

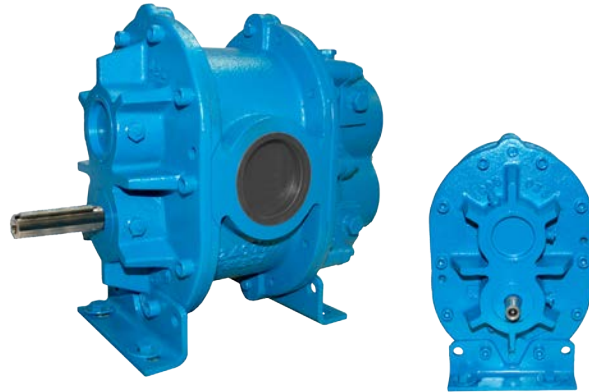
M-D PNEUMATICS™ BLOWERS AND VACUUM BOOSTERS



Competitor® Rotary Positive Displacement Blowers

Competitor® Plus™

- Timed with precision helical gears, keyed to the rotor shafts
- Include double-row ball bearings at the gear end
- Rotors with integral shafts
- Reduced noise versions available with tri-lobe rotors
- Rated up to 15 PSIG discharge pressure or 16 " Hg dry vacuum
- Bi-directional rotation



Competitor Plus blowers are designed to be interchangeable with equivalent models of competing manufacturers.

Model	CFM / m ³ /h	HP / kW
2002	6-76 / 10-129	1-5 / 1-4
2004	21-156 / 36-265	1-6 / 1-4
3002	20-155 / 34-264	4-12 / 1-9
3003	28-205 / 48-349	1-12 / 1-9
3006	57-344 / 97-585	1-12 / 1-9
4002	17-206 / 29-350	1-15 / 1-11
4005	39-410 / 66-697	1-24 / 1-18
4007	52-542 / 88-921	1-18 / 1-19
5003	38-355 / 65-604	1-25 / 1-19

Model	CFM / m ³ /h	HP / kW
5006	63-594 / 107-1010	1-37 / 1-28
5009	125-881 / 213-1498	1-29 / 1-22
6005	70-545 / 119-927	1-39 / 1-29
6008	112-875 / 190-1488	2-58 / 1-43
6015	261-1639 / 444-2786	3-54 / 2-40
7006	152-787 / 258-1338	2-55 / 1-41
7011	321-1449 / 546-2463	3-67 / 2-50
7018	762-2240 / 1295-3808	4-65 / 3-48

- Typical Applications**
- Pneumatic Conveying
 - Carpet Cleaning
 - Dairy Milking
 - Mosquito Fogging
 - Air Sparging
 - Wastewater Aeration
 - Compost Aeration
 - Vacuum Cleaning
 - Dust Collection

Competitor® SL™

- Timed with precision helical gears, keyed to the rotor shafts
- Splash oil lubrication at both gear end and drive end
- Include double-row ball bearings at the gear end
- Rotors with integral shafts
- Reduced noise versions available with tri-lobe rotors
- Rated up to 15 PSIG discharge pressure or 16 " Hg dry vacuum
- Bi-directional rotation

Competitor SL blowers are designed to be interchangeable with equivalent models of competing manufacturers.

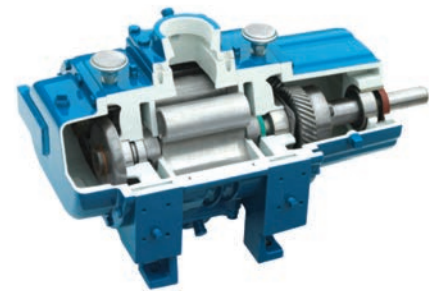
Model	CFM / m ³ /h	HP / kW
3002	17-149 / 29-253	1-12 / 1-9
3003	28-196 / 48-333	2-13 / 1-10
3006	60-350 / 102-595	2-15 / 2-11
4002	18-198 / 31-336	1-15 / 1-11
4005	36-383 / 61-651	2-22 / 1-16
4007	53-494 / 90-840	2-20 / 2-15
5003	36-344 / 61-584	1-26 / 1-19
5006	57-580 / 97-986	2-38 / 1-28
5009	98-891 / 167-1515	3-36 / 2-27
6005	71-493 / 120-838	6-39 / 4-29.2
6008	114-792 / 194-1346	9-54 / 7-40
6015	263-1484 / 447-2522	16-54 / 12-41

- Typical Applications**
- Pneumatic Conveying
 - Carpet Cleaning
 - Dairy Milking
 - Mosquito Fogging
 - Air Sparging
 - Wastewater Aeration
 - Compost Aeration
 - Vacuum Cleaning
 - Dust Collection



PD Plus® High-Pressure Industrial Blowers

- Known for quality, dependability, and outstanding performance
- Models ranging from 3.25" to 12" gear diameter and 2.5" to 48" rotor length
- Standard construction materials: Cast iron housing, end plates, end covers and port fittings
- Ductile iron rotors and shafts
- Special materials offered: stainless steel, carbon steel, ductile iron
- Special testing available: ASME PTC-9 (1 PSIG slip method), Hydrostatic testing to 150 PSIG (10.35 bar g), Pressure gas testing to 100 PSIG (6.9 bar g), Seal leakage testing, Noise testing
- Single and double envelope gas service available with mechanical seals



Model	CFM / m3/h	HP / kW
3202	8-90 / 14-153	1-9 / 1-6
3204	12-146 / 20-248	1-13 / 1-10
3206	21-220 / 36-374	1-18 / 1-3
3210	37-368 / 63-626	1-28 / 1-21
4009	49-497 / 83-845	2-45 / 1-34
4012	87-682 / 148-1159	2-51 / 2-38
5507	99-794 / 168-1350	3-70 / 2-52
5511	152-1171 / 258-1991	3-96 / 2-62
5514	490-1522 / 833-2587	4-95 / 3-71
5518	350-1962 / 596-3335	4-94 / 3-70
7010	349-1690 / 593-2873	4-143 / 3-107
7013	445-2148 / 757-3652	6-183 / 5-136
7017	601-2807 / 1022-4772	7-226 / 5-169
7021	783-3478 / 1331-5913	8-244 / 6-182
7026	1052-4314 / 1788-7334	10-242 / 1-180
9016	354-3028 / 602-5148	6-215 / 4-160
9020	465-3986 / 791-6776	7-280 / 5-209
9027	620-5315 / 1054-9036	8-371 / 6-276
1215	284-3764 / 483-6399	6-271 / 5-202
1224	494-6036 / 840-10261	9-427 / 6-318
1230	618-7546 / 1051-12828	10-496 / 8-370
1236	771-9065 / 1311-15411	12-385 / 9-287
1248	1304-9273 / 2217-15764	15-267 / 11-199

Typical Applications

- Soil Vapor Extraction
- Oil-Free Handling Fuel, Utility Processing Gases
- Pulp/Paper Processing
- Laser Re-circulation Systems
- Fluid Bed Combustion
- Pneumatic Conveying
- Fluidization/Agitation of Dense Powders
- Supercharging Compressors
- Vapor Recovery
- Digester Gas Processing
- Steam Compression
- Mobile Vacuum Waste Removal
- High-Performance Applications
- Carpet Cleaning

TI850 Rotary Positive Displacement Blowers

- Heavy-duty industrial blower designed for high performance applications up to 20 PSIG/ 17 in. Hg vac. continuous capacity
- Timed with precision helical gears, keyed to the rotor shafts
- Double-row ball bearings at the gear end
- Rotors with integral shafts
- Splash oil lubrication at both ends
- Flow configuration is field convertible from horizontal to vertical flow, or vice versa without replacement of end plates

All TI850s are shipped with removable 4" female NPT port flanges to provide versatility in your application.



Model	CFM / m3/h	HP / kW
TI850	181-944 / 307-1604	10-97 / 8-72

Typical Applications

- Pneumatic Conveying
- Vacuum Cleaning

Vacuum Boosters

- High-capacity gas volumes at high vacuum (50 Torr to micron range)
- May be used in conjunction with all types of vacuum pumps
- Designed to operate at 82 dB(A) or less at blank-off (open field; motor and background noise excluded)
- Supplied with a heavy-duty drive shaft for either direct coupled or belt-driven applications
- Standard construction materials: cast iron housing, end plates and port fitting with ductile iron rotors and shafts
- Special materials offered: stainless steel, carbon steel, ductile iron
- Special testing available: Hydrostatic testing to 150 PSIG (10.35 bar g), Seal leakage testing, Noise testing



Vacuum boosters are utilized in the manufacture of chemicals, petrochemicals, plastics, semiconductors, and wood composites. They are also used in food processing, vacuum furnace applications and several other general applications.

Model	CFM / m3/h	Model	CFM / m3/h	Typical Applications
3204	50-160 / 85-272	7017	1130-3000 / 1921-5100	<ul style="list-style-type: none"> • Supercharging Vacuum Systems • Vacuum Drying • Dehydration • Packaging • Vacuum Furnace • Silicon Crystal Growing • Distillation • Chemical Vapor Deposition
3206	70-240 / 119-408	7021	1400-3600 / 2380-6120	
3210	120-400 / 204-680	7026	1730-4600 / 2941-7820	
4009	170-540 / 289-918	9016	800-3100 / 1360-5270	
4012	230-720 / 391-1224	9020	1040-4100 / 1768-6970	
5507	270-800 / 459-1360	9027	1390-5500 / 2363-9350	
5511	400-1200 / 680-2040	9036	1820-7300 / 3094-12410	
5514	500-1600 / 850-2720	1215	880-4000 / 1496-6800	
5518	650-2000 / 1105-3400	1224	1410-6200 / 2397-10540	
5524	850-2700 / 1445-4590	1230	1770-7800 / 3009-13260	
7010	680-1800 / 1156-3060	1236	2120-9400 / 3604-15980	
7013	860-2300 / 1462-3910	1248	2830-12700 / 4811-21590	



Qx™ Rotary Positive Displacement Blowers

- One of the industry's quietest blowers
- High efficiency at high pressure and vacuum
- Bi-directional rotation
- Timed with precision helical gears, keyed to the rotor shafts
- Includes double ball bearings on timing gear end for additional strength and single roller bearings on drive shaft end of the machine
- L10 bearing life of up to 200,000 hours
- Tri-lobe rotors offer reduced pulsation and lower noise levels
- Oil lubrication on both ends with easy to view sight glasses allowing quick maintenance
- Features larger shaft diameters compared to competing manufacturers

Model	CFM / m3/h	HP / kW	Typical Applications
3203	17-164 / 29-279	2-18 / 2-14	<ul style="list-style-type: none"> • Pneumatic Conveying • Bulk Unloading/Loading • Fluidization/Agitation of Dense Powders • Air Sparging • High-Performance Industrial Applications • Wastewater Aeration • Compost Aeration • Vacuum Cleaning • Dust Collection • Mobile Vacuum Waste Removal
3205	21-255 / 36-433	3-27 / 2-20	
3208	36-413 / 54-702	3-41 / 2-31	
4606	98-540 / 166-918	4-42 / 3-31	
4610	158-897 / 268-1524	7-67 / 5-50	
6009	286-1059 / 486-1800	10-89 / 8-67	
6015	460-1766 / 782-3002	16-176 / 12-131	



Equalizer® Rotary Positive Displacement Blowers

Equalizer® RM

- Compact design
- Available in popular 4.5" and 6" gear diameters
- Bi-directional rotation
- Timed with precision helical gears, keyed to the rotor shafts
- One piece housing
- Rotors with integral shafts
- Flow configuration is field convertible from horizontal to vertical



Equalizer RM blowers are designed to be interchangeable with equivalent models of competing manufacturers.

Model	CFM / m3/h	HP / kW
4606	85-645 / 145-1097	2-58 / 2-43
4609	129-946 / 219-1608	2-82 / 2-61
4612	173-1253 / 294-2130	3-90 / 2-67
6012	350-1667 / 595-2834	4-119 / 3-89
6016	494-2232 / 840-3794	5-157 / 4-117
6024	830-3358 / 1411-5709	7-157 / 5-117

Typical Applications

- Pneumatic Conveying
- Dairy Milking
- Carpet Cleaning
- Wastewater Aeration
- Compost Aeration
- Vacuum Cleaning
- Dust Collection
- Mobile Vacuum Waste Removal

Equalizer® DF

- Compact design
- 4.5" gear diameters
- Bi-directional rotation
- High pressure capability
- Timed with precision helical gears, keyed to the rotor shafts
- One piece housing
- Rotors with integral shafts
- Flow configuration is field convertible from horizontal to vertical



Equalizer DF blowers are designed to be interchangeable with equivalent models and ports of competing manufacturers.

Model	CFM / m3/h	HP / kW
4504	39-416 / 66-707	2-39 / 1-29
4506	82-619 / 139-1052	2-56 / 1-42
4509	125-919 / 212-1562	2-80 / 2-59
4512	169-1226 / 287-2083	3-88 / 2-66

Typical Applications

- Pneumatic Conveying
- Dairy Milking
- Carpet Cleaning
- Wastewater Aeration
- Compost Aeration
- Vacuum Cleaning
- Dust Collection
- Mobile Vacuum Waste Removal

Blower Packages

Qube™

- Maintenance-friendly noise enclosure with easy access
- Quiet operation
- Instrument panel
- Oil drain/level gauge accessible from front for easy oil change
- Mounting base includes integral fork truck pockets for easy transportation and positioning
- Automatic V-belt tensioning with belt replacement indicator
- Factory assembled and factory warranted including:
 - Electric motor
 - Discharge check valve
 - Relief valve
 - Process gauges
- Flow range: 85 - 1600 CFM (145-2718 m³/h)
- Pressure range: up to 18 PSIG (1.24 bar g)
- Vacuum range: up to 17" Hg (575 mbar g)
- Optional accessories and controls available

With OSHA & CE compliance, ANSI or DIN connections, and NEMA or IEC motor frames, Qube is adaptable anywhere in the world.

Typical Applications

- Dairy Milking
- Wastewater Aeration
- Air Sparging
- Pneumatic Conveying
- Compost Aeration
- Vacuum Cleaning
- Dust Collection
- Bulk Unloading/Loading
- Fluidization/Agitation of Dense Powders
- High-Performance Industrial Applications
- Mobile Vacuum Waste Removal



PneuPak™

PneuPak rotary blower packages are a dependable and economical low pressure (up to 15 PSIG or 16" Hg vacuum) air source for many industrial and municipal applications such as pneumatic conveying of bulk powder or seed, fluidization/agitation of bulk powders, wastewater aeration, milking of dairy cattle and motive force for vacuum exhausting and cleaning systems.

- Maintenance friendly
- Mounting base with integral silencer
- Welded steel motor slide base
- Low pressure drop inlet filter
- Suitable for installation indoors or outdoors
- Flow range: 6 - 2000 CFM (10 - 3398 m³/h)
- Pressure range: up to 15 PSIG (1.03 bar g)
- Vacuum range: up to 16" Hg (540 mbar g)
- Factory assembled & factory warranted

Typical Applications

- Dairy Milking
- Wastewater Aeration
- Air Sparging
- Pneumatic Conveying
- Compost Aeration
- Vacuum Cleaning
- Dust Collection
- Carpet Cleaning
- Mosquito Fogging



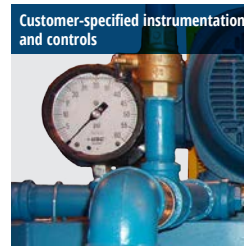
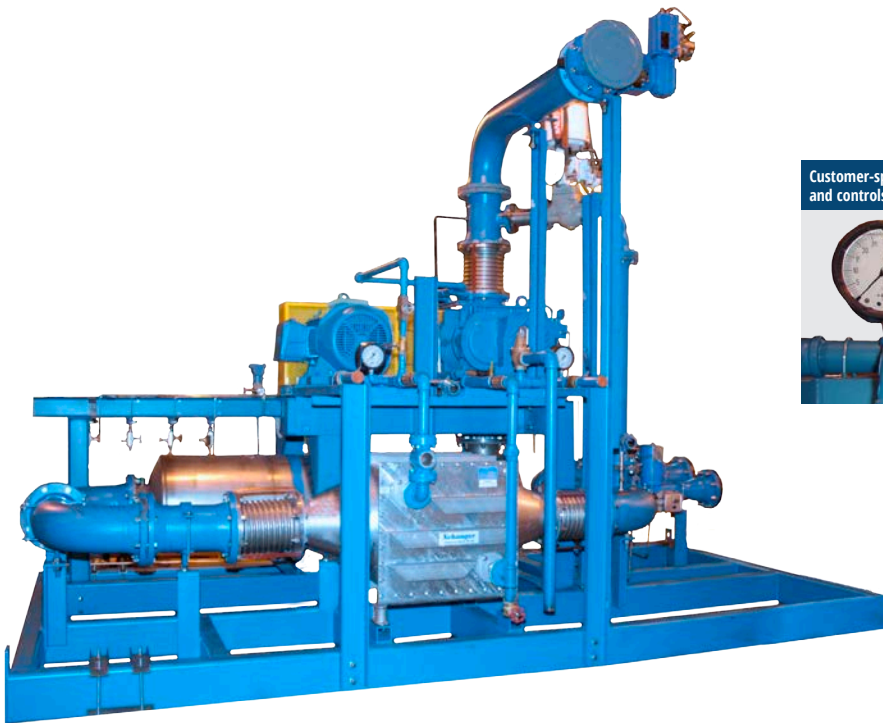
Engineered Solutions

For special applications requiring Engineered Blower Packages, we can design and manufacture specifically to your requirements. Blower design, materials of construction, seals, and accessories can be selected to ensure performance to meet all operating conditions of your application. Testing and certification are available.

- Custom blower packages designed to meet your specific requirements
- Flow ranges to 9000 CFM (15300 m³/h)
- Approval drawings provided
- Multi-stage blower packages available for high pressure operation
- Control systems for automatic operation available

Typical Applications

- Pulp/Paper Processing
- Laser Recirculation Systems
- Fluid Bed Combustion
- Pneumatic Conveying
- Vapor Recovery
- Steam Recompression
- Digester Gas Processing
- Gas Handling
- Wastewater Aeration



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

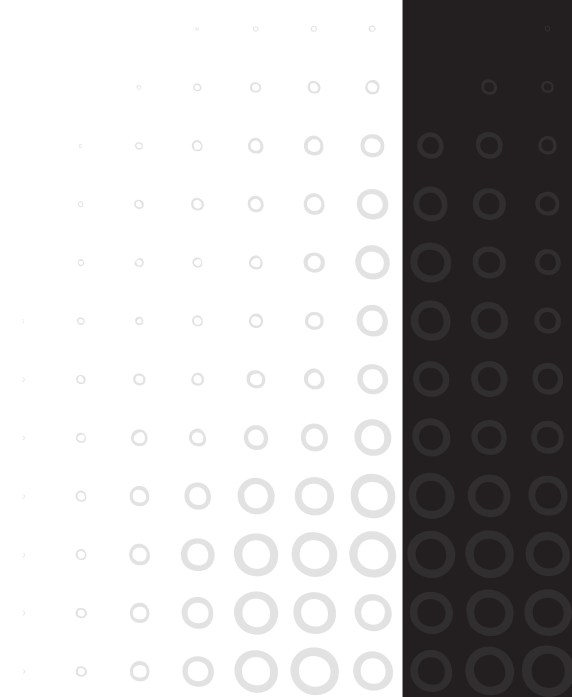
Single-Source Factory Warranty

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

VBXpert Vacuum & Blower Sizing Tool

Gain access to the most useful tool available for blower sizing and selection! This easy-to-use software prompts you to plug in technical specifications for your application and "VB" quickly calculates the best vacuum pump or blower for you.

VBXpert is available for download at tuthillvacuumblower.com





Excellence at work. Excellence in life.

WORLDWIDE LOCATIONS

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Distributed by:



Repair & Service Centers

Tuthill's Repair & Service Centers are fully staffed to perform prompt service on your vacuum pumps or blowers, using genuine OEM repair parts, and factory-trained personnel to ensure that your equipment performs to factory specifications.

Tuthill Vacuum & Blower Systems, manufacturer of Kinney® vacuum pumps and M-D Pneumatics™ blowers & vacuum boosters, is a leader in the design and manufacture of high performance, reliable positive displacement blowers, mechanical vacuum pumps, vacuum boosters and engineered systems ready to install and run.

Dedicated to growth around the globe, Tuthill Vacuum & Blower Systems has built facilities in the U.S., Mexico, Europe, Argentina, Asia, and Australia.

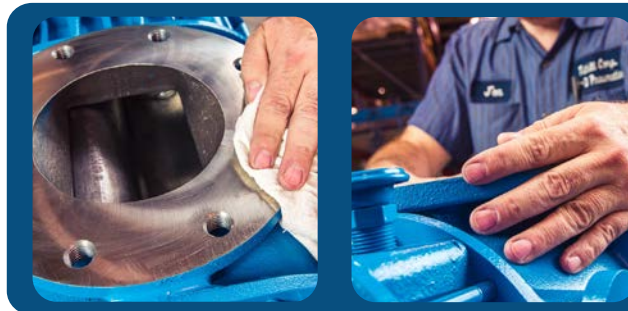
At Tuthill Corporation, we strive to create an environment where individuals are both motivated and effective. One of the ways that this is accomplished is by treating people as the great individuals that they are instead of as business objects.

With unwavering confidence that each and every one of our employees has the potential to become a Radical Leader, Tuthill has invested a large amount of time in teaching the principles of a Conscious Company and Radical Leadership® at all levels within the organization.

It's wonderful that the benefit of becoming a Conscious Company doesn't stop here within the walls of Tuthill. In this ultimate personal expression of Continuous Improvement, we will join together to:

- Build a great company,
- Grow healthy families, and
- Have seismic impact on our world.

And we'll accept nothing less!



Tuthill Vacuum & Blower Systems

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