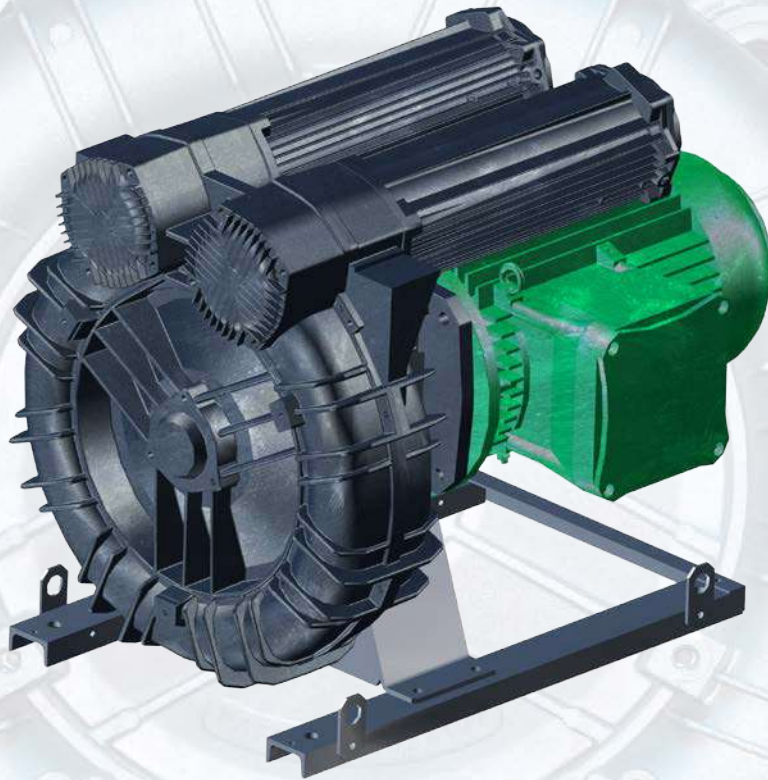




SIMPLIFIED FLUID HANDLING

FPZ REGENERATIVE BLOWERS

MS-MD SERIES WITH EXPLOSION PROOF MOTORS





FPZ has been manufacturing regenerative blowers for the movement of air and technical gases since 1975 and has earned a worldwide reputation for quality and service. FPZ's standard line of regenerative blowers with explosion proof motors are built to withstand extremely harsh environments.

All blowers with explosion proof motors are assembled in our Saukville, WI USA facility.

Standard XP features include:

Corrosion Protection

All aluminum components in the wetted areas are anodized for corrosion resistance. In addition, all internal bolts are stainless steel. The anodizing process is in conformity to UNI EN ISO 7599. Anodizing is a highly effective treatment that allows our blowers to operate in harsh conditions.



Sealing

To minimize leakage into or out of the blower, FPZ applies our TMS process. The TMS process begins with impregnating aluminum components in the wetted areas with a polyester resin. The resin is a specially formulated, 100% solids, styrene-free polyester resin and provides a virtually indestructible seal. This polyester resin seals the casting porosity and prevents leakage through the casting.

All mating surfaces and bolts that are in the wetted areas have a gasket or seal to minimize leakage. Leakage is estimated at <math><15 \text{ cm}^3/\text{min}</math>. After assembly, each blower is leak tested.





FPZ CUSTOMER APPROACH



TECHNICAL FEASIBILITY
ASSESSMENT



BLOWER
SELECTION



CUSTOMER
SERVICE



AFTER SALES
ASSISTANCE

Explosion Proof Motors

XP motors are UL listed for Class 1, Division I, Group D, Class II Groups F & G environments.

XP motors on GOR motor blowers are UL listed for Class 1, Division 1, Group D, Class II Groups E, F and G

All standard explosion proof motors are equipped with normally closed thermal protectors and are suitable for use with a VFD*.

Other features

1/8" gauge ports are included on the inlet and outlet silencers.

3-Year Warranty.

Mountable in any plane.

Bearings are isolated from gas stream



**NEMA
Premium**

*Pneumatic performance will change with speed. Make sure that the blower is operated in safe pneumatic and electrical limits. Contact FPZ for variable speed tables.



MS Series

| Model | Max. Flow (60 Hz) cfm | Power (60 Hz) Hp | Voltage (60 Hz) V | Amperage (60 Hz) A | ΔP max Pressure (60 Hz) In. WG | ΔP max Vacuum (60 Hz) In. HG | Noise ¹ (60 Hz) dB(A) | Weight Lbs. |
|--------------------------|-----------------------------|------------------------|-------------------------|--------------------------|---|---------------------------------------|--|----------------|
| SCL K07-MS-7.5-3 XP-1 | 294 | 7.5 | 208-230/460 | 18.9-17.8 / 8.9 | 116 | 8.8 | 79.3 | 238 |
| SCL K07-MS-10-3 XP-1 | | 10 | 208-230/460 | 24.3-22.4 / 11.2 | 160 | - | 79.6 | 262 |
| SCL K08-MS-7.5-3 XP-1 | 381 | 7.5 | 208-230/460 | 18.9-17.8 / 8.9 | 68 | 5.0 | 80 | 243 |
| SCL K08-MS-10-3 XP-1 | | 10 | 208-230/460 | 24.3-22.4 / 11.2 | 105 | 8.5 | 80.3 | 267 |
| SCL K08-MS-GOR-15-3 XP-1 | | 15 | 230/460 | 36 / 18 | 170 | 9.6 | 78 | 497 |
| SCL K09-MS-10-3 XP-1 | 471 | 10 | 208-230/460 | 24.3-22.4 / 11.2 | 60 | 4.4 | 80.5 | 289 |
| SCL K09-MS-GOR-15-3 XP-1 | | 15 | 230/460 | 36 / 18 | 130 | 9.6 | 81 | 503 |
| SCL K09-MS-GOR-20-3 XP-1 | | 20 | 230/460 | 48 / 24 | 160 | - | 81 | 516 |
| SCL K10-MS-10-3 XP-1 | 556 | 10 | 208-230/460 | 24.3-22.4 / 11.2 | 50 | 3.7 | 80.5 | 293 |
| SCL K10-MS-GOR-15-3 XP-1 | | 15 | 230/460 | 36 / 18 | 110 | 8.1 | 81 | 517 |
| SCL K10-MS-GOR-20-3 XP-1 | | 20 | 230/460 | 48 / 24 | 160 | 9.6 | 81.4 | 527 |
| SCL K10-MS-GOR-25-3 XP-1 | | 25 | 230/460 | 58 / 29 | 200 | - | 81.6 | 708 |
| SCL K11-MS-GOR-15-3 XP-1 | 650 | 15 | 230/460 | 36 / 18 | 70 | 5.9 | 82.4 | 543 |
| SCL K11-MS-GOR-20-3 XP-1 | | 20 | 230/460 | 48 / 24 | 121 | 10.3 | 82.7 | 556 |
| SCL K11-MS-GOR-25-3 XP-1 | | 25 | 230/460 | 58 / 29 | 151 | - | 85.6 | 737 |
| SCL K11-MS-GOR-30-3 XP-1 | | 30 | 230/460 | 70 / 35 | 200 | - | 86 | 768 |
| SCL K12-MS-GOR-15-3 XP-1 | 726 | 15 | 230/460 | 36 / 18 | 50 | 3.0 | 82.9 | 551 |
| SCL K12-MS-GOR-20-3 XP-1 | | 20 | 230/460 | 48 / 24 | 85 | 6.2 | 83.2 | 564 |
| SCL K12-MS-GOR-25-3 XP-1 | | 25 | 230/460 | 58 / 29 | 120 | 8.9 | 83.2 | 745 |
| SCL K12-MS-GOR-30-3 XP-1 | | 30 | 230/460 | 70 / 35 | 150 | 10.3 | 83.2 | 776 |
| SCL K12-MS-GOR-40-3 XP-1 | | 40 | 230/460 | 94 / 47 | 180 | - | 83.2 | 948 |

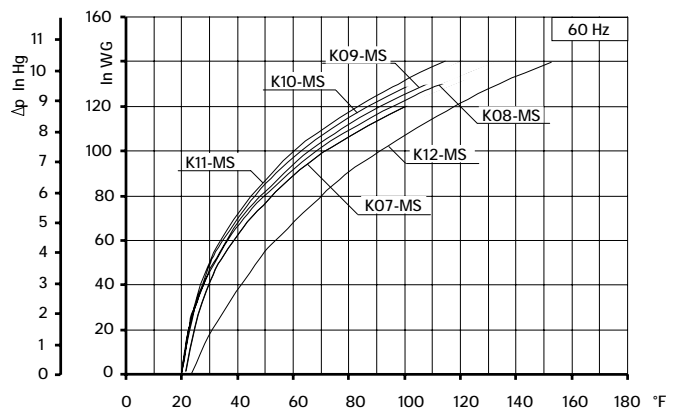
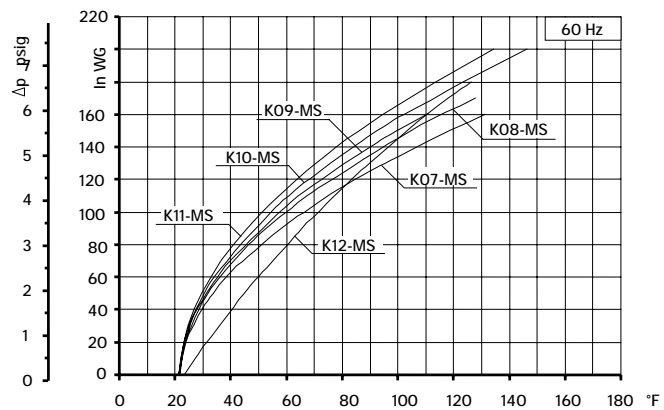
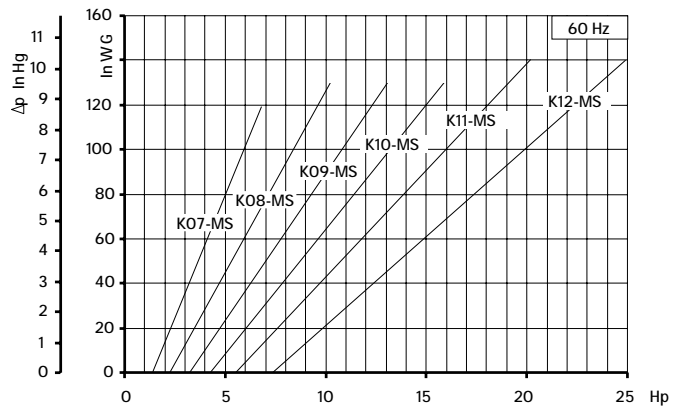
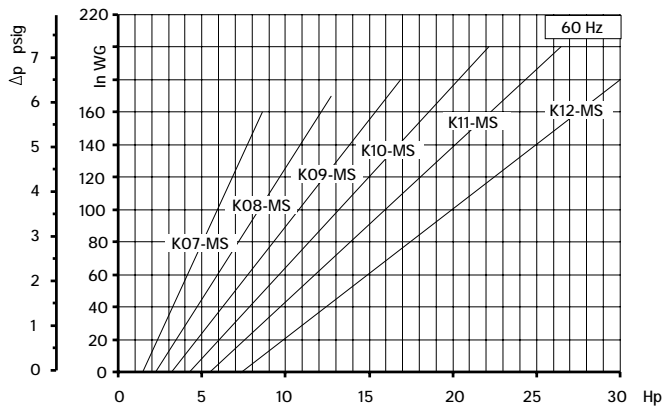
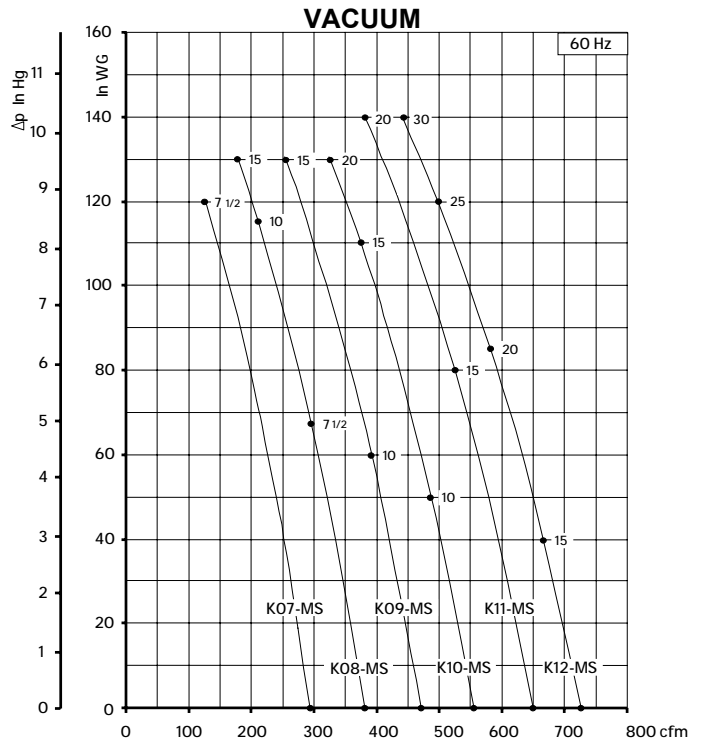
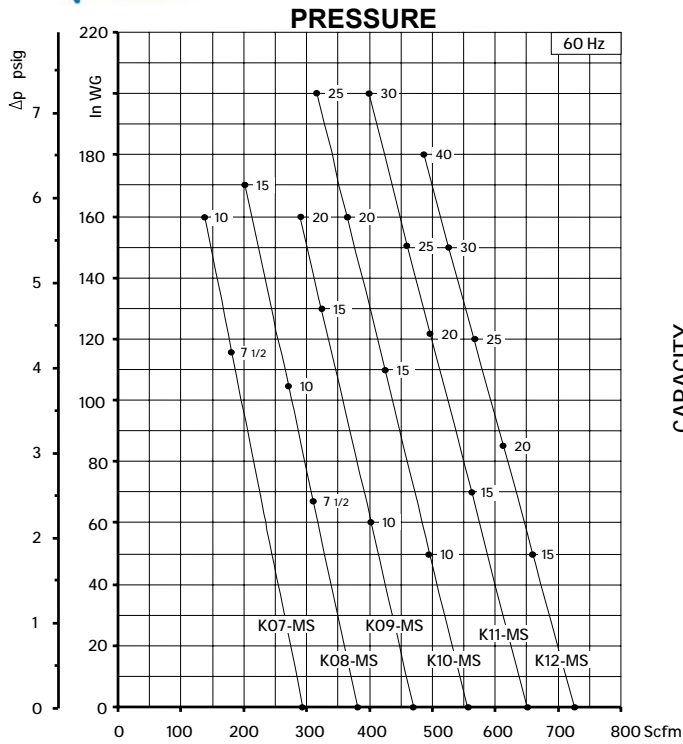
INSTALLATION

- For proper use, the blower should be equipped with Inlet FILTER and Safety Relief VALVE; other accessories available on request
- Ambient temperature from -15° to +40°C (+5° to +104° F).
- Specifications subject to change without notice.
- Before installation read carefully all instructions

¹ Noise measured at 1 m distance with inlet and outlet ports piped, in accordance to ISO 3744.



MS SERIES XP VERSION



Curves refer to air at 68°F temperature and 29.92 In Hg atmospheric pressure (abs) measured at inlet port. Values for flow, power consumption and temperature rise: +/-10% tolerance. Data subject to change without notice.



MD Series

| Model | Max. Flow (60 Hz) cfm | Power (60 Hz) Hp | Voltage (60 Hz) V | Amperage (60 Hz) A | ΔP max (60 Hz) In. WG | ΔP max (60 Hz) In. Hg | Noise ¹ (60 Hz) dB(A) | Weight Lbs. |
|--------------------------|-----------------------------|------------------------|-------------------------|--------------------------|-----------------------------|-----------------------------|--|----------------|
| SCL K07R-MD-7.5-3 XP-1 | 128 | 7.5 | 208-230/460 | 18.9-17.8 / 8.9 | 240 | 11.9 | 75 | 232.6 |
| SCL K08R-MD-7.5-3 XP-1 | 167 | 7.5 | 208-230/460 | 18.9-17.8 / 8.9 | 150 | 11.0 | 76.6 | 242.5 |
| SCL K08R-MD-10-3 XP-1 | | 10 | 208-230/460 | 24.3-22.4 / 11.2 | 220 | 13.2 | 77 | 266.8 |
| SCL K09-MD-7.5-3 XP-1 | 220 | 7.5 | 208-230/460 | 18.9-17.8 / 8.9 | 110 | 8.1 | 78 | 280.4 |
| SCL K09-MD-10-3 XP-1 | | 10 | 208-230/460 | 24.3-22.4 / 11.2 | 165 | 12.1 | 79.5 | 304.7 |
| SCL K10-MD-10-3 XP-1 | 274 | 10 | 208-230/460 | 24.3-22.4 / 11.2 | 115 | 8.5 | 80.3 | 310.2 |
| SCL K11-MD-10-3 XP-1 | 306 | 10 | 208-230/460 | 24.3-22.4 / 11.2 | 75 | 5.5 | 81.1 | 321.2 |
| SCL K11-MD-GOR-15-3 XP-1 | | 15 | 230/460 | 36 / 18 | 180 | 13.2 | 81.4 | 549 |
| SCL K11-MD-GOR-20-3 XP-1 | | 20 | 230/460 | 48 / 24 | 280 | - | 81.7 | 562 |
| SCL K12-MD-GOR-15-3 XP-1 | 335 | 15 | 230/460 | 36 / 18 | 100 | 7.4 | 82.3 | 556 |
| SCL K12-MD-GOR-20-3 XP-1 | | 20 | 230/460 | 48 / 24 | 180 | 13.2 | 82.6 | 569 |
| SCL K12-MD-GOR-25-3 XP-1 | | 25 | 230/460 | 48 / 24 | 240 | - | 82.9 | 750 |

INSTALLATION

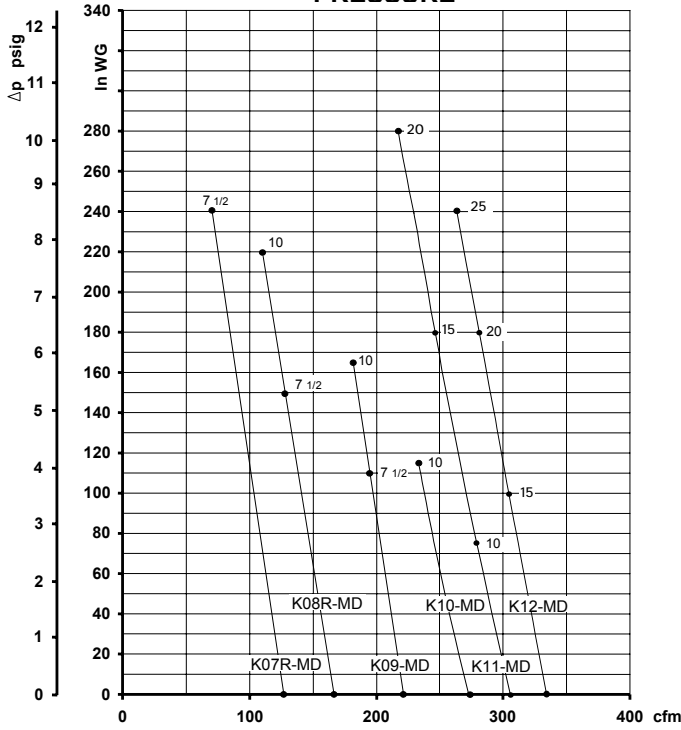
- For proper use, the blower should be equipped with Inlet FILTER and Safety Relief VALVE; other accessories available on request
- Ambient temperature from -15° to +40°C (+5° to +104° F).
- Specifications subject to change without notice.
- Before installation read carefully all instructions.

¹ Noise measured at 1 m distance with inlet and outlet ports piped, in accordance to ISO 3744.

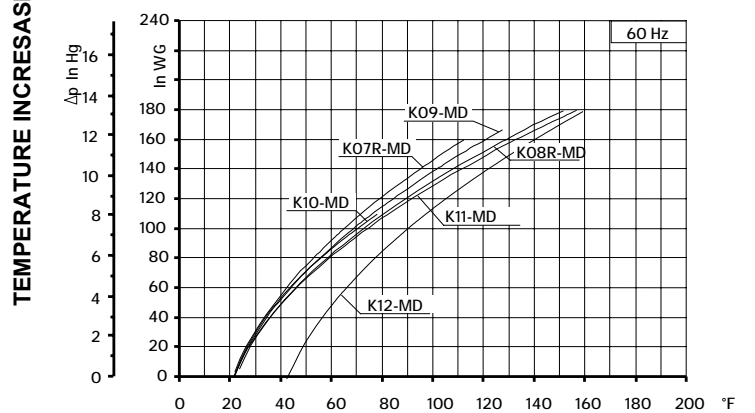
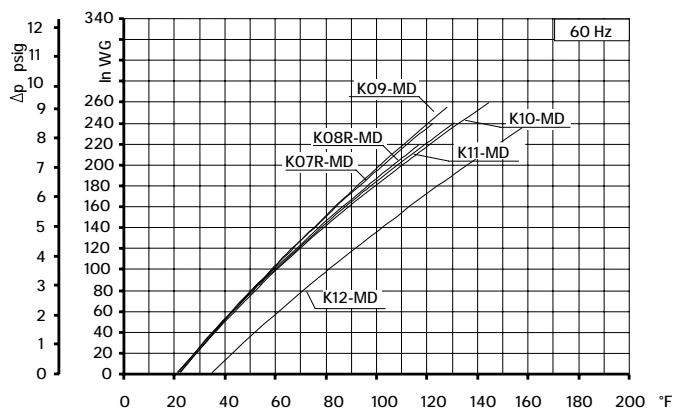
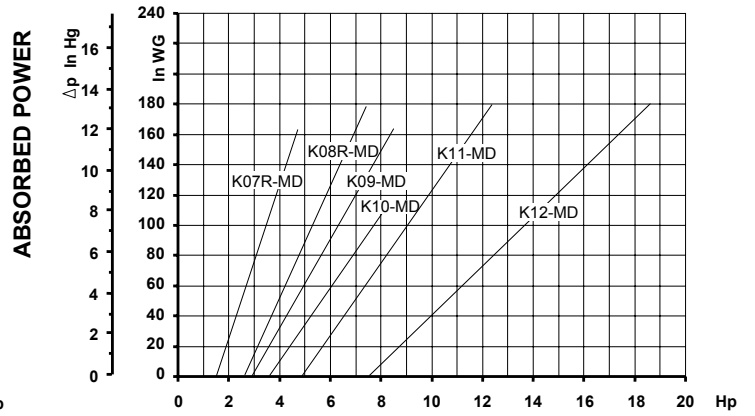
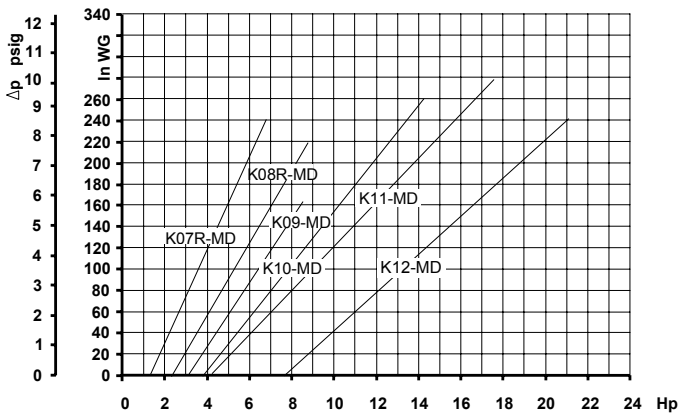
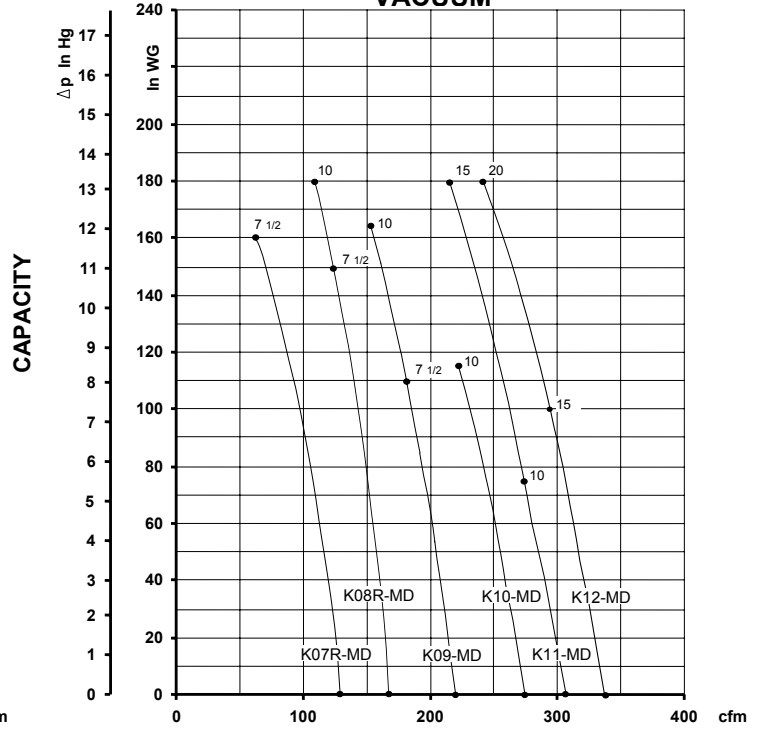


MD SERIES XP VERSION

PRESSURE



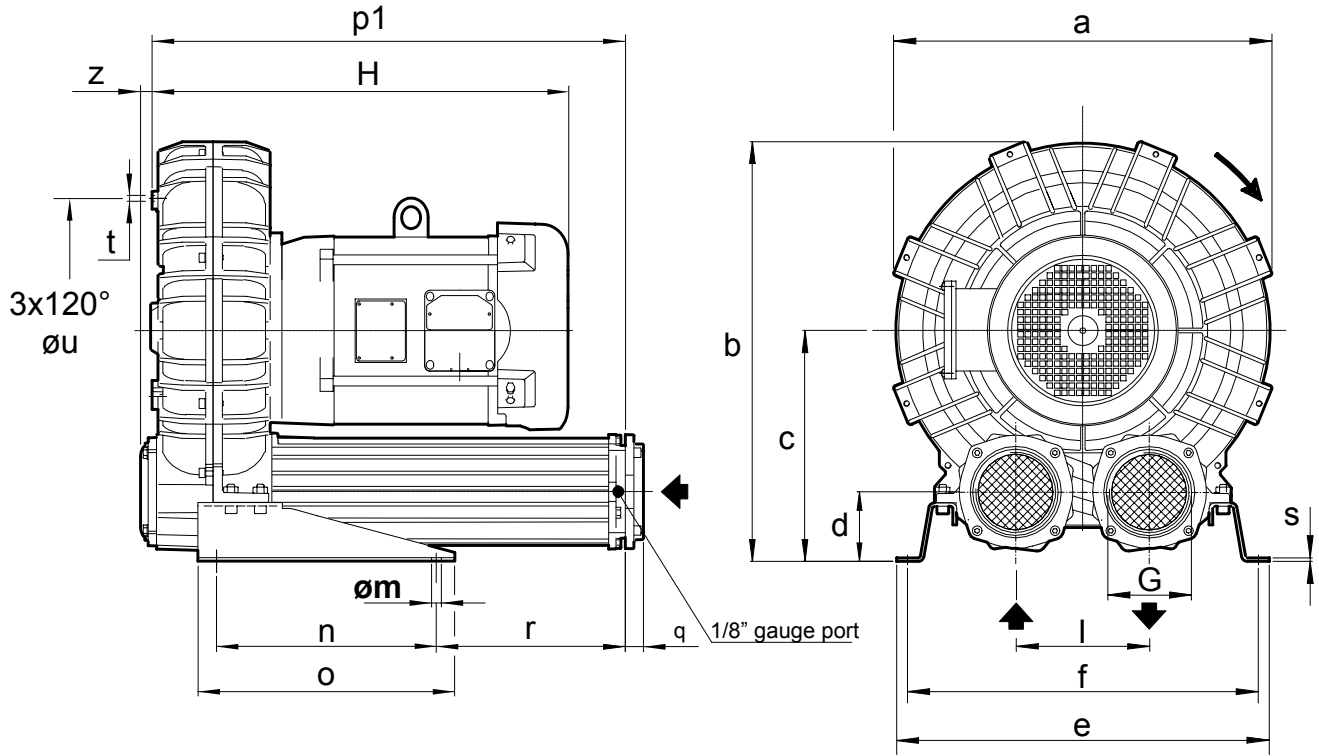
VACUUM



Curves refer to air at 68°F temperature and 29.92 in Hg atmospheric pressure (abs) measured at inlet port. Values for flow, power consumption and temperature rise: +/-10% tolerance.
Data subject to change without notice.



MS / MD SERIES
XP VERSION
DIMENSIONS (7.5 & 10 HP)



Dimensions in Inches - For reference only

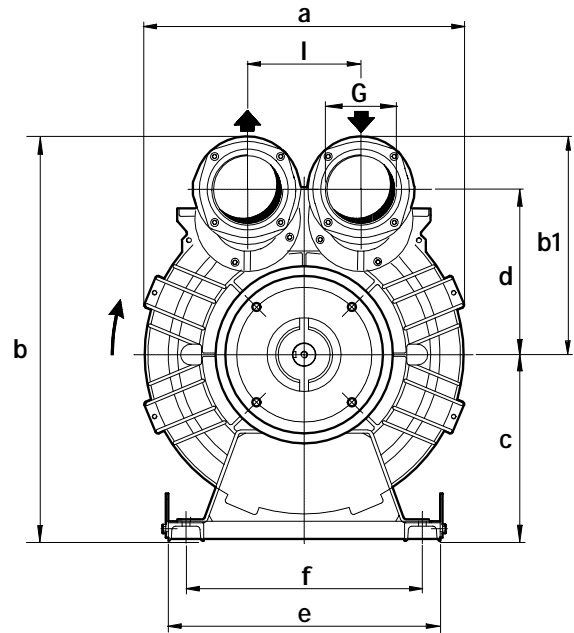
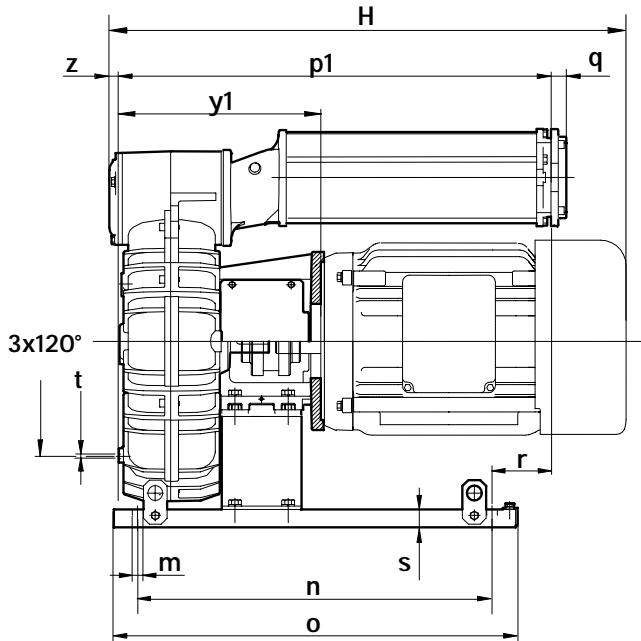
| Model | HP | G | a | b | c | d | e | f | H | i |
|-------------|----------|--------|-------|-------|-------|------|-------|-------|-------|------|
| SCL K07-MS | 7.5 & 10 | 3" NPT | 16.69 | 18.94 | 10.59 | 3.23 | 18.43 | 17.24 | 22.52 | 6.10 |
| SCL K07R-MD | 7.5 & 10 | 2" NPT | 16.69 | 18.94 | 10.59 | 3.23 | 18.43 | 17.24 | 22.52 | 6.10 |
| SCL K08-MS | 7.5 & 10 | 3" NPT | 17.99 | 19.61 | 10.59 | 3.23 | 18.82 | 17.64 | 22.52 | 6.10 |
| SCL K08R-MD | 7.5 & 10 | 2" NPT | 17.99 | 19.61 | 10.59 | 3.23 | 18.82 | 17.64 | 22.52 | 6.10 |
| SCL K09-MS | 7.5 & 10 | 4" NPT | 19.37 | 22.09 | 12.40 | 3.78 | 20 | 18.82 | 27.93 | 7.17 |
| SCL K09-MD | 10 | 4" NPT | 19.37 | 22.09 | 12.40 | 3.78 | 20 | 18.82 | 22.9 | 7.17 |
| SCL K10-MD | 10 | 4" NPT | 20.31 | 22.56 | 12.40 | 3.78 | 20 | 18.82 | 22.9 | 7.17 |

| Model | m | n | o | p1 | q | r | s | t | u | z |
|-------------|------|-------|-------|-------|------|-------|------|----|-------|------|
| SCL K07-MS | 0.51 | 11.81 | 13.78 | 20.16 | 0.98 | 5.39 | 0.20 | M8 | 11.61 | 0.63 |
| SCL K07R-MD | 0.51 | 11.81 | 13.78 | 16.46 | 0.71 | 1.69 | 0.20 | M8 | 11.61 | 0.63 |
| SCL K08-MS | 0.51 | 11.81 | 13.78 | 20.16 | 0.98 | 5.39 | 0.20 | M8 | 12.20 | 0.63 |
| SCL K08R-MD | 0.51 | 11.81 | 13.78 | 16.46 | 0.71 | 1.69 | 0.20 | M8 | 12.20 | 0.63 |
| SCL K09-MS | 0.51 | 11.81 | 13.78 | 23.07 | 0.98 | 7.83 | 0.20 | M8 | 14.17 | 0.63 |
| SCL K09-MD | 0.51 | 11.81 | 13.78 | 25.35 | 0.98 | 10.12 | 0.20 | M8 | 14.17 | 0.63 |
| SCL K10-MD | 0.51 | 11.81 | 13.78 | 25.35 | 0.98 | 10.12 | 0.20 | M8 | 14.17 | 0.63 |



MS / MD GOR SERIES XP VERSION

DIMENSIONS (15 - 40 HP)



Dimensions in Inches - For reference only

| Model | HP | Size | G | a | b | c | d | e | f | H | m |
|----------------|---------|----------|--------|-------|-------|-------|-------|-------|-------|-------|------|
| SCL K08-MS-GOR | 15 | 254-6TC | 3"NPT | 17.99 | 23.23 | 10.63 | 9.73 | 15.35 | 13.39 | 35.24 | 0.70 |
| SCL K09-MS-GOR | 15 & 20 | 254-6TC | 4" NPT | 19.37 | 26.54 | 12.40 | 10.82 | 18.44 | 15.75 | 35.71 | 0.70 |
| SCL K10-MS-GOR | 15 & 20 | 254-6TC | 4" NPT | 20.31 | 26.54 | 12.40 | 10.82 | 18.11 | 15.75 | 35.71 | 0.70 |
| | 25 | 284-6TSC | 4" NPT | 20.31 | 26.54 | 12.40 | 10.82 | 18.11 | 15.75 | 38.78 | 0.70 |
| SCL K11-MS-GOR | 15 & 20 | 254-6TC | 4" NPT | 21.35 | 24.40 | 12.40 | 11.67 | 18.11 | 15.75 | 35.34 | 0.70 |
| | 25 & 30 | 284-6TSC | 4" NPT | 21.35 | 24.40 | 12.40 | 11.67 | 18.11 | 15.75 | 38.98 | 0.70 |
| SCL K11-MD-GOR | 15 & 20 | 254-6TC | 4" NPT | 21.35 | 25.20 | 12.40 | 9.49 | 18.11 | 15.75 | 35.34 | 0.70 |
| SCL K12-MS-GOR | 15 & 20 | 254-6TC | 4" NPT | 21.35 | 24.40 | 12.40 | 11.67 | 18.11 | 15.75 | 35.46 | 0.70 |
| | 25 & 30 | 284-6TSC | 4" NPT | 21.35 | 24.40 | 12.40 | 11.67 | 18.11 | 15.75 | 39.10 | 0.70 |
| | 40 | 324TSC | 4" NPT | 21.35 | 24.40 | 12.40 | 11.67 | 18.11 | 15.75 | 42.08 | 0.70 |
| SCL K12-MD-GOR | 15 & 20 | 254-6TC | 4" NPT | 21.57 | 27.36 | 12.40 | 9.48 | 18.11 | 15.75 | 35.46 | 0.70 |
| | 25 | 284-6TSC | 4" NPT | 21.57 | 27.36 | 12.40 | 9.48 | 18.11 | 15.75 | 39.10 | 0.70 |

| Model | HP | n | o | p1 | q | r | s | t | u | y1 | z |
|----------------|---------|-------|-------|-------|------|------|------|----|-------|-------|------|
| SCL K08-MS-GOR | 15 | 20.47 | 23.62 | 24.1 | 0.98 | 2.5 | 0.98 | M8 | 12.2 | 13.35 | 0.63 |
| SCL K09-MS-GOR | 15 & 20 | 23.62 | 26.77 | 27.60 | 0.98 | 2.95 | 1.18 | M8 | 14.17 | 13.82 | 0.63 |
| SCL K10-MS-GOR | 15 & 20 | 23.62 | 26.77 | 27.60 | 0.98 | 2.95 | 1.18 | M8 | 14.17 | 13.82 | 0.63 |
| | 25 | 23.62 | 26.77 | 27.60 | 0.98 | 2.95 | 1.18 | M8 | 14.17 | 13.25 | 0.63 |
| SCL K11-MS-GOR | 15 & 20 | 23.62 | 26.77 | 28.00 | 0.98 | 3.15 | 1.18 | M8 | 15.35 | 13.45 | 0.63 |
| | 25 & 30 | 23.62 | 26.77 | 28.00 | 0.98 | 3.15 | 1.18 | M8 | 15.35 | 13.45 | 0.63 |
| SCL K11-MD-GOR | 15 & 20 | 23.62 | 26.77 | 25.75 | 0.98 | 0.90 | 1.18 | M8 | 15.35 | 13.45 | 0.63 |
| SCL K12-MS-GOR | 15 & 20 | 23.62 | 26.77 | 28.11 | 0.98 | 3.15 | 1.18 | M8 | 15.35 | 13.57 | 0.63 |
| | 25 & 30 | 23.62 | 26.77 | 28.11 | 0.98 | 3.15 | 1.18 | M8 | 15.35 | 13.57 | 0.63 |
| | 40 | 23.62 | 26.77 | 28.11 | 0.98 | 3.15 | 1.18 | M8 | 15.35 | 14.55 | 0.63 |
| SCL K12-MD-GOR | 15 & 20 | 23.62 | 26.77 | 30.31 | 0.98 | 5.43 | 1.18 | M8 | 15.35 | 13.57 | 0.63 |
| | 25 | 23.62 | 26.77 | 30.31 | 0.98 | 5.43 | 1.18 | M8 | 15.35 | 13.57 | 0.63 |



Electric motor temperature codes for standard FPZ blowers with explosion proof motors

| Motor HP | Temperature code | Maximum Motor Surface Temperature | | Service Factor* | Insulation Class |
|----------|------------------|-----------------------------------|-------|-----------------|------------------|
| | | Deg C | Deg F | | |
| 7.5 | T2B | 260 | 500 | 1.15 | F |
| 10 | T2B | 260 | 500 | 1.15 | F |
| 15 | T3C | 160 | 320 | 1.15 | F |
| 20 | T3C | 160 | 320 | 1.15 | F |
| 25 | T3C | 160 | 320 | 1.15 | F |
| 30 | T3C | 160 | 320 | 1.15 | F |
| 40 | T3C | 160 | 320 | 1.15 | F |

* NOTE: if used with a Variable Frequency Drive, reduce service factor to 1.0.

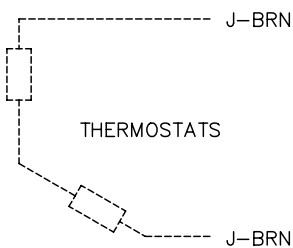
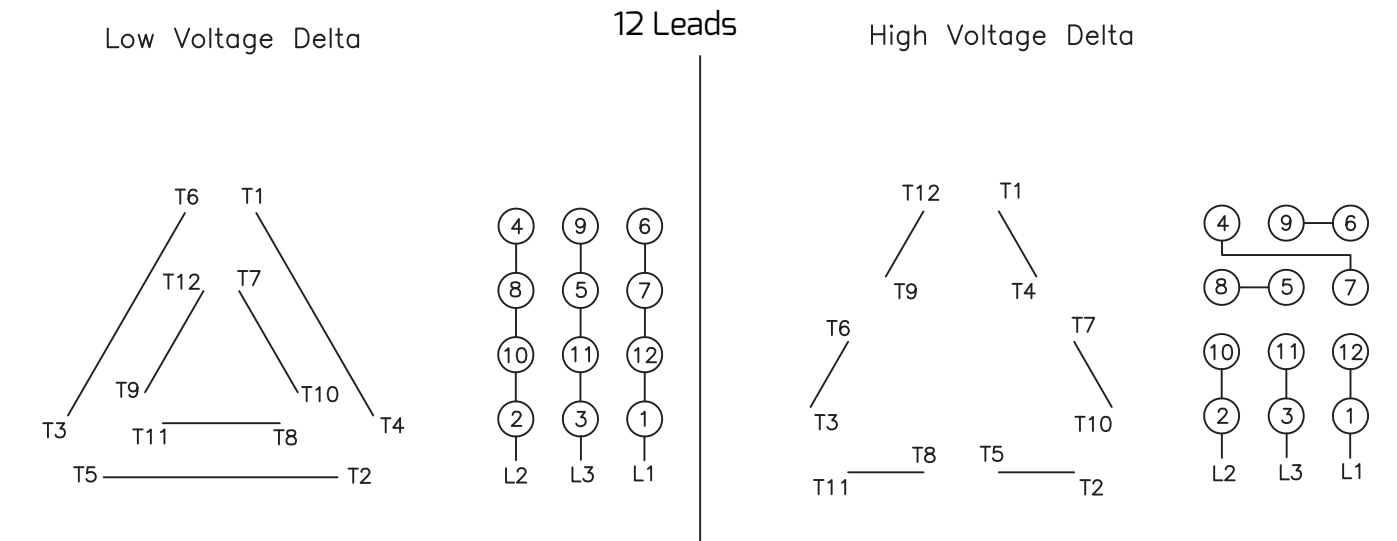
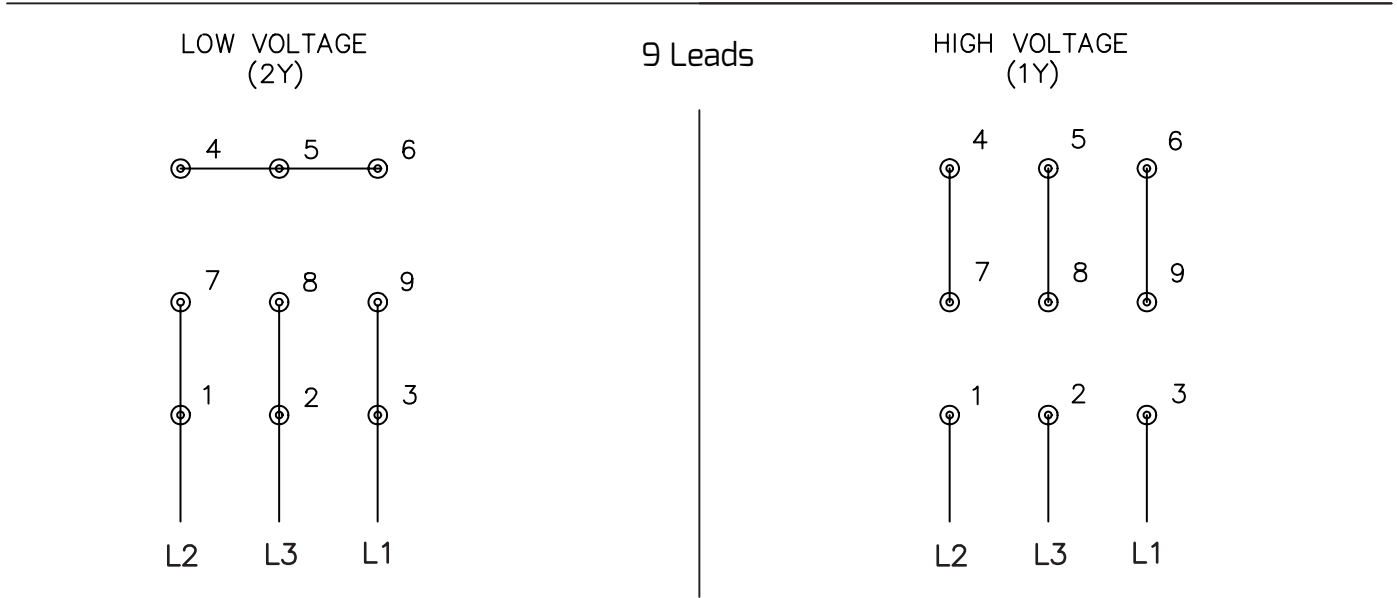
Class I Substances and atmospheres

| Substance or atmosphere | Minimum Ignition Temperature | Substance or atmosphere | Minimum Ignition Temperature |
|---|------------------------------|--|------------------------------|
| Group A | | Group D (continued) | |
| acetylene | 305° C (581° F) | ethyl acetate | 426° C (800° F) |
| Group B | | ethylene dichloride | 413° C (775° F) |
| butadiene | 420° C (788° F) | gasoline | 280° C (536° F) |
| ethylene oxide | 570° C (1058° F) | heptane | 204° C (399° F) |
| hydrogen | 500° C (932° F) | hexane | 225° C (437° F) |
| Group C | | methane (natural gas) | 537° C (999° F) |
| acetaldehyde | 175° C (347° F) | methanol (methyl alcohol) | 464° C (867° F) |
| cyclopropane | 498° C (928° F) | 3-methyl-1-butanol (isoamyl alcohol) | 350° C (662° F) |
| diethyl ether | 180° C (356° F) | methyl ethyl ketone | 404° C (759° F) |
| ethylene | 450° C (842° F) | methyl isobutyl ketone | 448° C (840° F) |
| isoprene | 395° C (743° F) | 2-methyl-1-propanol (isobutyl alcohol) | 415° C (780° F) |
| unsymmetrical dimethyl hydrazine (UDMH) 1, 1-dimethyl hydrazine | 249° C (480° F) | 2-methyl-2-propanol (tertiary butyl alcohol) | 478° C (892° F) |
| Group D | | octane | 206° C (403° F) |
| acetone | 465° C (869° F) | petroleum naphtha | 288° C (550° F) |
| acrylonitrile | 481° C (898° F) | 1-pentanol (amyl alcohol) | 300° C (572° F) |
| ammonia | 651° C (1204° F) | propane | 450° C (842° F) |
| benzene | 498° C (928° F) | 1-propanol (propyl alcohol) | 412° C (775° F) |
| butane | 287° C (550° F) | 2-propanol (isopropyl alcohol) | 399° C (750° F) |
| 1-butanol (butyl alcohol) | 343° C (650° F) | propylene | 455° C (851° F) |
| 2-butanol (secondary butyl alcohol) | 405° C (761° F) | styrene | 490° C (914° F) |
| n-butyl acetate | 425° C (797° F) | vinyl acetate | 402° C (756° F) |
| isobutyl acetate | 421° C (790° F) | vinyl Chloride | 472° C (882° F) |
| ethane | 472° C (882° F) | p-xylene | 528° C (984° F) |
| ethanol (ethyl alcohol) | 363° C (685° F) | | |

FOR REFERENCE ONLY



Motor Connection Diagrams



Blower rotation is clockwise when viewed from electric motor cooling fan. Check rotation prior to making blower pipe connections. To change rotation, interchange any two line leads.

Specifications subject to change without notice. Alternate motors may be used - always use the wiring diagram that is supplied with the motor.



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