,91	20,8	2,12	MR V 81 - 24 × 200 90 LC 4	16
	108	1,91	16,9	1,12	MR V 63 - 24 × 200 100 LA * 4	13
	108	1,91	16,9	1,32	MR V 64 - 24 × 200 100 LA * 4	13
	108	1,91	16,9	1,12	MR V 63 - 24 × 200 90 LC 4	13
	108	1,91	16,9	1,32	MR V 64 - 24 × 200 90 LC 4	13
	108	1,93	17,1	2,12	MR V 80 - 28 × 250 100 LA 4	13
	108	1,93	17,1	2,5	MR V 81 - 28 × 250 100 LA 4	13
	108	1,93	17,1	2,12	MR V 80 - 24 × 200 90 LC 4	13
	108	1,93	17,1	2,5	MR V 81 - 24 × 200 90 LC 4	13
	140	1,95	13,3	1,4	MR V 63 - 24 × 200 100 LA * 4	10
	140	1,95	13,3	1,6	MR V 64 - 24 × 200 100 LA * 4	10
	140	1,95	13,3	1,4	MR V 63 - 24 × 200 90 LC 4	10
	140	1,95	13,3	1,6	MR V 64 - 24 × 200 90 LC 4	10
	140	1,97	13,4	2,5	MR V 80 - 28 × 250 100 LA 4	10
	140	1,97	13,4	3	MR V 81 - 28 × 250 100 LA 4	10
	140	1,97	13,4	2,5	MR V 80 - 24 × 200 90 LC 4	10
	140	1,97	13,4	3	MR V 81 - 24 × 200 90 LC 4	10
1,75	175	1,91	10,4	0,85	MR V 50 - 19 × 200 90 LA * 2	16
	175	1,93	10,5	1,4	MR V 63 - 24 × 200 90 LA 2	16
	175	1,93	10,5	1,7	MR V 64 - 24 × 200 90 LA 2	16
	175	1,95	10,6	2,65	MR V 80 - 24 × 200 90 LA 2	16
	200	1,99	9,5	1,7	MR V 63 - 24 × 200 100 LA * 4	7
	200	1,99	9,5	2	MR V 64 - 24 × 200 100 LA * 4	7
	200	1,99	9,5	1,7	MR V 63 - 24 × 200 90 LC 4	7
	200	1,99	9,5	2	MR V 64 - 24 × 200 90 LC 4	7
	215	1,94	8,6	1	MR V 50 - 19 × 200 90 LA * 2	13
	215	1,95	8,7	1,6	MR V 63 - 24 × 200 90 LA 2	13
	215	1,95	8,7	2	MR V 64 - 24 × 200 90 LA 2	13
	280	1,96	6,7	1,18	MR V 50 - 19 × 200 90 LA * 2	10
	280	1,99	6,8	2	MR V 63 - 24 × 200 90 LA 2	10
	400	2	4,77	1,5	MR V 50 - 19 × 200 90 LA * 2	7
	400	2,02	4,82	2,5	MR V 63 - 24 × 200 90 LA 2	7
3	3,57	1,95	522	0,71	MR IV 161 - 28 × 250 112 MC 6	252
	3,57	2,02	539	1,12	MR IV 200 - 28 × 250 112 MC 6	252
	3,76	2,09	531	2,12	MR IV 250 - 38 × 300 132 S 6	239
	4,5	2,06	436	0,8	MR IV 160 - 28 × 250 112 MC 6	200
	4,5	2,06	436	0,95	MR IV 161 - 28 × 250 112 MC 6	200
	4,5	2,12	449	1,6	MR IV 200 - 28 × 250 112 MC 6	200
	4,74	2,18	440	3	MR IV 250 - 38 × 300 132 S 6	190
2,21	5,53	2,06	356	0,71	MR 2IV 126 - 28 × 250 112 MA 4	253
	5,56	2,04	351	0,85	MR IV 160 - 28 × 250 112 MA 4	252
	5,56	2,04	351	0,95	MR IV 161 - 28 × 250 112 MA 4	252
	5,63	2,13	362	1,12	MR IV 160 - 28 × 250 112 MC 6	160
	5,63	2,13	362	1,32	MR IV 161 - 28 × 250 112 MC 6	160
	5,56	2,11	362	1,6	MR IV 200 - 28 × 250 112 MA 4	252
	5,63	2,18	371	2,12	MR IV 200 - 28 × 250 112 MC 6	160
2,49	6,8	2,06	289	0,75	MR 2IV 126 - 28 × 250 112 MA 4	206
2,49	7,2	2,1	278	0,67	MR IV 125 - 28 × 250 112 MC 6	125
2,49	7,2	2,1	278	0,8	MR IV 126 - 28 × 250 112 MC 6	125
	7	2,14	292	1,12	MR IV 160 - 28 × 250 112 MA 4	200
	7	2,14	292	1,32	MR IV 161 - 28 × 250 112 MA 4	200
	7,09	2,17	293	1,32	MR IV 160 - 28 × 250 112 MC 6	127

Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty, see ch. 3.2).

Motor (cat.TX) with efficiency value not according to IE3 class (IEC 60034-30).
Nominal power and nameplate data refer to intermittent periodic duty S3 70%.

1) Powers valid for continuous duty S1; **increase** possible for S2 ... S10 (see ch. 2b) in which case P_2, M_2 increase and fs decreases proportionately.
2) For complete designation when ordering see ch. 3.1.
* Mounting position **B5R**; available also for mounting position **B5** (see table ch. 2b).

P_1 kW 1)	n_2 min^{-1}	P_2 kW	M_2 daN m	fs	Riduttore - Motore / Gear reducer - Motor 2)	i
3	7,09	2,17	293	1,6	MR IV 161 - 28 × 250 112 MC 6	127
	7	2,2	300	2,24	MR IV 200 - 28 × 250 112 MA 4	200
	8,5	2,15	241	0,85	MR 2IV 125 - 28 × 250 112 MA 4	165
	8,5	2,15	241	1	MR 2IV 126 - 28 × 250 112 MA 4	165
	8,96	2,12	226	0,71	MR IV 125 - 28 × 250 112 MA 4	156
	8,96	2,12	226	0,85	MR IV 126 - 28 × 250 112 MA 4	156
	8,87	2,14	231	0,8	MR IV 125 - 28 × 250 112 MC 6	101
	8,87	2,14	231	0,95	MR IV 126 - 28 × 250 112 MC 6	101
	8,75	2,21	242	1,6	MR IV 160 - 28 × 250 112 MA 4	160
	8,75	2,21	242	1,8	MR IV 161 - 28 × 250 112 MA 4	160
	8,75	2,27	247	2,8	MR IV 200 - 28 × 250 112 MA 4	160
	11,2	2,18	186	0,95	MR IV 125 - 28 × 250 112 MA 4	125
	11,2	2,18	186	1,12	MR IV 126 - 28 × 250 112 MA 4	125
	11,1	2,23	192	1,06	MR IV 125 - 28 × 250 112 MC 6	81,1
	11,1	2,23	192	1,25	MR IV 126 - 28 × 250 112 MC 6	81,1
	11	2,26	196	1,8	MR IV 160 - 28 × 250 112 MA 4	127
	11	2,26	196	2,12	MR IV 161 - 28 × 250 112 MA 4	127
2,44	13,8	2,2	152	0,67	MR IV 100 - 24 × 200 112 MA* 4	102
2,3	14,1	2,22	151	0,75	MR IV 100 - 28 × 250 112 MC 6	64
	13,8	2,23	154	1,06	MR IV 125 - 28 × 250 112 MA 4	101
	13,8	2,23	154	1,32	MR IV 126 - 28 × 250 112 MA 4	101
	14,3	2,18	146	0,85	MR V 125 - 28 × 250 112 MC 6	63
	14,3	2,18	146	1	MR V 126 - 28 × 250 112 MC 6	63
	14,3	2,18	146	0,85	MR V 125 - 38 × 300 132 S 6	63
	14,3	2,18	146	1	MR V 126 - 38 × 300 132 S 6	63
	13,8	2,33	161	2,24	MR IV 160 - 28 × 250 112 MA 4	102
	13,8	2,33	161	2,65	MR IV 161 - 28 × 250 112 MA 4	102
	14,3	2,24	150	1,6	MR V 160 - 28 × 250 112 MC 6	63
	14,3	2,24	150	1,9	MR V 161 - 28 × 250 112 MC 6	63
	14,3	2,24	150	1,6	MR V 160 - 38 × 300 132 S 6	63
	14,3	2,24	150	1,9	MR V 161 - 38 × 300 132 S 6	63
	17,5	2,25	123	0,8	MR IV 100 - 28 × 250 112 MA 4	80
	18	2,3	122	0,95	MR IV 100 - 28 × 250 112 MC 6	50
	18	2,22	118	0,67	MR V 100 - 28 × 250 112 MC 6	50
	17,3	2,32	128	1,4	MR IV 125 - 28 × 250 112 MA 4	81,1
	17,3	2,32	128	1,7	MR IV 126 - 28 × 250 112 MA 4	81,1
	18	2,27	120	1,12	MR V 125 - 28 × 250 112 MC 6	50
	18	2,27	120	1,32	MR V 126 - 28 × 250 112 MC 6	50
	18	2,27	120	1,12	MR V 125 - 38 × 300 132 S 6	50
	18	2,27	120	1,32	MR V 126 - 38 × 300 132 S 6	50
	17,6	2,48	134	2,36	MR IV 160 - 28 × 250 112 MA 4	79,3
	17,6	2,48	134	2,8	MR IV 161 - 28 × 250 112 MA 4	79,3
	18	2,33	123	2,12	MR V 160 - 28 × 250 112 MC 6	50
	18	2,33	123	2,5	MR V 161 - 28 × 250 112 MC 6	50
	18	2,33	123	2,12	MR V 160 - 38 × 300 132 S 6	50
	21,9	2,31	101	1	MR IV 100 - 28 × 250 112 MA 4	64
	22,2	2,22	96	0,71	MR V 100 - 28 × 250 112 MA 4	63
	22,5	2,3	98	0,9	MR V 100 - 28 × 250 112 MC 6	40
	22,1	2,48	107	1,5	MR IV 125 - 28 × 250 112 MA 4	63,4
	22,1	2,48	107	1,8	MR IV 126 - 28 × 250 112 MA 4	63,4
	22,2	2,5	108	1,7	MR IV 125 - 28 × 250 112 MC 6	40,6
	22,2	2,5	108	2	MR IV 126 - 28 × 250 112 MC 6	40,6
	22,2	2,27	98	1,12	MR V 125 - 28 × 250 112 MA 4	63
	22,2	2,27	98	1,32	MR V 126 - 28 × 250 112 MA 4	63
	22,5	2,32	99	1,5	MR V 125 - 28 × 250 112 MC 6	40
	22,5	2,32	99	1,8	MR V 126 - 28 × 250 112 MC 6	40
	22,5	2,32	99	1,5	MR V 125 - 38 × 300 132 S 6	40
	22,5	2,32	99	1,8	MR V 126 - 38 × 300 132 S 6	40
1,49	28	2,32	79	0,67	MR IV 80 - 24 × 200 112 MA* 4	50
1,49	28	2,32	79	0,8	MR IV 81 - 24 × 200 112 MA* 4	50
1,66	28,1	2,3	78	0,71	MR V 81 - 28 × 250 112 MC 6	32
	28	2,38	81	1,25	MR IV 100 - 28 × 250 112 MA 4	50
	28	2,31	79	0,9	MR V 100 - 28 × 250 112 MA 4	50
	28,1	2,35	80	1,18	MR V 100 - 28 × 250 112 MC 6	32
	28,1	2,35	80	1,18	MR V 100 - 38 × 300 132 S 6	32
	27,6	2,51	87	1,9	MR IV 125 - 28 × 250 112 MA 4	50,7
	28	2,35	80	1,5	MR V 125 - 28 × 250 112 MA 4	50
	28	2,35	80	1,8	MR V 126 - 28 × 250 112 MA 4	50
	28,1	2,4	82	1,9	MR V 125 - 28 × 250 112 MC 6	32
	28,1	2,4	82	1,9	MR V 125 - 38 × 300 132 S 6	32
1,91	35	2,47	67	0,67	MR IV 80 - 24 × 200 112 MA* 4	40
1,91	35	2,47	67	0,8	MR IV 81 - 24 × 200 112 MA* 4	40
3 1,94	35	2,32	63	0,75	MR V 81 - 28 × 250 112 MA 4	40
1,84	36	2,37	63	0,95	MR V 81 - 28 × 250 112 MC 6	25
	35	2,52	69	1,32	MR IV 100 - 28 × 250 112 MA 4	40
	35	2,38	65	1,18	MR V 100 - 28 × 250 112 MA 4	40
	36	2,42	64	1,5	MR V 100 - 28 × 250 112 MC 6	25
	36	2,42	64	1,5	MR V 100 - 38 × 300 132 S 6	25
	34,5	2,56	71	2,36	MR IV 125 - 28 × 250 112 MA 4	40,6
	35	2,4	66	1,9	MR V 125 - 28 × 250 112 MA 4	40
2,09	43,8	2,52	55	0,85	MR IV 80 - 24 × 200 112 MA* 4	32
2,09	43,8	2,52	55	1	MR IV 81 - 24 × 200 112 MA* 4	32
1,83	43,8	2,38	52	0,8	MR V 80 - 28 × 250 112 MA 4	32
2,13	43,8	2,38	52	0,95	MR V 81 - 28 × 250 112 MA 4	32
	43,8	2,55	56	1,7	MR IV 100 - 28 × 250 112 MA 4	32
	43,8	2,42	53	1,5	MR V 100 - 28 × 250 112 MA 4	32
	43,8	2,47	54	2,5	MR V 125 - 28 × 250 112 MA 4	32
2,1	56	2,44	41,6	1	MR V 80 - 28 × 250 112 MA 4	25
2,35	56	2,44	41,6	1,18	MR V 81 - 28 × 250 112 MA 4	25
	56	2,49	42,4	2	MR V 100 - 28 × 250 112 MA 4	25
1,67	70	2,53	34,5	0,67	MR V 64 - 24 × 200 112 MA* 4	20
	70	2,56	35	1,06	MR V 80 - 28 × 250 112 MA 4	20
	70	2,56	35	1,25	MR V 81 - 28 × 250 112 MA 4	20
	69,2	2,58	35,6	1,4	MR V 81 - 28 × 250 112 MC 6	13
	70	2,6	35,4	2	MR V 100 - 28 × 250 112 MA 4	20
1,81	87,5	2,57	28	0,71	MR V 63 - 24 × 200 112 MA* 4	16
1,81	87,5	2,57	28	0,85	MR V 64 - 24 × 200 112 MA* 4	16
	87,5	2,6	28,4	1,32	MR V 80 - 28 × 250 112 MA 4	16
	87,5	2,6	28,4	1,6	MR V 81 - 28 × 250 112 MA 4	16
	87,5	2,62	28,6	2,5	MR V 100 - 28 × 250 112 MA 4	16
1,97	108	2,6	23,1	0,8	MR V 63 - 24 × 200 112 MA* 4	13
1,97	108	2,6	23,1	0,95	MR V 64 - 24 × 200 112 MA* 4	13
	108	2,63	23,3	1,5	MR V 80 - 28 × 250 112 MA 4	13
	108	2,63	23,3	1,8	MR V 81 - 28 × 250 112 MA 4	13
	108	2,66	23,6	3	MR V 100 - 28 × 250 112 MA 4	13
2,34	140	2,66	18,2	1	MR V 63 - 24 × 200 112 MA* 4	10
2,34	140	2,66	18,2	1,18	MR V 64 - 24 × 200 112 MA* 4	10
	140	2,69	18,3	1,8	MR V 80 - 28 × 250 112 MA 4	10
	140	2,69	18,3	2,24	MR V 81 - 28 × 250 112 MA 4	10
	175	2,63	14,4	1,06	MR V 63 - 24 × 200 90 LB 2	16
	175	2,63	14,4	1,25	MR V 64 - 24 × 200 90 LB 2	16
	175	2,66	14,5	1,9	MR V 80 - 24 × 200 90 LB 2	16
	175	2,66	14,5	2,24	MR V 81 - 24 × 200 90 LB 2	16
	200	2,71	13	1,25	MR V 63 - 24 × 200 112 MA* 4	7
	200	2,71	13	1,5	MR V 64 - 24 × 200 112 MA* 4	7
	200	2,73	13	2,24	MR V 80 - 28 × 250 112 MA 4	7
	200	2,73	13	2,8	MR V 81 - 28 × 250 112 MA 4	7
	215	2,66	11,8	1,18	MR V 63 - 24 × 200 90 LB 2	13
	215	2,66	11,8	1,4	MR V 64 - 24 × 200 90 LB 2	13
	215	2,68	11,9	2,24	MR V 80 - 24 × 200 90 LB 2	13
	215	2,68	11,9	2,8	MR V 81 - 24 × 200 90 LB 2	13
	280	2,71	9,3	1,5	MR V 63 - 24 × 200 90 LB 2	10
	280	2,71	9,3	1,8	MR V 64 - 24 × 200 90 LB 2	10
	400	2,75	6,6	1,8	MR V 63 - 24 × 200 90 LB 2	7
	400	2,75	6,6	2,12	MR V 64 - 24 × 200 90 LB 2	7
4	3,76	2,79	709	1,6	MR IV 250 - 38 × 300 132 M 6	239
	4,74	2,91	587	2,24	MR IV 250 - 38 × 300 132 M 6	190
	5,56	2,72	468	0,71	MR IV 161 - 28 × 250 112 M 4	252
	5,56	2,81	483	1,18	MR IV 200 - 28 × 250 112 M 4	252
	5,92	2,98	481	3	MR IV 250 - 38 × 300 132 M 6	152
	7	2,85	389	0,85	MR IV 160 - 28 × 250 112 M 4	200
	7	2,85	389	1	MR IV 161 - 28 × 250 112 M 4	200
	7	2,93	400	1,7	MR IV 200 - 28 × 250 112 M 4	200
2,77	8,5	2,86	321	0,75	MR 2IV 126 - 28 × 250 112 M 4	165
	8,75	2,95	322	1,18	MR IV 160 - 28 × 250 112 M 4	160
	8,75	2,95	322	1,4	MR IV 161 - 28 × 250 112 M 4	160
	8,75	3,02	330	2,12	MR IV 200 - 28 × 250 112 M 4	160
	10,9	3,11	273	0,8	MR 2IV 126 - 28 × 250 112 M 4	129
3,21	11,2	2,91	248	0,71	MR IV 125 - 28 × 250 112 M 4	125
3,21	11,2	2,91	248	0,85	MR IV 126 - 28 × 250 112 M 4	125

Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty, see ch. 3.2).

Motor (cat.TX) with efficiency value not according to IE3 class (IEC 60034-30). Nominal power and nameplate data refer to intermittent periodic duty S3 70%.

1) Powers valid for continuous duty S1; **increase** possible for S2 ... S10 (see ch. 2b) in which case P_2, M_2 increase and fs decreases proportionately.
2) For complete designation when ordering see ch. 3.1.
* Mounting position **B5R**; available also for mounting position **B5** (see table ch. 2b).

P_1 kW 1)	n_2 min^{-1}	P_2 kW	M_2 daN m	fs	Riduttore - Motore / Gear reducer - Motor 2)	i
4	11	3,01	261	1,4	MR IV 160 - 28 × 250 112 M 4	127
	11	3,01	261	1,6	MR IV 161 - 28 × 250 112 M 4	127
	11	3,08	267	2,5	MR IV 200 - 28 × 250 112 M 4	127
	13,6	3,17	223	1	MR 2IV 126 - 28 × 250 112 M 4	103
	13,8	2,97	206	0,8	MR IV 125 - 28 × 250 112 M 4	101
	13,8	2,97	206	0,95	MR IV 126 - 28 × 250 112 M 4	101
	13,9	3,03	209	1,06	MR IV 126 - 38 × 300 132 M 6	65
	14,3	2,91	195	0,75	MR V 126 - 38 × 300 132 M 6	63
	13,8	3,1	215	1,6	MR IV 160 - 28 × 250 112 M 4	102
	13,8	3,1	215	2	MR IV 161 - 28 × 250 112 M 4	102
	14,3	2,99	200	1,18	MR V 160 - 38 × 300 132 M 6	63
	14,3	2,99	200	1,4	MR V 161 - 38 × 300 132 M 6	63
	14,3	3,07	205	2,36	MR V 200 - 38 × 300 132 M 6	63
	17,3	3,09	171	1,06	MR IV 125 - 28 × 250 112 M 4	81,1
	17,3	3,09	171	1,25	MR IV 126 - 28 × 250 112 M 4	81,1
	18	3,03	161	0,85	MR V 125 - 38 × 300 132 M 6	50
	18	3,03	161	1	MR V 126 - 38 × 300 132 M 6	50
	17,6	3,31	179	1,8	MR IV 160 - 28 × 250 112 M 4	79,3
	17,6	3,31	179	2,12	MR IV 161 - 28 × 250 112 M 4	79,3
	18	3,1	165	1,6	MR V 160 - 38 × 300 132 M 6	50
	18	3,1	165	1,9	MR V 161 - 38 × 300 132 M 6	50
3,11	21,9	3,08	134	0,75	MR IV 100 - 28 × 250 112 M 4	64
	22,1	3,3	143	1,12	MR IV 125 - 28 × 250 112 M 4	63,4
	22,1	3,3	143	1,32	MR IV 126 - 28 × 250 112 M 4	63,4
	22,2	3,31	143	1,5	MR IV 126 - 38 × 300 132 M 6	40,6
	22,2	3,03	130	0,85	MR V 125 - 28 × 250 112 M 4	63
	22,2	3,03	130	1	MR V 126 - 28 × 250 112 M 4	63
	22,5	3,1	131	1,12	MR V 125 - 38 × 300 132 M 6	40
	22,5	3,1	131	1,32	MR V 126 - 38 × 300 132 M 6	40
	22,1	3,36	146	2,24	MR IV 160 - 28 × 250 112 M 4	63,5
	22,1	3,36	146	2,8	MR IV 161 - 28 × 250 112 M 4	63,5
	22,2	3,11	134	1,6	MR V 160 - 28 × 250 112 M 4	63
	22,2	3,11	134	1,8	MR V 161 - 28 × 250 112 M 4	63
	22,5	3,18	135	2,12	MR V 160 - 38 × 300 132 M 6	40
	22,5	3,18	135	2,5	MR V 161 - 38 × 300 132 M 6	40
	28	3,18	108	0,95	MR IV 100 - 28 × 250 112 M 4	50
	28	3,08	105	0,67	MR V 100 - 28 × 250 112 M 4	50
	28,1	3,13	106	0,9	MR V 100 - 38 × 300 132 M 6	32
	27,6	3,35	116	1,4	MR IV 125 - 28 × 250 112 M 4	50,7
	27,6	3,35	116	1,7	MR IV 126 - 28 × 250 112 M 4	50,7
	28	3,14	107	1,12	MR V 125 - 28 × 250 112 M 4	50
	28	3,14	107	1,32	MR V 126 - 28 × 250 112 M 4	50
	28,1	3,2	109	1,4	MR V 125 - 38 × 300 132 M 6	32
	28,1	3,2	109	1,7	MR V 126 - 38 × 300 132 M 6	32
	27,6	3,42	118	2,8	MR IV 160 - 28 × 250 112 M 4	50,8
	27,6	3,42	118	3,35	MR IV 161 - 28 × 250 112 M 4	50,8
	28	3,2	109	2,12	MR V 160 - 28 × 250 112 M 4	50
	28	3,2	109	2,5	MR V 161 - 28 × 250 112 M 4	50
	35	3,35	92	1	MR IV 100 - 28 × 250 112 M 4	40
	35	3,17	86	0,9	MR V 100 - 28 × 250 112 M 4	40
	36	3,23	86	1,12	MR V 100 - 38 × 300 132 M 6	25
	34,5	3,41	94	1,7	MR IV 125 - 28 × 250 112 M 4	40,6
	34,5	3,41	94	2,12	MR IV 126 - 28 × 250 112 M 4	40,6
	35	3,2	87	1,4	MR V 125 - 28 × 250 112 M 4	40
	35	3,2	87	1,7	MR V 126 - 28 × 250 112 M 4	40
	36	3,38	90	1,6	MR V 125 - 38 × 300 132 M 6	25
	36	3,38	90	1,9	MR V 126 - 38 × 300 132 M 6	25
	35	3,28	89	2,65	MR V 160 - 28 × 250 112 M 4	40
	35	3,28	89	3,15	MR V 161 - 28 × 250 112 M 4	40
2,13	43,8	3,18	69	0,71	MR V 81 - 28 × 250 112 M 4	32
	43,8	3,4	74	1,25	MR IV 100 - 28 × 250 112 M 4	32
	43,8	3,23	71	1,18	MR V 100 - 28 × 250 112 M 4	32
	43,8	3,29	72	1,8	MR V 125 - 28 × 250 112 M 4	32
	43,8	3,29	72	2,24	MR V 126 - 28 × 250 112 M 4	32
2,1	56	3,26	56	0,75	MR V 80 - 28 × 250 112 M 4	25
2,35	56	3,26	56	0,9	MR V 81 - 28 × 250 112 M 4	25
	56	3,32	57	1,5	MR V 100 - 28 × 250 112 M 4	25
	56	3,45	59	2,12	MR V 125 - 28 × 250 112 M 4	25
2,58	70	3,42	46,6	0,8	MR V 80 - 28 × 250 112 M 4	20
3,01	70	3,42	46,6	0,95	MR V 81 - 28 × 250 112 M 4	20
	70	3,46	47,2	1,5	MR V 100 - 28 × 250 112 M 4	20
4	69,2	3,49	48,1	1,7	MR V 100 - 38 × 300 132 M 6	13
	70	3,5	47,7	2,5	MR V 125 - 28 × 250 112 M 4	20
2,82	87,5	3,47	37,8	1	MR V 80 - 28 × 250 112 M 4	16
3,29	87,5	3,47	37,8	1,18	MR V 81 - 28 × 250 112 M 4	16
	87,5	3,5	38,2	1,9	MR V 100 - 28 × 250 112 M 4	16
3,04	108	3,51	31,1	1,12	MR V 80 - 28 × 250 112 M 4	13
	108	3,51	31,1	1,32	MR V 81 - 28 × 250 112 M 4	13
	108	3,54	31,4	2,24	MR V 100 - 28 × 250 112 M 4	13
	140	3,58	24,4	1,4	MR V 80 - 28 × 250 112 M 4	10
	140	3,58	24,4	1,7	MR V 81 - 28 × 250 112 M 4	10
	140	3,61	24,6	2,65	MR V 100 - 28 × 250 112 M 4	10
	200	3,64	17,4	1,7	MR V 80 - 28 × 250 112 M 4	7
	200	3,64	17,4	2	MR V 81 - 28 × 250 112 M 4	7
5,5	3,76	3,84	974	1,18	MR IV 250 - 38 × 300 132 MB 6	239
	4,74	4	807	1,6	MR IV 250 - 38 × 300 132 MB 6	190
	5,56	3,86	664	0,85	MR IV 200 - 28 × 250 112 MC 4	252
	5,59	3,86	660	0,85	MR IV 200 - 38 × 300 132 MB 6	161
	5,85	4	653	1,6	MR IV 250 - 38 × 300 132 S 4	239
	5,92	4,1	661	2,12	MR IV 250 - 38 × 300 132 MB 6	152
4,05	7	3,92	534	0,71	MR IV 161 - 28 × 250 112 MC 4	200
4,05	7,04	3,92	531	0,71	MR IV 161 - 38 × 300 132 MB 6	128
	7	4,03	550	1,25	MR IV 200 - 28 × 250 112 MC 4	200
	7,04	4,03	547	1,25	MR IV 200 - 38 × 300 132 MB 6	128
	7,37	4,16	539	2,24	MR IV 250 - 38 × 300 132 S 4	190
4,44	8,75	4,06	443	0,85	MR IV 160 - 28 × 250 112 MC 4	160
4,44	8,75	4,06	443	1	MR IV 161 - 28 × 250 112 MC 4	160
	8,7	3,93	431	0,71	MR IV 161 - 38 × 300 132 S 4	161
4,44	8,8	4,06	440	1	MR IV 161 - 38 × 300 132 MB 6	102
	8,75	4,15	453	1,5	MR IV 200 - 28 × 250 112 MC 4	160
	8,7	4,05	445	1,18	MR IV 200 - 38 × 300 132 S 4	161
	8,8	4,15	451	1,6	MR IV 200 - 38 × 300 132 MB 6	102
	9,21	4,27	442	2,8	MR IV 250 - 38 × 300 132 S 4	152
	11	4,14	359	1	MR IV 160 - 28 × 250 112 MC 4	127
	11	4,14	359	1,18	MR IV 161 - 28 × 250 112 MC 4	127
	11	4,1	357	0,85	MR IV 160 - 38 × 300 132 S 4	128
	11	4,1	357	1	MR IV 161 - 38 × 300 132 S 4	128
	11	4,19	363	1	MR IV 160 - 38 × 300 132 MB 6	81,8
	11	4,17	362	1,25	MR IV 161 - 38 × 300 132 MB 6	81,8
	11	4,21	367	1,7	MR IV 200 - 38 × 300 132 S 4	128
	11	4,3	373	2	MR IV 200 - 38 × 300 132 MB 6	81,8
	11	4,34	376	3,15	MR IV 250 - 38 × 300 132 S 4	127
3,7	13,8	4,09	283	0,71	MR IV 126 - 28 × 250 112 MC 4	101
3,6	13,9	4,17	287	0,67	MR IV 125 - 38 × 300 132 MB 6	65
3,6	13,9	4,17	287	0,8	MR IV 126 - 38 × 300 132 MB 6	65
	13,8	4,27	296	1,18	MR IV 160 - 28 × 250 112 MC 4	102
	13,8	4,27	296	1,4	MR IV 161 - 28 × 250 112 MC 4	102
	13,7	4,23	295	1,12	MR IV 160 - 38 × 300 132 S 4	102
	13,7	4,23	295	1,32	MR IV 161 - 38 × 300 132 S 4	102
	14,3	4,11	275	0,85	MR V 160 - 38 × 300 132 MB 6	63
	14,3	4,11	275	1	MR V 161 - 38 × 300 132 MB 6	63
	13,7	4,32	301	2,12	MR IV 200 - 38 × 300 132 S 4	102
	14,3	4,22	282	1,7	MR V 200 - 38 × 300 132 MB 6	63
4,17	17,3	4,25	235	0,75	MR IV 125 - 28 × 250 112 MC 4	81,1
4,17	17,3	4,25	235	0,9	MR IV 126 - 28 × 250 112 MC 4	81,1
4,36	17,2	4,18	232	0,67	MR IV 125 - 38 × 300 132 S 4	81,2
4,36	17,2	4,18	232	0,8	MR IV 126 - 38 × 300 132 S 4	81,2
	18	4,16	221	0,75	MR V 126 - 38 × 300 132 MB 6	50
	17,6	4,55	246	1,25	MR IV 160 - 28 × 250 112 MC 4	79,3
	17,6	4,55	246	1,5	MR IV 161 - 28 × 250 112 MC 4	79,3
	17,1	4,35	243	1,4	MR IV 160 - 38 × 300 132 S 4	81,8
	17,1	4,35	243	1,6	MR IV 161 - 38 × 300 132 S 4	81,8
	18	4,27	226	1,18	MR V 160 - 38 × 300 132 MB 6	50
	18	4,27	226	1,4	MR V 161 - 38 × 300 132 MB 6	50
	17,1	4,44	248	2,65	MR IV 200 - 38 × 300 132 S 4	81,8
	18	4,36	231	2,36	MR V 200 - 38 × 300 132 MB 6	50
	22,1	4,54	196	0,8	MR IV 125 - 28 × 250 112 MC 4	63,4
	22,1	4,54	196	0,95	MR IV 126 - 28 × 250 112 MC 4	63,4
	21,5	4,33	192	0,9	MR IV 125 - 38 × 300 132 S 4	65
	21,5	4,33	192	1,06	MR IV 126 - 38 × 300 132 S 4	65

Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty, see ch. 3.2).

Motor (cat.TX) with efficiency value not according to IE3 class (IEC 60034-30).
Nominal power and nameplate data refer to intermittent periodic duty S3 70%.

1) Powers valid for continuous duty S1; **increase** possible for S2 ... S10 (see ch. 2b) in which case P_2, M_2 increase and fs decreases proportionately.
2) For complete designation when ordering see ch. 3.1.

P_1 kW 1)	n_2 min^{-1}	P_2 kW	M_2 daN m	fs	Riduttore - Motore Gear reducer - Motor 2)	i
5,5	22,2	4,17	179	0,75	MR V 126 - 28 × 250 112 MC 4	63
	22,2	4,17	179	0,75	MR V 126 - 38 × 300 132 S 4	63
	22,5	4,26	181	0,8	MR V 125 - 38 × 300 132 MB 6	40
	22,5	4,26	181	0,95	MR V 126 - 38 × 300 132 MB 6	40
	22,1	4,62	200	1,7	MR IV 160 - 28 × 250 112 MC 4	63,5
	22,1	4,62	200	2	MR IV 161 - 28 × 250 112 MC 4	63,5
	21,9	4,61	201	1,5	MR IV 160 - 38 × 300 132 S 4	63,9
	21,9	4,61	201	1,8	MR IV 161 - 38 × 300 132 S 4	63,9
	22	4,65	202	1,8	MR IV 160 - 38 × 300 132 MB 6	40,9
	22	4,65	202	2,12	MR IV 161 - 38 × 300 132 MB 6	40,9
	22,2	4,28	184	1,12	MR V 160 - 28 × 250 112 MC 4	63
	22,2	4,28	184	1,32	MR V 161 - 28 × 250 112 MC 4	63
	22,2	4,28	184	1,12	MR V 160 - 38 × 300 132 S 4	63
	22,2	4,28	184	1,32	MR V 161 - 38 × 300 132 S 4	63
	22,5	4,38	186	1,5	MR V 160 - 38 × 300 132 MB 6	40
	22,5	4,38	186	1,8	MR V 161 - 38 × 300 132 MB 6	40
	22,2	4,36	188	2,12	MR V 200 - 38 × 300 132 S 4	63
3,5	28	4,37	149	0,71	MR IV 100 - 28 × 250 112 MC 4	50
	27,6	4,61	159	1,06	MR IV 125 - 28 × 250 112 MC 4	50,7
	27,6	4,61	159	1,25	MR IV 126 - 28 × 250 112 MC 4	50,7
	27,6	4,6	159	0,95	MR IV 125 - 38 × 300 132 S 4	50,8
	27,6	4,6	159	1,12	MR IV 126 - 38 × 300 132 S 4	50,8
	27,7	4,64	160	1,12	MR IV 125 - 38 × 300 132 MB 6	32,5
	27,7	4,64	160	1,32	MR IV 126 - 38 × 300 132 MB 6	32,5
	28	4,31	147	0,8	MR V 125 - 28 × 250 112 MC 4	50
	28	4,31	147	0,95	MR V 126 - 28 × 250 112 MC 4	50
	28	4,31	147	0,8	MR V 125 - 38 × 300 132 S 4	50
	28	4,31	147	0,95	MR V 126 - 38 × 300 132 S 4	50
	28,1	4,4	149	1,06	MR V 125 - 38 × 300 132 MB 6	32
	28,1	4,4	149	1,25	MR V 126 - 38 × 300 132 MB 6	32
	27,6	4,7	163	2	MR IV 160 - 28 × 250 112 MC 4	50,8
	27,4	4,68	163	1,9	MR IV 160 - 38 × 300 132 S 4	51,1
	27,4	4,68	163	2,24	MR IV 161 - 38 × 300 132 S 4	51,1
	28	4,4	150	1,5	MR V 160 - 28 × 250 112 MC 4	50
	28	4,4	150	1,8	MR V 161 - 28 × 250 112 MC 4	50
	28	4,4	150	1,5	MR V 160 - 38 × 300 132 S 4	50
	28	4,4	150	1,8	MR V 161 - 38 × 300 132 S 4	50
	28,1	4,48	152	1,9	MR V 160 - 38 × 300 132 MB 6	32
	28,1	4,48	152	2,24	MR V 161 - 38 × 300 132 MB 6	32
4,45	35	4,61	126	0,75	MR IV 100 - 28 × 250 112 MC 4	40
	35	4,36	119	0,67	MR V 100 - 28 × 250 112 MC 4	40
4,12	36	4,44	118	0,8	MR V 100 - 38 × 300 132 MB 6	25
	34,5	4,69	130	1,25	MR IV 125 - 28 × 250 112 MC 4	40,6
	34,5	4,69	130	1,5	MR IV 126 - 28 × 250 112 MC 4	40,6
	34,5	4,67	129	1,18	MR IV 125 - 38 × 300 132 S 4	40,6
	34,5	4,67	129	1,4	MR IV 126 - 38 × 300 132 S 4	40,6
	35	4,4	120	1,06	MR V 125 - 28 × 250 112 MC 4	40
	35	4,4	120	1,25	MR V 126 - 28 × 250 112 MC 4	40
	35	4,4	120	1,06	MR V 125 - 38 × 300 132 S 4	40
	35	4,4	120	1,25	MR V 126 - 38 × 300 132 S 4	40
	36	4,65	123	1,12	MR V 125 - 38 × 300 132 MB 6	25
	36	4,65	123	1,32	MR V 126 - 38 × 300 132 MB 6	25
	34,2	4,75	133	2,36	MR IV 160 - 38 × 300 132 S 4	40,9
	34,2	4,75	133	2,8	MR IV 161 - 38 × 300 132 S 4	40,9
	35	4,51	123	2	MR V 160 - 38 × 300 132 S 4	40
	35	4,51	123	2,36	MR V 161 - 38 × 300 132 S 4	40
	43,8	4,68	102	0,9	MR IV 100 - 28 × 250 112 MC 4	32
	43,8	4,44	97	0,85	MR V 100 - 28 × 250 112 MC 4	32
	43,8	4,44	97	0,85	MR V 100 - 38 × 300 132 S 4	32
	43,1	4,74	105	1,4	MR IV 125 - 38 × 300 132 S 4	32,5
	43,1	4,74	105	1,7	MR IV 126 - 38 × 300 132 S 4	32,5
	43,8	4,52	99	1,32	MR V 125 - 28 × 250 112 MC 4	32
	43,8	4,52	99	1,6	MR V 126 - 28 × 250 112 MC 4	32
	43,8	4,52	99	1,32	MR V 125 - 38 × 300 132 S 4	32
	43,8	4,52	99	1,6	MR V 126 - 38 × 300 132 S 4	32
	43,8	4,59	100	2,5	MR V 160 - 38 × 300 132 S 4	32
	43,8	4,59	100	3	MR V 161 - 38 × 300 132 S 4	32
2,35	56	4,48	76	0,67	MR V 81 - 28 × 250 112 MC 4	25
	56	4,56	78	1,06	MR V 100 - 28 × 250 112 MC 4	25
	56	4,56	78	1,06	MR V 100 - 38 × 300 132 S 4	25
	56	4,75	81	1,5	MR V 125 - 28 × 250 112 MC 4	25
	56	4,75	81	1,8	MR V 126 - 28 × 250 112 MC 4	25
	56	4,75	81	1,5	MR V 125 - 38 × 300 132 S 4	25

P_1 kW 1)	n_2 min^{-1}	P_2 kW	M_2 daN m	fs	Riduttore - Motore Gear reducer - Motor 2)	i
5,5	56	4,75	81	1,8	MR V 126 - 38 × 300 132 S 4	25
	56,3	4,78	81	1,7	MR V 125 - 38 × 300 132 MB 6	16
	56,3	4,78	81	2	MR V 126 - 38 × 300 132 MB 6	16
	56	4,8	82	2,8	MR V 160 - 38 × 300 132 S 4	25
	56	4,8	82	3,35	MR V 161 - 38 × 300 132 S 4	25
3,01	70	4,7	64	0,67	MR V 81 - 28 × 250 112 MC 4	20
	70	4,76	65	1,12	MR V 100 - 28 × 250 112 MC 4	20
	70	4,76	65	1,12	MR V 100 - 38 × 300 132 S 4	20
	69,2	4,8	66	1,25	MR V 100 - 38 × 300 132 MB 6	13
	70	4,81	66	1,8	MR V 125 - 28 × 250 112 MC 4	20
	70	4,81	66	1,8	MR V 125 - 38 × 300 132 S 4	20
	70	4,81	66	2,12	MR V 126 - 38 × 300 132 S 4	20
3,29	87,5	4,77	52	0,85	MR V 81 - 28 × 250 112 MC 4	16
	87,5	4,81	52	1,4	MR V 100 - 28 × 250 112 MC 4	16
	87,5	4,81	52	1,4	MR V 100 - 38 × 300 132 S 4	16
	87,5	4,86	53	2,24	MR V 125 - 38 × 300 132 S 4	16
3,55	108	4,82	42,8	1	MR V 81 - 28 × 250 112 MC 4	13
	108	4,87	43,2	1,6	MR V 100 - 28 × 250 112 MC 4	13
	108	4,87	43,2	1,6	MR V 100 - 38 × 300 132 S 4	13
	108	4,94	43,8	2,65	MR V 125 - 38 × 300 132 S 4	13
4,19	140	4,93	33,6	1,18	MR V 81 - 28 × 250 112 MC 4	10
	140	4,96	33,8	1,9	MR V 100 - 28 × 250 112 MC 4	10
	140	4,96	33,8	1,9	MR V 100 - 38 × 300 132 S 4	10
	200	5	23,9	1,5	MR V 81 - 28 × 250 112 MC 4	7
7,5	3,76	5,2	1329	0,85	MR IV 250 - 38 × 300 132 MC 6	239
	4,74	5,5	1100	1,18	MR IV 250 - 38 × 300 132 MC 6	190
	4,5	5,3	1132	1	MR IV 250 - 42 × 350 160 M 6	200
	5,85	5,5	891	1,18	MR IV 250 - 38 × 300 132 M 4	239
	5,92	5,6	902	1,6	MR IV 250 - 38 × 300 132 MC 6	152
	5,67	5,6	935	1,4	MR IV 250 - 42 × 350 160 M 6	159
6,3	7,04	5,5	745	0,9	MR IV 200 - 38 × 300 132 MC 6	128
6,3	7,04	5,5	745	0,9	MR IV 200 - 42 × 350 160 M 6	128
	7,37	5,7	735	1,7	MR IV 250 - 38 × 300 132 M 4	190
	7,09	5,7	768	1,7	MR IV 250 - 38 × 300 132 MC 6	127
4,44	8,8	5,5	600	0,75	MR IV 161 - 38 × 300 132 MC 6	102
	8,7	5,5	607	0,9	MR IV 200 - 38 × 300 132 M 4	161
	8,8	5,7	615	1,12	MR IV 200 - 38 × 300 132 MC 6	102
	8,8	5,7	615	1,12	MR IV 200 - 42 × 350 160 M 6	102
	9,21	5,8	603	2,12	MR IV 250 - 38 × 300 132 M 4	152
5,4	11	5,6	487	0,75	MR IV 161 - 38 × 300 132 M 4	128
4,81	11	5,7	496	0,75	MR IV 160 - 38 × 300 132 MC 6	81,8
4,81	11	5,7	493	0,9	MR IV 161 - 38 × 300 132 MC 6	81,8
5,14	11,3	5,6	479	0,9	MR IV 161 - 42 × 350 160 M 6	80
	11	5,7	501	1,25	MR IV 200 - 38 × 300 132 M 4	128
	11	5,9	508	1,4	MR IV 200 - 38 × 300 132 MC 6	81,8
	11	5,9	512	2,36	MR IV 250 - 38 × 300 132 M 4	127
6	13,7	5,8	402	0,85	MR IV 160 - 38 × 300 132 M 4	102
6	13,7	5,8	402	1	MR IV 161 - 38 × 300 132 M 4	102
	14,3	5,6	375	0,75	MR V 161 - 38 × 300 132 MC 6	63
	14,3	5,6	375	0,75	MR V 161 - 42 × 350 160 M 6	63
	13,7	5,9	410	1,5	MR IV 200 - 38 × 300 132 M 4	102
	14,3	5,8	385	1,25	MR V 200 - 38 × 300 132 MC 6	63
	14,3	5,8	385	1,25	MR V 200 - 42 × 350 160 M 6	63
	13,8	6,3	434	2,36	MR IV 250 - 38 × 300 132 M 4	102
	14,3	5,9	395	2,24	MR V 250 - 42 × 350 160 M 6	63
4,17	17,3	5,8	321	0,67	MR IV 126 - 28 × 250 132 M * 4	81,1
	17,1	5,9	331	1	MR IV 160 - 38 × 300 132 M 4	81,8
	17,1	5,9	331	1,18	MR IV 161 - 38 × 300 132 M 4	81,8
	18	5,8	309	0,85	MR V 160 - 38 × 300 132 MC 6	50
	18	5,8	309	1	MR V 161 - 38 × 300 132 MC 6	50
	18	5,8	309	0,85	MR V 160 - 42 × 350 160 M 6	50
	18	5,8	309	1	MR V 161 - 42 × 350 160 M 6	50
	17,1	6,1	338	1,9	MR IV 200 - 38 × 300 132 M 4	81,8
	18	5,9	315	1,7	MR V 200 - 38 × 300 132 MC 6	50
	18	5,9	315	1,7	MR V 200 - 42 × 350 160 M 6	50
	18	6,1	322	3	MR V 250 - 42 × 350 160 M 6	50
4,89	21,5	5,9	261	0,75	MR IV 126 - 38 × 300 132 M 4	65
5,06	22,2	6,2	267	0,8	MR IV 126 - 38 × 300 132 MC 6	40,6
5,14	22,5	5,8	247	0,71	MR V 126 - 38 × 300 132 MC 6	40

Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty, see ch. 3.2).

Motor (cat.TX) with efficiency value not according to IE3 class (IEC 60034-30).
Nominal power and nameplate data refer to intermittent periodic duty S3 70%.

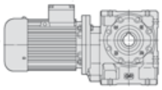
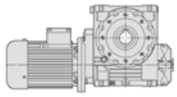
1) Powers valid for continuous duty S1; **increase** possible for S2 ... S10 (see ch. 2b) in which case P_2, M_2 increase and fs decreases proportionately.
2) For complete designation when ordering see ch. 3.1.
* Mounting position **B5R**; available also for mounting position **B5** (see table ch. 2b).

P_1 kW 1)	n_2 min^{-1}	P_2 kW	M_2 daN m	*f*s	Riduttore - Motore / Gear reducer - Motor 2)	*i*
7,5	22,1	6,3	273	1,18	MR IV 160 - 28 × 250 132 M * 4	63,5
	21,9	6,3	274	1,12	MR IV 160 - 38 × 300 132 M 4	63,9
	22,1	6,3	273	1,5	MR IV 161 - 28 × 250 132 M * 4	63,5
	21,9	6,3	274	1,32	MR IV 161 - 38 × 300 132 M 4	63,9
	22	6,3	275	1,32	MR IV 160 - 38 × 300 132 MC 6	40,9
	22	6,3	275	1,5	MR IV 161 - 38 × 300 132 MC 6	40,9
	22,2	5,8	251	0,85	MR V 160 - 38 × 300 132 M 4	63
	22,2	5,8	251	1	MR V 161 - 38 × 300 132 M 4	63
	22,5	6	253	1,12	MR V 160 - 38 × 300 132 MC 6	40
	22,5	6	253	1,32	MR V 161 - 38 × 300 132 MC 6	40
	22,5	6	253	1,12	MR V 160 - 42 × 350 160 M 6	40
	22,5	6	253	1,32	MR V 161 - 42 × 350 160 M 6	40
	21,9	6,4	278	2,24	MR IV 200 - 38 × 300 132 M 4	63,9
	22,2	6	256	1,6	MR V 200 - 38 × 300 132 M 4	63
	22,5	6,1	258	2,12	MR V 200 - 38 × 300 132 MC 6	40
	22,5	6,1	258	2,12	MR V 200 - 42 × 350 160 M 6	40
5,8	27,6	6,3	217	0,75	MR IV 125 - 28 × 250 132 M * 4	50,7
	27,6	6,3	217	0,71	MR IV 125 - 38 × 300 132 M 4	50,8
5,8	27,6	6,3	217	0,9	MR IV 126 - 28 × 250 132 M * 4	50,7
	27,6	6,3	217	0,8	MR IV 126 - 38 × 300 132 M 4	50,8
5,55	27,7	6,3	218	0,95	MR IV 126 - 38 × 300 132 MC 6	32,5
	28	5,9	201	0,71	MR V 126 - 38 × 300 132 M 4	50
5,8	28,1	6	204	0,75	MR V 125 - 38 × 300 132 MC 6	32
5,8	28,1	6	204	0,9	MR V 126 - 38 × 300 132 MC 6	32
	27,4	6,4	222	1,4	MR IV 160 - 38 × 300 132 M 4	51,1
	27,4	6,4	222	1,7	MR IV 161 - 38 × 300 132 M 4	51,1
	28	6	205	1,12	MR V 160 - 38 × 300 132 M 4	50
	28	6	205	1,32	MR V 161 - 38 × 300 132 M 4	50
	28,1	6,1	207	1,4	MR V 160 - 38 × 300 132 MC 6	32
	28,1	6,1	207	1,6	MR V 161 - 38 × 300 132 MC 6	32
	28,1	6,1	207	1,4	MR V 160 - 42 × 350 160 M 6	32
	28,1	6,1	207	1,6	MR V 161 - 42 × 350 160 M 6	32
	27,4	6,5	226	2,8	MR IV 200 - 38 × 300 132 M 4	51,1
	28	6,1	209	2,12	MR V 200 - 38 × 300 132 M 4	50
	34,5	6,4	177	0,95	MR IV 125 - 28 × 250 132 M * 4	40,6
	34,5	6,4	176	0,9	MR IV 125 - 38 × 300 132 M 4	40,6
	34,5	6,4	176	1,06	MR IV 126 - 38 × 300 132 M 4	40,6
	35	6	164	0,75	MR V 125 - 38 × 300 132 M 4	40
	35	6	164	0,9	MR V 126 - 38 × 300 132 M 4	40
	36	6,3	168	0,85	MR V 125 - 38 × 300 132 MC 6	25
	36	6,3	168	1	MR V 126 - 38 × 300 132 MC 6	25
	34,2	6,5	181	1,7	MR IV 160 - 38 × 300 132 M 4	40,9
	34,2	6,5	181	2	MR IV 161 - 38 × 300 132 M 4	40,9
	35	6,1	168	1,4	MR V 160 - 38 × 300 132 M 4	40
	35	6,1	168	1,7	MR V 161 - 38 × 300 132 M 4	40
	35	6,2	170	2,65	MR V 200 - 38 × 300 132 M 4	40
	43,1	6,5	143	1,06	MR IV 125 - 38 × 300 132 M 4	32,5
	43,1	6,5	143	1,25	MR IV 126 - 38 × 300 132 M 4	32,5
	43,8	6,2	135	1	MR V 125 - 38 × 300 132 M 4	32
	43,8	6,2	135	1,18	MR V 126 - 38 × 300 132 M 4	32
	45	6,4	136	1,25	MR V 126 - 38 × 300 132 MC 6	20
	43,8	6,3	137	1,8	MR V 160 - 38 × 300 132 M 4	32
	43,8	6,3	137	2,12	MR V 161 - 38 × 300 132 M 4	32
5,7	56	6,2	106	0,8	MR V 100 - 38 × 300 132 M 4	25
	56	6,5	110	1,12	MR V 125 - 38 × 300 132 M 4	25
	56	6,5	110	1,32	MR V 126 - 38 × 300 132 M 4	25
	56,3	6,5	111	1,25	MR V 125 - 38 × 300 132 MC 6	16
	56,3	6,5	111	1,5	MR V 126 - 38 × 300 132 MC 6	16
	56	6,5	112	2	MR V 160 - 38 × 300 132 M 4	25
	56	6,5	112	2,36	MR V 161 - 38 × 300 132 M 4	25
	70	6,5	89	0,8	MR V 100 - 38 × 300 132 M 4	20
	70	6,6	89	1,32	MR V 125 - 38 × 300 132 M 4	20
	70	6,6	89	1,6	MR V 126 - 38 × 300 132 M 4	20
	69,2	6,7	92	1,5	MR V 125 - 38 × 300 132 MC 6	13
	69,2	6,7	92	1,8	MR V 126 - 38 × 300 132 MC 6	13
	70	6,6	90	2,5	MR V 160 - 38 × 300 132 M 4	20
	70	6,6	90	3	MR V 161 - 38 × 300 132 M 4	20
	87,5	6,6	72	1	MR V 100 - 38 × 300 132 M 4	16
	87,5	6,6	72	1,6	MR V 125 - 38 × 300 132 M 4	16
	87,5	6,6	72	1,9	MR V 126 - 38 × 300 132 M 4	16
	108	6,6	59	1,18	MR V 100 - 38 × 300 132 M 4	13
	108	6,7	60	1,9	MR V 125 - 38 × 300 132 M 4	13
7,5	140	6,8	46,1	1,4	MR V 100 - 38 × 300 132 M 4	10
	140	6,8	46,4	2,24	MR V 125 - 38 × 300 132 M 4	10
9,2	5,85	6,7	1093	1	MR IV 250 - 38 × 300 132 MB 4	239
	7,37	7	901	1,4	MR IV 250 - 38 × 300 132 MB 4	190
7,6	8,7	6,8	745	0,71	MR IV 200 - 38 × 300 132 MB 4	161
	9,21	7,1	740	1,7	MR IV 250 - 38 × 300 132 MB 4	152
	11	7	614	1	MR IV 200 - 38 × 300 132 MB 4	128
	11	7,3	629	1,9	MR IV 250 - 38 × 300 132 MB 4	127
6	13,7	7,1	493	0,67	MR IV 160 - 38 × 300 132 MB 4	102
6	13,7	7,1	493	0,8	MR IV 161 - 38 × 300 132 MB 4	102
	13,7	7,2	503	1,25	MR IV 200 - 38 × 300 132 MB 4	102
	13,8	7,7	532	1,9	MR IV 250 - 38 × 300 132 MB 4	102
6,6	17,1	7,3	406	0,85	MR IV 160 - 38 × 300 132 MB 4	81,8
6,6	17,1	7,3	406	1	MR IV 161 - 38 × 300 132 MB 4	81,8
	17,1	7,4	415	1,6	MR IV 200 - 38 × 300 132 MB 4	81,8
	17,6	7,9	426	2,8	MR IV 250 - 38 × 300 132 MB 4	79,3
	21,9	7,7	336	0,9	MR IV 160 - 38 × 300 132 MB 4	63,9
	21,9	7,7	336	1,06	MR IV 161 - 38 × 300 132 MB 4	63,9
	22,2	7,2	308	0,67	MR V 160 - 38 × 300 132 MB 4	63
	22,2	7,2	308	0,8	MR V 161 - 38 × 300 132 MB 4	63
	21,9	7,8	341	1,8	MR IV 200 - 38 × 300 132 MB 4	63,9
	22,2	7,3	314	1,32	MR V 200 - 38 × 300 132 MB 4	63
6,4	27,6	7,7	266	0,67	MR IV 126 - 38 × 300 132 MB 4	50,8
	27,4	7,8	273	1,12	MR IV 160 - 38 × 300 132 MB 4	51,1
	27,4	7,8	273	1,32	MR IV 161 - 38 × 300 132 MB 4	51,1
	28	7,4	251	0,9	MR V 160 - 38 × 300 132 MB 4	50
	28	7,4	251	1,06	MR V 161 - 38 × 300 132 MB 4	50
	27,4	7,9	277	2,24	MR IV 200 - 38 × 300 132 MB 4	51,1
	28	7,5	256	1,7	MR V 200 - 38 × 300 132 MB 4	50
6,9	34,5	7,8	216	0,71	MR IV 125 - 38 × 300 132 MB 4	40,6
6,9	34,5	7,8	216	0,85	MR IV 126 - 38 × 300 132 MB 4	40,6
7,1	35	7,4	201	0,75	MR V 126 - 38 × 300 132 MB 4	40
	34,2	7,9	222	1,4	MR IV 160 - 38 × 300 132 MB 4	40,9
	34,2	7,9	222	1,7	MR IV 161 - 38 × 300 132 MB 4	40,9
	35	7,5	206	1,18	MR V 160 - 38 × 300 132 MB 4	40
	35	7,5	206	1,4	MR V 161 - 38 × 300 132 MB 4	40
	34,2	8,1	226	2,65	MR IV 200 - 38 × 300 132 MB 4	40,9
	35	7,6	209	2,12	MR V 200 - 38 × 300 132 MB 4	40
7,5	43,1	7,9	176	0,85	MR IV 125 - 38 × 300 132 MB 4	32,5
7,5	43,1	7,9	176	1	MR IV 126 - 38 × 300 132 MB 4	32,5
	43,8	7,6	165	0,8	MR V 125 - 38 × 300 132 MB 4	32
	43,8	7,6	165	0,95	MR V 126 - 38 × 300 132 MB 4	32
	43,8	7,7	168	1,4	MR V 160 - 38 × 300 132 MB 4	32
	43,8	7,7	168	1,7	MR V 161 - 38 × 300 132 MB 4	32
	43,8	7,8	170	2,8	MR V 200 - 38 × 300 132 MB 4	32
	56	7,9	135	0,9	MR V 125 - 38 × 300 132 MB 4	25
	56	7,9	135	1,06	MR V 126 - 38 × 300 132 MB 4	25
	56	8	137	1,7	MR V 160 - 38 × 300 132 MB 4	25
	56	8	137	2	MR V 161 - 38 × 300 132 MB 4	25
7,2	70	8	109	0,67	MR V 100 - 38 × 300 132 MB 4	20
	70	8	110	1,12	MR V 125 - 38 × 300 132 MB 4	20
	70	8	110	1,32	MR V 126 - 38 × 300 132 MB 4	20
	70	8,1	111	2	MR V 160 - 38 × 300 132 MB 4	20
	70	8,1	111	2,36	MR V 161 - 38 × 300 132 MB 4	20
7,8	87,5	8	88	0,8	MR V 100 - 38 × 300 132 MB 4	16
	87,5	8,1	89	1,32	MR V 125 - 38 × 300 132 MB 4	16
	87,5	8,1	89	1,6	MR V 126 - 38 × 300 132 MB 4	16
	87,5	8,2	89	2,5	MR V 160 - 38 × 300 132 MB 4	16
	87,5	8,2	89	3	MR V 161 - 38 × 300 132 MB 4	16
	108	8,1	72	1	MR V 100 - 38 × 300 132 MB 4	13
	108	8,3	73	1,6	MR V 125 - 38 × 300 132 MB 4	13
	108	8,3	73	1,9	MR V 126 - 38 × 300 132 MB 4	13
	140	8,3	57	1,12	MR V 100 - 38 × 300 132 MB 4	10
	140	8,3	57	1,8	MR V 125 - 38 × 300 132 MB 4	10
	140	8,3	57	2,12	MR V 126 - 38 × 300 132 MB 4	10
11 8	4,5	7,8	1660	0,67	MR IV 250 - 42 × 350 160 L 6	200
9,1	5,85	8	1307	0,8	MR IV 250 - 38 × 300 132 MC 4	239
8,9	5,67	8,1	1372	0,95	MR IV 250 - 42 × 350 160 L 6	159

Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty, see ch. 3.2).

Motor (cat.TX) with efficiency value not according to IE3 class (IEC 60034-30).
Nominal power and nameplate data refer to intermittent periodic duty S3 70%.

1) Powers valid for continuous duty S1; **increase** possible for S2 ... S10 (see ch. 2b) in which case P_2, M_2 increase and *f*s decreases proportionately.
2) For complete designation when ordering see ch. 3.1.
* Mounting position **B5R** (see table ch. 2b).

P_1 kW 1)		n_2 min^{-1}	P_2 kW	M_2 daN m	fs	Riduttore - Motore / Gear reducer - Motor 2)	i
11		7,37	8,3	1077	1,12	MR IV 250 - 38 × 300 132 MC 4	190
		7	8,2	1117	0,9	MR IV 250 - 42 × 350 160 M 4	200
		7,09	8,4	1127	1,18	MR IV 250 - 42 × 350 160 L 6	127
	6,9	8,8	8,3	901	0,8	MR IV 200 - 42 × 350 160 L 6	102
		9,21	8,5	884	1,4	MR IV 250 - 38 × 300 132 MC 4	152
		8,82	8,5	919	1,32	MR IV 250 - 42 × 350 160 M 4	159
		8,8	8,5	925	1,4	MR IV 250 - 42 × 350 160 L 6	102
	8,5	11	8,4	734	0,85	MR IV 200 - 38 × 300 132 MC 4	128
	8,5	11	8,4	734	0,85	MR IV 200 - 42 × 350 160 M 4	128
		11	8,7	752	1,6	MR IV 250 - 38 × 300 132 MC 4	127
		11	8,7	752	1,6	MR IV 250 - 42 × 350 160 M 4	127
	6	13,7	8,5	590	0,67	MR IV 161 - 38 × 300 132 MC 4	102
	5,7	14,1	8,5	580	0,71	MR IV 161 - 42 × 350 160 L 6	64
	9,3	13,7	8,6	602	1,06	MR IV 200 - 38 × 300 132 MC 4	102
	9,3	13,7	8,6	602	1,06	MR IV 200 - 42 × 350 160 M 4	102
	9	14,1	8,8	594	1,18	MR IV 200 - 42 × 350 160 L 6	64
		14,3	8,4	564	0,85	MR V 200 - 42 × 350 160 L 6	63
		13,8	9,2	636	1,6	MR IV 250 - 38 × 300 132 MC 4	102
		13,7	8,8	616	1,8	MR IV 250 - 42 × 350 160 M 4	102
		14,1	9,3	630	2	MR IV 250 - 42 × 350 160 L 6	63,9
		14,3	8,7	579	1,5	MR V 250 - 42 × 350 160 L 6	63
	6,6	17,1	8,7	485	0,71	MR IV 160 - 38 × 300 132 MC 4	81,8
	6,6	17,1	8,7	485	0,8	MR IV 161 - 38 × 300 132 MC 4	81,8
	7	17,5	8,6	470	0,67	MR IV 160 - 42 × 350 160 M 4	80
	7	17,5	8,6	470	0,8	MR IV 161 - 42 × 350 160 M 4	80
	7,5	18	8,5	453	0,71	MR V 161 - 42 × 350 160 L 6	50
		17,1	8,9	496	1,32	MR IV 200 - 38 × 300 132 MC 4	81,8
		17,5	8,8	479	1,18	MR IV 200 - 42 × 350 160 M 4	80
		18	8,7	462	1,18	MR V 200 - 42 × 350 160 L 6	50
		17,6	9,4	509	2,36	MR IV 250 - 38 × 300 132 MC 4	79,3
		17,1	9,3	518	1,9	MR IV 250 - 42 × 350 160 M 4	81,8
		18	8,9	473	2,12	MR V 250 - 42 × 350 160 L 6	50
	8,5	21,9	9,2	402	0,75	MR IV 160 - 38 × 300 132 MC 4	63,9
	8,5	21,9	9,2	402	0,9	MR IV 161 - 38 × 300 132 MC 4	63,9
	7,7	21,9	8,8	386	0,8	MR IV 160 - 42 × 350 160 M 4	64
	7,7	21,9	8,8	386	0,95	MR IV 161 - 42 × 350 160 M 4	64
	8	22,5	9,2	392	0,85	MR IV 160 - 42 × 350 160 L 6	40
	8	22,5	9,2	392	1	MR IV 161 - 42 × 350 160 L 6	40
	9,3	22,2	8,6	368	0,67	MR V 161 - 38 × 300 132 MC 4	63
	9,3	22,2	8,6	368	0,67	MR V 161 - 42 × 350 160 M 4	63
	8,3	22,5	8,8	372	0,75	MR V 160 - 42 × 350 160 L 6	40
	8,3	22,5	8,8	372	0,9	MR V 161 - 42 × 350 160 L 6	40
		21,9	9,4	408	1,5	MR IV 200 - 38 × 300 132 MC 4	63,9
		21,9	9	393	1,6	MR IV 200 - 42 × 350 160 M 4	64
		22,2	8,7	375	1,06	MR V 200 - 38 × 300 132 MC 4	63
		22,2	8,7	375	1,06	MR V 200 - 42 × 350 160 M 4	63
		22,5	8,9	378	1,4	MR V 200 - 42 × 350 160 L 6	40
		21,9	9,5	414	2,65	MR IV 250 - 42 × 350 160 M 4	63,9
		22,2	8,9	383	1,9	MR V 250 - 42 × 350 160 M 4	63
	9,2	27,4	9,4	326	0,95	MR IV 160 - 38 × 300 132 MC 4	51,1
	9,2	27,4	9,4	326	1,12	MR IV 161 - 38 × 300 132 MC 4	51,1
		28	9,3	318	0,9	MR IV 160 - 42 × 350 160 M 4	50
		28	9,3	318	1,06	MR IV 161 - 42 × 350 160 M 4	50
	8,7	28,1	9,4	319	1,06	MR IV 160 - 42 × 350 160 L 6	32
	8,7	28,1	9,4	319	1,25	MR IV 161 - 42 × 350 160 L 6	32
		28	8,8	300	0,75	MR V 160 - 38 × 300 132 MC 4	50
		28	8,8	300	0,9	MR V 161 - 38 × 300 132 MC 4	50
		28	8,8	300	0,75	MR V 160 - 42 × 350 160 M 4	50
		28	8,8	300	0,9	MR V 161 - 42 × 350 160 M 4	50
	9,1	28,1	9	304	0,95	MR V 160 - 42 × 350 160 L 6	32
	9,1	28,1	9	304	1,12	MR V 161 - 42 × 350 160 L 6	32
		27,4	9,5	331	1,9	MR IV 200 - 38 × 300 132 MC 4	51,1
		28	9,5	323	1,8	MR IV 200 - 42 × 350 160 M 4	50
		28	9	306	1,5	MR V 200 - 38 × 300 132 MC 4	50
		28	9	306	1,5	MR V 200 - 42 × 350 160 M 4	50
		28,1	9,1	310	1,8	MR V 200 - 42 × 350 160 L 6	32
		27,4	9,6	334	3,35	MR IV 250 - 42 × 350 160 M 4	51,1
		28	9,1	311	2,5	MR V 250 - 42 × 350 160 M 4	50
	6,9	34,5	9,3	259	0,71	MR IV 126 - 38 × 300 132 MC 4	40,6
		34,2	9,5	265	1,18	MR IV 160 - 38 × 300 132 MC 4	40,9
		34,2	9,5	265	1,4	MR IV 161 - 38 × 300 132 MC 4	40,9
		35	9,5	258	1,12	MR IV 160 - 42 × 350 160 M 4	40
11		35	9,5	258	1,32	MR IV 161 - 42 × 350 160 M 4	40
		35	9	246	1	MR V 160 - 38 × 300 132 MC 4	40
		35	9	246	1,18	MR V 161 - 38 × 300 132 MC 4	40
		35	9	246	1	MR V 160 - 42 × 350 160 M 4	40
		35	9	246	1,18	MR V 161 - 42 × 350 160 M 4	40
		34,2	9,7	271	2,12	MR IV 200 - 38 × 300 132 MC 4	40,9
		35	9,6	261	2,24	MR IV 200 - 42 × 350 160 M 4	40
		35	9,1	249	1,8	MR V 200 - 38 × 300 132 MC 4	40
		35	9,1	249	1,8	MR V 200 - 42 × 350 160 M 4	40
	7,5	43,1	9,5	210	0,85	MR IV 126 - 38 × 300 132 MC 4	32,5
	8	43,8	9	198	0,67	MR V 125 - 38 × 300 132 MC 4	32
	8	43,8	9	198	0,8	MR V 126 - 38 × 300 132 MC 4	32
		43,8	9,6	209	1,4	MR IV 160 - 42 × 350 160 M 4	32
		43,8	9,6	209	1,6	MR IV 161 - 42 × 350 160 M 4	32
		43,8	9,2	201	1,18	MR V 160 - 38 × 300 132 MC 4	32
		43,8	9,2	201	1,5	MR V 161 - 38 × 300 132 MC 4	32
		43,8	9,2	201	1,18	MR V 160 - 42 × 350 160 M 4	32
		43,8	9,2	201	1,4	MR V 161 - 42 × 350 160 M 4	32
		45	9,5	203	1,32	MR V 160 - 42 × 350 160 L 6	20
		45	9,5	203	1,6	MR V 161 - 42 × 350 160 L 6	20
		43,8	9,8	214	2,5	MR IV 200 - 42 × 350 160 M 4	32
		43,8	9,3	203	2,24	MR V 200 - 42 × 350 160 M 4	32
		56	9,5	162	0,75	MR V 125 - 38 × 300 132 MC 4	25
		56	9,5	162	0,9	MR V 126 - 38 × 300 132 MC 4	25
		56	9,6	164	1,4	MR V 160 - 38 × 300 132 MC 4	25
		56	9,6	164	1,7	MR V 161 - 38 × 300 132 MC 4	25
		56	9,6	164	1,4	MR V 160 - 42 × 350 160 M 4	25
		56	9,6	164	1,7	MR V 161 - 42 × 350 160 M 4	25
		56,3	9,7	164	1,6	MR V 160 - 42 × 350 160 L 6	16
		56,3	9,7	164	1,9	MR V 161 - 42 × 350 160 L 6	16
		56	9,7	165	2,65	MR V 200 - 42 × 350 160 M 4	25
		70	9,6	131	0,9	MR V 125 - 38 × 300 132 MC 4	20
		70	9,6	131	1,12	MR V 126 - 38 × 300 132 MC 4	20
		70	9,7	132	1,7	MR V 160 - 38 × 300 132 MC 4	20
		70	9,7	132	2	MR V 161 - 38 × 300 132 MC 4	20
		70	9,7	132	1,7	MR V 160 - 42 × 350 160 M 4	20
		70	9,7	132	2	MR V 161 - 42 × 350 160 M 4	20
		87,5	9,7	106	1,12	MR V 125 - 38 × 300 132 MC 4	16
		87,5	9,7	106	1,32	MR V 126 - 38 × 300 132 MC 4	16
		87,5	9,8	107	2	MR V 160 - 42 × 350 160 M 4	16
		87,5	9,8	107	2,5	MR V 161 - 42 × 350 160 M 4	16
		108	9,9	88	1,32	MR V 125 - 38 × 300 132 MC 4	13
		108	9,9	88	1,6	MR V 126 - 38 × 300 132 MC 4	13
		108	10	88	2,36	MR V 160 - 42 × 350 160 M 4	13
		108	10	88	2,8	MR V 161 - 42 × 350 160 M 4	13
		140	10	68	1,5	MR V 125 - 38 × 300 132 MC 4	10
		140	10	68	1,8	MR V 126 - 38 × 300 132 MC 4	10
		140	10	68	2,8	MR V 160 - 42 × 350 160 M 4	10
		140	10	68	3,15	MR V 161 - 42 × 350 160 M 4	10
15	10,6	7	11,2	1523	0,67	MR IV 250 - 42 × 350 160 L 4	200
	10,1	7,04	11,3	1537	0,8	MR IV 250 - 48 × 350 180 L 6	128
	11,8	8,82	11,6	1253	0,95	MR IV 250 - 42 × 350 160 L 4	159
		11	11,8	1025	1,18	MR IV 250 - 42 × 350 160 L 4	127
	9,3	13,7	11,8	821	0,75	MR IV 200 - 42 × 350 160 L 4	102
	9	14,1	11,9	811	0,85	MR IV 200 - 48 × 350 180 L 6	64
		13,7	12	840	1,32	MR IV 250 - 42 × 350 160 L 4	102
		14,1	12,7	859	1,4	MR IV 250 - 48 × 350 180 L 6	63,9
		14,3	11,8	789	1,12	MR V 250 - 48 × 350 180 L 6	63
	10,9	17,5	12	654	0,9	MR IV 200 - 42 × 350 160 L 4	80
	11,7	18	11,9	630	0,85	MR V 200 - 48 × 350 180 L 6	50
		17,1	12,7	707	1,4	MR IV 250 - 42 × 350 160 L 4	81,8
		17,6	12,8	695	1,9	MR IV 250 - 48 × 350 180 L 6	51,1
		18	12,2	645	1,5	MR V 250 - 48 × 350 180 L 6	50
	7,7	21,9	12,1	526	0,71	MR IV 161 - 42 × 350 160 L 4	64
	12,2	21,9	12,3	536	1,12	MR IV 200 - 42 × 350 160 L 4	64
	12,6	22,5	12,8	544	1,25	MR IV 200 - 48 × 350 180 L 6	40
		22,2	11,9	512	0,8	MR V 200 - 42 × 350 160 L 4	63
		22,5	12,1	515	1,06	MR V 200 - 48 × 350 180 L 6	40
		21,9	12,9	564	2	MR IV 250 - 42 × 350 160 L 4	63,9

Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty, see ch. 3.2).

Motor (cat.TX) with efficiency value not according to IE3 class (IEC 60034-30).
Nominal power and nameplate data refer to intermittent periodic duty S3 70%.

1) Powers valid for continuous duty S1; **increase** possible for S2 ... S10 (see ch. 2b) in which case P_2, M_2 increase and fs decreases proportionately.
2) For complete designation when ordering see ch. 3.1.

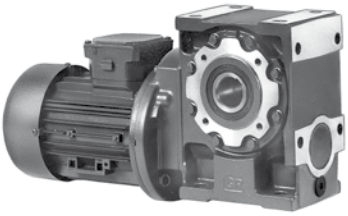
P_1 kW 1)	Pt_N (red)	n_2 min^{-1}	P_2 kW	M_2 daN m	fs	Riduttore - Motore / Gear reducer - Motor 2)	i
15		22,2	12,2	523	1,4	MR V 250 - 42 × 350 160 L 4	63
		22,5	12,4	525	1,8	MR V 250 - 48 × 350 180 L 6	40
	10	28	12,7	434	0,75	MR IV 161 - 42 × 350 160 L 4	50
	10,3	28	12	410	0,67	MR V 161 - 42 × 350 160 L 4	50
	9,1	28,1	12,2	415	0,71	MR V 160 - 48 × 350 180 L 6	32
	9,1	28,1	12,2	415	0,8	MR V 161 - 48 × 350 180 L 6	32
		28	12,9	440	1,32	MR IV 200 - 42 × 350 160 L 4	50
		28	12,2	417	1,06	MR V 200 - 42 × 350 160 L 4	50
		28,1	12,5	423	1,32	MR V 200 - 48 × 350 180 L 6	32
		27,4	13,1	456	2,5	MR IV 250 - 42 × 350 160 L 4	51,1
		28	12,4	425	1,9	MR V 250 - 42 × 350 160 L 4	50
	10,8	35	12,9	352	0,8	MR IV 160 - 42 × 350 160 L 4	40
	10,8	35	12,9	352	1	MR IV 161 - 42 × 350 160 L 4	40
	11,4	35	12,3	335	0,71	MR V 160 - 42 × 350 160 L 4	40
	11,4	35	12,3	335	0,85	MR V 161 - 42 × 350 160 L 4	40
		35	13,1	356	1,6	MR IV 200 - 42 × 350 160 L 4	40
		35	12,5	340	1,32	MR V 200 - 42 × 350 160 L 4	40
		36	13	345	1,5	MR V 200 - 48 × 350 180 L 6	25
		34,2	13,4	373	2,8	MR IV 250 - 42 × 350 160 L 4	40,9
		35	12,6	344	2,36	MR V 250 - 42 × 350 160 L 4	40
	11,8	43,8	13,1	285	1	MR IV 160 - 42 × 350 160 L 4	32
	11,8	43,8	13,1	285	1,18	MR IV 161 - 42 × 350 160 L 4	32
	12,5	43,8	12,5	274	0,9	MR V 160 - 42 × 350 160 L 4	32
	12,5	43,8	12,5	274	1,06	MR V 161 - 42 × 350 160 L 4	32
		43,8	13,3	291	1,9	MR IV 200 - 42 × 350 160 L 4	32
		43,8	12,7	277	1,7	MR V 200 - 42 × 350 160 L 4	32
		45	13,2	279	1,9	MR V 200 - 48 × 350 180 L 6	20
		43,8	13,1	287	2,5	MR V 250 - 42 × 350 160 L 4	32
	10,4	56	12,9	221	0,67	MR V 126 - 38 × 300 160 L * 4	25
		56	13,1	223	1	MR V 160 - 42 × 350 160 L 4	25
		56	13,1	223	1,18	MR V 161 - 42 × 350 160 L 4	25
		56,3	13,2	224	1,18	MR V 160 - 48 × 350 180 L 6	16
		56,3	13,2	224	1,4	MR V 161 - 48 × 350 180 L 6	16
		56	13,2	225	1,9	MR V 200 - 42 × 350 160 L 4	25
		56,3	13,4	228	2,12	MR V 200 - 48 × 350 180 L 6	16
	11,2	70	13,1	179	0,67	MR V 125 - 38 × 300 160 L * 4	20
	11,2	70	13,1	179	0,8	MR V 126 - 38 × 300 160 L * 4	20
		70	13,2	180	1,25	MR V 160 - 42 × 350 160 L 4	20
		70	13,2	180	1,5	MR V 161 - 42 × 350 160 L 4	20
		69,2	13,4	185	1,4	MR V 160 - 48 × 350 180 L 6	13
		69,2	13,4	185	1,7	MR V 161 - 48 × 350 180 L 6	13
		70	13,3	182	2,36	MR V 200 - 42 × 350 160 L 4	20
	12,2	87,5	13,3	145	0,8	MR V 125 - 38 × 300 160 L * 4	16
	12,2	87,5	13,3	145	0,95	MR V 126 - 38 × 300 160 L * 4	16
		87,5	13,4	146	1,5	MR V 160 - 42 × 350 160 L 4	16
		87,5	13,4	146	1,8	MR V 161 - 42 × 350 160 L 4	16
		87,5	13,6	148	2,8	MR V 200 - 42 × 350 160 L 4	16
		108	13,5	120	0,95	MR V 125 - 38 × 300 160 L * 4	13
		108	13,5	120	1,12	MR V 126 - 38 × 300 160 L * 4	13
		108	13,6	120	1,8	MR V 160 - 42 × 350 160 L 4	13
		108	13,6	120	2,12	MR V 161 - 42 × 350 160 L 4	13
		140	13,6	93	1,12	MR V 125 - 38 × 300 160 L * 4	10
		140	13,6	93	1,32	MR V 126 - 38 × 300 160 L * 4	10
		140	13,7	93	2	MR V 160 - 42 × 350 160 L 4	10
		140	13,7	93	2,36	MR V 161 - 42 × 350 160 L 4	10
18,5	11	8,8	14,3	1556	0,8	MR IV 250 - 55 × 400 200 LR 6	102
	13,6	11	14,5	1266	0,9	MR IV 250 - 48 × 350 180 M 4	128
	14,9	13,7	14,9	1036	1,06	MR IV 250 - 48 × 350 180 M 4	102
		14,3	14,6	974	0,9	MR V 250 - 55 × 400 200 LR 6	63
	10,9	17,5	14,8	806	0,71	MR IV 200 - 48 × 350 180 M 4	80
	11,7	18	14,7	778	0,71	MR V 200 - 55 × 400 200 LR 6	50
		17,1	15,6	871	1,12	MR IV 250 - 48 × 350 180 M 4	81,8
		18	15,8	839	1,4	MR IV 250 - 55 × 400 200 LR 6	50
		18	15	795	1,25	MR V 250 - 55 × 400 200 LR 6	50
	12,2	21,9	15,1	661	0,9	MR IV 200 - 48 × 350 180 M 4	64
	12,8	22,5	15	636	0,85	MR V 200 - 55 × 400 200 LR 6	40
		21,9	16	696	1,6	MR IV 250 - 48 × 350 180 M 4	63,9
		22,5	16	678	1,8	MR IV 250 - 55 × 400 200 LR 6	40
		22,2	15	645	1,12	MR V 250 - 48 × 350 180 M 4	63
18,5		22,5	15,2	647	1,5	MR V 250 - 55 × 400 200 LR 6	40
		28	15,9	543	1,06	MR IV 200 - 48 × 350 180 M 4	50
		28	15,1	515	0,85	MR V 200 - 48 × 350 180 M 4	50
	14,5	28,1	15,4	522	1,06	MR V 200 - 55 × 400 200 LR 6	32
		27,4	16,1	562	2	MR IV 250 - 48 × 350 180 M 4	51,1
		28	15,4	524	1,5	MR V 250 - 48 × 350 180 M 4	50
	10,8	35	15,9	434	0,67	MR IV 160 - 48 × 350 180 M 4	40
	10,8	35	15,9	434	0,8	MR IV 161 - 48 × 350 180 M 4	40
	11,4	35	15,2	413	0,71	MR V 161 - 48 × 350 180 M 4	40
		35	16,1	439	1,32	MR IV 200 - 48 × 350 180 M 4	40
		35	15,4	419	1,06	MR V 200 - 48 × 350 180 M 4	40
		36	16	425	1,25	MR V 200 - 55 × 400 200 LR 6	25
		34,2	16,5	460	2,36	MR IV 250 - 48 × 350 180 M 4	40,9
		35	15,5	424	1,9	MR V 250 - 48 × 350 180 M 4	40
	11,8	43,8	16,1	352	0,8	MR IV 160 - 48 × 350 180 M 4	32
	11,8	43,8	16,1	352	0,95	MR IV 161 - 48 × 350 180 M 4	32
	12,5	43,8	15,5	337	0,71	MR V 160 - 48 × 350 180 M 4	32
	12,5	43,8	15,5	337	0,85	MR V 161 - 48 × 350 180 M 4	32
		43,8	16,5	359	1,5	MR IV 200 - 48 × 350 180 M 4	32
		43,8	15,7	342	1,32	MR V 200 - 48 × 350 180 M 4	32
		45	16,2	345	1,6	MR V 200 - 55 × 400 200 LR 6	20
		43,8	16,2	354	2	MR V 250 - 48 × 350 180 M 4	32
		56	16,1	275	0,85	MR V 160 - 48 × 350 180 M 4	25
		56	16,1	275	1	MR V 161 - 48 × 350 180 M 4	25
		56	16,3	278	1,5	MR V 200 - 48 × 350 180 M 4	25
		56,3	16,5	281	1,8	MR V 200 - 55 × 400 200 LR 6	16
		56	16,4	280	2,8	MR V 250 - 48 × 350 180 M 4	25
		70	16,3	223	1	MR V 160 - 48 × 350 180 M 4	20
		70	16,3	223	1,18	MR V 161 - 48 × 350 180 M 4	20
		70	16,5	224	1,9	MR V 200 - 48 × 350 180 M 4	20
		87,5	16,5	180	1,18	MR V 160 - 48 × 350 180 M 4	16
		87,5	16,5	180	1,4	MR V 161 - 48 × 350 180 M 4	16
		87,5	16,7	183	2,24	MR V 200 - 48 × 350 180 M 4	16
		108	16,8	149	1,4	MR V 160 - 48 × 350 180 M 4	13
		108	16,8	149	1,7	MR V 161 - 48 × 350 180 M 4	13
		108	16,8	149	2,65	MR V 200 - 48 × 350 180 M 4	13
		140	16,9	115	1,6	MR V 160 - 48 × 350 180 M 4	10
		140	16,9	115	1,9	MR V 161 - 48 × 350 180 M 4	10
22	11	8,8	17,1	1851	0,67	MR IV 250 - 55 × 400 200 L 6	102
	13,6	11	17,3	1506	0,75	MR IV 250 - 48 × 350 180 L 4	128
	14,9	13,7	17,7	1232	0,9	MR IV 250 - 48 × 350 180 L 4	102
	16,8	14,3	17,3	1158	0,75	MR V 250 - 55 × 400 200 L 6	63
		17,1	18,6	1036	0,95	MR IV 250 - 48 × 350 180 L 4	81,8
	18,6	18	18,8	998	1,18	MR IV 250 - 55 × 400 200 L 6	50
		18	17,8	946	1,06	MR V 250 - 55 × 400 200 L 6	50
	12,2	21,9	18	786	0,8	MR IV 200 - 48 × 350 180 L 4	64
	12,8	22,5	17,8	756	0,71	MR V 200 - 55 × 400 200 L 6	40
		21,9	19	828	1,32	MR IV 250 - 48 × 350 180 L 4	63,9
		22,5	19	806	1,5	MR IV 250 - 55 × 400 200 L 6	40
		22,2	17,8	767	0,95	MR V 250 - 48 × 350 180 L 4	63
		22,5	18,1	770	1,25	MR V 250 - 55 × 400 200 L 6	40
	15,7	28	18,9	645	0,9	MR IV 200 - 48 × 350 180 L 4	50
	16,2	28	17,9	612	0,71	MR V 200 - 48 × 350 180 L 4	50
	14,5	28,1	18,3	621	0,9	MR V 200 - 55 × 400 200 L 6	32
		27,4	19,2	668	1,7	MR IV 250 - 48 × 350 180 L 4	51,1
		28	18,3	623	1,25	MR V 250 - 48 × 350 180 L 4	50
		28,1	19	644	1,32	MR V 250 - 55 × 400 200 L 6	32
	17	35	19,2	523	1,12	MR IV 200 - 48 × 350 180 L 4	40
	17,7	35	18,3	499	0,9	MR V 200 - 48 × 350 180 L 4	40
	18,3	36	19,1	506	1,06	MR V 200 - 55 × 400 200 L 6	25
		34,2	19,6	547	1,9	MR IV 250 - 48 × 350 180 L 4	40,9
		35	18,5	504	1,6	MR V 250 - 48 × 350 180 L 4	40
		36	19,3	513	1,8	MR V 250 - 55 × 400 200 L 6	25
	12,5	43,8	18,4	401	0,71	MR V 161 - 48 × 350 180 L 4	32
		43,8	19,6	427	1,25	MR IV 200 - 48 × 350 180 L 4	32
		43,8	18,6	406	1,12	MR V 200 - 48 × 350 180 L 4	32
		45	19,3	410	1,32	MR V 200 - 55 × 400 200 L 6	20
		43,8	19,3	421	1,7	MR V 250 - 48 × 350 180 L 4	32

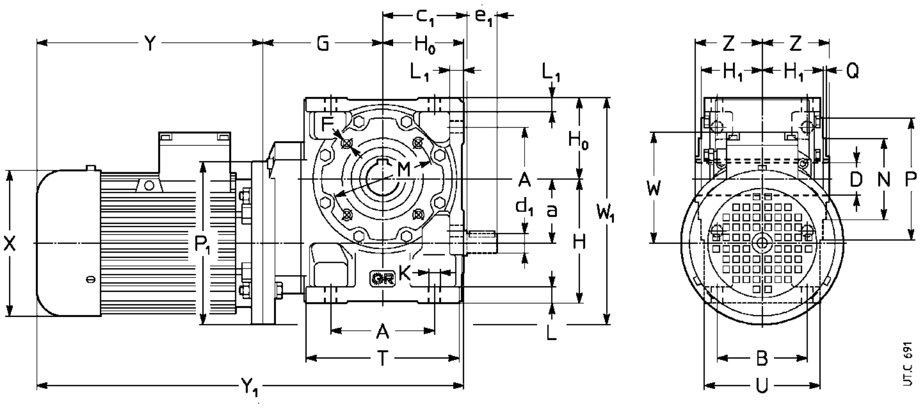
Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty, see ch. 3.2).
1) Powers valid for continuous duty S1; **increase** possible for S2 ... S10 (see ch. 2b) in which case P_2, M_2 increase and fs decreases proportionately.
2) For complete designation when ordering see ch. 3.1.
* Mounting position **B5R** (see table ch. 2b).

P_1 kW 1)		n_2 min⁻¹	P_2 kW	M_2 daN m	fs	Riduttore - Motore / Gear reducer - Motor 2)	i
22		45	19,5	413	2,24	MR V 250 - 55 × 400 200 L 6	20
	16,1	56	19,2	327	0,71	MR V 160 - 48 × 350 180 L 4	25
	16,1	56	19,2	327	0,85	MR V 161 - 48 × 350 180 L 4	25
		56	19,4	331	1,32	MR V 200 - 48 × 350 180 L 4	25
		56,3	19,7	334	1,5	MR V 200 - 55 × 400 200 L 6	16
		56	19,6	333	2,36	MR V 250 - 48 × 350 180 L 4	25
	17,4	70	19,4	265	0,85	MR V 160 - 48 × 350 180 L 4	20
	17,4	70	19,4	265	1	MR V 161 - 48 × 350 180 L 4	20
		70	19,6	267	1,6	MR V 200 - 48 × 350 180 L 4	20
		69,2	19,8	274	1,8	MR V 200 - 55 × 400 200 L 6	13
		70	19,7	268	2,8	MR V 250 - 48 × 350 180 L 4	20
		87,5	19,6	214	1	MR V 160 - 48 × 350 180 L 4	16
		87,5	19,6	214	1,18	MR V 161 - 48 × 350 180 L 4	16
		87,5	19,9	217	1,9	MR V 200 - 48 × 350 180 L 4	16
		108	19,9	177	1,18	MR V 160 - 48 × 350 180 L 4	13
		108	19,9	177	1,4	MR V 161 - 48 × 350 180 L 4	13
		108	20	177	2,12	MR V 200 - 48 × 350 180 L 4	13
		140	20,1	137	1,4	MR V 160 - 48 × 350 180 L 4	10
		140	20,1	137	1,6	MR V 161 - 48 × 350 180 L 4	10
30	14,9	13,7	24,1	1679	0,67	MR IV 250 - 55 × 400 200 L 4	102
	17,3	17,5	24,4	1332	0,8	MR IV 250 - 55 × 400 200 L 4	80
	21,4	21,9	25,9	1129	1	MR IV 250 - 48 × 350 200 L * 4	63,9
	22,2	21,9	25,6	1119	0,85	MR IV 250 - 55 × 400 200 L 4	64
	23,2	22,2	24,3	1046	0,71	MR V 250 - 55 × 400 200 L 4	63
	22,8	27,4	26,1	912	1,25	MR IV 250 - 48 × 350 200 L * 4	51,1
	25	28	26,1	891	1,18	MR IV 250 - 55 × 400 200 L 4	50
		28	24,9	849	0,95	MR V 250 - 55 × 400 200 L 4	50
	17	35	26,1	713	0,8	MR IV 200 - 48 × 350 200 L * 4	40
	17,7	35	24,9	680	0,67	MR V 200 - 55 × 400 200 L 4	40
		35	26,3	719	1,4	MR IV 250 - 55 × 400 200 L 4	40
		35	25,2	687	1,18	MR V 250 - 55 × 400 200 L 4	40
	19,9	43,8	26,7	582	0,95	MR IV 200 - 48 × 350 200 L * 4	32
	19,4	43,8	25,4	554	0,85	MR V 200 - 55 × 400 200 L 4	32
		43,8	26,9	587	1,7	MR IV 250 - 55 × 400 200 L 4	32
		43,8	26,3	574	1,25	MR V 250 - 55 × 400 200 L 4	32
	25,1	56	26,4	451	0,95	MR V 200 - 55 × 400 200 L 4	25
30		56	26,7	455	1,7	MR V 250 - 55 × 400 200 L 4	25
		70	26,7	364	1,18	MR V 200 - 55 × 400 200 L 4	20
		70	26,8	366	2,12	MR V 250 - 55 × 400 200 L 4	20
		87,5	27,1	296	1,4	MR V 200 - 55 × 400 200 L 4	16
		87,5	27,3	298	2,5	MR V 250 - 55 × 400 200 L 4	16
		108	27,3	242	1,6	MR V 200 - 55 × 400 200 L 4	13
37	25	28	32,2	1099	0,95	MR IV 250 - 60 × 450 225 S 4	50
	25,7	28	30,7	1047	0,75	MR V 250 - 60 × 450 225 S 4	50
	26,4	35	32,5	886	1,12	MR IV 250 - 60 × 450 225 S 4	40
	27,3	35	31,1	848	0,95	MR V 250 - 60 × 450 225 S 4	40
	19,4	43,8	31,3	683	0,67	MR V 200 - 55 × 400 200 LG 4	32
	31,2	43,8	33,2	724	1,32	MR IV 250 - 60 × 450 225 S 4	32
		43,8	32,4	708	1	MR V 250 - 60 × 450 225 S 4	32
	25,1	56	32,6	556	0,75	MR V 200 - 55 × 400 200 LG 4	25
		56	32,9	561	1,4	MR V 250 - 60 × 450 225 S 4	25
	27	70	32,9	449	0,95	MR V 200 - 55 × 400 200 LG 4	20
		70	33,1	451	1,7	MR V 250 - 60 × 450 225 S 4	20
	31,3	87,5	33,5	365	1,12	MR V 200 - 55 × 400 200 LG 4	16
		87,5	33,7	367	2	MR V 250 - 60 × 450 225 S 4	16
		108	33,7	299	1,32	MR V 200 - 55 × 400 200 LG 4	13
45	25	28	39,2	1336	0,8	MR IV 250 - 60 × 450 225 M 4	50
	26,4	35	39,5	1078	0,95	MR IV 250 - 60 × 450 225 M 4	40
	27,3	35	37,8	1031	0,8	MR V 250 - 60 × 450 225 M 4	40
	31,2	43,8	40,3	881	1,12	MR IV 250 - 60 × 450 225 M 4	32
	35,5	43,8	39,4	861	0,85	MR V 250 - 60 × 450 225 M 4	32
		56	40	682	1,12	MR V 250 - 60 × 450 225 M 4	25
		70	40,2	549	1,4	MR V 250 - 60 × 450 225 M 4	20
		87,5	40,9	447	1,6	MR V 250 - 60 × 450 225 M 4	16
55	35,5	43,8	48,2	1052	0,71	MR V 250 - 60 × 450 250 M * 4	32
	39,4	56	48,9	834	0,95	MR V 250 - 60 × 450 250 M * 4	25
	41,2	70	49,2	671	1,12	MR V 250 - 60 × 450 250 M * 4	20
		87,5	50	546	1,32	MR V 250 - 60 × 450 250 M * 4	16

Values in red state nominal thermal power Pt_N (ambient temperature 40 °C, continuous duty, see ch. 3.2).
1) Powers valid for continuous duty S1; **increase** possible for S2 ... S10 (see ch. 2b) in which case P_2, M_2 increase and fs decreases proportionately.
2) For complete designation when ordering see ch. 3.1.
* Mounting position **B5R** (see table ch. 2b).

MR V 32 ... 81





Design[1)]

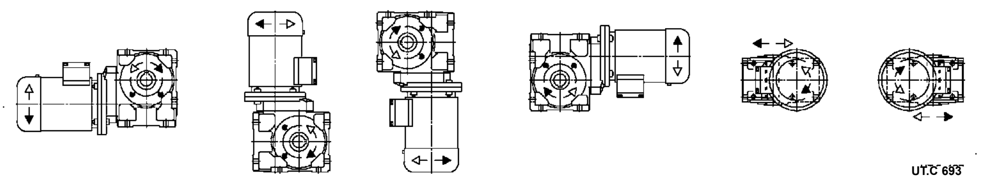
standard	**UO3A**
worm extension	**UO3D**

Size red.	motor B5	a	A B	c	D Ø H7	d Ø e1	F 2)	G	H h11	H0 h11	H h12	K Ø	L L1	M Ø	N Ø h6	P Ø Q	T U	Z	P Ø	X Ø ≈	Y ≈	Y ≈ 3)	Y ≈	Y ≈ 3)	W ≈	W ≈	Mass kg 8)	Mass kg	Mass kg 3)
32	**63**	32	61	51	19	11	M5	76	71	48	34,5	7	10	75	55	90	91	39	140	123	189	244	313	368	95	165	4	9	11
	71																		160	138	216	278	340	402	112	192	4	11	14
	71 B5R		52			20	4)						8,5		5)	3	66		140	138	235	297	359	421	112	182	4	11	14
40	**63**	40	70	57,5	24	14	M6	87	82	56	41,5	9,5	12	85	68	105	106	46	140	123	189	244	332	387	95	166	7	12	14
	71		62			25	4)	87					10		5)	3	80		160	138	216	278	359	421	112	192	7	14	17
	80 9)							99											200	156	233	302	376	445	121	221	8	20	23
	80 B5R 9)							87											160	156	254	323	397	466	121	201	7	19	22
50	**63**	50	86	70,5	28	16	M6	98	100	67	49	9,5	13	100	85	120	126	53	140	123	189	244	354	409	95	187	10	15	17
	71		75			30	4)	98					12		5)	3	95		160	138	216	278	381	443	112	197	11	18	21
	80 6)							98											200	156	233	302	398	467	121	221	12	24	27
	90 9)							110											200	176	287	–	452	–	141	241	12	31	–
	90 B5R 9)							98											200	176	287	–	452	–	141	241	12	31	–
63	**71**	63	102	83	32	19	M8	118	125	80	58,5	11,5	16	100	80	120	151	63	160	138	216	278	414	476	112	223	16	23	26
64	**80**		90			30		118					14			3	114		200	156	233	302	431	500	121	243	17	29	32
	90							118											200	176	287	366	485	564	141	243	17	36	42
	100							130											250	194	310	405	508	603	151	276	18	44	48
	100 B5R							118											200	194	337	432	535	630	151	251	17	43	47
80	**80**	80	132	103	38	24	M10	138	150	100	69,5	14	20	130	110	160	189	75	200	156	233	302	471	540	121	280	26	38	41
81	**90**		106		**(80)**	36							17			3,5	135		200	176	287	366	525	604	141	280	26	45	51
	100 7)				40														250	194	310	405	548	643	151	305	28	54	58
	112 7) 9)				**(81)**														250	218	336	–	574	–	163	305	28	63	–

1) See ch. 3.1 for motor design.
2) Working length of thread 2 · F.
3) Values valid for brake motor.
4) Holes turned through 45° with respect to the drawing.
5) Tolerance t8.
6) Option of P_1 = 160 (m.p. B5A, see ch. 2b), with price addition: consult us.
7) On request for 100L 4, 112M 4 excluded size 81 also available mounting position **B5R** (see ch. 2b).
8) Values valid for gearmotor without motor.
9) **Brake motor** (cat. TX) **not possible**.

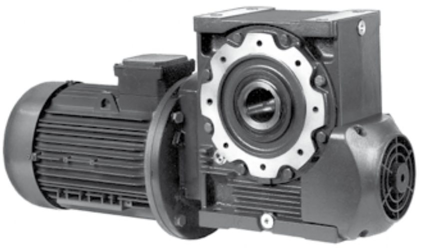
Mounting positions - direction of rotation - and oil quantities [l]

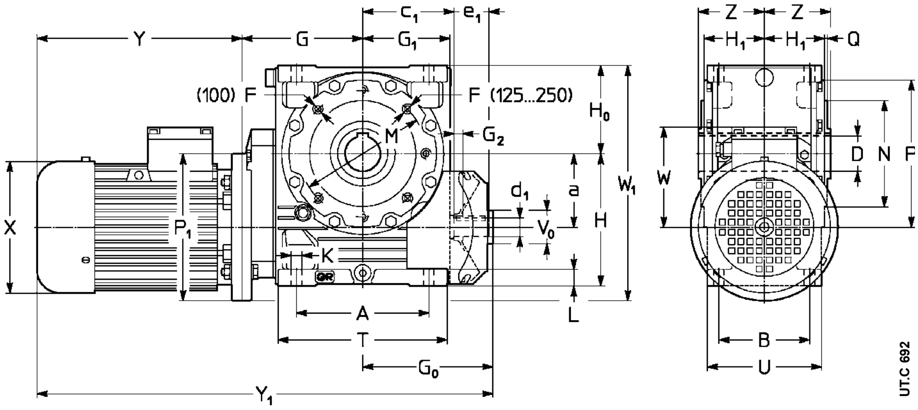
B3	B6	B7	B8	V5	V6



Size	B3	B6, B7	B8	V5, V6
32	0,16	0,2	0,16	0,16
40	0,26	0,35	0,26	0,26
50	0,4	0,6	0,4	0,4
63, 64	0,8	1,15	0,8	0,8
80, 81	1,3	2,2	1,7	1,3

MR V 100 ... 250





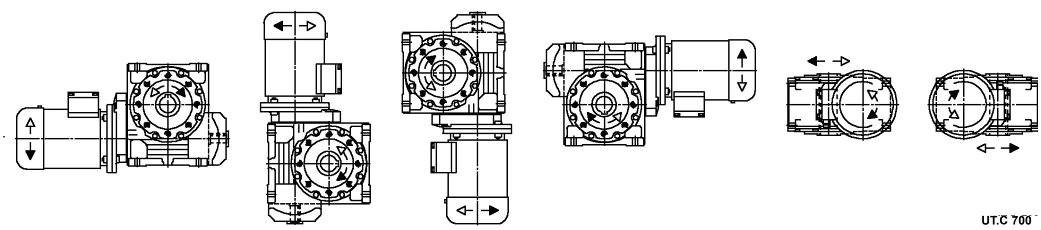
Design[1)]
standard **UO2A**[5)]

Size red.	Size motor	a	A	c	D Ø H7	d Ø	F	G	G_0	G	G_2	H h11	H_0 h11	H h12	K Ø	L	M Ø	N Ø h6	P Ø	T	V $Ø^0$ max	Z	P Ø ≈	X	Y ≈	Y ≈	Y ≈	Y ≈	W ≈	W ≈	Mass kg	Mass kg	Mass kg
	B5		B			e_1	2)						L						Q	U						4)		4)			8)		4)
100	90	100	180	130	48	28	M12	170	180	122	11	180	125	84,5	16	23	165	130	200	236	45	90	200	176	287	366	637	716	141	325	44	63	69
	100		131			42													3,5	165			250	194	310	405	660	755	151	350	47	73	77
	112																						250	218	336	435	686	785	163	350	47	82	86
	132[7)]							190															300	257	445	553	815	923	194	375	48	117	126
125	100	125	225	155	60	32	M12[8]	205	221	148	15	225	150	99,5	18	28	215	180	250	287	50	106	250	194	310	405	736	831	151	400	80	106	110
126	112		155			58													4	194			250	218	336	435	762	861	163	400	80	115	119
	132																						300	257	445	553	871	979	194	425	83	152	161
	160[6) 9)]																						300	314	573	–	999	–	258	425	83	216	–
160	112	160	272	187	70	38	M14[8]	247	255	178	15	280	180	118,5	22	33	265	230	300	345	60	125	250	218	336	435	838	937	163	465	140	175	179
161	132		183		**(160)**	58													4	232			300	257	445	553	947	1055	194	490	143	212	221
	160				75			260															350	314	573	640	1088	1155	258	515	146	279	260
	180[8) 9)]				**(161)**																		350	354	613	734	1128	1249	278	515	146	303	304
200	132	200	342	235	90	48	M16[8]	292	324	222	20	335	225	137,5	27	40	300	250	350	431	80	150	300	257	445	553	1061	1169	194	575	245	314	323
	160		214			82		305											5	270			350	314	573	640	1202	1269	258	600	248	381	362
	180																						350	354	613	734	1242	1363	278	600	248	405	406
	200[9)]																						400	354	654	–	1283	–	278	625	250	496	–
250	160	250	425	287	110	55	M20[8]	360	379	277	20	410	280	163	33	50	400	350	450	537	80	180	350	314	573	640	1312	1379	258	705	400	533	514
	180		250			82	3)												5	320			350	354	613	734	1352	1473	278	705	400	557	558
	200																						400	354	654	734	1393	1473	278	730	405	651	587
	225							370															450	411	710	–	1459	–	298	755	410	734	–
	250[6)]																						450	411	710	–	1459	–	298	755	410	866	–

1) See ch. 3.1 for motor design.
2) Working length of thread 2 · F.
3) Holes turned through 22° 30' with respect to the drawing.
4) Values valid for brake motor.
5) Prearranged design for worm shaft extension (see ch. 2).
6) Mounting position **B5R** (see ch. 2b).
7) On request for 132M 4 also available mounting position B5R (see ch. 2b)
8) Values valid for gearmotor without motor.
9) **Brake motor 160**, **180L**, **200** (cat. TX) **not possible.**

Mounting positions - direction of rotation - and oil quantities [l]

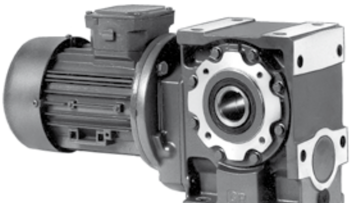
B3 **B6** **B7**[1)] **B8** **V5** **V6**

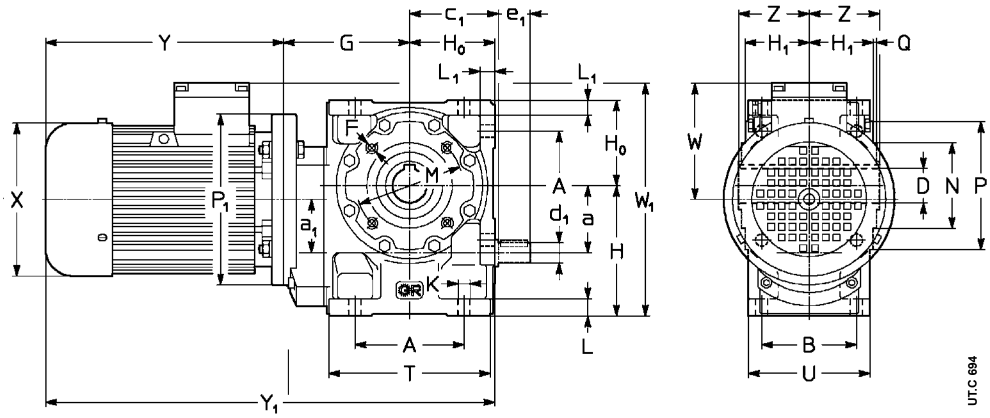


Size	B3	B6, B7	B8	V5, V6
100	1,9	5,4	4,2	3
125, 126	3,4	10	8,2	5,7
160, 161	5,6	18	15	10
200	9,5	33	30	20
250	17	57	51	34

1) Sizes 200 and 250 in **B7**, mounting position with n_1 > 710 min^{-1}, carry a price addition.

MR IV 32 ... 81





Design[1)]

standard **UO3A**

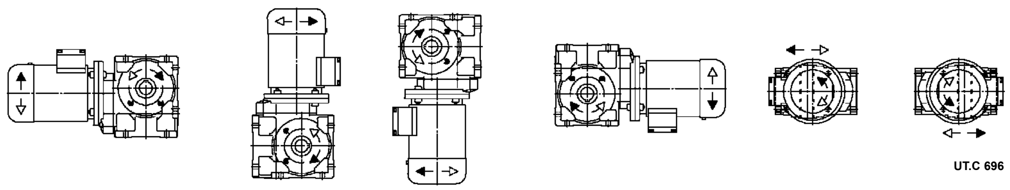
worm extension **UO3D**

Size red.	Size motor B5	a a	A B	c	D Ø H7	d Ø e	F 2)	G	H h11	H_0 h11	H_1 h12	K Ø	L L	M Ø	N Ø h6	P Ø Q	T U	Z	P Ø	X	Y ≈	Y ≈ 3)	Y ≈	Y ≈ 3)	W ≈	W ≈	Mass kg 8)	Mass kg	Mass kg 3)
32	**63**	32 32	61 52	51	19	11 20	M5 4)	76	71	48	34,5	7	10 8,5	75	55 5)	90 3	91 66	39	140	123	189	244	313	368	95	166	4	9	11
40	**63** **71**	40 40	70 62	57,5	24	14 25	M6 4)	87	82	56	41,5	9,5	12 10	85	68 5)	105 3	106 80	46	140 160	123 138	189 216	244 278	332 359	387 421	95 112	177 194	7 7	12 14	14 17
50	**63** **71** **80**[6)]	50 40	86 75	70,5	28	16 30	M6 4)	98	100	67	49	9,5	13 12	100	85 5)	120 3	126 95	53 69	140 160 200	123 138 156	189 216 233	244 278 302	354 381 398	409 443 467	95 112 121	185 202 221	10 11 12	15 18 24	17 21 27
63 **64**	**71** **80** **90**	63 50	102 90	83	32	19 30	M8	118	125	80	58,5	11,5	16 14	100	80	120 3	151 114	63	160 200 200	138 156 176	216 233 287	278 302 366	414 431 485	476 500 564	112 121 141	224 233 253	16 17 17	23 29 34	26 32 40
80 **81**	**71** **80** **90**	80 50	132 106	103	38 **(80)** 40	24 36	M10	138	150	100	69,5	14	20 17	130	110	160 3,5	189 135	75	160 200 200	138 156 176	216 233 287	278 302 366	454 471 525	516 540 604	112 121 141	250 250 261	26 27 27	33 39 44	36 42 50
	100[7)]				**(81)**														200	194	337	432	575	670	151	271	27	51	55

1) See ch. 3 for motor design.
2) Working length of thread 2 · F.
3) Values valid for brake motor.
4) Holes turned through 45° with respect to the drawing.
5) Tolerance t8.
6) Option of P_1 = 160 (m.p. B5A, ved. cap. 2b), with price addition: consult us.
7) Mounting position **B5R** (see ch. 2b);
8) Values valid for gearmotor without motor.

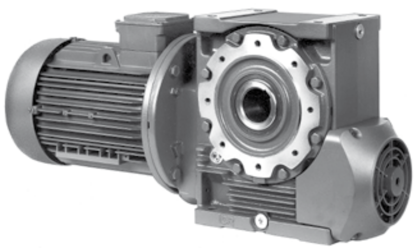
Mounting positions - direction of rotation **- and oil quantities** [l]

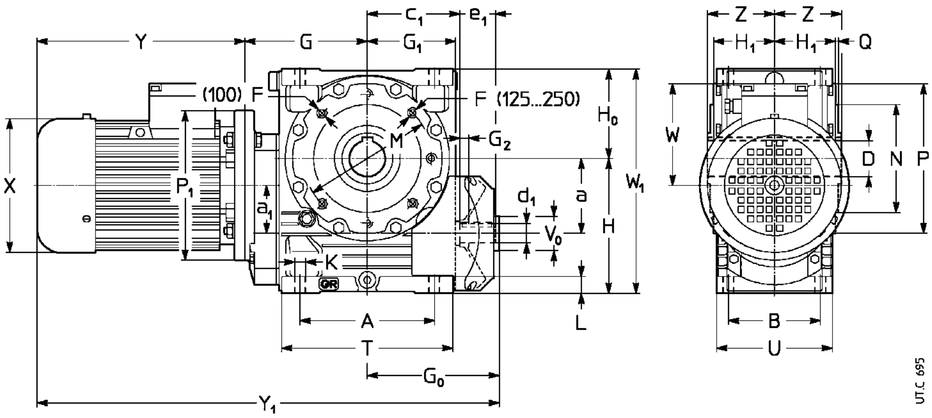
B3	B6	B7	B8	V5	V6



Size	B3	B6, B7	B8	V5, V6
32	0,2	0,25	0,2	0,2
40	0,32	0,4	0,32	0,32
50	0,5	0,7	0,5	0,5
63, 64	1	1,3	1	1
80, 81	1,5	2,5	2	1,5

MR IV 100 ... 250





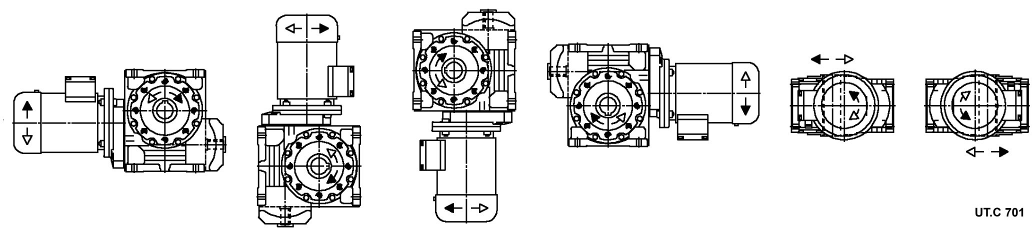
Design[1)]
standard **UO2A**[5)]

Size red.	motor B5	a / a_1	A / B	c	D Ø H7	d Ø / e	F 2)	G	G_0	G	G_2	H h11	H_0 h11	H h12	K Ø	L	M Ø	N Ø h6	P Ø / Q	T / U	V Ø[0] max	Z	P Ø ≈	X	Y ≈	Y ≈ 4)	Y ≈	Y ≈ 4)	W ≈	W ≈	Mass kg 7)	Mass kg	Mass kg 4)
100	**80**	100	180	130	48	28	M12	170	180	122	11	180	125	84,5	16	23	165	130	200	236	45	90	200	156	233	302	583	652	121	305	45	57	60
	90	63	131			42													3,5	165			200	176	287	366	637	716	141	305	45	64	70
	112																						250	194	310	405	660	755	151	305	48	74	78
125	**90**	125	225	155	60	32	M12[8]	205	221	148	15	225	150	99,5	18	28	215	180	250	287	50	106	200	176	287	366	713	792	141	375	80	99	105
126	**100**	80	155			58													4	194			250	194	310	405	736	831	151	375	83	109	113
	112																						250	218	336	435	762	861	163	375	83	118	125
	132																						300	257	445	553	871	979	194	375	85	154	163
160	**100**	160	272	187	70	38	M14[8]	247	255	178	15	280	180	118,5	22	33	265	230	300	345	60	125	250	194	310	405	812	907	151	460	140	166	170
161	**112**	100	183		**(160)**	58													4	232			250	218	336	435	838	937	163	460	140	175	182
	132				75																		300	257	445	553	947	1055	194	460	145	214	233
	160				**(161)**			260															350	314	573	640	1088	1155	258	478	150	283	264
	180M																						350	354	613	640	1128	1155	278	498	150	285	274
200	**100**	200	342	235	90	48	M16[8]	292	324	222	20	335	225	137,5	27	40	300	250	350	431	80	150	250	194	310	405	926	1021	151	560	245	271	275
	112	100	214			82													5	270			250	218	336	435	952	1051	163	560	245	280	284
	132																						300	257	445	553	1061	1169	194	560	251	319	328
	160							305															350	314	573	640	1202	1269	258	560	255	388	369
	180																						350	354	613	734	1242	1363	278	560	255	412	413
	200[6)]																						350	354	654	734	1283	1363	278	560	255	501	437
250	**132**	250	425	287	110	55	M20[8]	360	379	277	20	410	280	163	33	50	400	350	450	537	80	180	300	257	445	553	1184	1292	194	690	405	474	483
	160	125	250			82	3)												5	320			350	314	573	640	1312	1379	258	690	410	543	524
	180																						350	354	613	734	1352	1473	278	690	410	567	568
	200																						400	354	654	734	1393	1473	278	690	410	656	592
	225							370															450	411	710	-	1459	-	298	690	415	739	-

1) See ch. 3 for motor design.
2) Working length of thread 2 · F.
3) Holes turned through 22° 30' with respect to the drawing.
4) Values valid for brake motor.
5) Prearranged design for worm shaft extension (see ch. 2).
6) Mounting position **B5R** (see ch. 2b).
7) Values valid for gearmotor without motor.

Mounting positions - direction of rotation **- and oil quantities** [l]

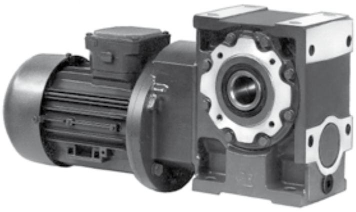
B3	B6[1)]	B7	B8	V5	V6

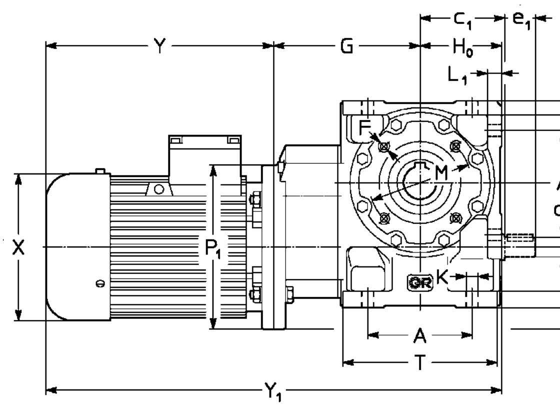


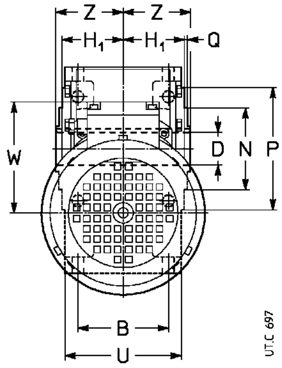
Size	B3	B6, B7	B8	V5, V6
100	2,1	6,3	4,5	3,3
125, 126	3,8	11,6	8,8	6,3
160, 161	6,5	20,8	16,5	11,2
200	10,4	38	31,5	21,2
250	18,3	67	53	35,7

1) Sizes 100 ... 250 in mounting position **B6** carry a price addition.

MR 2IV 40 ... 81

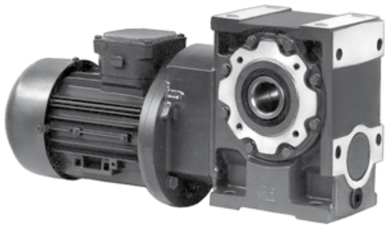


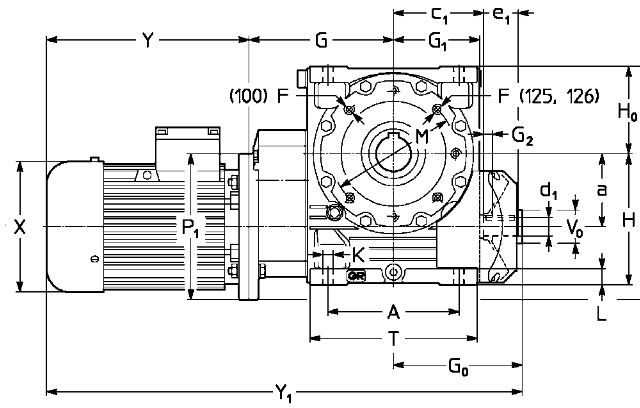


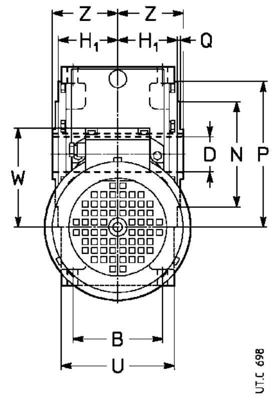


Design[1)]
standard **UO3A**
worm extension **UO3D**

MR 2IV 100 ... 126





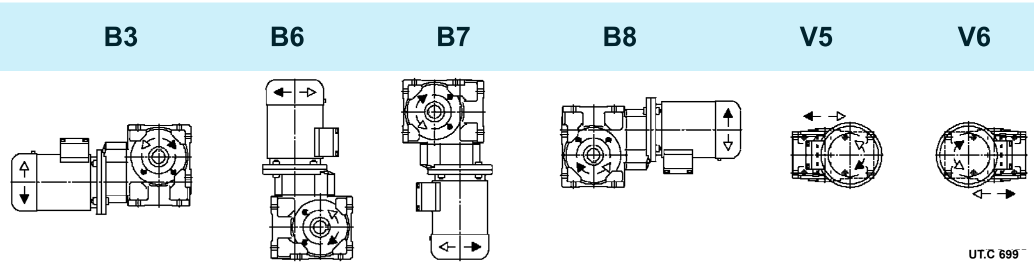


Design[1)]
standard **UO2A**[4)]

Size red.	motor B5	a	A B	c	D Ø H7	d Ø e	F 2)	G	G_0	G	G_2	H h11	H_0 h11 L	H h12	K Ø	L	L	M Ø	N Ø h6	P Ø Q	T U	V_0 Ø max	Z	P Ø ≈	X	Y ≈	Y ≈ 3)	Y ≈	Y ≈ 3)	W ≈	W ≈	Mass kg 7)	Mass kg	Mass kg 3)
40	**63**	40	70 6	57,5	24	14 25	M6 5)	106	—	—	—	82	56	41,5	9,5	12	10	85	68 6)	105 3	106 80	—	46	140	123	189	244	351	406	95	166	7	12	14
50	**63** **71**	50	86 75	70,5	28	16 30	M6 5)	117	— —	— —	— —	100	67	49	9,5	13	12	100	85 6)	120 3	126 95	—	53	140 160	123 138	189 216	244 278	373 400	428 462	95 112	187 197	10 11	15 18	17 21
63 **64**	**71** **80**	63	102 90	83	32	19 30	M8	145	—	—	—	125	80	58,5	11,5	16	14	100	80	120 3	151 114	—	63	160 200	138 156	216 233	278 302	441 458	503 527	112 121	223 243	17 18	24 30	27 33
80 **81**	**71** **80**	80	132 106	103	38 **(80)** 40 **(81)**	24 36	M10	165	—	—	—	150	100	69,5	14	20	17	130	110	160 3,5	189 135	— —	75	160 200	138 156	216 233	278 302	481 498	543 567	112 121	260 280	27 28	34 40	37 43
100	**80** **90**	100	180 131	130	48	28 42	M12	203	180	122	11	180	125	84,5	16	23	—	165	130	200 3,5	236 165	45	90	200 200	156 176	233 287	302 366	316 670	685 749	121 141	325 325	48 48	60 67	63 73
125 **126**	**90** **100** **112M**	125	225 155	155	60	32 58	M12[8]	249	221	148	15	225	150	99,5	18	28	—	215	180	250 4	287 194	50	106	200 250 250	176 194 218	287 310 336	366 405 435	757 780 806	836 875 905	141 151 163	375 400 400	80 85 85	99 111 120	105 115 124

1) See ch. 3 for motor design.
2) Working length of thread 2 · F.
3) Values valid for brake motor.
4) Prearranged design for worm shaft extension (see ch. 2).
5) Holes turned through 45° with respect to the drawing.
6) Tolerance t8.
7) Values valid for gearmotor without motor.

Forme costruttive - senso di rotazione - e quantità d'olio [l] **Mounting positions** - direction of rotation - **and oil quantities** [l]



Grand. Size	B3	B6, B7	B8	V5, V6
40	0,42	0,5	0,42	0,42
50	0,6	0,8	0,6	0,6
63, 64	1,2	1,55	1,2	1,2
80, 81	1,7	2,8	2,3	1,8
100	2,4	6,8	4,8	3,6
125,126	4,2	12,8	9,3	6,8

Schemi di grand. 40 ... 81 validi anche per grand. 100 ... 126.

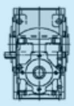
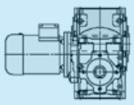
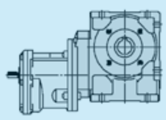
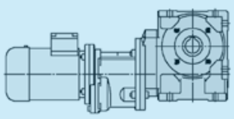
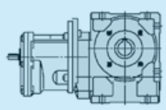
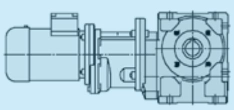
Schemes for sizes 40 ... 81 valid also for sizes 100 ... 126.

Tabella A - Nominal torques for final gear reducer

n_2 min^{-1}	Final gear reducer size / *i* worm gear pair **50**/20 M_{N2} daN m	η	M_{2max} daN m	**63**/25 M_{N2} daN m	η	M_{2max} daN m	**80**/25 M_{N2} daN m	η	M_{2max} daN m	**81**/25 M_{N2} daN m	η	M_{2max} daN m
11,2	20,1	0,7	33,4	32	0,7	58	63	0,72	109	75	0,72	118
9	20,5	0,68	35	33,8	0,69	61	65	0,71	113	77	0,71	123
4,5	21,3	0,66	38,4	37,8	0,66	68	72	0,68	127	82	0,68	137
2,24	23,9	0,64	40,2	42,9	0,64	73	80	0,65	133	87	0,65	141
1,12	25	0,62	40,2	47,5	0,62	73	80	0,63	133	90	0,63	141
0,56	25*	0,6	40,2	47,5	0,6	73	80*	0,61	133	90*	0,61	141
0,28	25**	0,58	40,2	47,5*	0,58	73	80**	0,59	133	90**	0,59	141
0,14	25**	0,57	40,2	47,5*	0,57	73	80**	0,58	133	90**	0,58	141
⩽ 0,071	25**	0,55	40,2	47,5*	0,55	73	80**	0,56	133	90**	0,56	141
M_2 Size [daN m]	**25**			**47,5**			**80**			**90**		

*, ** In these cases *fs* required, provided that it always results ⩾ 1, can be reduced of **1,12** (*) or **1,18** (**).

Table B - Types of combined units

Type of combined unit	Final gear reducer size **50**	**63**	**80**	**81**
R V + R V  **R V + MR V**  1) i_N ≈ 250 ... 1 600	**R V 50/20** + **R V** or **MR V 32** i_{final} = 20	**R V 63/25** + **R V** or **MR V 32** i_{final} = 25	**R V 80/25** + **R V** or **MR V 40**[5)] 5) *i* = 63 is not admitted. i_{final} = 25	**R V 81/25** + **R V** or **MR V 40**[5)] 5) *i* = 63 is not admitted. i_{final} = 25
MR V + R 2I, 3I  **MR V + MR 2I, 3I**  i_N ≈ 160 ... 4 000	**MR V 50 – 19×160 – 20**[3)] + **R 2I** or **MR 2I, 3I 40** i_{final} = 20	**MR V 63 – 19×160 – 25**[3)] + **R 2I** or **MR 2I, 3I 40** i_{final} = 25	**MR V 80 – 24×200 – 25** + **R 2I, 3I** or **MR 2I, 3I 50**[4)] for M_{N2} ⩽ 60 daN m **MR V 80 – 19×160 – 25**[3)] + **R 2I** o/ou **MR 2I, 3I 40** i_{final} = 25	**MR V 81 – 24×200 – 25** + **R 2I, 3I** or **MR 2I, 3I 50**[4)] i_{final} = 25
MR IV + R 2I  **MR IV + MR 2I, 3I**  i_N ≈ 400 ... 10 000	**MR IV 50 – 14×140 – 50,7**[2)] + **R 2I** or **MR 2I, 3I 32** design: **shaft end ∅ 14** i_{final} = 50,7	**MR IV 63 – 19×160 – 63,5**[3)] + **R 2I** or **MR 2I, 3I 40** i_{final} = 63,5	**MR IV 80 – 19×160 – 63,5**[3)] + **R 2I** or **MR 2I, 3I 40** i_{final} = 63,5	**MR IV 81 – 19×160 – 63,5**[3)] + **R 2I** or **MR 2I, 3I 40** i_{final} = 63,5

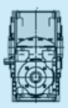
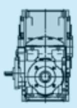
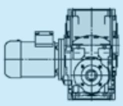
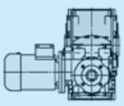
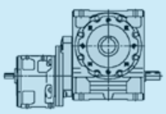
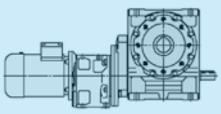
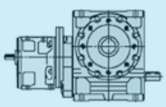
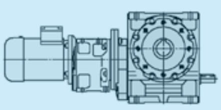
For initial gear reducer performance see: this catalog ch. 3.5 or 3.7 for worm gear reducer, and catalog E ch. 3.4 or 3.6 for coaxial gear reducer.
1) An anchor link is fitted between initial and final gear reducer.
2) The gearmotor has 140 mm motor mounting flange (dimension P_0, ch. 3.10).
3) The gearmotor has 160 mm motor mounting flange (dimension P_0, ch. 3.10).
4) Gear reducer in «oversized B5 flange» (see cat. E).

Table A - Nominal torques for final gear reducer

n_2 min^{-1}	Final gear reducer size / *i* worm gear pair **100**/25 M_{N2} daN m	**100**/25 η	**100**/25 M_{2max} daN m	**125**/32 M_{N2} daN m	**125**/32 η	**125**/32 M_{2max} daN m	**160**/32 M_{N2} daN m	**160**/32 η	**160**/32 M_{2max} daN m
11,2	129	0,74	215	200	0,74	339	372	0,76	636
9	133	0,73	229	208	0,73	361	391	0,75	680
4,5	145	0,69	257	230	0,69	413	435	0,71	784
2,24	154	0,67	268	254	0,66	458	494	0,68	850
1,12	160	0,65	268	279	0,64	468	500	0,65	850
0,56	160*	0,63	268	300	0,61	468	500*	0,63	850
0,28	160**	0,61	268	300*	0,6	468	500**	0,61	850
0,14	160**	0,59	268	300*	0,58	468	500**	0,59	850
⩽ 0,071	160**	0,57	268	300*	0,56	468	500**	0,57	850
$M_{2\ Size}$ [daN m]		**160**			**300**			**500**	

*****, ****** In these cases *f*s required, provided that it always results ⩾ 1, can be reduced of **1,12** (*****) or **1,18** (******).

Table B - Types of combined units

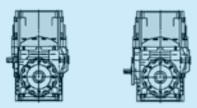
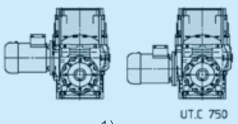
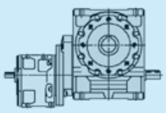
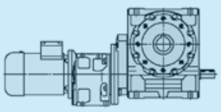
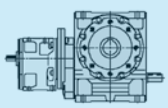
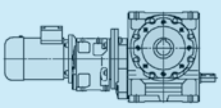
Type of combined unit	Final gear reducer size **100**	**125**	**160**
R V + R V R V + R IV   **R V + MR V R V + MR IV**   1) i_N ≈ 315 ... 8 000	**R V 100/25** + **R V, IV** or **MR V, IV 50** i_{final} = 25	**R V 125/32** + **R V, IV** or **MR V, IV 63** i_{final} = 32	**R V 160/32** + **R V, IV** or **MR V, IV 80** i_{final} = 32
MR V + R 2I, 3I  **MR V + MR 2I, 3I**  i_N ≈ 200 ... 5 000	**MR V 100 – 28×250 – 25** + **R 2I, 3I** or **MR 2I, 3I 63**4) for M_{N2} ⩽ 112 daN m **MR V 100 – 24×200 – 25** + **R 2I, 3I** or **MR 2I, 3I 50**4) i_{final} = 25	**MR V 125 – 28×250 – 32** + **R 2I, 3I** or **MR 2I, 3I 63**4) i_{final} = 32	**MR V 160 – 38×300 – 32** + **R 2I, 3I** or **MR 2I, 3I 80**4) for M_{N2} ⩽ 400 daN m **MR V 160 – 38×250 – 32**5) + **R 2I, 3I** or **MR 2I, 3I 64**4) for M_{N2} ⩽ 315 daN m **MR V 160 – 28×250 – 32** + **R 2I, 3I** or **MR 2I, 3I 63**4) i_{final} = 32
MR IV + R 2I, 3I  **MR IV + MR 2I, 3I**  i_N ≈ 500 ... 12 500	**MR IV 100 – 24×200 – 63,5** + **R 2I, 3I** or **MR 2I, 3I 50**4) i_{final} = 63,5	**MR IV 125 – 28×250 – 81,1** + **R 2I, 3I** or **MR 2I, 3I 63**4) i_{final} = 81,1	**MR IV 160 – 28×250 – 102** + **R 2I, 3I** or **MR 2I, 3I 63**4) i_{final} = 102

For initial gear reducer performance see: this catalog ch. 3.5 or 3.7 for worm gear reducer, and catalog E for coaxial gear reducer.
1) An anchor link is fitted between initial and final gear reducer.
4) Gear reducer in «oversized B5 flange» (see cat. E); size 63 has a low speed shaft reduced to 28 mm: «oversized B5 flange - Ø 28».
5) The gearmotor has 250 mm motor mounting flange (dimension P_0, ch. 3.10).
6) The gearmotor has 300 mm motor mounting flange (dimension P_0, ch. 3.10).
7) The gearmotor has 350 mm motor mounting flange (dimension P_0, ch. 3.10).

Table A - Nominal torques for final gear reducer

n_2	Final gear reducer size / *i* worm gear pair								
	161/32			**200**/32			**250**/40		
min^{-1}	M_{N2} daN m	η	M_{2max} daN m	M_{N2} daN m	η	M_{2max} daN m	M_{N2} daN m	η	M_{2max} daN m
11,2	442	0,76	691	730	0,78	1 201	1 190	0,79	2 013
9	466	0,75	739	767	0,77	1 258	1 270	0,78	2 072
4,5	516	0,71	851	851	0,73	1 487	1 440	0,73	2 467
2,24	556	0,68	921	923	0,69	1 662	1 562	0,69	2 812
1,12	560	0,65	921	1 000	0,67	1 736	1 704	0,66	3 034
0,56	560*	0,63	921	1 000*	0,64	1 736	1 900	0,64	3 134
0,28	560**	0,61	921	1 000**	0,63	1 736	1 900*	0,61	3 134
0,14	560**	0,59	921	1 000**	0,61	1 736	1 900**	0,60	3 134
⩽ 0,071	560**	0,57	921	1 000**	0,58	1 736	1 900**	0,57	3 134
$M_{2\ Size}$ [daN m]		**560**			**1 000**			**1 900**	

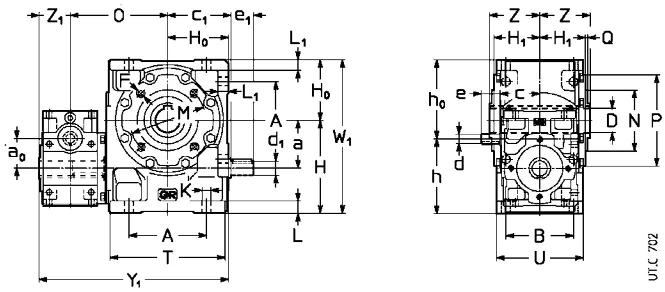
Table B - Types of combined units

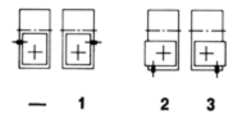
Type of combined unit	Final gear reducer size **161**	**200**	**250**
R V + R V R V + R IV  **R V + MR V R V + MR IV**  1) i_N ≈ 315 ... 10 000	**R V 161/32** + **R V, IV** or **MR V, IV 80** i_{final} = 32	**R V 200/32** + **R V, IV** or **MR V, IV 100** i_{final} = 32	**R V 250/40** + **R V, IV** or **MR V, IV 125** i_{final} = 40
MR V + R 2I, 3I  **MR V + MR 2I, 3I**  i_N ≈ 200 ... 6 300	**MR V 161 – 38×300 – 32** + **R 2I, 3I** or **MR 2I, 3I 80**[4)] for M_{N2} ⩽ 400 daN m **MR V 161 – 38×250 – 32**[5)] + **R 2I, 3I** or **MR 2I, 3I 64**[4)] i_{final} = 32	**MR V 200 – 48×350 – 32** + **R 2I, 3I** or **MR 2I, 3I 100**[4)] for M_{N2} ⩽ 800 daN m **MR V 200 – 48×300 – 32**[6)] + **R 2I, 3I** or **MR 2I, 3I 81**[4)] for M_{N2} ⩽ 670 daN m **MR V 200 – 38×300 – 32** + **R 2I, 3I** or **MR 2I, 3I 80**[4)] i_{final} = 32	**MR V 250 – 55×350 – 40**[7)] + **R 2I, 3I** or **MR 2I, 3I 101**[4)] for M_{N2} ⩽ 1 400 daN m **MR V 250 – 48×350 – 40** + **R 2I, 3I** or **MR 2I, 3I 100**[4)] i_{final} = 40
MR IV + R 2I, 3I  **MR IV + MR 2I, 3I**  i_N ≈ 500 ... 16 000	**MR IV 161 – 28×250 – 102** + **R 2I, 3I** or **MR 2I, 3I 63**[4)] i_{final} = 102	**MR IV 200 – 38×300 – 81,8** + **R 2I, 3I** or **MR 2I, 3I 80**[4)] i_{final} = 81,8	**MR IV 250 – 48×350 – 102** + **R 2I, 3I** or **MR 2I, 3I 100**[4)] i_{final} = 102

Final gear reducer size

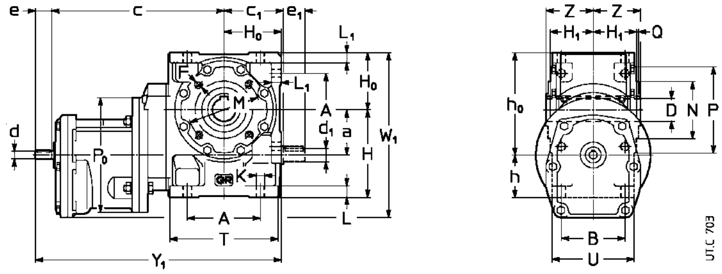
50 ... 81

R V ... + R V ... [2]

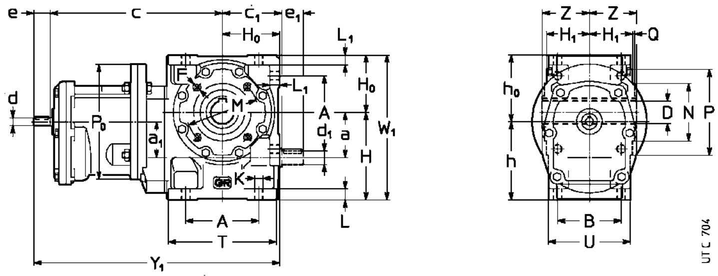




MR V ... + R 2I, 3I ...



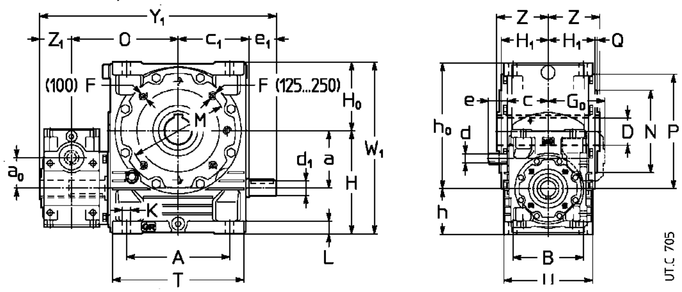
MR IV ... + R 2I ...

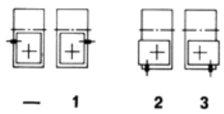


Final gear reducer size

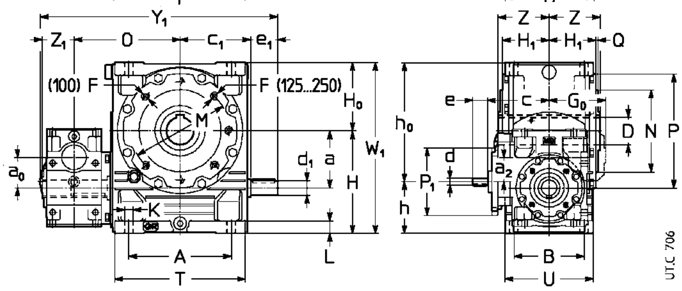
100 ... 250

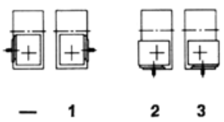
R V ... + R V ... [2]



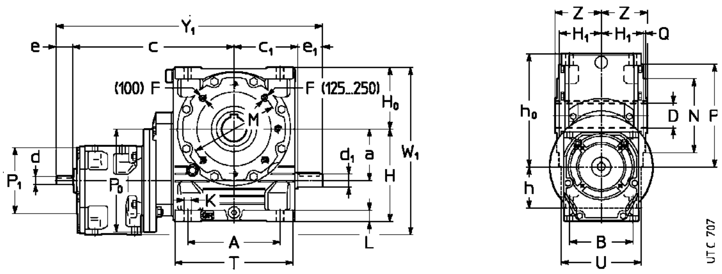


R V ... + R IV ... [2]

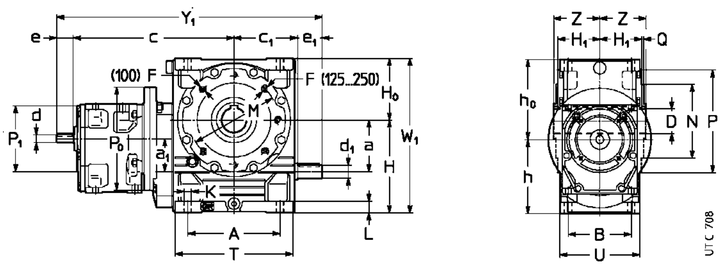




MR V ... + R 2I, 3I ...



MR IV ... + R 2I, 3I ...

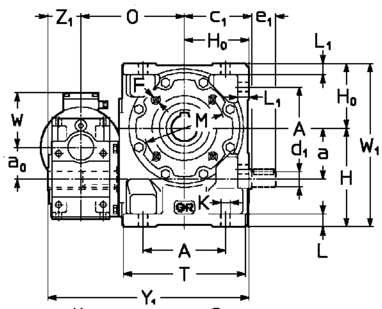


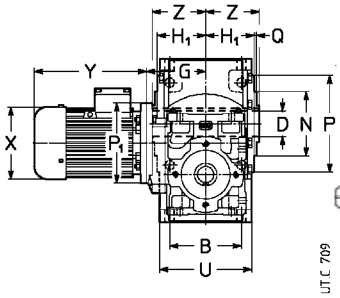
1) See catalogues for design, mounting position and oil quantities of single gear reducers.
2) The coupling position of the initial gear reducer with respect to the final one should be described in detail, though only in the case of **1**, **2** or **3**.
Important: personal safety-guards are the Buyer's responsibility (2006/42/EC).

Combined unit dimensions 1) (gear reducers)

Gear reducer size final	initial		a	a_1	A	c	c_1	D Ø H7	d Ø	e	d_1 Ø	F 1)	H h11	H_1 h12	h h11	h_0 h11	K Ø	L	M Ø	N Ø h6	O ≈	P Ø	P_0 Ø	P_1 Ø	T	W_1	Y_1	Z	Mass kg
			a_0	a_2	B						e_1		H_0 h11					L_1			G_0	Q			U			Z_1	
50 R V	**R V 32**		50	40	86	51	70,5	28	14	25	16	M 6	100	49	82	85	9,5	13	100	85	116	120	—	—	126	167	222	53	12
			32	—	75						30	2)	67					12		4)	—	3			95			39	
MR V	**R 2I 40**					220			11	23					50	117							160			204	310		18
MR IV	**R 2I 32**					191			11	20					90	77							140			167	278		18
63 R V	**R V 32**		63	50	102	51	83	32	14	25	19	M 8	125	58,5	94	111	11,5	16	100	80	129	120	—	—	151	205	248	63	17
			32	—	90						30		80					14			—	3			114			39	
MR V	**R 2I 40**					240			11	23					62	143							160			230	343		23
MR IV	**R 2I 40**					240			11	23					112	93							160			205	343		23
80 R V	**R V 40**		80	50	132	59,5	103	38	16	30	24	M 10	150	69,5	110	140	14	20	130	110	153	160	—	—	189	250	299	75	30
81			40	—	106			**(80)**			36		100					17			—	3,5			135			46	
MR V	**R 2I 50**					292			14	30					70	180							200	140		286	422		39
	R 3I 50					292		40	11	23					70	180							200			286	415		39
	R 2I 40					260		**(81)**	11	23					70	180							160	—		267	383		33
MR IV	**R 2I 40**					260			11	23					120	130							160			250	383		33
100 R V	**R V 50**		100	63	180	70,5	130	48	19	30	28	M 12	180	84,5	130	175	16	23	165	130	187	200	—	140	236	305	412	90	52
	R IV 50		50	40	131	107			11	23	42		125		90	215		—			—	3,5	—		165	305	429	53	54
MR V	**R 2I 63**	$i_N \leq 12,5$				357			19	40					80	225							250	160		357	569		66
		$i_N \geq 16$				357			16	30					80	225							250			357	559		66
	R 3I 63					357			14	30					80	225							250			357	559		66
	R 2I 50					324			14	30					80	225							200	140		331	526		58
	R 3I 50					324			11	23					80	225							200			331	519		58
MR IV	**R 2I 50**					324			14	30					143	162							200			305	526		59
	R 3I 50					324			11	23					143	162							200			305	519		59
125 R V	**R V 63**		125	80	225	83	155	60	19	40	32	M 12^{8}	225	99,5	163	212	18	28	215	180	222	250	—	160	287	375	498	106	88
	R IV 63		63	50	155	127			14	30	58		150		113	262		—			—	4	—		194	375	515	63	91
MR V	**R 2I 63**	$i_N \leq 12,5$				392			19	40					100	275							250			407	645		101
		$i_N \geq 16$				392			16	30					100	275							250			407	635		101
	R 3I 63					392			14	30					100	275							250			407	635		101
MR IV	**R 2I 63**	$i_N \leq 12,5$				392			19	40					180	195							250			375	645		103
		$i_N \geq 16$				392			16	30					180	195							250			375	635		103
	R 3I 63					392			14	30					180	195							250			375	635		103
160 R V	**R V 80**		160	100	272	103	187	70	24	50	38	M 14^{8}	280	118,5	200	260	22	33	265	230	268	300	—	160	345	460	588	125	154
161	**R IV 80**		80	50	183	147		**(160)**	14	30	58		180		150	310		—			—	4	—		232	460	593	75	157
MR V	**R 2I 80**	$i_N \leq 12,5$				477		75	24	50					120	340							300	200		500	772		178
		$i_N \geq 16$				477		**(161)**	19	40					120	340							300			500	762		178
	R 3I 80	$i_N \leq 80$				477			19	40					120	340							300			500	762		178
		$i_N \geq 100$				477			16	30					120	340							300			500	752		178
	R 2I 63, 64	$i_N \leq 12,5$				434			19	40					120	340							250	160		472	719		160
		$i_N \geq 16$				434			16	30					120	340							250			472	709		160
	R 3I 63, 64					434			14	30					120	340							250			472	709		160
MR IV	**R 2I 63**	$i_N \leq 12,5$				434			19	40					220	240							250			460	719		163
		$i_N \geq 16$				434			16	30					220	240							250			460	709		163
	R 3I 63					434			14	30					220	240							250			460	709		163
200 R V	**R V 100**		200	100	342	130	235	90	28	60	48	M 16^{8}	335	137,5	235	325	27	40	300	250	328	350	—	200	431	560	735	150	276
	R IV 100	$i_N \leq 160$	100	63	214	181			19	40	82		225		172	388		—			180	5	—		270	560	745	90	281
		$i_N \geq 200$				181			16	30					172	388							—			560	745		281
MR V	**R 2I 100**	$i_N \leq 12,5$				585			28	60					135	425							350	250		620	962		311
		$i_N \geq 16$				585			24	50					135	425							350			620	952		311
	R 3I 100	$i_N \leq 80$				585			24	50					135	425							350			620	952		311
		$i_N \geq 100$				585			19	40					135	425							350			620	942		311
	R 2I 80, 81	$i_N \leq 12,5$				522			24	50					135	425							300	200		585	889		281
		$i_N \geq 16$				522			19	40					135	425							300			585	879		281
	R 3I 80, 81	$i_N \leq 80$				522			19	40					135	425							300			585	879		281
		$i_N \geq 100$				522			16	30					135	425							300			585	869		281
MR IV	**R 2I 80**	$i_N \leq 12,5$				522			24	50					235	325							300			560	889		285
		$i_N \geq 16$				522			19	40					235	325							300			560	879		285
	R 3I 80	$i_N \leq 80$				522			19	40					235	325							300			560	879		285
		$i_N \geq 100$				522			16	30					235	325							300			560	869		285
250 R V	**R V 125**		250	125	425	155	287	110	32	80	55	M 20^{8}	410	163	285	405	33	50	400	350	401	450	—	200	537	690	876	180	456
	R IV 125	$i_N \leq 160$	125	80	250	216			24	50	82	3)	280		205	485		—			221	5	—		320	690	876	106	464
		$i_N \geq 200$				216			19	40					205	485							—			690	876		464
MR V	**R 2I 100, 101**	$i_N \leq 12,5$				640			28	60					160	530							350	250		725	1069		465
		$i_N \geq 16$				640			24	50					160	530							350			725	1059		465
	R 3I 100, 101	$i_N \leq 80$				640			24	50					160	530							350			725	1059		465
		$i_N \geq 100$				640			19	40					160	530							350			725	1049		465
MR IV	**R 2I 100**	$i_N \leq 12,5$				640			28	60					285	405							350			690	1069		471
		$i_N \geq 16$				640			24	50					285	405							350			690	1059		471
	R 3I 100	$i_N \leq 80$				640			24	50					285	405							350			690	1059		471
		$i_N \geq 100$				640			19	40					285	405							350			690	1049		471

1) Working length of thread 2 · F.
2) Holes turned through 45° with respect to the drawing.
3) Holes turned through 22° 30' with respect to the drawing.
4) Tolerance t8.

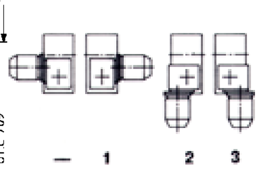


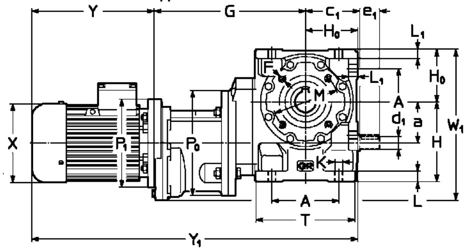


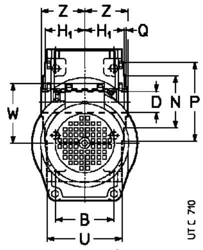
Final gear reducer size

50 ... 81

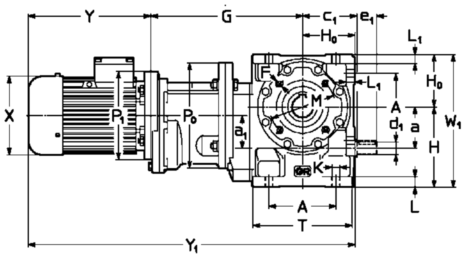
R V ... + MR V ... [2]

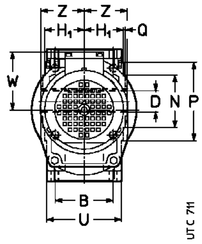






MR V ... + MR 2I, 3I ...

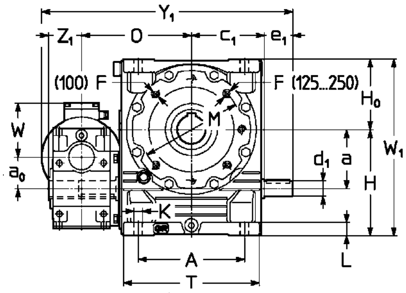


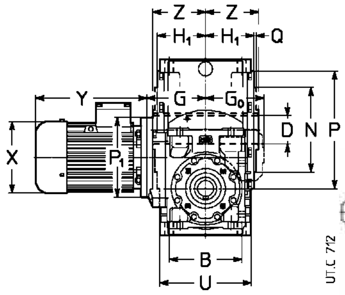


MR IV ... + MR 2I, 3I ...

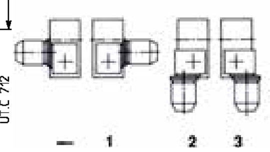
Final gear reducer size

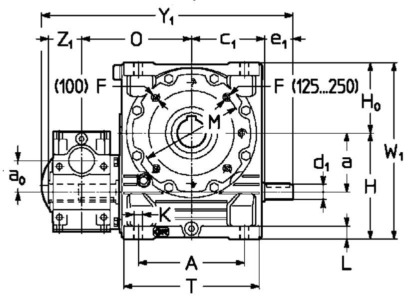
100 ... 250

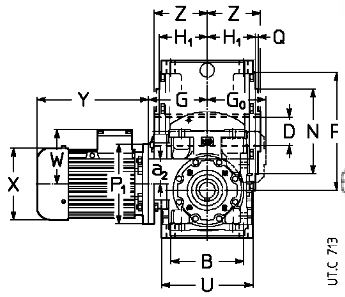




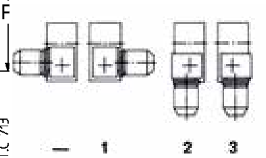
R V ... + MR V ... [2]

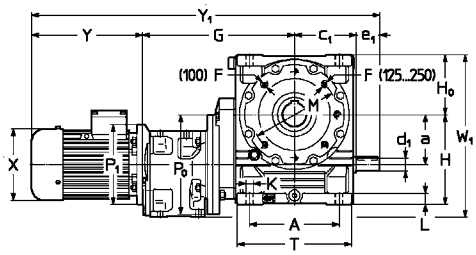


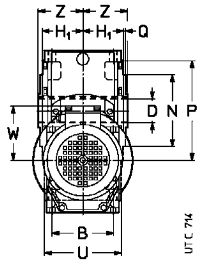




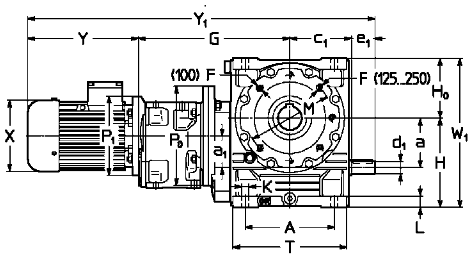
R V ... + MR IV ... [2]

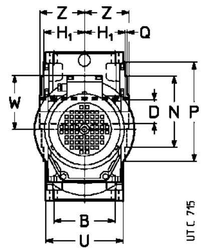






MR V ... + MR 2I, 3I ...





MR IV ... + MR 2I, 3I ...

1) See relevant catalogues for design, mounting position and oil quantities of single gear reducers.
2) The coupling position of the initial gear reducer with respect to the final one should be described in detail, though only in the case of **1**, **2** or **3**.
Important: personal safety-guards are the Buyer's responsibility (2006/42/EC).

Combined unit dimensions 1) (gear reducers)

Gear reducer size final		Gear reducer size initial			a / a_0	a_1 / a_2	A / B	c_1	D Ø H7	d_1 Ø / e_1	F 1)	G	H h11 / H_0 h11	H_1 h12	K Ø / L / L_1	M	N Ø h6	O ≈ / G_0	P Ø / Q	P_0 Ø	P_1 Ø	T Ø / U	W_1 / Z_1	Z ≈	X Ø ≈	Y ≈	Y ≈ 6)	Y_1 ≈	Y_1 ≈ 6)	w ≈ 6)	Mass kg 7)	Mass kg	Mass kg 6)
50	**R V**	**MR V**	**32**	**63**	50	40	86	70,5	28	16	M6	76	100	49	9,5	100	85	116	120	–	140	126	177	53	123	189	244	253	253	95	13	18	20
	MR V	**MR 2I, 3I**	**40**	**63**	32	–	75			30	2)	211	67		13		4)	–	3	160	140	95	204	39	123	189	244	467	522	95	18	23	25
				71								211			12					160	160		204		138	216	278	494	556	112	18	25	28
	MR IV	**MR 2I, 3I**	**32**	**63**								186								140	140		185		123	189	244	442	497	95	16	21	23
63	**R V**	**MR V**	**32**	**63**	63	50	102	83,5	32	19	M8	76	125	58,5	11,5	100	80	129	120	–	140	151	205	63	123	189	244	279	279	95	18	23	25
	MR V	**MR 2I, 3I**	**40**	**63**	32	–	90			30		231	80		16			–	3	160	140	114	230 5)	39	123	189	244	500	555	95	23	28	30
	MR IV			**71**								231			14					160	160		224 5)		138	216	278	527	589	112	23	30	33
80	**R V**	**MR V**	**40**	**63**	80	50	132	103	38	24	M10	87	150	69,5	14	130	110	153	160	–	140	189	250	75	123	189	244	323	323	95	31	36	38
81				**71**	40	–	106		**(80)**	36		87	100		20			–	3,5	–	160	135	250	46	138	216	278	333	333	112	31	38	41
	MR V	**MR 2I, 3I**	**50**	**63**					40			282			17					200	140		286		123	189	244	571	626	95	39	44	46
				71					**(81)**			282								200	160		286		138	216	278	598	660	112	40	47	50
				80								282								200	200		286		156	233	302	615	684	121	41	53	56
		MR 2I, 3I	**40**	**63**								251								160	140		267		123	189	244	540	595	95	33	38	40
				71								251								160	160		267		138	216	278	567	629	112	33	40	43
	MR IV	**MR 2I, 3I**	**40**	**63**								251								160	140		250		123	189	244	540	595	95	33	38	40
				71								251								160	160		250		138	216	278	567	629	112	33	40	43
100	**R V**	**MR V**	**50**	**63**	100	63	180	130	48	28	M12	98	180	84,5	16	165	130	187	200	–	140	236	305	90	123	189	244	429	429	95	54	59	61
		MR IV	**50**	**71**	50	40	131			42		89	125		23			–	3,5	–	160	165	305	53	138	216	278	439	439	112	55	62	65
				80								98			–					–	200		305		156	233	302	459	459	121	56	68	71
	MR V	**MR 2I, 3I**	**63**	**71**								347								250	160		357		138	216	278	735	797	112	67	74	77
				80								347								250	200		357		156	233	302	752	821	121	68	80	83
				90								347								250	200		357		176	287	366	806	885	141	68	85	91
		MR 2I, 3I	**50**	**63**								314								200	140		331		123	189	244	675	730	95	59	64	66
				71								314								200	160		331		138	216	278	702	764	112	60	67	70
				80								314								200	200		331		156	233	302	719	788	121	61	73	76
	MR IV	**MR 2I, 3I**	**50**	**63**								314								200	140		305		123	189	244	675	730	95	59	64	66
				71								314								200	160		305		138	216	278	702	764	112	60	67	70
				80								314								200	200		305		156	233	302	719	788	121	61	73	76
125	**R V**	**MR V**	**63**	**71**	125	80	225	155	60	32	$M12^{8}$	118	225	99,5	18	215	180	222	250	–	160	287	375	106	138	216	278	515	515	112	90	97	100
		MR IV	**63**	**80**	63	50	115			58		118	150		28			–	4	–	200	194	375	63	156	233	302	535	535	121	91	103	106
				90								118			–					–	200		375		176	287	366	535	535	141	91	108	114
	MR V	**MR 2I, 3I**	**63**	**71**								382								250	160		407 5)		138	216	278	811	873	112	103	110	113
	MR IV			**80**								382								250	200		375 5)		156	233	302	828	897	121	104	116	119
				90								382								250	200				176	287	366	882	961	141	104	121	127
				100								382								250	250				194	310	405	905	1000	151	106	128	132
160	**R V**	**MR V**	**80**	**71**	160	100	272	187	70	38	$M14^{8}$	138	280	118,5	22	265	230	268	300	–	160	345	460	125	138	216	278	593	593	112	156	163	166
161		**MR IV**	**80**	**80**	80	50	183		**(160)**	58		138	180		33			–	4	–	200	232	460	75	156	233	302	613	613	121	157	169	172
				90					75			138			–					–	200		460		176	287	366	613	613	141	157	174	180
				100					**(161)**			138								–	250		460		194	310	405	638	638	151	159	181	185
	MR V	**MR 2I, 3I**	**80**	**80**								466								300	200		500		156	233	302	944	1013	121	178	190	193
				90								466								300	200		500		176	287	366	998	1077	141	178	195	201
				100								466								300	250		500		194	310	405	1021	1116	151	179	202	206
				112								466								300	250		500		218	336	435	1047	1146	163	179	214	221
				132								469								300	300		500		257	445	553	1159	1267	194	180	249	258
		MR 2I, 3I	**63**	**71**								424								250	160		472		138	216	278	885	947	112	160	167	170
			64	**80**								424								250	200		472		156	233	302	902	971	121	161	173	176
				90								424								250	200		472		176	287	366	956	1035	141	161	178	184
				100								424								250	250		472		194	310	405	979	1074	151	162	185	189
				112								424								250	250		472		218	336	435	1005	1104	163	162	197	204
	MR IV	**MR 2I, 3I**	**63**	**71**								424								250	160		460		138	216	278	885	947	112	163	170	173
				80								424								250	200		460		156	233	302	902	971	121	164	176	179
				90								424								250	200		460		176	287	366	956	1035	141	164	181	187
				100								424								250	250		460		194	310	405	979	1074	151	165	188	192
200	**R V**	**MR V**	**100**	**80**	200	100	342	235	90	48	$M16^{8}$	170	335	137,5	27,5	300	250	328	350	–	200	431	560	150	156	233	302	745	745	121	280	292	295
		MR IV	**100**	**90**	100	63	214			82		170	225		40			180	5	–	200	270	560	90	176	287	366	745	745	141	280	297	303
				100								170			–					–	250		560		194	310	405	770	770	151	281	304	308
				112								170								–	250		560		218	336	435	770	770	163	281	316	323
	MR V	**MR 2I, 3I**	**100**	**90**								574								350	200		620		176	287	366	1178	1257	141	309	328	334
				100								574								350	250		620		194	310	405	1201	1296	151	312	335	339
				112								574								350	250		620		218	336	435	1227	1326	163	312	347	354
				132								574								350	300		620		257	445	553	1336	1444	194	314	383	392
		MR 2I, 3I	**80**	**80**								511								300	200		585		156	233	302	1061	1130	121	281	293	296
			81	**90**								511								300	200		585		176	287	366	1115	1194	141	281	298	304
				100								511								300	250		585		194	310	405	1138	1233	151	282	305	309
				112								511								300	250		585		218	336	435	1164	1263	163	282	317	324
				132								514								300	300		585		257	445	553	1276	1384	194	284	353	362
	MR IV	**MR 2I, 3I**	**80**	**80**								511								300	200		560		156	233	302	1061	1130	121	285	297	300
				90								511								300	200		560		176	287	366	1115	1194	141	285	302	308
				100								511								300	250		560		194	310	405	1138	1233	151	286	309	313
				112								511								300	250		560		218	336	435	1164	1263	163	286	321	328
250	**R V**	**MR V**	**125**	**90**	250	125	425	287	110	55	$M16^{8}$	205	410	163	33	400	350	401	450	–	200	537	690	180	176	287	366	876	876	141	462	481	487
		MR IV	**125**	**100**	125	80	250			82	3)	205	280		50			221	5	–	250	320	690	106	194	310	405	895	895	151	465	488	492
				112								205			–					–	250		690		218	336	435	895	895	163	465	500	507
				132								205								–	300		690		257	445	553	920	920	194	467	536	545
	MR V	**MR 2I, 3I**	**100**	**90**								629								350	200		725 5)		176	287	366	1285	1364	141	466	485	491
	MR IV		**101**	**100**								629								350	250		690 5)		194	310	405	1308	1403	151	469	492	496
				112								629								350	250				218	336	435	1334	1433	163	469	504	511
				132								629								350	300				257	445	553	1443	1551	194	471	540	549
				160								645								350	350				314	573	640	1587	1654	258	474	607	58

1) Working length of thread 2 · F.
2) Holes turned through 45° with respect to the drawing.
3) Holes turned through 22° 30' with respect to the drawing.
4) Tolerance t8.
5) Highest value is valid for **MR V**.
6) Values valid for brake motor.
7) Values valid for gearmotor without motor.

Initial gear reducer or gearmotor mounting position

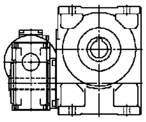
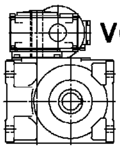
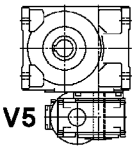
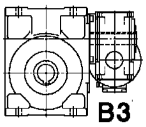
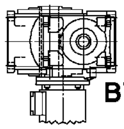
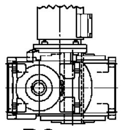
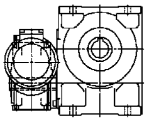
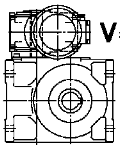
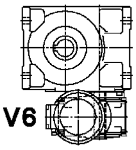
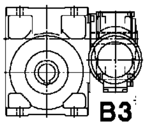
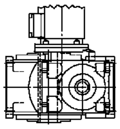
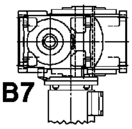
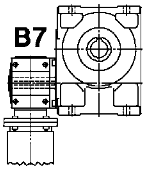
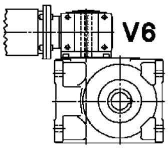
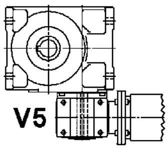
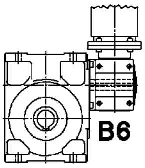
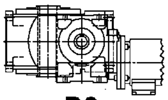
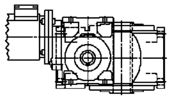
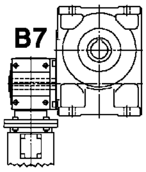
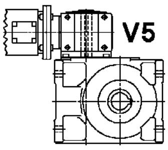
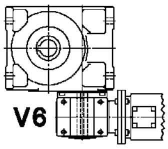
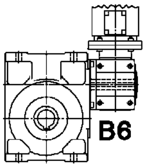
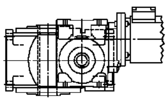
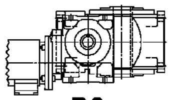
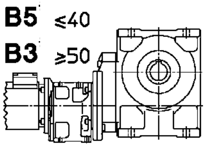
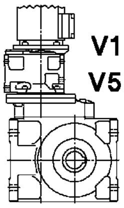
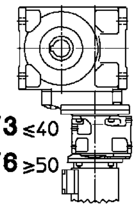
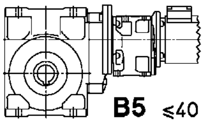
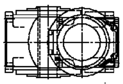
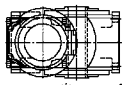
In order to make easier the individualization of the combined gear reducer and gearmotor mounting position refer to following table where, according to the final gear reducer mounting position and to the initial gear reducer or gearmotor coupling position, the mounting positions of the same initial gear reducer or gearmotor are stated.

Initial **gear reducer** mounting position

Coupling position	Final gear reducer mounting position B3	B6	B7	B8	V5	V6
–	B8	V6	R V ... + R V ... V5	R V ... + R IV ... B3	B7	B6
1	B8	V5	R V ... + R V ... V6	R V ... + R IV ... B3	B6	B7
2	B7	V6	R V ... + R V ... V5	R V ... + R IV ... B6	B3	B8
3	B7	V5	R V ... + R V ... V6	R V ... + R IV ... B6	B8	B3
	B5 ≤40 B3 ≥50	V1 ≤40 V5 ≥50	MR V ... + R 2I, 3I ... V3 ≤40 V6 ≥50	MR IV ... + R 2I, 3I ... B5 ≤40 B3 ≥50	B5 ≤40 [1] B6 ≥50	B5 ≤40 [1] B7 ≥50

1) Grease quantity is the same foreseen for B3 mounting position of cat. E.
On name plate there is a * in correspondence of mounting position.

Initial **gearmotor** mounting position[2)]

Coupling position	Final gear reducer mounting position B3	B6	B7	B8	V5	V6
–	B8 	V6 	R V ... + MR V ...  V5	R V ... + MR IV ...  B3	 B7	 B6
1	B8 	V5 	R V ... + MR V ...  V6	R V ... + MR IV ...  B3	 B6	 B7
2	B7 	V6 	R V ... + MR V ...  V5	R V ... + MR IV ...  B6	 B3	 B8
3	B7 	V5 	R V ... + MR V ...  V6	R V ... + MR IV ...  B6	 B8	 B3
	B5 ≤40 B3 ≥50 	V1 ≤40 V5 ≥50 	MR V ... + MR 2I, 3I ...  V3 ≤40 V6 ≥50	MR IV ... + MR 2I, 3I ...  B5 ≤40 B3 ≥50	 B5 ≤40 [1)] B6 ≥50	 B5 ≤40 [1] B7 ≥50

1) Grease quantity is the same foreseen for B3 mounting position of cat. E.
On name plate there is a * in correspondence of mounting position.
1) For initial worm gearmotor the motor terminal box position is always in TB3 position see ch. 3.1).

Radial loads[1)] F_{r1} [daN] on high speed shaft end 3.11

Radial loads generated on the shaft end by a drive connecting gear reducer and motor must be less than or equal to those given in the relevant table.
The radial load F_{r1} given by the following formula refers to most common drives:

$$F_{r1} = \frac{2\,865 \cdot P_1}{d \cdot n_1} \text{ [daN]} \qquad \text{for timing belt drive}$$

$$F_{r1} = \frac{4\,775 \cdot P_1}{d \cdot n_1} \text{ [daN]} \qquad \text{for V-belt drive}$$

where: P_1 [kW] is power required at the input side of the gear reducer, n_1 [min^{-1}] is the speed, d [m] is the pitch diameter.

Radial loads given in the table are valid for overhung loads on centre line of high speed shaft end, i.e. operating at a distance of 0,5 · e (e = shaft end length) from the shoulder. If they operate at 0,315 · e multiply by 1,25; if they operate at 0,8 · e multiply by 0,8.

n_1	Gear reducer size																			
	32		40		50		63, 64		80, 81		100		125, 126		160, 161		200		250	
min^{-1}	R V	R IV	R V	R IV	R V	R IV	R V	R IV	R V	R IV	R V	R IV	R V	R IV	R V	R IV	R V	R IV	R V	R IV
1 400	14	11,2	21,2	17	31,5	17	47,5	26,5	71	26,5	106	42,5	160	75	236	170	265	170	375	250
1 120	15	11,8	22,4	18	33,5	18	50	28	75	28	112	45	170	80	250	180	280	180	400	265
900	16	12,5	23,6	19	35,5	19	53	30	80	30	118	47,5	180	85	265	190	300	190	425	280
710	18	14	26,5	21,2	40	21,2	60	33,5	90	33,5	132	53	200	95	300	212	335	212	475	315
560	19	15	28	22,4	42,5	22,4	63	35,5	95	35,5	140	56	212	100	315	224	355	224	500	335
450	20	16	30	23,6	45	23,6	67	37,5	100	37,5	150	60	224	106	335	236	375	236	530	355
355	22,4	18	33,5	26,5	50	26,5	75	42,5	112	42,5	170	67	250	118	375	265	425	265	600	400

1) An axial load of up to 0,2 times the value in the table is permissible, simultaneously with the radial load. If exceeded consult us.

Radial F_{r2} or axial loads F_{a2} [daN] on low speed shaft end 3.12

Axial loads F_{a2}

Permissible F_{a2} is shown in the column where direction of rotation of low speed shaft (black or white arrow) and direction of the axial force (solid or broken arrow) correspond to those of the gear reducer in question. Direction of rotation and direction of force may be established viewing the gear reducer from any point, providing the same point adopted for both.
Wherever possible, choose the load conditions corresponding the column on the **right**.

Radial loads F_{r2}

Radial loads generated on the shaft end by a drive connecting gear reducer and machine must be less than or equal to those given in the relevant table.

Normally, radial loads on low speed shaft ends are considerable: in fact there is a tendency to connect the gear reducer to the machine by means of a transmission with high transmission ratio (economizing on the gear reducer) and with small diameters (economizing on the drive, and for requirements dictated by overall dimensions).
Bearing life and wear (which also affect gears unfavourably) and low speed shaft strength, clearly impose limits on permissible radial load.

The high value which radial load may take on, and the importance of not exceeding permissible values, make it necessary to take full advantage of the gear reducer's possibilities.
Permissible radial loads given in the table are therefore based on: the product of speed n_2 [min^{-1}] multiplied by bearing life L_h [h] required, the direction of rotation, the angular position φ [°] of the load and torque M_2 [daN m] required.

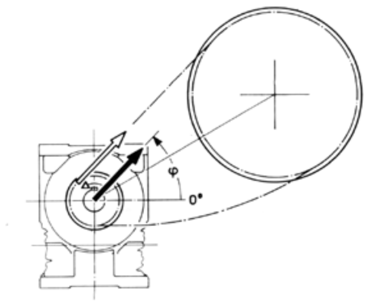
Radial loads given in the table are valid for overhung loads on centre line of low speed shaft end, i.e. operating at a distance of 0,5 · E (E = shaft end length) from the shoulder. If operating at 0,315 · E multiply by 1,25; if operating at 0,8 · E multiply by 0,8.

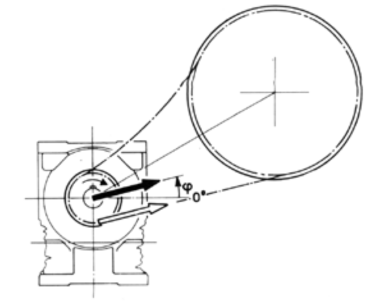
Radial load F_{r2} for most common drives has the following value and angular position:

Rotation

$$F_{r2} = \frac{1\,910 \cdot P_2}{d \cdot n_2} \text{ [daN]}$$

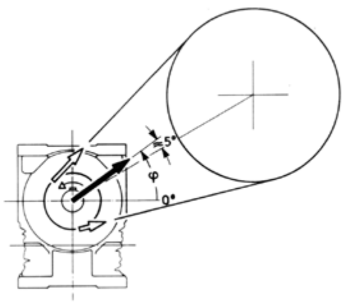
for chain drive (lifting in general); for timing belt drive replace 1 910 with 2 865

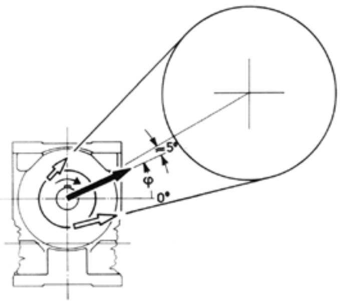




$$F_{r2} = \frac{4\,775 \cdot P_2}{d \cdot n_2} \text{ [daN]}$$

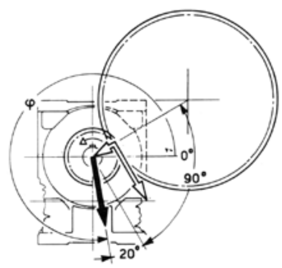
for V-belt drive

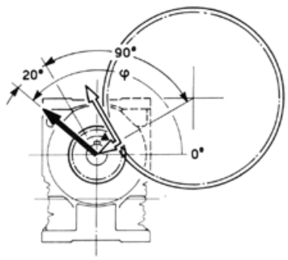




$$F_{r2} = \frac{2\,032 \cdot P_2}{d \cdot n_2} \text{ [daN]}$$

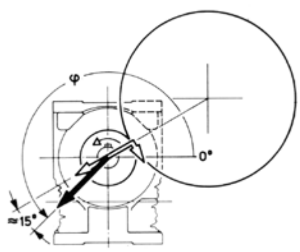
for spur gear pair drive

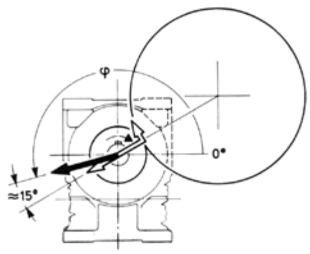




$$F_{r2} = \frac{6\,781 \cdot P_2}{d \cdot n_2} \text{ [daN]}$$

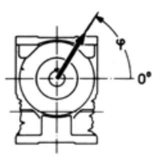
for friction wheel drive (rubber-on-metal)

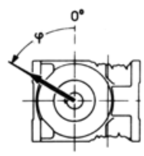


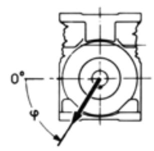


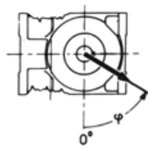
where: P_2 [kW] is power required at the output side of the gear re-ducer, n_2 [min^{-1}] is the speed, d [m] is the pitch diameter.

IMPORTANT: 0° coincides with a half line lying parallel to the worm axis, and oriented as shown above, and therefore it follows the rotation of the worm axis as shown below.

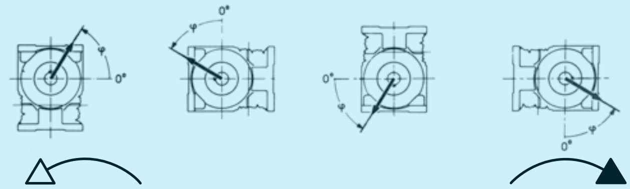


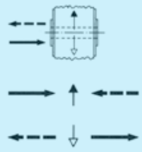






size **32**





$n_2 \cdot L_h$	M_2	F_{r2} [1]																F_{a2} [2]	
min⁻¹ · h	daN m	0	45	90	135	180	225	270	315	0	45	90	135	180	225	270	315		
355 000	5,3	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	80	125
710 000	3,75	140	150	170	180	180	180	180	160	180	180	150	132	140	170	180	180	80	125
	2,65	150	160	180	180	180	180	180	180	180	180	170	150	150	170	180	180	80	125
900 000	3,75	125	132	160	180	180	180	170	140	180	180	140	125	125	150	180	180	80	125
	2,65	140	140	160	180	180	180	170	150	180	180	150	140	140	160	180	180	80	125
	1,9	150	150	170	180	180	180	170	160	180	180	160	150	150	160	180	180	80	125
1 120 000	2,65	125	132	150	180	180	180	160	140	180	170	140	125	125	150	170	180	80	112
	1,9	140	140	150	170	180	180	160	140	180	160	140	132	140	150	170	180	80	118
	1,32	140	150	160	170	180	170	160	150	180	160	150	140	140	150	170	180	80	118
1 400 000	2,65	118	118	140	160	180	170	150	125	180	150	125	112	118	135	160	180	80	106
	1,9	125	132	140	160	170	170	150	132	170	150	132	125	125	140	160	170	80	106
	1,32	132	132	140	160	160	160	150	140	160	150	140	132	132	140	160	170	80	106
1 800 000	2,65	106	106	125	150	170	160	140	118	170	140	118	100	106	125	150	170	71	95
	1,9	112	118	132	150	160	150	140	125	160	140	125	112	112	125	150	160	80	95
	1,32	118	125	132	140	150	150	140	125	150	140	125	118	118	132	140	150	80	95
2 240 000	2,65	95	100	118	140	160	150	132	106	160	132	106	90	95	112	140	160	63	85
	1,9	106	106	118	140	150	140	132	112	150	132	112	100	106	118	140	150	71	85
	1,32	112	112	125	132	140	140	132	118	140	132	118	112	112	118	132	140	80	90
2 800 000	2,65	85	90	106	132	150	140	118	95	150	125	95	80	85	100	132	150	56	75
	1,9	95	100	112	132	140	140	118	106	140	125	100	95	95	106	132	140	63	80
	1,32	100	106	112	125	132	132	118	106	132	125	106	100	100	112	125	132	71	80
3 550 000	1,9	85	90	100	118	132	125	112	95	132	112	95	85	85	100	118	132	56	71
	1,32	95	95	106	118	125	125	112	100	125	112	100	90	95	100	118	125	63	71
	0,95	100	100	106	118	118	118	112	100	118	112	100	95	100	106	118	125	67	75
		max **180**																max **80**	max **125**

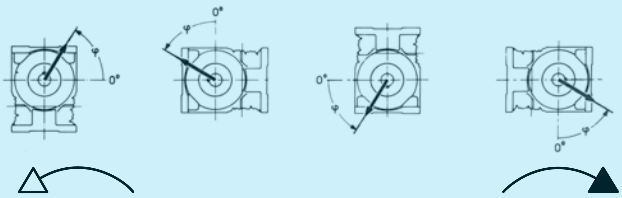
size **40**

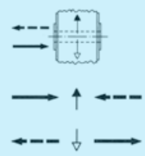
224 000	9	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	112	180
450 000	6,3	200	200	236	250	250	250	250	224	250	250	212	190	200	236	250	250	112	180
	4,5	212	224	250	250	250	250	250	236	250	250	236	212	212	236	250	250	112	180
560 000	6,3	180	190	224	250	250	250	250	200	250	250	200	170	180	212	250	250	112	180
	4,5	200	200	236	250	250	250	250	212	250	250	212	190	200	224	250	250	112	180
	3,15	212	212	236	250	250	250	250	224	250	250	224	212	212	224	250	250	112	180
710 000	6,3	160	170	200	250	250	250	224	180	250	236	180	150	160	190	250	250	112	160
	4,5	180	190	212	250	250	250	224	190	250	236	190	170	180	200	250	250	112	160
	3,15	190	200	212	236	250	250	224	200	250	236	200	190	190	212	236	250	112	170
900 000	6,3	140	150	190	236	250	250	212	160	250	212	160	140	140	180	236	250	106	140
	4,5	160	170	190	224	250	236	212	180	250	212	180	160	160	190	224	250	112	150
	3,15	180	180	200	224	236	236	212	190	236	212	190	170	170	190	224	236	112	150
1 120 000	4,5	150	150	180	212	236	224	190	160	236	200	160	140	150	170	212	236	106	132
	3,15	160	160	180	212	224	212	200	170	224	200	170	160	160	180	212	224	112	140
	2,24	170	170	190	200	212	212	200	180	212	200	180	170	170	180	200	212	112	140
1 400 000	4,5	132	140	160	200	224	212	180	150	224	180	150	132	132	160	200	224	95	118
	3,15	150	150	170	190	212	200	180	160	212	180	160	140	150	160	190	212	106	125
	2,24	160	160	170	190	200	200	180	160	200	180	160	150	160	170	190	200	112	125
1 800 000	4,5	118	125	150	190	212	200	170	132	200	170	132	112	118	140	180	212	80	106
	3,15	132	140	150	180	190	190	170	140	190	170	140	132	132	150	180	200	90	112
	2,24	140	140	160	180	190	180	170	150	190	170	150	140	140	150	170	190	100	112
2 240 000	4,5	106	112	140	170	200	190	150	125	190	160	118	106	106	132	170	200	71	95
	3,15	118	125	140	170	180	180	150	132	180	160	132	118	118	140	170	190	80	100
	2,24	132	132	150	160	170	170	150	140	170	160	140	125	132	140	160	180	90	100
2 800 000	4,5	100	100	125	160	190	180	140	112	180	150	112	90	95	118	160	190	60	90
	3,15	112	112	132	160	170	170	140	118	170	150	118	106	112	125	150	170	71	90
	2,24	118	125	132	150	160	160	140	125	160	150	125	118	118	132	150	170	80	95
3 550 000	3,15	100	106	125	150	160	150	132	112	160	132	112	95	100	118	140	160	63	80
	2,24	106	112	125	140	150	150	132	118	150	132	118	106	106	125	140	150	71	85
	1,6	118	118	125	140	150	140	132	118	150	132	118	112	118	125	140	150	75	85
		max **250**																max **112**	max **180**

1) An axial load of up to 0,2 times the value in the table is permissible, simultaneously with the radial load. If exceeded consult us.
2) A radial load of up to 0,2 times the value in the table is permissible, simultaneously with the axial load. If exceeded consult us.

Radial F_{r2} or axial loads F_{a2} [daN] on low speed shaft end

size **50**



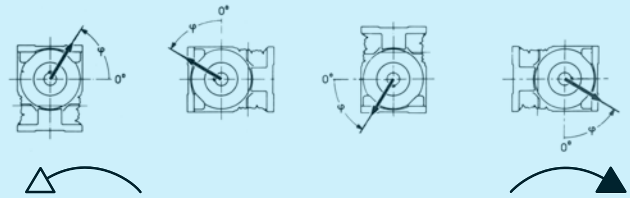
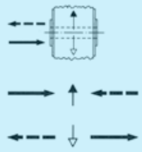


$n_2 \cdot L_h$	M_2	F_{r2} 1)																F_{a2} 2)	
min⁻¹ · h	daN m	0	45	90	135	180	225	270	315	0	45	90	135	180	225	270	315		
140 000	25	335	355	355	355	355	355	355	355	355	355	355	315	315	355	355	355	160	250
	18	355	355	355	355	355	355	355	355	355	355	355	355	355	355	355	355	160	250
	12,5	355	355	355	355	355	355	355	355	355	355	355	355	355	355	355	355	160	250
180 000	18	300	315	355	355	355	355	355	335	355	355	335	280	280	355	355	355	160	250
	12,5	335	355	355	355	355	355	355	355	335	355	355	315	335	355	355	355	160	250
	9	355	355	355	355	355	355	355	355	355	355	355	355	355	355	355	355	160	250
224 000	18	265	280	355	355	355	355	355	300	355	355	300	250	250	335	355	355	160	250
	12,5	300	315	355	355	355	355	355	335	355	355	335	300	300	355	355	355	160	250
	9	335	335	355	355	355	355	355	355	355	355	355	315	335	355	355	355	160	250
280 000	12,5	280	280	335	355	355	355	355	315	355	355	300	265	265	335	355	355	160	250
	9	300	315	355	355	355	355	355	335	355	355	335	300	300	335	355	355	160	250
355 000	12,5	250	265	315	355	355	355	355	280	355	355	280	236	250	300	355	355	160	250
	9	280	280	335	355	355	355	355	300	355	355	300	265	280	315	355	355	160	250
	6,3	300	300	335	355	355	355	355	315	355	355	315	280	300	335	355	355	160	250
450 000	12,5	224	236	280	355	355	355	315	250	355	335	250	212	212	265	355	355	160	236
	9	250	265	300	355	355	355	315	265	355	335	265	236	250	280	355	355	160	250
	6,3	265	280	315	335	355	355	315	280	355	335	280	265	265	300	335	355	160	250
	4,5	280	280	315	335	355	355	315	300	355	335	300	280	280	300	335	355	160	250
560 000	12,5	200	212	265	335	355	355	300	224	355	300	224	190	200	250	335	355	150	212
	9	224	236	280	335	355	355	300	250	355	300	250	212	224	265	335	355	160	224
	6,3	250	250	280	315	335	335	300	265	335	300	265	236	250	280	315	355	160	236
	4,5	265	265	280	315	335	315	300	280	335	300	280	250	265	280	315	335	160	236
710 000	12,5	180	190	236	315	355	355	265	200	355	280	200	160	170	224	315	355	132	190
	9	200	212	250	315	335	335	280	224	335	280	224	200	200	236	300	355	160	200
	6,3	224	236	265	300	315	315	280	236	315	280	236	224	224	250	300	335	160	212
	4,5	236	250	265	300	315	300	280	250	315	280	250	236	236	265	280	315	160	212
900 000	12,5	160	170	224	300	355	315	250	180	335	250	180	140	150	200	280	355	112	170
	9	180	190	236	280	315	300	250	200	315	265	200	170	180	224	280	335	140	180
	6,3	200	212	236	280	300	280	250	224	300	265	224	200	200	236	280	315	160	190
	4,5	224	224	250	265	280	280	250	236	280	265	236	212	212	236	265	280	160	190
1 120 000	9	170	170	212	265	300	280	236	190	300	236	180	160	160	200	265	315	118	160
	6,3	190	190	224	265	280	280	236	200	280	236	200	180	190	212	265	280	140	170
	4,5	200	200	224	250	265	265	236	212	265	236	212	200	200	224	250	280	150	180
1 400 000	9	150	160	200	250	280	265	212	170	280	224	170	140	140	180	250	300	100	150
	6,3	170	180	200	250	265	250	224	190	265	224	180	160	170	200	236	265	125	160
	4,5	180	190	212	236	250	250	224	200	250	224	200	180	180	200	236	250	132	160
1 800 000	9	132	140	180	236	265	250	200	150	265	200	150	125	125	160	224	280	85	132
	6,3	150	160	190	224	250	236	200	170	250	212	170	150	150	180	224	250	106	140
	4,5	170	170	190	224	236	224	200	180	236	212	180	160	160	190	224	236	118	140
2 240 000	9	118	125	160	224	250	236	180	140	250	190	132	106	112	150	212	265	75	118
	6,3	140	140	170	212	236	224	190	150	236	190	150	132	132	160	212	236	95	125
	4,5	150	160	180	200	224	212	190	160	224	190	160	150	150	170	200	224	106	132
2 800 000	9	106	112	150	200	236	224	170	125	236	180	118	95	100	132	200	250	63	106
	6,3	125	132	160	200	224	212	170	140	224	180	140	118	125	150	200	224	80	112
	4,5	140	140	160	190	212	200	170	150	212	180	150	132	140	160	190	212	95	118
	3,15	150	150	170	190	200	190	180	160	200	180	160	150	150	160	190	200	100	118
3 550 000	6,3	112	118	140	180	212	200	160	125	200	160	125	106	112	140	180	212	71	100
	4,5	125	132	150	180	200	190	160	140	190	170	132	118	125	140	180	200	85	106
	3,15	132	140	150	170	180	180	160	140	180	170	140	132	132	150	170	190	90	106
		max **355**																max **160**	max **250**

1) An axial load of up to 0,2 times the value in the table is permissible, simultaneously with the radial load. If exceeded consult us.
2) A radial load of up to 0,2 times the value in the table is permissible, simultaneously with the axial load. If exceeded consult us.

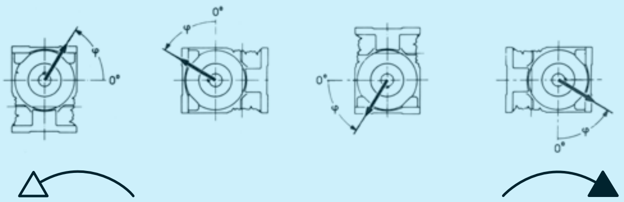
Radial F_{r2} or axial loads F_{a2} [daN] on low speed shaft end 3.12

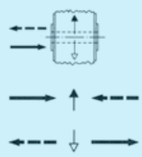
size **63, 64**

$n_2 \cdot L_h$	M_2	F_{r2} 1)																F_{a2} 2)	
																			
$min^{-1} \cdot h$	daN m	0	45	90	135	180	225	270	315	0	45	90	135	180	225	270	315		
90 000	47,5	400	425	530	530	530	530	530	475	530	530	450	355	375	530	530	530	236	375
	33,5	475	500	530	530	530	530	530	530	530	530	530	450	475	530	530	530	236	375
112 000	33,5	425	450	530	530	530	530	530	500	530	530	475	400	425	530	530	530	236	375
	23,6	500	500	530	530	530	530	530	530	530	530	530	475	475	530	530	530	236	375
140 000	33,5	375	425	530	530	530	530	530	450	530	530	425	355	375	475	530	530	236	375
	23,6	450	475	530	530	530	530	530	500	530	530	475	425	450	530	530	530	236	375
	17	475	500	530	530	530	530	530	530	530	530	500	475	475	530	530	530	236	375
180 000	33,5	335	375	475	530	530	530	530	400	530	530	375	315	335	425	530	530	236	375
	23,6	400	425	500	530	530	530	530	450	530	530	425	375	400	475	530	530	236	375
	17	425	450	500	530	530	530	530	475	530	530	475	425	425	500	530	530	236	375
	11,8	475	475	530	530	530	530	530	500	530	530	500	450	475	500	530	530	236	375
224 000	33,5	300	335	425	530	530	530	475	355	530	500	335	280	280	400	530	530	236	375
	23,6	355	375	450	530	530	530	500	400	530	500	400	335	355	425	530	530	236	375
	17	400	425	475	530	530	530	500	425	530	500	425	375	400	450	530	530	236	375
	11,8	425	450	475	530	530	530	500	450	530	500	450	425	425	475	530	530	236	375
280 000	23,6	315	335	425	530	530	530	450	375	530	475	355	300	315	400	530	530	236	355
	17	355	375	450	500	530	530	475	400	530	475	400	355	355	425	500	530	236	375
	11,8	400	400	450	500	530	530	475	425	530	475	425	375	400	425	500	530	236	375
355 000	23,6	280	315	375	500	530	530	425	335	530	425	315	265	280	355	500	530	236	315
	17	335	335	400	475	530	500	425	355	530	450	355	315	315	375	475	530	236	335
	11,8	355	375	400	475	500	475	425	375	500	450	375	355	355	400	475	500	236	355
450 000	23,6	250	280	355	475	530	500	400	300	530	400	280	236	250	315	450	530	200	280
	17	300	315	375	450	500	475	400	335	500	400	315	280	280	355	450	500	236	300
	11,8	335	335	375	425	475	450	400	355	450	400	355	315	315	375	425	475	236	315
	8,5	355	355	375	425	450	425	400	355	450	400	355	335	335	375	425	450	236	315
560 000	23,6	236	250	315	425	500	475	355	265	500	375	265	212	224	300	425	530	170	265
	17	265	280	335	425	475	450	375	300	450	375	300	250	265	315	400	475	212	265
	11,8	300	315	355	400	425	425	375	315	425	375	315	280	300	335	400	450	236	280
	8,5	315	335	355	400	425	400	375	335	425	375	335	315	315	355	400	425	236	300
710 000	17	236	250	315	400	425	400	335	265	425	355	265	224	236	300	375	450	180	250
	11,8	265	280	315	375	400	400	335	300	400	355	280	265	265	315	375	425	212	250
	8,5	280	300	335	375	375	375	335	315	375	355	300	280	280	315	375	400	224	265
900 000	17	212	224	280	355	400	375	315	236	400	315	236	200	212	265	355	425	160	224
	11,8	250	250	300	355	375	375	315	265	375	315	265	236	236	280	355	400	180	224
	8,5	265	265	300	335	355	355	315	280	355	315	280	250	265	300	335	375	200	236
1 120 000	17	190	200	265	335	400	355	280	224	375	300	212	180	190	236	335	400	132	200
	11,8	224	236	280	335	355	335	300	250	355	300	236	212	224	265	315	375	160	212
	8,5	236	250	280	315	335	335	300	265	335	300	250	236	236	265	315	355	180	212
1 400 000	17	170	180	236	315	355	335	265	200	355	280	190	160	160	224	315	375	118	180
	11,8	200	212	250	315	335	315	265	224	335	280	224	190	200	236	300	355	140	190
	8,5	224	224	265	300	315	315	280	236	315	280	236	212	224	250	300	335	160	190
1 800 000	17	150	160	212	300	335	315	236	180	335	250	170	132	140	190	280	355	95	160
	11,8	180	190	236	280	315	300	250	200	315	250	200	170	180	212	280	315	125	170
	8,5	200	212	236	280	300	280	250	212	300	250	212	190	200	224	280	300	140	170
	6	212	224	236	265	280	280	250	224	280	250	224	212	212	236	265	280	150	180
2 240 000	17	132	140	200	280	300	280	224	160	315	236	150	118	125	170	265	335	80	140
	11,8	160	170	212	265	300	280	236	180	300	236	180	150	160	200	265	315	106	150
	8,5	180	190	224	265	280	265	236	200	280	236	200	180	180	212	250	280	125	160
	6	200	200	224	250	265	265	236	212	265	236	212	190	200	224	250	265	140	160
2 800 000	17	118	125	180	265	265	236	200	140	280	212	132	100	106	150	250	300	67	132
	11,8	150	150	190	250	280	265	212	170	280	224	160	140	140	180	250	280	90	140
	8,5	170	170	200	236	265	250	212	180	265	224	180	160	160	190	236	265	112	140
	6	180	190	212	236	250	236	212	190	250	224	190	180	180	200	236	250	125	150
3 550 000	11,8	132	140	180	236	265	250	200	150	265	200	140	118	125	160	224	280	80	125
	8,5	150	160	190	224	250	236	200	160	250	200	160	140	150	180	224	250	95	125
	6	160	170	190	212	236	224	200	180	236	200	170	160	160	180	212	236	106	132
		max **530**																max **236**	max **375**

1) An axial load of up to 0,2 times the value in the table is permissible, simultaneously with the radial load. If exceeded consult us.
2) A radial load of up to 0,2 times the value in the table is permissible, simultaneously with the axial load. If exceeded consult us.

size **80, 81**

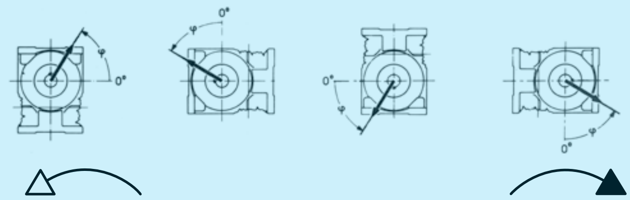


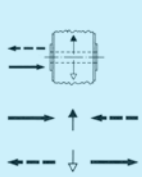


$n_2 \cdot L_h$ min⁻¹ · h	M_2 daN m	F_{r2} 1)																F_{a2} 2)	
		0	45	90	135	180	225	270	315	0	45	90	135	180	225	270	315		
90 000	80	560	630	800	800	800	800	800	670	800	800	670	670	560	750	800	800	355	560
	56	710	750	800	800	800	800	800	800	800	800	750	670	670	800	800	800	355	560
112 000	56	630	670	800	800	800	800	800	710	800	800	710	600	630	750	800	800	355	560
	40	710	750	800	800	800	800	800	750	800	800	750	670	710	800	800	800	355	560
140 000	56	560	600	750	800	800	800	800	630	800	800	630	530	560	710	800	800	355	560
	40	630	670	800	800	800	800	800	710	800	800	710	630	630	750	800	800	355	560
	28	710	710	800	800	800	800	800	750	800	800	750	670	710	800	800	800	355	560
180 000	56	500	530	670	800	800	800	750	560	800	800	560	450	475	630	800	800	355	560
	40	560	600	710	800	800	800	750	630	800	800	630	560	560	670	800	800	355	560
	28	630	670	750	800	800	800	750	670	800	800	670	630	630	710	800	800	355	560
224 000	56	450	475	630	800	800	800	710	530	800	710	500	400	425	560	800	800	335	500
	40	530	560	670	800	800	800	710	560	800	750	560	500	500	630	800	800	355	530
	28	560	600	670	800	800	800	710	630	800	750	630	560	560	670	800	800	355	560
	20	630	630	710	750	800	800	710	670	800	750	630	600	630	670	750	800	355	560
280 000	40	475	500	600	750	800	800	670	530	800	670	530	450	450	560	750	800	355	475
	28	530	560	630	750	800	750	670	560	800	670	560	500	530	600	750	800	355	500
	20	560	600	630	710	750	750	670	600	750	670	600	560	560	630	710	750	355	500
355 000	40	425	450	560	710	800	750	600	475	800	630	475	400	400	530	710	800	315	425
	28	475	500	560	670	750	710	630	530	750	630	530	450	475	560	670	750	355	450
	20	530	530	600	670	710	670	630	560	710	630	560	500	500	560	670	710	355	450
	14	560	560	600	670	670	670	630	560	670	630	560	530	560	600	630	670	355	475
450 000	40	375	400	500	670	750	710	560	425	750	560	425	335	355	475	630	800	265	375
	28	425	450	530	630	710	670	560	475	710	600	475	400	425	500	630	710	315	400
	20	475	500	560	630	670	630	560	500	670	600	500	450	475	530	630	670	355	425
	14	500	500	560	600	630	630	560	530	630	570	530	500	500	530	600	630	355	425
560 000	40	335	355	475	630	710	670	530	375	710	530	375	300	315	425	600	750	224	355
	28	400	400	500	600	670	630	530	425	670	530	425	375	375	475	600	670	280	355
	20	425	450	500	560	630	600	530	475	630	530	450	425	425	500	560	630	315	375
	14	450	475	500	560	600	560	530	475	600	530	475	450	450	500	560	600	335	375
710 000	40	300	315	425	560	670	630	475	335	670	500	335	265	280	375	560	710	190	315
	28	355	375	450	560	630	600	475	400	630	500	375	335	335	425	560	630	250	335
	20	400	400	475	530	600	560	500	425	560	500	425	375	375	450	530	600	280	335
	14	425	425	475	530	560	530	500	450	560	500	450	400	425	475	530	560	300	355
900 000	40	250	280	375	530	630	600	425	300	630	450	280	224	236	335	530	670	160	280
	28	315	335	400	530	600	560	450	355	560	450	355	300	315	375	500	600	212	300
	20	355	375	425	500	560	530	450	375	530	475	375	335	355	400	500	560	250	300
	14	375	400	425	500	530	500	450	400	530	475	400	375	375	425	500	530	265	315
1 120 000	28	280	300	375	500	560	530	425	315	560	425	315	265	280	355	475	560	180	265
	20	315	335	400	475	530	500	425	355	500	425	355	315	315	355	475	530	212	280
	14	355	355	400	450	500	475	425	375	475	425	375	335	355	400	450	500	236	280
1 400 000	28	250	265	355	450	530	500	375	280	530	400	280	236	250	315	450	530	160	236
	20	300	315	355	450	475	450	400	315	475	400	315	280	280	355	425	500	190	250
	14	315	335	375	425	450	450	400	335	450	400	335	315	315	355	425	475	212	250
1 800 000	28	224	236	315	425	500	450	355	250	475	355	250	200	212	280	400	500	132	212
	20	265	280	335	400	450	425	355	280	450	355	280	250	250	315	400	475	160	224
	14	280	300	335	400	425	400	355	315	425	375	315	280	280	335	400	425	190	224
	10	315	315	355	375	400	400	355	335	400	375	315	300	315	335	375	400	200	236
2 240 000	20	236	250	300	375	425	400	335	265	425	335	265	224	236	280	375	450	140	200
	14	265	280	315	375	400	375	335	280	400	335	280	250	265	300	375	400	170	212
	10	280	300	315	355	375	375	335	300	375	335	300	280	280	315	355	375	180	212
2 800 000	20	212	224	280	355	400	375	300	236	400	315	236	200	212	265	355	425	125	180
	14	236	250	300	355	375	355	315	255	375	315	265	236	236	280	335	375	150	190
	10	265	265	300	335	355	355	315	280	355	315	280	250	265	280	335	355	160	190
3 550 000	20	190	200	250	335	375	355	280	212	375	280	212	170	180	236	335	400	106	160
	14	212	224	265	315	355	335	280	236	355	300	236	212	212	250	315	355	125	170
	10	236	250	280	300	335	315	280	250	335	300	250	236	236	265	315	335	140	170
		max **800**																max **355**	max **560**

1) An axial load of up to 0,2 times the value in the table is permissible, simultaneously with the radial load. If exceeded consult us.
2) A radial load of up to 0,2 times the value in the table is permissible, simultaneously with the axial load. If exceeded consult us.

size **100**

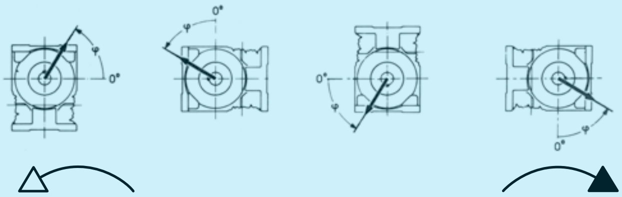


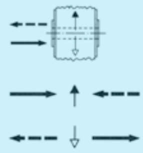


$n_2 \cdot L_h$	M_2	F_{r2} [1]																F_{a2} [2]	
$min^{-1} \cdot h$	daN m	0	45	90	135	180	225	270	315	0	45	90	135	180	225	270	315		
90 000	160	670	750	1060	1250	1250	1250	1180	800	1250	1250	750	560	630	900	1250	1250	530	900
	112	850	900	1180	1250	1250	1250	1250	1000	1250	1250	950	800	850	1000	1250	1250	560	900
112 000	112	750	800	1060	1250	1250	1250	1180	900	1250	1180	850	710	750	950	1250	1250	560	900
	80	900	950	1120	1250	1250	1250	1180	1000	1250	1250	950	850	850	1060	1250	1250	560	900
	56	1000	1000	1120	1250	1250	1250	1180	1060	1250	1250	1060	950	950	1120	1250	1250	560	900
	40	1060	1060	1180	1250	1250	1250	1180	1120	1250	1250	1060	1000	1060	1120	1250	1250	560	900
140 000	112	670	750	950	1250	1250	1250	1060	800	1250	1120	750	630	630	900	1250	1250	530	800
	80	800	850	1000	1250	1250	1250	1120	900	1250	1120	900	750	800	950	1250	1250	560	850
	56	900	950	1060	1250	1250	1250	1120	950	1250	1120	950	850	900	1000	1250	1250	560	900
	40	950	1000	1060	1180	1250	1250	1120	1000	1250	1120	1000	950	950	1060	1180	1250	560	900
180 000	112	600	630	850	1250	1250	1250	1000	710	1250	1000	670	530	560	800	1180	1250	450	710
	80	710	750	950	1180	1250	1250	1000	800	1250	1060	800	670	710	850	1180	1250	560	750
	56	800	850	950	1120	1250	1180	1000	850	1250	1060	850	750	800	950	1120	1250	560	800
	40	850	900	1000	1120	1180	1120	1000	900	1180	1060	900	850	850	950	1120	1180	560	800
224 000	112	530	560	800	1120	1250	1180	900	630	1250	950	600	450	475	710	1120	1250	375	630
	80	630	670	850	1120	1250	1180	950	710	1250	950	710	600	630	800	1060	1250	500	670
	56	750	750	900	1060	1180	1120	950	800	1180	1000	800	710	710	850	1060	1180	560	710
	40	800	800	900	1060	1120	1060	950	850	1120	1000	850	750	800	900	1000	1120	560	750
280 000	80	560	630	800	1060	1180	1120	850	670	1180	900	630	530	560	710	1000	1250	425	600
	56	670	710	800	1000	1120	1060	900	750	1060	900	710	630	670	800	1000	1120	500	630
	40	710	750	850	950	1000	1000	900	750	1000	900	750	710	710	800	950	1060	560	670
335 000	80	500	560	710	950	1120	1060	800	600	1120	800	560	450	500	630	950	1180	355	560
	56	600	630	750	950	1000	950	800	670	1000	850	670	560	600	710	900	1060	450	560
	40	670	670	800	900	950	950	800	710	950	850	710	630	670	750	900	1000	500	600
450 000	80	450	475	630	900	1060	950	710	530	1060	750	500	400	425	560	850	1120	300	475
	56	530	560	710	850	950	900	750	600	950	750	600	500	530	670	850	1000	375	530
	40	600	630	710	850	900	850	750	630	900	750	630	560	600	670	850	900	425	530
	28	630	670	710	800	850	850	750	670	850	750	670	630	630	710	800	850	475	560
560 000	80	400	425	600	850	950	900	670	475	1000	670	450	355	375	530	800	1060	250	450
	56	475	530	630	800	900	850	710	560	900	710	530	450	475	600	800	950	335	475
	40	560	560	670	800	850	800	710	600	850	710	600	530	530	630	750	850	400	475
	28	600	600	670	750	800	800	710	630	800	710	630	560	600	670	750	800	425	500
710 000	56	425	450	560	750	850	800	630	500	850	670	475	400	425	530	750	900	280	425
	40	500	530	600	710	800	750	630	530	800	670	530	475	475	560	710	800	335	425
	28	530	560	630	710	750	710	630	560	750	670	560	530	530	600	710	750	375	450
900 000	56	375	400	530	710	800	750	560	450	800	600	425	355	375	475	670	850	250	375
	40	450	475	560	670	750	710	600	500	750	600	475	425	425	530	670	750	300	400
	28	500	500	560	670	710	670	600	530	710	600	530	475	475	560	630	710	335	400
1 120 000	56	335	375	475	670	750	710	530	400	750	560	375	315	315	450	630	800	212	335
	40	400	425	500	630	710	670	560	450	710	560	450	375	400	475	630	710	265	355
	28	450	475	530	600	670	630	560	475	670	560	475	425	450	500	600	670	300	375
1 400 000	56	300	335	450	630	710	670	500	355	710	500	335	265	280	400	600	750	170	300
	40	355	375	475	600	670	630	500	400	670	530	400	335	355	450	600	670	224	315
	28	400	425	500	560	630	600	530	450	630	530	450	400	400	475	560	630	265	335
1 800 000	56	265	280	400	560	630	600	450	315	670	475	300	224	236	355	560	710	140	265
	40	315	335	425	560	630	600	475	355	630	475	355	300	315	400	530	630	190	280
	28	375	375	450	530	560	560	475	400	560	500	400	355	355	425	530	600	236	300
2 240 000	40	280	315	400	530	600	560	425	335	560	450	315	265	280	355	500	600	170	265
	28	335	355	400	500	560	530	450	375	530	450	355	315	335	400	500	560	200	265
2 800 000	40	250	280	355	475	560	530	400	300	560	400	280	236	250	335	475	560	140	235
	28	300	315	375	475	500	500	400	335	500	425	335	280	300	355	450	530	180	255
3 550 000	40	224	250	315	450	530	500	355	265	530	375	250	200	212	300	450	560	118	212
	28	265	280	355	425	475	450	375	300	475	375	300	250	265	335	425	500	150	224
		max **1 250**																max **560**	max **900**

1) An axial load of up to 0,2 times the value in the table is permissible, simultaneously with the radial load. If exceeded consult us.
2) A radial load of up to 0,2 times the value in the table is permissible, simultaneously with the axial load. If exceeded consult us.

size **100 bis[3)]**



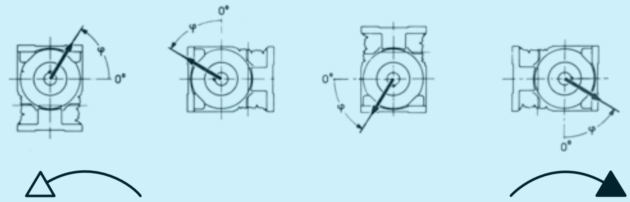


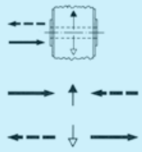
$n_2 \cdot L_h$	M_2	F_{r2} [1)]																F_{a2} [2)]	
$min^{-1} \cdot h$	daN m	0	45	90	135	180	225	270	315	0	45	90	135	180	225	270	315		
⩽ 280 000	160	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	560	900
	112	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	560	900
355 000	80	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	560	900
	56	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	560	900
450 000	80	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	560	900
	56	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	560	900
560 000	80	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	560	900
	56	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	560	900
710 000	56	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	560	900
	40	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	560	900
900 000	56	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	560	900
	40	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	560	900
1 120 000	56	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	560	900
	40	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	560	900
	28	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	560	900
1 400 000	56	1180	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1180	1180	1250	1250	1250	560	850
	40	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	560	900
	28	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	560	900
1 800 000	56	1120	1180	1250	1250	1250	1250	1250	1180	1250	1250	1180	1120	1120	1250	1250	1250	560	800
	40	1180	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1180	1180	1250	1250	1250	560	850
	28	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	560	850
2 240 000	40	1120	1120	1250	1250	1250	1250	1250	1180	1250	1250	1180	1060	1120	1180	1250	1250	560	750
	28	1180	1180	1250	1250	1250	1250	1250	1180	1250	1250	1180	1120	1180	1250	1250	1250	560	800
2 800 000	40	1060	1060	1180	1250	1250	1250	1180	1060	1250	1180	1060	1000	1000	1120	1250	1250	560	710
	28	1060	1120	1180	1250	1250	1250	1180	1120	1250	1180	1120	1060	1060	1120	1250	1250	560	750
3 550 000	40	950	1000	1060	1180	1250	1180	1120	1000	1250	1120	1000	950	950	1060	1180	1250	560	670
	28	1000	1000	1060	1180	1180	1180	1120	1000	1180	1120	1000	1000	1000	1060	1180	1180	560	670
	20	1000	1060	1060	1120	1180	1120	1120	1060	1180	1120	1060	1000	1000	1060	1120	1180	560	710
		max **1 250**																max **560**	max **900**

1) An axial load of up to 0,2 times the value in the table is permissible, simultaneously with the radial load. If exceeded consult us.
2) A radial load of up to 0,2 times the value in the table is permissible, simultaneously with the axial load. If exceeded consult us.
3) Values valid for taper roller bearings on low speed shaft (ch. 5).

Radial F_{r2} or axial loads F_{a2} [daN] on low speed shaft end

size **125, 126**





$n_2 \cdot L_h$ min⁻¹ · h	M_2 daN m	F_{r2} [1)] 0	45	90	135	180	225	270	315	0	45	90	135	180	225	270	315	F_{a2} [2)]	
90 000	300	800	850	1320	1800	1800	1600	1500	950	1800	1600	900	630	710	1060	1800	1800	630	1120
	212	1060	1120	1400	1800	1800	1800	1600	1180	1800	1700	1180	950	1000	1320	1800	1800	800	1250
112 000	212	900	1000	1320	1800	1800	1800	1500	1060	1800	1500	1060	850	900	1180	1800	1800	750	1120
	150	1120	1180	1400	1800	1800	1800	1500	1250	1800	1600	1250	1060	160	1320	1700	1800	800	1180
140 000	212	800	900	1180	1700	1800	1800	1400	950	1800	1400	900	710	750	1060	1700	1800	630	1000
	150	1000	1060	1320	1700	1800	1800	1400	1120	1800	1500	1120	950	950	1250	1600	1800	800	1060
	106	1120	1180	1320	1600	1700	1700	1400	1250	1700	1500	1180	1060	1120	1320	1600	1800	800	1120
180 000	212	710	750	1060	1600	1600	1500	1250	850	1800	1320	800	600	630	950	1500	1800	530	850
	150	900	950	1180	1500	1800	1600	1320	1000	1700	1320	1000	800	850	1120	1500	1800	710	950
	106	1000	1060	1250	1500	1600	1500	1320	1120	1600	1320	1120	950	1000	1180	1500	1700	800	1000
	75	1120	1120	1250	1400	1500	1500	1320	1180	1500	1320	1180	1060	1120	1250	1400	1600	800	1000
224 000	150	800	850	1060	1400	1700	1500	1180	900	1600	1250	900	710	750	1000	1400	1700	600	850
	106	900	950	1120	1400	1500	1500	1250	1000	1500	1250	1000	850	900	1060	1400	1600	710	900
	75	1000	1060	1180	1320	1400	1400	1250	1060	1400	1250	1060	1000	1000	1120	1320	1500	800	950
280 000	150	710	750	1000	1320	1600	1500	1120	800	1500	1180	800	630	670	900	1320	1600	530	750
	106	850	900	1060	1320	1400	1400	1120	900	1400	1180	900	800	800	1000	1250	1500	630	800
	75	900	950	1060	1250	1320	1320	1180	1000	1320	1180	1000	900	900	1060	1250	1400	710	850
	53	1000	1000	1120	1250	1320	1250	1180	1060	1320	1180	1060	950	1000	1060	1250	1320	800	850
350 000	150	630	670	900	1250	1500	1400	1000	710	1400	1060	710	560	560	800	1250	1500	425	670
	106	750	800	950	1180	1320	1250	1060	850	1320	1060	800	710	710	900	1180	1400	560	710
	75	850	850	1000	1180	1250	1250	1060	900	1250	1060	900	800	800	950	1180	1320	630	750
	53	900	950	1000	1120	1180	1180	1060	950	1180	1060	950	900	900	1000	1120	1250	710	800
450 000	150	530	600	800	1180	1250	1180	950	630	1320	950	600	475	500	710	1120	1500	355	600
	106	670	710	900	1120	1250	1180	950	750	1250	1000	750	630	630	800	1120	1320	475	630
	75	750	800	900	1120	1180	1120	1000	800	1180	1000	800	710	750	900	1060	1250	560	670
	53	800	850	950	1060	1120	1120	1000	850	1120	1000	850	800	800	900	1060	1180	600	710
560 000	150	475	500	750	1120	1060	1000	850	560	1180	900	530	400	425	630	1060	1320	300	530
	106	600	630	800	1060	1180	1120	900	670	1180	900	670	560	560	750	1060	1250	400	600
	75	670	710	850	1000	1120	1060	900	750	1120	950	750	670	670	800	1000	1180	500	600
	53	750	750	850	1000	1060	1000	900	800	1060	950	800	710	750	850	1000	1060	560	630
710 000	106	530	560	750	1000	1120	1060	800	600	1120	850	600	475	500	670	950	1180	355	530
	75	630	630	750	950	1060	1000	850	670	1060	850	670	600	600	750	950	1060	425	560
	53	670	710	800	900	1000	950	850	750	1000	850	710	670	670	750	900	1000	475	560
900 000	106	450	500	670	900	1060	1000	750	530	1060	750	530	425	450	600	900	1120	300	475
	75	560	600	710	900	1000	950	750	630	1000	800	600	530	530	670	850	1000	375	500
	53	630	630	750	850	950	900	800	670	900	800	670	600	600	710	850	950	425	500
1 120 000	106	400	450	600	850	950	900	670	475	1000	710	450	355	375	530	850	1060	250	425
	75	500	530	670	850	950	900	710	560	950	750	560	475	500	630	800	950	315	450
	53	560	600	670	800	850	850	710	630	850	750	600	530	560	670	800	900	375	450
	37,5	600	630	710	800	850	800	710	630	800	750	630	600	600	670	750	850	425	475
1 400 000	106	355	400	560	800	850	800	630	425	900	670	400	315	335	475	750	1000	200	375
	75	450	475	600	750	900	850	670	500	850	670	500	425	425	560	750	900	280	400
	53	500	530	630	750	800	800	670	560	800	670	560	500	500	600	750	850	335	425
	37,5	560	560	630	710	750	750	670	600	750	670	600	530	560	630	710	800	375	425
1 800 000	75	400	425	530	710	850	750	600	450	800	630	450	355	375	500	710	850	236	355
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	37,5	500	530	600	670	710	710	630	530	710	630	530	500	500	560	670	750	315	375
2 240 000	75	355	375	500	670	800	710	560	400	750	560	400	315	335	450	670	800	200	315
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	37,5	450	475	560	630	670	670	560	500	670	600	500	450	450	530	630	710	280	355
2 800 000	75	315	335	450	630	750	670	500	375	710	530	355	280	300	400	630	750	170	300
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3 550 000	75	265	300	400	600	630	600	475	315	670	475	300	236	250	355	560	750	140	265
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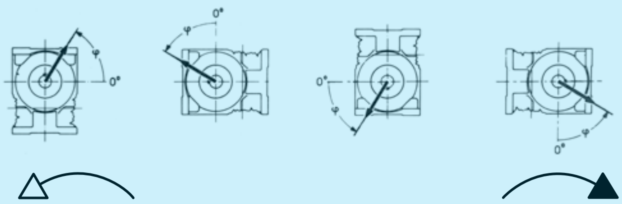
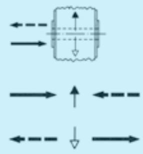
	37,5	375	400	450	560	600	560	500	425	600	500	400	355	375	450	530	630	224	280
									max **1 800**									max **800**	max **1 250**

1) An axial load of up to 0,2 times the value in the table is permissible, simultaneously with the radial load. If exceeded consult us.
2) A radial load of up to 0,2 times the value in the table is permissible, simultaneously with the axial load. If exceeded consult us.

size **125 bis** [3], **126 bis** [3]





$n_2 \cdot L_h$ min⁻¹ · h	M_2 daN m	F_{r2} [1] 0	45	90	135	180	225	270	315	0	45	90	135	180	225	270	315	F_{a2} [2]	
⩽224 000	300	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	900	1400
	212	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	900	1400
280 000	150	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	900	1400
	106	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	900	1400
355 000	150	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	900	1400
	106	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	900	1400
450 000	150	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	900	1400
	106	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	900	1400
560 000	150	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	900	1400
	106	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	900	1400
	75	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	900	1400
710 000	150	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	900	1400
	106	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	900	1400
	75	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	900	1400
	53	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	900	1400
900 000	106	1900	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	1900	1900	2000	2000	2000	900	1400
	75	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	900	1400
	53	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	900	1400
1 120 000	106	1800	1900	2000	2000	2000	2000	2000	1900	2000	2000	1900	1800	1800	2000	2000	2000	900	1320
	75	1900	1900	2000	2000	2000	2000	2000	2000	2000	2000	2000	1900	1900	2000	2000	2000	900	1400
	53	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	1900	2000	2000	2000	2000	900	1400
	37,5	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	900	1400
1 400 000	106	1700	1700	1900	2000	2000	2000	2000	1800	2000	2000	1800	1600	1700	1800	2000	2000	900	1250
	75	1700	1800	1900	2000	2000	2000	2000	1800	2000	2000	1800	1700	1700	1900	2000	2000	900	1320
	53	1800	1800	1900	2000	2000	2000	2000	1900	2000	2000	1900	1800	1800	1900	2000	2000	900	1320
	37,5	1800	1900	2000	2000	2000	2000	2000	1900	2000	2000	1900	1800	1800	1900	2000	2000	900	1320
1 800 000	106	1500	1600	1800	2000	2000	2000	1800	1600	2000	1800	1600	1500	1500	1700	2000	2000	900	1180
	75	1600	1600	1800	1900	2000	2000	1800	1700	2000	1800	1700	1600	1600	1700	1900	2000	900	1180
	53	1700	1700	1800	1900	2000	1900	1800	1700	2000	1800	1700	1600	1700	1800	1900	2000	900	1250
	37,5	1700	1700	1800	1900	1900	1900	1800	1700	1900	1800	1700	1700	1700	1800	1900	1900	900	1250
2 240 000	75	1600	1600	1800	1900	2000	1900	1800	1600	2000	1800	1600	1500	1600	1700	1900	2000	900	1120
	53	1600	1700	1800	1900	1900	1900	1800	1700	1900	1800	1700	1600	1600	1700	1900	1900	900	1180
	37,5	1700	1700	1800	1800	1900	1900	1800	1700	1900	1800	1700	1700	1700	1800	1800	1900	900	1180
2 800 000	75	1500	1500	1600	1800	1900	1800	1700	1500	1900	1700	1500	1400	1500	1600	1800	1900	900	1060
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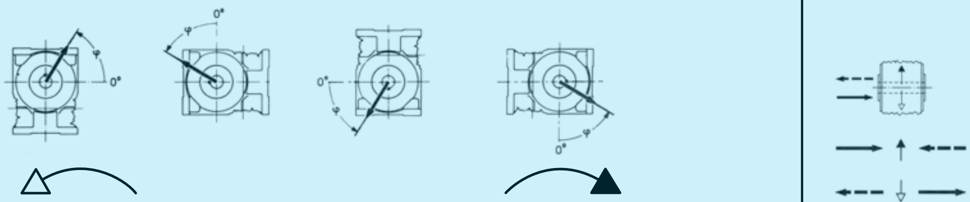
	37,5	1600	1600	1700	1700	1800	1700	1700	1600	1800	1700	1600	1600	1600	1600	1700	1800	900	1120
3 550 000	75	1320	1400	1500	1700	1800	1700	1600	1400	1800	1600	1400	1320	1320	1500	1700	1800	850	1000
	53	1400	1400	1500	1600	1700	1700	1600	1500	1700	1600	1500	1400	1400	1500	1600	1700	900	1000
	37,5	1500	1500	1500	1600	1700	1600	1600	1500	1700	1600	1500	1400	1500	1500	1600	1700	900	1000
		max **2 000**																max **900**	max **1 400**

1) An axial load of up to 0,2 times the value in the table is permissible, simultaneously with the radial load. If exceeded consult us.
2) A radial load of up to 0,2 times the value in the table is permissible, simultaneously with the axial load. If exceeded consult us.
3) Values valid for taper roller bearings on low speed shaft (ch. 5).

size **160**



$n_2 \cdot L_h$	M_2	F_{r2} 1)																F_{a2} 2)	
min⁻¹ · h	daN m	0	45	90	135	180	225	270	315	0	45	90	135	180	225	270	315		
90 000	500	1000	1120	1700	2650	2500	2360	2120	1250	2650	2120	1120	800	900	1400	2650	2650	710	1320
	355	1400	1500	2000	2650	2650	2650	2240	1600	2650	2630	1600	1250	1320	1800	2650	2650	1000	1500
112 000	355	1250	1320	1800	2650	2650	2650	2000	1500	2650	2120	1400	1060	1120	1600	2500	2650	850	1320
	250	1500	1600	2000	2500	2650	2650	2120	1700	2650	2240	1600	1400	1500	1800	2500	2650	1120	1400
140 000	355	1060	1180	1600	2360	2650	2650	1900	1250	2650	1900	1180	950	1000	1400	2360	2650	750	1180
	250	1320	1400	1800	2360	2650	2500	2000	1500	2650	2000	1500	1250	1320	1700	2240	2650	950	1250
	180	1500	1600	1900	2240	2500	2360	2000	1700	2500	2000	1700	1500	1500	1800	2240	2500	1120	1320
180 000	355	900	1000	1500	2240	2360	2240	1700	1120	2650	1800	1000	750	850	1250	2120	2650	600	1060
	250	1180	1250	1600	2120	2500	2240	1800	1320	2360	1800	1320	1060	1120	1500	2120	2500	800	1120
	180	1400	1400	1700	2120	2240	2120	1800	1500	2240	1900	1500	1320	1320	1600	2000	2360	950	1180
	125	1500	1600	1800	2000	2120	2120	1800	1600	2120	1900	1600	1500	1500	1700	2000	2240	1060	1250
224 000	355	800	900	1320	2120	2000	1800	1600	950	2240	1600	900	630	710	1060	2000	2500	475	950
	250	1060	1120	1500	2000	2360	2120	1700	1250	2240	1700	1180	950	1000	1320	2000	2360	710	1000
	180	1250	1320	1600	1900	2120	2000	1700	1400	2120	1700	1320	1180	1180	1500	1900	2240	850	1060
	125	1400	1400	1600	1900	2000	1900	1700	1500	2000	1700	1500	1320	1400	1600	1900	2120	950	1120
280 000	250	950	1000	1320	1900	2240	2000	1500	1120	2120	1600	1060	850	900	1250	1800	2240	600	900
	180	1120	1180	1500	1800	2000	1900	1600	1250	2000	1600	1250	1060	1060	1320	1800	2120	750	950
	125	1250	1320	1500	1800	1900	1800	1600	1320	1900	1600	1320	1180	1250	1500	1700	1900	850	1000
	90	1320	1400	1500	1700	1800	1800	1600	1400	1800	1600	1400	1320	1320	1500	1700	1800	950	1060
355 000	250	800	900	1250	1800	2120	1900	1400	1000	2000	1400	900	710	750	1060	1700	2120	500	800
	180	1000	1120	1320	1700	1900	1800	1400	1120	1900	1500	1120	900	950	1250	1700	2000	630	850
	125	1120	1180	1400	1600	1800	1700	1500	1250	1800	1500	1250	1060	1120	1320	1600	1800	750	900
	90	1250	1250	1400	1600	1700	1600	1500	1320	1700	1500	1320	1180	1180	1400	1600	1700	850	950
450 000	250	710	800	1120	1600	1900	1700	1250	850	1900	1320	800	600	630	950	1600	2120	400	710
	180	900	950	1180	1600	1800	1700	1320	1000	1800	1400	1000	800	850	1120	1500	1900	560	800
	125	1000	1060	1250	1500	1700	1600	1320	1120	1700	1400	1120	1000	1000	1180	1500	1700	670	800
	90	1120	1120	1320	1500	1600	1500	1320	1180	1600	1400	1180	1060	1120	1250	1500	1600	710	850
560 000	250	600	670	1000	1500	1600	1500	1180	750	1700	1180	670	500	530	850	1500	1900	335	670
	180	800	850	1120	1500	1700	1600	1250	900	1700	1250	900	710	750	1000	1400	1800	475	710
	125	900	950	1180	1400	1600	1500	1250	1000	1600	1250	1000	900	900	1120	1400	1600	600	750
	90	1000	1060	1180	1400	1500	1400	1250	1060	1500	1250	1060	1000	1000	1180	1400	1500	670	750
710 000	250	500	560	900	1400	1250	1180	1060	670	1500	1120	560	400	450	710	1320	1600	265	600
	180	710	750	1000	1400	1600	1500	1120	800	1600	1180	800	630	650	900	1320	1700	400	630
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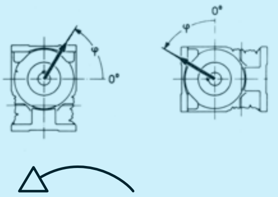
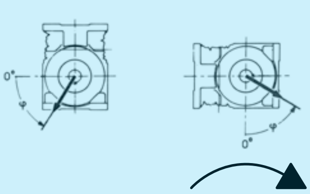
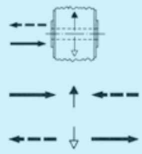
	90	900	950	1120	1250	1400	1320	1180	1000	1400	1180	1000	900	900	1060	1250	1400	560	670
900 000	180	600	670	900	1250	1500	1400	1000	710	1500	1060	670	530	560	800	1250	1600	335	560
	125	750	800	950	1250	1400	1320	1060	850	1400	1060	800	710	710	1000	1180	1400	425	600
	90	850	850	1000	1180	1320	1250	1060	900	1320	1120	900	800	850	950	1180	1320	500	600
1 120 000	180	530	600	800	1180	1400	1320	950	630	1400	950	600	450	500	710	1180	1500	280	500
	125	670	710	900	1180	1320	1250	1000	750	1320	1000	750	630	670	850	1120	1320	375	530
	90	750	800	950	1120	1250	1180	1000	850	1180	1000	850	710	750	900	1120	1250	450	560
	63	850	850	950	1120	1120	1120	1000	900	1120	1000	900	800	850	950	1060	1180	500	560
1 400 000	180	450	500	750	1120	1180	1120	850	560	1320	900	500	375	425	630	1060	1400	224	450
	125	600	630	800	1060	1250	1180	900	670	1250	950	670	560	600	750	1060	1250	335	475
	90	670	710	850	1060	1120	1120	900	750	1120	950	750	670	670	800	1000	1180	400	500
	63	750	800	900	1000	1060	1060	900	800	1060	950	800	750	750	850	1000	1120	450	530
1 800 000	125	530	560	750	1000	1180	1060	800	600	1120	850	600	475	500	670	1000	1180	265	425
	90	600	710	800	950	1060	1000	850	670	1060	850	670	600	600	750	950	1120	335	450
	63	670	710	800	950	1000	950	850	750	1000	850	750	670	670	800	950	1000	375	475
2 240 000	125	475	500	670	950	1120	1000	750	560	1060	800	530	425	450	600	900	1120	236	400
	90	560	600	710	900	1000	950	800	630	1000	800	600	530	530	670	900	1060	300	400
	63	630	670	750	900	950	900	800	670	950	800	670	600	630	710	850	950	335	425
2 800 000	125	400	450	600	900	1060	950	710	475	1000	710	450	355	375	530	850	1060	190	355
	90	500	530	670	850	950	900	710	560	950	750	560	475	475	630	850	1000	250	375
	63	560	600	710	800	900	850	750	630	900	750	600	530	560	670	800	900	300	375
3 550 000	125	355	400	560	800	950	850	630	425	950	670	400	300	335	475	800	1060	150	315
	90	450	475	600	800	900	850	670	500	900	670	500	400	425	560	800	950	212	335
	63	500	530	630	750	850	800	670	560	850	710	560	500	500	600	750	850	265	335
		max **2 650**																max **1 180**	max **1 900**

1) An axial load of up to 0,2 times the value in the table is permissible, simultaneously with the radial load. If exceeded consult us.
2) A radial load of up to 0,2 times the value in the table is permissible, simultaneously with the axial load. If exceeded consult us.

size **161**



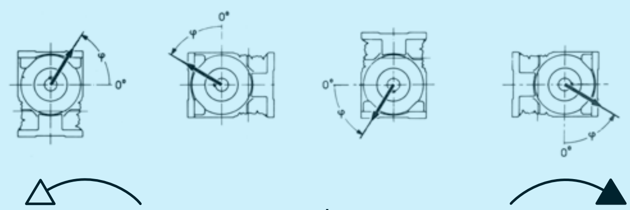


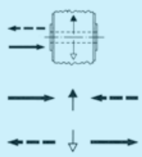


$n_2 \cdot L_h$ (min⁻¹ · h)	M_2 (daN m)	F_{r2} [1]																F_{a2} [2]	
		0	45	90	135	180	225	270	315	0	45	90	135	180	225	270	315		
⩽180 000	500	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	1320	2120
	355	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	1320	2120
224 000	355	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	1320	2120
	250	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	1320	2120
280 000	355	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	1320	2120
	250	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	1320	2120
355 000	355	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	1320	2120
	250	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	1320	2120
450 000	355	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	1320	2120
	250	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	1320	2120
560 000	250	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	1320	2120
	180	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	1320	2120
	125	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	1320	2120
710 000	250	2650	2800	3000	3000	3000	3000	3000	2800	3000	3000	2800	2500	2650	3000	3000	3000	1320	2000
	180	2800	2800	3000	3000	3000	3000	3000	3000	3000	3000	2800	2800	2800	3000	3000	3000	1320	2000
	125	2800	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	2800	2800	3000	3000	3000	1320	2120
	90	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	1320	2120
900 000	250	2360	2500	2800	3000	3000	3000	3000	2500	3000	3000	2500	2360	2360	2800	3000	3000	1320	1800
	180	2500	2650	2800	3000	3000	3000	3000	2650	3000	3000	2650	2500	2500	2800	3000	3000	1320	1900
	125	2650	2800	3000	3000	3000	3000	3000	2800	3000	3000	2800	2650	2650	2800	3000	3000	1320	1900
	90	2800	2800	3000	3000	3000	3000	3000	2800	3000	3000	2800	2800	2800	2800	3000	3000	1320	1900
1 120 000	180	2360	2500	2650	3000	3000	3000	2800	2500	3000	2800	2500	2360	2360	2650	3000	3000	1320	1700
	125	2500	2500	2800	3000	3000	3000	2800	2650	3000	2800	2650	2500	2500	2650	3000	3000	1320	1800
	90	2500	2650	2800	2800	3000	3000	2800	2650	3000	2800	2650	2500	2500	2650	2800	3000	1320	1800
	63	2650	2650	2800	2800	3000	2800	2800	2650	2800	2800	2650	2650	2650	2800	2800	3000	1320	1800
1 400 000	180	2240	2240	2500	2800	3000	2800	2650	2360	3000	2650	2360	2120	2240	2500	2800	3000	1320	1600
	125	2360	2360	2500	2800	2800	2800	2650	2360	2800	2650	2360	2240	2360	2500	2800	3000	1320	1700
	90	2360	2500	2500	2650	2800	2800	2650	2500	2800	2650	2500	2360	2360	2500	2650	2800	1320	1700
	63	2500	2500	2500	2650	2650	2650	2650	2500	2800	2650	2500	2360	2500	2500	2650	2800	1320	1700
1 800 000	125	2240	2360	2500	2650	2800	2800	2500	2360	2800	2650	2360	2240	2240	2500	2650	2800	1320	1500
	90	2360	2360	2500	2650	2800	2650	2500	2360	2800	2650	2360	2240	2360	2500	2650	2800	1320	1600
	63	2360	2500	2500	2650	2650	2650	2500	2500	2650	2650	2500	2360	2360	2500	2650	2650	1320	1600
2 240 000	125	2120	2120	2360	2500	2650	2650	2360	2240	2650	2500	2120	2000	2120	2240	2500	2650	1250	1400
	90	2120	2240	2360	2500	2650	2500	2360	2240	2650	2360	2240	2120	2120	2360	2500	2650	1320	1500
	63	2240	2240	2360	2500	2500	2500	2360	2240	2500	2360	2240	2240	2240	2360	2500	2500	1320	1500
2 800 000	125	1900	2000	2120	2360	2500	2500	2240	2000	2500	2240	2000	1900	1900	2120	2360	2500	1180	1320
	90	2000	2120	2240	2360	2500	2360	2240	2120	2500	2360	2120	2000	2000	2120	2360	2500	1250	1400
	63	2120	2120	2240	2360	2360	2360	2240	2120	2360	2240	2120	2000	2120	2240	2360	2360	1320	1400
3 550 000	125	1800	1800	2000	2240	2360	2240	2120	1900	2360	2120	1900	1700	1800	2000	2240	2360	1060	1250
	90	1900	1900	2000	2240	2240	2240	2120	1900	2240	2120	1900	1800	1900	2000	2240	2360	1180	1250
	63	1900	2000	2000	2120	2240	2240	2120	2000	2240	2120	2000	1900	1900	2000	2120	2240	1180	1320
		max **3 000**																max **1 320**	max **2 120**

1) An axial load of up to 0,2 times the value in the table is permissible, simultaneously with the radial load. If exceeded consult us.
2) A radial load of up to 0,2 times the value in the table is permissible, simultaneously with the axial load. If exceeded consult us.

size **200**

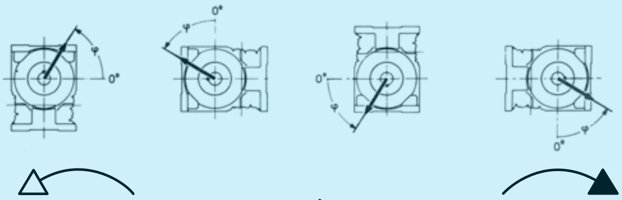


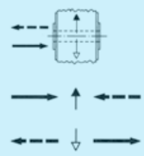


$n_2 \cdot L_h$	M_2	F_{r2} 1)																F_{a2} 2)	
$min^{-1} \cdot h$	daN m	0	45	90	135	180	225	270	315	0	45	90	135	180	225	270	315		
140 000	1000	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	2000	3150
	710	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	2000	3150
180 000	1000	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	2000	3150
	710	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	2000	3150
	500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	2000	3150
224 000	710	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	2000	3150
	500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	2000	3150
	355	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	2000	3150
280 000	710	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4250	4500	4500	4500	4500	2000	3150
	500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	2000	3150
	355	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	2000	3150
	250	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	2000	3150
	180	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	2000	3150
355 000	500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4250	4500	4500	4500	4500	2000	3150
	355	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	2000	3150
	250	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	2000	3150
	180	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	2000	3150
450 000	500	4000	4250	4500	4500	4500	4500	4500	4500	4500	4500	4250	4000	4000	4500	4500	4500	2000	3150
	355	4250	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4250	4250	4500	4500	4500	2000	3150
	250	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	2000	3150
	180	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	2000	3150
560 000	500	3750	4000	4500	4500	4500	4500	4500	4000	4500	4500	4000	3550	3750	4250	4500	4500	2000	3000
	355	4000	4250	4500	4500	4500	4500	4500	4250	4500	4500	4250	4000	4000	4500	4500	4500	2000	3000
	250	4250	4250	4500	4500	4500	4500	4500	4250	4500	4500	4250	4000	4250	4500	4500	4500	2000	3150
	180	4250	4250	4500	4500	4500	4500	4500	4500	4500	4500	4250	4250	4250	4500	4500	4500	2000	3150
	125	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4250	4500	4500	4500	4500	2000	3150
710 000	500	3350	3550	4250	4500	4500	4500	4250	3750	4500	4250	3550	3350	3350	4000	4500	4500	2000	2650
	355	4000	3750	4250	4500	4500	4500	4250	3750	4500	4250	3750	3550	3750	4000	4500	4500	2000	2800
	250	4000	4000	4250	4500	4500	4500	4250	4000	4500	4250	4000	3750	3750	4250	4500	4500	2000	3000
	180	4000	4000	4250	4500	4500	4500	4250	4000	4500	4250	4000	4000	4000	4250	4500	4500	2000	3000
	125	4000	4250	4250	4500	4500	4500	4250	4250	4500	4250	4250	4000	4000	4250	4500	4500	2000	3000
900 000	355	3350	3550	4000	4250	4500	4500	4000	3550	4500	4000	3550	3350	3350	3750	4250	4500	2000	2650
	250	3550	3750	4000	4250	4500	4250	4000	3750	4500	4000	3750	3550	3550	4000	4250	4500	2000	2650
	180	3750	3750	4000	4250	4250	4250	4000	3750	4250	4000	3750	3550	3750	4000	4250	4250	2000	2800
	125	3750	3750	4000	4250	4250	4250	4000	3750	4250	4000	3750	3750	3750	4000	4250	4250	2000	2800
1 120 000	355	3150	3350	3750	4000	4250	4250	3750	3350	4250	3750	3350	3000	3150	3550	4000	4500	2000	2500
	250	3350	3350	3750	4000	4250	4000	3750	3350	4250	3750	3350	3150	3350	3550	4000	4250	2000	2500
	180	3350	3550	3750	4000	4000	4000	3750	3550	4000	3750	3550	3350	3350	3550	4000	4000	2000	2500
	125	3550	3550	3750	4000	4000	4000	3750	3550	4000	3750	3550	3550	3550	3750	4000	4000	2000	2650
1 400 000	355	3000	3000	3350	4000	4000	4000	3550	3000	4000	3550	3000	2800	2800	3350	3750	4250	1900	2240
	250	3000	3150	3550	3750	4000	3750	3550	3150	4000	3550	3150	3000	3000	3350	3750	4000	2000	2360
	180	3150	3350	3550	3750	3750	3750	3550	3350	3750	3550	3350	3150	3150	3350	3750	3750	2000	2360
	125	3350	3350	3550	3550	3750	3550	3550	3350	3750	3550	3350	3150	3350	3350	3550	3750	2000	2360
1 800 000	355	2650	2800	3150	3550	3750	3550	3150	2800	3750	3350	2800	2500	2650	3000	3550	4000	1700	2120
	250	2800	3000	3150	3550	3550	3550	3150	3000	3550	3350	3000	2800	2800	3150	3550	3750	1900	2120
	180	3000	3000	3150	3350	3550	3350	3150	3000	3550	3350	3000	2800	3000	3150	3350	3550	2000	2240
	125	3000	3000	3150	3350	3350	3350	3150	3150	3350	3350	3000	3000	3000	3150	3350	3550	2000	2240
2 240 000	250	2650	2650	3000	3350	3350	3350	3000	2800	3350	3000	2650	2500	2650	3000	3350	3550	1800	2000
	180	2800	2800	3000	3150	3350	3150	3000	2800	3350	3000	2800	2650	2650	3000	3150	3350	1900	2000
	125	2800	2800	3000	3150	3150	3150	3000	2800	3150	3000	2800	2800	2800	3000	3150	3350	2000	2120
2 800 000	250	2360	2500	2800	3150	3350	3150	2800	2500	3150	2800	2500	2360	2360	2650	3150	3350	1600	1900
	180	2500	2650	2800	3000	3150	3000	2800	2650	3150	2800	2650	2500	2500	2800	3000	3150	1700	1900
	125	2650	2650	2800	3000	3000	3000	2800	2650	3000	2800	2650	2650	2650	2800	3000	3000	1800	1900
3 550 000	250	2240	2360	2650	3000	3000	3000	2650	2360	3000	2650	2360	2120	2240	2360	3000	3150	1500	1700
	180	2360	2360	2650	2800	3000	2800	2650	2360	3000	2650	2360	2240	2360	2500	2800	3000	1600	1800
	125	2360	2500	2650	2800	2800	2800	2650	2500	2800	2650	2500	2360	2360	2650	2800	3000	1700	1800
		max **4 500**																max **2 000**	max **3 150**

1) An axial load of up to 0,2 times the value in the table is permissible, simultaneously with the radial load. If exceeded consult us.
2) A radial load of up to 0,2 times the value in the table is permissible, simultaneously with the axial load. If exceeded consult us.

size **250**





$n_2 \cdot L_h$	M_2	F_{r2} [1)																F_{a2} [2)	
min⁻¹ · h	daN m	0	45	90	135	180	225	270	315	0	45	90	135	180	225	270	315		
180 000	1900	5000	5600	6300	6300	6300	6300	6300	6000	6300	6300	5600	4500	4750	6300	6300	6300	1400	3000
	1320	6000	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300	5600	6000	6300	6300	6300	2000	3000
224 000	1320	5300	6000	6300	6300	6300	6300	6300	6000	6300	6300	6000	5000	5300	6300	6300	6300	1800	2800
	950	6000	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300	6000	6000	6300	6300	6300	2240	3000
280 000	1320	5000	5300	6300	6300	6300	6300	6300	5600	6300	6300	5300	4500	4750	6000	6300	6300	1600	2650
	950	5600	6000	6300	6300	6300	6300	6300	6000	6300	6300	6000	5300	5600	6300	6300	6300	2000	2800
	670	6000	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300	6000	6000	6300	6300	6300	2320	2800
355 000	950	5000	5300	6300	6300	6300	6300	6300	5600	6300	6300	5300	4750	5000	6000	6300	6300	1800	2500
	670	5600	5600	6300	6300	6300	6300	6300	6000	6300	6300	6000	5300	6000	6300	6300	6300	2120	2650
	475	6000	6000	6300	6300	6300	6300	6300	6000	6300	6300	6000	5600	6000	6300	6300	6300	2360	2650
450 000	950	4500	4750	5600	6300	6300	6300	6300	5000	6300	6300	5000	4250	4500	5600	6300	6300	1600	2360
	670	5000	5300	6000	6300	6300	6300	6300	5300	6300	6300	5300	4750	5000	6000	6300	6300	1900	2500
	475	5300	5600	6000	6300	6300	6300	6000	5600	6300	6300	5600	5300	5300	6000	6300	6300	2120	2500
560 000	950	4250	4500	5300	6300	6300	6300	5600	4750	6300	6000	4500	4000	4250	5000	6300	6300	1500	2240
	670	4750	4750	5600	6300	6300	6300	5600	5000	6300	6000	5000	4500	4500	5300	6300	6300	1700	2240
	475	5000	5000	5600	6000	6300	6300	5600	5300	6300	6000	5300	4750	5000	5600	6000	6300	1900	2360
	335	5300	5300	5600	6000	6300	6000	5600	5300	6300	6000	5300	5000	5300	5600	6000	6300	2120	2360
710 000	950	3750	4000	5000	6000	6300	6300	5300	4250	6300	5300	4250	3550	3750	4750	6000	6300	1250	2000
	670	4250	4500	5000	6000	6300	6000	5300	4500	6300	5600	4500	4000	4250	5000	6000	6300	1600	2120
	475	4500	4750	5300	6000	6000	6000	5300	4750	6000	5300	4750	4500	4500	5000	5600	6300	1800	2120
	335	4750	5000	5300	5600	6000	6000	5300	5000	6000	5300	5000	4750	4750	5300	5600	6000	1900	2240
900 000	670	4000	4000	4750	5600	6000	6000	5000	4250	6000	5000	4250	3750	3750	4500	5600	6300	1400	1900
	475	4250	4250	4750	5300	5600	5600	5000	4500	5600	5000	4500	4000	4250	4750	5300	6000	1600	2000
	335	4500	4500	4750	5300	5600	5300	5000	4500	5600	5000	4500	4250	4500	4750	5300	5600	1800	2000
1 120 000	670	3550	3750	4500	5300	5600	5300	4750	4000	5600	4750	3750	3350	3550	4250	5300	6000	1250	1800
	475	4000	4000	4500	5000	5300	5300	4750	4250	5300	4750	4000	3750	4000	4250	5000	5600	1500	1900
	335	4000	4250	4500	5000	5300	5000	4750	4250	5300	4750	4250	4000	4000	4500	5000	5300	1600	1900
1 400 000	670	3350	3550	4000	5000	5300	5000	4250	3550	5300	4500	3550	3150	3150	4000	4750	5600	1180	1700
	475	3550	3750	4250	4750	5000	5000	4250	3750	5000	4500	3750	3550	3550	4000	4750	5300	1400	1700
	335	3750	4000	4250	4750	4750	4750	4250	4000	4750	4500	4000	3750	3750	4250	4750	5000	1500	1800
1 800 000	670	3000	3150	3750	4500	5000	4750	4000	3350	5000	4000	3150	2800	3000	3550	4500	5300	1000	1500
	475	3350	3350	4000	4500	4750	4500	4000	3550	4750	4250	3550	3150	3350	3750	4500	5000	1250	1600
	335	3550	3550	4000	4250	4500	4500	4000	3750	4500	4250	3750	3350	3550	3750	4250	4750	1400	1600
2 240 000	475	3000	3150	3550	4250	4500	4250	3750	3350	4500	4000	3150	3000	3000	3550	4250	4750	1120	1500
	335	3150	3350	3750	4000	4250	4250	3750	3350	4250	3750	3350	3150	3150	3550	4000	4500	1250	1500

max **6 300** | max **2 800** | max **4 500**

Values valid for **solid** low speed shaft (see ch. 5).

size **250 bis**

180 000	1900	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	3150	5000
224 000	1320	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	3150	5000
280 000	1320	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	3150	5000
355 000	950	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	3150	5000
450 000	950	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	3150	5000
560 000	950	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	6700	7100	7100	7100	7100	3150	4500
710 000	950	6700	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	6300	6700	7100	7100	7100	3150	4250
	670	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	3150	4500
900 000	950	6700	6700	7100	7100	7100	7100	7100	6700	7100	7100	6700	6300	6700	7100	7100	7100	3150	4000
	670	6700	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	6700	6700	7100	7100	7100	3150	4250
1 120 000	670	6000	6300	7100	7100	7100	7100	7100	6300	7100	7100	6300	6000	6000	6700	7100	7100	3000	3750
	475	6300	6700	7100	7100	7100	7100	7100	6700	7100	7100	6700	6300	6300	6700	7100	7100	3150	4000
	335	6700	6700	7100	7100	7100	7100	7100	6700	7100	7100	6700	6700	6700	7100	7100	7100	3150	4000
1 400 000	670	5600	6000	6300	7100	7100	7100	6700	6000	7100	6700	6000	5300	5600	6300	7100	7100	2800	3550
	475	6000	6000	6700	7100	7100	7100	6700	6000	7100	6700	6000	6000	6000	6300	7100	7100	3150	3550
	335	6000	6300	6700	7100	7100	7100	6700	6300	7100	6700	6300	6000	6000	6300	7100	7100	3150	3750
1 800 000	670	5000	5300	6000	6700	7100	6700	6000	5300	7100	6300	5300	5000	5000	6000	6700	7100	2650	3150
	475	5300	5600	6000	6700	6700	6700	6000	5600	6700	6300	5600	5300	5300	6000	6700	7100	3000	3350
	335	5600	5600	6000	6300	6700	6700	6000	6000	6700	6300	6000	5600	5600	6000	6300	6700	3150	3350
2 240 000	475	5000	5300	5600	6300	6300	6300	5600	5300	6300	6000	5300	5000	5000	5600	6000	6700	2650	3150
	335	5300	5300	5600	6000	6300	6000	5600	5300	6300	6000	5300	5300	5300	5600	6000	6300	3000	3150

max **7 100** | max **3 150** | max **5 000**

1) An axial load of up to 0,2 times the value in the table is permissible, simultaneously with the radial load. If exceeded consult us.
2) A radial load of up to 0,2 times the value in the table is permissible, simultaneously with the axial load. If exceeded consult us.

Worm gear pair

Number of teeth – wormwheel z_2 and worm z_1, axial module m_x, reference lead angle γ_m, static efficiency η_s and worm gear pair moment of inertia J_1 for gear reducers and gearmotors **R V**, **R IV**, **MR V**, **MR IV**, **MR 2IV**.

In the case of **R IV**, **MR IV** and **MR 2IV** gear reducers and gearmotors, the moment of inertia on the high speed shaft (disregarding motor) is that of the worm divided by the cylindrical gear pair total ratio squared.

		Gear reducer size									
i		**32**	**40**	**50**	**63, 64**	**80, 81**	**100**	**125, 126**	**160, 161**	**200**	**250**
7	z_2/z_1	21/3	21/3	21/3	28/4	28/4					
	m_x	2,2	2,8	3,4	3,5	4,5					
	γ_m	22° 29'	22° 29'	22° 35'	28° 35'	28° 30'	–	–	–	–	–
	η_s	0,71	0,71	0,71	0,74	0,74					
10	z_2/z_1	20/2	20/2	20/2	30/3	30/3	30/3	30/3	30/3		
	m_x	2,3	2,8	3,5	3,3	4,2	5,3	6,6	8,6		
	γ_m	15° 10'	15° 10'	15° 7'	19° 52'	20° 28'	21° 20'	21° 53'	23° 1'	–	–
	η_s	0,65	0,65	0,65	0,69	0,7	0,7	0,7	0,72		
13	z_2/z_1	26/2	26/2	26/2	26/2	26/2	26/2	39/3	39/3	39/3	
	m_x	1,8	2,3	2,9	3,7	4,7	5,9	5,2	6,8	8,5	
	γ_m	13° 28'	13° 14'	13° 36'	14° 23'	14° 48'	15° 24'	18° 48'	19° 52'	20° 38'	–
	η_s	0,62	0,62	0,63	0,64	0,64	0,65	0,68	0,69	0,7	
16	z_2/z_1	32/2	32/2	32/2	32/2	32/2	32/2	32/2	32/2	48/3	48/3
	m_x	1,5	1,9	2,4	3,1	3,9	4,9	6,2	8	7,1	9
	γ_m	11° 52'	11° 53'	12° 4'	12° 47'	13° 14'	13° 47'	14° 7'	14° 52'	19° 4'	20° 21'
	η_s	0,6	0,6	0,6	0,61	0,62	0,63	0,63	0,64	0,68	0,69
20	z_2/z_1	20/1	20/1	20/1	40/2	40/2	40/2	40/2	40/2	40/2	40/2
	m_x	2,3	2,8	3,5	2,5	3,2	4,1	5,1	6,6	8,3	10,4
	γ_m	7° 41'	7° 40'	7° 46'	11° 46'	12° 1'	12° 29'	12° 24'	13° 6'	13° 36'	14° 3'
	η_s	0,5	0,5	0,5	0,6	0,6	0,61	0,61	0,62	0,63	0,63
25	z_2/z_1	25/1	25/1	25/1	25/1	25/1	25/1	50/2	50/2	50/2	50/2
	m_x	1,9	2,4	3	3,8	4,8	6,1	4,2	5,4	6,8	8,6
	γ_m	6° 55'	6° 52'	6° 58'	7° 21'	7° 34'	7° 53'	11° 33'	11° 49'	12° 28'	13° 18'
	η_s	0,48	0,48	0,48	0,5	0,5	0,51	0,59	0,6	0,61	0,62
32	z_2/z_1	32/1	32/1	32/1	32/1	32/1	32/1	32/1	32/1	32/1	64/2
	m_x	1,5	1,9	2,4	3,1	3,9	4,9	6,2	8	10,1	6,8
	γ_m	6°	6°	6° 3'	6° 25'	6° 38'	6° 55'	7° 5'	7° 27'	7° 43'	11° 22'
	η_s	0,45	0,45	0,45	0,46	0,47	0,48	0,49	0,5	0,51	0,59
40	z_2/z_1	40/1	40/1	40/1	40/1	40/1	40/1	40/1	40/1	40/1	40/1
	m_x	1,3	1,6	2	2,5	3,2	4,1	5,1	6,6	8,3	10,4
	γ_m	5° 12'	5° 10'	5° 16'	5° 54'	6° 2'	6° 16'	6° 13'	6° 34'	6° 50'	7° 3'
	η_s	0,42	0,42	0,42	0,44	0,45	0,46	0,46	0,47	0,48	0,49
50	z_2/z_1	50/1	50/1	50/1	50/1	50/1	50/1	50/1	50/1	50/1	50/1
	m_x	1	1,3	1,6	2,1	2,7	3,3	4,2	5,4	6,8	8,6
	γ_m	4° 29'	4° 25'	4° 32'	5° 7'	5° 15'	5° 27'	5° 48'	5° 56'	6° 15'	6° 41'
	η_s	0,38	0,38	0,38	0,41	0,42	0,43	0,44	0,45	0,46	0,47
63	z_2/z_1		63/1	63/1	63/1	63/1	63/1	63/1	63/1	63/1	63/1
	m_x		1	1,3	1,7	2,1	2,7	3,4	4,4	5,5	6,9
	γ_m	–	3° 43'	3° 50'	4° 21'	4° 27'	4° 39'	4° 57'	5° 5'	5° 22'	5° 46'
	η_s		0,34	0,35	0,38	0,38	0,39	0,4	0,41	0,42	0,44
Moment of inertia (of mass) J_1 [kg m^2] on the worm ≈		–	–	–	–	–	0,0014	0,0037	0,0078	0,0192	0,0376

Low speed shaft angular backlash

A rough guide for low speed shaft angular backlash is given in the table (the worm being held stationary). Values vary according to design and temperature.
Gear reducers with **controlled** or **reduced backlash** can be supplied on request (see ch. 5), subject to longer delivery times and price addition; choose a **higher** service factor.

Gear reducer size	Angular backlash [rad][1]	
	min	max
32	0,0030	0,0118
40	0,0025	0,0100
50	0,0020	0,0080
63, 64	0,0018	0,0071
80, 81	0,0016	0,0063
100	0,0013	0,0050
125, 126	0,0011	0,0045
160, 161	0,0010	0,0040
200	0,0008	0,0032
250	0,0007	0,0028

1) At a distance of 1 m from the low speed shaft centre, angular backlash in mm is obtained multiplying the table value by 1 000 (1 rad = 3438').

Gear ratio of input helical gear stage (gearmotors MR IV, MR 2IV)

The partial transmission ratio of input helical gear stage is given in the table; this ratio has to be used when calculating the input speed of the intermediate worm shaft.

MR **IV** gearmotor size – Motor main coupling dimensions Ød ØP

i_N	32		40, 50						63 ... 100					
	11×140		11×140		14×160		19×200		14×160 (19×200)[1]		19×200 (24×200)[1]		24×200 (28×250)[1]	
	i	2)	*i*	2)	*i*	2)	*i*	2)	*i*	2)	*i*	2)	*i*	2)
31,5	–	–	–	–	–	–	**32,5**	2,03	–	–	–	–	**32**	2
40	**41,5**	2,59	–	–	**40,6**	2,54	**40,6**	2,03	–	–	**40,6**	2,54	**40**	2
50	**51,8**	2,59	**56**	3,5	**50,7**	2,54	**50,8**	2,03	**50,9**	3,18	**50,8**	2,54	**50**	2
63	**64,8**	2,59	**70**	3,5	**63,4**	2,54	**65**	2,03	**63,6**	3,18	**63,5**	2,54	**64**	2
80	**82,9**	2,59	**87,5**	3,5	**81,1**	2,54	–	–	**79,5**	3,18	**81,2**	2,54	**80**	2
100	**104**	2,59	**112**	3,5	**101**	2,54	–	–	**102**	3,18	**102**	2,54	**100**	2
125	–	–	**140**	3,5	**127**	2,54	–	–	**122**	3,8	**127**	2,54	**126**	2
160	–	–	**175**	3,5	–	–	–	–	**152**	3,8	**160**	2,54	–	–
200	–	–	**221**	3,5	–	–	–	–	**190**	3,8	–	–	–	–
250	–	–	–	–	–	–	–	–	**239**	3,8	–	–	–	–

i_N	125, 126						160 ... 200						250					
	24×200		28×250		38×300		28×250		38×300		42×350 48×350		38×300		42×350 48×350		55×400 60×450	
	i	2)	*i*	2)	*i*	2)	*i*	2)	*i*	2)	*i*	2)	*i*	2)	*i*	2)	*i*	2)
31,5	–	–	–	–	**32,5**	2,03	–	–	–	–	**32**	2	–	–	–	–	**32**	2
40	–	–	**40,6**	2,54	**40,6**	2,03	–	–	**40,9**	2,56	**40**	2	–	–	**40,9**	2,56	**40**	2
50	–	–	**50,7**	2,54	**50,8**	2,03	**50,8**	3,17	**51,1**	2,56	**50**	2	–	–	**51,1**	2,56	**50**	2
63	–	–	**63,4**	2,54	**65**	2,03	**63,5**	3,17	**63,9**	2,56	**64**	2	–	–	**63,9**	2,56	**64**	2
80	**78,1**	3,13	**81,1**	2,54	**81,2**	2,03	**79,3**	3,17	**81,8**	2,56	**80**	2	**79,3**	3,17	**81,8**	2,56	**80**	2
100	**100**	3,13	**101**	2,54	–	–	**102**	3,17	**102**	2,56	**102**	2,56	**102**	3,17	**102**	2,56	**102**	2,56
125	**125**	3,13	**125**	3,13	–	–	**127**	3,17	**128**	2,56	**128**	2,56	**127**	3,17	**127**[3]	3,17[3]	–	–
160	**154**	3,86	**156**	3,13	–	–	**160**	4	**161**	2,56	–	–	**152**	3,8	**159**	3,17	–	–
200	**193**	3,86	**197**	3,13	–	–	**200**	4	–	–	–	–	**190**	3,8	**200**	3,17	–	–
250	**243**	3,86	–	–	–	–	**252**	4	–	–	–	–	**239**	3,8	–	–	–	–

MR **2IV** gearmotor size – Motor main coupling dimensions Ød ØP

i_N	40, 50				63 ... 81				100				125, 126			
	11×140		14×160		14×160		19×200		19×200		24×200		24×200		28×250	
	i	2)	*i*	2)	*i*	2)	*i*	2)	*i*	2)	*i*	2)	*i*	2)	*i*	2)
80	–	–	**82,4**	5,15	–	–	–	–	–	–	**81,2**	5,08	–	–	**82,3**	5,15
100	**114**	7,11	**103**	5,15	–	–	**102**	5,08	–	–	**102**	5,08	–	–	**103**	5,15
125	**142**	7,11	**129**	5,15	–	–	**127**	5,08	–	–	**127**	5,08	–	–	**129**	5,15
160	**178**	7,11	**158**	7,91	**159**	6,36	**162**	5,08	**159**	6,36	**162**	5,08	**159**	6,34	**165**	5,15
200	**218**	10,9	**198**	7,91	**204**	6,36	**202**	8,08	**204**	6,36	**202**	8,08	**203**	6,34	**206**	5,15
250	**273**	10,9	–	–	**253**	10,1	**258**	8,08	**253**	10,1	**258**	8,08	**254**	6,34	**253**	7,91
315	**349**	10,9	–	–	**302**	12,1	**323**	8,08	**302**	12,1	–	–	**312**	9,75	–	–
400	**437**	10,9	–	–	**387**	12,1	–	–	**387**	12,1	–	–	**385**	12	–	–
500			–	–	**484**	12,1	–	–	**484**	12,1	–	–	**481**	12	–	–
630	–	–	–	–	**605**	12,1	–	–	**605**	12,1	–	–	**602**	12	–	–

1) Motor copuling dimensions valid for gearmotor size 100.
2) Partial transmission ratio of input helical gear stage.
3) With motor size 180 values are **128** and *2,56* respectively.

Efficiency η

Efficiency **η** is derived from the P_{N2} / P_{N1} ratio in the case of gear reducers (ch. 3.5) and P_2 / P_1 in the case of gearmotors (ch. 9). The values obtained will be valid assuming normal working conditions, worm operating as driving member, proper lubrication, adequate running-in (ch. 4), and a load near to the nominal value.

During the **initial working period** (about 50 hours) and generally at every cold start, efficiency will be lower (by about 12% for worms with $z_1 = 1$; 6% for worms with $z_1 = 2$ and 3% for worms with $z_1 = 3$).

«Static» efficiency η_s on starting (see table in the preceding section) is much lower than **η** («starting friction») must be overcome at speed 0); as speed picks up gradually, efficiency will rise correspondingly until the catalogue value is reached.

Inverse efficiency η_{inv}, – produced by the wormwheel as driver – is always less than **η**. It can be calculated approximately as follows:

$$\eta_{inv} \approx 2 - 1 / \eta; \qquad \text{likewise:} \qquad \eta_{s\,inv} \approx 2 - 1 / \eta_s$$

Irreversibility

A worm gear reducer or gearmotor is **dynamically irreversible** (that is, it ceases to turn the instant the wormshaft receives no further stimulus that would keep the worm itself in rotation e.g. motor torque, inertia from the worm and related fan, motor flywheels, couplings, etc.) when **η** < **0,5** as η_{inv} then drops below 0.

This state becomes necessary wherever there is a **need for stopping and holding** the load, even without the aid of a brake. Where continuous vibration occurs, dynamic irreversibility may not be obtainable.

A gear reducer or gearmotor is **statically irreversible** (that is, rotation cannot be imparted by way of the low speed shaft) when η_s < **0,5**. This is a state **necessary to keep the load at standstill**; taking into account, however, that efficiency can increase with time spent in operation, it would be advisable to assume $\eta_s \leqslant$ **0,4** ($\gamma_m < 5°$).

Where continuous vibration occurs, static irreversibility may not be obtainable.

A gear reducer or gearmotor has **low static reversibility** (i.e. rotation may be imparted by way of the low speed shaft with high torque and/ or vibration) when **0,5** < $\eta_s \leqslant$ **0,6** (7° 30' < $\gamma_m \leqslant 12°$).

A gear reducer or gearmotor has **complete static reversibility** (i.e. rotation may be imparted by way of the low speed shaft) when $\eta_s >$ **0,6** ($\gamma_m > 12°$).

This state is advisable where there is a **need for easy start-up of the gear reducer by way of the low speed shaft**.

Overloads

Since worm gear pairs are often subject to high static and dynamic overloads by dint of the fact that they are especially suited to bear them, the need arises – more so than with other gear pairs – for verifying that such overloads will always remain lower than $M_{2\,max}$ (ch. 3.5).

Overloads are normally generated when one has:

– starting on full load (especially for high inertias and low transmission ratios), braking, shocks;
– irreversible gear reducers, or gear reducers with low reversibility in which the wormwheel becomes driver due to driven machine inertia;
– applied power higher than that required; other static or dynamic causes.

The following general observations on overloads are accompanied by some formulae for carrying out evaluations in certain typical instances.

Where no evaluation is possible, install safety devices which will keep values within M_{2max}.

Starting torque

When starting on full load (especially for high inertias and low transmission ratios) verify that M_{2max} is equal to or greater than starting torque, by using the following formula:

$$M_2\ \text{start} = \left(\frac{M\ \text{start}}{M_N} \cdot M_2\ \text{available} - M_2\ \text{required}\right) \frac{J}{J + J_0 \cdot \eta} + M_2\ \text{required}$$

where:
M_2 required is torque absorbed by the machine through work and friction;
M_2 available is output torque derived from the motor's nominal power rating;
J_0 is the moment of inertia (of mass) of the motor;
J is the external moment of inertia (of mass) in kg m² (gear reducers, couplings, driven machine) referred to the motor shaft;
for other symbols see ch. 2b.

NOTE: When seeking to verify that starting torque is sufficiently high for starting, take into account efficiency η_s when evaluating M_2 available, and starting friction, if any, in evaluating M_2 required.

Stopping machines with high kinetic energy (high moments of inertia combined with high speeds) with or without braking (braking applied to wormshaft, or use of brake motor)

Select a gear reducer with static reversibility ($\eta_s > 0,5$); if using a brake motor, verify braking stress with the following formula:

$$\left(\frac{Mf}{\eta_{s\,inv}} \cdot i + M_2\ \text{required}\right) \frac{J}{J + J_0/\eta_{s\,inv}} - M_2\ \text{required} \leq M_{2\,max}$$

where:
Mf is the braking torque setting (see table in ch. 2b).
$\eta_{s\,inv}$ is static inverse efficiency (see previous heading);
for other symbols see above and ch.1.

Where selection of a statically reversible gear reducer is not pos-sible (i.e. $\eta_s \leq 0,5$) slowing-down should be sufficiently gradual (avoiding application of excessive stress to the unit itself) as to ensure that:

$$\frac{J_2 \cdot \alpha_2}{10} - M_2 \leq M_{2\,max}$$

where:
J_2 [kg m²] is the moment of inertia (of mass) of the driven machine referred to the gear reducer's low speed shaft;
M_2 [daN m] is torque absorbed by the machine through work and friction;
α_2 [rad/s²] is the low speed shaft's angular deceleration; this may be reduced by flywheel fitted to the wormshaft, electric deceleration ramps, lowering of braking torque when braking systems are in use, etc.

α_2 may be arrived at theorically (within broadly safe limits) or experimentally (by testing against stopping time and distance etc.).
If a brake motor is in use, the following formula may be used for a safe evaluation of α_2:

$$\alpha_2 = \frac{10 \cdot Mf}{J_0 \cdot i}$$

in which the motor is presumed without load and subject to its braking torque setting Mf [daN m] (see table in ch. 2b).

Operation with brake motor

Stating time *ta* **and revolutions of motor** φa_1

$$ta = \frac{(J_0 + J/\eta) \cdot n_1}{95{,}5\left(M\,\text{start} - \dfrac{M_2\,\text{required}}{i \cdot \eta}\right)}\,[\text{s}]; \qquad \varphi a_1 = \frac{ta \cdot n_1}{19{,}1}\,[\text{rad}]$$

Braking time *tf* **and revolutions of motor** φf_1

$$tf = \frac{(J_0 + J/\eta_{inv}) \cdot n_1}{95{,}5\left(Mf + \dfrac{M_2\,\text{required} \cdot \eta_{inv}}{i}\right)}\,[\text{s}]; \qquad \varphi f_1 = \frac{tf \cdot n_1}{19{,}1}\,[\text{rad}]$$

where:

M start [daN m] is motor starting torque $\left(\frac{955 \cdot P_1}{n_1} \cdot \frac{M\,\text{start}}{M_N}\right)$ (see ch. 2b);

Mf [daN m] is the braking torque setting of the motor (see ch. 2b);

for other symbols see above and ch. 1.

With the gear reducer run in and operating at normal running temperature – assuming a regular air-gap and ambient humidity and utilizing suitable electrical equipment – repetition of the braking action, as affected by variation in temperature of the brake and by the state of wear of friction surface, is approx $\pm 0{,}1 \cdot \varphi f_1$.
During warm-up (1 ÷ 3 h, small through to large sizes), braking times and distances tend to increase to the point of stabilizing at or around values corresponding to rated catalogue efficiency.

Duration of friction surface

As a rough guide, the number of applications permis sible between successive adjustments of the air-gap isgiven by the following formula:

$$\frac{W \cdot 10^5}{Mf \cdot \varphi f_1}$$

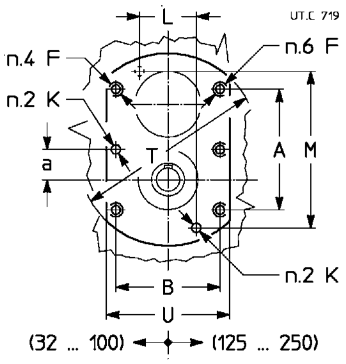
where:
W [MJ] is the work of friction between successive adjustments of the air-gap as indicated in the table. For other symbols see above.

The air-gap should measure between 0,25 minimum and 0,7 maximum; as a rough guide, 5 adjustments can be made.

Grandezza motore Motor size	*W* MJ
63	10,6
71	14
80	18
90	24
100	24
112	45
132	67
160, 180M	90
180L, 200	125

Gear reducers input face

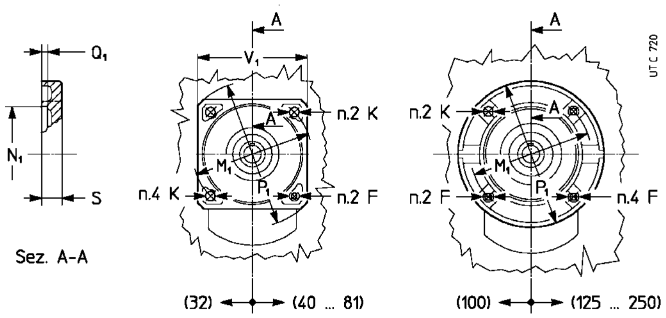
The **R V** gear reducer input face has a machined surface with tapped holes for fitting motor mounting etc.



Grandezza riduttore Gear reducer size	a	A	B	F 1)	K Ø H8 2)	L	M	T Ø	U
32	16	72	54	M 5	5	–	–	103	66
40, 50	20	81,5	66,5	M 5	5	–	–	119	80
63 ... 81	25	106	80	M 6	6	–	–	149	96
100	31,3	125	108	M 8	8	–	–	187	129
125, 126	40	166	136	M 8	8	78	216	252	157
160 ... 200	50	214	168	M 10	10	98	268	312	194
250	62,5	274	210	M 12	12	128	332	387	241

1) Working length of thread 2 · F.
2) Working length of hole 1,6 · K.

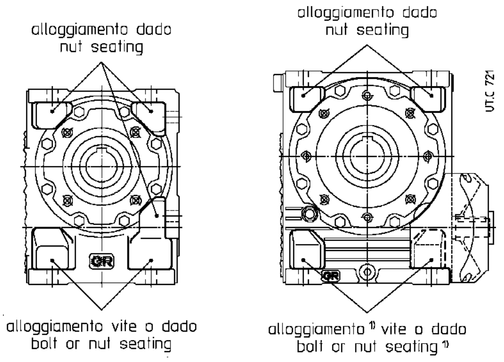
The **R IV** gear reducer input face has a machined flange with holes for fitting motor mountings etc.



Grandezza riduttore Gear reducer size	F 1)	K Ø	M_1 Ø	N_1 Ø H7	P_1 Ø	V_1 □	Q_1	S
32	–	9,5	115	95	140	105	4	10
40, 50	M 8	9,5	115	95	140	105	4	11
63 ... 81	M 8	9,5	130	110	160	120	4,5	12
100	M 10	11,5	165	130	200	–	4,5	14
125, 126	M 10	–	165	130	200	–	4,5	16
160 ... 200	M 12	–	215	180	250	–	5	18
250	M 12	–	265	230	300	–	5	20

1) Working length of thread 1,25 · F.

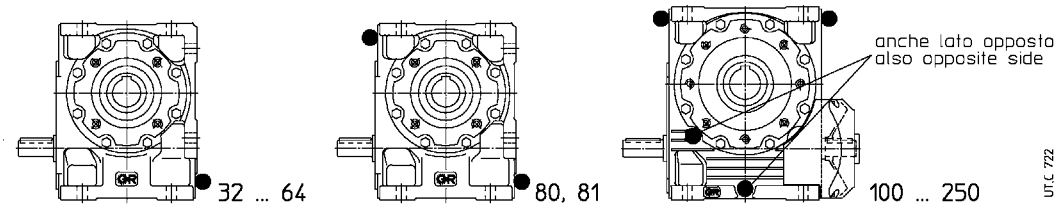
Fixing bolt dimensions for gear reducer feet



1) When tightening bolts at the fan side (sizes 100 ... 250) the fan cowl (which must enclose the fan assembly in order to enhance air-flow) needs to be removed for the purpose. When installing, ensure the cowl clears any surrounding walls by at least half the gear reducer's centre distance.

Grandezza riduttore Gear reducer size	Vite Bolt UNI 5737-88 (l max)
32	M 6 × 25
40	M 8 × 35
50	M 8 × 40
63, 64	M 10 × 50
80, 81	M 12 × 60
100	M 14 × 55
125, 126	M 16 × 65
160, 161	M 20 × 80
200	M 24 × 90
250	M 30 × 120

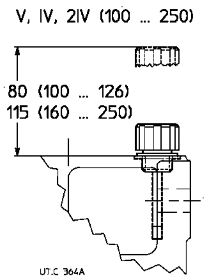
Plug position



Mounting position **B7**

Mounting position **B6**1)

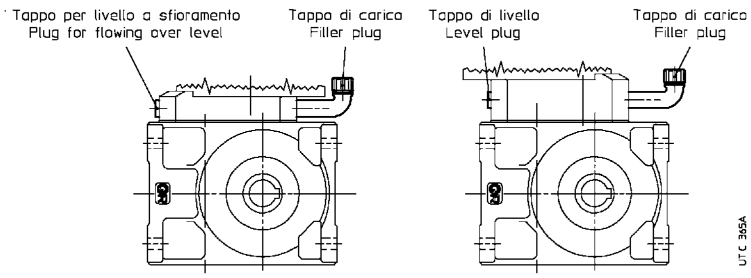
V, IV, 2IV (100 ... 250)



IV (100 ... 250)

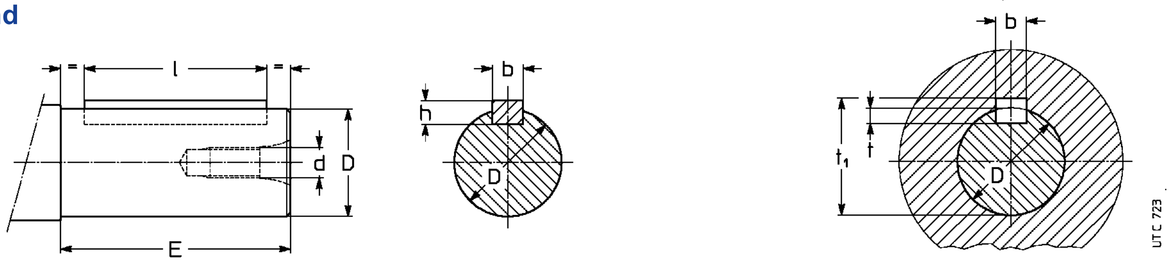
2IV (40 ... 126)

(100 ... 126)



1) For high input speed duty an expansion tank is envisaged.

Shaft end



Shaft end

Shaft end				Parallel key	Keyway		
D1) Ø		E2)	d Ø	b × h × l2)	b	t	t_1
11	j6	23 (20)	M 5	4 × 4 × 18 (12)	4	2,5	12,7
14	j6	30 (25)	M 6	5 × 5 × 25 (16)	5	3	16,2
16	j6	30	M 6	5 × 5 × 25	5	3	18,2
19	j6	40 (30)	M 6	6 × 6 × 36 (25)	6	3,5	21,7
24	j6	50 (36)	M 8	8 × 7 × 45 (25)	8	4	27,2
28	j6	60 (42)	M 8	8 × 7 × 45 (36)	8	4	31,2
32	k6	80 (58)	M 10	10 × 8 × 70 (50)	10	5	35,3
38	k6	80 (58)	M 10	10 × 8 × 70 (50)	10	5	41,3
40	h7	58	M 10	12 × 8 × 50	12	5	43,3
48	k6	110 (82)	M 12	14 × 9 × 90 (70)	14	5,5	51,8
55	m6	110 (82)	M 12	16 × 10 × 90 (70)	16	6	59,3
60	m6	105	M 16	18 × 11 × 90	18	7	64,4
70	j6	105	M 16	20 × 12 × 90	20	7,5	74,9
75	j6	105	M 16	20 × 12 × 90	20	7,5	79,9
90	j6	130	M 20	25 × 14 × 110	25	9	95,4
110	j6	165	M 24	28 × 16 × 140	28	10	116,4

1) Tolerance valid only for high speed shaft end. Diameter D tolerance for low speed shaft end (ch. 5) is **h7** for D ⩽ 60, **j6** for D ⩾ 70.
2) Values in brackets are for short shaft end.

Hollow low speed shaft

Hole	Parallel key	Keyway		
D Ø H7	b × h × l*	b	t	t_1
19	6 × 6 × 36	6	3,5	21,7
24	8 × 7 × 45	8	4	27,2
28	8 × 7 × 63	8	4	31,2
32	10 × 8 × 70	10	5	35,3
38	10 × 8 × 90	10	5	41,3
40	12 × 8 × 90	12	5	43,3
48	14 × 9 × 110	14	5,5	51,8
60	18 × 11 × 140	18	7	64,4
70	20 × 12 × 180	20	7,5	74,9
75	20 × 12 × 180	20	7,5	79,9
90	25 × 14 × 200	25	9	95,4
110	28 × 16 × 250	28	10	116,4

* Recommended length.

Shaft end of driven machine

Dimensions of shaft end to which the gear reducer's hollow shaft is to be keyed are those recommended in the table on following page and shown in the figures below.

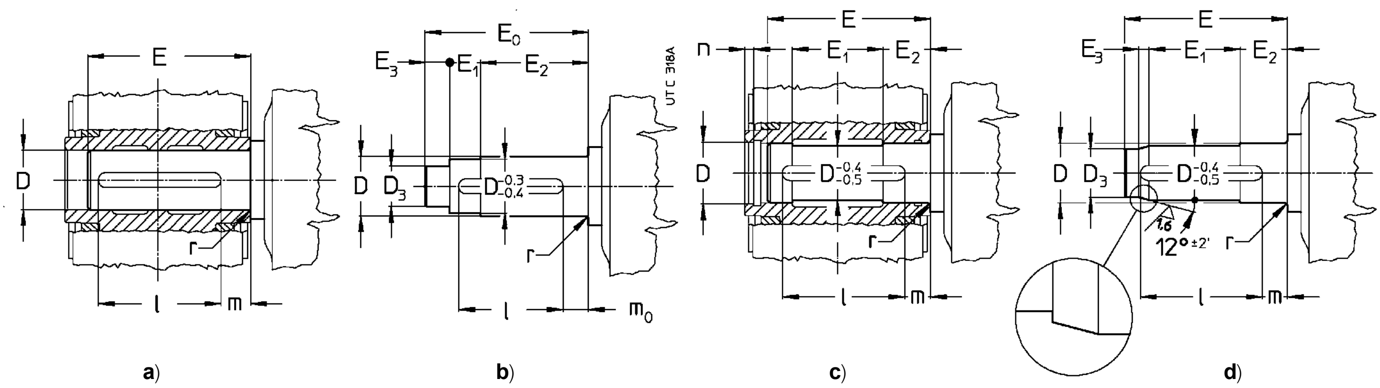
Sizes 32 ... 50: fitting with key (fig. a) or fitting with key and locking rings (fig. b).

Sizes 63 ... 250: fitting with key (fig. c) or fitting with key and locking bush (fig. d); see also ch.4 and 5.

In the case of cylindrical shaft end with only diameter D (fig. a, c), for the seat D on input side, we recommend tolerance h6 or j6 instead of j6 or k6 to facilitate mounting.

Important: the shoulder diameter of the shaft end of the driven machine abutting with the gear reducer must be at least (1,18 ÷ 1,25) · D.

32 ... 50 **63 ... 250**



a) **b**) **c**) **d**)

Gear reducer size	D Ø H7/j6, k6	D_3 Ø H7/h6	E	E_0	E_1	E_2	E_3	l	m	m_0	n	r
32	19	15	62,5	67	0	59	8	36	21	19,5	–	1,5
40	24	19	76,5	81	13	54	14	45	23,5	18,5	–	1,5
50	28	24	87	91,5	16,5	61	14	63	21,5	11	–	1,5
63, 64	32	27	110	–	57	34	10	70	28	–	6	1,5
80	38	32	134	–	71	39,5	12	90	30	–	6	1,5
81	40	34	134	–	71	39,5	12	90	30	–	6	1,5
100	48	41	162	–	87	46,5	14	110	35	–	7	2
125, 126	60	52	193	–	102	55	16	140	32	–	7	2
160	70	62	228	–	124	63	16	180	35	–	8	2
161	75	66	228	–	124	63	18	180	35	–	8	2
200	90	80	274	–	150	75	21	200	50	–	9	3
250	110	98	331	–	180	90	25	250	55	–	10	3

Maximum bending moment of flange MR

In case of assembly of motors supplied by the customer, verify that the static bending moment M_b generated by motor weight on the counter flange of gear reducer is lower than the value allowed M_{bmax}, stated in the table:

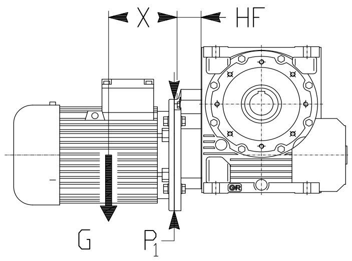
$$M_b \leqslant M_{bmax}$$

where:

$M_b = G \cdot (X + HF) / 1000$ [daN m]
G [daN] motor weight; numerically nearly equal to motor mass, expressed in kg
X [mm] distance from motor center of gravity from flange surface
HF [mm] given in the table, according to gear reducer size and flange diameter P_1.

Very long and thin motors, though with bending moments within the prescribed limits, may generate anomalous vibrations during the operation. In these cases it is necessary to foresee a proper additional motor support (see motor specific documentation).

Loads higher than permissible loads may be present in dynamical applications where the gearmotor is subjected to translations, rotations or oscillations (e.g.: **shaft mounting arrangements**): consult us for the study of every specific case



Max allowable bending momento M_{bmax} and HF dimension

Gear reducer size	P_1 Ø	V, IV HF mm	V, IV M_{bmax} daN m	2IV HF mm	2IV M_{bmax} daN m
32	140	28	**5,6**	–	**–**
	160	30	**5,6**	–	**–**
40, 50	140	31	**6,3**	50	**6,3**
	160	31	**6,3**	50	**6,3**
	200	43	**6,3**	–	**–**
63 ... 81	160	38	**11,2**	65	**11,2**
	200	38	**11,2**	65	**11,2**
	250	38	**11,2**	–	**–**
100	200	45	**28**	78	**28**
	250	45	**28**	–	**–**
	300	65	**28**	–	**–**
125, 126	200	55	**50**	99	**50**
	250	55	**50**	99	**50**
	300	56	**56**	–	**–**
160 ... 200	250	67	**100**	–	**–**
	300	67	**100**	–	**–**
	350	80	**112**	–	**–**
	400	80	**112**	–	**–**
250	300	80	**180**	–	**–**
	350	80	**180**	–	**–**
	400	80	**180**	–	**–**
	450	90	**200**	–	**–**

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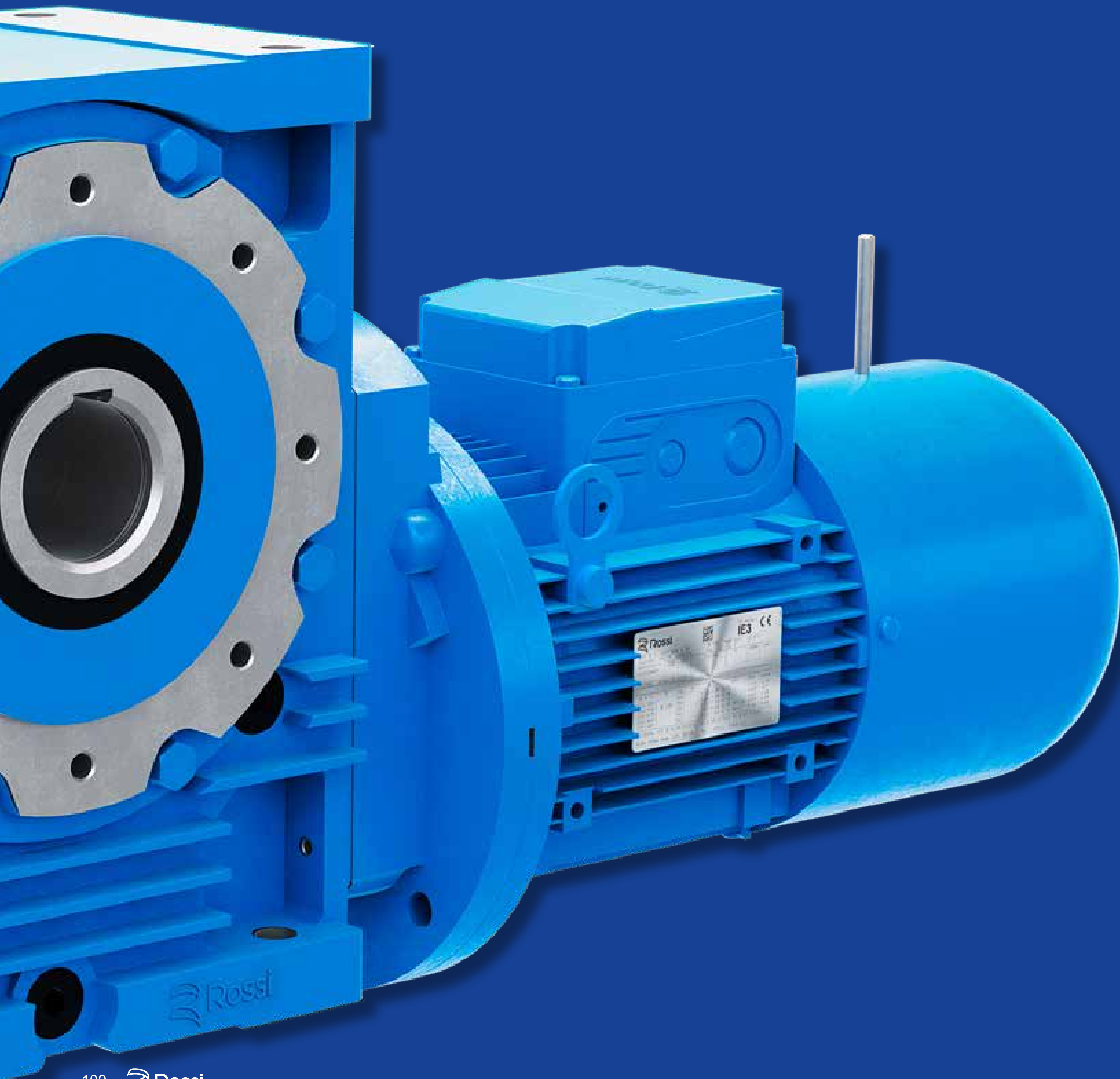
4

Installation and maintenance



Section content

4.1- General

Be sure that the structure on which gear reducer or gearmotor is fitted is plane, levelled and sufficiently dimensioned in order to assure fitting stability and vibration absence, keeping in mind all transmitted forces due to the masses, to the torque, to the radial and axial loads.

Position the gear reducer or gearmotor so as to allow a free passage of air for cooling both gear reducer and motor (especially at gear reducer and motor fan sides).

Avoid: any obstruction to the air-flow; heat sources near the gear reducer that might affect the temperature of cooling-air and of gear reducer for radiation; insufficient air recycle or any other factor hindering the steady dissipation of heat.

Mount the gear reducer so as not to receive vibrations.

When external loads are present use pins or locking blocks, if necessary.

When fitting gear reducer and machine and/or gear reducer and eventual flange **B5** it is recommended to use **locking adhesives** such as LOCTITE on the fastening screws (also on flange mating surfaces).

For outdoor installation or in a hostile environment protect the gear reducer or gearmotor with anticorrosion paint. Added protection may be afforded by water-repellent grease (especially around the rotary seating of seal rings and the accessible zones of shaft end).

Gear reducers and gearmotors should be protected wherever possible, and by whatever appropriate means, from solar radiation and extremes of weather; weather protection **becomes essential** when high or low speed shafts are vertically disposed, or where the motor is installed vertical with fan uppermost.
For ambient temperatures greater than 40 °C or less than 0 °C, consult us.

Before wiring-up the gearmotor, make sure that motor voltage corresponds to input voltage. If the direction of rotation is not as desired, invert two phases at the terminals.

Star-delta starting should be adopted for starting on no load (or with a very small load) and/or when the necessity is for smooth starts, low starting current and limited stresses.

If overloads are imposed for long periods of time, or if shocks or danger of jamming are envisaged, then motor-protections, electronic torque limiters, fluid couplings, safety couplings, control units or other suitable devices should be fitted.

Where duty cycles involve a high number of starts on-load, it is advisable to utilize **thermal probes** (fitted on the wiring) for motor protection; a thermal overload relay is unsuitable since its threshold must be set higher than the motor's nominal current rating.

Use varistors to limit voltage peaks due to contactors.

Caution! Bearing life, good shaft and coupling running depend on alignment precision between the shafts. Carefully align the gear reducer with the motor and the driven machine (with the aid of shims if need be), interposing flexible couplings whenever possible.

Whenever a leakage of lubricant could cause heavy damages, increase the frequency of inspections and/or envisage appropriate control devices (e.g.: remote oil level gauge, lubricant for food industry, etc.).

In polluting surroundings, take suitable precautions against lubricant contamination through seal rings or other.

Gear reducer or gearmotor should not be put into service before it has been incorporated on a machine which is conform to 2006/42/EC directive.

For brake or special motors, consult us for specific information.

Fitting of components to shaft ends

It is recommended that the bore of parts keyed to shaft ends is machined to H7 tolerance; G7 is permissible for high speed shaft ends D ⩾ 55 mm, provided that load is uniform and light; for low speed shaft ends, tolerance must be **K7** when load is not uniform and light. Other details are given in the «Shaft end» table (ch. 3.13).
Before mounting, clean mating surfaces thoroughly and lubricate against seizure and fretting corrosion.
Installing and removal operations should be carried out with **pullers** and **jacking screws** using the tapped hole at the shaft butt-end; for H7/m6 and K7/j6 fits it is advisable that the part to be keyed is pre-heated to a temperature of 80 ÷ 100 °C.

Hollow low speed shaft

For the shaft end of machines where the hollow shaft of the gear reducer is to be keyed, j6 or k6 tolerances are recommended (according to requirements). Other details are given under «Shaft end» and «Shaft end of driven machine» (ch. 3.13).

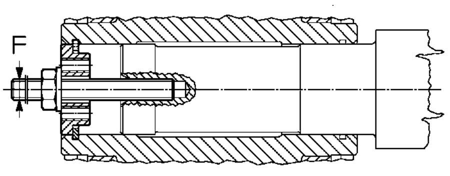
In order to have an easier installing and removing of gear reducer sizes 63 ... 250 (with circlip groove) proceed as per the drawings a, b, respectively.

The system illustrated in the fig. c, d is good for axial fastening.
For sizes 63 ... 250, when shaft end of driven machine has no shoulder a spacer may be located between the circlip and the shaft end itself (as in the lower half of the fig. d).

The use of **locking rings** (sizes 32 ...50, fig. e), or of **locking bush** (sizes 63 ... 250, fig. f) will permit easier and more accurate installing and removing and to eliminate backlash between key and keyway.

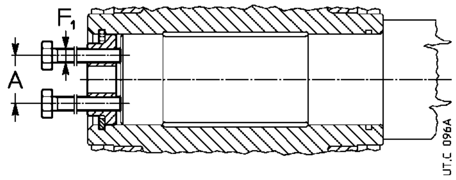
The locking rings or the locking bush are fitted after mounting, the shaft end of the driven machine must be as prescribed at ch. 3.13. Do not use molybdenum bisulphide or equivalent lubricant for the lubrication of the parts in contact. We recommend the use of a **locking adhesive** such as LOCTITE 601. For vertical ceiling-type mounting, contact us.

A **washer** for installing, removing (excluding sizes 32 ... 50) and axial fastening of gear reducer (ch. 5) with or without **locking rings** or **locking bush** (dimensions shown in the table) and a **protection cap** for the hollow low speed shaft can be supplied on request. Parts in contact with the circlip must have sharp edges.

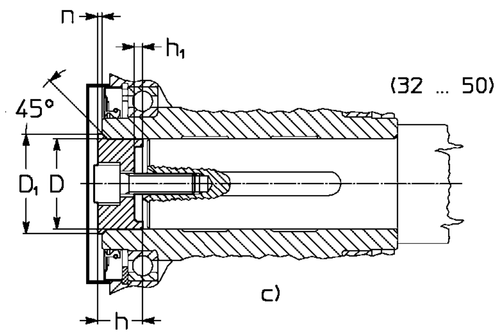


a)

Bolt for axial fastening
Installing a) and removing b)

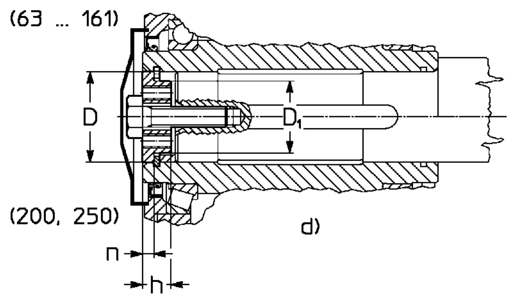


b)

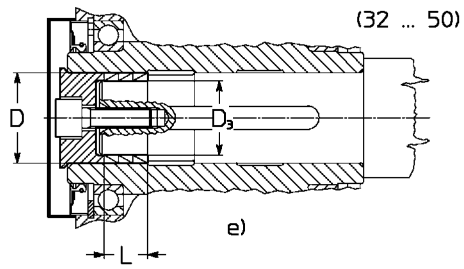


c)

Bolt for axial fastening
Axial fastening

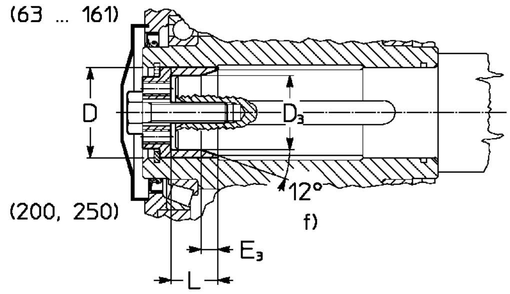


d)



e)

Bolt for axial fastening
Fitting with key and locking rings e)
or
locking bush f)



f)

Gear reducer size	A	D Ø	D_1 Ø	D_3 Ø	E_3 ≈	F	F_1	h	h_1	L	n	Bolt for axial fastening UNI 5737-88	*M* [daN m]3)
32	–	19	22,5	15	–	–	–	14,8	2,8	6,3	1,1	M 8 × 25 1)	2,9
40	–	24	27,5	19	–	–	–	14,8	2,8	12,6	1,2	M 8 × 25 1)	3,2
50	–	28	32	24	–	–	–	18,5	3,2	12,6	1,2	M 10 × 30 1)	4,3
63,64	18	32	23	27	9	M 10	M 6	10	–	19	6	M 10 × 35	4,3
80	18	38	27	32	11	M 10	M 6	12	–	23	6	M 10 × 35	5,3
81	18	40	28	34	11	M 10	M 6	12	–	23	6	M 10 × 35	5,3
100	23	48	35	41	13	M 12	M 8	14	–	28	7	M 12 × 45	9,2
125, 126	30	60	45	52	15	M 14	M 10	16	–	35	7	M 14 × 45	17
160	36	70	54	62	15	M 16	M 12	19	–	40	8	M 16 × 50	21
161	36	75	59	66	17	M 16	M 12	19	–	40	8	M 16 × 50 3)	21
200	49	90	72	80	20	M 20	M 16	23	–	49	9	M 20 × 60 2)	43
250	64	110	89	98	24	M 24	M 16	24	–	60	10	M 24 × 70 2)	83

1) UNI 5931-84.
2) For locking bush: M 20 × 65 and M 24 × 80 UNI 5737-88 class 10.9.
3) Tightening torque for locking rings or bush.

4.2 - Lubrication

Gear pairs and bearings on worm are oil-bath lubricated; sizes 200 and 250 mounting position B7 with worm speed > 710 min^{-1} have upper bearings on worm lubricated by a pump inside the casing. Other bearings are likewise lubricated by oil-bath, or splashed, with the exception of upper-bearings on wormwheel in mounting position V5 and V6, where life-grease lubrication is employed (NILOS ring in sizes 161 ... 250).

All sizes are envisaged with **synthetic oli** lubrification.
Syntetic oil can withstand temperature up to **95 ÷ 110 °C**.

Sizes 32 ... 81: gear reducers are supplied filled with synthetic oil (KLÜBER Klübersynth GH 6-320, MOBIL Glygoyle 320, SHELL Omala S4 WE 320; when worm speed < 280 min-1 KLÜBER Klübersynth GH 6-680), providing **«long life»** lubrication, assuming pollution-free surroundings; quantities as indicated in ch. 8 and 10, and on the lubrication plate. Ambient temperature 0 ÷ 40 °C with peaks of -20 °C and +50 °C.

Important: verify mounting position keeping in mind that if gear reducer is installed in a mounting position which differs from the one indicated on the name plate, it could require the addition of the difference between the two quantities of lubricant given in ch. 3.6 and 3.8, by way of the housing filler hole.

Sizes 100 ... 250: gear reducers are supplied without oil; before putting into service, fill to the specified level[1)] with polyglycol basis (PAG) synthetic oil having the ISO viscosity-grade given in the table. Under normal conditions, the first speed range is for train of gears **V**, the second **IV** and **V**, (low speed), and the third **combined units** and **V**, **IV**, **2IV** (low speed).

1) Lubricant quantities stated on ch. 3.6 and 3.8 are approximate for provisioning. The exact oil quantity the gear reducer is to be filled with is definitely given by the level.

Produttore Manufacturer	Olio sintetico PAG PAG synthetic oil
AGIP	Blasia S
ARAL	Degol GS
BP	Enersyn SG-XP
CASTROL	Optiflex A
FUCHS	Renolin PG
KLÜBER	Klübersynth GH6
MOBIL	Mobil Glygoyle
SHELL	Omala S4 WE
TEXACO	Synlube CLP
TOTAL	Carter SY

ISO viscosity grade
Mean kinematic viscosity [cSt] at 40 °C.

<table>
<tr><th rowspan="3">Velocità vite
Worm speed
min^{-1}</th><th colspan="5">Temperatura ambiente 0 ÷ 40 °C[1)] – Olio sintetico / Ambient temperature 0 ÷ 40 °C[1)] – Synthetic oil
Grandezza riduttore - Gear reducer size</th></tr>
<tr><th rowspan="2">100</th><th colspan="2">125 ... 161</th><th colspan="2">200, 250</th></tr>
<tr><th>B3, V5, V6</th><th>B6, B7, B8</th><th>B3, V5, V6</th><th>B6, B7, B8</th></tr>
<tr><td>2 800 ÷ 1 400 [2)]</td><td>320</td><td>320</td><td>220</td><td colspan="2">220</td></tr>
<tr><td>1 400 ÷ 710 [2)]</td><td>320</td><td colspan="2">320</td><td>320</td><td>220</td></tr>
<tr><td>710 ÷ 355 [2)]</td><td>460</td><td colspan="2">460</td><td>460</td><td>320</td></tr>
<tr><td>355 ÷ 180 [2)]</td><td>680</td><td>680</td><td>460</td><td colspan="2">460</td></tr>
<tr><td>< 180</td><td>680</td><td colspan="2">680</td><td colspan="2">680</td></tr>
</table>

1) Peaks of 10 °C above and 10 °C (20 °C for ⩽ 460 cSt) below the ambient temperature range are acceptable.
2) For these speeds we advise to replace oil after running-in.

Combined gear reducer and gearmotor units: lubrication remains independent, thus data relative to each single gear reducer hold good.

An overall guide to **oil-change interval**, is given in the table, and assumes pollution-free surroundings. Where heavy overloads are present, halve the value.

Temperatura olio [°C]	Intervallo di lubrificazione [h] - Olio sintetico
⩽ 65	18 000
65 ÷ 80	12 500
80 ÷ 95	9 000
95 ÷ 110	6 300

Oil temperature [°C]	Oil-change interaval [h] - Synthetic oil
⩽ 65	18 000
65 ÷ 80	12 500
80 ÷ 95	9 000
95 ÷ 110	6 300

Never mix different makes of synthetic oil; if oil-change involves switching to a type different from that used hitherto, then give the gear reducer a thorough clean-out.

Running-in: a period of about 400 ÷ 1 600 h is advisable, by which time the gear pair will have reached maximum efficiency (ch. 3.13); oil temperature during this period is likely to reach higher levels than would normally be the case.

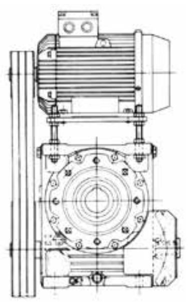
Seal rings: duration depends on several factors such as dragging speed, temperature, ambient conditions, etc.; as a rough guide; it can vary from 3 150 to 25 000 h.

Warning: for gear reducers sizes 100 ... 250, before unscrewing the filler plug with valve (symbol) wait until the unit has cooled and then open with caution.

4.3 - Shaft-mounting arrangements

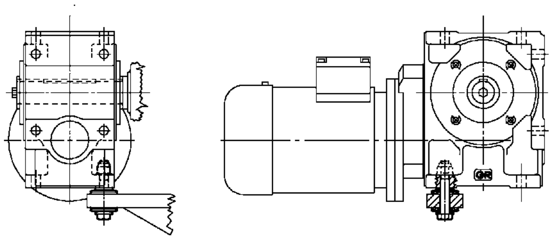
The strength and shape of the housing offer: **advantageous** possibilities for shaft mounting even – for instance – in the case of gearmotor with belt drive.
A few shaft mounting arrangements are shown here with the relative details as to selection, and installation.

In ch. 3.4 are shown the shaft-mounting arrangements which **can be supplied**.

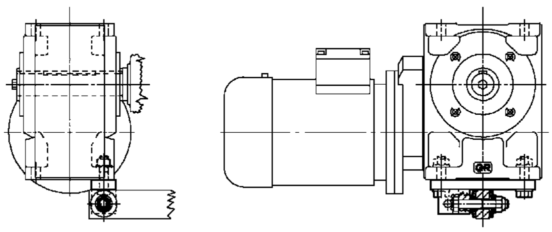


IMPORTANT. When shaft mounted, the gearmotor must be supported both axially and radially by the shaft end of the driven machine, as well as anchored against rotation only, by means of a reaction having **freedom of axial movement** and sufficient **clearance in its couplings** to permit minor oscillations – always in evidence – without provoking dangerous overloads on the actual gearmotor. Pivots and components subject to sliding have to be properly lubricated; we recommend the use of a locking adhesive such as LOCTITE 601 when fitting the bolts.

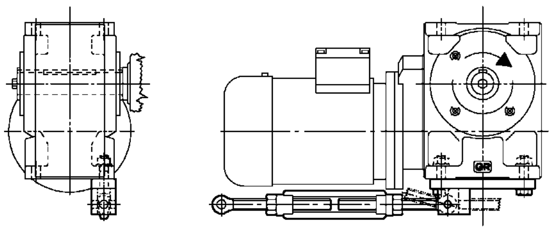
For sizes 32 ... 126 can be supplied (ch. 3.4) a semi-flexible and economical reaction arrangement, with bolt using disc springs.



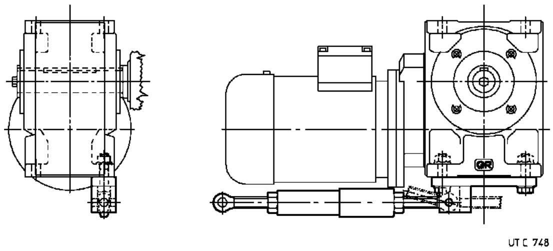
Semi-flexible reaction arrangement for sizes 63 ... 250 (ch. 5) using disc springs and bracket.



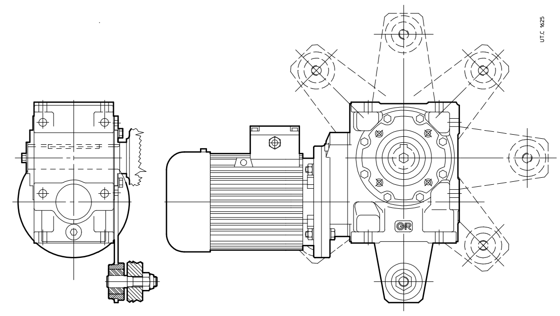
Rigid reaction arrangement for variable-distance anchorage for sizes 63 ... 250 (ch. 5) using a torque arm.
Where direction of rotation is opposite to the one shown in the drawing, turn the torque arm through 180°.



Similar to the previous arrangement for sizes 100 ... 250 (ch. 5), but using a flexible torque arm; safety devices may be installed to prevent accidental overloads.a
The flexible torque arm may be turned through 180° regardless of direction of rotation.

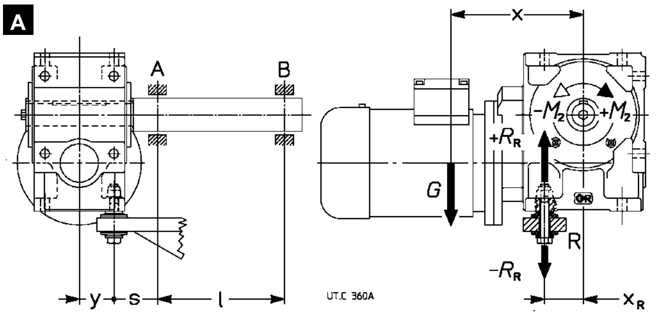


Reaction arrangement using torque arm, fitted onto B14 flange, with plastic damping bush (see ch. 5).

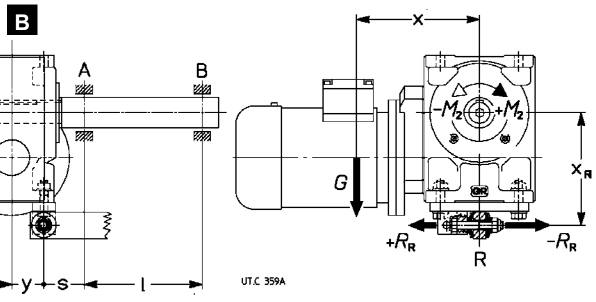


For the majority of normal cases, where weight force G is orthogonal or parallel to reaction R_R as illustrated in the drawings, reactions are calculated thus:

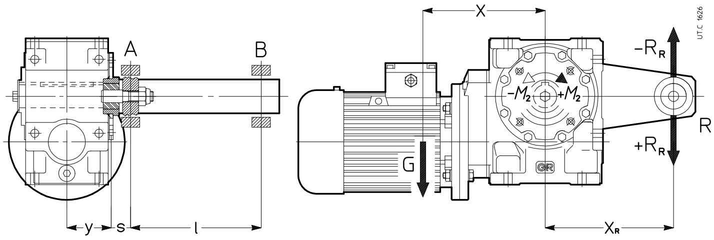
A



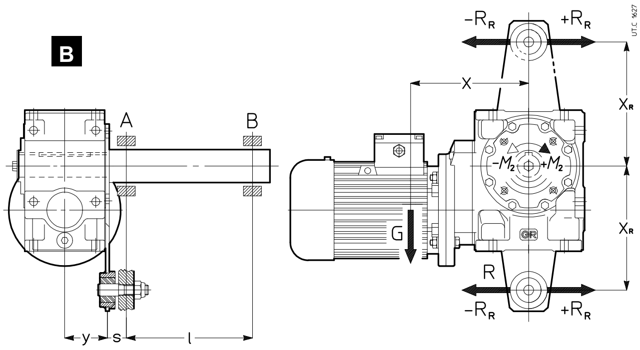
B



A



B



1) reaction R_R [daN] produced by support R:

$$R_R = (1 / x_R) \cdot [G \cdot x + (\pm M_2)]$$

2) bending moment M_{fA} [daN m] through the cross-section of bearing A:

A $M_{fA} = [G \cdot (y + s)] - [(\pm R_R) \cdot s]$

B $M_{fA} = \sqrt{[G \cdot (y + s)]^2 + [R_R \cdot s]^2}$

3) bearing A radial reaction R_A [daN]:

A $R_A = \frac{1}{l} \{[G \cdot (y + s + l)] - [(\pm R_R) \cdot (s + l)]\}$

B $R_A = \frac{1}{l} \sqrt{[G \cdot (y + s + l)]^2 + [R_R \cdot (s + l)]^2}$

4) bearing B radial reaction R_B [daN]:

$$R_B = \frac{M_{fA}}{l}$$

where:

- G [daN]: weight force almost equal numerically to gearmotor mass (ch.3.8);
- M_2 [daN m]: output torque expressed by + or − according to the direction of rotation in the drawing;
- x [m]: dimension to $x = G + 0{,}2 \cdot Y$ (ch. 3.8);
- y [m]: dimension $y = 0{,}5 \cdot B$ (ch. 3.8);
- x_R [m] (for reaction bolt with disc spring): dimension $x_R = 0{,}5 \cdot A$ (drawing on the left) or $x_R = H + S$ (drawing on the right) (ch. 3.8 and 5);
- x_R [m] (for torque arm): see table at ch. 5;
- l, s [m]: dimension s must be as short as possible.

4.4 - Motor replacement

As all gearmotors are fitted with **standard** motors, motor replacement is extremely easy. Simply observe the following instructions:

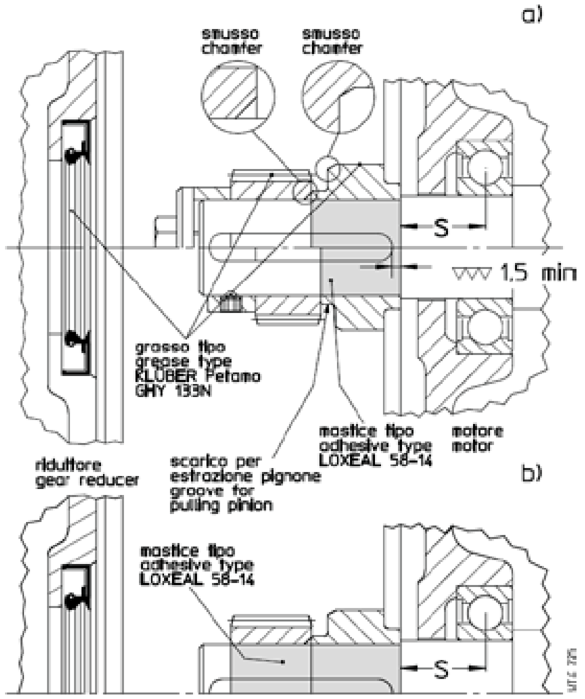
- be sure that the mating surfaces are machined under accuracy rating (IEC 60072-1);
- clean surfaces to be fitted thoroughly;
- in the event of a lowered keyway, replace the motor keyway with the one supplied with the gear reducer; adjust the keyway length to the motor shaft, if need be; check that between the top and the bottom of the hole keyway there is a backlash of 0,1 - 0,2 mm; in the event of output shaft keyway, lock the key by pins.

for MR V:

- check that the fit-tolerance (push-fit) between holes hole-shaft end is G7/j6 for D $<$ 28 mm, F7/k6 for D $>$38 mm;
- lubricate surfaces to be fitted against fretting corrosion;

For MR IV, 2IV

- check that the fit-tolerance (push-fit) between hole and shaft end is K6/j6 for D $\leqslant$ 28 mm, J6/k6 for D $\geqslant$ 38 mm;
- make sure that the motors have bearing location and overhang (distance S) as shown in the table;

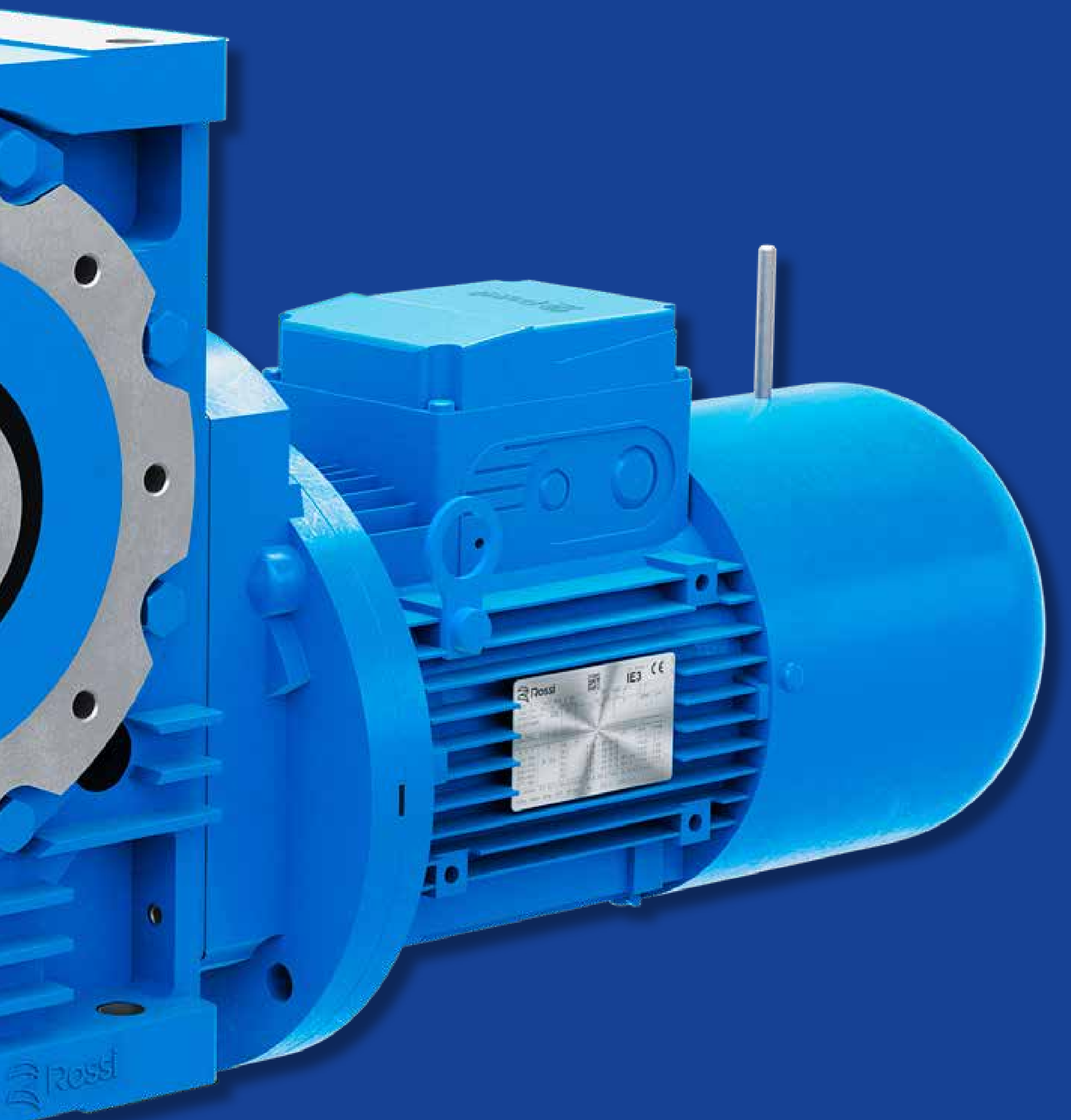


Motor size	Min. dynamic load capacity [daN]		Max dimension 'S'
	Front	Rear	mm
63	450	335	16
71	630	475	18
80	900	670	20
90	1 320	1 000	22,5
100	2 000	1 500	25
112	2 500	1 900	28
132	3 550	2 650	33,5
160	4 750	3 350	37,5
180	6 300	4 500	40
200	8 000	5 600	45
225	10 000	7 100	47,5

- assemble on motor shaft, as follows:
  - the **spacer** pre-heated at **65 °C** sealing the motor shaft part with **locking adhesive type LOXEAL 58-14** and ensuring that between keyway and motor shaft shoulder there is a ground cylindrical section of at least 1,5 mm; pay attention **not to damage the external surface of spacer;**
  - the **key** in the keyway, taking care that a brief segment of at least 0,9 times the pinion width;
  - the pinion pre-heated at **80 ÷ 100 °C**;
  - **the axial fastening system** where foreseen (head self-locking screw with base, spacer, or hub clamp with one or more dowels, fig. a); for the cases foreseen **without axial fastening** (fig. b), seal with **locking adhesive type LOXEAL 58-14** also the motor shaft section below the **pinion**;
- in the event of axial fastening system with hub clamp and dowels, be sure that these ones do not overhang from spacer external surface: screw the dowel and matrix the motor shaft with a tip;
- grease the pinion teeth, the sealing ring rotary seat and the seal ring (with KLÜBER Petamo GHY 133N), and assemble carefully, **paying attention not to damage the seal ring lip due to accidental shock with the pinion toothing**.

5

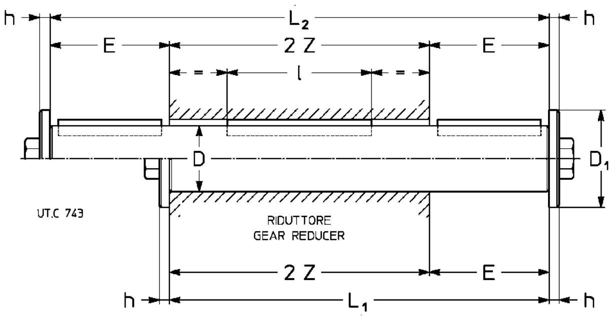
Accessories and non-standard designs



Section content

5.1 - Low speed shafts

Supplementary description when ordering by **designation: standard**, or **double extension low speed shaft**.



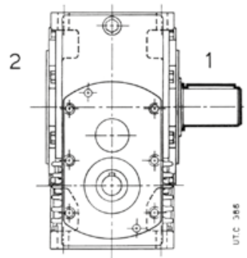
Gear. reducer size	D Ø	E	D_1 Ø	h	L_1	L_2	l	2 Z	Bolt	Mass [kg] Standard	Mass [kg] Double extens.
32	19 h7	30	28	4	108	138	36	78	M 6 × 20	0,3	0,4
40	24 h7	36	35	5	128	164	45	92	M 8 × 25	0,6	0,7
50	28 h7	42	35	5	148	190	63	106	M 8 × 25	0,8	1
63, 64	32 h7	58	47	5	184	242	70	126	M 10 × 30	1,2	1,5
80	38 h7	58	47	5	208	266	90	150	M 10 × 30	1,9	2,4
81	40 h7	58	47	5	208	266	90	150	M 10 × 30	2,1	2,7
100	48 h7	82	57	6	262	344	110	180	M 12 × 40	3,7	4,9
125, 126	60 h7	105	82	8	317	422	140	212	M 16 × 45	7	9,4
160	70 j6	105	82	8	355	460	180	250	M 16 × 45	11	14
161	75 j6	105	82	8	355	460	180	250	M 16 × 45	12,6	16
200	90 j6	130	102	10	430	560	200	300	M 20 × 60	21	28
250	110 j6	165	135	12	525	690	250	360	M 24 × 60	39	51

The shoulder outer diameter of the part, or of spacer abutting with the gear reducer must be (1,25 ÷ 1,4) · D.

5.2 - Solid low speed shaft (size **250**)

In order to permit the high radial loads given in the catalog (250 bis), the gear reducer size 250 can be supplied with solid low speed shaft and strengthened bearings. Dimensions remain unchanged (missing the washer on shaft end).

Supplementary description when ordering by **designation: solid low speed shaft pos. 1** or **2** or **double extension**.

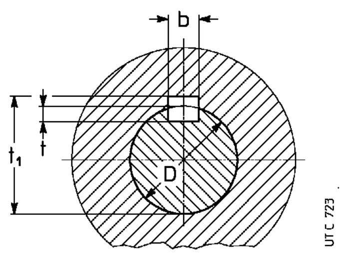


5.3 - Oversized hollow low speed shaft

The gear reducers and gearmotors sizes 32 ... 64 and 100 can be supplied with oversized hollow low speed shaft; dimensions are according to table on the left.

Gear reducer size	D Ø H7	Parallel key b x h x l*	Keyway b	Keyway t	Keyway t_1
32	20	6 × 6 × 36	6	4[1]	22,2[1]
40	25	8 × 7 × 45	8	4,5[1]	27,7[1]
50	30	8 × 7 × 63	8	5[1]	32,2[1]
63[2], 64[2]	35	10 × 8 × 90	10	6[1]	37,3[1]
100	50	14 × 9 × 110	14	5,5[1]	53,8

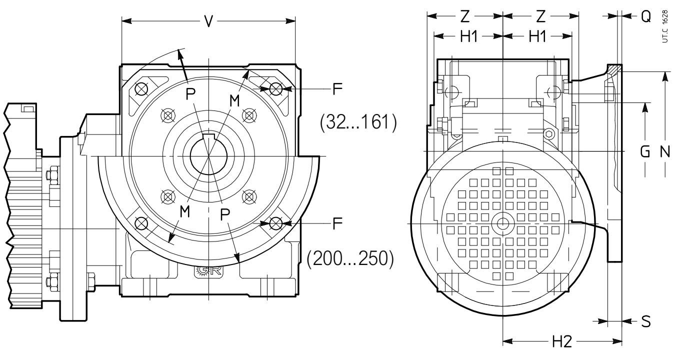
* Recommended length.
1) **Not** unified values.
2) Without circlip groove.



Supplementary description when ordering by **designation**: **oversized hollow low speed shaft**.

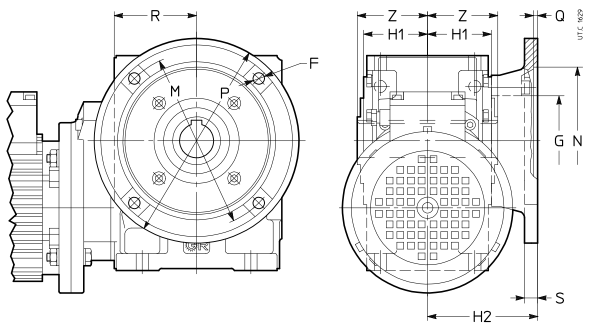
5.4 - Flange

B5 flange having clearance holes and spigot «recess».
Available in 2 different options with different mating dimensions: **B5 flange** and **B5 flange Type B**.
The accessory is supplied fitted onto the gear reducer. If not differently stated, the standard mounting position is on the gear reducer right side - seen from motor side. For reverse mounting, specify in designation «**mounted on opposite side**».
Locking adhesives are recommended both around threads and on mating surface.



B5 flange

Grandezza riduttore Gear reducer size	F Ø	G Ø	H_1 h12	H_2 Ø h12	M Ø	N Ø H7	P	Q	S	V	Z	Massa Mass kg
32	7	55	34,5	71	100	80	120	4	10	95	39	0,5
40	9,5	68	41,5	80	115	95	140	4	11	110	46	0,8
50	9,5	85	49	80	130	110	160	4,5	12	125	53	1
63, 64	11,5	80	58,5	100	165	130	200	4,5	14	152	63	2
80, 81	14	110	69,5	112	215	180	250	5	16	196	75	3,2
100	14	130	84,5	132	265	230	300	5	18	248	90	5,5
125, 126	18	180	99,5	150	300	250	350	6	20	290	106	8,5
160, 161	18	230	118,5	180	350	300	400	6	22	350	125	13
200	18[8]	250	137,5	200	400	350	450	6	22	—	150	20
250	22[8]	350	163	236	500	450	550	6	25	—	180	31



B5 flange type B

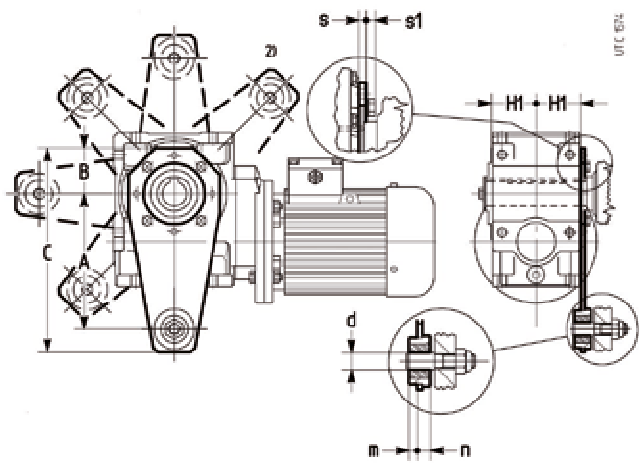
Gear reducer size	F Ø	G Ø	H_1 h12	H_2 h12	M Ø	N Ø H7	P Ø	Q	R	S	Z	Mass
32	9,5	55	34,5	75	87	60	110	5	–	9	39	0,8
40	11,5	68	41,5	82	150	115	180	5	80	11	46	1,7
50	14	85	53	98	165	130	200	5	91	12	53	2,4
63, 64	14	80	63,5	107	176	152	210	6	–	14	63	2,9
80, 81	14	110	74,5	129	230	170	280	6	121	16	75	5,8

Supplementary description when ordering by **designation: flange B5 or B5 flange type B**.

In case of separate order from the gear reducer's one, the accessory designation must include the catalog and reducers size data.

5.5 - Torque arm

See technical explanations at ch. 4.
The accessory, including fixing bolts for gear reducer, is supplied not assembled. Fitting towards motor is not possible.



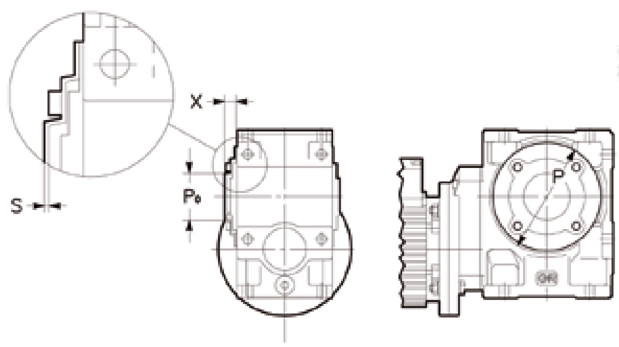
Gear reducer size	A	B	C	d Ø H11	H1 h12	m	n	s	s1 ≈	x_R m	M_2 ⩽ daN m
32	100	45	157	8[1]	31,5	5	9	4	4,7	0,100	9,5
40	150	52,5	230	10	44,5	7	13	6	5,6	0,150	15
50	200	60	294	20	53	9,5	15,5	6	5,6	0,200	18
63, 64	200	60	294	20	63,5	9,5	15,5	6	7,5	0,200	33,5
80, 81	250	80	364	20	74,5	9,5	15,5	6	9,2	0,250	67

1) Plastic damping bush not present.
2) Position not possible for MR V 32 ... 50, MR IV 32 ... 81

Supplementary description when ordering by **designation: torque arm.**

5.6 - Hollow low speed shaft Standardfit protection

Protection hollow low speed shaft free area, made of plastic (polypropilene PP material color black)
The accessory is supplied disassembled and complete with fastening screws. We recommend the use of locking adhesive on the screws.



Gear reducer size	P Ø	P_0 Ø	X	s H11	Screws UNI 5931	$M_{tightening}$ 1) N m
32	90	48	20,5	1,5	M5×14	1,5
40	105	50	20,5	1,6	M6×18	2,8
50	120	61	24	1,7	M6×18	2,8
63, 64	120	61	24	1,7	M8×20	6,3
80, 81	160	78	27,5	1,8	M10×20	12,3

1) Tightening torque.

Non standard design code for designation:
Hollow low speed shaft STANDARDFIT protection

In case of separate order from the gear reducer's one, the accessory designation must include the catalog and gear reducers size data.

5.7 - Strengthened low speed shaft bearings

Gear reducers and gearmotors sizes 63 ... 126 can be supplied with taper roller bearings supporting the low speed shaft, allowing increased radial and/or axial loads. Values for sizes 100 ... 126 are given in ch. 3.12, other values, consult us.
Supplementary description when ordering by **designation: strengthened low speed shaft bearings**.

5.8 - Strengthened high speed shaft bearings

Gear reducers R IV sizes 80 ... 126 with $i_N \leq 160$ can be supplied with cylindrical roller bearings supporting the high speed shaft allowing increased radial loads, values **x 1,6** for sizes 80 ... 100, **x 1,4** for sizes 125 and 126 (ch. 3.11); this design is standard for sizes 160 ... 250.
Supplementary description when ordering by **designation**: **strenghened high speed shaft bearing**.

5.9 - Controlled or reduced backlash

Gear reducers and gearmotors with worm gear pair **controlled or reduced backlash**.
Values are 1/2 (controlled backlash) or 1/4 (reduced backlash) those stated on ch. 3.13; reduced backlash designed not possible for R V and MR V with input speed $n_1 > 1\,400$ min^{-1}.
Supplementary description when ordering by designation: **controlled backlash** or **reduced backlash**.

5.10 - Hollow low speed shaft washer

All gear reducers and gearmotors can be supplied with washer, circlip (excluding sizes 32 ... 50), bolt for axial fastening and protection cap (ch. 4).
Supplementary description when ordering by **designation**: **hollow low speed shaft washer**.

5.11 - Hollow low speed shaft washer with locking rings or bush

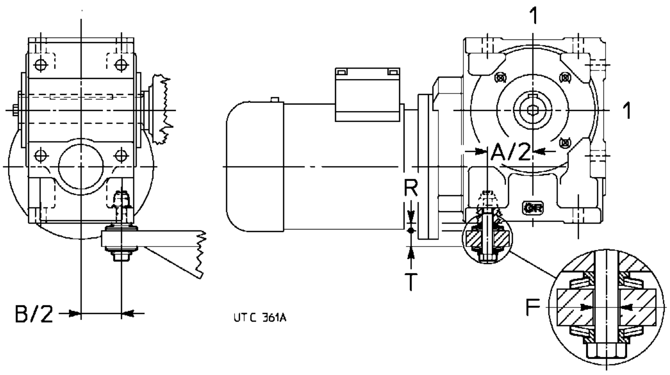
All gear reducers and gearmotors can be supplied with washer, circlip (excluding sizes 32 ... 50), locking rings (sizes 32 ... 50) or locking bush (sizes 63 ... 250), bolt for axial fastening and protection cap (ch. 4).
Supplementary description when ordering by **designation**: **hollow low speed shaft washer with locking rings** or **bush**.

5.12 - Hollow low speed shaft protection

Gear reducers and gearmotors, sizes 32 ... 161, can be supplied with only the protection cap for the area not utilized by the hollow low speed shaft (ch. 4).
Supplementary description when ordering by **designation**: **hollow low speed shaft protection**.

5.13 - Shaft-mounting arrangements

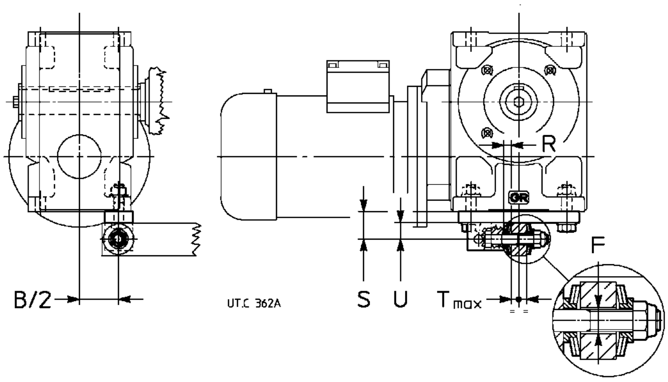
See technical explanations at ch. 4.
For dimensions **A**, **B** see ch. 3.6 and 3.8.



Gear reducer size	Bolt UNI 5737-88	Disc spring DIN 2093	T	F Ø	R 1)	M_2 ≤ 2) daN m
32	M 6 × 40	A 18 n. 2	8 ÷ 10	8	4,9	–
40	M 8 × 55	A 25 n. 2	10 ÷ 14	11	6,5	–
50	M 8 × 55	A 25 n. 2	10 ÷ 14	11	6,5	20
63, 64	M 12 × 70*	A 35,5 n. 2	14 ÷ 17	20	8,8	31,5
80, 81	M 12 × 90	A 35,5 n. 3	18 ÷ 25	20	10,8	56
100	M 16 × 110	A 50 n. 2	23 ÷ 32	20	13,1	100
125, 126	M 16 × 110	A 50 n. 2	23 ÷ 32	20	13,1	160

1) Theoretical value: tolerance 0 ÷ -1.
2) For higher M_2 values, utilize 2 reaction bolts or the arrangement with bracket (see below).
* Modified bolt.

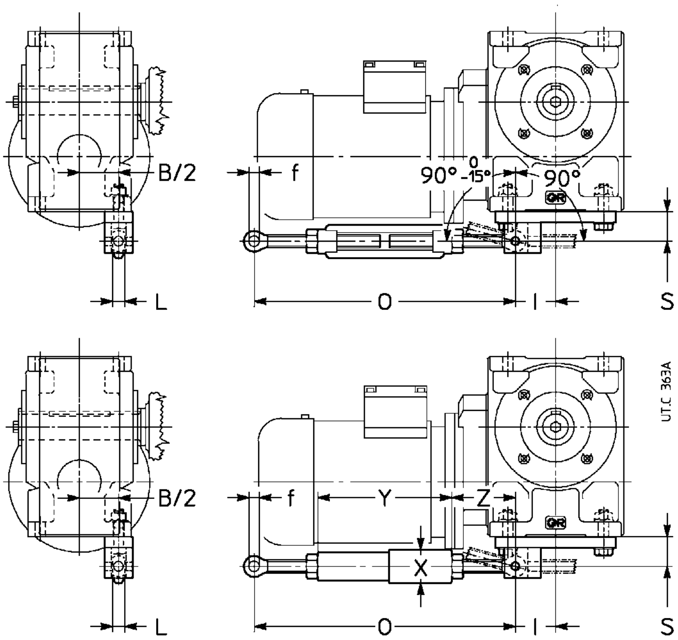
It is **better** if this arrangement is applied on sides 1.
Supplementary description when ordering by **designation: reaction bolt using disc springs**.



Gear reducer size	Bolt UNI 5737-88	Disc spring DIN 2093	T	F Ø	S	U	R 1)
63, 64	M 12 × 70*	A 35,5 n. 1	14 ÷ 17	20	38	23	6,8
80, 81	M 12 × 90	A 35,5 n. 2	18 ÷ 25	20	38	23	8,8
100	M 16 × 110	A 50 n. 2	25 ÷ 32	20	50	30	13,1
125, 126	M 16 × 110	A 50 n. 2	25 ÷ 32	20	50	30	13,1
160, 161	M 20 × 130	A 63 n. 3	23 ÷ 38	24	65	40	17,9
200	M 24 × 160	A 80 n. 2	29 ÷ 48	30	80	48	20,7
250	M 30 × 200	A 100 n. 2	37 ÷ 60	36	100	60	26,2

1) Theoretical value: tolerance 0 ÷ -1.
* Modified bolt.

Supplementary description when ordering by **designation: reaction bolt using disc springs and bracket**.



Gear reducer size	f Ø	O	S	L	X Ø	Y	Z ≈	I
63, 64	12	280 ÷ 350	38	14	–	–	–	50
80, 81	12	280 ÷ 350	38	14	–	–	–	56
100	16	410 ÷ 510	50	17	52	242	84	74
125, 126	16	410 ÷ 510	50	17	52	242	84	74
160, 161	22	580 ÷ 680	65	24	64	285	147	92
200	28	580 ÷ 680	80	30	88	305	137	113
250	28	580 ÷ 680	100	30	88	305	137	141

Supplementary description when ordering by **designation**: **rigid** (for torque arm positioning, see ch. 4) or **flexible torque arm using bracket**.

5.14 - Gear reducer design ATEX II 2 GD and 3 GD

Worm gear reducers and gearmotors may be supplied according to European Community Directive ATEX 2014/34/EU in order to be used in potentially explosive atmospheres - category **2 GD** (for operation in zones 1 (gas), 21 (dust): presence of **probable** explosive atmosphere) and **3 GD** (for operation in zones 2 (gas) 22 (dust): **improbable** presence of explosive atmosphere) with surface temperature 135 °C (T4).

These are the main variations of the product:
— fluoro-rubber seal rings;
— metal plugs; filler plug with filter and valve;
— special name plate with ATEX mark and indication of application limits;
– external protection based on a water-soluble dual-compound polyacrylic **conductive** enamel, **color grey** RAL 7040, corrosivity class C3 ISO 12944-2;
– «ATEX Instructions» manual.

For category 2 GD, depending on **minimum** control **intervals**, also
2 GD monthly control
— double seal rings on low speed shaft;
2 GD quarterly control (sizes 200, 250)
— double seal rings on low speed shaft (size ⩾ 63);
— oil temperature probe;
this solution is advisable when the gear reducer has difficult access or when a decrease in control frequency is required.
Operating ambiente temperature: -20 ÷ +40 °C.
The **«ATEX Operating instructions»** (with the additional documentation, if any) are **integral part of the supply of each gear reducer**; every indication stated in it must be carefully applied. In case of necessity consult us.

Gear reducer size selection

Determine the size of gear reducer as indicated in ch. 6 considering following additional limitations:
a) maximum input speed $n_1 \leqslant$ **1 500** min^{-1}.
b) **service factor requested** determined according to ch. 6 increased with the factors stated in the following table - **never lower than 0,85**.

Verify, at last, that the **applied poiwer** P_1 is lower than or equal to nominal thermal power Pt_N multiplied by thermal factors ft_2 [1)] ... ft_5 (see ch. 3.2) and by corretive factor ft_{ATEX} given in the following table.

ATEX design **corrective factors** for required service factor fs and nominal thermal power Pt_N.

ATEX category	fs_{ATEX}	ft_{ATEX}
2GD	1,18	0,8
3GD	1,06	0,9

Motor category selection

In the table on the right the minimum features of motors to be installed with Rossi gear reducers in ATEX design, in potentially explosive atmosphere areas.

Protection methods of electric tools:
EEx **e** increased safety;
EEx **d** flameproof enclosure;
EEx **de** combination of «d» and «e»;
EEx **nA** reduced sparkling

Zone	Rossi **Gear reducer** ATEX II design	Required **motor** category [1)]	
1	2 GD	2 G EEx e 2 G EEx d 2 G EEx de	with thermistors or Pt100
21		2 D IP65	
1, 21		2 GD EEx e 2 GD EEx d 2 GD EEx de	
2	3 GD	3 G EEx nA	–
22		3 D IP54[2)]	–
2, 22		3 GD EEx nA	

1) The devices suitable for zone 1 are also suitable for zone 2, similarly the devices suitable for zone 21 are also suitable for zone 22.
2) For conductive dusts motor must be 2 D IP65.

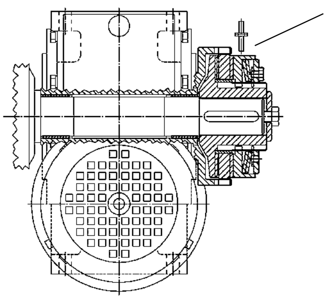
Additional description when ordering by **designation**:
Design ATEX II ...
... 3 GD T4 sizes 32 ... 250
... 2 GD T4 monthly control sizes 32 ... 250
... 2 GD T4 quarterly control sizes 200, 250

2) For gearmotors, this designation refers to the only **gear reducer part**.

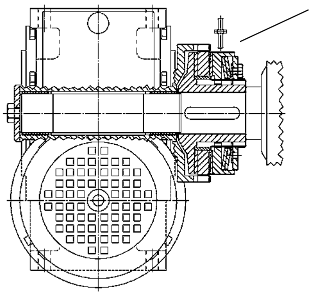
Miscellaneous

– Expansion tank for continuous duty and high speed running of gear reducers and gearmotors **IV 100 ... 250** and **2IV 100 ... 126** mounting position **B6**.
– Gear reducers and gearmotors sizes **100 ... 250** supplied **filled with synthetic oil**.
– Gearmotors with:
– **brake motor** (also single-phase) with d.c. **safety and/or parking brake** (sizes 63 ... 132) having overall dimensions nearly the same of a standard motor and braking torque $M_f \geqslant M_N$, maximum economy;
– **two-speed motor** (standard motor, brake motors, brake motors with safety and/or parking brake, with flywheel) 2.4, 2.6, 2.8, 2.12, 4.6, 4.8, 6.8 poles;
– **brake motor for traverse movements**: 2, 2.4, 2.6, 2.8, 2.12 poles (always with low noise d.c. brake, see picture);

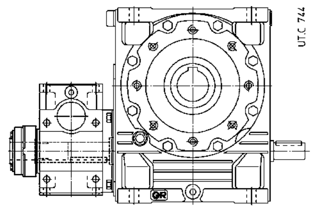
– motor featuring: d.c. supply; single-phase; explosion-proof; with second shaft end; with non-standard protection, voltage and frequency; provided with devices against overloads and overheating;
– **motor without fan** cooled **by natural convection** (size 63 ... 112); design for textile industry.
– Gear reducers and gearmotors with **mechanical torque limiter** on **output** shaft, gear reducer sizes **32 ... 160** (excluding size 81).
– Gear reducer design with mechanical **friction** type torque limiter (friction surfaces without asbestos), compact and with high transmissible torque – up to **300** daN m – and top quality standards.
– It protects the drive from accidental overloads by excluding the effect of intertia loads transmitted from up-line masses and, also if the gear reducer is irreversible (the torque limiter being mounted on the output shaft), inertia loads transmitted from down-line masses.
– When the transmitted torque tends to exceed the setting value the drive «slips» although it **remains** engaged with torque equal to the limiter setting value; slipping stops as soon as the load returns to normal; in the case of very brief overloads the driven machine will continue normal operation (after decelerating or stopping) without requiring reset procedures.



External limiter mounting



Intermediate limiter mounting



Limiter mounting onto combined units

The system, as the unit is mounted externally to the gear pair, will not after if the direction of rotation changes and it does not affect the rigidity and meshing precision between worm and worm wheel (this is important to ensure the correct transmission of torque and the limitation of undue backlash between teeth through time). The system also permits **shaft mounting** with the limiter mounted **externally** (easily accessible) or in the **intermediate** position (better safety protection). It can be interposed, in the **combined units**, between initial worm gear reducer and final worm gear reducer, sizes **100 ... 250**.

On request slide detector. For more details see **specific literature**.

– **MLA unit, mechanical torque limiter on input shaft**, motor sizes **80 ... 200**.

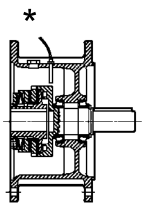
Mechanical torque limiter unit to be interposed between gear reducer and B5 mounting position motor standardized to IEC or (wide belt or planetary motor-variator) or, in **combined units**, between the initial gear reducer and the final worm gear reducer, sizes **50 ... 250**.

Axially ultra-compact design: excellent load bearing with life lubricated double row angular contact ball bearings (motor size ⩽ 112) or «O» disposed taper roller bearings.

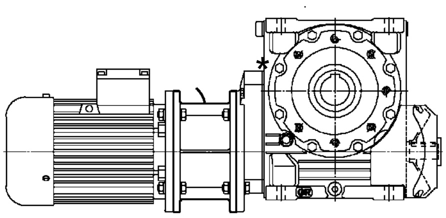
The unit protects the drive from accidental overloads by excluding inertia loads trasmitted from up-line masses and if the gear reducer is reversible (the torque limiter being on the input shaft), inertia loads transmitted from down-line masses.

LA unit is friction type (friction surfaces without asbestos). When the transmitted torque tends to exceed the setting, the drive «slips» although **it remains** engaged and transmits torque equal to the limiter setting value; slipping stops as soon as the load returns to normal; in the case of very brief overloads the driven machine will continue normal operation (after decelerating or stopping) without requiring reset procedures.

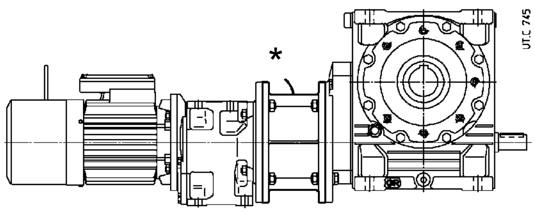
On request slide detector. For more details see **specific literature**.



MLA
friction type



MLA
mounted between gear reducer and motor or motor-variator



MLA
mounted onto combined units

* on request

– Hollow low speed shaft with acme-type thread.
– Gearmotors with interposed compact clutch-brake or fluid coupling/brake unit.
– Semi-flexible and hydrodynamic couplings.
– Special paints
– Special seal rings; **double seal** (excluding sizes 32 ... 50).
– For high transmission ratios combined units can be also obtained with initial gearmotor **MR IV** with final gear reducer size ⩽ 81 and with initial gearmotor **MR 2IV** for final gear reducer size ⩾ 100.

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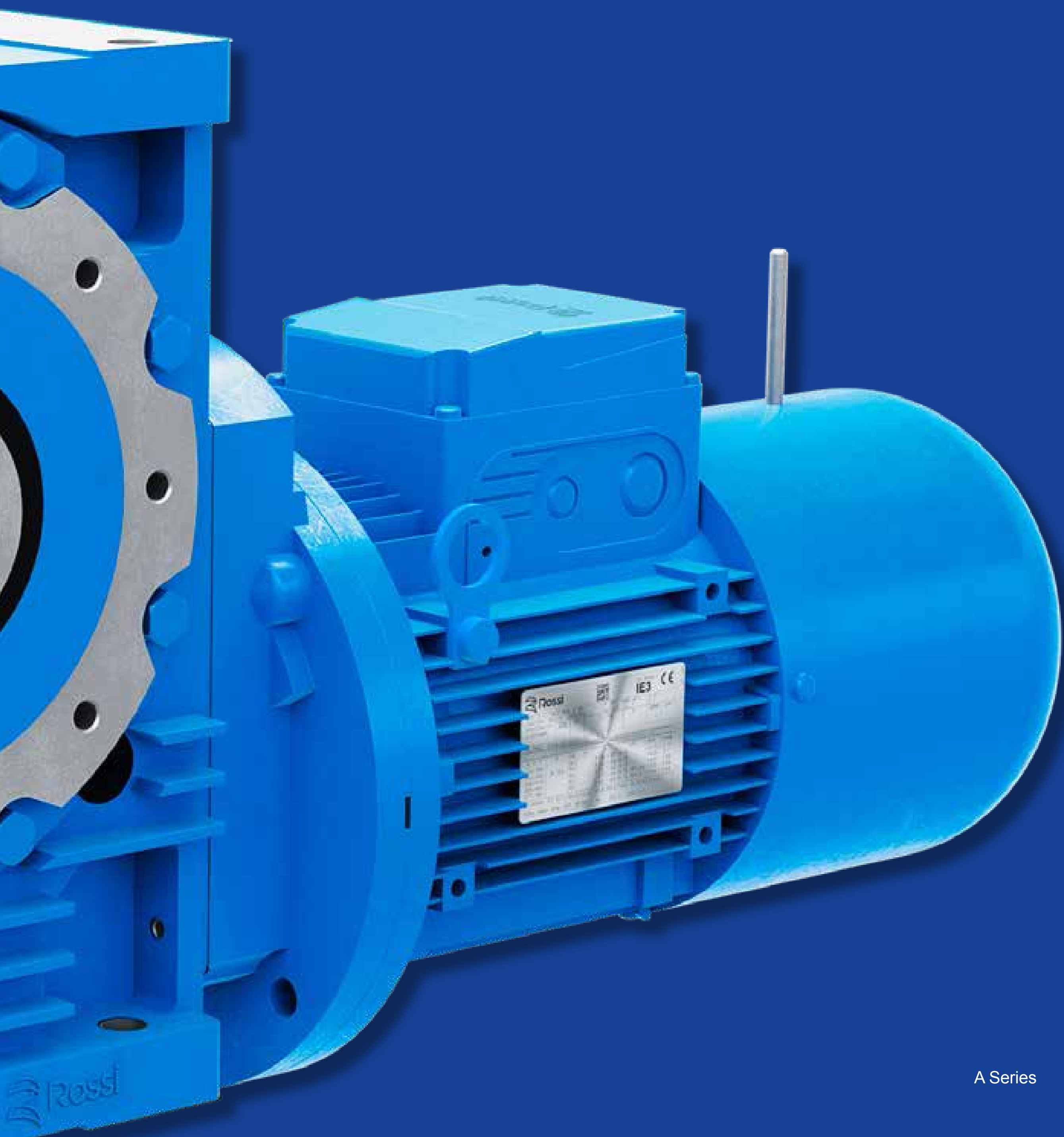
Technical formulae



Technical formulae

Main formulae concerning mechanical drives, according to the Technical System and International Unit System (SI).

Size	Con unità Sistema Tecnico With Technical System units		Con unità SI With SI units
starting or stopping **time** as a function of an acceleration or deceleration, of a starting or braking torque	$t = \frac{Gd^2 \cdot n}{375 \cdot M}$ [s]	$t = \frac{v}{a}$ [s]	$t = \frac{J \cdot \omega}{M}$ [s]
velocity in rotary motion	$v = \frac{\pi \cdot d \cdot n}{60} = \frac{d \cdot n}{19{,}1}$ [m/s]		$v = \omega \cdot r$ [m/s]
speed n and **angular velocity ω**	$n = \frac{60 \cdot v}{\pi \cdot d} = \frac{19{,}1 \cdot v}{d}$ [min^{-1}]		$\omega = \frac{v}{r}$ [rad/s]
acceleration or deceleration as a function of starting or stopping time		$a = \frac{v}{t}$ [m/s^2]	
angular acceleration or deceleration as a function of a starting or stopping time, of a starting or braking torque	$\alpha = \frac{n}{9{,}55 \cdot t}$ [rad/s^2] $\alpha = \frac{39{,}2 \cdot M}{Gd^2}$ [rad/s^2]		$\alpha = \frac{\omega}{t}$ [rad/s^2] $\alpha = \frac{M}{J}$ [rad/s^2]
starting or stopping **distance** as a function of an acceleration or deceleration, of a final or initial velocity		$s = \frac{a \cdot t^2}{2}$ [m] $\varphi = \frac{\alpha \cdot t^2}{2}$ [rad]	$s = \frac{v \cdot t}{2}$ [m]
starting or stopping **angle** as a function of an angular acceleration or deceleration, of a final or initial angular velocity	$\varphi = \frac{n \cdot t}{19{,}1}$ [rad]		$\varphi = \frac{\omega \cdot t}{2}$ [rad]
mass	$m = \frac{G}{g}$ [$\frac{kgf\ s^2}{m}$]		m è l'unità di massa [kg] m is the unit of mass [kg]
weight (weight force)	G è l'unità di peso (forza peso) [kgf] G is the unit of weight (weight force) [kgf]		$G = m \cdot g$ [N]
force in vertical (lifting), horizontal, inclined motion of translation (μ = coefficient of friction; φ = angle of inclination)	$F = G$ [kgf] $F = \mu \cdot G$ [kgf] $F = G\,(\mu \cdot \cos\varphi + \text{sen}\,\varphi)$ [kgf]		$F = m \cdot g$ [N] $F = \mu \cdot m \cdot g$ [N] $F = m \cdot g\,(\mu \cdot \cos\varphi + \text{sen}\,\varphi)$ [N]
dynamic moment Gd^2, moment of inertia J due to a motion of translation (numerically $J = \frac{Gd^2}{4}$)	$Gd^2 = \frac{365 \cdot G \cdot v^2}{n^2}$ [$kgf\ m^2$]		$J = \frac{m \cdot v^2}{\omega^2}$ [$kg\ m^2$]
torque as a function of a force, of a dynamic moment or of a moment of inertia, of a power	$M = \frac{F \cdot d}{2}$ [kgf m] $M = \frac{Gd^2 \cdot n}{375 \cdot t}$ [kgf m] $M = \frac{716 \cdot P}{n}$ [kgf m]		$M = F \cdot r$ [N m] $M = \frac{J \cdot \omega}{t}$ [N m] $M = \frac{P}{\omega}$ [N m]
work, energy in motion of translation, in rotary motion	$W = \frac{G \cdot v^2}{19{,}6}$ [kgf m] $W = \frac{Gd^2 \cdot n^2}{7160}$ [kgf m]		$W = \frac{m \cdot v^2}{2}$ [J] $W = \frac{J \cdot \omega^2}{2}$ [J]
power in motion of translation, in rotary motion	$P = \frac{F \cdot v}{75}$ [CV] $P = \frac{M \cdot n}{716}$ [CV]		$P = F \cdot v$ [W] $P = M \cdot \omega$ [W]
power available at the shaft of a single-phase motor (cos φ = power factor)	$P = \frac{U \cdot I \cdot \eta \cdot \cos\varphi}{736}$ [CV]		$P = U \cdot I \cdot \eta \cdot \cos\varphi$ [W]
power available at the shaft of a three-phase motor	$P = \frac{U \cdot I \cdot \eta \cdot \cos\varphi}{425}$ [CV]		$P = 1{,}73 \cdot U \cdot I \cdot \eta \cdot \cos\varphi$ [W]

Note. Acceleration or deceleration are understood constant; motion of translation and rotary motion are understood rectilinear and circular respectively.

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