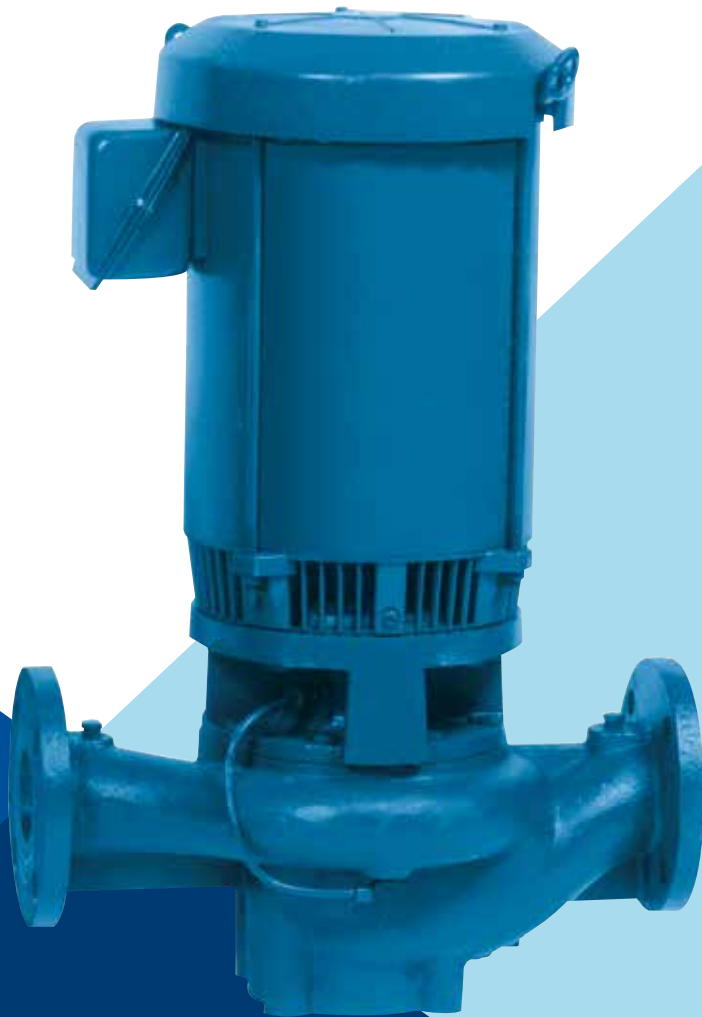




SINGLE STAGE VERTICAL INLINE PUMP



MODEL 382



Certified to
NSF/ANSI 372

380 SERIES

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AURORA® 380 SERIES

Single Stage Vertical Inline Pump

Capacities to 4,500 gpm (1,020 m³/hr)

Heads to 370 feet (78 m)

Temperatures to 250° F (120° C)

380 Series Pumps

Vertical inline close coupled pumps are specifically designed for mounting directly in a pipe line. The suction and discharge nozzles are located on the same centerline, 180° apart. Vertical pumps significantly reduce the space required; two pumps fit in the space of one. They are easy to maintain; simply remove the capscrews and the motor and bracket assembly is easily removed from the casing without disturbing the piping.

The impeller is direct coupled to the motor shaft for easy maintenance to minimize impeller runout and reduce noise. Most pump parts, except for the casing, are 100% interchangeable with Aurora's high quality, high production 340 and 360 Series pumps for speedy spare parts service. The inline casing has provisions for mounting an optional support base should the pump sit on the floor. Mechanical seals are provided as standard to prevent leakage around the shaft. A relief line is provided from the seal faces to the pump discharge for flushing and venting purposes.

Suction branch design on Model 382A pumps prerotates suction liquid in the direction of pump impeller rotation. This concept minimizes pumping noise that is otherwise associated with more common short radius suction inlet designs. Each pump has been engineered and assurance tested to arrive at the proper velocities and entrance angles to ensure quiet operation. Aurora® 380 Series pumps are available in 31 sizes, offering a size and model precisely fitted to a wide range of head and capacity requirements. Look through this bulletin for additional details and specifications.

Standard Features

- Factory hydro test
- Carbon steel shaft
- Bronze shaft sleeve
- Casing wearing rings
- Bronze fitted construction
- Dynamically balanced cast impeller
- 303 SST mechanical seal with Buna-N, ceramic and carbon parts

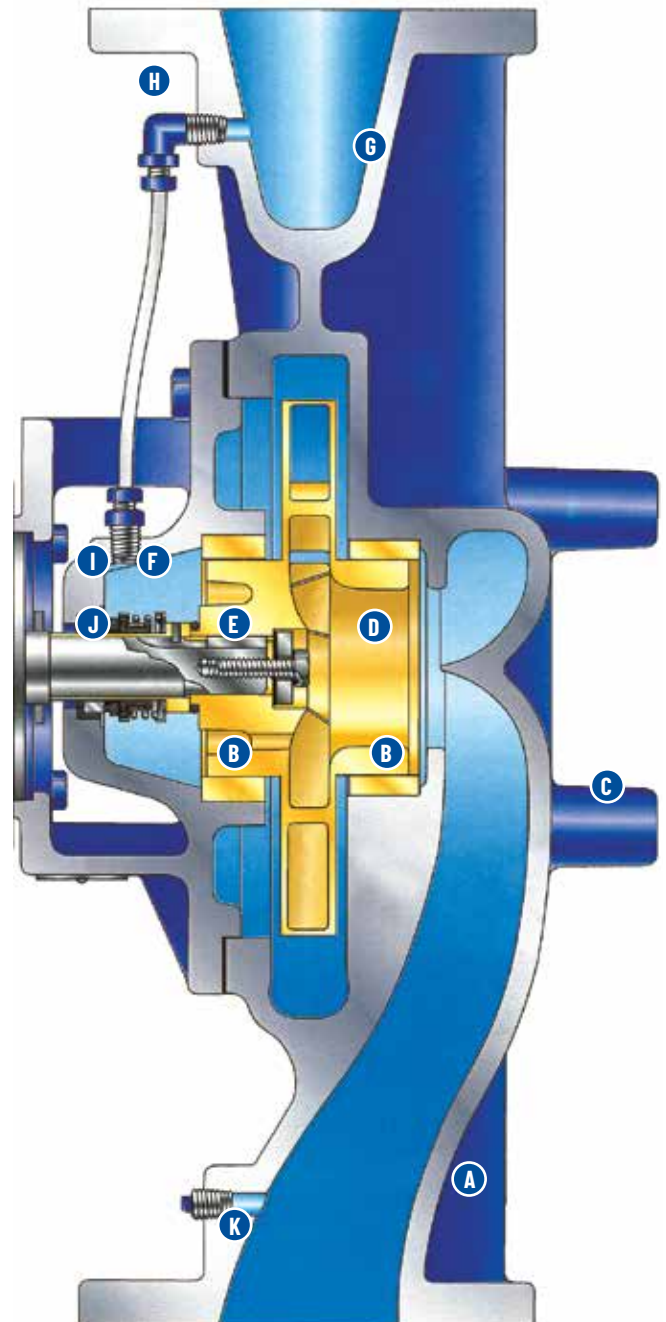
Optional Features

- Pump base
- All iron construction
- 316 SST shaft sleeve
- Split mechanical seal
- Impeller wearing ring(s)
- Suction and discharge companion flanges
- Certified performance test data consisting of head capacity and power readings taken over the full operating range of the pump



Pump Features

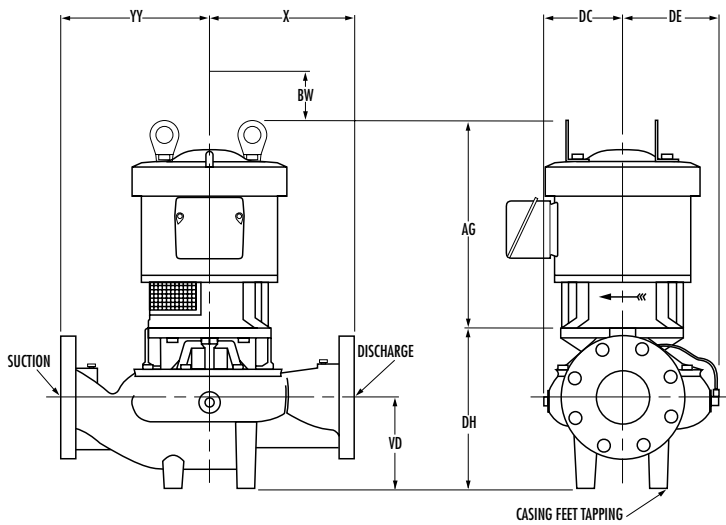
- A. Back Pull-Out Casing**
includes inline suction and discharge.
- B. Case Wearing Ring**
prevents wear on casing and is inexpensively replaced. Impeller wear rings are optional.
- C. Support Feet**
cast integrally with the casing on Model 382A pumps. The pump thus can alternatively sit on the floor or bolt to an optional base if a foundation is preferred.
- D. Precision Cast, Dynamically Balanced, Enclosed Impeller**
keyed to the shaft extension and secured by a capscrew and washer. Gaskets are used to prevent leakage to shaft end.
- E. Carbon Steel Shaft**
designed for minimum deflection.
- F. Mechanical Seal**
has carbon against ceramic face for optimum hot water performance. Long life is assured with 303 SST metal parts and Buna-N flexible elastomers (split seal optional).
- G. Factory Hydro Test**
guarantees casting and seal integrity.
- H. Relief Line**
assures adequate venting of the seal chamber and lubrication of seal faces.
- I. Bronze Shaft Sleeve**
prevents shaft wear and extends the entire length of the seal box. The shaft sleeve is slip fit over the shaft and then is keylocked. Shaft sleeve and impeller screw are sealed by O-ring gaskets to eliminate corrosion of the shaft by the pumped liquid. This standard feature eliminates the requirements for higher cost, special stainless steel shaft.
- J. Standard JM Motor (10–60 hp)**
Provides low noise level pump operation. Special TCZ motor for above 60 hp. (JP motor used w/optional split seal.)
- K. Volute Type Suction**
Inlet prerotates suction liquid.



382 Close Coupled Engineering and Dimension Details

| Pump Size | X | | BW (Min.) | | DC | | DE | | DH | | | YY | | VD | | Casing Feet Tapping | | | |
|----------------|-------|-------|-----------|-------|---------|-------|--------|-------|-------------|-------------|---------------|-------|-------|-------|-------|---------------------|--------|---------|---------|
| | | | | | | | | | 143JM-215JM | 254JM-326JM | 365TCZ-445TCZ | | | | | | | | |
| 1-1/2x1-1/2x9B | 9-1/2 | (241) | 4 | (102) | 5-3/4 | (146) | 6-1/8 | (156) | 10 | (254) | N/A | - | 9-1/2 | (241) | 5-1/4 | (133) | NOTE 8 | | |
| 2x2x7 | 8 | (203) | 3-1/2 | (89) | 4-1/2 | (114) | 5-1/8 | (130) | 9-13/16 | (249) | N/A | - | 8 | (203) | 5 | (127) | NOTE 9 | | |
| 2x2x9A & B | 9-1/2 | (241) | 4-1/2 | (114) | 5-7/8 | (149) | 6-3/8 | (162) | 10 | (254) | N/A | - | 9-1/2 | (241) | 5-1/4 | (133) | NOTE 8 | | |
| 2x2x9C | 9-1/2 | (241) | 4-1/2 | (114) | 5-7/8 | (149) | 6-3/8 | (162) | 9-9/16 | (243) | 10-9/16 | (268) | - | 9-1/2 | (241) | 5-1/4 | (133) | NOTE 9 | |
| 2x2x12 | 12 | (305) | 5 | (127) | 7-5/8 | (194) | 8 | (203) | 10-1/8 | (257) | 11-1/8 | (283) | - | 12 | (305) | 5-1/4 | (133) | NOTE 8 | |
| 2-1/2x2-1/2x7 | 9 | (229) | 3-1/2 | (89) | 4-3/4 | (121) | 5-1/2 | (140) | 10-9/16 | (268) | 11-9/16 | (294) | - | 9 | (229) | 5-5/8 | (143) | NOTE 10 | |
| 2-1/2x2-1/2x9 | 10 | (254) | 4 | (102) | 5-7/8 | (149) | 6-5/8 | (168) | 10-1/2 | (267) | 11-1/2 | (292) | - | 10 | (254) | 5-5/8 | (143) | NOTE 10 | |
| 3x3x7A & B | 9-1/2 | (241) | 5 | (127) | 5-3/16 | (132) | 6-1/8 | (156) | 11-5/8 | (295) | 12-5/8 | (321) | - | 9-1/2 | (241) | 6-1/4 | (159) | NOTE 10 | |
| 3x3x9A | 11 | (279) | 4-1/2 | (114) | 6 | (152) | 6-3/4 | (171) | 11-3/8 | (289) | 12-3/8 | (314) | - | 11 | (279) | 6-1/4 | (159) | NOTE 10 | |
| 3x3x9B | 11 | (279) | 5 | (127) | 6-1/4 | (159) | 7-1/8 | (181) | 11-1/2 | (292) | 12-1/2 | (318) | - | 11 | (279) | 6-1/2 | (165) | NOTE 8 | |
| 3x4x9 | 11 | (279) | 4-1/2 | (114) | 5-3/4 | (146) | 6-1/2 | (165) | 10-7/8 | (276) | 11-7/8 | (302) | - | 11 | (279) | 5-7/8 | (149) | NOTE 10 | |
| 3x3x12 | 14 | (356) | 5 | (127) | 7-11/16 | (195) | 8-1/4 | (210) | 11-1/2 | (292) | 12-1/2 | (318) | - | 12 | (305) | 6-1/2 | (165) | NOTE 8 | |
| 4x4x7A & B | 11 | (279) | 6 | (152) | 5-9/16 | (141) | 7-5/16 | (186) | 12-3/4 | (324) | 13-3/4 | (349) | - | 11 | (279) | 7-1/4 | (184) | NOTE 10 | |
| 4x4x9A & B | 11 | (279) | 6 | (152) | 6-3/16 | (157) | 7-5/16 | (186) | 12-3/8 | (314) | 13-3/8 | (340) | - | 11 | (279) | 7-1/4 | (184) | NOTE 8 | |
| 4x5x9 | 11 | (279) | 4-1/2 | (114) | 6 | (152) | 7-1/8 | (181) | 12-1/8 | (308) | 13-1/8 | (333) | - | 11 | (279) | 7 | (178) | NOTE 10 | |
| 4x4x11 | 13 | (330) | 5 | (127) | 7-1/8 | (181) | 8-1/4 | (210) | 12-13/16 | (325) | 13-13/16 | (351) | - | 13 | (330) | 7-5/8 | (194) | NOTE 11 | |
| 4x4x12 | 13 | (330) | 4-1/2 | (114) | 7-7/8 | (200) | 8-3/4 | (222) | 12-1/4 | (311) | 13-1/4 | (337) | - | 13 | (330) | 7 | (178) | NOTE 11 | |
| 5x5x9 | 14 | (356) | 4-3/4 | (121) | 7-1/8 | (181) | 8-1/2 | (216) | 13 | (330) | 14 | (356) | (356) | - | 14 | (356) | 7-5/8 | (194) | NOTE 11 |
| 5x5x11 | 14 | (356) | 4-1/2 | (114) | 7-3/8 | (187) | 8-7/8 | (225) | 14 | (356) | 15 | (381) | - | 14 | (356) | 8-5/8 | (219) | NOTE 11 | |
| 5x5x12 | 15 | (381) | 4-3/4 | (121) | 8-1/4 | (210) | 9-1/2 | (241) | 13-1/2 | (343) | 14-1/2 | (368) | - | 15 | (381) | 8 | (203) | NOTE 11 | |
| 6x6x9 | 15 | (381) | 5-1/4 | (133) | 7 | (178) | 9 | (229) | 13-1/2 | (343) | 14-1/2 | (368) | - | 15 | (381) | 8 | (203) | NOTE 11 | |
| 6x6x11 | 15 | (381) | 6 | (152) | 8 | (203) | 10 | (254) | 15 | (381) | 16 | (406) | - | 15 | (381) | 9-1/4 | (235) | NOTE 11 | |
| 6x6x12 | 15 | (381) | 5-1/2 | (140) | 8-3/8 | (213) | 10 | (254) | 14-1/2 | (368) | 15-1/2 | (387) | - | 15 | (381) | 8-3/4 | (222) | NOTE 11 | |
| 8x8x11 | 18 | (457) | 6 | (152) | 8-3/4 | (222) | 10-7/8 | (276) | 15-5/8 | (397) | 16-5/8 | (422) | - | 18 | (457) | 9-5/8 | (244) | NOTE 11 | |
| 8x8x12 | 18 | (457) | 6 | (152) | 8-3/4 | (222) | 10-7/8 | (276) | 15-5/8 | (397) | 16-5/8 | (422) | - | 18 | (457) | 9-5/8 | (244) | NOTE 11 | |

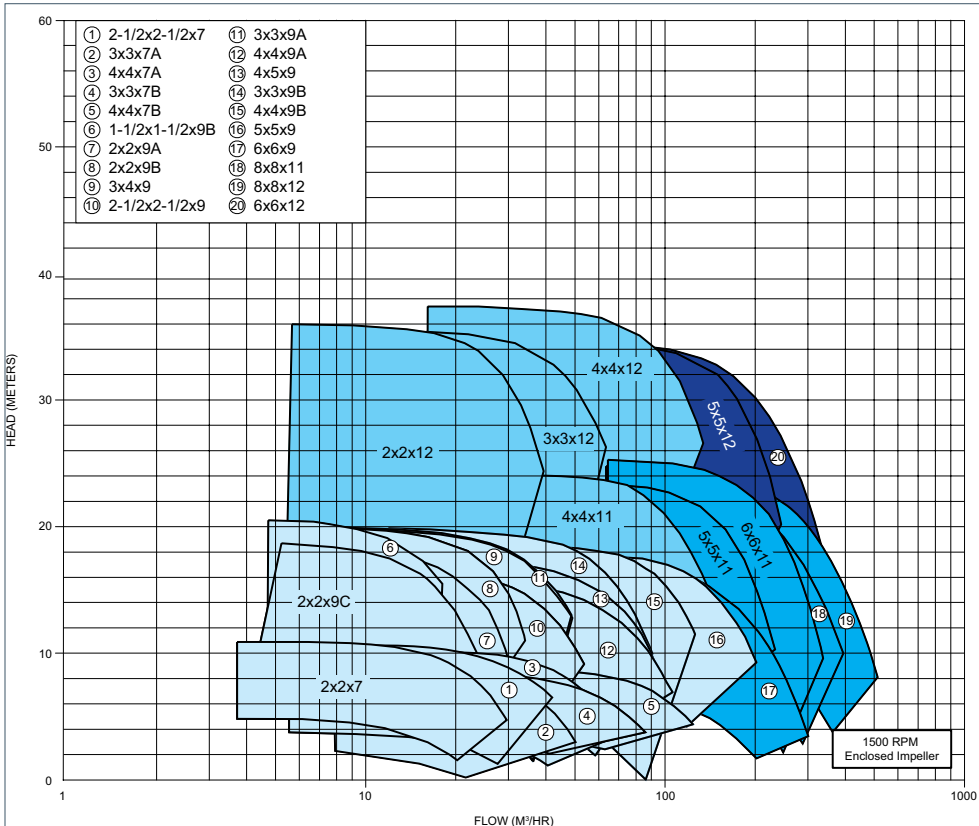
| JM and TCZ Motor Frames | | |
|-------------------------|------------|-------------------|
| FRAME | AG APPROX. | |
| | O.D.P. | T.E.F.C. EXP. PR. |
| 143JM | 10 | 12 |
| 145JM | 11 | 13 |
| 182JM | 12 | 14 |
| 184JM | 15 | 17 |
| 213JM | 17 | 19 |
| 215JM | 17 | 19 |
| 254JM | 21 | 23 |
| 256JM | 21 | 23 |
| 284JM | 22 | 24 |
| 286JM | 22 | 24 |
| 324JM | 24 | 26 |
| 326JM | 24 | 26 |
| 364TCZ | 25.62 | 26.88 |
| 365TCZ | 25.62 | 26.88 |
| 404TCZ | 30 | 30-1/2 |
| 405TCZ | 30 | 30-1/2 |
| 444TCZ | 31-3/4 | 32-1/2 |
| 445TCZ | 31-3/4 | 35-1/2 |



NOTES:

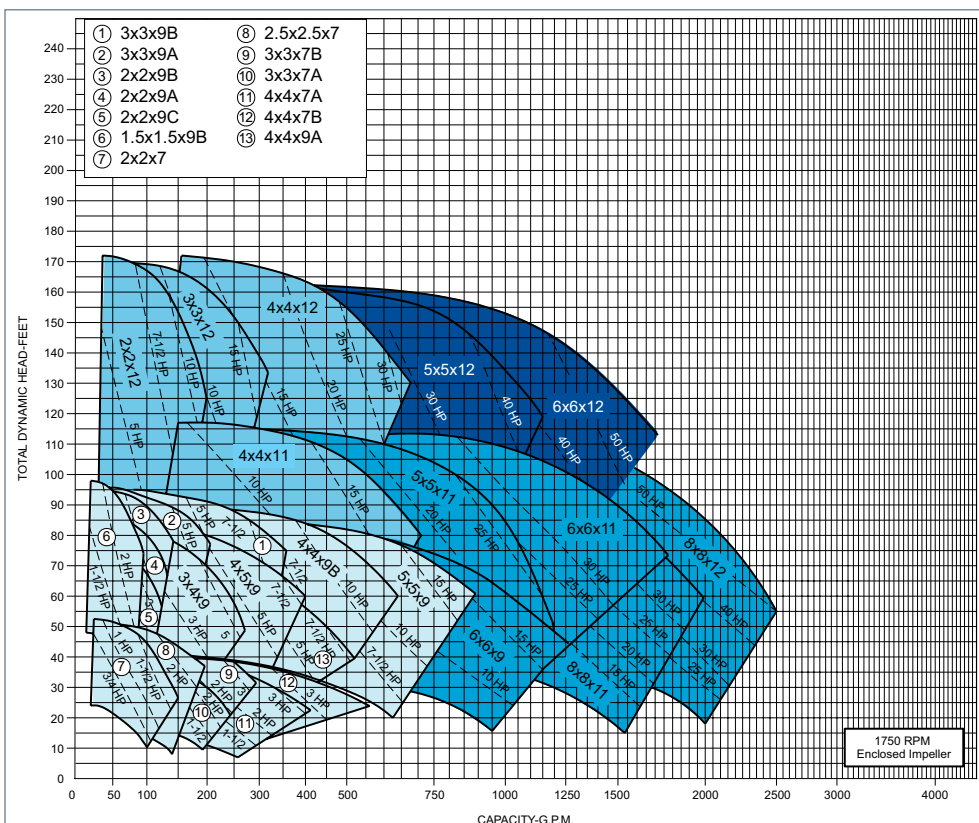
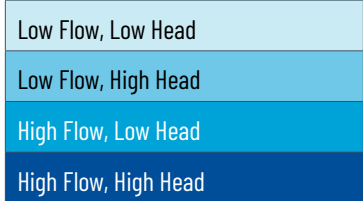
1. All dimensions in inches and (mm).
2. Dimensions may vary ± 1/4" (6).
3. Not for construction purposes unless certified.
4. N/A = Not Applicable.
5. Conduit box is shown in approximate location. Dimensions are not specified as they vary with each motor manufacturer.
6. Suction and discharge flanges - 125 lb. ANSI Standard flat face.
7. Dimension BW is clearance required for servicing.
8. Normally not tapped. Optionally available [4] 5/8" UNC taps matching 4"-125 lb. flange drilling (7.5" bolt circle).
9. Tapped [4] 5/8" UNC taps matching 2"-125 lb. flange (4.75" bolt circle).
10. Tapped [4] 5/8" UNC taps matching 3"-125 lb. flange (6.0" bolt circle).
11. Tapped [4] 5/8" UNC taps matching 4"-125 lb. flange (7.5" bolt circle).
12. Tapped [4] 3/4" UNC taps matching 6"-125 lb. flange (9.5" bolt circle).

Pump Performance



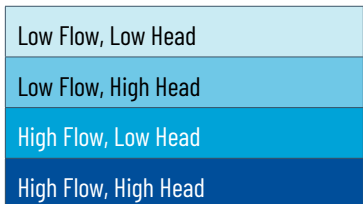
1500 RPM

Individual performance curves should be checked for final selection. For selections not shown on this chart please refer to the factory.



1750 RPM

Individual performance curves should be checked for final selection. For selections not shown on this chart please refer to the factory.

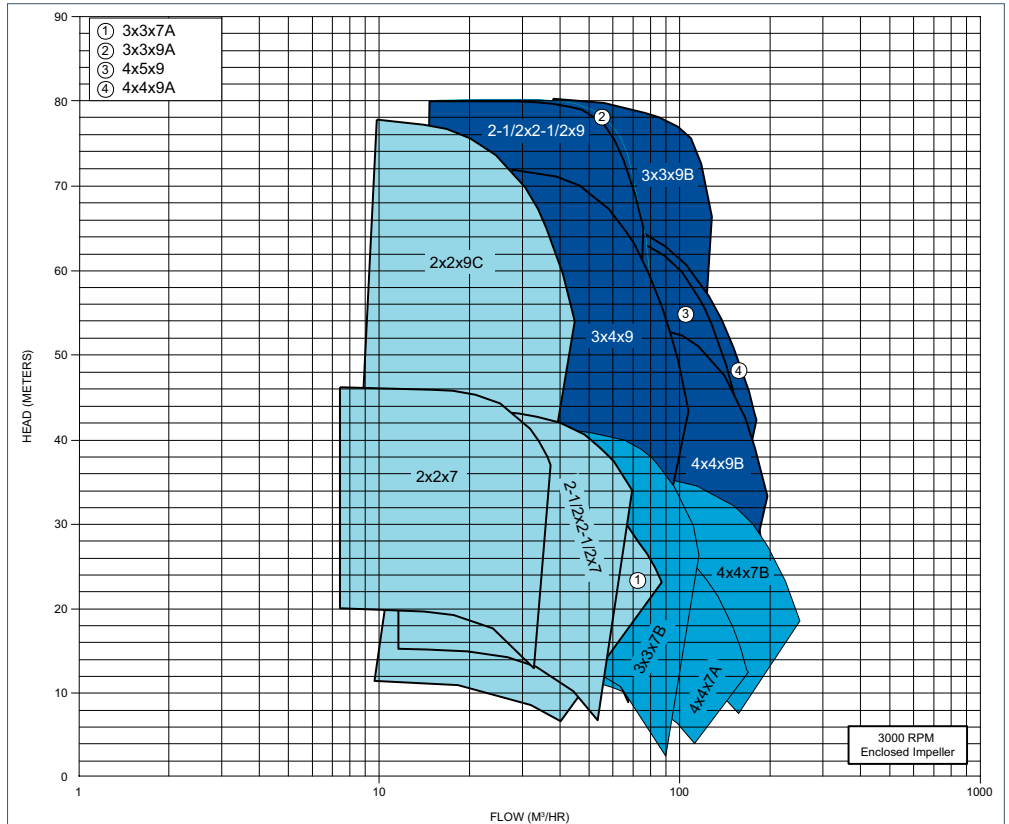


Pump Features

3000 RPM

Individual performance curves should be checked for final selection. For selections not shown on this chart please refer to the factory.

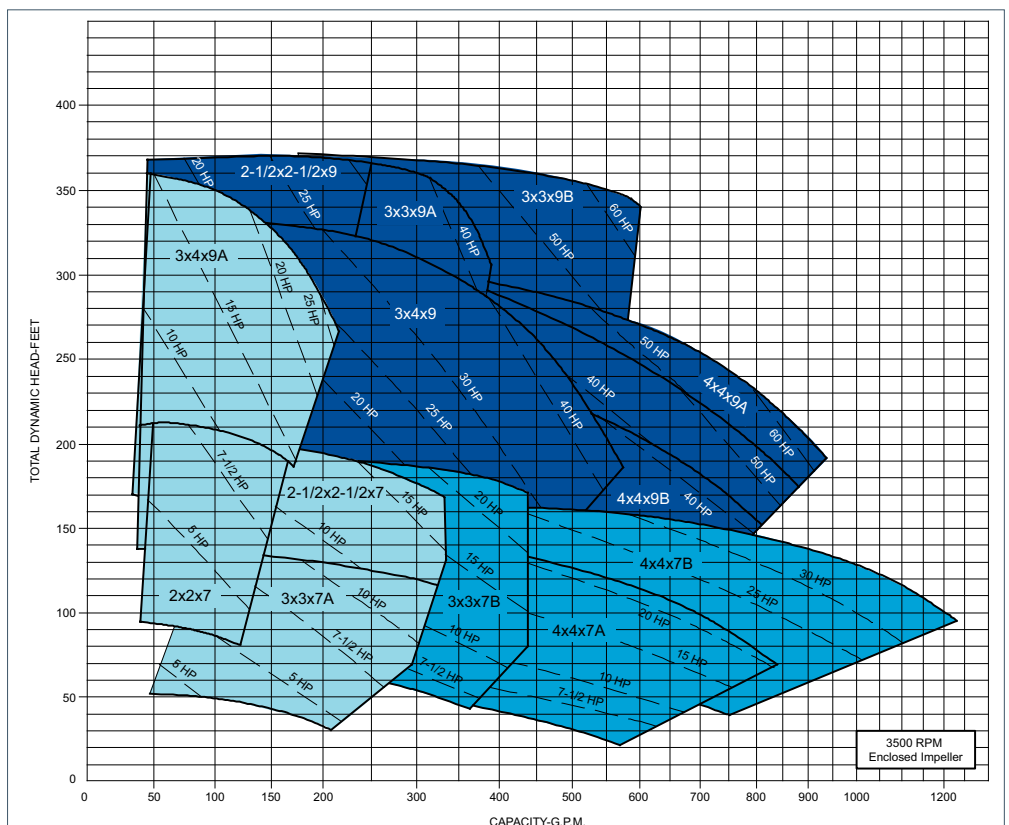
| |
|----------------------|
| Low Flow, Low Head |
| Low Flow, High Head |
| High Flow, Low Head |
| High Flow, High Head |



3500 RPM

Individual performance curves should be checked for final selection. For selections not shown on this chart please refer to the factory.

| |
|----------------------|
| Low Flow, Low Head |
| Low Flow, High Head |
| High Flow, Low Head |
| High Flow, High Head |



Pump Features

380 Series Specifications

The contractor shall furnish (and install as shown on the plans) Aurora Models 382A vertical close coupled inline back pull-out centrifugal pumps size ___ x ___ x ___ of (bronze fitted) (all bronze)(all iron) construction.

The suction and discharge flanges shall be located on a common CL 180° apart for mounting inline. Each pump shall have a capacity of ___gpm at ___ft. total head, with a temperature of ___° F, ___specific gravity.

Each pump is to be furnished with a mechanical seal with all metal parts to be 303 SST with Buna-N elastomers, ceramic seat and carbon washer. A bypass line must be provided between the seal faces and the

discharge flange to assure adequate venting of the seal chamber and to provide lubrication. Impellers are to be dynamically balanced and keylocked to the shaft. Model 382A pumps to include a volute type casing suction branch to minimize pumping noise.

The unit must be equipped with (bronze)(stainless steel) shaft sleeve, keylocked, that extends the length of the seal box. Pump shaft extension shall be O-ring sealed from the pumped liquid. Pump casing shall have a case wearing ring (impeller wearing rings). Each pump is to be close coupled to a standard NEMA-JM ___hp ___phase ___Hertz ___volt ___rpm (drip-proof)(total enclosure) (hazardous location) motor up to 60 hp and special TCZ frame motor for hp above 60.

Pump Features

Limitations

| Maximum Limitation Based on Standard Materials and Pumping Clear Water | |
|--|---|
| Speed | 3500 rpm |
| Horsepower | 1150 rpm - 30 1750 rpm - 50 3500 rpm - 60 TCZ FRAME MOTORS - RTF |
| Temperature °F | Standard 225/Optional 250 |
| Hydrostatic Test Pressure PSI | 265 |
| Case Working Pressure PSI (All or Any Part Can Be Suction Free) | 175 |

Materials of Construction

| Description | Material of Construction |
|-----------------------|-----------------------------|
| Pump Part | Bronze Fitted |
| Casing | Cast Iron ASTM A48 |
| Impeller | Bronze ASTM B584 |
| Shaft | Carbon Steel Per Motor Mfg. |
| Case Wearing Rings | Bronze ASTM B62 |
| Sleeve | Bronze ASTM B62 |
| Bracket | Cast Iron ASTM A48 |
| Mechanical Seal (STD) | |
| Washer | Carbon |
| Seat | Ceramic |
| Elastomer | Buna-N |
| Metal Parts | 303 SST |
| Spring | 303 SST |



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Because we are continuously improving our products and services, Pentair reserves the right to change specifications without prior notice.
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