

Centrifugal Pumps



Fristam
PUMPS®
Engineered For Lasting Performance®



Engineered For Lasting Performance

Fristam is a global manufacturer of sanitary centrifugal and positive displacement pumps, mixers, and blenders, respected for unmatched product performance, reliability, and technical superiority. Fristam was founded in 1909 and manufactured its first pump in 1931. Today, Fristam equipment can be found in many of the world's top beverage, brewing, bio-pharmaceutical, and food processing companies.

WHY CUSTOMERS CHOOSE FRISTAM

- "simply better pumps"
- "reliable, dependable"
- "high standards for sanitization"
- "people that help solve problems"



Friederich Stamp, Founder

Benchmarks of Quality

Fristam centrifugal pumps run smoothly and quietly, and are the sanitary industry's leading pumps for reliability, high performance, and efficiency.

LONG SEAL LIFE

Fristam's unique internal seal uses the cooling and lubrication of the product to provide longer seal life. Even under extreme conditions, Fristam's seal life is often measured in years.

EFFICIENT AND GENTLE

Internal clearances are as tight as 0.5 mm, making the pumps highly efficient and very gentle on product. The 'optimized vane angle' design of Fristam centrifugal impellers maximizes efficiency and allows for low NPSH requirements.

BUILT TO LAST

A Fristam centrifugal pump's housing, cover, and impeller are made from 316L stainless steel castings and forgings for more substantial mass. Due to its solid construction, a Fristam centrifugal can withstand more hydraulic shock and cavitation which ruins most other pumps.



COMPLETE CIPABILITY

Fristam pumps are completely CIP cleanable and meet the most stringent sanitary standards.



QUIET OPERATION

Close tolerances, heavy-duty construction and balanced impellers contribute to building Fristam's reputation for smooth, quiet performance.



SELF-ALIGNING SHAFT

A self-aligning shaft design allows for easy installation and gapping on Fristam centrifugal pumps. The concentric collar on the shaft prevents run-out, protecting the seal from damage.



SIMPLE MAINTENANCE

No special tools are required to perform routine maintenance on Fristam centrifugal pumps.

"...reliable, easy maintenance, very good centrifugal pump..."

- Maintenance Planner, Pharmaceutical Facility

The Evolution of Fristam Centrifugal Pumps

The FP Series is the original cast Fristam pump from 1936 that established the standards for high-performance centrifugals. The success of the FP led satisfied customers to request a Fristam pump without a pedestal mount.

The result was the FPX, a pump combining the same pump head with a modified mounting flange and shaft. Since its introduction in 1987, the FPX has become an industry standard for most general applications.

In 2004, Fristam Pumps again responded to user requests for a centrifugal pump that continued the legacy of the FP and FPX, but offered a new feature to make maintenance even easier: a front-loading seal.

Today, processors can choose from all three series for maximum flexibility.

FP: The Original Fristam

The versatile heavy-duty FP pump is the cornerstone of the Fristam line. For vacuum withdrawal from evaporators, viscous, hot or abrasive products, and many other applications, the pedestal-mounted Fristam FP Series is the benchmark for the sanitary processing industry.

The FP's heavy cast iron pedestal reduces noise and vibration and helps dissipate heat.

Its double mechanical seal option offers flexibility for vacuum withdrawal, aseptic processing, and abrasive products.

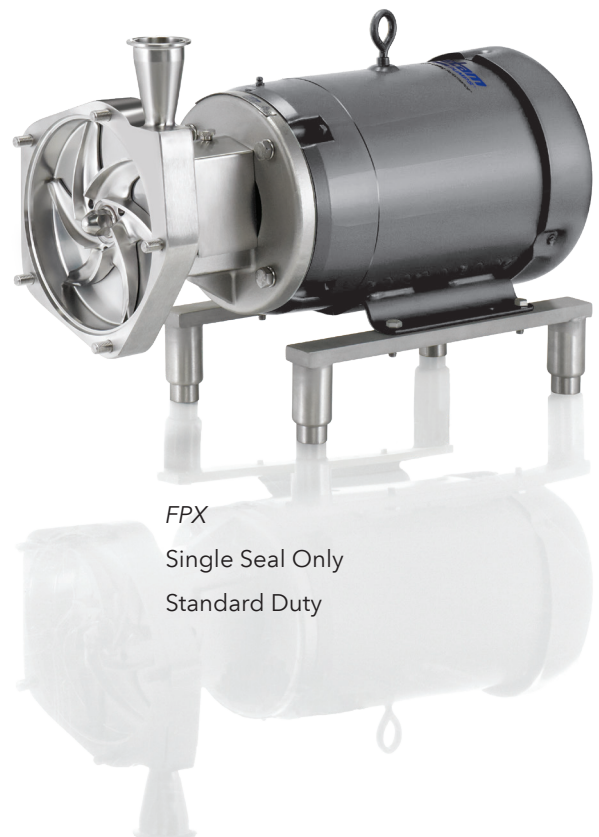
FPX: The Industry Standard

The FPX Series centrifugal pump features the same high-performance pump head as the FP. Since its introduction, the FPX has become an industry standard for most general applications.

Available in single seal only, the FPX is the pump of choice for applications including product transfer; CIP supply; and pumping to fillers, separators, and heat exchangers.



FP
Single or Double Seal
Pedestal-Mounted for Heavy Duty



FPX
Single Seal Only
Standard Duty

FPR: Front-Loading Seal

With the same great performance you've come to expect from a Fristam centrifugal, the third-generation FPR Series reduces maintenance time and effort. Designed with a front-loading seal, the FPR allows personnel to service the pump in place—processors no longer need to pull pumps out of line to change seals, single or double.

Simply remove the cover and impeller, and the rotating and stationary seals can be removed by hand. There is no need to disassemble the housing from the pump.

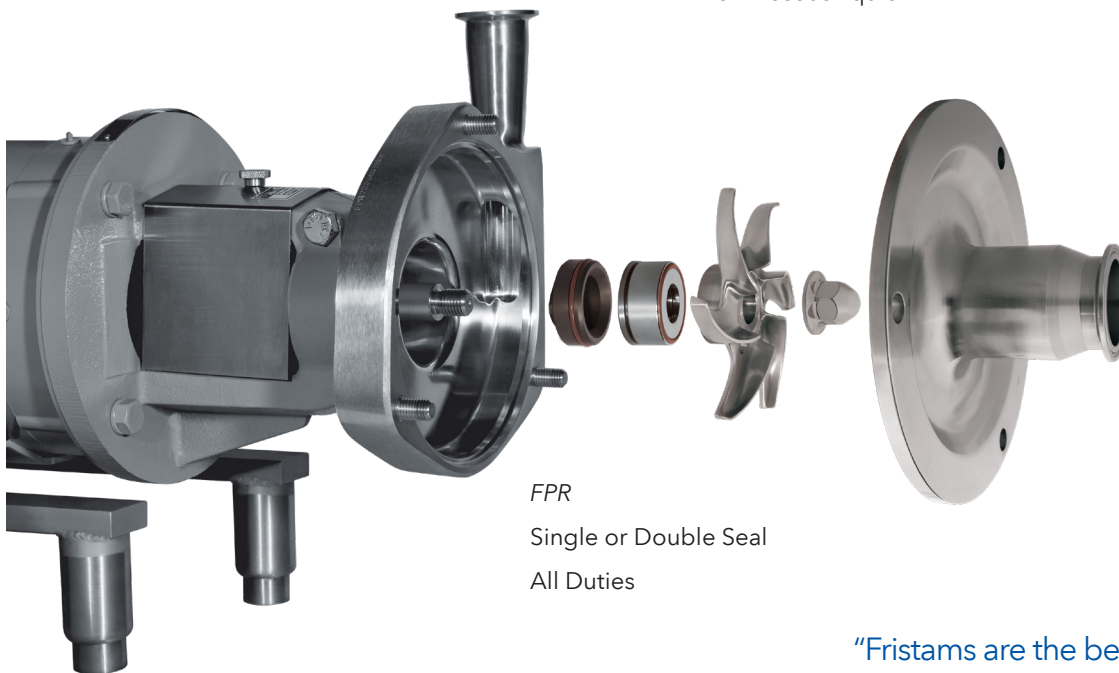
LESS MAINTENANCE INVENTORY

Only two seal sizes are needed to fit all FPR models (except 4001, see below). For each pump model, seal size remains the same regardless of motor size. Plus, no special tools are needed for a seal change.

Fristam FPR pump shafts are designed to fit both the single and double mechanical seal arrangements. This reduces the number of shafts needed to stock for spare parts.

HIGH FLOW FPR 4001

For large capacity processing, the FPR 4001 can achieve flow rates of up to 2000 gallons/minute. Its 6-inch inlet and 14-inch impeller make it ideal for moving large amounts of non-viscous liquid.



"Fristams are the best pumps going."
- Maintenance Manager, Dairy Plant

Bio-Pharmaceutical

Fristam WFI with Option "B" Piping

PHARMACEUTICAL OPTIONS

All standard Fristam centrifugal pump stainless steel components are 316L. Special castings are available in low-ferrite stainless steel or high-performance alloys such as Hastelloy® and AL-6XN®. USP Class VI elastomers are standard for pharmaceutical applications, with perfluoroelastomers available. Seal material options include silicon carbide, chrome oxide-coated stainless steel, and carbon.

Electropolishing and enhanced internal surface finishes to 15 Ra are available on most products.

Casing drain and mounting options provide complete drainability critical for long-term system cleanliness. Pumps can be easily configured for steam-in-place sterilization, with no external cooling devices required.

WATER FOR INJECTION (WFI) PUMPS

Fristam is the industry leader for WFI and other high purity service. Fristam WFI centrifugal pumps are a precision adaptation of our FP, FPX, and FPR pumps. They feature an advanced seal design that protects product sterility, saves valuable product and provides for long seal life.

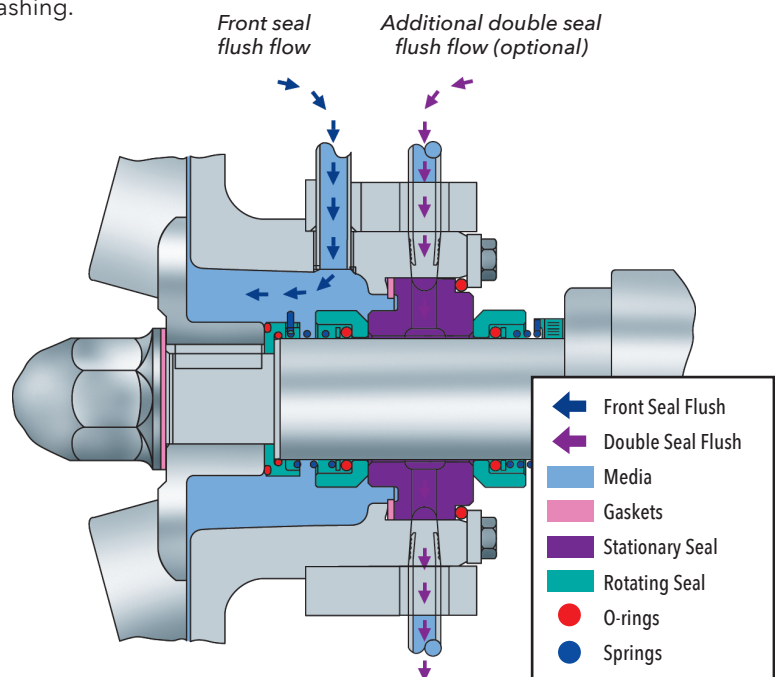
Fristam pioneered a pressurized double seal flush system that maintains positive pressure in the critical seal area to ensure product sterility and prevent flashing. The front seal flush is a recirculation loop, which saves valuable product. The internal seal design provides extra cooling and lubrication on the front seal face to significantly extend seal life and provide for more system uptime.

Numerous seal and piping configurations, including single seal piping, are available to meet your processing requirements.



Option 'B' shown. Please visit www.fristam.com/wfi for more single and double seal flush configurations

Double Seal Flush System



Centrifugal Options

SEAL MATERIALS

1st - Rotating
2nd - Stationary
3rd - Flush (Double) Seal [FP and FPR only]

Single Seal
FR-N - Chrome oxide SS vs. carbon
C-N - Silicon carbide vs. carbon
C-C - Silicon carbide vs. silicon carbide
FR-C - Chrome oxide SS vs. silicon carbide

Double Seal [FP and FPR only]
FR-N-N - Chrome oxide SS vs. carbon vs. carbon
C-N-N - Silicon carbide vs. carbon vs. carbon
C-C-N - Silicon carbide vs. silicon carbide vs. carbon
FR-C-N - Chrome oxide SS vs. silicon carbide vs. carbon

FITTING TYPE

Clamp
Bevel seat
150# flange
300# flange
NPT
DIN
Butt weld
I-Line (female)
Others

FINISH AND MATERIAL OPTIONS

32 Ra
25 Ra
20 Ra
15 Ra
Electropolish
Passivation
Tungsten carbide coating
316L low ferrite

HARDWARE OPTIONS

Stainless steel flange
Aseptic housing and cover
Jacketed housing
Casing drain
Bearing block mounted
Adjustable base with legs
Impeller inducer

ELASTOMERS

Viton
EPDM
Buna cover gasket
Perfluoroelastomer
USP Class VI Viton and EPDM

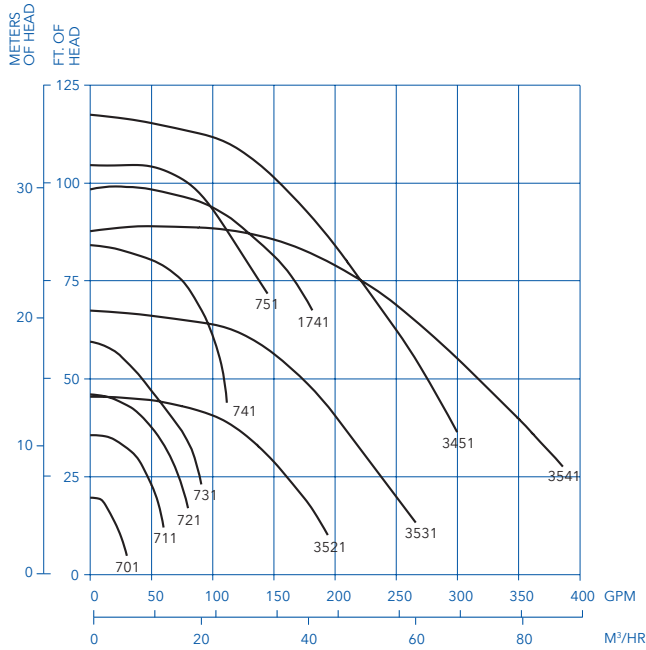
COMPREHENSIVE DOCUMENTATION PACKAGE

Fristam offers the most comprehensive documentation package, with complete traceability of all parts, including elastomers.

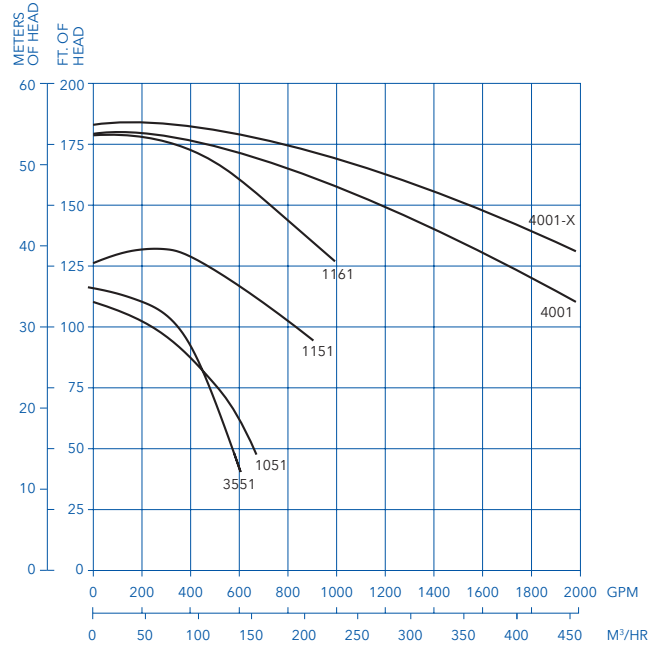
Certified Drawings
Mill Certification
Material Verification
Conformance
Warranty Statement
Certified Finish
Passivation of Pump
Stainless Steel Tag
Paper Location Tag
Certified Welding
Hydrostatic Test
Dynamic Seal Test
Short Run Test
Performance Test
NPSH Test
Witness Test
Vibration Test
Ferrite Test

Composite Performance Curves

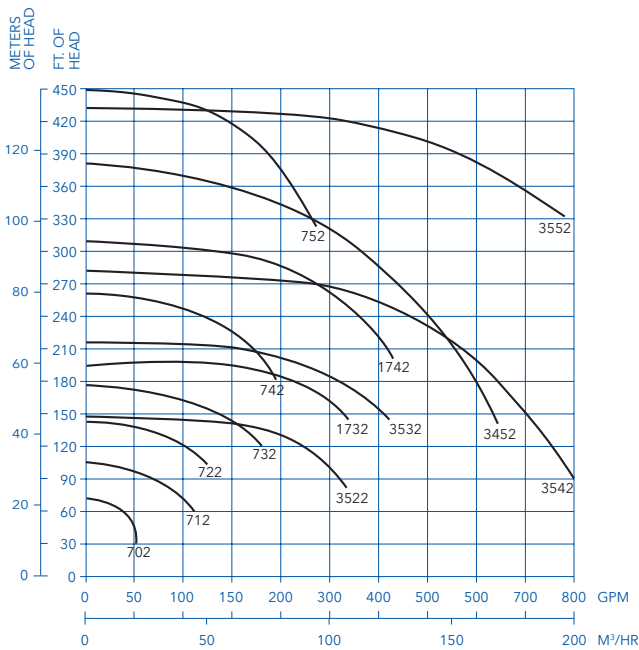
FRISTAM CENTRIFUGAL PUMPS
1750 RPM (to 400 GPM)



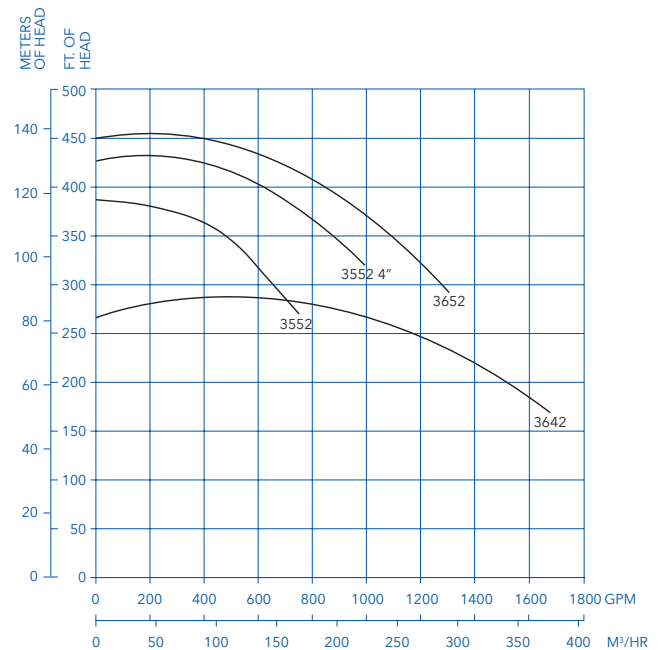
FRISTAM CENTRIFUGAL PUMPS
1750 RPM (to 2000 GPM)



FRISTAM CENTRIFUGAL PUMPS
3500 RPM (to 800 GPM)

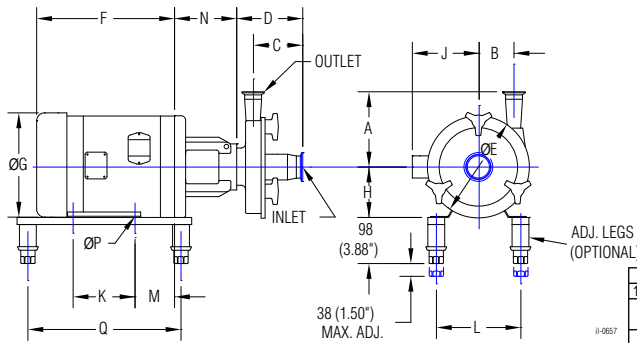


FRISTAM CENTRIFUGAL PUMPS
3500 RPM (to 1700 GPM)



Based on tests using 70°F water and 0 psig inlet pressure. A tolerance of $\pm 5\%$ applies to all figures. Actual performance may vary by application product. Please contact Fristam for different conditions.

Dimensional Drawing: FPX Single Flange

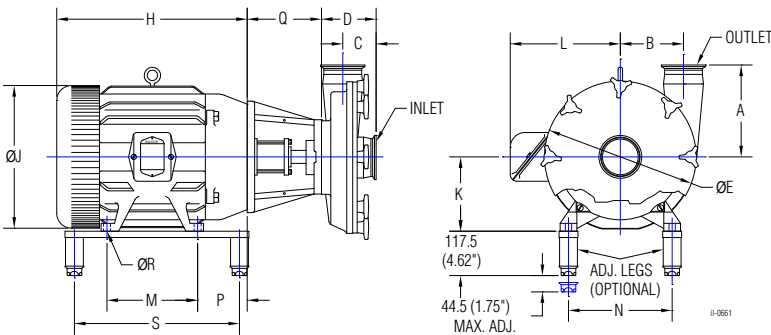


PUMP MODEL	INLET	OUTLET	DIMENSIONS IN MILLIMETERS (INCHES)				
			A	B	C	D	ØE
FPX 701 / 702	1.5"	1.5"	108 (4.25)	44.5 (1.75)	108.5 (4.27)	146.5 (5.77)	150 (5.90)
FPX 711 / 712	2"	1.5"	144 (5.67)	58 (2.28)	113 (4.45)	150 (5.90)	185 (7.28)
FPX 721 / 731 / 722	2"	1.5"	170 (6.69)	79 (3.11)	113 (4.45)	150 (5.90)	230 (9.06)
FPX 741 / 732 / 742	2.5"	2"	195 (7.68)	96 (3.78)	101 (3.98)	141 (5.55)	270 (10.63)
FPX 1741 / 1732 / 1742	2.5"	2"	200 (7.87)	91 (3.58)	104 (4.09)	150.5 (5.93)	270 (10.63)
FPX 3521 / 3522	2.5"	2"	190 (7.48)	80 (3.15)	118 (4.64)	162 (6.38)	230 (9.06)
FPX 3531 / 3532	2.5"	2"	191 (7.52)	95 (3.74)	115.5 (4.55)	162 (6.38)	260 (10.24)
FPX 3541 / 3542	3"	2.5"	211 (8.31)	115 (4.53)	118 (4.64)	162 (6.38)	290 (11.42)
FPX 3451 / 3452	3"	2"	211 (8.31)	140 (5.51)	114 (4.49)	158 (6.22)	350 (13.78)
FPX 3551	3"	2.5"	231 (9.09)	140 (5.51)	119 (4.68)	168 (6.61)	350 (13.78)

MOTOR HP	MOTOR	MOTOR FRAME	DIMENSIONS IN MILLIMETERS (INCHES)										
			F	ØG	H	J	K	L	M	N	ØP	Q	
1750 RPM	3500 RPM	143TC	281 (11.06)	183 (7.19)	89 (3.50)	133 (5.22)	102 (4.00)	140 (5.50)	70 (2.75)	120 (4.72)	10.3 (11/32)	8.7 (14.00)	356 (14.00)
1.5 HP	1.5 HP	145TC	281 (11.06)	183 (7.19)	89 (3.50)	133 (5.22)	102 (4.00)	140 (5.50)	70 (2.75)	120 (4.72)	10.3 (11/32)	8.7 (14.00)	356 (14.00)
2 HP	2 HP	145TC	281 (11.06)	183 (7.19)	89 (3.50)	133 (5.22)	102 (4.00)	140 (5.50)	70 (2.75)	120 (4.72)	10.3 (11/32)	8.7 (14.00)	356 (14.00)
	3 HP	182TC	313 (12.31)	183 (7.19)	114 (4.50)	132 (5.21)	140 (5.50)	191 (7.50)	89 (3.50)	140 (5.53)	10.3 (13/32)	10.3 (14.00)	356 (14.00)
3 HP		182TC	348 (13.69)	183 (7.19)	114 (4.50)	132 (5.21)	140 (5.50)	191 (7.50)	89 (3.50)	140 (5.53)	10.3 (13/32)	10.3 (14.00)	356 (14.00)
	5 HP	184TC	347 (13.68)	216 (8.50)	114 (4.50)	152 (5.97)	140 (5.50)	191 (7.50)	89 (3.50)	140 (5.53)	10.3 (13/32)	10.3 (14.00)	356 (14.00)
5 HP		184TC	386 (15.18)	216 (8.50)	114 (4.50)	152 (5.97)	140 (5.50)	191 (7.50)	89 (3.50)	140 (5.53)	10.3 (13/32)	10.3 (14.00)	356 (14.00)
	7.5 HP	184TC	386 (15.18)	216 (8.50)	114 (4.50)	152 (5.97)	140 (5.50)	191 (7.50)	89 (3.50)	140 (5.53)	10.3 (13/32)	10.3 (14.00)	356 (14.00)
7.5 HP		213TC	388 (15.27)	263 (10.34)	133 (5.25)	189 (7.46)	140 (5.50)	216 (8.50)	108 (4.25)	140 (5.53)	10.3 (13/32)	10.3 (14.00)	356 (14.00)
10 HP	10 HP	215TC	388 (15.27)	263 (10.34)	133 (5.25)	189 (7.46)	140 (5.50)	216 (8.50)	108 (4.25)	140 (5.53)	10.3 (13/32)	10.3 (14.00)	356 (14.00)
	15 HP	215TC	436 (17.15)	263 (10.34)	133 (5.25)	189 (7.46)	140 (5.50)	216 (8.50)	108 (4.25)	140 (5.53)	10.3 (13/32)	10.3 (14.00)	356 (14.00)
15 HP		254TC	447 (17.59)	263 (10.34)	159 (6.25)	225 (8.88)	210 (8.25)	254 (10.00)	121 (4.75)	169 (6.65)	13.5 (17/32)	16.7 (16.00)	406 (16.00)
	20 HP	256TC	491 (19.34)	263 (10.34)	159 (6.25)	225 (8.88)	254 (10.00)	254 (10.00)	121 (4.75)	169 (6.65)	13.5 (17/32)	16.7 (16.00)	406 (16.00)
20 HP		256TC	499 (19.66)	336 (13.25)	159 (6.25)	239 (9.42)	254 (10.00)	254 (10.00)	121 (4.75)	169 (6.65)	13.5 (17/32)	16.7 (16.00)	406 (16.00)

1265000540

Dimensional Drawing: FPX Double Flange



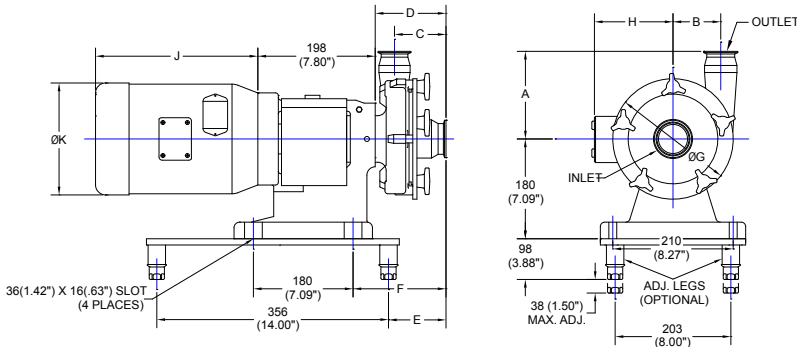
PUMP MODEL	INLET	OUTLET	DIMENSIONS IN MILLIMETERS (INCHES)				
			A	B	C	D	ØE
FPX 1051	4"	4"	250 (9.84)	170 (6.69)	167 (6.57)	202.5 (7.97)	406 (15.98)
FPX 1151	4"	4"	250 (9.84)	170 (6.69)	110.5 (4.35)	146 (5.75)	406 (15.98)
FPX 1161	4"	4"	250 (9.84)	170 (6.69)	110.5 (4.35)	146 (5.75)	406 (15.98)
FPX 1161	6"	4"	250 (9.84)	170 (6.69)	111 (4.37)	146 (5.75)	406 (15.98)
FPX 1742	2.5"	2"	200 (7.87)	91 (3.58)	104 (4.09)	153 (6.02)	270 (10.63)
FPX 3532	2.5"	2"	191 (7.52)	95 (3.74)	115.5 (4.55)	164.5 (6.48)	260 (10.24)
FPX 3542	3"	2.5"	211 (8.31)	115 (4.53)	118 (4.64)	160.5 (6.32)	290 (11.42)
FPX 3452	3"	2"	211 (8.31)	140 (5.51)	114 (4.49)	158 (6.22)	350 (13.78)
FPX 3552	3"	2.5"	231 (9.09)	140 (5.51)	119 (4.68)	168 (6.61)	350 (13.78)

MOTOR HP	MOTOR	MOTOR FRAME	DIMENSIONS IN MILLIMETERS (INCHES)										
			H	ØJ	K	L	M	N	P	Q	ØR	S	
7.5 HP		213TC	388 (15.27)	263 (10.34)	133 (5.25)	189 (7.46)	140 (5.50)	216 (8.50)	108 (4.25)	200 (7.87)	10.3 (13/32)	16.7 (18.50)	470 (18.50)
10 HP		215TC	416 (16.40)	263 (10.34)	133 (5.25)	189 (7.46)	178 (7.00)	216 (8.50)	108 (4.25)	200 (7.87)	10.3 (13/32)	16.7 (18.50)	470 (18.50)
15 HP		254TC	447 (17.59)	263 (10.34)	159 (6.25)	226 (8.88)	210 (8.25)	254 (10.00)	121 (4.75)	169 (6.65)	13.5 (17/32)	16.7 (16.00)	406 (16.00)
20 HP		256TC	499 (19.66)	320 (12.60)	159 (6.25)	239 (9.42)	254 (10.00)	254 (10.00)	121 (4.75)	169 (6.65)	13.5 (17/32)	16.7 (16.00)	406 (16.00)
25 HP		284TC	588 (23.13)	367 (14.44)	178 (7.00)	333 (13.11)	241 (9.50)	279 (11.00)	121 (4.75)	200 (7.87)	13.5 (17/32)	16.7 (16.00)	444 (17.50)
	25 HP	284TSC	588 (23.13)	367 (14.44)	178 (7.00)	333 (13.11)	241 (9.50)	279 (11.00)	121 (4.75)	200 (7.87)	13.5 (17/32)	16.7 (16.00)	444 (17.50)
30 HP		286TC	588 (23.13)	367 (14.44)	178 (7.00)	333 (13.11)	279 (11.00)	279 (11.00)	121 (4.75)	200 (7.87)	13.5 (17/32)	16.7 (16.00)	444 (17.50)
	30 HP	286TSC	588 (23.13)	367 (14.44)	178 (7.00)	333 (13.11)	279 (11.00)	279 (11.00)	121 (4.75)	200 (7.87)	13.5 (17/32)	16.7 (16.00)	444 (17.50)
40 HP		324TC	636 (25.00)	413 (16.25)	203 (8.00)	371 (14.62)	267 (10.50)	318 (12.50)	133 (5.25)	216 (8.50)	16.7 (16.00)	16.7 (16.00)	470 (18.50)
	40 HP	324TSC	636 (25.00)	413 (16.25)	203 (8.00)	371 (14.62)	267 (10.50)	318 (12.50)	133 (5.25)	216 (8.50)	16.7 (16.00)	16.7 (16.00)	470 (18.50)
50 HP		326TC	636 (25.00)	413 (16.25)	203 (8.00)	371 (14.62)	305 (12.00)	318 (12.50)	133 (5.25)	216 (8.50)	16.7 (16.00)	16.7 (16.00)	470 (18.50)
	50 HP	326TSC	636 (25.00)	413 (16.25)	203 (8.00)	371 (14.62)	305 (12.00)	318 (12.50)	133 (5.25)	216 (8.50)	16.7 (16.00)	16.7 (16.00)	470 (18.50)

ii-0661

All pump dimensions are in millimeters (inches). Dimensions are based on clamp fittings. Motor dimensions may vary by manufacturer.

Dimensional Drawing: FP Single Flange

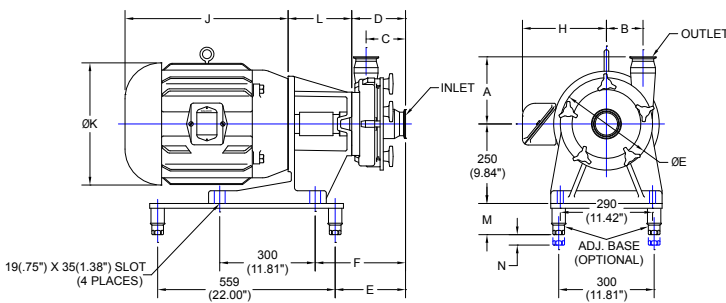


PUMP MODEL	INLET	OUTLET	DIMENSIONS IN MILLIMETERS (INCHES)						
			A	B	C	D	E	F	ØG
FP 701 / 702	1.5"	1.5"	108 (4.25")	44.5 (1.75")	108.5 (4.27")	146.5 (5.77")	154.5 (6.08")	186.5 (7.34")	150 (5.90")
FP 711 / 712	2"	1.5"	144 (5.67")	58 (2.28")	113 (4.45")	150 (5.90")	158 (6.22")	190 (7.48")	185 (7.28")
FP 721 / 731 / 722	2"	1.5"	170 (6.69")	79 (3.11")	113 (4.45")	150 (5.90")	158 (6.22")	190 (7.48")	230 (9.06")
FP 741 / 732 / 742	2.5"	2"	195 (7.68")	96 (3.78")	101 (3.98")	141 (5.55")	149 (5.87")	181 (7.13")	270 (10.63")
FP 1741 / 1732 / 1742	2.5"	2"	200 (7.87")	91 (3.58")	104 (4.09")	150.5 (5.93")	158.5 (6.24")	190.5 (7.50")	270 (10.63")
FP 3521 / 3522	2.5"	2"	190 (7.48")	80 (3.15")	118 (4.64")	162 (6.38")	170 (6.69")	202 (7.95")	230 (9.06")
FP 3531 / 3532	2.5"	2"	191 (7.52")	95 (3.74")	115.5 (4.55")	162 (6.38")	170 (6.69")	202 (7.95")	260 (10.24")
FP 3541 / 3542	3"	2.5"	211 (8.31")	115 (4.53")	118 (4.64")	162 (6.38")	170 (6.69")	202 (7.95")	290 (11.42")
FP 3451 / 3452	3"	2"	211 (8.31")	140 (5.51")	114 (4.49")	158 (6.22")	166 (6.54")	198 (7.80")	350 (13.78")

MOTOR HP	MOTOR FRAME	DIMENSIONS IN MILLIMETERS (INCHES)		
		H	J	ØK
0.5 HP	56C	115 (4.53")	236 (9.29")	157 (6.19")
0.75 HP	56C	115 (4.53")	236 (9.29")	157 (6.19")
1 HP	56C	115 (4.53")	236 (9.29")	157 (6.19")
1.5 HP	143TC	115 (4.53")	252 (9.94")	157 (6.19")
1.5 HP	145TC	133 (5.22")	259 (10.19")	183 (7.19")
2 HP	145TC	133 (5.22")	284 (11.19")	183 (7.19")
3 HP	145TC	133 (5.22")	284 (11.19")	183 (7.19")
3 HP	182TC	133 (5.23")	313 (12.31")	216 (8.50")
5 HP	184TC	152 (6.00")	348 (13.68")	216 (8.50")
5 HP	184TC	152 (6.00")	386 (15.18")	216 (8.50")
7.5 HP	213TC	189 (7.46")	388 (15.27")	263 (10.34")
10 HP	215TC	189 (7.46")	388 (15.27")	263 (10.34")
10 HP	215TC	189 (7.46")	416 (16.40")	263 (10.34")

1265000384 REV.

Dimensional Drawing: FP Double Flange [Frame Sizes 182TC-286T(S)C]



PUMP MODEL	INLET	OUTLET	DIMENSIONS IN MILLIMETERS (INCHES)						
			A	B	C	D	E	F	ØE
FP 1051	4"	4"	250 (9.84")	170 (6.69")	167 (6.57")	202.5 (7.97")	254 (10.00")	317.5 (12.50")	406 (15.98")
FP 1151	4"	4"	250 (9.84")	170 (6.69")	110.5 (4.35")	146 (5.75")	197.5 (7.78")	261 (10.28")	406 (15.98")
FP 1161	4"	4"	250 (9.84")	170 (6.69")	110.5 (4.35")	146 (5.75")	197.5 (7.78")	261 (10.28")	406 (15.98")
FP 1161	6"	4"	250 (9.84")	170 (6.69")	111 (4.37")	146 (5.75")	197.5 (7.78")	261 (10.28")	406 (15.98")
FP 742	2.5"	2"	195 (7.68")	96 (3.78")	101 (3.98")	143.5 (5.65")	195 (7.68")	258.5 (10.18")	270 (10.63")
FP 1732 / 1742	2.5"	2"	200 (7.87")	91 (3.58")	104 (4.09")	153 (6.02")	204.5 (8.05")	268 (10.55")	270 (10.63")
FP 3532	2.5"	2"	191 (7.52")	95 (3.74")	115.5 (4.55")	164.5 (6.48")	216 (8.50")	279.5 (11.00")	280 (10.24")
FP 3542	3"	2.5"	211 (8.31")	115 (4.53")	118 (4.64")	164.5 (6.48")	216 (8.50")	279.5 (11.00")	290 (11.42")
FP 3452	3"	2"	211 (8.31")	140 (5.51")	114 (4.49")	160.5 (6.32")	212 (8.35")	275.5 (10.85")	350 (13.78")
FP 3551 / 3552	3"	2.5"	231 (9.09")	140 (5.51")	119 (4.68")	170.5 (6.71")	222 (8.74")	285.5 (11.24")	350 (13.78")

MOTOR HP	MOTOR FRAME	DIMENSIONS IN MILLIMETERS (INCHES)					
		H	J	ØK	L	M	N
*3 HP	182TC	133 (5.23")	313 (12.31")	216 (8.50")	200 (7.87")	117 (4.62")	44.5 (1.75")
*5 HP	213TC	189 (7.46")	388 (15.27")	263 (10.34")	200 (7.87")	117 (4.62")	44.5 (1.75")
**7.5 HP	213TC	189 (7.46")	388 (15.27")	263 (10.34")	200 (7.87")	117 (4.62")	44.5 (1.75")
**10 HP	215TC	189 (7.46")	416 (16.40")	263 (10.34")	200 (7.87")	117 (4.62")	44.5 (1.75")
15 HP	254TC	220 (8.67")	415 (16.33")	263 (10.34")	200 (7.87")	98*** (3.88")	38**** (1.50")
20 HP	256TC	239 (9.42")	499 (19.66")	336 (13.25")	200 (7.87")	98*** (3.88")	38**** (1.50")
20 HP	256TC	225 (8.88")	491 (19.34")	263 (10.34")	200 (7.87")	98 (3.88")	38 (1.50")
25 HP	284TC	333 (13.12")	588 (23.13")	395 (15.56")	200 (7.87")	117 (4.62")	44.5 (1.75")
25 HP	284TSC	333 (13.12")	588 (23.13")	395 (15.56")	200 (7.87")	98 (3.88")	38 (1.50")
30 HP	286TC	333 (13.12")	588 (23.13")	395 (15.56")	200 (7.87")	117 (4.62")	44.5 (1.75")
30 HP	286TSC	333 (13.12")	588 (23.13")	395 (15.56")	200 (7.87")	98 (3.88")	38 (1.50")

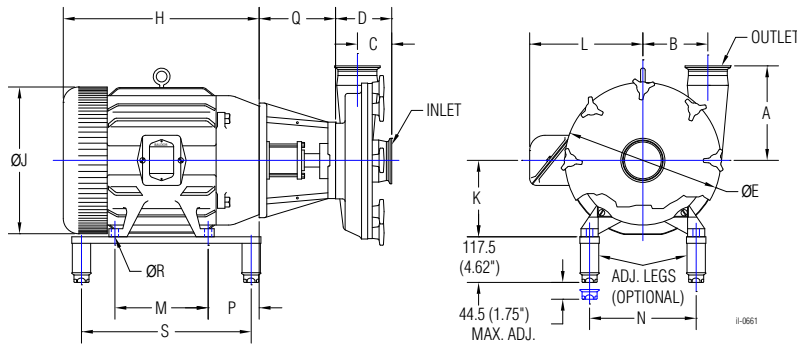
* 3551 ONLY
 ** 3551, 1051 & 1151 ONLY
 *** 117 (4.62") FOR 1051, 1151 & 1161
 **** 44.5 (1.75") FOR 1051, 1151 & 1161

1265000387 REV A

All pump dimensions are in millimeters (inches). Dimensions are based on clamp fittings. Motor dimensions may vary by manufacturer.

Dimensional Drawing: FP Double Flange

[Frame Sizes 324T(S)C-365T(S)C]

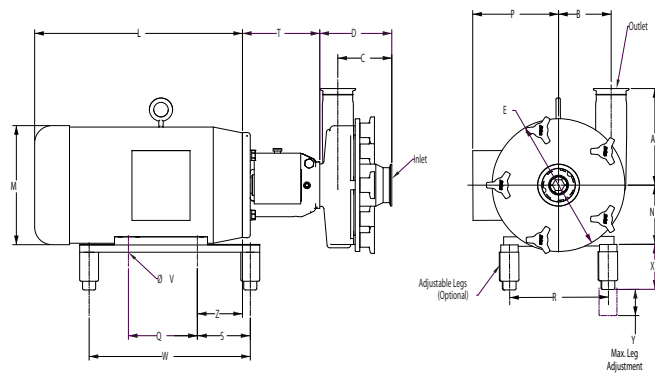


PUMP MODEL	INLET	OUTLET	DIMENSIONS IN MILLIMETERS (INCHES)						
			A	B	C	D	ØE	ØJ	
FP 1051	4"	4"	250 (9.84")	170 (6.69")	167 (6.57")	202.5 (7.97")	146 (5.75")	406 (15.98")	406 (15.98")
FP 1151	4"	4"	250 (9.84")	170 (6.69")	146 (4.35")	110.5 (4.35")	146 (5.75")	406 (15.98")	406 (15.98")
FP 1161	4"	4"	250 (9.84")	170 (6.69")	146 (4.35")	110.5 (4.35")	146 (5.75")	406 (15.98")	406 (15.98")
FP 1161	6"	4"	250 (9.84")	170 (6.69")	111 (4.37")	110.5 (4.35")	146 (5.75")	406 (15.98")	406 (15.98")
FP 1742	2.5"	2"	200 (7.87")	91 (3.58")	104 (4.09")	153 (6.02")	270 (10.63")	290 (11.42")	290 (11.42")
FP 3542	3"	2.5"	211 (8.31")	115 (4.53")	140 (4.64")	160.5 (6.32")	350 (13.78")	350 (13.78")	350 (13.78")
FP 3551 / 3552	3"	2.5"	231 (9.09")	140 (5.51")	119 (4.68")	170.5 (6.71")	350 (13.78")	350 (13.78")	350 (13.78")

MOTOR HP	MOTOR	MOTOR FRAME	DIMENSIONS IN MILLIMETERS (INCHES)										
			H	ØJ	K	L	M	N	P	Q	ØR	S	
40 HP	1750 RPM	3500 RPM	324TSC	636 (25.00")	413 (16.25")	203 (8.00")	371 (14.62")	267 (10.50")	318 (12.50")	133 (5.25")	216 (8.50")	16.7 (0.66")	470 (18.50")
40 HP	1750 RPM	3500 RPM	324TSC	636 (25.00")	413 (16.25")	203 (8.00")	371 (14.62")	267 (10.50")	318 (12.50")	133 (5.25")	216 (8.50")	16.7 (0.66")	470 (18.50")
50 HP	1750 RPM	3500 RPM	326TSC	636 (25.00")	413 (16.25")	203 (8.00")	371 (14.62")	305 (12.00")	318 (12.50")	133 (5.25")	216 (8.50")	16.7 (0.66")	470 (18.50")
50 HP	1750 RPM	3500 RPM	326TSC	636 (25.00")	413 (16.25")	203 (8.00")	371 (14.62")	305 (12.00")	318 (12.50")	133 (5.25")	216 (8.50")	16.7 (0.66")	470 (18.50")
60 HP	1750 RPM	3500 RPM	364TSC	702 (27.60")	485 (19.11")	229 (9.00")	457 (18.00")	285 (11.25")	355 (14.00")	149 (5.87")	232 (9.13")	17.5 (0.69")	508 (20.00")
60 HP	1750 RPM	3500 RPM	364TSC	702 (27.60")	485 (19.11")	229 (9.00")	457 (18.00")	285 (11.25")	355 (14.00")	149 (5.87")	232 (9.13")	17.5 (0.69")	508 (20.00")
75 HP	1750 RPM	3500 RPM	365TSC	702 (27.60")	485 (19.11")	229 (9.00")	457 (18.00")	311 (12.25")	355 (14.00")	149 (5.87")	232 (9.13")	17.5 (0.69")	508 (20.00")
75 HP	1750 RPM	3500 RPM	365TSC	702 (27.60")	485 (19.11")	229 (9.00")	457 (18.00")	311 (12.25")	355 (14.00")	149 (5.87")	232 (9.13")	17.5 (0.69")	508 (20.00")

1265000715 REV.

Dimensional Drawing: FPR Single Flange



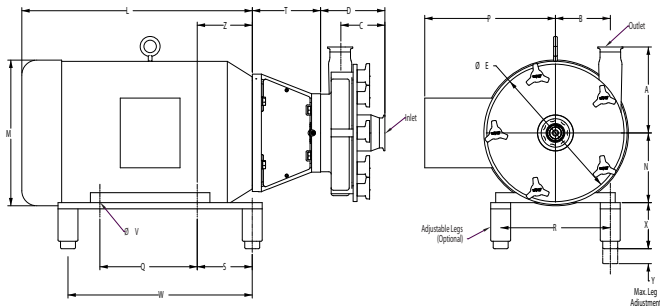
PUMP MODEL	INLET	OUTLET	A	B	C	D	E
FPR 701/702	1.5"	1.5"	108 (4.25")	44.5 (1.75")	106.5 (4.19")	139.5 (5.49")	150 (5.91")
FPR 711/712	2"	1.5"	144 (5.67")	58 (2.28")	113 (4.45")	145 (5.71")	185 (7.28")
FPR 721/731/722	2"	1.5"	170 (6.69")	79 (3.11")	113 (4.45")	145 (5.71")	230 (9.06")
FPR 741/742	2.5"	2"	195 (7.68")	96 (3.78")	101 (3.98")	136 (5.35")	270 (10.63")
FPR 1741/1742	2.5"	2"	200 (7.87")	91 (3.58")	104 (4.09")	145.5 (5.73")	270 (10.63")
FPR 3521/3522	2.5"	2"	190 (7.48")	80 (3.15")	118 (4.65")	157.5 (6.2")	230 (9.06")
FPR 3531/3532	2.5"	2"	191 (7.52")	95 (3.74")	115.5 (4.55")	157.5 (6.2")	260 (10.24")
FPR 3541/3542	3"	2.5"	211 (8.31")	115 (4.53")	118 (4.65")	157.5 (6.2")	290 (11.42")

MOTOR HP	MOTOR	MOTOR FRAME	DIMENSIONS IN MILLIMETERS (INCHES)														
			L	M	N	P	Q	R	S	T	V	W	X	Y	Z		
1 HP	1.5 HP	143TC	284 (11.18")	175 (6.89")	89 (3.5")	133 (5.25")	101.6 (4")	140 (5.5")	127 (5")	120 (4.72")	8.7 (0.34")	14" (3.86")	98 (3.86")	38 (1.5")	57.2 (2.25")		
1.5 HP	1.5 HP	145TC	284 (11.18")	175 (6.89")	89 (3.5")	133 (5.25")	127 (5")	140 (5.5")	127 (5")	120 (4.72")	8.7 (0.34")	14" (3.86")	98 (3.86")	38 (1.5")	57.2 (2.25")		
2 HP	2 HP	145TC	284 (11.18")	175 (6.89")	89 (3.5")	133 (5.25")	127 (5")	140 (5.5")	127 (5")	120 (4.72")	8.7 (0.34")	14" (3.86")	98 (3.86")	38 (1.5")	57.2 (2.25")		
3 HP	3 HP	182TC	340 (13.39")	221 (8.7")	114 (4.5")	149 (5.87")	114 (4.5")	191 (7.5")	108 (4.25")	169 (6.65")	10.3 (0.41")	14" (3.86")	98 (3.86")	38 (1.5")	69.9 (2.75")		
3 HP	3 HP	182TC	340 (13.39")	221 (8.7")	114 (4.5")	149 (5.87")	114 (4.5")	191 (7.5")	108 (4.25")	169 (6.65")	10.3 (0.41")	14" (3.86")	98 (3.86")	38 (1.5")	69.9 (2.75")		
5 HP	5 HP	184TC	354 (13.94")	221 (8.7")	114 (4.5")	149 (5.87")	140 (5.5")	191 (7.5")	108 (4.25")	169 (6.65")	10.3 (0.41")	14" (3.86")	98 (3.86")	38 (1.5")	69.9 (2.75")		
5 HP	5 HP	184TC	354 (13.94")	221 (8.7")	114 (4.5")	149 (5.87")	140 (5.5")	191 (7.5")	108 (4.25")	169 (6.65")	10.3 (0.41")	14" (3.86")	98 (3.86")	38 (1.5")	69.9 (2.75")		
7.5 HP	7.5 HP	184TC	423 (16.65")	221 (8.7")	114 (4.5")	149 (5.87")	140 (5.5")	191 (7.5")	108 (4.25")	169 (6.65")	10.3 (0.41")	14" (3.86")	98 (3.86")	38 (1.5")	69.9 (2.75")		
7.5 HP	7.5 HP	213TC	403 (15.87")	260 (10.25")	133 (5.25")	187 (7.38")	140 (5.5")	216 (8.5")	108 (4.25")	169 (6.65")	10.3 (0.41")	14" (3.86")	98 (3.86")	38 (1.5")	88.9 (3.5")		
10 HP	10 HP	215TC	416 (16.38")	260 (10.25")	133 (5.25")	187 (7.38")	178 (7")	216 (8.5")	108 (4.25")	169 (6.65")	10.3 (0.41")	14" (3.86")	98 (3.86")	38 (1.5")	88.9 (3.5")		
10 HP	10 HP	215TC	416 (16.38")	260 (10.25")	133 (5.25")	187 (7.38")	178 (7")	216 (8.5")	108 (4.25")	169 (6.65")	10.3 (0.41")	14" (3.86")	98 (3.86")	38 (1.5")	88.9 (3.5")		
15 HP	15 HP	254TC	499 (19.65")	327 (12.87")	159 (6.25")	244 (9.63")	254 (10")	254 (10")	102 (4")	169 (6.65")	13.5 (0.53")	16" (4.06")	98 (3.86")	38 (1.5")	108.0 (4.25")		
20 HP	20 HP	256TC	499 (19.65")	327 (12.87")	159 (6.25")	244 (9.63")	254 (10")	254 (10")	102 (4")	169 (6.65")	13.5 (0.53")	16" (4.06")	98 (3.86")	38 (1.5")	108.0 (4.25")		
20 HP	20 HP	256TC	499 (19.65")	327 (12.87")	159 (6.25")	244 (9.63")	254 (10")	254 (10")	102 (4")	169 (6.65")	13.5 (0.53")	16" (4.06")	98 (3.86")	38 (1.5")	108.0 (4.25")		
25 HP	25 HP	284TSC	588 (23.15")	371 (14.63")	178 (7")	333 (13.13")	241 (9.5")	279 (11")	121 (4.75")	179 (7.05")	13.5 (0.53")	17.5 (6.83")	118 (4.63")	45 (1.75")	120.7 (4.75")		
25 HP	25 HP	284TC	588 (23.15")	371 (14.63")	178 (7")	333 (13.13")	241 (9.5")	279 (11")	121 (4.75")	179 (7.05")	13.5 (0.53")	17.5 (6.83")	118 (4.63")	45 (1.75")	120.7 (4.75")		
30 HP	30 HP	286TSC	588 (23.15")	371 (14.63")	178 (7")	333 (13.13")	279 (11")	279 (11")	121 (4.75")	179 (7.05")	13.5 (0.53")	17.5 (6.83")	118 (4.63")	45 (1.75")	120.7 (4.75")		
30 HP	30 HP	286TC	588 (23.15")	371 (14.63")	178 (7")	333 (13.13")	279 (11")	279 (11")	121 (4.75")	179 (7.05")	13.5 (0.53")	17.5 (6.83")	118 (4.63")	45 (1.75")	120.7 (4.75")		
40 HP	40 HP	324TSC	636 (25.04")	419 (16.5")	203 (8")	359 (14.13")	267 (10.5")	318 (12.5")	121 (4.75")	179 (7.05")	13.5 (0.53")	18.5 (7.28")	118 (4.63")	45 (1.75")	133.4 (5.25")		
40 HP	40 HP	324TC	636 (25.04")	419 (16.5")	203 (8")	359 (14.13")	267 (10.5")	318 (12.5")	121 (4.75")	179 (7.05")	13.5 (0.53")	18.5 (7.28")	118 (4.63")	45 (1.75")	133.4 (5.25")		
50 HP	50 HP	326TSC	636 (25.04")	419 (16.5")	203 (8")	359 (14.13")	305 (12")	318 (12.5")	121 (4.75")	179 (7.05")	13.5 (0.53")	18.5 (7.28")	118 (4.63")	45 (1.75")	133.4 (5.25")		
50 HP	50 HP	326TC	636 (25.04")	419 (16.5")	203 (8")	359 (14.13")	305 (12")	318 (12.5")	121 (4.75")	179 (7.05")	13.5 (0.53")	18.5 (7.28")	118 (4.63")	45 (1.75")	133.4 (5.25")		

1265000643

All pump dimensions are in millimeters (inches). Dimensions are based on clamp fittings. Motor dimensions may vary by manufacturer.

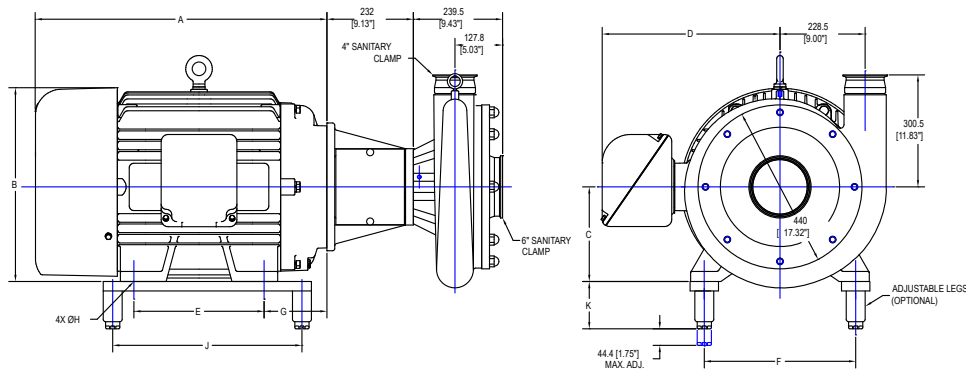
Dimensional Drawing: FPR Double Flange



MOTOR HP	MOTOR FRAME		L	M	N	P	Q	R	S	T	V	W	X	Y	Z
	1750 RPM	3500 RPM													
3 HP	182TC	313	221	114	149	114	191	108	160	10.3	356	98	38	69.9	
	182TC	348	221	114	149	114	191	108	160	10.3	356	98	38	69.9	
5 HP	184TC	347	221	114	149	140	191	108	160	10.3	356	98	38	69.9	
	184TC	386	221	114	149	140	191	108	160	10.3	356	98	38	69.9	
7.5 HP	213TC	386	221	114	149	140	191	108	160	10.3	356	98	38	69.9	
	213TC	388	260	133	187	178	216	108	160	10.3	356	98	38	88.9	
10 HP	215TC	388	260	133	187	178	216	108	160	10.3	356	98	38	88.9	
	215TC	436	260	133	187	178	216	108	160	10.3	356	98	38	88.9	
15 HP	254TC	447	327	159	244	210	254	102	160	13.5	406	98	38	108	
	256TC	491	327	159	244	254	254	102	160	13.5	406	98	38	108	
20 HP	256TC	499	327	159	244	254	254	102	160	13.5	406	98	38	108	
	256TC	588	371	178	333	241	279	121	174	13.5	445	118	45	121	
25 HP	284TC	588	371	178	333	241	279	121	174	13.5	445	118	45	121	
	284TC	636	419	203	359	267	318	121	209	16.7	470	118	45	133	
30 HP	286TC	588	371	178	333	279	279	121	174	13.5	445	118	45	121	
	286TC	636	419	203	359	267	318	121	209	16.7	470	118	45	133	
40 HP	324TC	636	419	203	359	267	318	121	209	16.7	470	118	45	133	
	324TC	685	470	229	383	286	356	89	209	16.7	508	127	45	149	
50 HP	326TC	636	419	203	359	305	318	121	209	16.7	470	118	45	133	
	326TC	685	470	229	383	286	356	89	209	16.7	508	127	45	149	
60 HP	364TC	685	470	229	383	286	356	89	209	16.7	508	127	45	149	
	364TC	782	520	254	477	349	406	168	20.6	508	127	45	149		
75 HP	365TC	685	470	229	383	311	356	89	209	16.7	508	127	45	149	
	365TC	782	520	254	477	349	406	168	20.6	508	127	45	149		

PUMP MODEL	INLET	OUTLET	A	B	C	D	E
FPR 751/752	3"	2"	205 8.07"	145 5.71"	99 3.9"	142 5.59"	379 14.92"
FPR 3451/3452	3"	2"	211 8.31"	140 5.51"	114 4.49"	160.5 6.32"	350 13.78"
FPR 3551/3552	3"	2.5"	230 9.06"	140 5.51"	119 4.69"	170 6.69"	350 13.78"
FPR 1051	4"	4"	250 9.84"	170 6.69"	167 6.57"	202.5 7.97"	406 15.98"
FPR 1161	4"	4"	250 9.84"	170 6.69"	110.5 4.35"	146 5.75"	406 15.98"

Dimensional Drawing: FPR Double Flange [Model 4001]



MOTOR HP	MOTOR FRAME	A	B	C	D	E	F	G	ØH	J	K
40 HP	324TC	636 25"	418 16.5"	203 8"	371 14.6"	267 10.5"	317 12.5"	133 5.2"	16.7 0.7"	470 18.5"	117 4.6"
50 HP	326TC	636 25"	418 16.5"	203 8"	371 14.6"	305 12"	317 12.5"	133 5.2"	16.7 0.7"	470 18.5"	117 4.6"
60 HP	364TC	684 26.9"	470 18.5"	229 9"	380 15"	286 11.3"	355 14"	149 5.9"	16.7 0.7"	508 20"	127 5"
75 HP	365TC	684 26.9"	470 18.5"	229 9"	380 15"	311 12.2"	355 14"	149 5.9"	16.7 0.7"	508 20"	127 5"
100 HP	405TC	782 30.8"	520 20.5"	254 10"	477 18.8"	349 13.7"	406 16"	168 6.6"	20.6 0.8"	508 20"	127 5"

1265000054
1/28/2008

All pump dimensions are in millimeters (inches). Dimensions are based on clamp fittings. Motor dimensions may vary by manufacturer.

Explore Fristam's Full Line

Fristam is a leading global manufacturer of high quality sanitary stainless steel pumps, blenders, and mixers. Our products can be found in many of the world's top beverage, brewing, bio-pharmaceutical and food processing companies. Fristam equipment is known for their top quality, reliable performance, and high lifetime value.

FP/FPX/FPR

CENTRIFUGAL PUMPS



Fristam centrifugal pumps serve as the industry benchmark for quiet, efficient, low-maintenance operations. Our line includes standard-duty, heavy-duty, and front-loading seal centrifugal pumps.

FM/FPH

HIGH-PRESSURE CENTRIFUGAL PUMPS



Fristam single-stage and multi-stage high-pressure centrifugals are ideal for Reverse Osmosis (RO) Systems, Filtration/Ultrafiltration (UF), pressure feed, and recirculation.

FZX

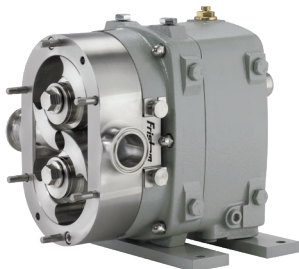
LIQUID RING PUMPS



The FZX liquid ring pump maintains its prime when other pumps become air bound by using a specially designed impeller and housing, the FZX is ideal for complete evacuation of tanks and lines, CIP, and general transfer.

FKL/FL

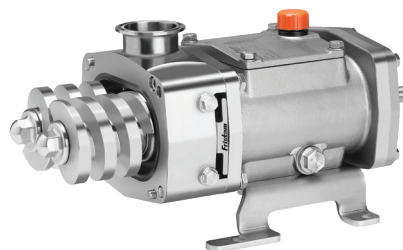
POSITIVE DISPLACEMENT PUMPS



Fristam offers the widest selection of Positive Displacement pumps to fit a broad range of applications, from our heavy-duty, high-pressure FKL to our gentle, standard-duty FL2 to our low-pulsation, high-suction FL3.

FDS

TWIN SCREW PUMPS



FDS Series pumps are the most robust and easy to maintain twin screw pumps available. The versatile FDS provides quick, yet gentle product handling of delicate products, as well as exceptional suction for thick or viscous products.

FS/POWDER MIXER

MIXERS AND BLENDERS



Fristam mixers and blenders improve product texture, produce repeatable results, reduce processing time, are economical to operate and maintain, and feature low maintenance designs for continuous duty and CIP.



CENTRIFUGAL



POSITIVE DISPLACEMENT



MIXING & BLENDING