

SUPERIOR® 825 Engines

900 RPM / 2,000 - 2,650 HP / 1,490 - 1,975 KW / over 1,300 in operation worldwide



SUPERIOR Engines and Compressors Since 1889

The SUPERIOR brand name has a long-standing reputation for high quality engine and compressor products, dating back to 1889. Since 1976, when the SUPERIOR brand was purchased by Cameron, over 10,000 SUPERIOR engines and compressor frames have been manufactured and installed worldwide in a variety of high-speed and medium speed applications. SUPERIOR turbocharged gas engines are medium-speed and built for continuous, heavy-duty service. Optimal fuel/air mixing in the cylinder, timed fuel injection, and air-charged intercooling result in reduced fuel consumption and lowered emissions. The low compression (8.75:1) pistons keep dynamic stresses at a conservative level, provide for more stable operation and enhance engine tolerance to variations in types of fuel. The conservative horsepower rating of SUPERIOR engines provides ample reserve for emergency situations. Intercooling with optimal valve overlap results in cooler combustion chamber parts while assuring lower fuel consumption, greater efficiency, longer service life and trouble-free operation.



SUPERIOR Engine Technical Data

Rating	Measure	Model	Model
		12SGTD	16SGTD
No. of Cylinders		12	16
BHP [KW]	[bhp (kw)]	2,000 (1,490)	2,650 (1,975)
Rated Speed	[rpm ¹]	900	900

Engine Specifications	Measure	Model	Model
		12SGTD	16SGTD
Bore / Stroke	[in. (cm)]	10 x 10.5 (25.4 26.7)	10 x 10.5 (25.4 26.7)
Displacement	[in. ³ (liter)]	9,896 (162)	13,195 (216)
BMEP	[psi (bar)]	177.8 (12.4)	177 (12.2)
Piston Speed	[fpm (m/s)]	1,575 (8)	1,575 (8)
Bearing Diameters			
Main	[in. (cm)]	8 (20.3)	8 (20.3)
Crankpin	[in. (cm)]	6.375 (16.2)	6.375 (16.2)
Piston Pin	[in. (cm)]	3.5 (8.9)	3.5 (8.9)
Camshaft	[in. (cm)]	2.75 (7.0)	2.75 (7.0)
Starting Air System			
System Pressure	[psi (kg/cm ²)]	150	150
Consumption Rate (Air)	[scfm (liters/sec.)]	1500 (708)	1500 (708)
Consumption Rate (Gas)	[scfm (liters/sec.)]	1781 (841)	1781 (841)
Air Intake System			
Air Intake Flow Rate	[cfm (m ³ min.)]	4,590 (130)	5,970 (169)
Air Intake Pressure Drop (Max.)	[in. H ₂ O (cm H ₂ O)]	10 (25.4)	10 (25.4)
Fuel Gas System			
Fuel Gas Pressure	[psi (bar)]	35 - 40 (2.4 - 2.8)	35 - 40 (2.4 - 2.8)
Exhaust System			
Exhaust Temperature	[° F (° C)]	752 (400)	780 (416)
Exhaust Flow	[lbs./min. (kg/min.)]	285 (129)	380 (172)
Exhaust Back Pressure (Max.)	[in. H ₂ O (cm H ₂ O)]	10 (25.4)	10 (25.4)
Cooling Water System			
Jacket Water System Capacity	[Gal (liters)]	146 (553)	186 (704)
Jacket Water Outlet Temperature	[° F (° C)]	165 - 180 (74 - 82)	165 - 180 (74 - 82)
Design Flow Rate at Rated Speed	[gpm (liters/sec.)]	750 (47.3)	775 (2,935)
Intercooler Water Pump Flow	[gpm (liters/sec.)]	200 (12.6)	340 (1,287)
Lube Oil System			
Lube Oil System Capacity	[gallons (liters)]	165 (625)	220 (835)
Lube Oil System Flow	[gpm (liters/sec.)]	70 (265)	90 (341)
Lube Oil Consumption	[gal/day (liters - day)]	3.30 (12.5)	
Lube Oil Outlet Temperature	[° F (° C)]	165 - 175 (74 - 79)	165 - 175 (74 - 79)
Lube Oil Filters	Micron	15	15
Brake Specific Fuel Consumption			
100% Load	[btu/bhp-hr (kcal/kw-hr)]	7150 (2,416)	7100 (2,399)
75% Load	[btu/bhp-hr (kcal/kw-hr)]	7450 (2,518)	7530 (2,545)
50% Load	[btu/bhp-hr (kcal/kw-hr)]	8100 (2,737)	8130 (2,748)
Engine Emissions ²			
NO _x	[grams/bhp-hr (600 mg/M ³)]	1.5	1.5
CO	[grams/bhp-hr (520 mg/M ³)]	1.6	1.6
NMHC	[grams/bhp-hr (264 mg/M ³)]	0.6	0.6
Dry Weight	[lbs. (kg)]	42,500 (19,280)	54,000 (24,494)
Heaviest Lift (Cylinder Block)	[lbs. (kg)]	10,400 (4,717)	11,000 (4,990)
Exhaust Manifold	[lbs. (kg)]	1,210 (549)	1,530 (694)
Turbocharger Assembly	[lbs. (kg)]	1,170 (531)	1,170 (531)
Cylinder Head	[lbs. (kg)]	250 (113)	250 (113)
Piston and Connecting Rod	[lbs. (kg)]	198 (90)	198 (90)
Overhead Clearance to Remove Piston and Connecting Rod	[in. (cm)]	89 (22.6)	89 (22.6)
Dimensions ³			
Length	[ft - in (cm)]	15' - 4" (467)	18' - 5" (560)
Width (without platforms)	[ft - in (cm)]	7' - 4" (224)	7' - 9" (235)
Height	[ft - in (cm)]	8' - 10" (269)	9' - 2" (279)

1 Minimum permissible operating speed is 600 RPM. Corresponding BHP and KW values are available within these speed ranges

2 Qualifying Conditions:

Pipeline quality gas with a methane content > 90% with a LHV of 900 btu/scf ± 15%

130° F Manifold temperature, Intercooler water temperature < 120° F, Ambient temperature = 100° F, Altitude < 4,000 ft.

Refer to Factory for all other conditions

3 Dimensions are approximate and not to be used for construction

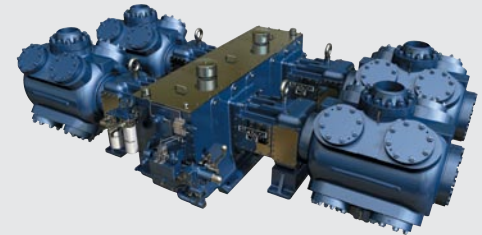
Cameron, the OEM for SUPERIOR products, offers a wide range of compressor solutions for your unique gas applications. All of our SUPERIOR compressors are designed for application flexibility and engineered to provide rugged, reliable service and value.

MH / WH Compressors



1,700 - 5,400 hp
1,268 - 4,027 kW

WG Compressors



2,250 - 9,000 hp
1,679 - 6,714 kW



For information or to place an order:

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to access a complete list of locations