

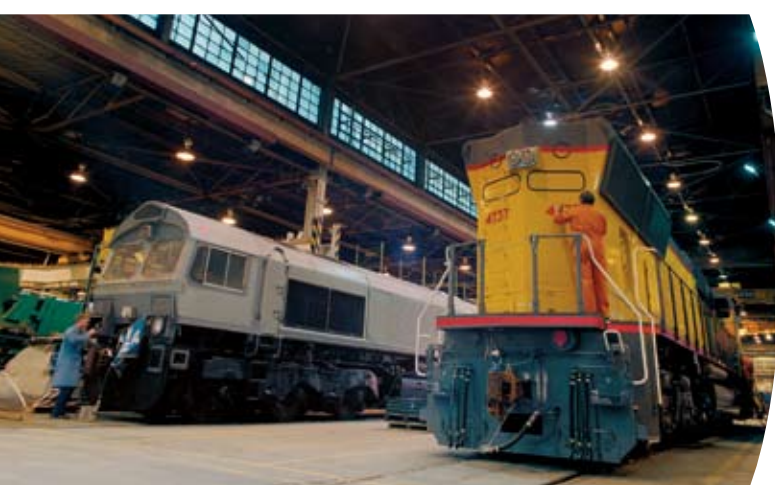
Locomotive Compressors



Experience Proven Results

Locomotive Compressor Evolution

Gardner Denver has been building air compressors and compressor-exhausters for diesel-electric locomotives since 1935. Locomotive compressors perform the critical function of operating the air or vacuum braking systems and other accessories in the locomotive. Gardner Denver currently offers a complete line of locomotive air compressors and compressor-exhausters that includes 3 cylinder, 4 cylinder, and 6 cylinder models.



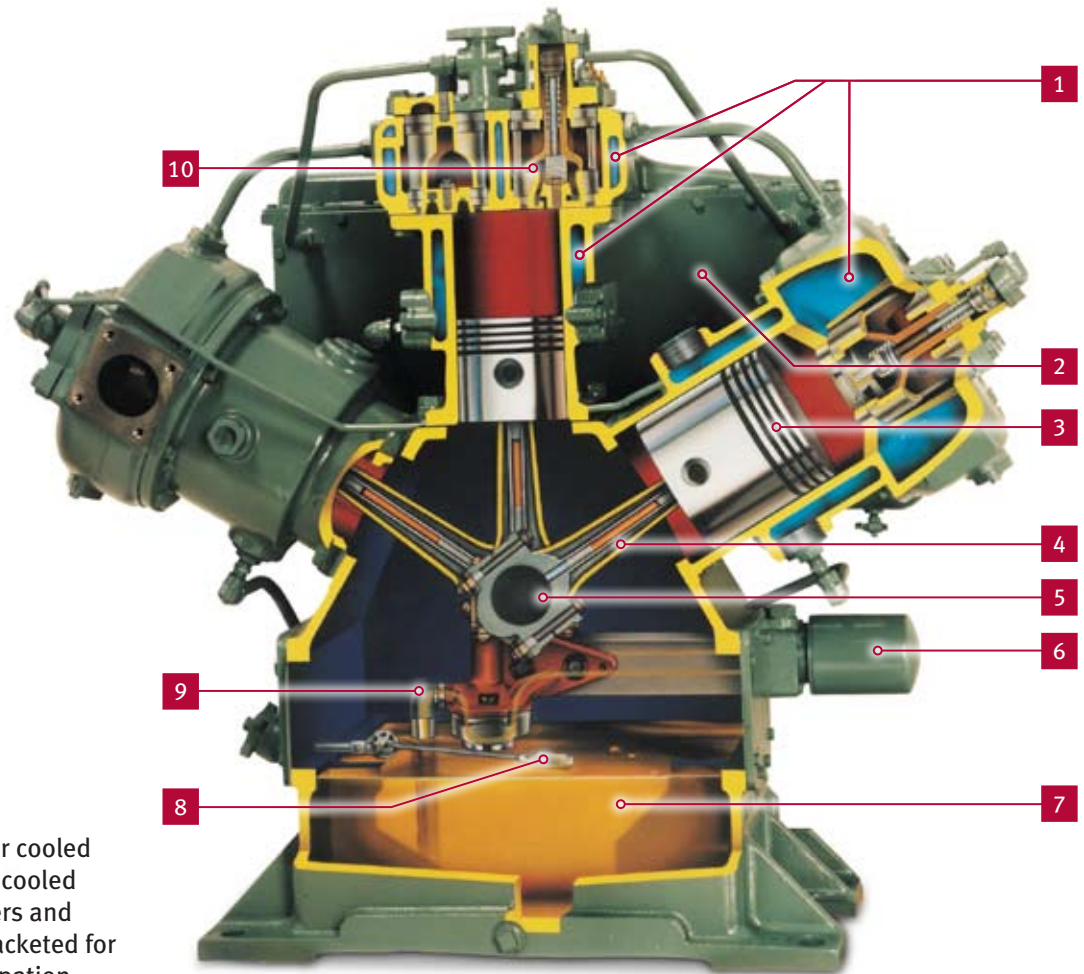
The first Gardner Denver compressors designed for locomotive use were water cooled. Air cooled compressors came into use in the 1940's for diesel electric freight locomotives that incorporated a car body design that directed a free flow of air to the air compressor. In the 1950's enclosed car body freight locomotives were built with higher horsepower engines that required the use of water cooled compressors. Over the years there have been many changes in locomotives and Gardner Denver currently offers both water cooled and air cooled compressors and compressor-exhausters for a variety of locomotive applications and has the engineering capability to design a compressor to meet your specific locomotive requirements.

Downtime is costly and the locomotive compressors were designed with ease of service in mind. The design and location of the valves is critical since valve maintenance and replacement is one the items that is most often serviced on the compressor. Gardner Denver's compressor design incorporates valves that are reliable, highly efficient and these valves are located in the compressor so that they are easy to access and quick to replace. To reduce service intervals the crankcase has been designed with a larger oil capacity for longer oil life and reduced maintenance through lower oil temperatures. In addition the compressors are built with a full flow, spin on oil filter for improved life and reliability. The compressor design includes a gear driven positive displacement oil pump that provides pressurized lubrication under all operating conditions including low idle speeds.

These compressors have been uniquely engineered to perform in the harsh environments that locomotives are subject to in locations throughout the world. These compressors have been designed to perform in environments that include tropical heat, desert sandstorms, monsoons and arctic cold.

You can be sure that Gardner Denver locomotive compressors have been designed with reliability, serviceability, and efficiency in mind from the ground up. Gardner Denver is committed to product research and development that incorporates the latest technology including powerful CAD systems to assure that the current locomotive compressors include the latest advancements in technology, design and materials. Gardner Denver locomotive compressors have provided proven performance that is measured in decades.

Locomotive Compressor Features



1. Choice of air or water cooled compressors. Water cooled models have cylinders and valve pockets fully jacketed for maximum heat dissipation.
2. All two-stage models come equipped with an intercooler.
3. Pistons, rings and cylinders are designed for optimum oil control. Cylinders are manufactured to gauge quality roundness, with tolerances measured in millionths of an inch. Exclusive Gardner Denver piston and piston ring design significantly reduces oil carry over into the air stream.
4. Rifle drilled connecting rods provide pressurized lubrication to the wrist pin for low speed operation.
5. Ductile iron crankshaft, single or double ended, is precision designed and supported by large tapered roller bearings, with drive gear for the oil pump. Bearings have a B-10 life of 75,000 hours.
6. Full flow, spin on oil filter for improved life and reliability.
7. Large oil capacity crankcase prolongs oil life and reduces maintenance costs by lowering oil temperatures.
8. Float with oil level gauge for positive oil level indication.
9. Positive displacement oil pump, gear driven by the compressor crankshaft, provides pressurized lubrication under all operating conditions, including low idle speed.
10. Low lift valves for improved volumetric efficiency and reliability at high engine speeds.

GARDNER DENVER LOCOMOTIVE COMPRESSOR DATA

Compressor Features	GD Model WLV	GD Model WLU	GD Model WLA	GD Model WLN	GD Model WLT	GD Model WLG
Number of Cylinders	2	3	4	3	3	6
Bore	7 ⁷ / ₈ x 4 ¹ / ₄	7 ⁷ / ₈ x 5 ³ / ₄	7 ⁷ / ₈ x 4 ¹ / ₄	7 ⁷ / ₈ x 5 ³ / ₄	7 ⁷ / ₈ x 5 ³ / ₄	7 x 5 ³ / ₄
Stroke	4 ¹ / ₂	4	5	5	4	5
No. LP & HP Cylinders	1 LP & 1 HP	2 LP & 1 HP	2 LP & 2 HP	2 LP & 1HP	2 LP & 1 HP	4 LP & 2 HP
Cooling	Water Cooled	Water Cooled	Water Cooled	Water Cooled	Air Cooled	Water Cooled
Speeds 500 to 1050	Yes	Yes	Yes	Yes	Yes	Yes
ICFM at 1050 RPM	97 CFM	170 CFM	220CFM	213 CFM	170 CFM	400 CFM
Max BHP at 1050 RPM	30 BHP	48 BHP	64 BHP	65 BHP	48 BHP	125 BHP
CCW Rotation From Drive Shaft	Yes	Yes	Yes	Yes	Yes	Yes
Intercooler With Drain	Yes	Yes	Yes	Yes	Yes	Yes
95% Continuous Operation Cycle	Yes	Yes	Yes	Yes	Yes	Yes
Approximate Compressor Weight	840 LBS	1820 LBS	2260 LBS	1635 LBS	1390 LBS	2410 LBS

GARDNER DENVER LOCOMOTIVE COMPRESSOR/EXHAUSTER DATA

Compressor Features	GD Model WLP	GD Model WLQ	GD Model WLR	GD Model WLS
Number of Cylinders	4	6	6	6
Compressor Bore Size	7 ⁷ / ₈ x 4	7 ⁷ / ₈ x 4	7 ⁷ / ₈ x 5 ³ / ₄	7 ⁷ / ₈ x 4
Stroke	5	5	5	5
Number of LP & HP Cylinders	1 LP & 1 HP	1 LP & 1 HP	2 LP & 1 HP	1 LP & 1HP
Vacuum Bore Size	8 ¹ / ₂	7 ⁷ / ₈	7 ⁷ / ₈	8 ¹ / ₂
Number of Vacuum Cylinders	2	4	3	4
Cooling	Air/Water Cooled	Air Cooled	Air Cooled	Air Cooled
Speeds 500 to 1050	Yes	Yes	Max 950 RPM	Yes
ICFM at 1050 RPM and 140 PSIG	117 CFM	117 CFM	177CFM	117 CFM
Max BHP at 1050 RPM and 140 PSIG	41 BHP	46 BHP	64 BHP	51 BHP
CCW Rotation From Drive Shaft	Yes	Yes	Yes	Yes
Intercooler With Drain	Yes	Yes	Yes	Yes
95% Continuous Operation Cycle	Yes	Yes	Yes	Yes
Approximate Compressor Weight	1340 LBS	1978 LBS	2240 LBS	1810 LBS

**Gardner
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Member

