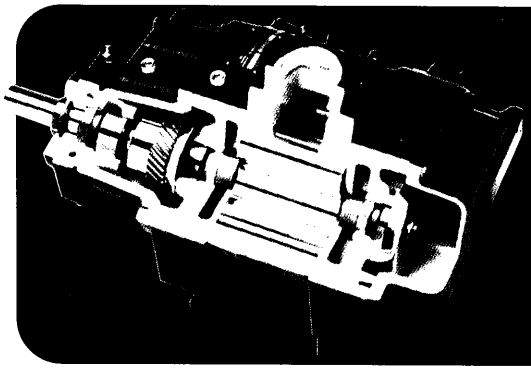
Thompson-Hill offers a full line of blower packages and components to service a wide range of pressure vacuum and aeration systems. Product applications include:

- Pneumatic Conveying
- Vacuum Boosters
- Chemical Processing
- Gases
- Food Processing
- Paper Pulp
- Cement
- Waste Aeration and more

# Typical Product Features



Two or Three Lobe Rotors
Multiple Seals
Five Bearings
Heavy Duty Housing
Two Oil Pumps
Flush Ground Bearings
Helical Timing Gears

TUTHILL
Pneumatics Group

# Options

## Special Materials

Your PD PLUS® blower is also available in a variety of special materials, depending on your specific application.

## Water Cooled End Plates

M-D's optional Water Cooled End Plates isolate the heat of compression from the mechanical components of the blower itself, eliminating the need for cooling coils on most units.

Low oil temperatures can be maintained using from 0.1 to 1 GPM combined water or coolant flow rate through both end plates. Other advantages include:

- Extended oil life
- Longer bearing, gear and seal life
- Extended oil change intervals
- Allows higher continuous duty operating temperatures
- Much simpler designs
- Lower mechanical noise
- Lower discharge temperatures

## Other Options

Additional available optional features include special coatings, special seals, and certified testing.

## Design Features:

- Five bearings including one outboard on the shaft for durability
- Helical timing gears are quieter, stronger and easier to time; mounted on drive end to reduce torsional load on rotors
- Oil pumps on both ends for better lubrication and reliability
- Extra heavy castings for durability and heat absorption, higher pressure
- Every unit production tested before shipment

# Quality Design and Construction Features:

## Heavy Duty, Cast Iron Housing

Rugged housing has deep rib section for rigidity and heat dissipation. Large capacity oil reservoirs (one each end) ensure proper gear and bearing lubrication.

## Heavy Duty Bearings

A five-bearing design includes two roller bearings on the drive shaft to lend additional support for radial loading from V-belt applications.

## Effective Lubrication and Sealing

Most models utilize an oil splash system with pumps at both ends. Others are designed to employ an external lube system. Labyrinth-lip seals are used internally with a single lip seal on the drive shaft. Gastight models utilize labyrinth-mechanical seals internally and either a single lip seal or mechanical seal(s) on the driveshaft, depending on the model.

## Helical Timing Gears

Helical timing gears are quieter, stronger, and easier to time. Gears are mounted at the drive end of the blower to ensure positive power transmission, which reduces torsional loading of rotors by one half.

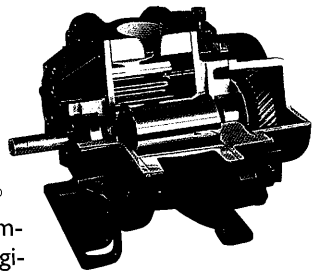
## Lobe Type Rotors

Blowers utilize two or three-lobe ductile iron rotors which are dynamically balanced for vibration-free, bi-directional rotation. The rotors and shafts are integrally cast ductile iron for much greater strength and rigidity.

## Air Flow Connections

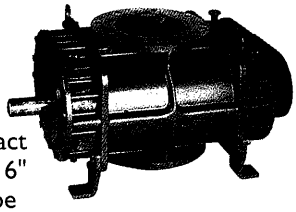
Standard NPT or flanged connections are provided. Metric connections and drive shafts are also available. All models are available in horizontal or vertical flow configuration for maximum flexibility.

## Competitor® Plus™



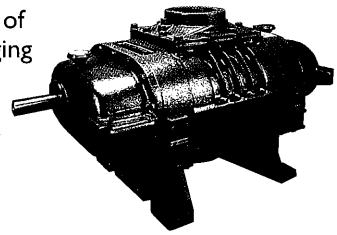
Competitor Plus blowers include special features usually found only on premium blowers—and at competitive prices. They are interchangeable with Roots Universal RAI® and many Sutorbilt® California Legend™ models, and compatible with most existing OEM engineering dimensions. Competitor Plus blowers are rated up to 15 PSIG discharge pressure or 16" Hg dry vacuum.

## Equalizer®



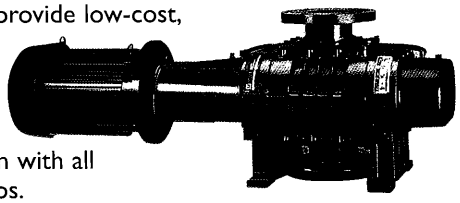
Equalizers also include special features usually found only on premium blowers at competitive prices. They are medium duty, compact blowers available in popular 4.5" and 6" gear diameters and are designed to be interchangeable with competitive brands such as Roots RCS® and certain DuroFlow® models.

## PD Plus®



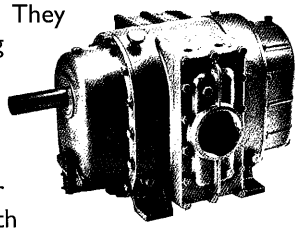
PD Plus is a long established line of premium heavy duty models ranging from 3.25" to 12" gear diameter and 2.5" to 48" rotor length. These blowers are renowned for their quality, dependability and outstanding performance record.

## Vacuum Boosters



VB Vacuum Boosters provide low-cost, high-capacity gas volume at high vacuums (50 torr to one micron), and may be used in conjunction with all types of vacuum pumps.
All units are dynamically balanced and leak checked.

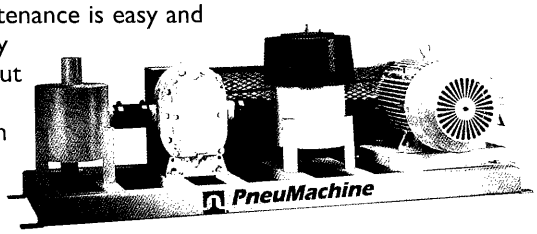
## AcousticAir™



Low-noise AcousticAir blowers are designed for pressure or vacuum applications. They are engineered with built-in silencing chambers to reduce overall noise energy up to 20 dBA, or over 90%. They are available in flows to 1900 CFM with pressures to 15 PSIG and dry vacuums to 15" Hg. AcousticAir blowers are also interchangeable with certain Roots RCS-J sizes and PD Plus models.

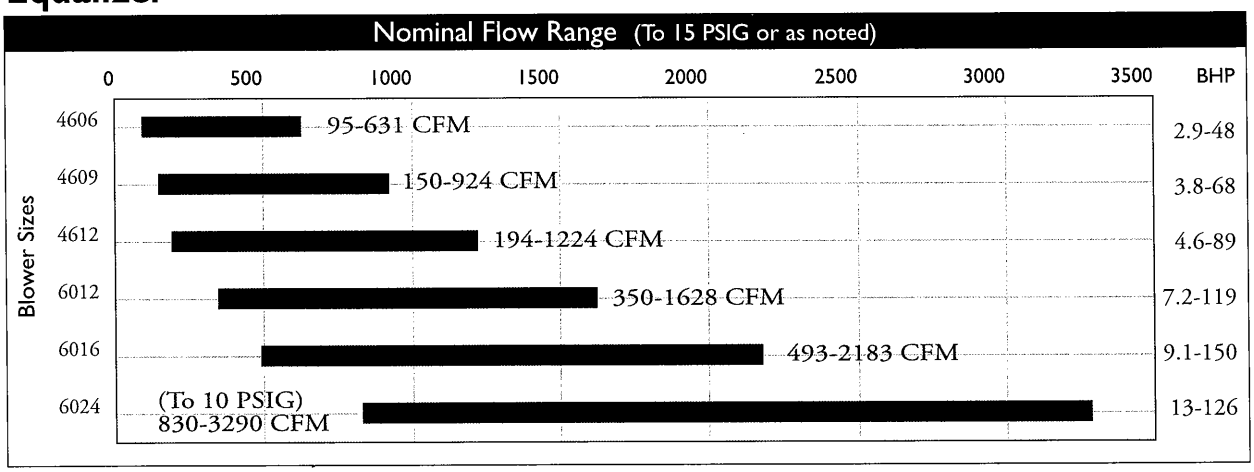
## PneuMachine™

PneuMachine progressive packages boast a low profile design with rigid structural steel bases and innovative, compact silencers. Maintenance is easy and they are readily available without long waits associated with conventional packages.

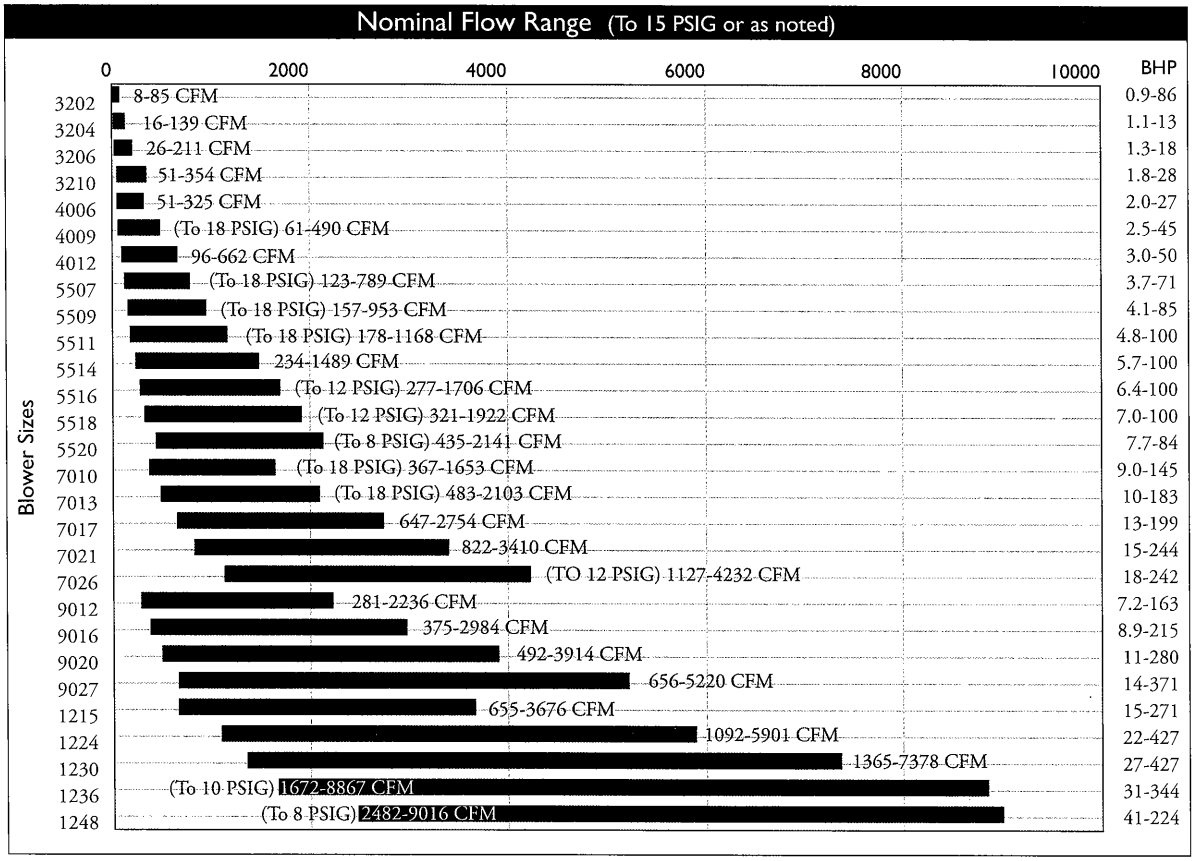



# M-D Blower Flow Ranges

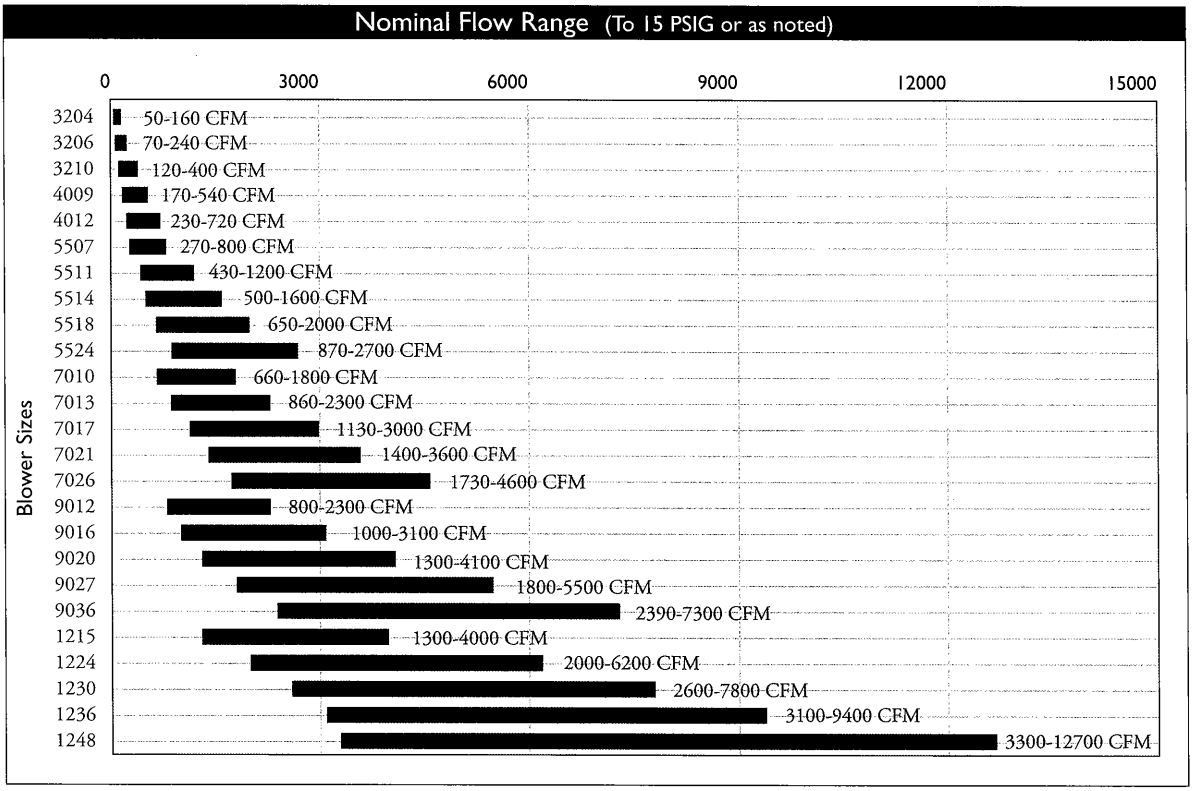
## Equalizer®



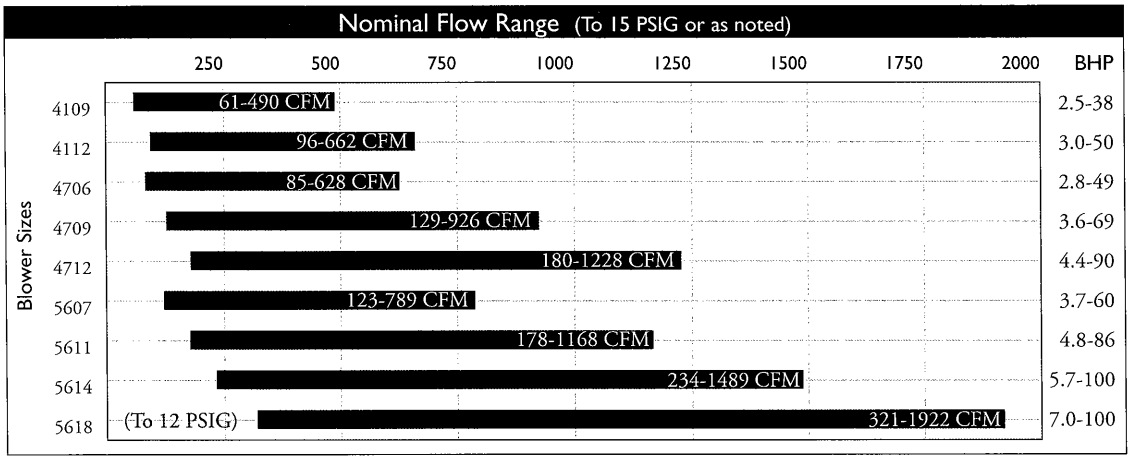
## PD Plus™



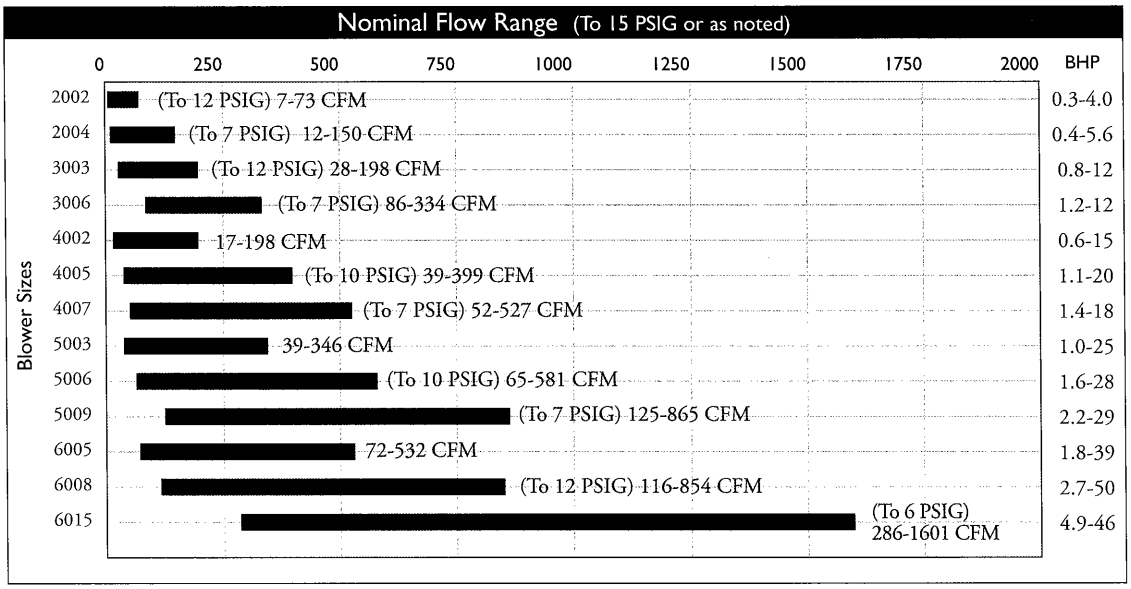

## VB Vacuum Booster™



## AcousticAir™




## Competitor® Plus™




# M-D Special Options Available

## Configurations

- Complete or partial packages with base, silencers, filters, motor, belt drive or couplings, valves, and controls
- Multi-stage units • Engine mounted blowers • Motor adapters for direct mounting of NEMA C-face or IEC D-flange motors • Gearhead drives
- Truck PTO mounting kits

## Lubrication and Cooling

- External lube systems
- Water cooled end plates
- Coolant recirculation systems
- Water injection kits

## Seals

- Teflon® • Mechanical seals
- Double seals • Special O-rings such as Kalrez®

## Blower Features

- Two or three lobe rotors
- Plugged rotors
- Cast iron or aluminum end covers
- Metric drive shaft and port fittings
- Venting

## Materials

- Cast steel • Stainless steel
- Hastelloy® • Bronze
- Aluminum • Ductile iron

## Coatings

Nickel • Zinc • Armoloy®
BI-PROTEC (combination Nickel and Armoloy®)

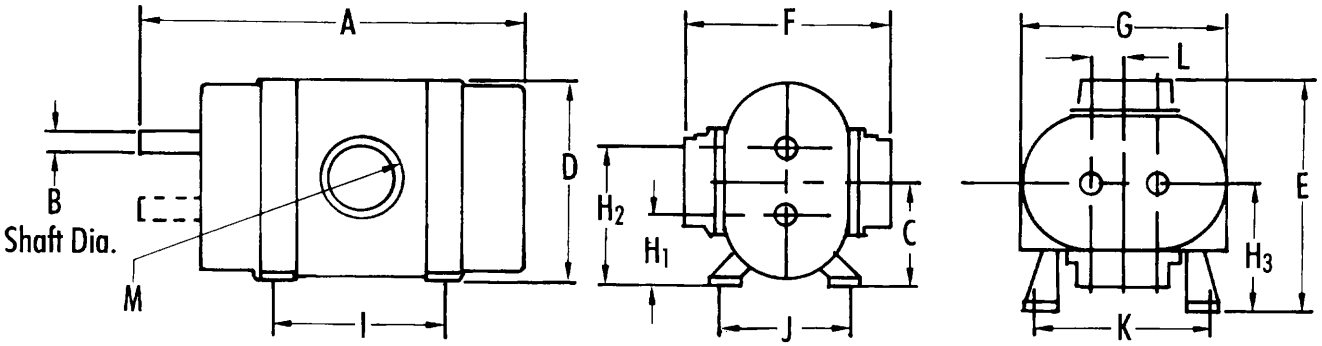
## Extra Tests

- Leak detection
- Noise • Vibration
- Hydrostatic pressure
- PTC-9 flow • X-rays

## Other

- Certifications
- Acoustic enclosures
- Long-term storage preparation
- Extended warranty
- Cleaning for oxygen service

# How PD Plus® Blowers Measure Up




| MODEL | A | B | C | D | E | F | G | DRIVE SHAFT LOC. H1 | H2 | H3 | I | J | K | L | M | WT. (LBS.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PD Plus®** | | | | | | | | | | | | | | | | |
| 3202 | 17.63 | 0.938 | 5.13 | 10.16 | 9.50 | 8.00 | 10.75 | 3.50 | 6.75 | 5.50 | 4.00 | 6.00 | 7.50 | 1.63 | 1½" NPT | 120 |
| 3204 | 19.13 | 0.938 | 5.13 | 10.06 | 10.50 | 10.00 | 10.75 | 3.50 | 6.75 | 5.50 | 5.50 | 6.00 | 7.50 | 1.63 | 2" NPT | 145 |
| 3206 | 21.13 | 0.938 | 5.13 | 10.06 | 10.50 | 10.00 | 10.75 | 3.50 | 6.75 | 5.50 | 7.50 | 6.00 | 7.50 | 1.63 | 2½" NPT | 155 |
| 3210 | 25.13 | 0.938 | 5.13 | 10.06 | 11.00 | 11.00 | 10.75 | 3.50 | 6.75 | 5.50 | 11.50 | 6.00 | 7.50 | 1.63 | 3" NPT | 215 |
| 4006 | 22.63 | 1.125 | 6.25 | 12.75 | 14.25 | 12.50 | 12.50 | 1.25 | 8.28 | 8.00 | 9.00 | 8.00 | 10.50 | 2.00 | 3" NPT | 160 |
| 4009 | 25.63 | 1.125 | 6.25 | 12.75 | 14.25 | 12.50 | 12.50 | 1.25 | 8.25 | 8.00 | 12.00 | 8.00 | 10.50 | 2.00 | 3" NPT | 180 |
| 4012 | 28.63 | 1.125 | 6.25 | 12.75 | 14.25 | 12.50 | 12.50 | 1.25 | 8.25 | 8.00 | 15.00 | 8.00 | 10.50 | 2.00 | 4" NPT | 210 |
| 5507 | 28.94 | 1.750 | 8.38 | 16.38 | 19.00 | 17.00 | 17.00 | 5.63 | 11.13 | 10.50 | 10.75 | 11.00 | 14.50 | 2.75 | 4" NPT | 380 |
| 5509 | 30.44 | 1.750 | 8.38 | 16.38 | 19.00 | 17.00 | 17.00 | 5.63 | 11.13 | 10.50 | 12.25 | 11.00 | 14.50 | 2.75 | 5" NPT | 425 |
| 5511 | 32.44 | 1.750 | 8.38 | 16.38 | 19.00 | 17.00 | 17.00 | 5.63 | 11.13 | 10.50 | 14.25 | 11.00 | 14.50 | 2.75 | 5" NPT | 480 |
| 5514 | 35.44 | 1.750 | 8.38 | 16.38 | 20.50 | 20.00 | 17.00 | 5.63 | 11.13 | 10.50 | 17.25 | 11.00 | 14.50 | 2.75 | 6" FLG | 575 |
| 5516 | 37.44 | 1.750 | 8.38 | 16.38 | 20.50 | 20.00 | 17.00 | 5.63 | 11.13 | 10.50 | 19.25 | 11.00 | 14.50 | 2.75 | 8" FLG | 615 |
| 5518 | 39.44 | 1.750 | 8.38 | 16.38 | 20.50 | 20.00 | 17.00 | 5.63 | 11.13 | 10.50 | 21.25 | 11.00 | 14.50 | 2.75 | 8" FLG | 650 |
| 5520 | 41.44 | 1.750 | 8.38 | 16.38 | 20.50 | 20.00 | 17.00 | 5.63 | 11.13 | 10.50 | 23.25 | 11.00 | 14.50 | 2.75 | 8" FLG | 700 |
| 7010 | 44.94 | 2.375 | 13.63 | 25.75 | 25.63 | 24.00 | 21.25 | 10.13 | 17.13 | 13.63 | 14.75 | 14.50 | 14.50 | 3.50 | 6" FLG | 1050 |
| 7013 | 47.69 | 2.375 | 13.63 | 25.75 | 25.63 | 24.00 | 21.25 | 10.13 | 17.13 | 13.63 | 17.50 | 14.50 | 14.50 | 3.50 | 8" FLG | 1150 |
| 7017 | 51.69 | 2.375 | 13.63 | 25.75 | 25.63 | 24.00 | 21.25 | 10.13 | 17.13 | 13.63 | 21.50 | 14.50 | 14.50 | 3.50 | 10" FLG | 1275 |
| 7021 | 55.69 | 2.375 | 13.63 | 25.75 | 25.63 | 24.00 | 21.25 | 10.13 | 17.13 | 13.63 | 25.50 | 14.50 | 14.50 | 3.50 | 12" FLG | 1450 |
| 7026 | 60.69 | 2.375 | 13.63 | 25.75 | 25.63 | 24.00 | 21.25 | 10.13 | 17.13 | 13.63 | 30.50 | 14.50 | 14.50 | 3.50 | 12" FLG | 1600 |
| 9012 | 45.73 | 3.125 | 17.41 | 32.69 | 30.75 | 30.69 | 26.38 | 12.88 | 21.94 | 12.88 | 23.63 | 9.06 | 18.13 | 4.53 | 10" FLG | 1590 |
| 9016 | 49.69 | 3.125 | 17.41 | 32.69 | 30.75 | 30.69 | 26.38 | 12.88 | 21.94 | 12.88 | 27.56 | 9.06 | 18.13 | 4.53 | 12" FLG | 1710 |
| 9020 | 54.59 | 3.125 | 17.41 | 32.69 | 30.75 | 30.69 | 26.38 | 12.88 | 21.94 | 12.88 | 32.50 | 9.06 | 18.13 | 4.53 | 12" FLG | 1950 |
| 9027 | 61.50 | 3.125 | 17.41 | 32.69 | 30.75 | 30.69 | 26.38 | 12.88 | 21.94 | 12.88 | 39.38 | 9.06 | 18.13 | 4.53 | 14" FLG | 2190 |
| 1215 | 65.75 | 3.500 | 22.00 | 39.13 | 28.31 | 26.00 | 34.25 | 16.00 | 28.00 | 15.31 | 24.50 | 14.38 | 27.75 | 6.00 | 12" FLG | 4220 |
| 1224 | 74.75 | 3.500 | 22.00 | 39.13 | 28.31 | 26.00 | 34.25 | 16.00 | 28.00 | 15.31 | 33.50 | 14.38 | 27.75 | 6.00 | 14" FLG | 4930 |
| 1230 | 80.75 | 3.500 | 22.00 | 39.13 | 28.31 | 26.00 | 34.25 | 16.00 | 28.00 | 15.31 | 39.50 | 14.38 | 27.75 | 6.00 | 14" FLG | 5400 |
| 1236 | 86.75 | 3.500 | 22.00 | 39.13 | 28.31 | 26.00 | 34.25 | 16.00 | 28.00 | 15.31 | 45.50 | 14.38 | 27.75 | 6.00 | 18" FLG | 5900 |
| 1248 | 98.75 | 3.500 | 22.00 | 39.13 | 28.31 | 26.00 | 34.25 | 16.00 | 28.00 | 15.31 | 57.50 | 14.38 | 27.75 | 6.00 | 20" FLG | 6850 |

All values are approximate and should not be used for construction. Certified drawings are available through your local Tuthill Pneumatics representative.

# M-D Blower Packages

## Standard Packages

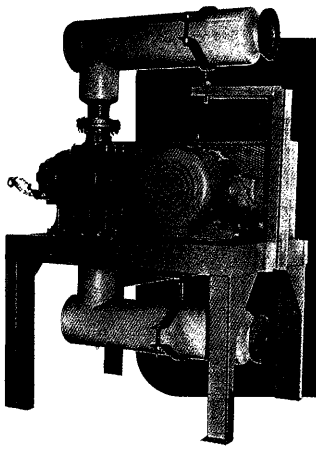
You may also choose from a complete line of other Standard Blower Packages, utilizing PD Plus,® Equalizer,® or AcousticAir™ blowers ready for delivery in as little as two weeks. Standardized designs allow numerous combinations. Certified engineering drawings are immediately available for customer layout and piping design work.

- Models to 200 HP
- Flows to 4,000 CFM (for larger sizes, custom packages are usually required)
- Vertical or horizontal flow configurations
- Heavy duty compact base
- Meet OSHA requirements, proper V-belt guards
- Quick delivery

## Custom Packages

If you have a special application requiring a custom package, we'll be happy to design and manufacture one specifically to meet your needs.

Blower design, materials of construction, seals, and all auxiliary components can be selected to ensure performance and compatibility with the type of product and operating conditions of your application.



Engineered with rigid, heavy duty bases, optional mounted silencers, adjustable supports and drive motor. Ready to put in place and run.

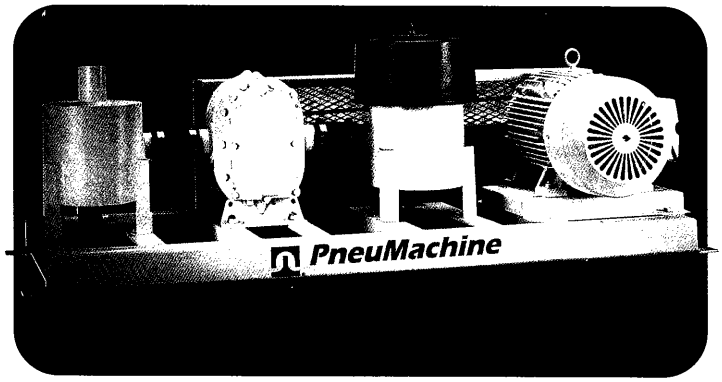
Tuthill Pneumatics can supply custom packages with two-stage blowers, high vacuum boosters, special lubrication systems or liquid injection systems, plus much more.

- Flows from 200 to 9,000 CFM
- Pressures to 100 PSIG
- Vacuums to one micron ($10^{-3}$ Torr)
- Approval drawings provided

## Single Source Factory Warranty

Because we design, engineer and build our own blower packages, we warrant the entire package, including its components.

# Something PNEU In Blower Package Design




## PneuMachine®

Here are standard blower packages designed to better fit your needs and budgets. The PneuMachine® is a dependable and economical low pressure (up to 15 PSIG or 16 Hg vacuum) air source for many industrial and municipal applications including pneumatic conveying, fluidization/agitation of bulk powders, waste water aeration, and vacuum exhausting and cleaning systems.

In addition to dependability and economy, PneuMachine compact rotary blower packages offer many distinct advantages:

- Fast delivery through automated ordering and manufacturing procedures
- Compact size provides equal or superior performance to the larger packages offered by other manufacturers, in as little as one-third the space
- Compact silencers specially designed to exceed noise reduction performance and reduce overall package volume for noise performance superior to competing packages
- Solid quality bases are fabricated from structural steel and are suitable for sanitary applications; others offer bent sheet metal that can add noise and provide collection spots for dirt or shelter for pests
- Designed for easy access to the inlet filter element, grease fittings and oil reservoir; competitors' designs often require overhead work when changing filter elements
- Factory designed and built under the Tuthill Pneumatics Group ISO 9001 registered quality assurance system
- Factory warranty of 18 months after installation

# Recommended Spare Parts Kit

The following list of parts, headed by M-D Blower Model Number are what we refer to as "Repair Kits". These are our recommended spare parts for a normal overhaul. Note, we've included all bearings, seals, and miscellaneous locks and screws which are not normally reusable after disassembly. They may be ordered as a "kit" by Repair Kit Number or by individual part number. Timing gears are not included in the repair kit and must be ordered separately.

**Important Note for 5500 Models (Formerly H17/H46-5500) only:** Repair Kit for older 5500 series (example 17-5514) that does not have an "H" preceding the number and the input shaft is 1 1/2 inches in diameter use kit number 27314. Substitute (1) 5890 & (1) 11400 for (1) 9903 & (1) 11394 in the list below.

## Models 5500 PD PLUS® & 5600 AcousticAir™ (17/46 SERIES) Kit No. 27315

| Quantity | Part Number | Description |
|---|---|---|
| 2 | 10999 | Bearing |
| 2 | 29252 | Bearing |
| 1 | 9903 | Bearing |
| 4 | 11392 | Seal |
| 1 | 11394 | Seal |
| 4 | 23495 | Lab Seal |
| 2 | 11135 | Gasket |
| 6 | 11057 | Lock |
| 2 | 5879 | Lock |
| 2 | 10925 | Lock |
| 1 | 90295-100 | Screw |
| 1 | 90295-175 | Screw |
| 1 | 55357 | Gear Timing Shim |
| 2 | 11200 | Key |
| 6 | 92241-050 | Screw |
| 2 | 55325 | Gear Lock |

Timing Gears Set - Part Number 60193 (not included)

**Port Gaskets** (5500 Models only)

| | | |
|---|---|---|
| 5507 (2) 8281 | 5514 (2) 8979 | 5520 (2) 8946 |
| 5509 (2) 8286 | 5516 (2) 8995 | 5525 (2) 8946 |
| 5511 (2) 7862 | 5518 (2) 8946 | |

## Models 5500-90E Water Cooled End Plate Units Kit No. 55086

| Quantity | Part Number | Description |
|---|---|---|
| 2 | 10999-D | Bearing |
| 2 | 29252 | Bearing |
| 1 | 21964 | Bearing |
| 5 | 11449 | Seal |
| 4 | 55026-1 | Lab Seal |
| 4 | 55025 | Lockplate |
| 2 | 5879 | Lock |
| 2 | 10925 | Lock |
| 1 | 90295-100 | Screw |
| 1 | 90295-175 | Screw |
| 1 | 29361-028 | O-Ring |
| 1 | 29361-037 | O-Ring |
| 1 | 29361-129 | O-Ring |
| 1 | 29361-338 | O-Ring |
| 1 | 55357 | Gear Timing Shim |
| 2 | 11200 | Key |
| 2 | 55352 | Gear Lock |

Timing Gears Set - Part Number 29605 (not included)

# M-D Vacuum Booster Repair Kit List

### 3200 Models

| | |
|---|---|
| 29206 | 90/91 (90C/91C) - current series |
| 29208 | 92/93 (92B/93B/92C/93C) - current series |
| 32017 | 96 series |
| 32070 | 90E series - water cooled end plates |
| 29204 | 90/91 - 3200 old style |

### 4000 Models

| | |
|---|---|
| 29209 | 90/91 series |
| 29210 | 92/93 series |
| 40011 | 96 series - water cooled end plates |
| 40036 | 90E series - water cooled end plates |

### 5500 Models

| | |
|---|---|
| 29211 | 90/91 series |
| 29212 | 92/93/94 series |
| 55001 | 96 series - water cooled end plates |
| 55086 | 90E series - water cooled end plates |

### 7000 Models

| | |
|---|---|
| 77052 | 90/91 series |
| 77101 | 31/33 series |
| 77112 | lube pump drive repair kit (for 31/33 series only) |

### 9000 Models

| | |
|---|---|
| 30396 | 90/91 series |
| 30397 | 92/93 series |
| 70625 | 31/33 series |
| 70626 | 35/37 series |
| 70646 | lube pump drive repair kit (for 31/33 and 35/37 series only) |

### 1200 Models

| | |
|---|---|
| 14532 | 31/33 series |
| 14533 | 35/37 series |
| 14532WC* | 31/33 series - pre-November, 1992 |
| 14533WC* | 35/37 series - pre-November, 1992 |

# M-D Rotary Blower Repair Kit List

## M-D Kit No.

### 3200 PD Plus® Models

28328 16/47 - current series
29238 17/46 (17C/46C) - current series
29239 57/81 (57C/81C) - current series
29240 64/67 (S57C/S81C) - current series
32067 46E - water cooled end plates
32068 81E - water cooled end plates
32069 67E - water cooled end plates
28329 17/46 - 3200 old style
28330 57/81 - 3200 old style
28327 57A/81A - 3200 old style
27304 S57/S81 - 3200 old style
28326 S57B/S81B - 3200 old style

### 4000 PD Plus® Models
### 4100 AcousticAir™ Models

27305 16/47 series
27306 17/46 series
27307 57/81 series
27308 64/67 (S57/S81) series
40033 46E series - water cooled end plates
40034 81E series - water cooled end plates
40035 67E series - water cooled end plates
29765 16G series
29202 H51 series - obsolete series

### 5500 PD Plus® Models
### 5600 AcousticAir™ Models

27313 16/47 (H16/H47) - current series
27315 17/46 (H17/H46) - current series
27317 57/81 (H57/H81) - current series
27318 64/67 (S57/S81) - current series
55083 46E series - water cooled end plates
55084 81E series - water cooled end plates
55085 67E series - water cooled end plates
27314 17/46 - 5500 old style
29203 H51 series - obsolete series
27316 57/81 - 5500 old style

### 7000 PD Plus® Models

77051 17/46 series
77110 19/86 series
77069 57/81 series
77111 55/82 series
77052 64/67 series
77101 66/69 series
77112 lube pump drive repair kit (for 19/86, 55/82 and 66/69 series only)

### 9000 PD Plus® Models

29218 17/19/46/86 series
29241 55/57/81/82 series
29220 64/66/67/69 series

### 1200 PD Plus® Models

29219 19/86 series
29216 55/82 series
29217 66/69 series
29217WC* 66/69 (S57/S81) - pre-November 1992

### Equalizer® Models
### 4700 AcousticAir™ Models

46044 4600/4700 models
60035 6000 models

### Competitor® Models

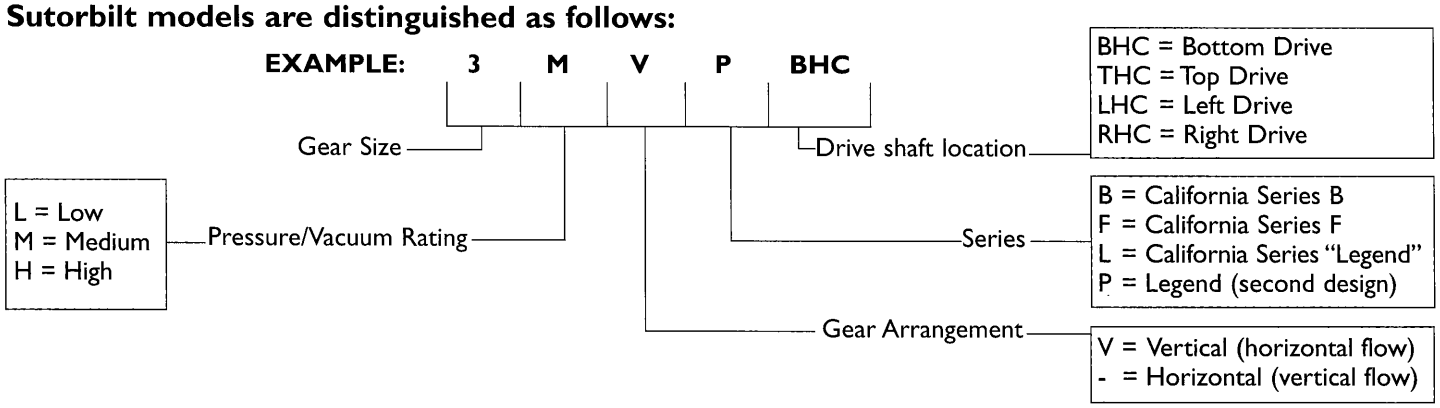
2200638 2002, 2004
3300638 3003, 3006
4500638 4002, 4005, 4007
5600638 5003, 5006, 5009
6800638 6005, 6008, 6015
600638 7006, 7011, 7018

### Competitor Plus™ Models

2200638B 2002, 2004
3300638B 3003, 3006
4500638B 4002, 4005, 4007
5600638B 5003, 5006, 5009
6800638B 6005, 6008, 6015

## Quick Cross Reference

### Sutorbilt models are distinguished as follows:




### Examples of cross reference from equivalent Sutorbilt or Roots to M-D COMPETITOR PLUS™ models are as follows:

| Sotorbilt | Roots | M-D COMPETITOR PLUS |
|---|---|---|
| 6M-P LHC | 68 U-RAI | 6008-21L2 |
| 4LVF BHC | 47 U-RAI | 4007-21B2 |
| 3M-L RHC | 33 U-RAI | 3003-21R2 |
| 5HVP THC | 53 U-RAI | 5003-21T2 |

# M-D Pneumatics Blower Cross Reference List

## Competitor Plus Series Blowers

| MODEL SIZE | REPLACEMENT FOR ROOTS | REPLACEMENT FOR SUTORBILT® |
|---|---|---|
| 2002 | 22 URAI | 2M(V)B, F, L, P |
| 2004 | 24 URAI | 2L(V)B, F, L, P |
| 3003 | 33 URAI | 3M(V)B, F, L, P |
| 3006 | 36 URAI | 3L(V)B, F, L, P |
| 4002 | 42 URAI | 4H(V)B, F, L, P |
| 4005 | 45 URAI | 4M(V)B, F, L, P |
| 4007 | 47 URAI | 4L(V)B, F, L, P |
| 5003 | 53 URAI | 5H(V)B, F, L, P |
| 5006 | 56 URAI | 5M(V)B, F, L, P |
| 5009 | 59 URAI | 5L(V)B, F, L, P |
| 6005 | 65 URAI | 6H(V)B, F, L, P |
| 6008 | 68 URAI | 6M(V)B, F, L, P |
| 6015 | 615 URAI | 6L(V)B, F, L, P |

## Equalizer Series Blowers

| MODEL SIZE | REPLACEMENT FOR |
|---|---|
| 4606 | ROOTS 406 RCS/RAM |
| 4609 | ROOTS 409 RCS/RAM |
| 4612 | ROOTS 412 RCS/RAM |
| 4606D | DUROFLOW 4506 - 4"NPT |
| 4609D | DUROFLOW 4509 - 4"NPT |
| 4612D | DUROFLOW 4512 - 4'NPT |
| 6012 | SUTORBILT 612-4500 |
| 6016 | ROOTS 616 RCS/RAM |
| 6024 | ROOTS 624 RCS/RAM |

Models with "D" suffix supersede former models 4607, 4610 and 4613.

When ordering, specify location of drive shaft (left or right for vertical flow units, top for horizontal flow).

Horizontal flow EQUALIZER models are available with top drive shaft only. Bottom drive shaft not available.

Flow direction of EQUALIZER models is field convertible without disassembly, but requires installation of different mounting feet. Consult factory.

EQUALIZER models are available with metric ports and drive shafts. Specify "M" between model and series numbers.

EQUALIZER models that replace DuroFlow units include port fittings to match short length NPT fittings. Check dimensions on M-D drawings for compatibility before ordering.

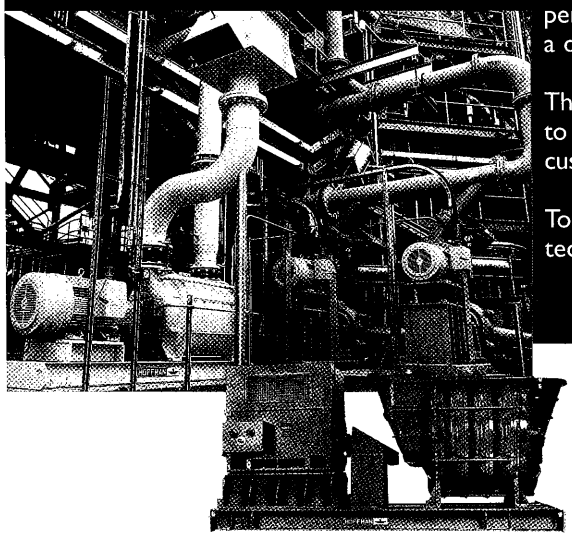
Drive shaft diameter on "D" suffix models is 1 1/2". When replacing equivalent DuroFlow models, drive shaft diameter of 1 1/2" requires larger bore on blower sheave bushing or coupling half from smaller 1 7/16" drive shaft of equivalent DuroFlow model replaced.

Model 4606D face-to-face dimension is 12". Minor piping changes may be required for replacement of equivalent DuroFlow model.

# Hoffman Centrifugals

## A history of performance, the assurance of dependability

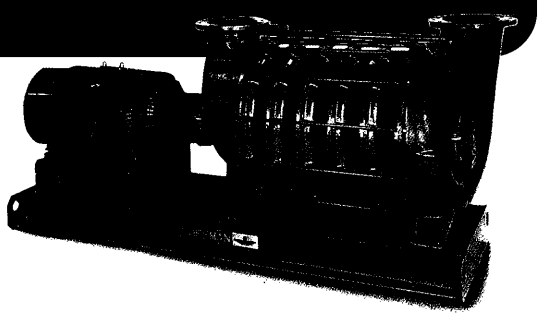
Since 1908 Hoffman Multistage Centrifugal Blowers and Exhausters have satisfied the demands for air and gas handling in commercial, industrial, municipal and environmental applications. This unsurpassed record of dependable and efficient performance makes Hoffman the right choice for continuous service — 24 hours a day, year after year.



The Hoffman family of centrifugals spans a complete range of capacities, from 100 to 45,000 inlet CFM, pressures up to 25 PSIG and vacuums to 18" Hg. Each unit is custom-engineered for your specific operating parameters.

To ensure the right equipment for each application, Hoffman offers skilled technical support personnel throughout the United States and around the world.

HOFFMAN®
AIR & FILTERATION SYSTEMS



# Design & Construction

The superior performance of Hoffman Blowers and Exhausters is attributed to the design and quality features manufactured into each unit:

### 1. Casing

The centrifugal unit's casing consists of a series of vertically split sections positioned between cast iron inlet and outlet heads. These components are held securely by steel tie rods. The head positions, normally furnished with vertical orientation, are also available in other configurations. The head connections are flanged and drilled to conform to 125 lb. ASA pattern. Hoffman casings offer a substantial differential pressure rating of 25 PSIG.

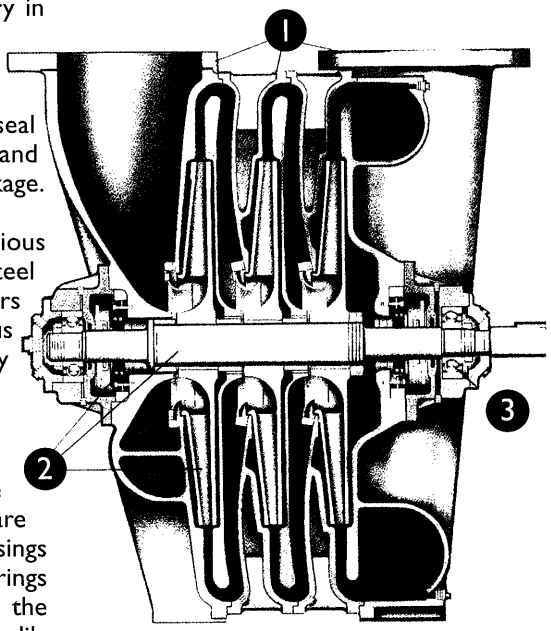
### 2. Internal Features

Centrifugal compressors have virtually no wearing parts. The rotating assembly consists of cast or fabricated (composite) high strength aluminum alloy impellers keyed and positioned on a polished carbon steel shaft. Each impeller is statically balanced independently, and the entire rotating assembly is dynamically balanced to assure smooth, vibration-free operation (not to exceed 0.28"/sec velocity when measured on the bearing housing at design speed).

Both cast and fabricated impellers are available in a variety of vane shape configurations, from full radial blade to full backward-curved blade types, and vary in type and number to provide the desired performance.

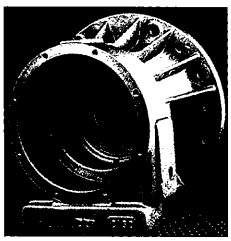
Segmented carbon ring shaft seal assemblies are standard on inlet and outlet ends of the unit to prevent leakage.

Depending on the application, various options exist, such as stainless steel shaft,steel or stainless steel impellers (composite design only), and various coatings of rotating and stationary elements for corrosion resistance.

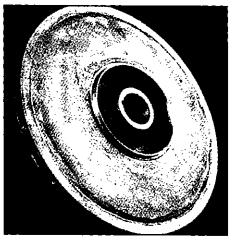



### 3. Bearings & Lubrication

Antifriction ball bearings support the rotating assembly at each end and are mounted "outboard" in bearing housings bolted to the head castings. The bearings are isolated from the air stream by the carbon ring seal package and are readily accessible without disassembly of the machine or piping system. Lubrication is easily accomplished through a simple oil or grease system.

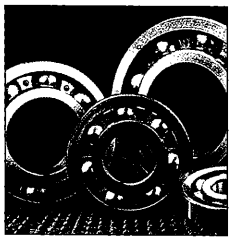


*Bearing Housing*

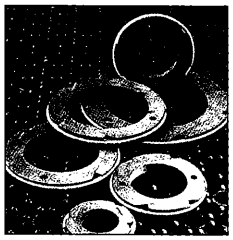


*Fabricated Impeller*

*Cast Impeller*



*Bearings*



*Carbon Rings*

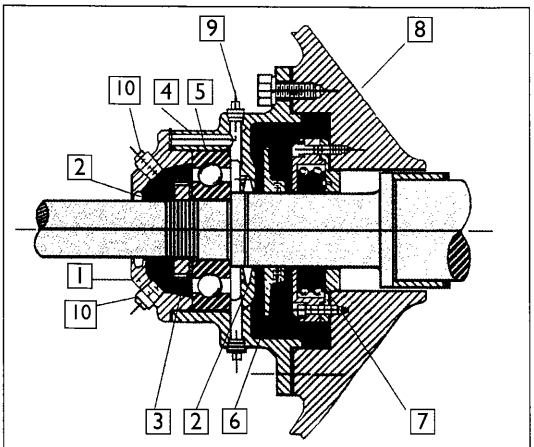
# Lubrication

Hoffman compressors utilize either an atmospheric splash-oil or grease system for bearing lubrication. Generally those in the lower volume range (approximately 5000 CFM and below) are equipped with grease lubrication which affords a wide range of operation in temperatures of -20°F to 300°F. All units in this range can also be equipped with optional oil lubrication systems.

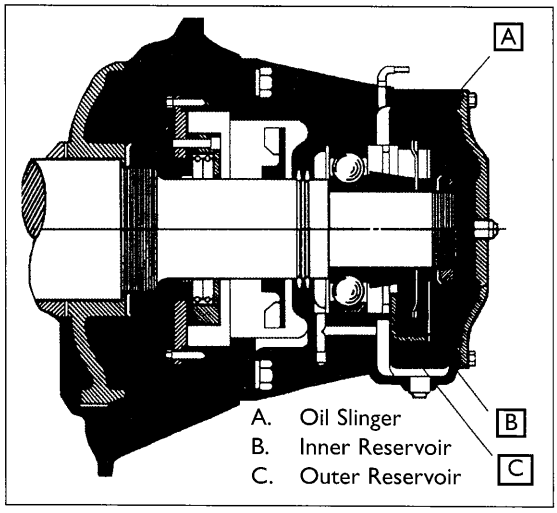
For compressors in the higher volume range, oil lubrication is the standard system. Whether supplied with grease or oil lubrication, Hoffman compressors are designed for an AFBMA-B10 life of 10 years or greater.

The 691 and 791 Series compressors, with air volume capacities from 1,000 to 38,000 CFM, are equipped with a special oil lubrication system which includes an oil slinger (A) to circulate oil from the inner reservoir (B) through the bearing and return the oil to the outer reservoir (C). A constant oil level is maintained automatically at the bearing from optimum lubrication and maximum cooling. Oil foaming is negligible due to the dual reservoir design. An external constant level oiler is provided for additional oil capacity and to provide a visual indication of oil usage. All oil lubricated units include a sight glass for determining actual bearing housing oil levels.

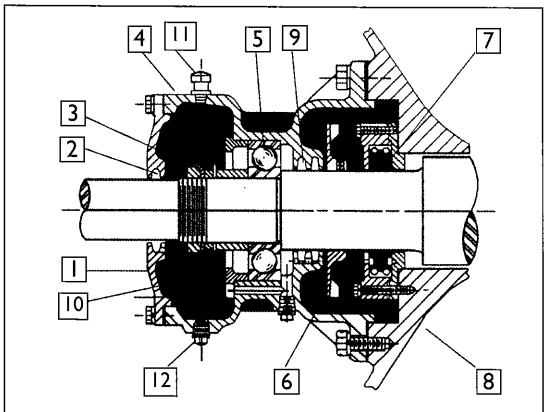
Another attribute of the Hoffman unit's oil system is its ability to be interfaced with spray mist lubrication systems which are required by many end-users. Each oil unit is run-in at the factory and drained of oil before shipment. The proper oil lubricant, supplied by Hoffman, must be added prior to start-up.




1. Bearing Cap
2. Labyrinth Seals
3. Bearing Lock Nut & Washer
4. Bearing Housing
5. Bearing
6. Cooling Fan
7. Carbon Rings
8. Inlet Head
9. Grease Injection Port
10. Grease Relief Ports




A. Oil Slinger
B. Inner Reservoir
C. Outer Reservoir



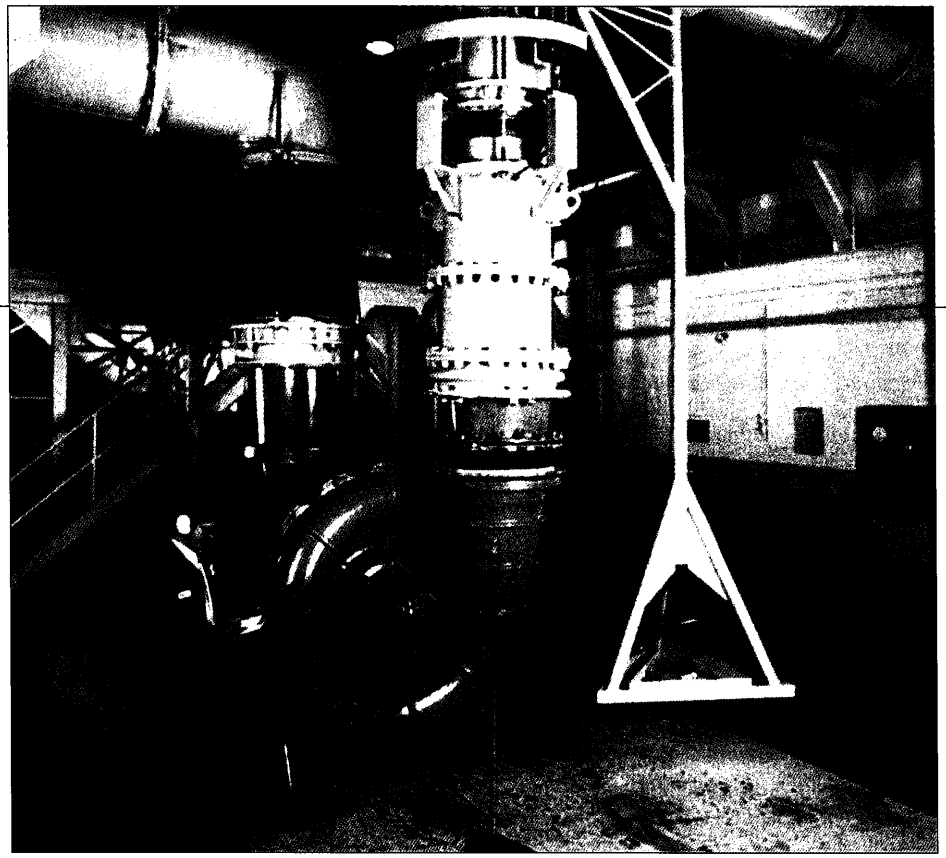

1. Bearing Cap
2. Labyrinth Seals
3. Bearing Lock Nut & Washer
4. Bearing Housing
5. Bearing
6. Cooling Fan
7. Carbon Rings
8. Inlet Head
9. Inner Labyrinth Seal
10. Oil Slinger
11. Atmospheric Vent
12. Magnetic Drain Plug

# Performance Capabilities

Standard Hoffman Centrifugal Blowers and Exhausters range in capacities up to 45,000 CFM, with gauge pressures to 25 PSI or 18" Hg vacuum. Normally designed for operation with direct drive motors operating at 3600 RPM, these units are readily adaptable for use with steam turbines, gas engine/gear drives or V-belt arrangements.

To meet the requirements of various applications, these units may be piped in parallel for increased volume, or in series for increased pressure or vacuum. Air volume through the entire range of the centrifugal can be regulated by simple inlet valve throttling, or speed control when using a variable speed driver.

Modular construction, utilizing various impeller combinations, results in a compressor which is custom-designed to meet the performance requirements of each application.

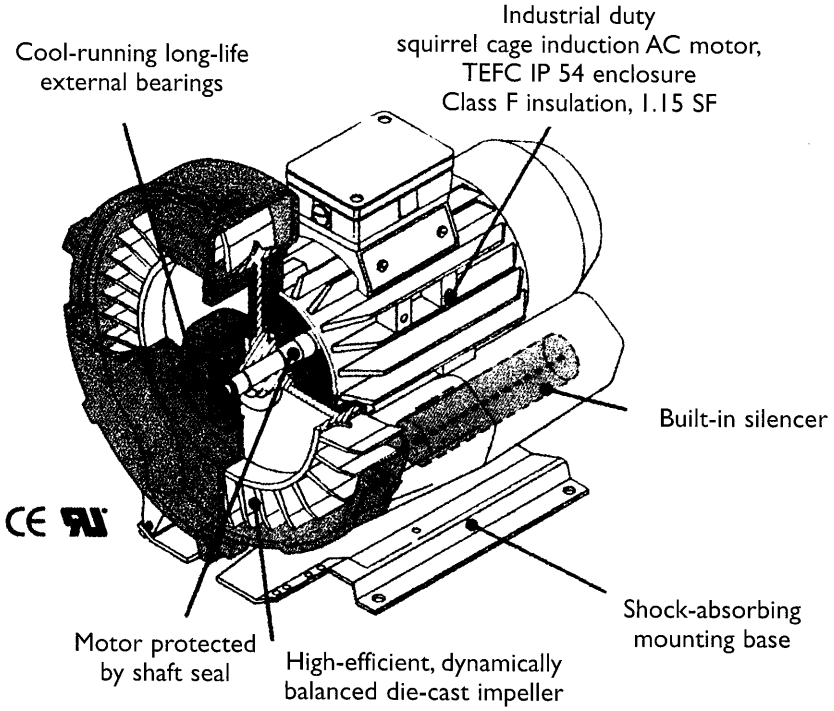


# Regenerative Blowers - Vacuum Pumps

## Single Stage & Two Stage

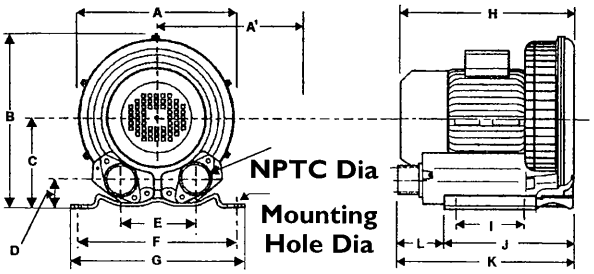
### Capacities

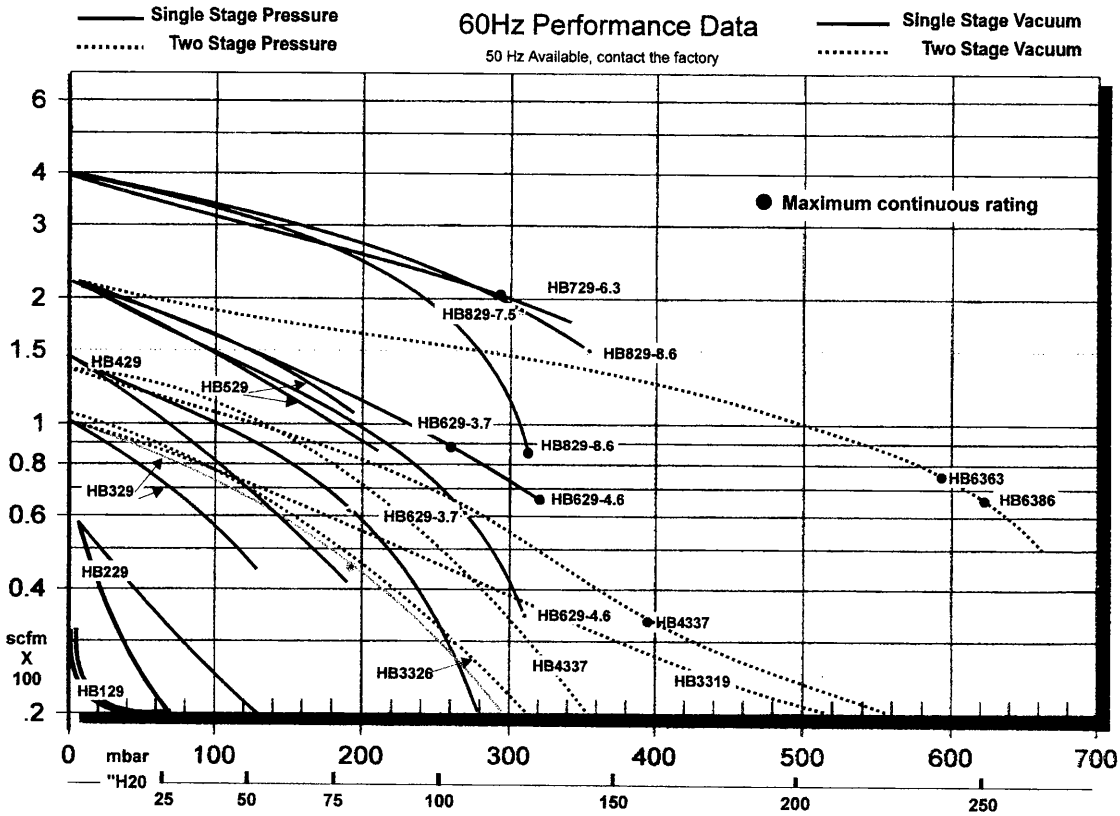
- Ratings to 400 CFM
- Pressure and Vacuum to 600 mbar 250 "H20 18" Hg 9 psi




## Dimensions

**Single Stage Model Shown**



# Single Stage

| Model No. | A | B | C | D | E | F | G | H | I | J | K | L | Hole mm | Dia NPTC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HB-129 | 200 | 214 | 108 | 38 | 70 | 165 | 185 | 210 | (1)100 | 100 | 202 | 70 | 12 | 1" |
| | 7.87 | 8.46 | 4.25 | 1.49 | 2.79 | 6.55 | 8.26 | 8.26 | 3.94 | 3.94 | 8.07 | 2.79 | | |
| HB-229 | 238 | 249 | 130 | 40 | 92 | 205 | 227 | 248 | 83 | 108 | 247 | 87 | 10 | 1.25" |
| HB-229L | 9.37 | 9.8 | 5.18 | 1.57 | 3.62 | 6.07 | 8.93 | 9.76 | 3.26 | 4.25 | 9.73 | 3.42 | | |
| HB-329 | 284 | 300 | 152 | 42.5 | 115 | 225 | 253 | 263 | 95 | 130 | 235 | 51 | 12 | 1.5" |
| HB-329L | 11.18 | 11.8 | 5.98 | 1.67 | 4.52 | 8.85 | 9.96 | 10.35 | 3.74 | 6.12 | 9.25 | 2.0 | | |
| HB-429 | 324 | 338 | 176 | 44 | 122 | 260 | 296 | 312 | 115 | 155 | 323 | 108 | 14 | 2" |
| HB-429L | 12.75 | 13.31 | 6.93 | 1.73 | 4.80 | 10.23 | 11.65 | 12.28 | 4.28 | 6.10 | 4.63 | 4.25 | | |
| HB-529 | 366 | 414 | 198 | 53 | 125 | 290 | 330 | 3.69 | 140 | 180 | 350 | 94 | 15 | 2" |
| HB-529L | 14.14 | 16.30 | 7.79 | 2.08 | 4.92 | 11.41 | 12.99 | 14.52 | 5.51 | 7.08 | 13.78 | 3.70 | | |
| HB-629 | 366 | 414 | 198 | 53 | 125 | 290 | 330 | 369 | 140 | 180 | 350 | 94 | 15 | 2" |
| HB-629L | 14.14 | 16.30 | 7.79 | 2.08 | 4.92 | 11.41 | 12.99 | 14.52 | 5.51 | 7.08 | 13.78 | 3.70 | | |
| HB-729 | 466 | 564 | 278 | 95 | 148 | 365 | 422 | 451 | 280 | 316 | 481 | 165 | 16 | 2.5" |
| | 18.34 | 22.20 | 10.94 | 3.74 | 5.82 | 14.37 | 16.61 | 17.75 | 11.02 | 12.44 | 18.94 | 6.49 | | |
| HB-829 | 466 | 564 | 278 | 95 | 148 | 365 | 422 | 451 | 280 | 316 | 481 | 165 | 16 | 2.5" |
| | 18.34 | 22.20 | 10.94 | 3.74 | 5.82 | 14.37 | 16.61 | 17.75 | 11.02 | 12.44 | 18.94 | 6.49 | | |

(1) Single mounting hole centered in base

# Two Stage

| Model No. | A | A' | B | C | D | E | F | G | H | I | J | K | L | Hole mm | Dia NPTC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HB-3319 | 306 | 315.5[b] | 308 | 154 | 42.5 | 115 | 225 | 253 | 390 | 95 | 130 | 811 | 130 | 12 | 1.5" |
| HB-3326 | 12.12 | 12.42 | 12.12 | 6.06 | 1.67 | 4.56 | 8.86 | 9.96 | 15.35 | 3.74 | 5.12 | 12.24 | 5.12 | | |
| HB-4337 | 364 | 224 | 368 | 173 | 50 | 119 | 260 | 296 | 452 | 115 | 155 | 452 | 151 | 14 | 2" |
| *HB-4301 | 14.33 | 8.82 | 14.49 | 6.81 | 1.97 | 4.68[a] | 10.23 | 11.65 | 17.79 | 4.52 | 6.10 | 17.79 | 5.94 | | |
| | | | | | | | | | | | | | | | 2" |
| HB-6355 | | | | | | | | | | | | | | | |
| HB-6363 | 370 | 455 | 415 | 198 | 105 | 151[a] | 290 | 330 | 565 | 140 | 180 | 590 | 240 | 15 | 2" |
| HB-6375 | 14.56 | 17.91 | 16.34 | 7.80 | 4.13 | 5.71 | 11.42 | 12.99 | 22.24 | 5.51 | 7.08 | 23.23 | 9.45 | | |
| HB-6386 | | | | | | | | | | | | | | | |
| HB-6455 | 400 | – | 415 | 198 | 105 | 151[a] | 290 | 330 | 565 | 140 | 180 | 590 | 240 | 15 | 2" |
| HB-6475 | 15.78 | – | 16.34 | 7.80 | 4.13 | 5.71 | 11.42 | 12.99 | 22.24 | 5.51 | 7.08 | 23.23 | 9.45 | | |

*HB-4301 is motorless version of HB-4337 K=404, H=314, A'=224, a = 1/2E b = HB-3319 =0