

GCooling Systems

Helical & Bevel helical

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Rossi

G Cooling Systems

Bevel helical

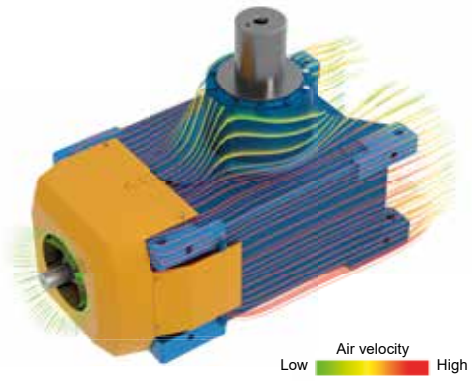
G for Cooling Systems is a solution specifically designed for Wet Cooling Towers and W-Style Air Cooled Condensers. This system is designed to improve performance in terms of output torque, thermal management and noise levels.

The improved casing design makes it suitable for high-end painting cycles.
Low noise levels and excellent gearbox cooling are achieved thanks to new cooling fan and fan cover design.

Features		Benefits
Optimized thermal management	→	High temperatures allowed
Integrated fan support	→	Easy installation and maintenance, improved performances
Improved casing design	→	Suitable for all range of painting protection levels
Reduced noise levels	→	Suitable for low noise applications
Integrated feet	→	Strong and stable fixing to customer structure, reduced vibration levels
Improved fan cover design	→	Optimized air flow and gearbox cooling

Technical specifications

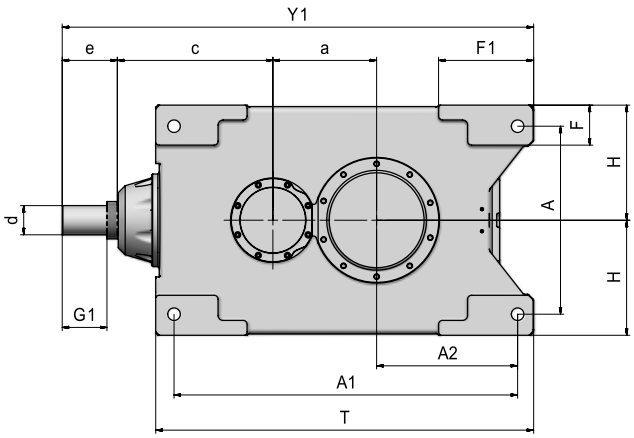
- 4 sizes (250, 283, 321, 360)
- Torque up to 209,000 lb in
- Design according to CTI 111 and 167
- 3 designs available: radial fan, axial fan and without fan
- Improved thermal management



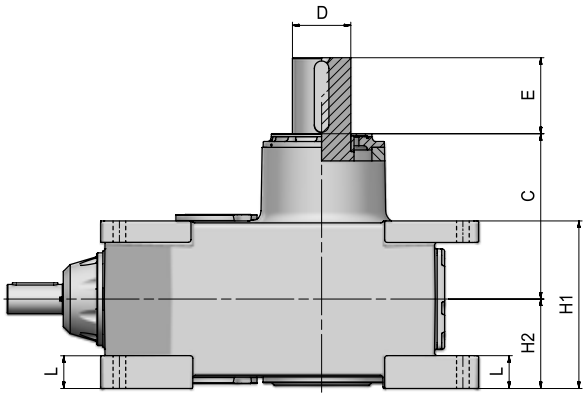
G Cooling Systems product range

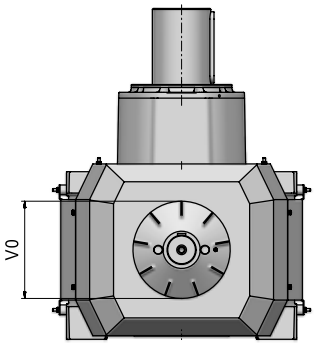


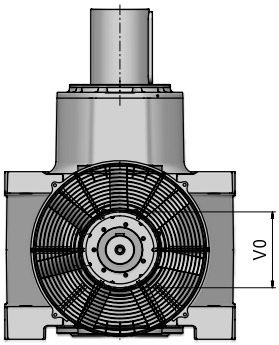
G Cooling Systems Bevel Helical - Main dimensions



Size	a	A	A_1	A_2	C	D ∅	E	F ≈	F_1 ≈	L ≈	H	H_1	H_2	T ≈
250	250	450	825	340	407	140	195	97	244	92	280	421	226	930
283	280	450	855	340	423	140	195	97	244	92	280	421	226	960
321	320	580	1060	435	511	180	234	116	293	108	355	517	276	1166
360	360	580	1100	435	529	180	234	116	293	108	355	517	276	1206







Size	i_N	c	d ∅	e	Y_1 ≈	Radial Fan G_1 1)	Radial Fan V_0 ∅	Axial Fan G_1 1)	Axial Fan V_0 ∅
250	≤ 14	380	70	140	1 164	115	235	70	170
	15 ... 18	357	55	110	1 111	85	235	55	170
	≥ 19	357	48	110	1 111	90	235	55	170
283	≤ 16	380	70	140	1 194	115	235	70	170
	≥ 17	357	55	110	1 141	85	235	55	170
321	≤ 14	480	90	170	1 455	138	300	127	210
	≥ 15	480	70	140	1 425	108	300	97	210
360	≤ 16	480	90	170	1 495	138	300	127	210
	≥ 17	480	70	140	1 465	108	300	97	210

1) High speed shaft end available length with fan cooling.

Rating torques and actual transmission ratios

Size	$M_{N2\ max}$ [lb in] $fs_{AGMA} > 2$ (L_h = 100 000 h, Reliability 90%) n_1 = 1 000 - 1 800 min^{-1}	Actual transmission ratios i_N 10	10,6	11,2	11,8	12,5	13,2	14	15	16	17	18	19	20
250	**94,000**	10,154	10,462	11,167	11,786	12,692	13,077	13,958	14,868	16,012	16,497	17,609	18,857	20,308
283	**124,000**	10,000	10,571	11,143	11,846	12,667	13,214	13,929	14,808	15,833	16,670	17,571	18,680	19,974
321	**159,000**	9,846	10,667	11,250	11,923	12,308	13,333	13,750	15,041	15,527	16,821	17,346	19,077	19,692
360	**209,000**	10,143	10,429	11,077	12,167	12,500	13,036	13,846	15,208	15,625	16,445	17,467	19,186	19,712

G Cooling Systems

Helical

G for Cooling Systems is a solution specifically designed for A-Style Air Cooled Condensers.
This system is designed to improve performance in terms of output torque, thermal management and noise levels.

Patented double-oil chamber design to allow cold starts down to 5 °F without heating systems and increases thermal capacity and heat dissipation.
Partially external lubrication circuit with wide range of high-end accessories to monitor and protect oil flow.

Features		Benefits
Special casings and bell housing design	→	High temperatures allowed
AGMA service factor > 2 according to CTI 167	→	High reliability
Bearings calculated life time > 100 000 h	→	Long life
Patented lubrication circuit	→	Reduced oil quantity, constantly oil bathed bearings
Oil flow protection accessories	→	Easier maintenance, lower downtimes
Low temperature operations	→	Cold starting down to 5 °F with no heaters

Technical specifications

- 4 sizes (250, 280, 320, 360)
- Torque up to 331,903 lb in
- Design according to CTI 167
- Improved thermal management



G Cooling Systems product range



G Cooling Systems Helical - Main dimensions

Gearbox dimensions

Size	a	A	A_1	A_2	A_3	c	C [max]	f	h	H	Ø K	L	R	R_1	W_2	Mass [lb]
250	430	510	/	530	225	616,5	800	286	218	300	33 (x4)	51	675	958	1 045	2,094
280	480	580	/	540	220	604	800	305	204	335	33 (x4)	42	652	934	1 118	2,360
320	545	610	1 050	570	240	725	1 000	359	303	350	39 (x6)	48,5	758	1 065	1 234	2,800
360	610	610	1 145	620	285	768	1 000	388	305	380	39 (x6)	48,5	800	1 108	1 328	3,200

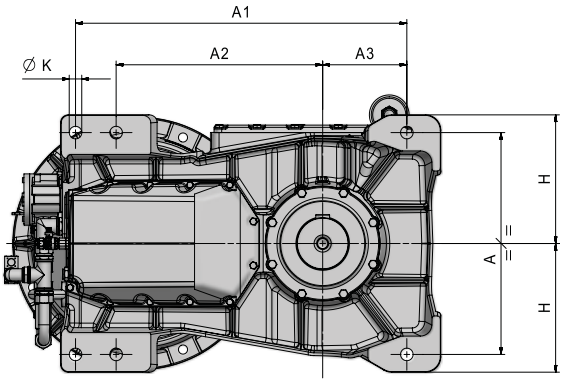
Input shaft dimensions

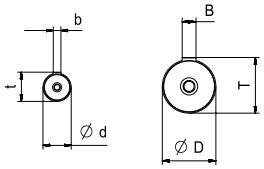
Size	d	e	t	b
250	70	140	74,5	20
280	70	140	74,5	20
320	90	150	95	25
360	90	150	95	25

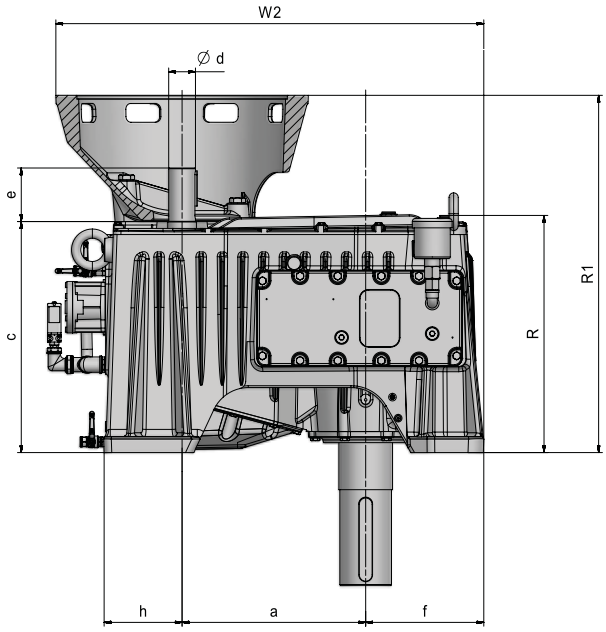
Output shaft dimensions

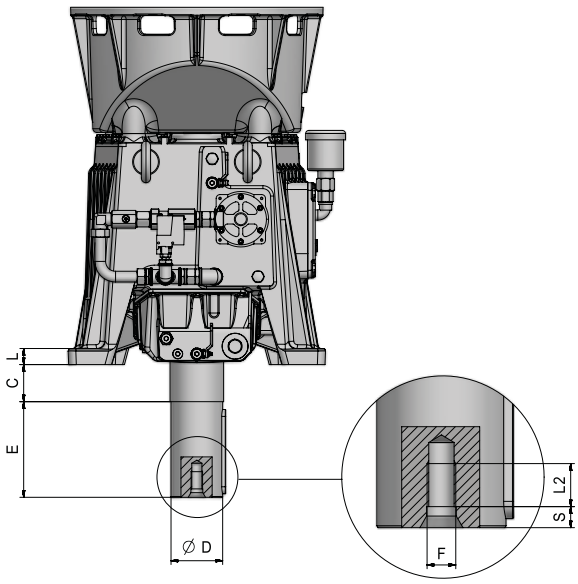
Size	D [max]	E	T	B	F	S	L_2
250	135	250	143	36	M30	22	45
280	135	250	143	36	M30	22	45
320	175	300	185	45	M36	27	54
360	175	300	185	45	M36	27	54

Rossi reserves the right for alterations. To assist in your planning, we recommend that you call your Rossi representative.









G Cooling Systems Helical - Technical features overview

Sizes		250		280		320		360	
i_N	n_1 [rpm]	i_{eff}	M_{N2} [lb in]	i_{eff}	M_{N2} [lb in]	i_{eff}	M_{N2} [lb in]	i_{eff}	M_{N2} [lb in]
10	1,000	10.7	256,700	10.4	408,900	9.95	495,650	10.7	-
	1,200		256,700		-		495,650		-
	1,500		256,700		-		-		-
	1,800		247,800		-		-		-
11.2	1,000	11.8	221,300	11.9	364,650	11.1	513,340	11.8	-
	1,200		215,000		354,000		513,340		-
	1,500		215,000		354,000		513,340		-
	1,800		215,000		-		-		-
12.5	1,000	13.0	198,250	13.3	354,000	12.9	455,800	13.1	-
	1,200		192,950		354,000		442,500		-
	1,500		192,950		354,000		431,000		-
	1,800		187,600		-		431,000		-
14	1,000	14.5	198,250	14.7	296,500	14.3	431,000	14.4	663,800
	1,200		198,250		296,500		431,000		646,100
	1,500		192,950		305,350		420,400		-
	1,800		192,950		296,500		408,900		-
16	1,000	16.7	234,500	15.7	364,650	15.9	442,540	16.0	628,400
	1,200		227,500		364,650		431,000		628,400
	1,500		227,500		364,650		431,000		-
	1,800		25 000		354,000		420,400		-
18	1,000	18.4	227,500	17.9	364,650	17.8	495,650	18.3	610,700
	1,200		221,300		364,650		482,400		610,700
	1,500		221,300		364,650		482,400		593,000
	1,800		221,300		354,030		469,100		-
20	1,000	20.4	198,250	20.1	364,650	20.6	469,100	20.3	646,100
	1,200		198,250		354,000		455,800		646,100
	1,500		198,250		342,500		455,800		628,400
	1,800		208,900		354,000		442,500		628,400
22.4	1,000	22.7	203,600	22.0	342,500	22.8	455,800	23.4	544,300
	1,200		198,250		305,350		442,500		544,300
	1,500		198,250		305,350		442,500		544,300
	1,800		198,250		296,500		431,000		531,000
25	1,000	25.7	154,900	24.6	354,000	25.0	455,800	25.7	557,600
	1,200		150,500		314,200		442,500		544,300
	1,500		150,500		305,350		442,500		531,000
	1,800		146,000		305,350		431,000		531,000

Nominal output torques [lb in] according to CTI 167

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Examples of application



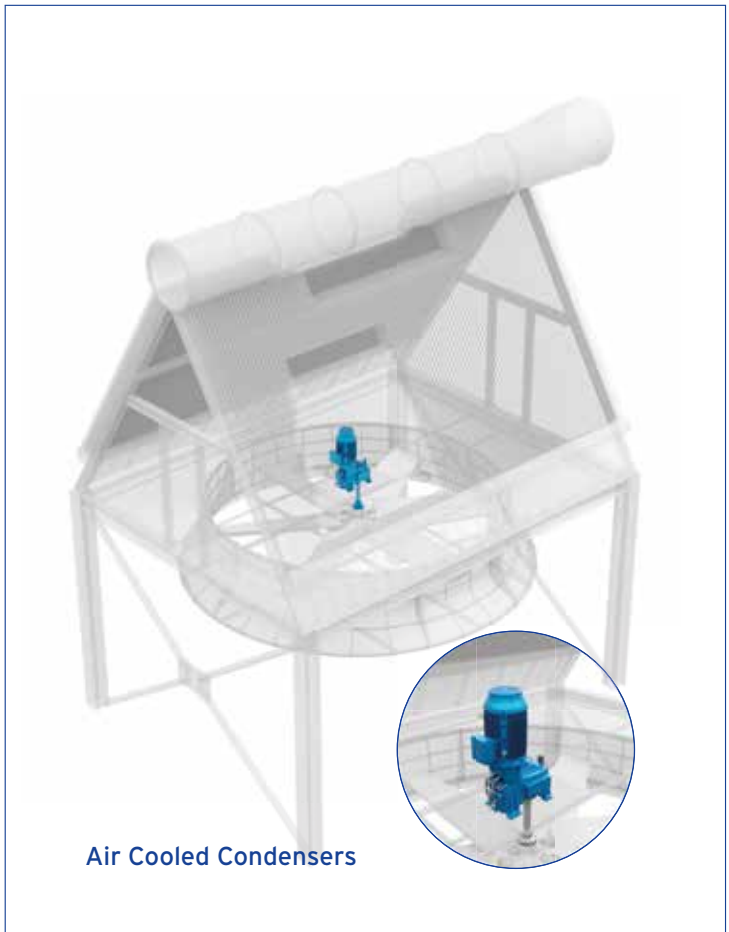
Wet cooling tower



W-Style ACC



Wet cooling tower



Air Cooled Condensers



ACC
G COOLING SYSTEMS SERIES



WET COOLING TOWER
G COOLING SYSTEMS SERIES



W-STYLE ACC
G COOLING SYSTEMS SERIES

over **1,000** **people** around the world

17 **affiliated** companies

5,000 **customers** worldwide

5 **production** facilities

8 **assembly** plants

over **70** years of **experience**

18 **authorized** service centers



Rossi

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