



PW-VSP

**VERTICAL
SUMP PUMP**





PW-VSP VERTICAL SUMP PUMP

COMPETITIVE ADVANTAGES



Installation Flexibilities

Series 820, 824, and 832

- Heavy Duty Configuration 820, 824 and 832 Sump Pumps for pit depths up to 26 feet.
- Standard Cast Iron, Cast Iron/316SS, 316SS, and Alloy 20 Materials of Construction with optional Hastelloy and CD4MC.
- Simplex and Duplex Designs.
- Round, Square and Oval Pit Cover Plates.
- Direct Tank Flange Mounting.
- Custom Triplex Design.
- Replacement covers to identically match client's existing sump dimensions.
- Optional vapor proof construction.

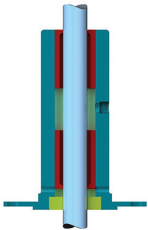
Lines Shaft Bearing Assemblies

- Standard intermediate lower bearing choker ring guide bearing bushing.
- Alternate bearing assemblies for Abrasive and Chemical specific applications.

Pump Reliability and Control

- Simplex liquid level and high water alarm control to NEMA 1, 4, 7, and 9 enclosure.
- Duplex alternating pump, liquid level, and high water alarm control to NEMA 1, 4, 7, and 9 enclosure.

Standard Line Shaft Bearing Assemblies



Lower Bearing Assembly

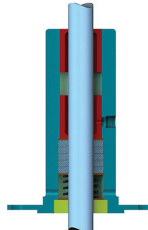
The standard pump bearing assembly consists of choker ring and (2) guide bearing bushings compatible with the liquid. Standard bronze bearings furnished with grease lubrication. Optional carbon graphite, rubber, Teflon.*

Lower Bearing Assembly

The standard intermediate assembly consists of (2) guide bearings compatible with the liquid and is standard when pit depth exceeds 6 feet. Standard bronze bearings furnished with grease lubrication. Optional carbon graphite, rubber, Teflon.*

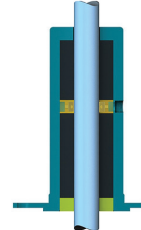
*E I DuPont registered TM.

Alternate Line Shaft Bearing Assemblies



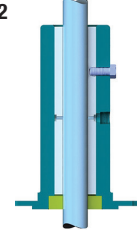
Abrasive Service - 1

Includes (2) guide bearing bushings compatible with the liquid, (5) rings of packing spring loaded with a choker ring to eliminate abrasives from the bearing area. Optional are bronze or carbon graphite.



Abrasive Service - 2

Includes (2) cutless rubber bearing bushings suitable for water flush connection.



Chemical Service

Includes (1) Teflon* bearing w/stainless steel locking screws and lubricated by liquid being pumped. Other bearing materials available for special chemical services.

*E I DuPont registered TM.

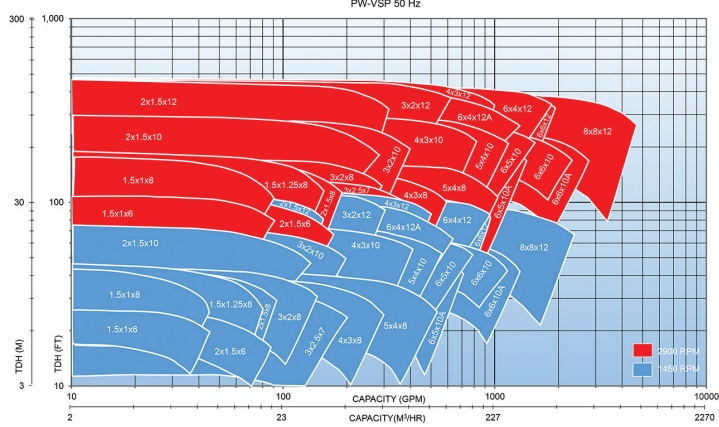
NOTE: Bearing assemblies shown are typical for most pumping services. Unusual or severe services may necessitate changes in assembly design.



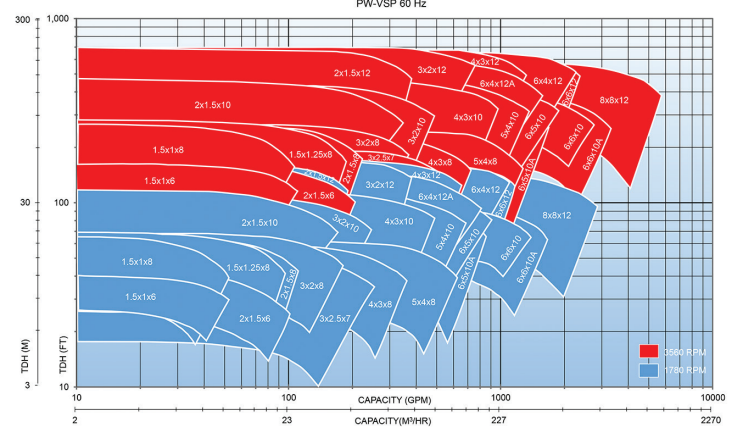
PW-VSP VERTICAL SUMP PUMP

HYDRAULIC PERFORMANCE COVERAGE

50 Hz Performance Coverage



60 Hz Performance Coverage



- Capacities to 683 m³/h | 3,000 GPM
- Heads to 70 m | 230 ft
- Temperatures to 177° C | 350° F
- Pit Depths to 7 m | 26 ft

Visit our web site at www.pumpworks.com and specify flow and performance needs and obtain pump selection and performance curve.

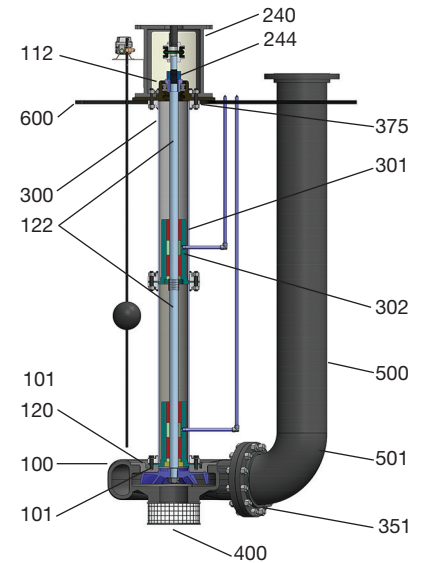


Performances shown are nominal and are to be used for preliminary selection only.

PARTS LIST AND MATERIALS OF CONSTRUCTION

PW-VSP Model 820, 824 and 832

Item Ref Number	Part Name	Cast Iron	Cast Iron w/316SS Impeller	316SS	Alloy 20
100	Casing	Cast Iron Class 30	Cast Iron Class 30	316 SS	Alloy 20
101	Impeller	Cast Iron Class 30	316 SS	316 SS	Alloy 20
102	Impeller trim	316 SS	316 SS	316 SS	Alloy 20
112	Thrust Bearing Housing	Cast Iron Class 30	Cast Iron Class 30	Cast Iron Class 30	Cast Iron Class 30
120	Casing Adapter	Cast Iron Class 30	Cast Iron Class 30	316 SS	Alloy 20
122	Shaft	316 SS	316 SS	316 SS	Alloy 20
240	Motor support	Cast Iron Class 30	Cast Iron Class 30	Cast Iron Class 30	Cast Iron Class 30
244	Adjusting Nut	Carbon Steel ASTM-307	Carbon Steel ASTM-307	Carbon Steel ASTM-307	Carbon Steel ASTM-307
300	Coullum	Carbon Steel ASTM-A53	Carbon Steel ASTM-A53	316 SS	Alloy 20
301	Bearing Housing	Cast Iron Class 30	Cast Iron Class 30	316 SS	Alloy 20
302	Guide Bearing	Bronze SAE 660	Bronze SAE 660	Graphite	Graphite
351	Gasket	Velumoid	Velumoid	NA 700	NA 700
375	Lip Seal	Nitrile	Nitrile	Nitrile	Nitrile
400	Strainer Basket	304SS	304SS	304SS	Alloy 20
401	Strainer Plate	Cast Iron Class 30	Cast Iron Class 30	316 SS	Alloy 20
500	Discharge Pipe	Carbon Steel ASTM-A53	Carbon Steel ASTM-A53	316 SS	Alloy 20
501	Discharge Elbow	Cast Iron AISI-B164	Cast Iron AISI-B164	316 SS	Alloy 20
600	Cover Plate	Carbon Steel Hard Rolled Plate	Carbon Steel Hard Rolled Plate	Carbon Steel Hard Rolled Plate	Carbon Steel Hard Rolled Plate



PW-VSP VERTICAL SUMP PUMP

-
- enclosure
 - Duplex alternating pump, liquid level, and high water alarm control to NEMA 1, 4, 7, and 9 enclosure
 - Shafting**
 - Standard high quality stainless steel, accurately machined to assure minimal shaft deflection
 - Mating Joints**
 - All column, motor, bearing housing and casing joints are machined, registered fits assuring free running, stable shaft rotation and long column bearing life
 - Choker Ring**
 - Restricts entrance of abrasives and solids into bottom bearing for dependable bearing life
 - Impeller**
 - Semi Open with balancing ring and wiping vanes for increased corrosion, abrasion and solids wear resistance
 - Mounted to shaft with taper fit, keyed, and secured with castle nut and cotter pin for positive anti-rotation protection
 - Externally adjustable returning clearance to factory performance specifications without dismantling pump
 - Suction Strainer**
 - Standard on all pumps preventing oversized particle ingestion and liquid end operation protection
 - Casing**
 - Double volute design on all 4x3x10 sizes for balanced hydraulic axial loading of shaft and bearing systems for increased pump life
- Pump components strategically inventoried for rapid shipment in a variety of material options

PW-VSP VERTICAL SUMP PUMP

Quality

- Manufactured and tested in the USA

Vertical C-Faced NEMA Electric Motor

- Mounted to a motor support frame with machined registered fit simplifying field coupling alignment

ePOD Pump Selector

- Access to end users and specifiers to select your pump application on line www.pumpworks.com, no password or login required

Gas Tight Column Closure

- Grease lubricated, lip seal

Thrust Bearing

- High thrust angular contact bearing, moisture proof enclosure with double grease seals, purge-type grease lubrication

Cover Plate

- Specific plate as simplex, duplex, triplex or customer specified custom design providing complete sump mounting flexibility
- ANSI flange tank mounting yielding compact, solid attachment
- Gas tight, vapor proof option for effluent containment

Pump Reliability and Control

- Simplex liquid level and high water alarm control to NEMA 1, 4, 7, and 9 enclosure
- Duplex alternating pump, liquid level, and

Flexible Elastomeric Spacer Coupling

Discharge Pipe

- Threaded or flanged termination, as customer specified, for easing of piping compatibility, either new or replacement applications
- Below grade optional T discharge



PW-VSP VERTICAL SUMP PUMP

PUMP DIMENSIONS

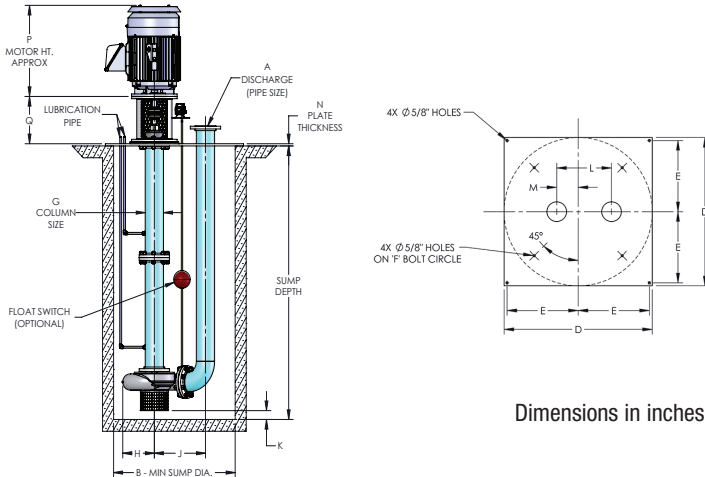
Series 820 & 824 Simplex Pump

Pump Data

SIZE	MODEL	A	B	C	D	E	F	G	H	J	K (2)	L	M	N	
3X2.5X7	820-S	2.5(64)	24 (610)	2 to 12 FEET	28 (711)	13(330)	26(660)	4(102)	5.5(140)	13.5(343)	2.875(73)	11.625(295)	4.25(108)	0.375(10)	
		3(76)								14.25(362)		12(305)			
1.5X1X8	820-S	1 (25)	24 (610)		28 (711)	13(330)	26(660)	4(102)	5.375(137)	10.625(270)	4.125(105)	9.625(245)	4.25(108)	0.375(10)	
		1.5 (38)													11.125(283)
1.5X1.25X8	820-S	1.5 (38)	24 (610)		28 (711)	13(330)	26(660)	4(102)	5.375(137)	11.375(289)	3.125(79)	10(254)	10.375(264)	4.25(108)	0.375(10)
		2 (51)													
2X1.5X8	820-S	1.5 (38)	24 (610)		28 (711)	13(330)	26(660)	4(102)	5.375(137)	11.375(289)	3.75(95)	10(254)	10.375(264)	4.25(108)	0.375(10)
		2 (51)													
3X2X8	820-S	2 (51)	24 (610)		28 (711)	13(330)	26(660)	4(102)	5.375(137)	12.625(321)	3.375(86)	11.125(283)	11.125(283)	4.25(108)	0.375(10)
		2.5(64)													
4X3X8	820-S	3(76)	24 (610)		28 (711)	13(330)	26(660)	4(102)	6(152)	15.625(397)	1.5(38)	13.375(340)	13.375(340)	4.25(108)	0.375(10)
		4(102)												16.625(422)	
5X4X8	820-S	4(102)	30 (762)		34(864)	16(406)	32(548)	4(102)	7(178)	17.125(435)	1.125(29)	14.5(368)	14.5(368)	6.625(168)	0.375(10)
		5(127)												17.375(441)	
2X1.5X10	820-S	1.5 (38)	34 (864)		28 (711)	13(330)	26(660)	4(102)	6.5(165)	12.5(318)	5(127)	11.25(286)	11.25(286)	4.25(108)	0.375(10)
		2 (51)												13(330)	
3X2X10	820-S	2 (51)	24 (610)		28 (711)	13(330)	26(660)	4(102)	6.625(168)	13.75(349)	5(127)	12.375(314)	12.375(314)	4.25(108)	0.375(10)
		2.5(64)												14.5(368)	
4X3X10	820-S	3(76)	30 (762)		34(864)	16(406)	32(548)	4(102)	7(178)	17.125(435)	2.75(70)	14.875(378)	14.875(378)	6.625(168)	0.375(10)
		4(102)												18(457)	
5X4X10	824-S	4(102)	30 (762)	34(864)	16(406)	32(548)	4(102)	7.375(187)	19.125(486)	1.125(29)	16.5(419)	16.5(419)	6.625(168)	0.375(10)	
		5(127)											20.375(518)		17(432)
6X5X10	824-S	5(127)	36 (914)	40(1016)	19(483)	38(965)	4(102)	8(203)	20.875(530)	1.125(29)	17.5(445)	17.5(445)	6.25(159)	0.5(13)	
		6(162)											21.875(556)		18(457)
6X6X10	824-S	6(162)	36 (914)	40(1016)	19(483)	38(965)	4(102)	9.5(241)	22.5(572)	0.875(22)	18.5(470)	18.5(470)	7.25(184)	0.5(13)	
		8(203)											25(635)		19.625(498)
2X1.5X12	824-S	1.5 (38)	24 (610)	28 (711)	13(330)	26(660)	4(102)	7.375(187)	12.875(327)	2.125(54)	11.625(295)	11.625(295)	4.25(108)	0.375(10)	
		2 (51)											13.5(343)		12(305)
3X2X12	824-S	2 (51)	36 (914)	40(1016)	19(483)	38(965)	4(102)	8(203)	15.75(400)	2(51)	14.25(362)	14.25(362)	6(152)	0.5(13)	
		3(76)											17.25(438)		15(381)
4X3X12	824-S	3(76)	36 (914)	40(1016)	19(483)	38(965)	4(102)	8(203)	18(457)	1.375(35)	15.75(400)	15.75(400)	6(152)	0.5(13)	
		4(102)											19(483)		16.25(413)

Not to be used for construction unless certified by manufacturer.

820 & 824 Simplex Pump



Dimensions in inches (mm), weights in lbs (kg).

PW-VSP VERTICAL SUMP PUMP

PUMP DIMENSIONS

Series 820 & 824 Oval Pit Cover

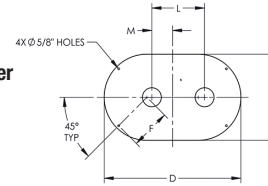
820 Pump Data

SIZE	MODEL	B	D	E	F	M
3X2.5X7	820-S	18(457)	26(660)	8(203)	4(102)	4.75(121)
1.5X1X8	820-S	18(457)	26(660)	8(203)	4(102)	4.75(121)
1.5X1.25X8	820-S	18(457)	26(660)	8(203)	4(102)	4.75(121)
2X1.5X8	820-S	18(457)	26(660)	8(203)	4(102)	4.75(121)
3X2X8	820-S	18(457)	26(660)	8(203)	4(102)	4.75(121)
4X3X8	820-S	18(457)	26(660)	8(203)	4(102)	4.75(121) 5.75(146)
5X4X8	820-S	21(533)	30(762)	9.5(241)	4.5(114)	6.5(165)
2X1.5X10	820-S	18(457)	26(660)	8(203)	4(102)	4.75(121)
3X2X10	820-S	18(457)	26(660)	8(203)	4(102)	4.75(121)
4X3X10	820-S	21(533)	30(762)	9.5(241)	4.5(114)	6.5(165)

824 Pump Data

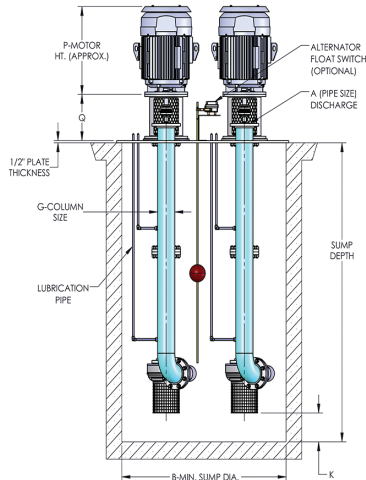
SIZE	MODEL	B	D	E	F	M
5X4X10	824-S	24(610)	34(864)	9.5(241)	6.5(165)	7(178)
6X5X10	824-S	21(533)	34(864)	9.5(241)	6.5(165)	7(178)
6X5X10A						
6X6X10	824-S	24(610)	39(991)	11(279)	7.5(191)	8(203)
6X6X10A						
2X1.5X12	824-S	20(508)	26(660)	9(229)	3(76.2)	4.25(108)
3X2X12	824-S	21(533)	34(864)	9.5(241)	6.5(165)	6(152)
4X3X12	824-S	21(533)	34(864)	9.5(241)	6.5(165)	6(152)

820 & 824 Oval Pit Cover



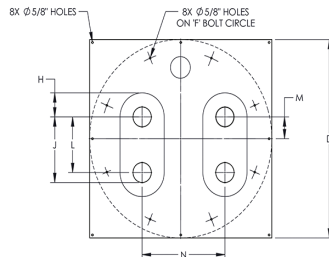
Series 820 & 824 Duplex Pump

SIZE	MODEL	A	B	C	D	F	G	H	J	K (2)	L	M	N
3X2.5X7	820-S	2.5(64)	48(1220)	2 to 12 FEET	54(1372)	51(1295)	4(102)	5.5(140)	13.5(343)	2.875(73)	11.625(295)	8.75(222)	10.5(267)
		3(76)							14.125(359)		12(305)		10.5(267)
1.5X1X8	820-S	1(25)	48(1220)		54(1372)	51(1295)	4(102)	5.375(137)	10.5(267)	4.125(105)	9.625(245)	8.75(222)	10.5(267)
		1.5(38)											
1.5X1.25X8	820-S	1.5(38)	48(1220)		54(1372)	51(1295)	4(102)	5.375(137)	11.375(289)	3.5(89)	10(254)	8.75(222)	10.5(267)
		2(51)											
2X1.5X8	820-S	1.5(38)	48(1220)		54(1372)	51(1295)	4(102)	5.375(137)	11.375(289)	3.75(95)	10(254)	8.75(222)	10.5(267)
		2(51)											
3X2X8	820-S	2(51)	48(1220)		54(1372)	51(1295)	4(102)	5.375(137)	12.625(321)	3.375(86)	11.125(283)	8.75(222)	10.5(267)
		2.5(64)											
4X3X8	820-S	3(76)	48(1220)		54(1372)	51(1295)	4(102)	6(152)	15.625(399)	1.5(38)	13.375(340)	8.75(222)	10.5(267)
		4(102)											
5X4X8	820-S	4(102)	54(1372)		60(1524)	57(1448)	4(102)	7(178)	17.125(434)	1.125(29)	14.5(368)	8.5(216)	11(279)
		5(127)											
2X1.5X10	820-S	1.5(38)	48(1220)		54(1372)	51(1295)	4(102)	6.5(165)	12.5(318)	5(127)	11.25(286)	8.75(222)	10.5(267)
		2(51)											
3X2X10	820-S	2(51)	48(1220)		54(1372)	51(1295)	4(102)	6.625(168)	13.875(352)	5(127)	12.375(314)	8.75(222)	10.5(267)
		2.5(64)											
4X3X10	820-S	3(76)	54(1372)		60(1524)	57(1448)	4(102)	7(178)	17(432)	2.75(70)	14.875(378)	11.5(292)	11(279)
		4(102)											
5X4X10	824-S	4(102)	54(1372)	60(1524)	57(1448)	4(102)	7.375(187)	19.25(489)	1.125(29)	16.5(419)	13(330)	11(279)	
		5(127)											20.375(518)
6X5X10	824-S	5(127)	60(1524)	66(1676)	63(1600)	4(102)	8(203)	20.875(530)	1.125(29)	17.5(445)	13(330)	12.125(310)	
		6(162)											21.875(556)
6X6X10	824-S	6(162)	60(1524)	66(1676)	63(1600)	4(102)	9.5(241)	22.5(572)	0.875(22)	18.5(470)	12.5(318)	12.125(310)	
		8(203)											25(635)
2X1.5X12	824-S	1.5(38)	48(1220)	54(1372)	51(1295)	4(102)	7.375(187)	12.875(327)	2.125(54)	11.625(295)	8.25(210)	10.5(267)	
		2(51)											13.5(343)
3X2X12	824-S	2(51)	54(1372)	60(1524)	57(1448)	4(102)	8(203)	15.75(400)	2.5(64)	14.25(362)	12(305)	11(279)	
		3(76)											17.25(438)
4X3X12	824-S	3(76)	54(1372)	60(1524)	57(1448)	4(102)	8(203)	18(457)	2.5(64)	15.75(400)	12(305)	11(279)	
		4(102)											19(483)



Motor Data

FRAME	P	Q	FRAME	P	Q	FRAME	P	Q
56 C	10.4375(265)	12(305)	213TC	15.5(394)	12(305)	286TC	23.875(606)	13(330)
143TC	10(254)	12(305)	215TC	17(432)	12(305)	324TC	24.75(629)	13.5(343)
145TC	10.4375(265)	12(305)	254TC	20.125(511)	12(305)	326TC	26.125(664)	13.5(343)
182TC	13.5(343)	12(305)	256TC	21.875(556)	12(305)	364TC	26.5(673)	16.625(422)
184TC	13.5(343)	12(305)	284TC	22.375(568)	13(330)	365TC	27.5(699)	16.625(422)

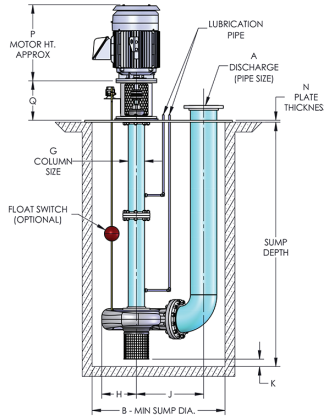


PW-VSP VERTICAL SUMP PUMP

PUMP DIMENSIONS

Series 832 Simplex Pump

Dimensions in inches (mm), weights in lbs (kg).



Pump Data

SIZE	MODEL	A	B	C	D	F	G	H	J	L	M	N
6x4x12	832	4(102)	36(914)	40(1016)	19(483)	38(965)	6(153)	9(229)	19.75(502)	17(432)	6.125(156)	0.5(13)
		5(127)							20.875(530)	17.5(445)		
		6(152)							22(559)	18(457)		
6x6x12	832	6(152)	36(914)	40(1016)	19(483)	38(965)	6(153)	9.5(241)	22.75(578)	18.75(476)	7.125(181)	0.5(13)
		8(203)							25.25(641)	19.875(505)		
		8(203)							28.375(721)	23(584)		
8x8x12	832	8(203)	40(1016)	54(1372)	26(660)	52(1321)	6(153)	12.5(318)	30.875(784)	24.125(613)	8.5(216)	0.5(13)
		10(254)										

Motor Data

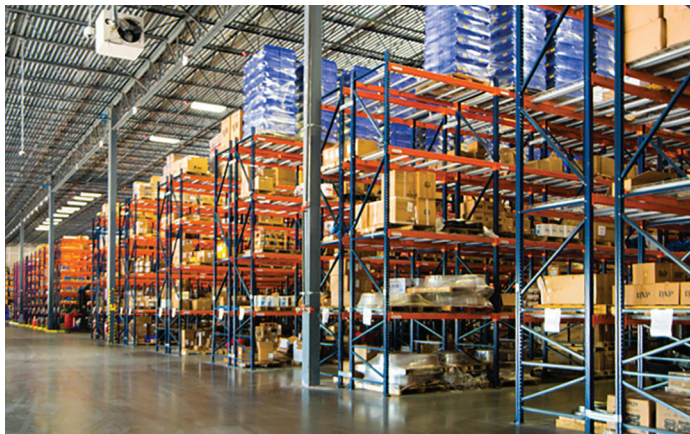
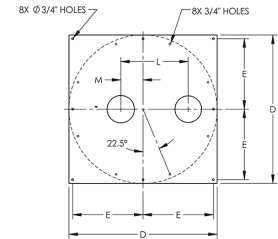
FRAME	P	Q	FRAME	P	Q	FRAME	P	Q	FRAME	P	Q
56 C	10.4375(265)	12(305)	213TC	15.5(394)	12(305)	286TC	23.875(606)	13(330)	404TC	28(711)	16.625(422)
143TC	10(254)	12(305)	215TC	17(432)	12(305)	324TC	24.75(629)	13.5(343)	405TC	28(711)	18.375(467)
145TC	10.4375(265)	12(305)	254TC	20.125(511)	12(305)	326TC	26.125(664)	13.5(343)			
182TC	13.5(343)	12(305)	256TC	21.875(556)	12(305)	364TC	26.5(673)	16.625(422)			
184TC	13.5(343)	12(305)	284TC	22.375(568)	13(330)	365TC	27.5(699)	16.625(422)			

Not to be used for construction unless certified by manufacturer.

TECHNICAL DATA

All dimensions in inches (mm) unless otherwise noted.

Model	814	820	824	832
Maximum pit depth feet (m)	7 (2.13)	26 (7.93)	26 (7.93)	26 (7.93)
Line shaft diameter	0.875 (22.2)	1.25 (31.75)	1.5 (38.1)	2 (50.8)
Line shaft column diameter	2(50.8)	4 (101.6)	4 (101.6)	6 (152.4)
Maximum Temperature	210 °F	350 °F	350 °F	350 °F



MANUFACTURING

- All of our pumps are manufactured and tested in the United States of America, utilizing exclusive state-of-the-art manufacturing equipment and US foundries for all castings. This ensures consistent quality, product availability, and low cost of ownership.

INVENTORY

- Pump and component inventory in a variety of material options are strategically located through the Northern Hemisphere ensuring consistent, rapid shipment tailored to customer requirements.



SERVICE

- Fully staffed professional sales and service teams providing superior customer support is available 24/7/365.
- ePOD Pump Selector access by end users and specifiers available online at no additional cost at www.pumpworks.com.



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PW-VSP-052019