



Marley Industrial Geareducers are manufactured and designed specifically for cooling towers for large industrial and power plant applications. In shape and function, their design goes beyond normal AGMA requirements – both to maximize air movement through the cooling tower, and to minimize the impact of maintenance.

Although the primary function of a Geareducer is to reduce the speed of the driver (usually an electric motor) to a speed which is conducive to good fan performance, it must satisfy other criteria as well. For example, it must provide primary support for the fan – withstand the shock loads imposed at start-up and

during subsequent speed changes – anchor the fan against lateral movement in response to rotational forces – and contribute as little as possible to power transmission losses as well as the generation of noise.

Given these requirements, many manufacturers of mechanical equipment provide acceptable geared speed reducers. Designed for more forgiving commercial applications, these units are often unprepared for the rigors and peculiarities of cooling tower service, such as the corrosive effects of operation (often intermittent) within an exceedingly humid environment. As a result, both

the life expectancy of these commercial speed reducers – and the thermal performance of the cooling towers on which they are installed – often suffer.

SPX Cooling Technologies is the *only* major manufacturer whose geared speed reducers are designed uniquely for cooling tower service. And, since we warrant not only the Geareducer, but the thermal performance of the cooling towers on which they operate as well, development, design, and manufacture are taken very seriously. This has resulted in an unequalled history of trouble-free operation.

Model	Reduction Ratio	Output RPM*		Input hp Limitation**		Empty Weight lb	Oil Capacity US gallon
		60 Hz	50Hz	60 Hz	50 Hz		
32.2	7.89:1	225	187	125	100	1700	9.0
	8.80:1	202	168	150	150		
	9.62:1	185	153	150	150		
	10.16:1	175	145	150	125		
	11.18:1	159	132	150	150		
	12.93:1	137	114	150	125		
3400	14.64:1	120	100	150	125	2810	18.5
	9.93:1	179	149	150	125		
	10.35:1	171	143	125	100		
	11.16:1	159	132	150	125		
3600	12.97:1	137	114	150	125	3000	18.5
	9.64:1	184	153	257	217		
	10.83:1	164	136	251	212		
	11.55:1	154	128	218	184		
	12.98:1	137	114	213	180		
4000	14.84:1	119	99	188	159	3200	18.5
	9.64:1	184	153	316	272		
	10.83:1	164	136	316	272		
	11.55:1	154	128	304	263		
	12.18:1	146	121	326	274		
	12.98:1	137	114	304	263		
	13.24:1	134	111	251	217		
	13.81:1	129	107	290	244		
	14.88:1	119	99	251	217		
	15.84:1	112	93	251	214		
	16.49:1	108	89	204	175		
18.54:1	96	80	204	175			
19.72:1	90	75	204	174			

\*Nominal input speed is assumed to be 1775 RPM at 60 Hz and 1475 RPM at 50 Hz

\*\*Rated at AGMA 2.0 Service Factor

- ASTM Class 20, gray cast iron housings, covered with two coats of epoxy-polyamide paint. Triple epoxy coating is available as an extra cost option.
- Gears of high strength, case hardened, alloy steel machined to AGMA Quality Class 9.
- Designed to meet or exceed the requirements of CTI Std. 111 and AGMA standards.
- Right angle input/output shaft relationship. Allows driver to be located outside the tower's effluent airstream.
- **All** bearings are of the tapered roller type, having a minimum L<sub>10A</sub> service life of 100,000 hours.
- Two-stage (spiral bevel/helical) gear reduction for efficient power transmission.
- Shafts and keys designed to withstand motor "plugging."
- Integral cooling fins – no need for expensive oil coolers.
- Vented gear cases, with vent lines extending outside the fan cylinder.
- **Positive**, splash-type lubrication – no pump to fail.
- "Run-in" under load at the factory prior to shipment.
- A record of service dependability **unmatched** in the industry.
- Long-life lip-type oil seal at input shaft.

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