

SPECIFICATIONS 1

12V-AT27GL SERIES

Basic Model Specifications:

Type	4-cycle, 4-valve, lean burn, prechamber
Aspiration	Turbocharged – Intercooled
Number of cylinders	V-12
Bore x stroke	10.827 x 11.811 in. (275 x 300 mm)
Displacement	13048 in. ³ (213.9 litres)
Compression ratio	9.0:1
Piston speed – @ 1000 rpm	1969 ft./min. (10.0 m/sec.)
Low idle	650 – 750 rpm
Firing order	1L-1R-5L-5R-3L-3R-6L-6R-2L-2R-4L-4R

Bearings – Main:

Number	7
Diameter x width	8.858 x 4.094 in. (225 x 104 mm)
Projected area/bearing	36.27 in. ² (23400 mm ²)

Bearing – Crankpin:

Diameter x width	7.677 x 3.071 in. (195 x 78 mm)
Projected area/bearing	23.58 in. ² (15210 mm ²)

Lube Oil System:

Sump Capacity including filters & coolers	252 gal. (955 litres)
Strainer screen	74 micron
Main filter efficiency	15 micron @ 90% efficiency
Normal lube oil pressure	45 psi (310 kPa)
Minimum pressure	37psi (255 kPa)
Normal flow	130 gpm (492 l/min)
Lube oil system pipe flange	4.0 in. ANSI (102 mm)
Prelube:	
• Duration	5 min. before start or 5 min. each hour not running
• Normal pressure	3 – 5 psi (21 – 35 kPa)**
• Minimum flow	15 gpm (57 litres/min)
Postlube (after hot shutdown)	5 min.

Crankcase Breather System:

Volume, flow maximum	90 scfm (42.5 litres/sec)
Suction Vacuum – H ₂ O	2 in. (51 mm)

Cooling System:

Jacket capacity, engine only	97.2 gal. (368 litres)
Auxiliary water system capacity	20.0 gal. (75.7 litres)
Maximum inlet head water pump – H ₂ O	50 ft. (15.2 m)
Minimum inlet head water pump – H ₂ O	14.1 ft. (4.3 m)
Normal jacket water temperature out of engine	180° F (82° C)
Auxiliary water pipe flange	4.0 in. ANSI (102 mm)
Jacket water pipe flange	6.0 in. ANSI (152 mm)

Fuel System:

Natural gas pressure range at regulator	45 – 60 psi (310 – 414 kPa)
Natural gas inlet, pipe flange	2 in. ANSI (50.8 mm)

Air Induction System (Ducting, Filter & Silencer):

Maximum permissible restriction – H ₂ O	15.0 in. 381 mm)
Compressor inlet pipes diameter	10 in. (254 mm)
Required filtering efficiency (coarse dust per SAE726-C)	99.7%

Exhaust System (Turbine Outlet):

Maximum permissible backpressure – H ₂ O	12.0 in. (305 mm)***
Turbine outlet pipe flange	Equivalent to 8 in. ANSI (204 mm)

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Starting System:

Regulated starting air/gas pressure	125 – 150 psi (862 – 1034 kPa)**
Air inlet pipe diameter	1.5 in. ANSI (50.8 mm)
Air outlet pipe diameter	4.00" O.D. or 3.5" NPT Pipe

Miscellaneous:

Recommended minimum spacing between engines	114 in. (2900 mm)*
Recommended minimum distance to wall	78 in. (2000 mm)*
Recommended minimum overhead clearance	92 in. (2340 mm)*
Engine without shipping skid or flywheel	46,000 lb. (20865 kg)
Shipping skid	3,440 lb (1560 kg)
Flywheel	1,767 lb (802 kg)
Heaviest engine part, top overhaul: cylinder head	450 lb. (204 kg)

*From centerline of crankshaft

**Pressure is based on (50° F) 10° C lube oil temperature.

***20.0 inch WC possible with reduced turndown capability.

NOTE: All pipe diameters are typical.

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