

EX5500 ATEX Series Vacuum Boosters

EX5500 EX ATEX Series heavy duty industrial vacuum boosters are used to “supercharge” vacuum pumps including piston, liquid ring, dry vacuum, and vane pumps to greatly extend performance. This allows significantly higher pumping speeds, reducing pumping time, and improving the achievement of lower vacuum pressures. The vacuum booster must be used in conjunction with a primary vacuum pump with discharge to atmospheric pressure.***

Features

Vertical Flow Double Envelope Gas Service

Built to laboratory standards where virtually complete sealing is required. The drive shaft is mechanically sealed and the oil sumps are plugged to provide an even higher degree of leakage protection.

Cooling Coils

All EX5500 ATEX models come standard with copper cooling coils to provide cooling of lubricating oil with 1.9 LPM cooling water for high performance applications. Stainless steel cooling coils are an available option for all units.

Stainless Steel External Tubing

All units come standard with stainless steel external tubing for the cooling coil crossover.

Instrumentation Ports

All units are drilled in multiple locations to allow the installation of temperature and vibration monitoring equipment for installations.

Low Mechanical Noise

Every EX5500 ATEX series vacuum booster is designed to operate at 82 dB(A) or less at blank-off (open field; motor and background noise excluded).

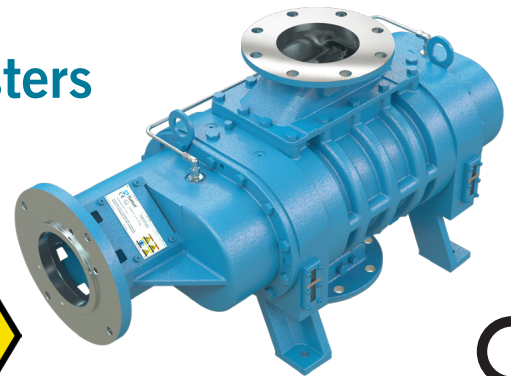
Optional Motor Mounting Flanges for Vacuum Boosters

All metric booster models are available with flange adapters for mounting an IEC B5 or C-flange motor directly to the vacuum booster. NEMA connections are available for nonmetric versions.

Applications

This series has wide applications as a vacuum booster to improve vacuum pump operations, even for operations with harsh requirements. Applications include process gas handling, petrochemical and chemical processing, vacuum coating, heat treating & heat transfer processes, degassing, polymer processing, vacuum distillation, general process vacuum, and many other industrial applications.

*** Tuthill's VBXpert Portal Conditions of Service print out is required with each PO submission.

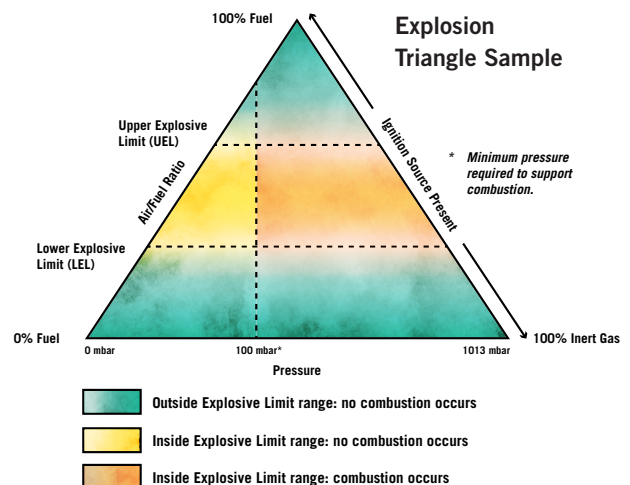


External Classification:

Zone: 1 or 2 | Gas Group: IIA, IIB, or IIB+H2
Temp Class: T3, T2, or T1

Internal Classification:

Internal classification - Available for systems with P1 (inlet pressure) less than 100 mbar and temp classes T3 to T1. Gas group must be verified at time of quotation.



The blower or booster is intended to internally handle explosive gas mixtures up to the critical gas combustion pressure of approximately 100 mbar. This pressure varies by gas type. All product selections are required to be evaluated through Tuthill's VBXpert Portal sizing software prior to quotation. For pressures greater than 100 mbar ATEX Internal classification is not supported.

Metric Drive Shaft and Ports Standard

All EX5500 Series units come standard with metric and are available with imperial sized drive shaft and process connections.

Materials Available:

Cast Iron - All models

Ductile Iron - All models

Note: Ductile Iron is required for Hydrogen Applications

Stainless Steel - EX5507 & EX5514 only

Additional Options:

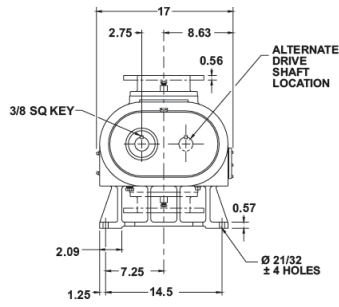
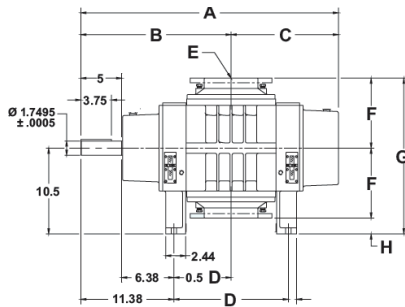
- SST Vent To Drain
- Material Certification
- Stainless Steel Cooling Coils

ATEX Vacuum Booster Dimensions

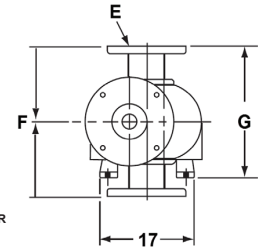
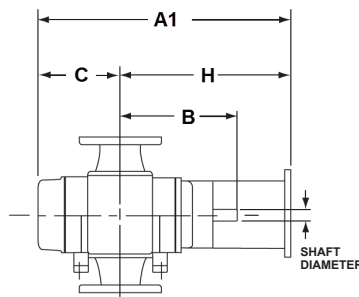


| Model | Series | A | A1 | B | C | D | Shaft Diameter | E | F | G | H | Net Weight* |
|--------|----------------|-------------------|-------------------|------------------|------------------|---------------|----------------|-------------|-------------|-----------------|------------------|----------------|
| | | mm (in) | mm (in) | mm (in) | mm (in) | mm (in) | mm (in) | mm (in) | mm (in) | mm (in) | mm (in) | kg (lbs) |
| EX5507 | Standard Shaft | 823.5 (32.42) | N/A | 535.5 (21.08) | 288.1 (11.34) | 254 (10) | 38 (1.5) | 150 (6) | 254 (10) | 520.7 (20.5) | N/A | 217.7 (480) |
| EX5511 | Standard Shaft | 925.1 (36.42) | N/A | 586.3 (23.08) | 338.9 (13.34) | 355.6 (14) | 38 (1.5) | 150 (6) | 254 (10) | 520.7 (20.5) | N/A | 281.2 (620) |
| EX5514 | Standard Shaft | 1001.3 (39.42) | N/A | 624.4 (24.58) | 377 (14.84) | 431.8 (17) | 38 (1.5) | 150 (6) | 254 (10) | 520.7 (20.5) | N/A | 326.6 (720) |
| EX5518 | Standard Shaft | 1102.3 (43.42) | N/A | 675.2 (26.58) | 427.8 (16.84) | 533.4 (21) | 38 (1.5) | 200 (8) | 254 (10) | 520.7 (20.5) | N/A | 353.8 (780) |
| EX5524 | Standard Shaft | 1255.3 (49.42) | N/A | 751.4 (29.58) | 503 (19.84) | 685.8 (27) | 38 (1.5) | 250 (10) | 254 (10) | 520.7 (20.5) | N/A | 435.4 (960) |
| EX5507 | C-Flange | 640.9 (25.23) | 729.8 (28.23) | 352.9 (13.89) | 288.1 (11.34) | 254 (10) | 32 (1.375) | 150 (6) | 254 (10) | 520.7 (20.5) | 441.8 (17.39) | 217.7 (480) |
| EX5511 | C-Flange | 742.5 (29.23) | 831.4 (32.73) | 403.7 (15.89) | 338.9 (13.34) | 355.6 (14) | 32 (1.375) | 150 (6) | 254 (10) | 520.7 (20.5) | 492.6 (19.39) | 281.2 (620) |
| EX5514 | C-Flange | 818.7 (32.23) | 907.6 (35.73) | 441.8 (17.39) | 377 (14.84) | 431.8 (17) | 32 (1.375) | 150 (6) | 254 (10) | 520.7 (20.5) | 530.7 (20.89) | 326.6 (720) |
| EX5518 | C-Flange | 920.3 (36.23) | 1009.2 (39.73) | 492.6 (19.39) | 427.8 (16.84) | 533.4 (21) | 32 (1.375) | 200 (8) | 254 (10) | 520.7 (20.5) | 581.5 (22.89) | 353.8 (780) |
| EX5524 | C-Flange | 1072.7 (42.23) | 1161.6 (45.73) | 568.8 (22.39) | 504 (19.84) | 658.8 (27) | 32 (1.375) | 250 (10) | 254 (10) | 520.7 (20.5) | 657.7 (25.89) | 435.4 (960) |

Standard Shaft



C-Flange



Performance Tables

The data shown provides a sampling of the product performance capability. Our application software **VBXpert Portal** (available at www.tuthillvacuumblower.com) is required for all ATEX EX configurations. Create your own or request a VBXpert Portal quotation for your specific application.

| | Nominal Displacement | | | | Max Pressure Differential Across Booster** | | | | Motor Power | | | |
|--------|----------------------|------|-------|------|--|------|-------|------|-------------|------|-------|------|
| | 50 Hz | | 60 Hz | | 50 Hz | | 60 Hz | | 50 Hz | | 60 Hz | |
| | m3/hr | cfm | m3/hr | cfm | mbar | Torr | mbar | Torr | kW | HP | kW | HP |
| EX5507 | 1206 | 710 | 1444 | 850 | 0-85 | 0-64 | 0-87 | 0-65 | 5.1 | 6.8 | 6.1 | 8.2 |
| EX5511 | 1699 | 1000 | 2039 | 1200 | 0-85 | 0-64 | 0-87 | 0-65 | 6.4 | 8.6 | 7.8 | 10.4 |
| EX5514 | 2209 | 1300 | 2718 | 1600 | 0-85 | 0-64 | 0-87 | 0-65 | 7.5 | 10.1 | 9.2 | 12.3 |
| EX5518 | 2829 | 1665 | 3398 | 2000 | 0-85 | 0-64 | 0-87 | 0-65 | 9.0 | 12.1 | 11.0 | 14.8 |
| EX5524 | 3823 | 2250 | 4587 | 2700 | 0-85 | 0-64 | 0-87 | 0-65 | 11.1 | 14.9 | 13.5 | 18.1 |

In conjunction with our program of continuous testing and design upgrading, all specifications are subject to change without notice. Values are approximate and should not be used for construction.

Certified prints are available through your local Tuthill Vacuum & Blower Systems Sales Professional.

*Approximate shipping weight.

** For air at 20°C (68°F) inlet temperature. Use VBXpert Portal sizing software for other conditions.

Material Specifications:

| | |
|---------------------|--|
| Housing: | Cast iron |
| End Plates: | Cast iron |
| End Covers: | Gear end - Cast iron Free end - Cast iron |
| Rotors: | Ductile iron |
| Shafts: | Ductile iron cast integrally with rotor |
| Bearings: | Gear (drive) end - Double row ball Free (back) end - Cylindrical roller Drive shaft - Spherical roller |
| Drive Shaft: | SAE 4140 forged alloy steel |
| Gears: | Alloy steel, helical cut |
| Seals: | Double Envelope Gas Service - Mechanical and labyrinth type on rotor shafts plus mechanical sealing on the drive shaft. Oil Sumps are sealed |
| Lubrication: | Oil splash system, each cover holds 1.7L of MD PLUS Oil. |

All EX units undergo 10.34 bar hydrostatic validation and standard performance testing before shipment.

Your Local Tuthill Vacuum Blower Systems Sales Professional:



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