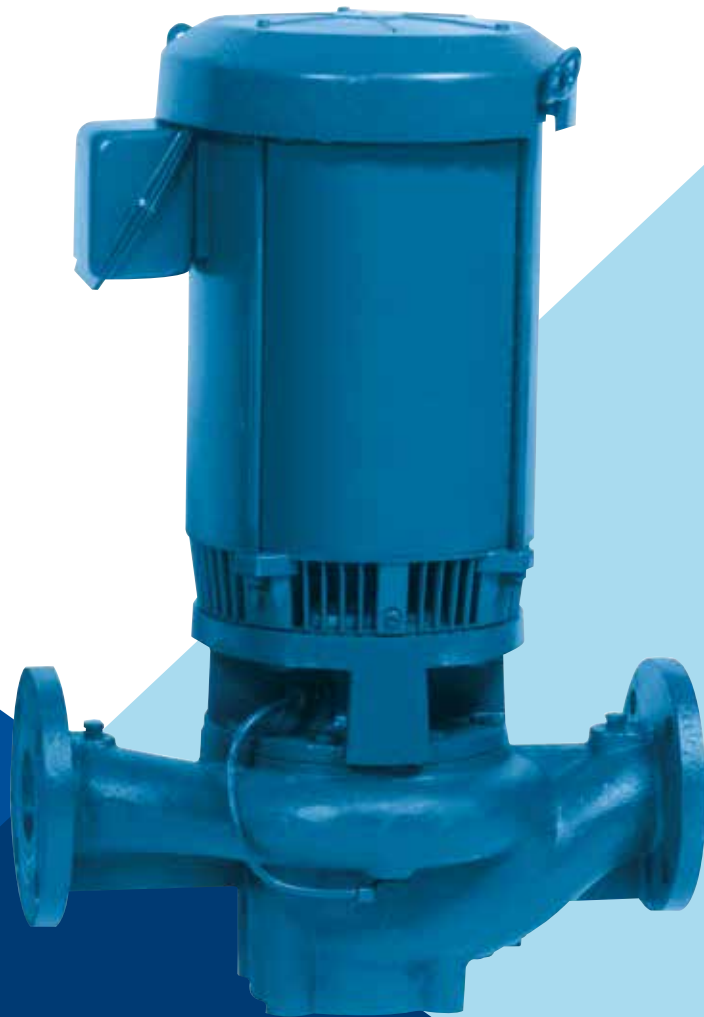




# SINGLE STAGE VERTICAL INLINE PUMP



MODEL 382



Certified to  
NSF/ANSI 372

380 SERIES

[WWW.AURORAPUMP.COM](http://WWW.AURORAPUMP.COM)

# AURORA® 380 SERIES

## Single Stage Vertical Inline Pump

Capacities to 4,500 gpm (1,020 m<sup>3</sup>/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

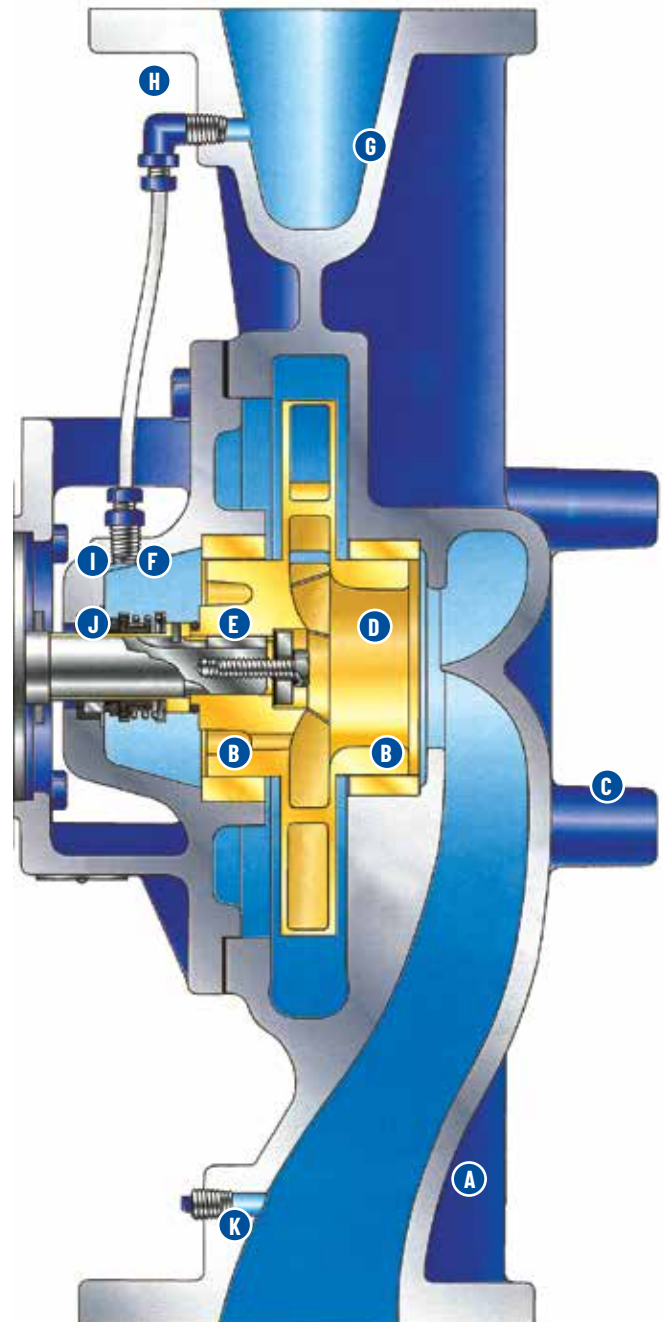
### Optional Features

- 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

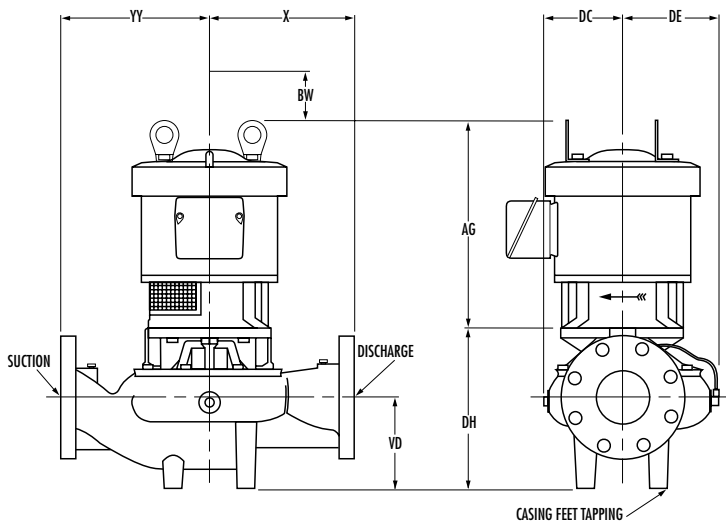
- A. Back Pull-Out Casing**  
includes inline suction and discharge.
- B. Case Wearing Ring**  
prevents wear on casing and is inexpensively replaced. Impeller wear rings are optional.
- C. Support Feet**  
cast integrally with the casing on Model 382A pumps. The pump thus can alternatively sit on the 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



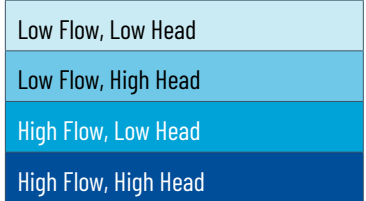
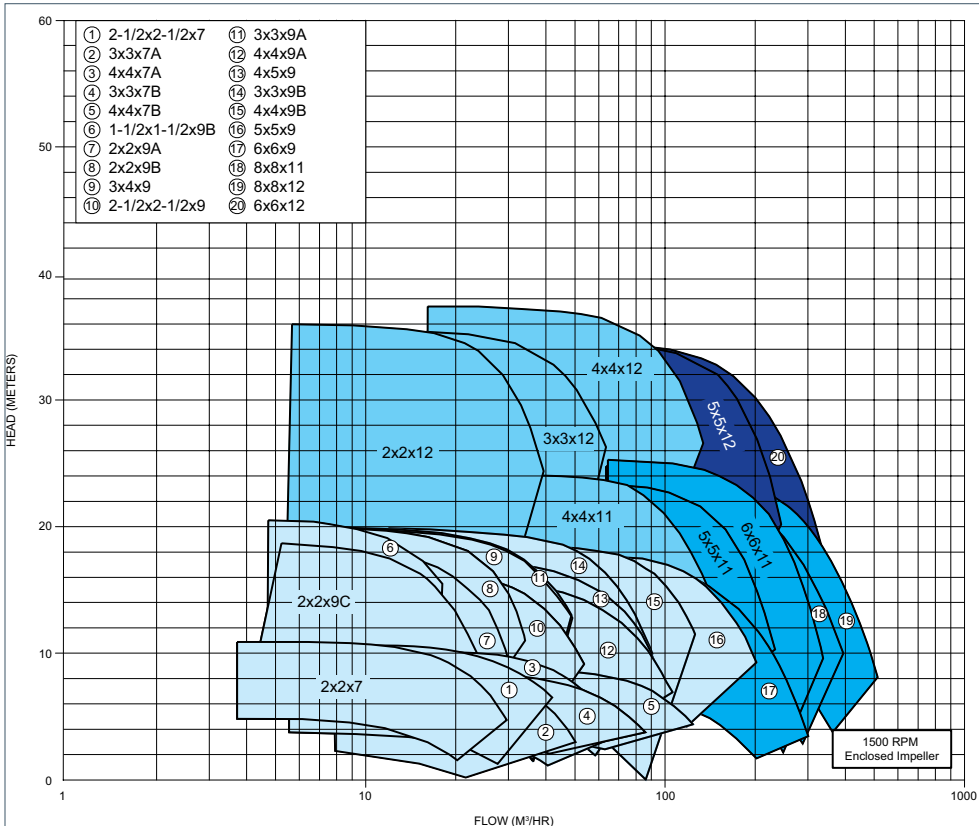
**NOTES:**

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

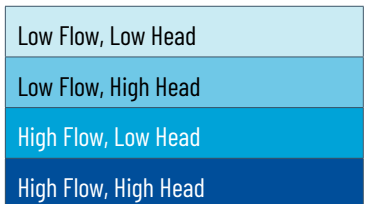
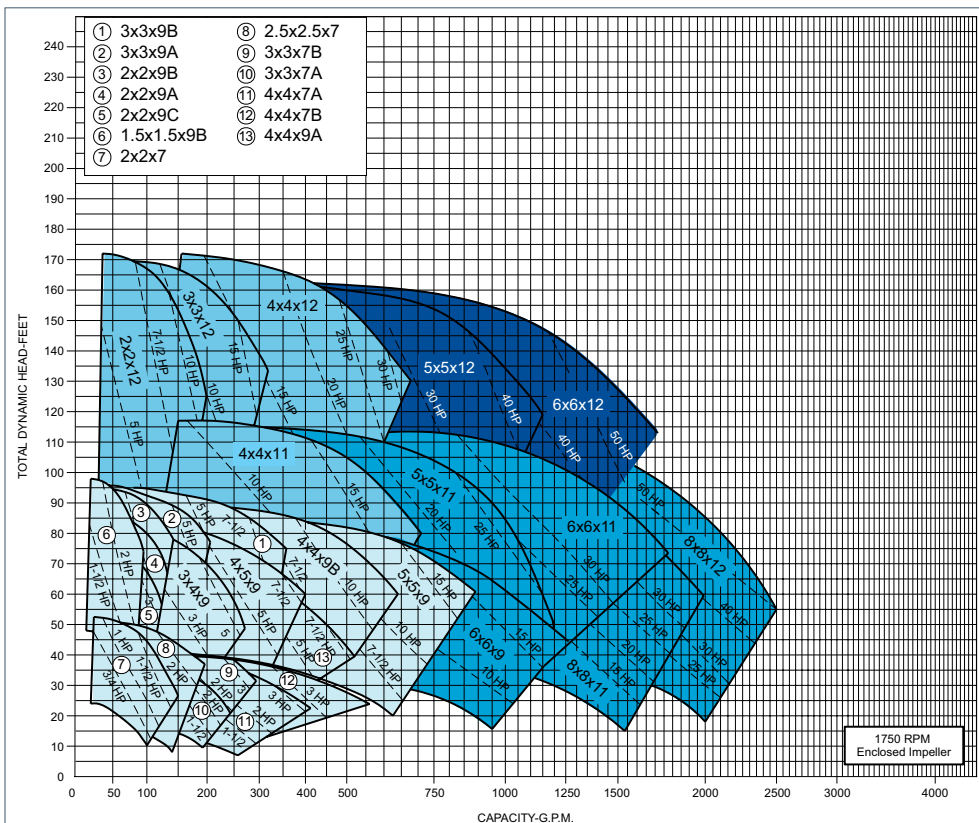
## 1500 RPM

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.

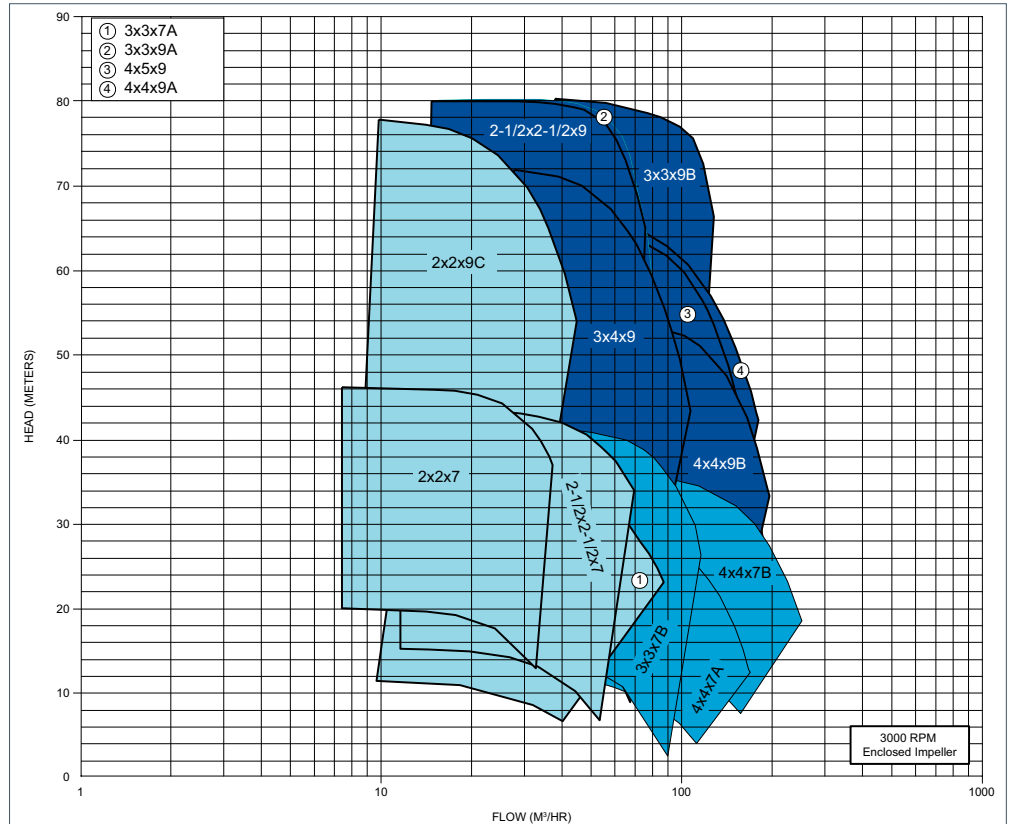


# Pump Features

## 3000 RPM

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

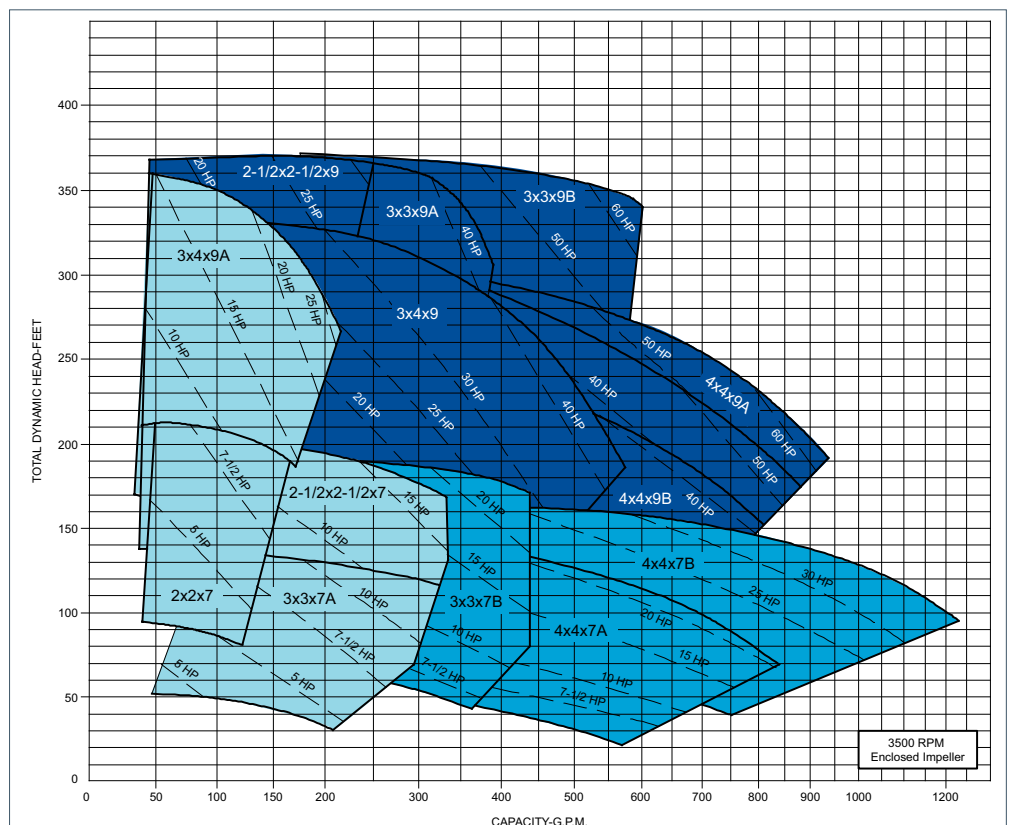
Low Flow, Low Head
Low Flow, High Head
High Flow, Low Head
High Flow, High Head



## 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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