

# Superior® 825 Engines

900 RPM / 2000 - 2650 HP / 1490 - 1975 KW / over 1300 in operation worldwide



## Turbocharged Superior Engines From Cameron, Since 1976

Superior turbocharged gas engines are medium-speed and built for continuous, heavy-duty service. Optimal fuel/air mixing in the cylinder, time fuel injection, and air-charged intercooling result in reduced fuel consumption and lowered emissions. The low compression (8.20:1) 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®**

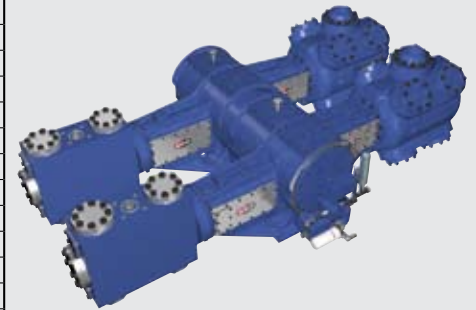
## Superior Engine Technical Data

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

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

Engine Specifications	Measure	Model 12SGTB	Model 16SGTB
Bore / Stroke	[ in. (cm) ]	10 x 10.5 (25.4 26.7)	10 x 10.5 (25.4 26.7)
Displacement	[ in. <sup>3</sup> (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)
Crankshaft	[ in. (cm) ]	2.75 (7.0)	2.75 (7.0)
Starting Air System			
System Pressure	[ psi (kg/cm <sup>2</sup> ) ]	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 <sup>3</sup> min.) ]	4,590 (130)	5,970 (169)
Air Intake Pressure Drop (Max.)	[ in. H <sub>2</sub> O (cm H <sub>2</sub> 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 <sub>2</sub> O (cm H <sub>2</sub> O) ]	10 (25.4)	10 (25.4)
Cooling Water System			
Jacket Water System Capacity	[ gpm (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 <sup>2</sup>			
NO <sub>x</sub>	[ grams/bhp-hr ( 600 mg/M <sup>3</sup> ) ]	1.5	1.5
CO	[ grams/bhp-hr (520 mg/M <sup>3</sup> ) ]	1.6	1.6
NMHC	[ grams/bhp-hr (264 mg/M <sup>3</sup> ) ]	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 <sup>3</sup>			
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)

### Evolution / Revolution



1700 - 5400 hp  
1268 - 4027 kW

### MH / WH



1700 - 5400 hp  
1268 - 4027 kW

### WG



2250 - 9000 hp  
1679 - 6714 kW

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

For information or to place an order:

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Or go to: [www.c-a-m.com/cs](http://www.c-a-m.com/cs)  
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