

4600CE Series Vortex Pumps

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2"
4623CE

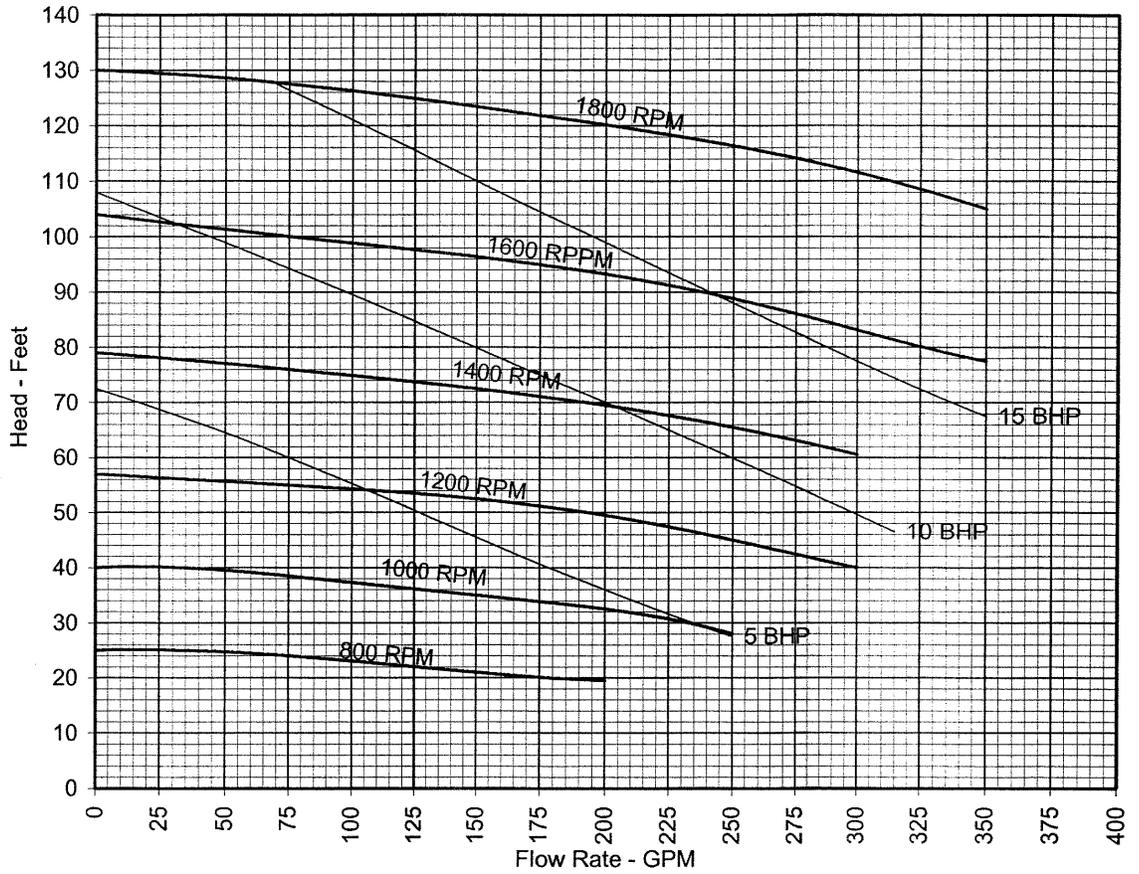
Horizontal

Multiple
RPM

IMPELLER

SUCTION
2"

MAX
SPHERE
2.0"



2"
4623CE

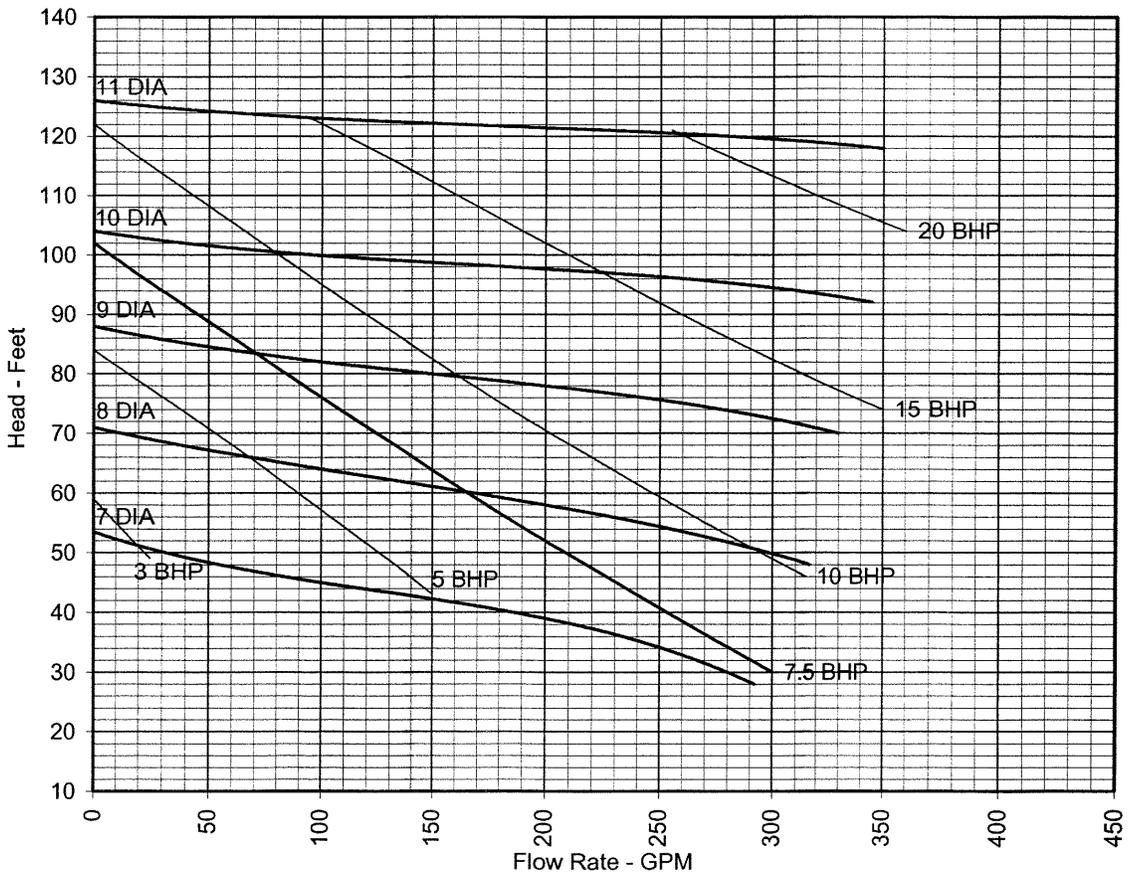
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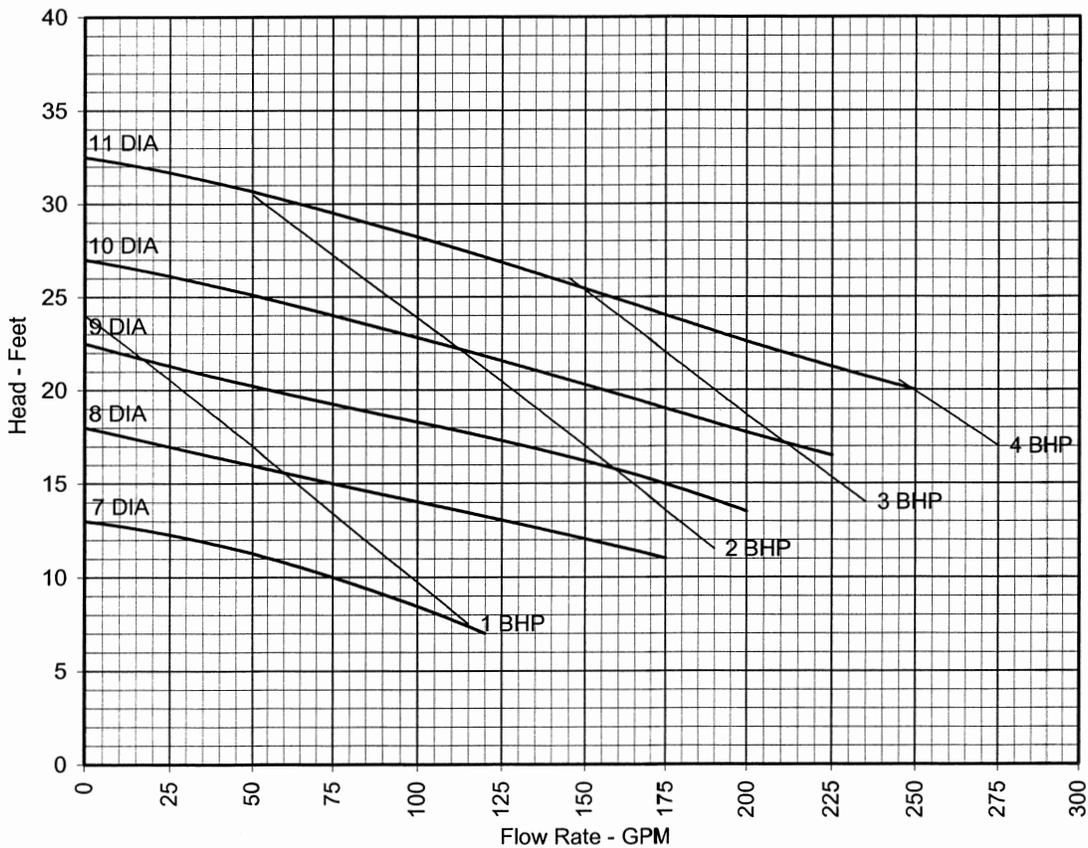
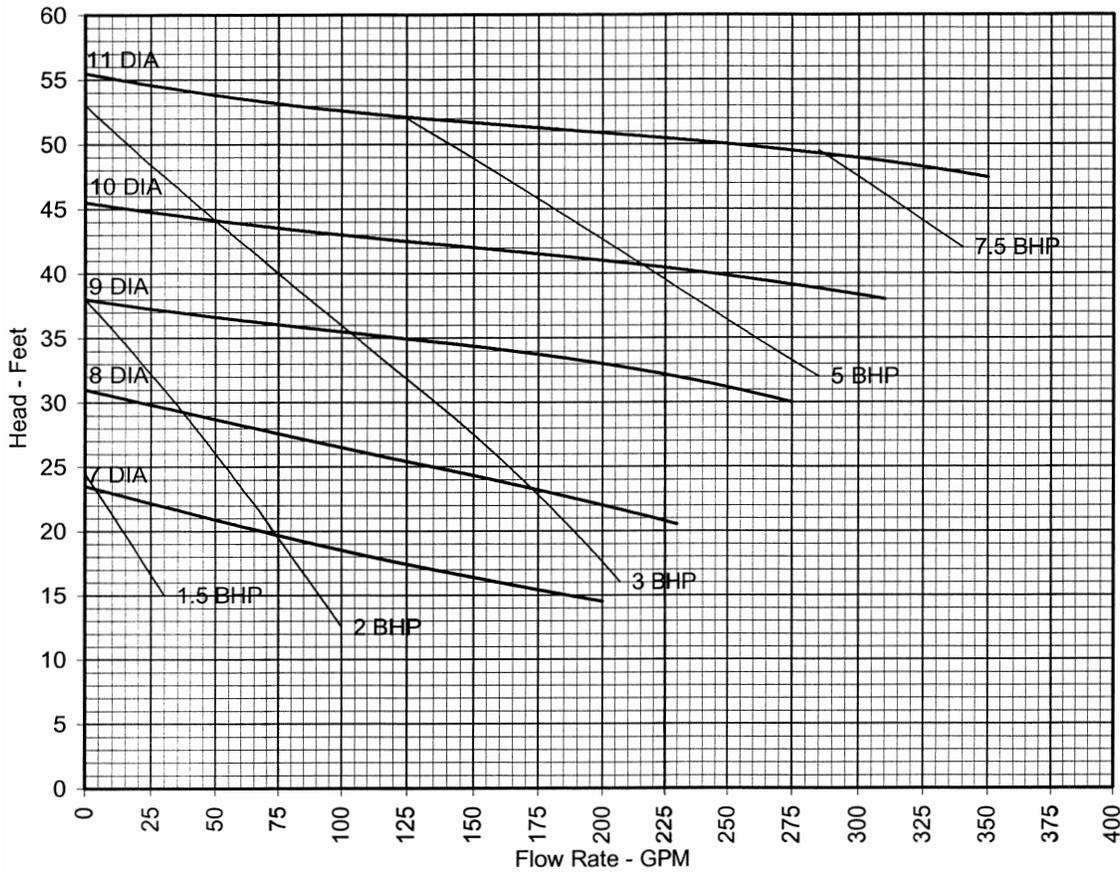
1750
RPM

IMPELLER

SUCTION
2"

MAX
SPHERE
2.0"



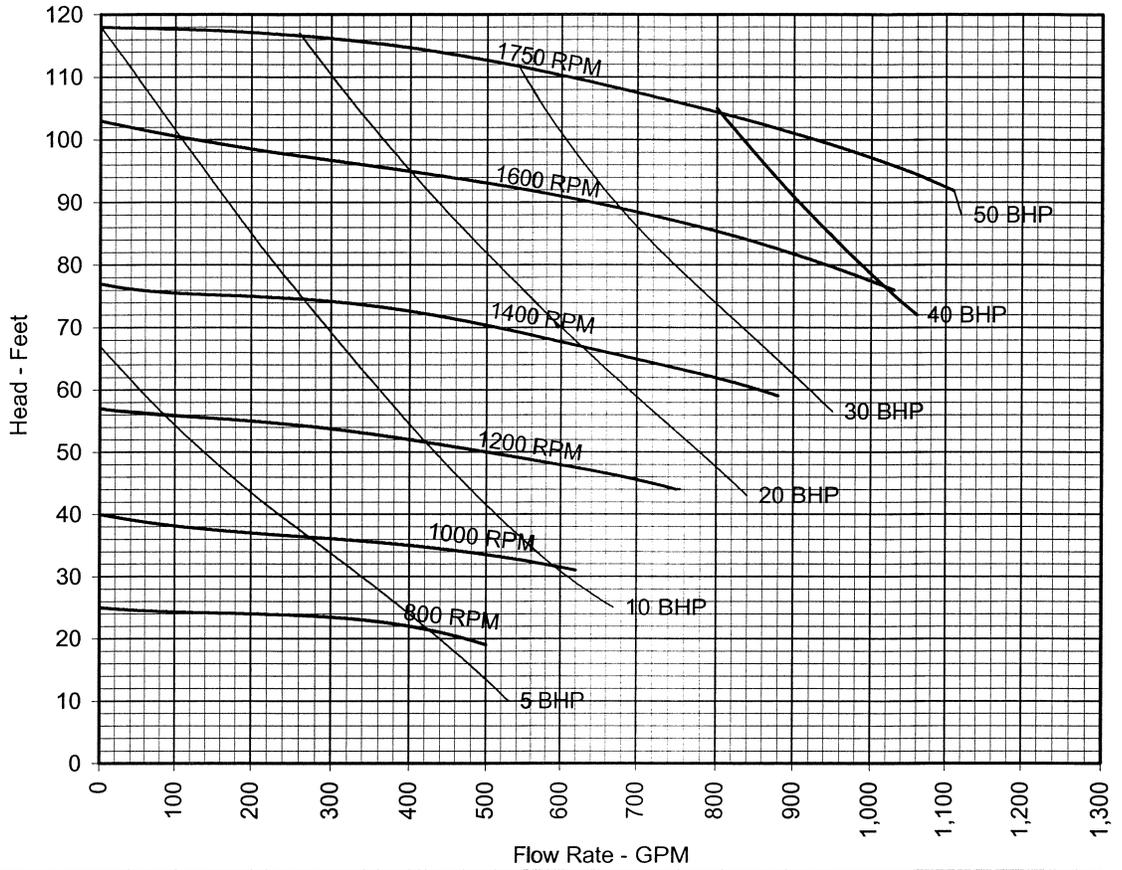


3"
4623CE
Horizontal

Multiple
RPM
IMPELLER

SUCTION
3"

MAX
SPHERE
3.0"

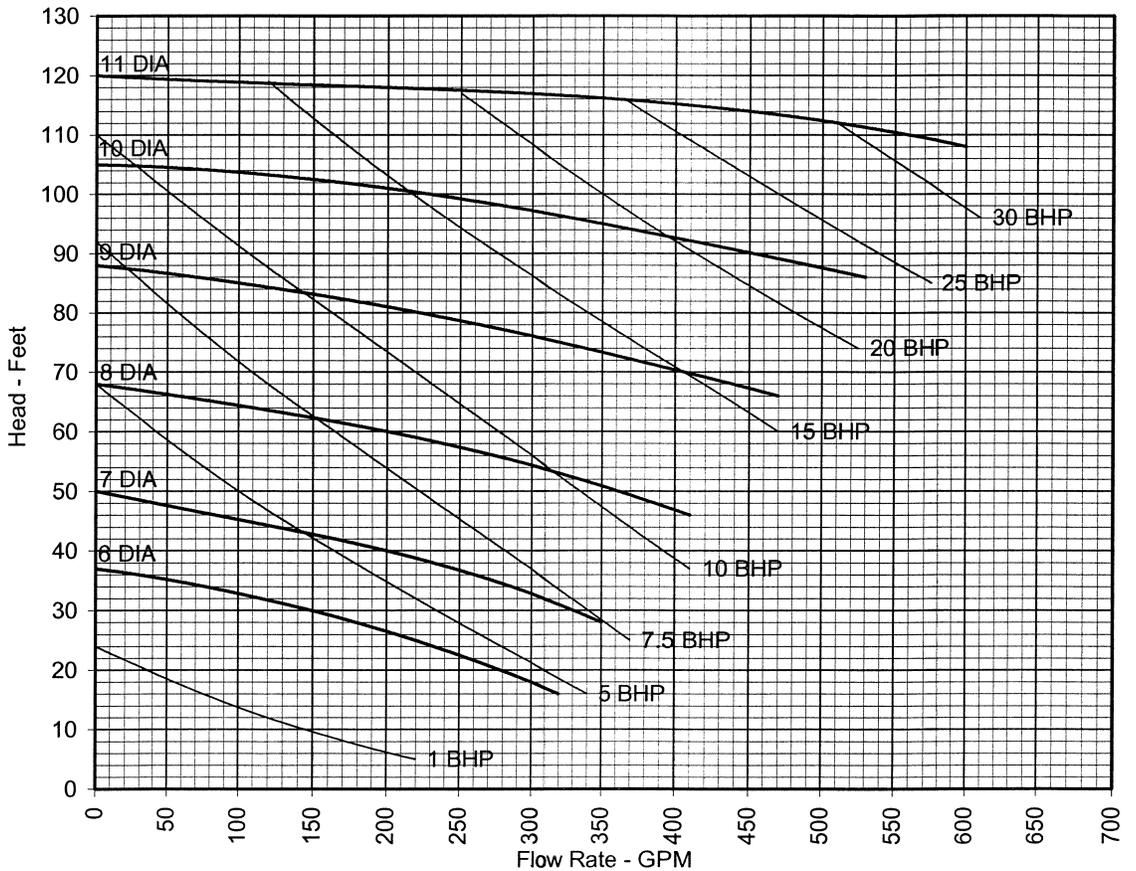


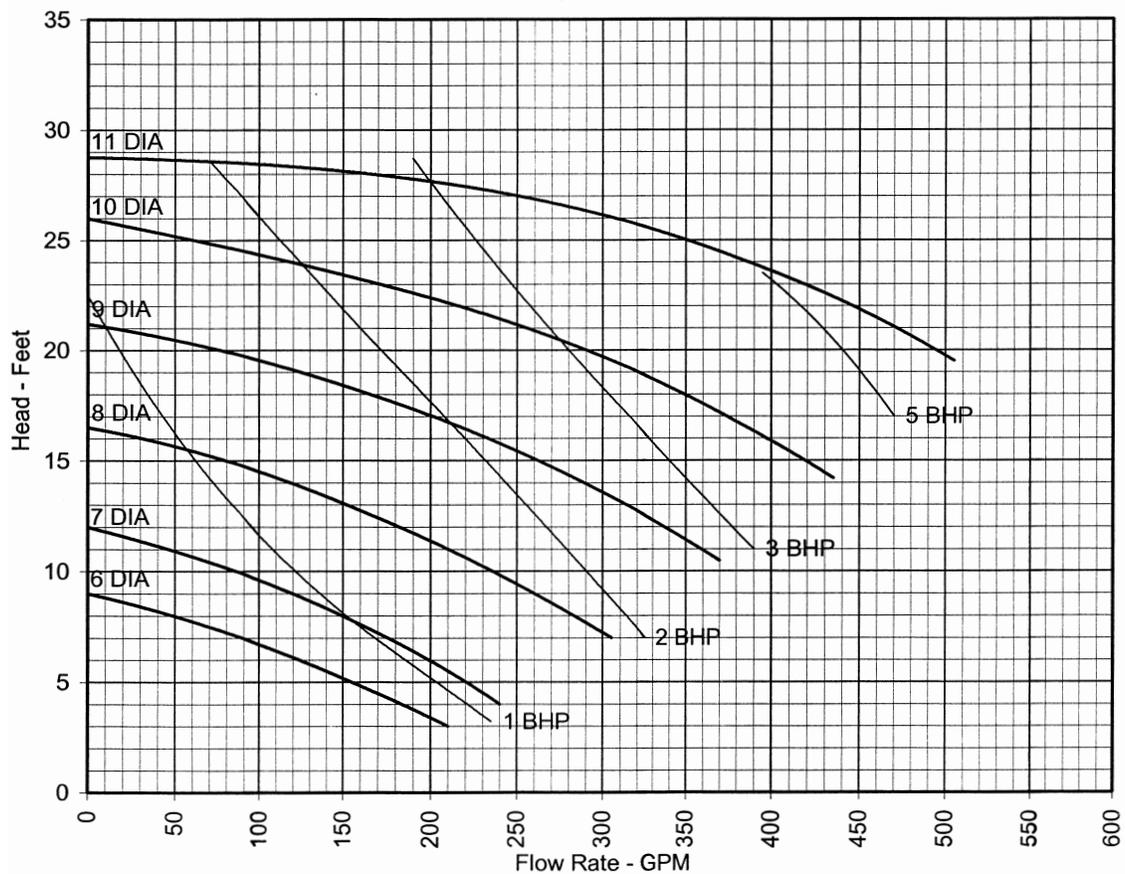
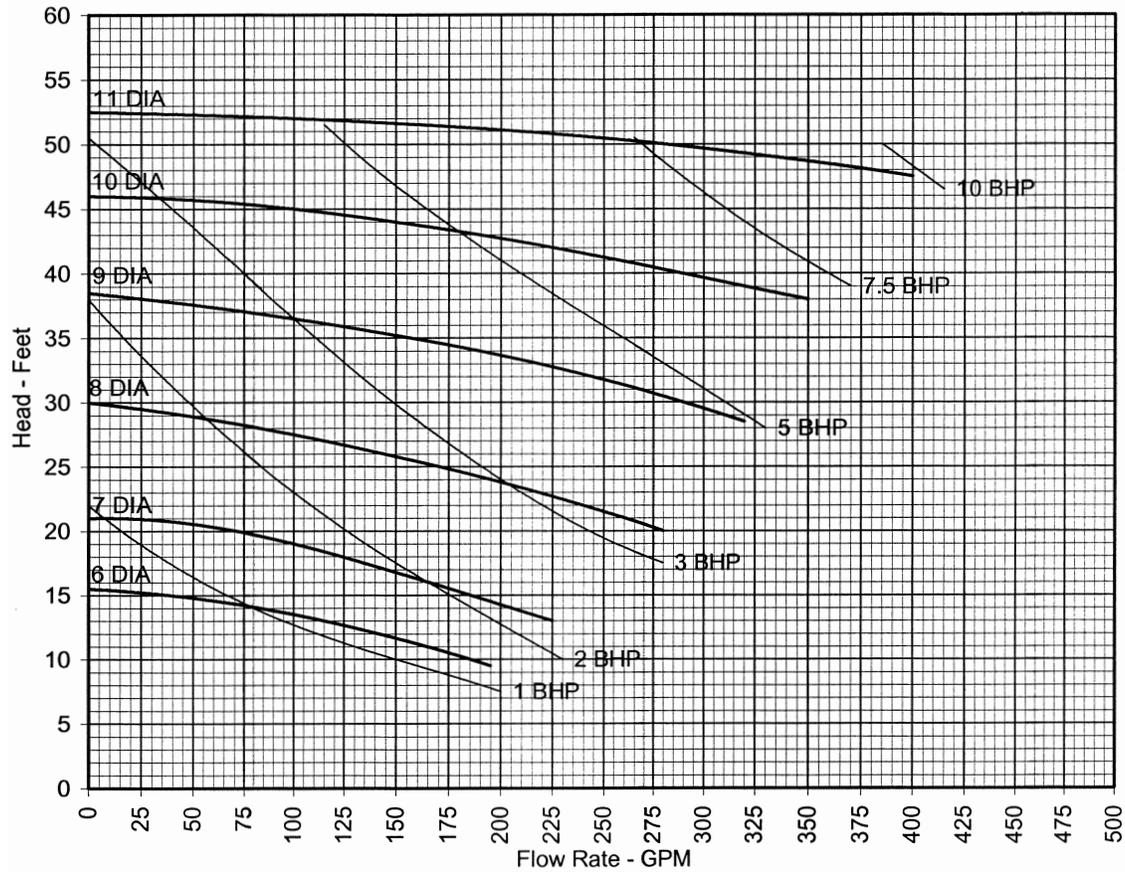
3"
4623CE
Horizontal

1750
RPM
IMPELLER

SUCTION
3"

MAX
SPHERE
3.0"



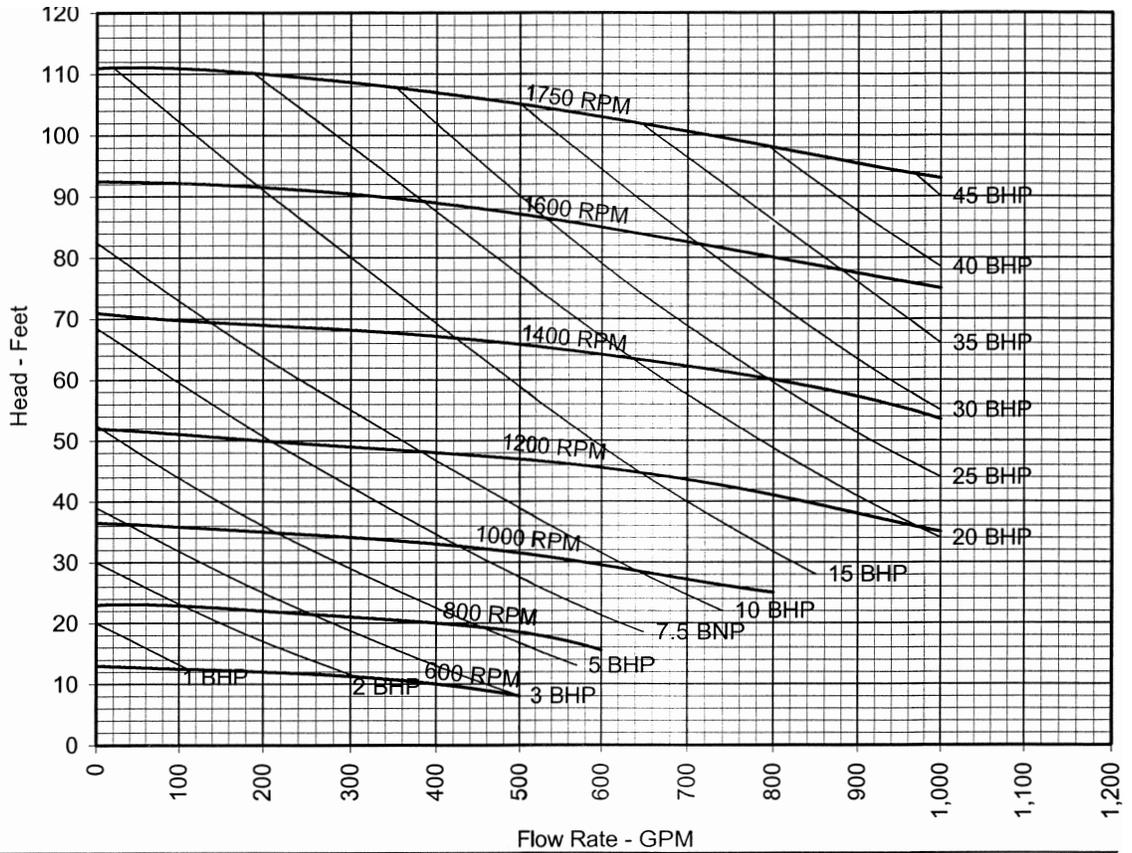


4"
4623CE
Horizontal

Multiple
RPM
IMPELLER

SUCTION
4"

MAX
SPHERE
4.0"

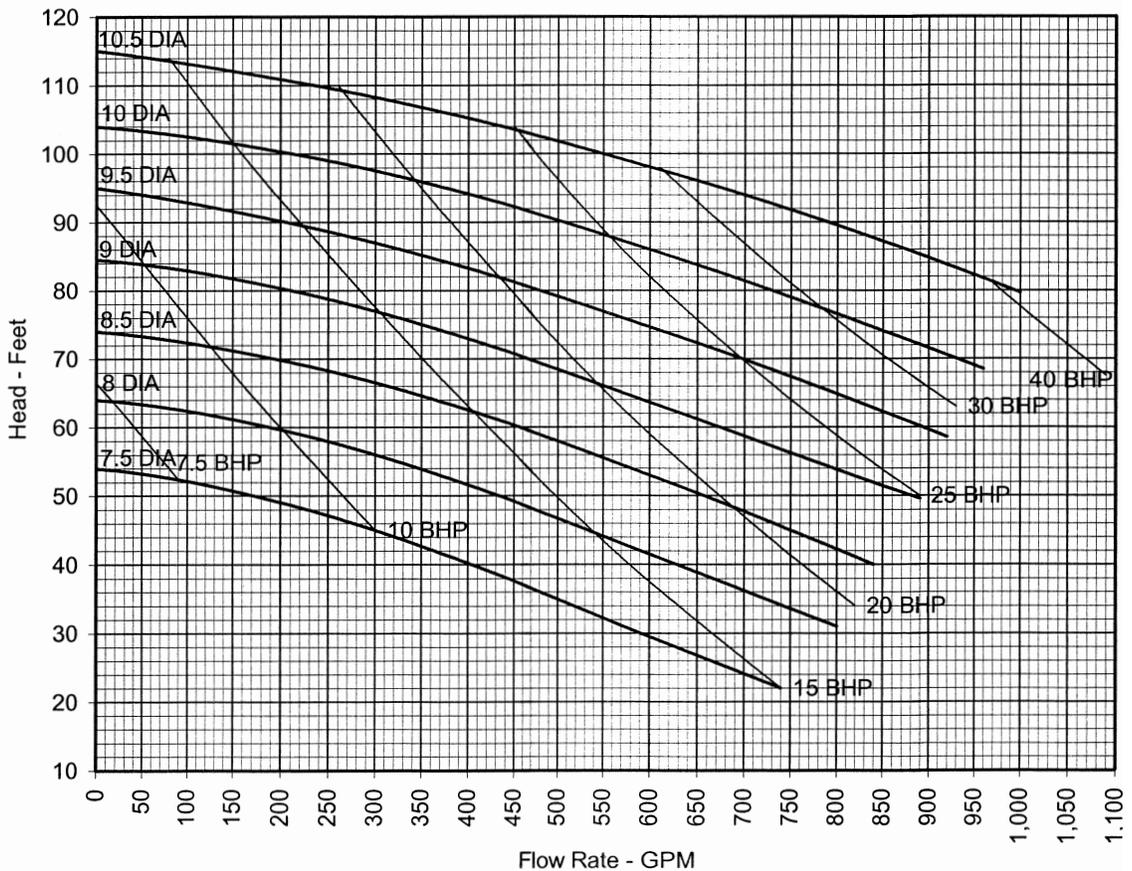


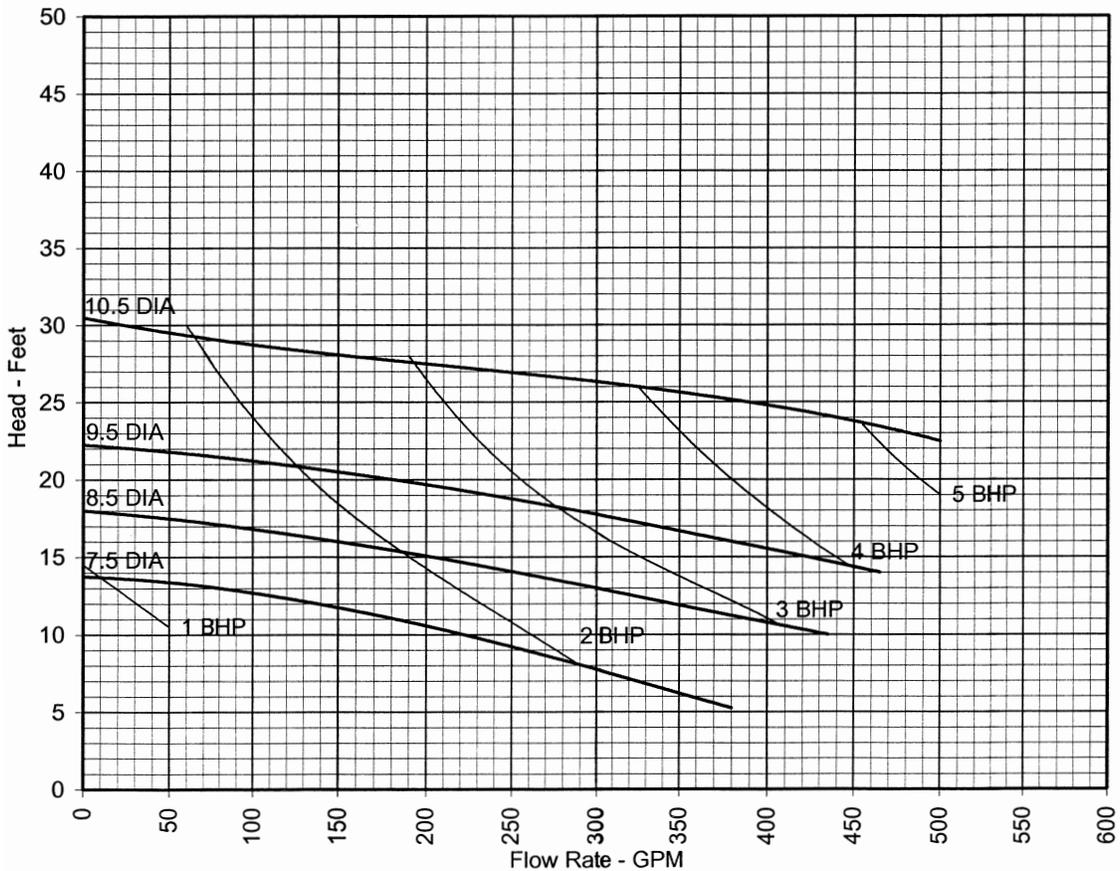
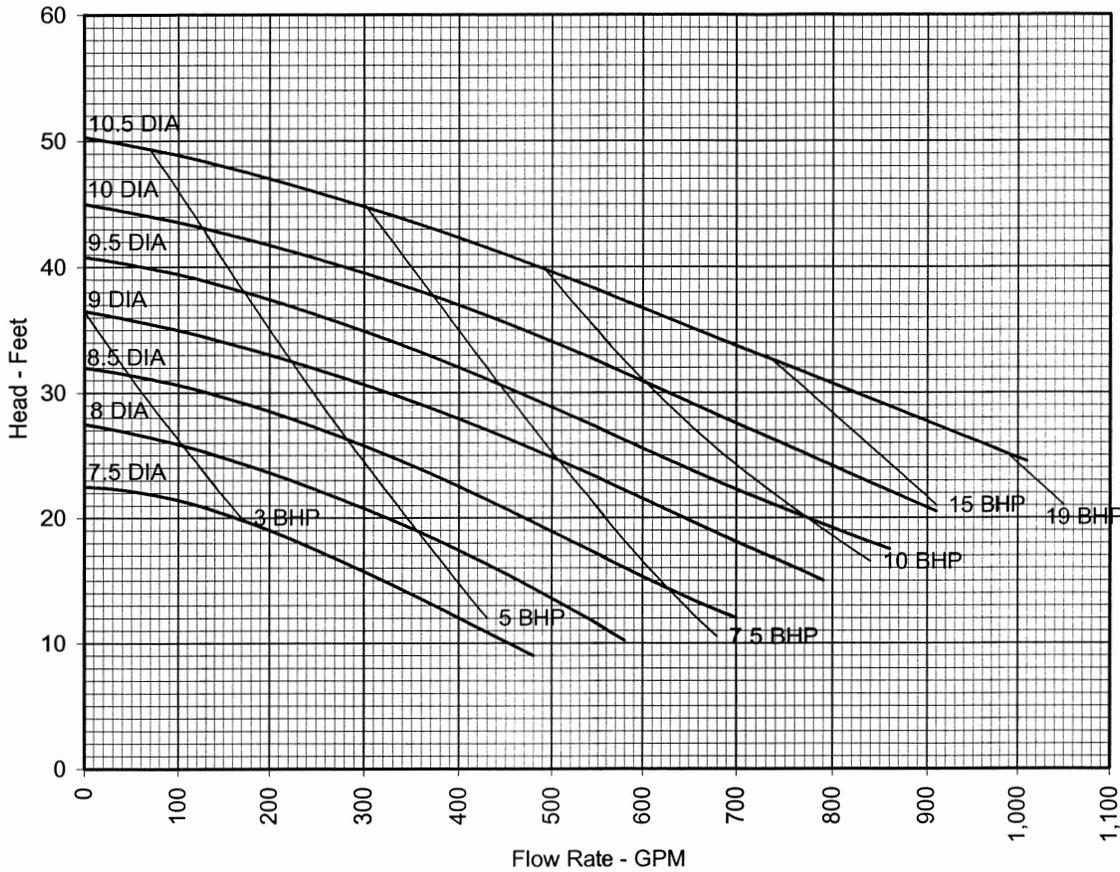
4"
4623CE
Horizontal

1750
RPM
IMPELLER

SUCTION
4"

MAX
SPHERE
4.0"



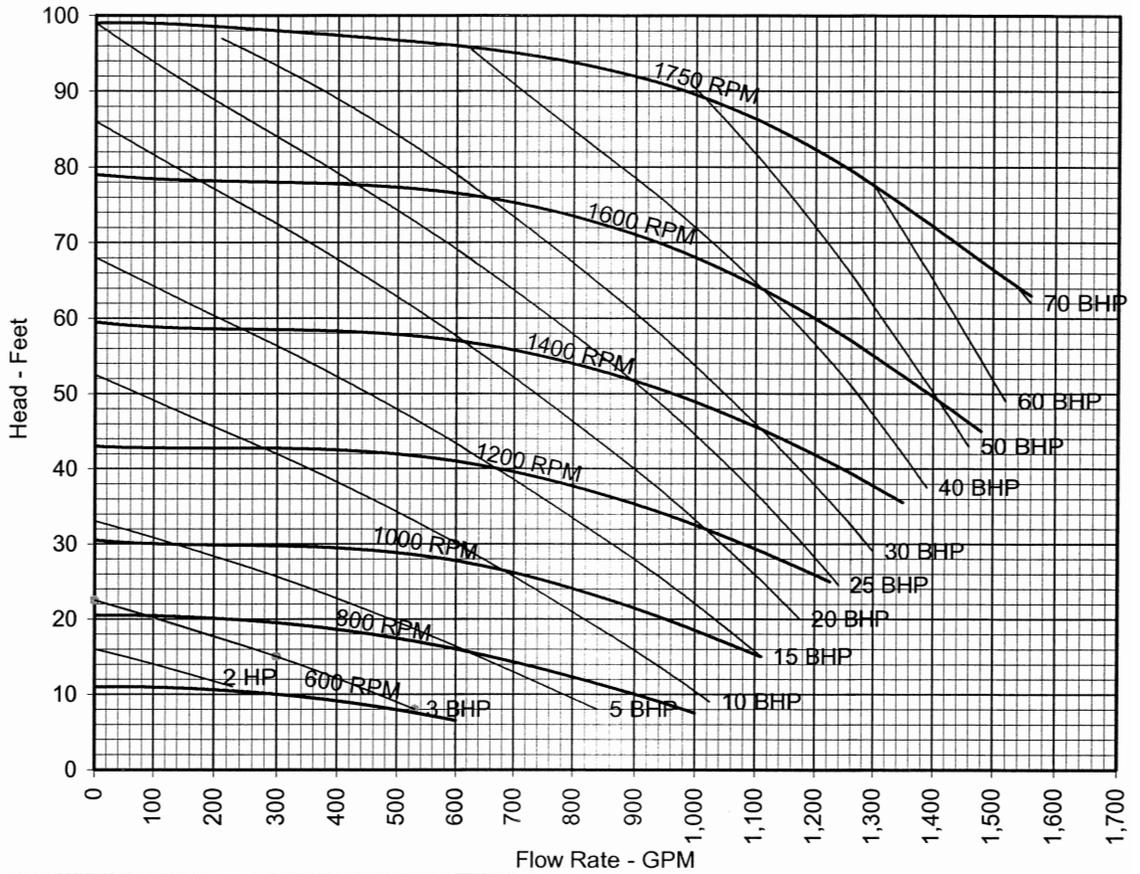


6"
4623CE
Horizontal

Multiple
RPM
IMPELLER

SUCTION
6"

MAX
SPHERE
6.0"

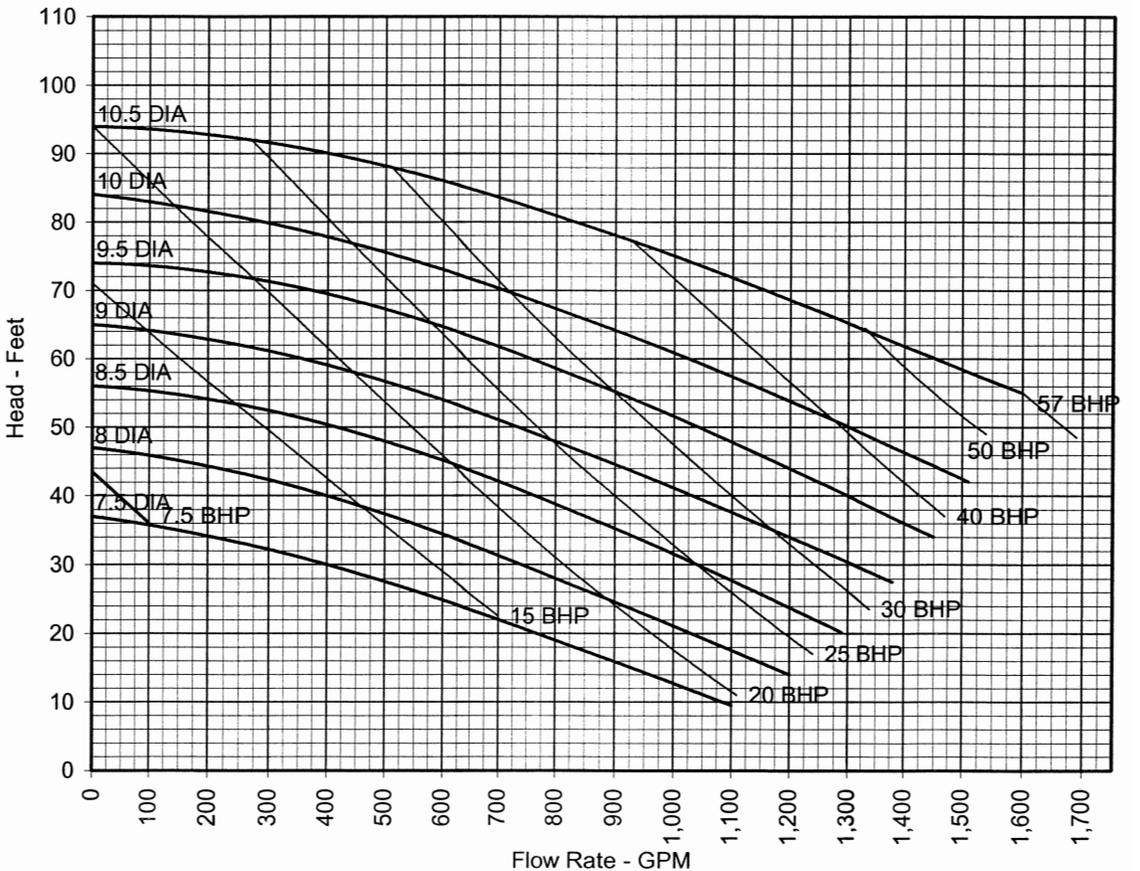


6"
4623CE
Horizontal

1750
RPM
IMPELLER

SUCTION
6"

MAX
SPHERE
6.0"



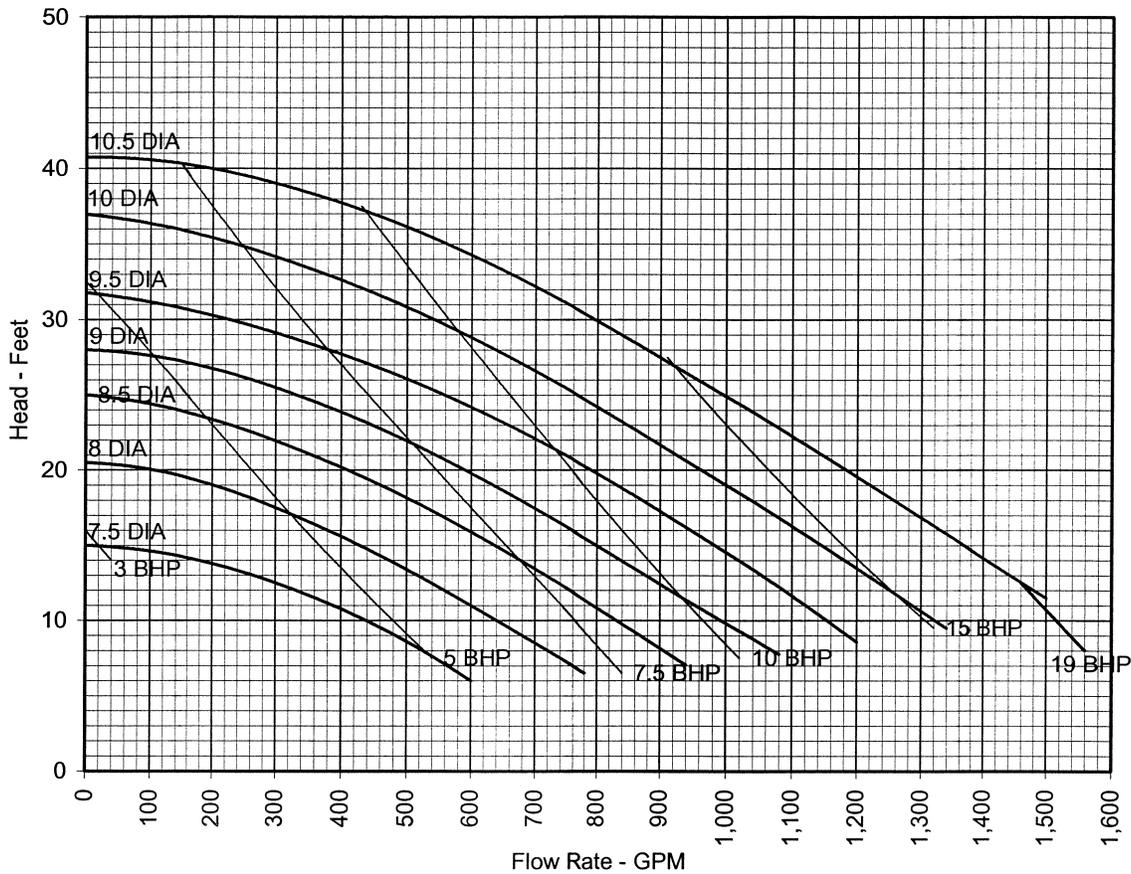
6"
4623CE
Horizontal

1160
RPM

IMPELLER

SUCTION
6"

MAX
SPHERE
6.0"



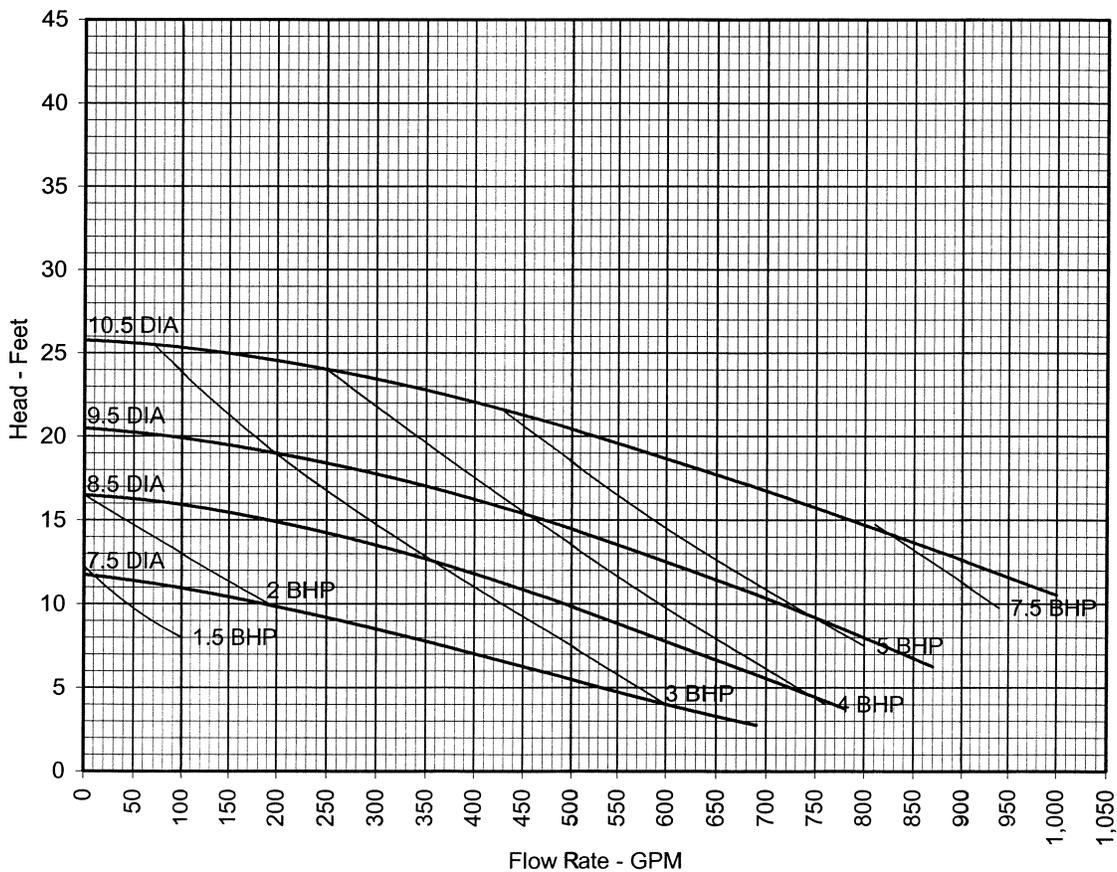
6"
4623CE
Horizontal

860
RPM

IMPELLER

SUCTION
6"

MAX
SPHERE
6.0"



4600CE Vortex Pumps

		Standard	Options
Type	Horizontal, single-stage, cup-type vortex impeller, frame mounted	x	
Rotation	CW as viewed from driver end, specify on order	x	
Volute	One-piece, radially split and flanged side tangential discharge	x	
Impeller	Cup-type, vortex flow	x	
Wearplate	One - piece	x	
Shaft	Accurately machined over entire length for straight bore	x	
Shaft Sleeve	Straight type, affixed & sealed with O-ring to prevent leakage between sleeve and shaft	x	
Gland Housing	Separate one-piece casting	x	
Gland	2-piece, 2-bolt, split type	x	
Bearing - Radial (Outboard)	Single-row, ball-type	x	
Bearing - Thrust (Inboard)	Double row, angular contact-type	x	
Lubrication	Grease	x	
	Oil		x
Auxiliary Connections	Gland housing water seal or vent	x	x
Baseplate	Bent form or welded structural steel, pedestal mounts, and guard		x
V-Belt Drives	Variable Speed - Stationary Control	x	
	Variable Speed - Motion Control, Spring Loaded		x
Coupling	Flexible, pin and buffer or flexible sleeve (mfg. Option)	x	
	Steelflex type		x
	Spacer type		x

**HEAVY DUTY 4600CE RECESSED IMPELLER PUMP SPECIFICATION
(HORIZONTAL MOUNTED)**

PART 1, GENERAL

- 1.01 The following specification includes the supply of ___ horizontal vortex-type slurry pumping unit(s). The design of these units shall be such that they are capable of pumping slurries, which may contain trash, stringy material, organic solids and grit without becoming clogged.
- 1.02 **QUALITY ASSURANCE**
 - A. Pump(s) shall be supplied by the manufacture as specified herein or by an approved equal and shall be designed for use intended in the application described.
 - B. Pump(s) shall be furnished with correctly sized motor, V-belt drive and drive guards and be mounted on a common base, as well as supply any other accessories as specifically called out in these specifications. All equipment shall carry a manufacturers warranty.
 - C. All of the pumps supplied per these specifications shall be the product of a single manufacturer.
- 1.03 **PERFORMANCE**
 - A. The pumps shall be designed for continuous operation and will be operated continuously under normal service.
 - B. **OPERATION CRITERIA**

	Capacity (GPM)	Total Dynamic Head (FT)	Max. Pump Speed (RPM)	Solids Size	Min. Suction Dia. (in.)	Min. Disch. Dia.(in.)	Min. Motor Size (HP)
Design Condition							
Secondary Condition							

PART 2, PRODUCTS

- 2.01 **A. PUMPS**
 - 1. Manufacturers
 - a. Pump(s) shall be the product of Fairbanks Nijhuis®.
 - 2. Design
 - a. Pump(s) shall be specifically designed to pump slurries that may contain solids, rags and grit.
 - b. This vortex pump design shall be such that trash and solids do not have to pass through the impeller. The impeller shall be recessed from the path of flow from the pump suction to pump discharge. All flow paths shall be equal to or greater than the pump suction size.
 - c. The hydraulic design of the cupped-type vortex impeller shall be such that performance is not negatively affected with the occurrence of wear. The impeller design shall be such that as wear occurs, the length of the impeller vanes increases. The impeller shall be made from ASTM A532, cast iron with a nominal hardness of 600-650 BHN. Radial design impellers or impellers that include pump-out vanes on the rear shroud are not acceptable.
 - d. A removable wear plate shall be provided which directs flow to the center of the volute from behind the impeller. It shall be made of ASTM A532 with a nominal hardness of 600-650 BHN. Bolted directly to the bearing housing shall be a separate stuffing box so that it can be easily removed. The stuffing box shall not be integral with the wear plate.

- e. The pump casing shall be ASTM A532 material with a nominal hardness of 600-650 BHN. It shall be of the radially split type design such that the impeller can be removed without disturbing the piping.
 - f. The pump hydraulic curve shall slope continuously upward to shutoff. Pumps with curves that contain a dip or dogleg are not acceptable.
 - g. Slotted raised-face 125-lb. flanges shall be incorporated into the volute design. These flanges shall be ground smooth to ensure an accurate fit with the piping. The casing shall also include slots in which to house the bolts used to fasten the volute to the bearing housing.
3. Materials of Construction
- a. Wear parts including the volute, impeller and wear plate shall be ASTM A532 material with a nominal hardness of 600-650 BHN.
4. Bearing Housing
- a. The bearing housing material shall be ASTM A48CL-30 cast iron.
 - b. A hardened shaft sleeve shall protect the shaft throughout the sealing area. The shaft material shall be ASTM A108, Grade 4140 heat-treated steel.
 - c. The double row, angular contact thrust ball bearings and the single-row radial ball bearings shall be grease lubricated.

- ALTERNATE -

- a. The double row, angular contact thrust ball bearings and the single-row radial ball bearings shall be oil lubricated. Bearings shall carry a minimum B10 life of 100,000 hours at the best efficiency point. A pressure vent plus oil fill and drain taps along with a built-in oil level sight glass shall be included with the bearing frame.
5. Shaft Sealing
- a. Packing and HardMetal Sleeve. Synthetic fiber graphite-impregnated packing and a Teflon water seal ring shall be used to seal the shaft. An adjustable split bronze gland shall hold the packing in the gland housing. The bearing housing shall incorporate a tapped $\frac{3}{4}$ " NPT hole to which drain piping can be connected to carry off any leakage through the packing. To prevent leakage between the shaft and sleeve, an O-ring sealed shaft sleeve shall be provided. The sleeve shall be ASTM A532 cast steel with a minimum hardness of 600 Brinell. Stainless steel sleeves will not be acceptable.

- ALTERNATE -

- b. Mechanical Seal. A single cartridge mechanical seal requiring no external flushing or a water flush shall be furnished in the pump. The seal shall utilize a single high-reliability cartridge seal with tungsten carbide versus silicon carbide seal faces, Viton elastomers, and 316 stainless steel parts. The base of the packing box shall be fitted with a SpiralTrac flow modification device to remove large solids from the gland housing and eject them behind the impeller. Seals that utilize large open areas with the seal faces exposed to the pumpage shall not be acceptable. A sleeve shall be provided to protect the shaft from abrasive wear and be O-ring sealed to prevent leakage between the shaft and the sleeve. The sleeve shall be stainless steel construction of 300-350 Bhn. Seals requiring a water or product flush may be furnished in lieu of the non-flushed seal, provided the contractor furnishes all of the external auxiliary equipment necessary for the flushing system. This systems shall include, but not be limited to stainless steel tubing, pressure gauge, flowmeter, shutoff and isolation valves, manual throttle valve, strainer, pump, isolated water supply system, solenoid valve in a suitable enclosure, associated wiring, and modifications to the motor control center to actuate the solenoid valve.

6. Horizontal Mounting with V-Belt Drives between Motor and Pump.
- A fabricated steel base with a minimum thickness of 3/8" shall be provided that is suitable to adequately support the weight of the pump, motor, drive and drive guard.
 - An adjustable motor base shall be furnished whose design is such that the motor can easily be moved to accommodate appropriate tensioning of the V-belt drive.
 - A "stationary control" variable speed drive complete with belts and sheaves shall be installed on the base with the pump and motor. This type of drive is to provide a means to adjust speeds while the drive is not operating.
 - An enclosed and approved metal belt guard shall be provided.
7. Motor. The motor provided shall meet NEMA standards and shall be _____ type, _____ HP, _____ Phase, _____ Hertz, _____ Volts, _____ RPM.

- OPTIONAL TESTING -

8. Tests
- Performance Testing
(Performance Test Option #1)
 - Each pump shall be factory certified tested in accordance with the latest edition of Hydraulic Institute codes. At least six test points shall be taken including the design condition and shutoff. Test results shall include capacity, head, efficiency and horsepower from shutoff to 150% of rated capacity.

(Performance Test Option #2)
 - A registered Professional Engineer shall review and certify the test results prior to shipment.

(Performance Test Option #3)
 - The owner or his representative shall witness the certified performance test.
 - Hardness Testing
(Hardness Test Option #1)
 - Individual hard metal castings shall be Brinell tested prior to shipment. A minimum of two places shall be checked on each casting to verify the material conforms to ASTM A532. These tests shall be by the ASTM Method E-10 and shall be conducted at the manufacturer's plant.

(Hardness Test Option #2)
 - A registered Professional Engineer shall review and certify the test results prior to shipment.

(Hardness Test Option #3)
 - The owner or his representative shall witness the hardness testing.

**HEAVY DUTY 4600CE RECESSED IMPELLER PUMP SPECIFICATION
(VERTICAL MOUNTED)**

PART 1, GENERAL

1.01 The following specification includes the supply of ___ vertical vortex-type slurry pumping unit(s). The design of these units shall be such that they are capable of pumping slurries, which may contain trash, stringy material, organic solids and grit without becoming clogged.

1.02 QUALITY ASSURANCE

- A. Pump(s) shall be supplied by the manufacture as specified herein or by an approved equal and shall be designed for use intended in the application described.
- B. Pump(s) shall be furnished with correctly sized motor and coupling. An appropriate coupling guard as well as supply any other accessories as specifically called out in these specifications shall be provided. All equipment shall carry a manufacturer’s warranty.
- C. All of the pumps supplied per these specifications shall be the product of a single manufacturer.

1.03 PERFORMANCE

- A. The pumps shall be designed for continuous operation and will be operated continuously under normal service.
- B. OPERATION CRITERIA

	Capacity (GPM)	Total Dynamic Head (FT)	Max. Pump Speed (RPM)	Solids Size	Min. Suction Dia. (in.)	Min. Disch. Dia. (in.)	Min. Motor Size (HP)
Design Condition							
Secondary Condition							

PART 2, PRODUCTS

2.01 A. PUMPS

1. Manufacturers

- a. Pump(s) shall be the product of Fairbanks Nijhuis®.

2. Design

- a. Pump(s) shall be specifically designed to pump slurries that may contain solids, rags and grit.
- b. This vortex pump design shall be such that trash and solids do not have to pass through the impeller. The impeller shall be recessed from the path of flow from the pump suction to pump discharge. All flow paths shall be equal to or greater than the pump suction size.
- c. The hydraulic design of the cupped-type vortex impeller shall be such that performance is not negatively affected with the occurrence of wear. The impeller design shall be such that as wear occurs, the length of the impeller vanes increases. The impeller shall be made from ASTM A532, cast iron with a nominal hardness of 600-650 BHN. Radial design impellers or impellers that include pump-out vanes on the rear shroud are not acceptable.
- d. A removable wear plate shall be provided which directs flow to the center of the volute from behind the impeller. It shall be made of ASTM A532 with a nominal hardness of 600-650 BHN. Bolted directly to the bearing housing shall be a separate stuffing box so that it can be easily removed. The stuffing box shall not be integral with the wear plate.

- e. The pump casing shall be ASTM A532 material with a nominal hardness of 600-650 BHN. It shall be of the radially split type design such that the impeller can be removed without disturbing the piping.
- f. The pump hydraulic curve shall slope continuously upward to shutoff. Pumps with curves that contain a dip or dogleg are not acceptable.
- g. Slotted raised-face 125-lb. flanges shall be incorporated into the volute design. These flanges shall be ground smooth to ensure an accurate fit with the piping. The casing shall also include slots in which to house the bolts used to fasten the volute to the bearing housing.

3. Materials of Construction

- a. Wear parts including the volute, impeller and wear plate shall be ASTM A532 material with a nominal hardness of 600-650 BHN.

4. Bearing Housing

- a. The bearing housing material shall be ASTM A48CL-30 cast iron.
- b. A hardened shaft sleeve shall protect the shaft throughout the sealing area. The shaft material shall be ASTM A108, Grade 4140 heat-treated steel.
- c. The double row, angular contact thrust ball bearings and the single-row radial ball bearings shall be grease lubricated.

- ALTERNATE -

- d. The double row, angular contact thrust ball bearings and the single-row radial ball bearings shall be oil lubricated. Bearings shall carry a minimum B10 life of 100,000 hours at the best efficiency point. A pressure vent plus oil fill and drain taps along with a built-in oil level sight glass shall be included with the bearing frame.

5. Shaft Sealing

- a. Packing and HardMetal Sleeve. Synthetic fiber graphite-impregnated packing and a Teflon water seal ring shall be used to seal the shaft. An adjustable split bronze gland shall hold the packing in the gland housing. The bearing housing shall incorporate a tapped 3/4" NPT hole to which drain piping can be connected to carry off any leakage through the packing. To prevent leakage between the shaft and sleeve, an O-ring sealed shaft sleeve shall be provided. The sleeve shall be ASTM A532 cast steel with a minimum hardness of 600 Brinell. Stainless steel sleeves will not be acceptable.

- ALTERNATE -

- b. Mechanical Seal. A single cartridge mechanical seal requiring no external flushing or a water flush shall be furnished in the pump. The seal shall utilize a single high-reliability cartridge seal with tungsten carbide versus silicon carbide seal faces, Viton elastomers, and 316 stainless steel parts. The base of the packing box shall be fitted with a SpiralTrac flow modification device to remove large solids from the gland housing and eject them behind the impeller. Seals that utilize large open areas with the seal faces exposed to the pumpage shall not be acceptable. A sleeve shall be provided to protect the shaft from abrasive wear and be O-ring sealed to prevent leakage between the shaft and the sleeve. The sleeve shall be stainless steel construction of 300-350 Bhn. Seals requiring a water or product flush may be furnished in lieu of the non-flushed seal, provided the contractor furnishes all of the external auxiliary equipment necessary for the flushing system. This systems shall include, but not be limited to stainless steel tubing, pressure gauge, flowmeter, shutoff and isolation valves, manual throttle valve, strainer, pump, isolated water supply system, solenoid valve in a suitable enclosure, associated wiring, and modifications to the motor control center to actuate the solenoid valve.

6. Vertical Mounting with Flexible Coupled Motor.
- a. A fabricated steel base shall be provided that is suitable to adequately support the weight of the pump, motor, drive and drive guard.
 - b. A fabricated steel motor high ring base shall be of adequate height to permit access to the coupling and furnished with a coupling guard.
7. Motor. The motor provided shall meet NEMA standards and shall be _____ type, _____ HP, _____ Phase, _____ Hertz, _____ Volts, _____ RPM.

- OPTIONAL TESTING -

8. Tests

a. Performance Testing

(Performance Test Option #1)

- 1) Each pump shall be factory certified tested in accordance with the latest edition of Hydraulic Institute codes. At least six test points shall be taken including the design condition and shutoff. Test results shall include capacity, head, efficiency and horsepower from shutoff to 150% of rated capacity.

(Performance Test Option #2)

- 2) A registered Professional Engineer shall review and certify the test results prior to shipment.

(Performance Test Option #3)

- 3) The owner or his representative shall witness the certified performance test.

b. Hardness Testing

(Hardness Test Option #1)

- 1) Individual hard metal castings shall be Brinell tested prior to shipment. A minimum of two places shall be checked on each casting to verify the material conforms to ASTM A532. These tests shall be by the ASTM Method E-10 and shall be conducted at the manufacturer's plant.

(Hardness Test Option #2)

- 2) A registered Professional Engineer shall review and certify the test results prior to shipment.

(Hardness Test Option #3)

- 3) The owner or his representative shall witness the hardness testing.

9. Pumps shall be manufactured by companies whose management system is registered to ISO-9001:2000.

4600CE

	4623CE			
Frame Size	M	M	M	M
Pump Size (Discharge Size)	2	3	4	6
Suction Size (Standard)	2	3	4	6
Shaft Diameter:				
at Impeller	1-1/2	1-1/2	1-1/2	1-1/2
at Sleeve	1-1/2	1-1/2	1-1/2	1-1/2
at Coupling	1-7/8	1-7/8	1-7/8	1-7/8
Thrust Bearing No. (2)	NTN W5310 ZNR 99-11			
Radial Bearing No. (2)	NTN BL310Z			
Gland Housing:				
Packing:				
Size	3/8	3/8	3/8	3/8
No. Rings per Box	5	5	5	5
Lantern Ring Width	3/4	3/4	3/4	3/4
Mechanical Seal: (3)				
Type (Standard)	(4)	(4)	(4)	(4)
Recommended flush water:				
Pressure	(5)	(5)	(5)	(5)
Flow (GPM)	1/2 - 1	1/2 - 1	1/2 - 1	1/2 - 1
Sleeve OD	1.75	1.75	1.75	1.75
Box ID	2-1/2	2-1/2	2-1/2	2-1/2
Box Depth	2.75	2.75	2.75	2.75
Distance to nearest obstruction (6)	2.15	2.15	2.15	2.15
Gland Bolt Size	.375 - 16	.375 - 16	.375 - 16	.375 - 16
No. of Gland Bolts	4	4	4	4
Casing Working, PSI (7)	75	75	75	75
Nominal Casting Thickness:	3/4	3/4	3/4	3/4
Shipping Wt. (Basic Pump) (lbs.)	420	435	455	525

- (1) All Dimensions are in inches.
- (2) Grease lubricated only.
- (3) Different seal housing required.
- (4) Standard mechanical seal is a John Crane Type 1 or equal double seal (flushed - NOT deadheaded) with Viton O-ring, stainless steel wetted parts, and carbon on ceramic upper faces and carbon on ceramic lower faces. Contact the factory for other types of mechanical seals availability.
- (5) Shutoff pressure or 10 PSI above operating pressure whichever is greater. (Not required with a slurry seal.)
- (6) Distance from top of stuffing box to face of bearing cap.
- (7) These are maximum values based on standard construction. If higher values are required, contact the factory.

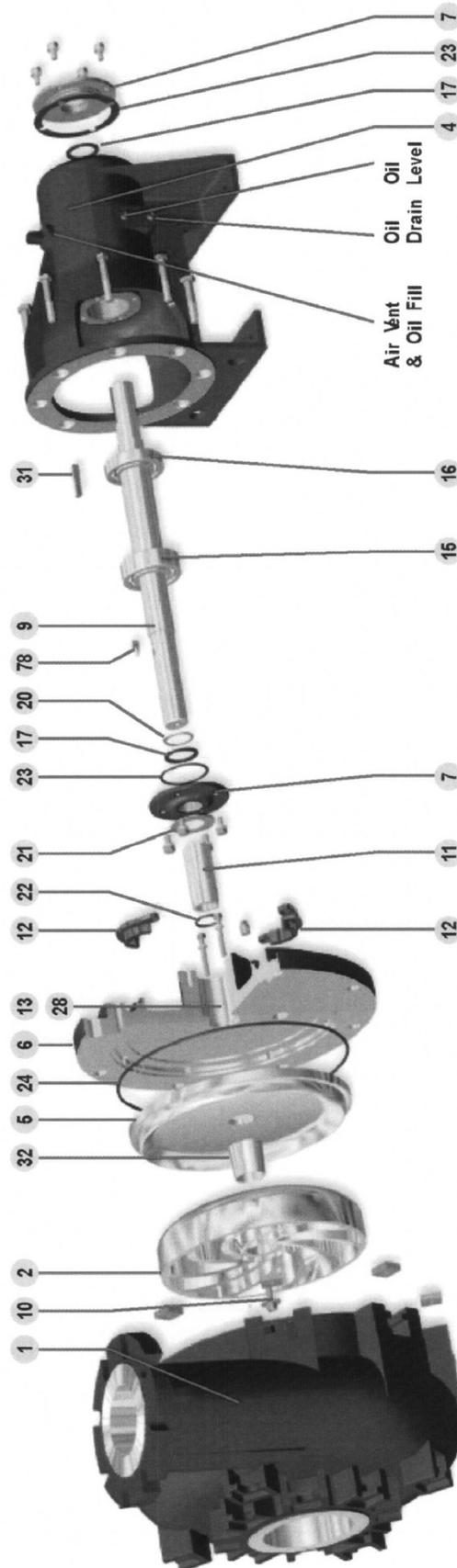
**4600CE
Standard Fitted Pumps**

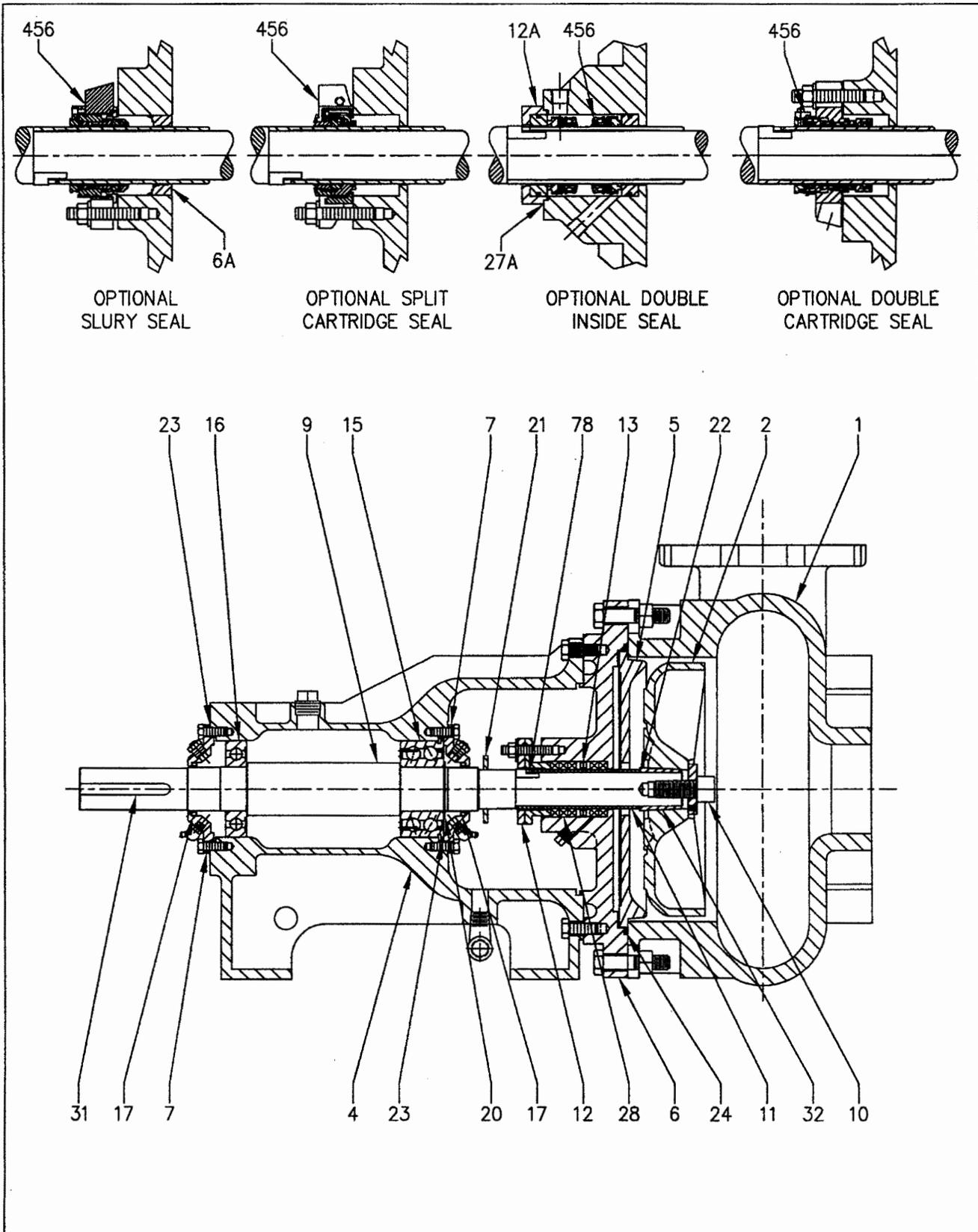
Ref. No.	Description	Material	Specifications (1)
1	Case	Ni-Hard (650 BHN)	ASTM A-532
2	Impeller	Ni-Hard (650 BHN)	ASTM A-532
4	Housing, Bearing	Cast Iron	ASTM A48 CL30
5	Wearplate	Ni-Hard (650 BHN)	ASTM A-532
6	Backplate	Cast Iron	ASTM A48 CL30
7	Cap, Bearing	Cast Iron	ASTM A48 CL30
9	Shaft	Steel	AISI 4140
10	Lockscrew, Impeller	Stainless Steel	Commercial
11	Sleeve, Shaft	Stainless Steel	ASTM 276 (Heat treated to 450 BHN)
12	Gland, Split	Bronze	ASTM B584 AL836
13	Ring, Lantern *	Teflon	Commercial
15	Bearing, Thrust	Steel	Commercial
16	Bearing, Radial	Steel	Commercial
17	Seal, Oil	Viton	Commercial
20	Ring, Snap	Steel	Commercial
21	Slinger	Rubber	Neoprene
22	O-Ring, Sleeve Gasket	Viton	Commercial
23	Gasket, Bearing Cap	Nylon	Commercial
24	O-Ring, Case Gasket	Viton	Commercial
28	Ring, Packing *	Cast Iron	Commercial
31	Key, Shaft	Steel	Commercial
32	Collet	Stainless Steel	Commercial
78	Key, Sleeve Drive	Steel	Commercial

Options to Basic Pumps

Ref. No.	Description	Material	Specifications (1)
11	Sleeve, Shaft	Hard Metal	620 Brinell
28	Mechanical Seal	----	----

* Not Shown





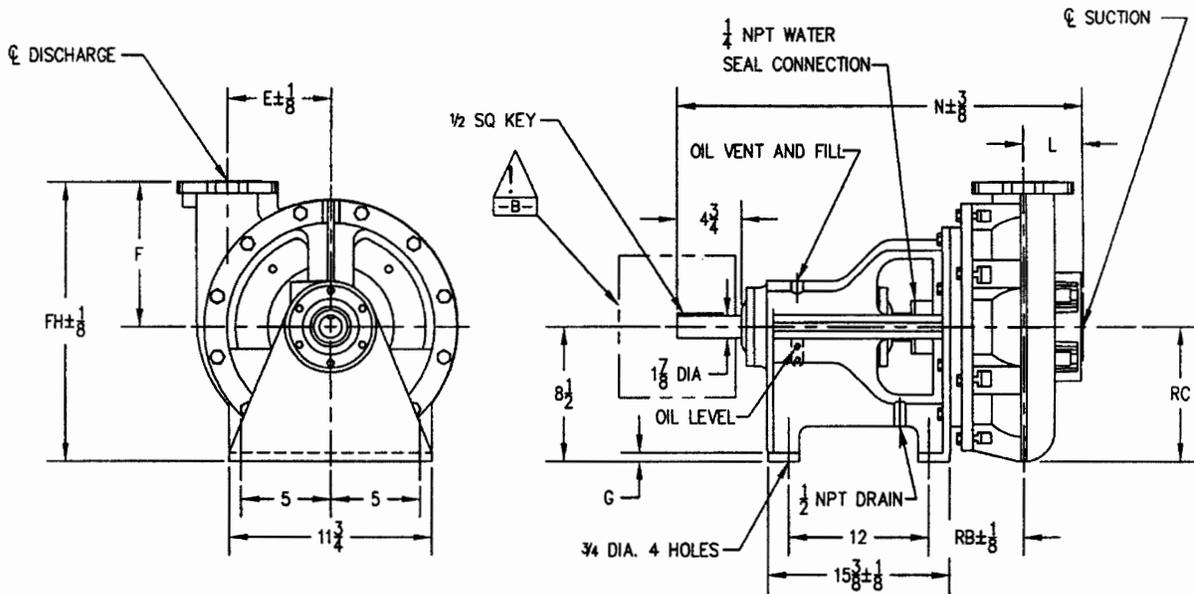
ASSEMBLY
2"-6" 4623CE



DWG NO 4623A001

REV NO 0

WARNING
 DO NOT OPERATE THIS MACHINE WITHOUT PROTECTIVE GUARD IN PLACE. ANY OPERATION OF THIS MACHINE WITHOUT PROTECTIVE GUARD CAN RESULT IN SEVERE BODILY INJURY.
 -A- SUPPLIED BY FMPC -B- SUPPLIED BY OTHERS



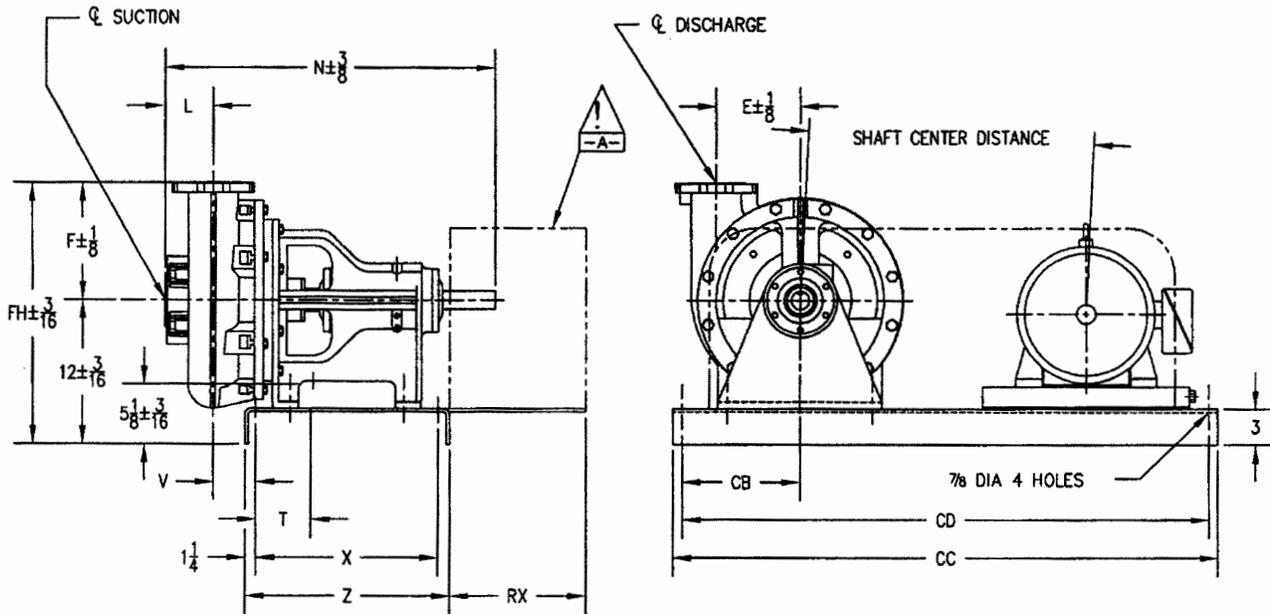
PUMP	SUCT	DISCH	E	F	G	L	N	FH	RB	RC
2" 4623CE	2	2	6	10	5/8	3 1/2	31 15/16	18 1/2	7 13/16	8 5/8
3" 4623CE	3	3	5 1/2	10	5/8	4 5/8	33	18 1/2	7 7/8	8 5/8
4" 4623CE	4	4	6 1/2	10 7/8	7/8	4 3/4	33 5/8	19 3/8	8 3/8	8 3/4
6" 4623CE	6	6	6 1/2	10 7/8	7/8	5 3/4	35 5/8	19 3/8	9 3/8	9 3/4

NOTES:

- (1) ALL FLANGES ARE 125# ANSI DRILLING UNLESS NOTED.
- (2) ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE.
- (3) SUCTION AND DISCHARGE GAUGE CONNECTIONS ARE NOT AVAILABLE AND SHOULD BE LOCATED ON ADJACENT PIPING.
- (4) AVAILABLE IN CLOCKWISE ROTATION ONLY.
- (5) CASING AND SUCTION FLANGES ARE PROVIDED AS CAST. PIPING SHOULD BE FITTED TO PUMP WITH HEAVY NEOPRENE GASKETS AFTER PUMP IS SET AND LEVELED.
- (6) NOT FOR CONSTRUCTION, INSTALLATION, OR APPLICATION PURPOSES UNLESS CERTIFIED. DIMENSIONS SHOWN MAY VARY DUE TO NORMAL MANUFACTURING TOLERANCES.

CUSTOMER				P.O. NO.			
JOB NAME				TAG NAME			
PUMP SIZE AND MODEL		GPM	TDH	RPM	ROTATION	DISCH POS	
MOTOR	HP	FRAME	PHASE	HERTZ	VOLTS	ENCLOSURE	
CERTIFIED FOR			CERTIFIED BY		DATE		BASIC PUMP DIMENSIONS 4620CE DWG NO 4620S011 REV NO 2

WARNING
 DO NOT OPERATE THIS MACHINE WITHOUT PROTECTIVE GUARD IN PLACE. ANY OPERATION OF THIS MACHINE WITHOUT PROTECTIVE GUARD CAN RESULT IN SEVERE BODILY INJURY.
 -A- SUPPLIED BY FMPC -B- SUPPLIED BY OTHERS



PUMP	SUCT	DISCH	E	F	L	N	FH	SHAFT CENTERS	MOTOR FRAMES	T	V	X	Z	CB	CC	CD	RX
2" 4623CE	2	2	6	10	3 1/2	32	21 1/2	18 3/8-22 3/4	182T-284T	5 1/4	5 3/8	17 1/2	20	10 1/4	47	45	15
								23 1/4-32	286T-365T	7 3/4	2 7/8	20	22 1/2	13	60	58	15
3" 4623CE	3	3	5 1/2	10	4 5/8	33	21 1/2	18 3/8-22 3/4	182T-284T	5 1/4	5 7/16	17 1/2	20	10 1/4	47	45	15
								23 1/4-32	286T-365T	7 3/4	2 15/16	20	22 1/2	13	60	58	15
4" 4623CE	4	4	6 1/2	10 7/8	4 3/4	33 5/8	22 7/8	18 3/8-22 3/4	182T-284T	5 1/4	5 15/16	17 1/2	20	10 1/4	47	45	15
								23 1/4-32	286T-365T	7 3/4	3 7/16	20	22 1/2	13	60	58	15
6" 4623CE	6	6	6 1/2	10 7/8	5 3/4	35 5/8	22 7/8	18 3/8-22 3/4	182T-284T	5 1/4	6 15/16	17 1/2	20	10 1/4	47	45	15
								23 1/4-32	286T-365T	7 3/4	4 7/16	20	22 1/2	13	60	58	15

NOTES:

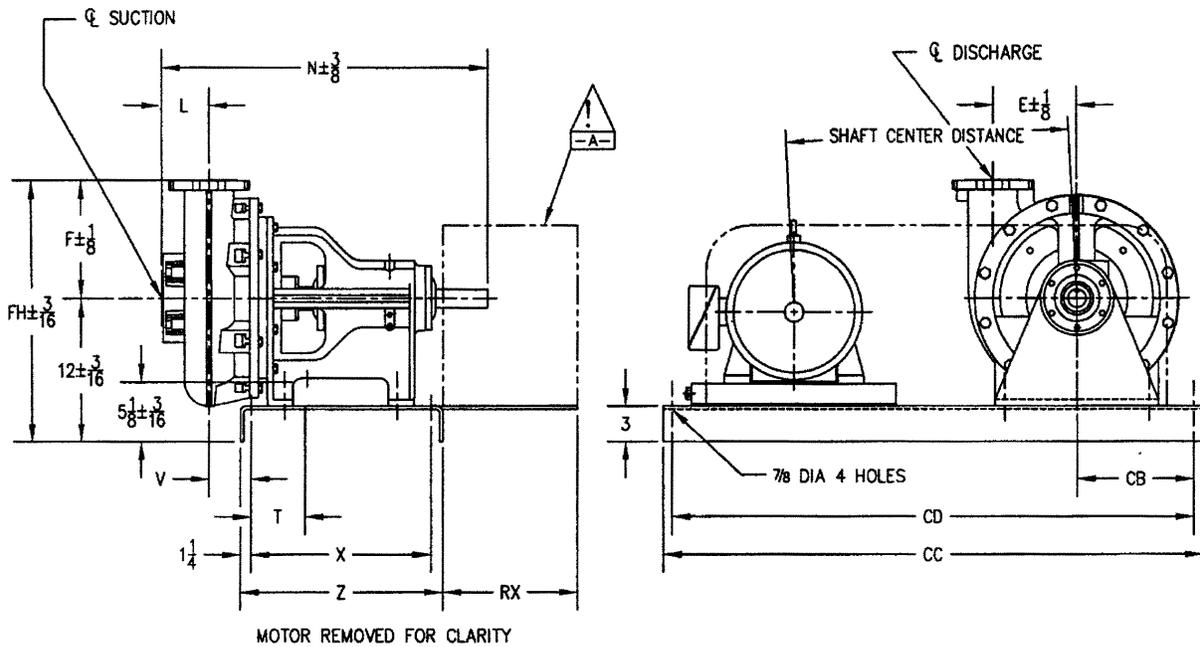
- (1) ALL FLANGES ARE 125# ANSI DRILLING UNLESS NOTED.
- (2) ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE.
- (3) SUCTION AND DISCHARGE GAUGE CONNECTIONS ARE NOT AVAILABLE AND SHOULD BE LOCATED ON ADJACENT PIPING.
- (4) BASES ARE DESIGNED TO BE COMPLETELY FILLED WITH GROUT.
- (5) AVAILABLE IN CLOCKWISE ROTATION ONLY.
- (6) CASING AND SUCTION FLANGES ARE PROVIDED AS CAST. PIPING SHOULD BE FITTED TO PUMP WITH HEAVY NEOPRENE GASKETS AFTER PUMP IS SET AND LEVELED.
- (7) NOT FOR CONSTRUCTION, INSTALLATION, OR APPLICATION PURPOSES UNLESS CERTIFIED. DIMENSIONS SHOWN MAY VARY DUE TO NORMAL MANUFACTURING TOLERANCES.

CUSTOMER				P.O. NO.			
JOB NAME				TAG NAME			
PUMP SIZE AND MODEL		GPM	TDH	RPM	ROTATION	DISCH POS	
MOTOR	HP	FRAME	PHASE	HERTZ	VOLTS	ENCLOSURE	
CERTIFIED FOR			CERTIFIED BY		DATE		
				DWG NO		REV NO	
				4620S030		2	



SETTING PLAN
 4620CE
 R.H. ARRANGEMENT

WARNING
 DO NOT OPERATE THIS MACHINE WITHOUT PROTECTIVE GUARD IN PLACE. ANY OPERATION OF THIS MACHINE WITHOUT PROTECTIVE GUARD CAN RESULT IN SEVERE BODILY INJURY.
 -A- SUPPLIED BY FMPC -B- SUPPLIED BY OTHERS



PUMP	SUCT	DISCH	E	F	L	N	FH	SHAFT CENTERS	MOTOR FRAMES	T	V	X	Z	CB	CC	CD	RX
2" 4623CE	2	2	6	10	3 1/2	32	21 1/2	18 3/8-22 3/4	182T-284T	5 1/4	5 3/8	17 1/2	20	10 1/4	47	45	15
								23 1/4-32	286T-365T	7 3/4	2 7/8	20	22 1/2	13	60	58	15
3" 4623CE	3	3	5 1/2	10	4 5/8	33	21 1/2	18 3/8-22 3/4	182T-284T	5 1/4	5 7/8	17 1/2	20	10 1/4	47	45	15
								23 1/4-32	286T-365T	7 3/4	2 15/16	20	22 1/2	13	60	58	15
4" 4623CE	4	4	6 1/2	10 7/8	4 3/4	33 5/8	22 7/8	18 3/8-22 3/4	182T-284T	5 1/4	5 15/16	17 1/2	20	10 1/4	47	45	15
								23 1/4-32	286T-365T	7 3/4	3 7/8	20	22 1/2	13	60	58	15
6" 4623CE	6	6	6 1/2	10 7/8	5 3/4	35 5/8	22 7/8	18 3/8-22 3/4	182T-284T	5 1/4	6 15/16	17 1/2	20	10 1/4	47	45	15
								23 1/4-32	286T-365T	7 3/4	4 7/8	20	22 1/2	13	60	58	15

NOTES:

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- (2) ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE.
- (3) SUCTION AND DISCHARGE GAUGE CONNECTIONS ARE NOT AVAILABLE AND SHOULD BE LOCATED ON ADJACENT PIPING.
- (4) BASES ARE DESIGNED TO BE COMPLETELY FILLED WITH GROUT.
- (5) AVAILABLE IN CLOCKWISE ROTATION ONLY.

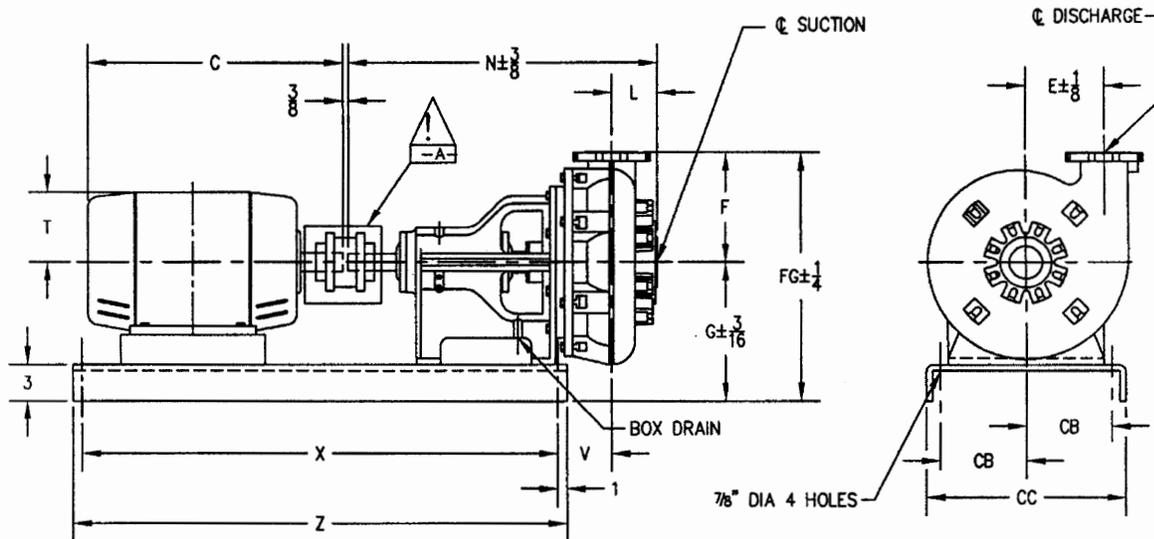
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CUSTOMER					P.O. NO.		
JOB NAME					TAG NAME		
PUMP SIZE AND MODEL			GPM	TDH	RPM	ROTATION	DISCH POS
MOTOR		HP	FRAME	PHASE	HERTZ	VOLTS	ENCLOSURE
CERTIFIED FOR				CERTIFIED BY		DATE	
DWG No 4620S031							REV No 2

SETTING PLAN
 4620CE
 L.H. ARRANGEMENT

WARNING
 DO NOT OPERATE THIS MACHINE WITHOUT PROTECTIVE GUARD IN PLACE. ANY OPERATION OF THIS MACHINE WITHOUT PROTECTIVE GUARD CAN RESULT IN SEVERE BODILY INJURY.
 -A- SUPPLIED BY FMPC -B- SUPPLIED BY OTHERS

MOTOR DIMENSIONS	
C	T



PUMP	FRAME MOTOR	SUCT	DISCH	E	F	G	L	N	V	X	Z	CB	CC	FG
2" 4623CE	182T-215T	2	2	6	10	12	3 1/2	32	5	41	43	5 1/8	12 3/4	22
2" 4623CE	254T-286T	2	2	6	10	12	3 1/2	32	5	49	51	5 3/4	14	22
2" 4623CE	324TS-326T	2	2	6	10	12	3 1/2	32	5	52	54	7 3/4	18	22
2" 4623CE	364TS-365T	2	2	6	10	12 1/16	3 1/2	32	5	52	54	7 3/4	18	22 1/16
3" 4623CE	182T-215T	3	3	5 1/2	10	12	4 5/8	33	5 1/8	41	43	5 1/8	12 3/4	22
3" 4623CE	254T-286T	3	3	5 1/2	10	12	4 5/8	33	5 1/8	49	51	5 3/4	14	22
3" 4623CE	324TS-326T	3	3	5 1/2	10	12	4 5/8	33	5 1/8	52	54	7 3/4	18	22
3" 4623CE	364TS-365T	3	3	5 1/2	10	12 1/16	4 5/8	33	5 1/8	52	54	7 3/4	18	22 1/16
4" 4623CE	182T-215T	4	4	6 1/2	10 7/8	12	4 3/4	33 5/8	5 5/8	41	43	5 1/8	12 3/4	22 7/8
4" 4623CE	254T-286T	4	4	6 1/2	10 7/8	12	4 3/4	33 5/8	5 5/8	49	51	5 3/4	14	22 7/8
4" 4623CE	324TS-326T	4	4	6 1/2	10 7/8	12	4 3/4	33 5/8	5 5/8	52	54	7 3/4	18	22 7/8
4" 4623CE	364TS-365T	4	4	6 1/2	10 7/8	12 1/16	4 3/4	33 5/8	5 5/8	52	54	7 3/4	18	22 15/16
6" 4623CE	182T-215T	6	6	6 1/2	10 7/8	12	5 3/4	35 5/8	6 5/8	41	43	5 1/8	12 3/4	22 7/8
6" 4623CE	254T-286T	6	6	6 1/2	10 7/8	12	5 3/4	35 5/8	6 5/8	49	51	5 3/4	14	22 7/8
6" 4623CE	324TS-326T	6	6	6 1/2	10 7/8	12	5 3/4	35 5/8	6 5/8	52	54	7 3/4	18	22 7/8
6" 4623CE	364TS-365T	6	6	6 1/2	10 7/8	12 1/16	5 3/4	35 5/8	6 5/8	52	54	7 3/4	18	22 15/16

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CUSTOMER					P.O. NO.		<p>SETTING PLAN 4620CE BENT FORM BASE</p>
JOB NAME					TAG NAME		
PUMP SIZE AND MODEL		GPM	TDH	RPM	ROTATION	DISCH POS	
MOTOR	HP	FRAME	PHASE	HERTZ	VOLTS	ENCLOSURE	
CERTIFIED FOR			CERTIFIED BY		DATE		DWG NO 4620S032 REV NO 2