

ARMSTRONG



PiB (Pump-in-a-Box) 4360 & 4380 Series

FILE NO:	43.12U
DATE:	July 15, 2008
SUPERSEDES:	New
DATE:	New

Factory-Built Commercial Pumps In Stock... At The Right Price



The PiB Series builds on the quality and unsurpassed performance you've come to expect from Armstrong commercial pumps. PiB (Pump-in-a-Box) models are packaged for warehouse distribution or shipment within 48 hours of the order date. Current PiB models include the 4360, 4380 and 4380 IVS Series Vertical In-Line pumps, available with an extensive selection of impeller and motor combinations, to cover a wide range of head and flow requirements.

► Direct Replacement

PiB 4360 & 4380 pumps are available with standard NPT connections and ANSI 125 flanges, bronze impellers and standard JM/JP/56c motors with common electrical configurations. The wide array of connection sizes, impeller diameters and motors allows for a simple and direct replacement of almost any pump.

► Intelligent Variable Speed Pumps

Armstrong PiB 4380 IVS pumps are the next generation in variable speed pumps, offering the element of built in intelligence. Our Intelligent Variable Speed (IVS) pumps can effectively and accurately replicate a typical variable speed system, which would normally include a remote differential pressure sensor. The IVS controller can provide the operating cost savings of a traditional variable speed system, without the added installation expense and complexity of a remote pressure sensor. It is the first true plug-and-play intelligent pump on the market, available only from Armstrong.

► IVS Retrofit

Existing constant speed pumps can seamlessly be upgraded to a PiB 4380 IVS, in systems with 2-way control valves. Simply install the 4380 IVS into the pipeline with the same installation method used for constant speed pumps. Expensive modifications to your current piping system or building structure are no longer required to minimize operating costs. An integrated dial (exclusive to the PiB 4380 IVS series) makes it easy to adjust the system head to match the system demand and instantly maximize your energy savings. No specialized technicians or complex electronic devices are required.

► Efficiency

Mechanically sealed pumps provide far greater efficiency compared to canned rotor designs. This design feature reduces power consumption and energy costs.

► Quality

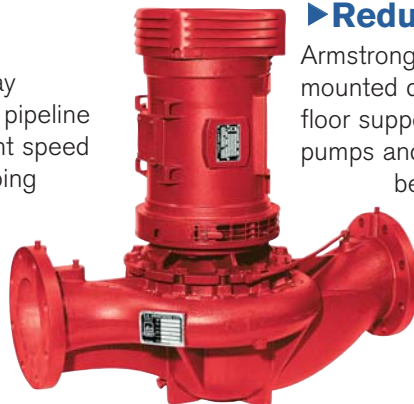
Armstrong VIL pumps have been installed in thousands of applications all over the world and have demonstrated high performance, consistent efficiency, and maximum durability. The Armstrong Type 21A mechanical seal has a Silicon-Carbide stationary seal which makes it one of the most reliable seals on the market today.

► Ease Of Maintenance

Since the PiB Series is based on current proven Armstrong commercial pumps, replacement parts are readily available. All PiB Series pumps include industry-standard mechanical seals, ensuring quick and economical service. In the event of regular scheduled maintenance, downtime is minimized.

► Reduced Footprint

Armstrong VIL pumps are designed to be mounted directly into the pipeline without floor support. Base-mounted end suction pumps and horizontal split case pumps can be replaced with VIL pumps to reduce the floor space required.



Selection Chart

1800 RPM 3600 RPM

Head in Meters

	3.0	4.6	6.1	7.6	9.1	10.7	12.2	13.7	15.2	18.3	21.3	24.4	27.4	
600				4380-08DX	4380-08DX	4380-08DX	4380-08DX							37.9
575				4380-08DV	4380-08DV	4380-08DX	4380-08DX	4380-08DX						36.3
550				4380-08DV	4380-08DV	4380-08DV	4380-08DX	4380-08DX						34.7
525				4380-08DV	4380-08DV	4380-08DV	4380-08DX	4380-08DX	4380-08DX					33.1
500				4380-08DV	4380-08DV	4380-08DV	4380-08DV	4380-08DX	4380-08DX					31.5
475				4380-08DV	4380-08DV	4380-08DV	4380-08DV	4380-08DX	4380-08DX					30.0
450				4380-08DV	4380-08DV	4380-08DV	4380-08DV	4380-08DX	4380-08DX					28.4
425				4380-08DV	4380-08DV	4380-08DV	4380-08DV	4380-08DV	4380-08DX					26.8
400		4380-06DO	4380-06DO	4380-06CU	4380-08DV	4380-08DV	4380-08DV	4380-08DV	4380-08DX					25.2
375		4380-06DO	4380-06DO	4380-08CR	4380-08DV	4380-08DV	4380-08DV	4380-08DV	4380-08DX					23.7
350		4380-06DL	4380-06DO	4380-08CR	4380-08CR	4380-08DV	4380-08DV	4380-08DV	4380-08DX	4380-08DX				22.1
340		4380-06DL	4380-06DO	4380-08CR	4380-08CR	4380-08CR	4380-08DV	4380-08DV	4380-08DX	4380-08DX				21.5
330		4380-06DL	4380-06DO	4380-06DO	4380-08CR	4380-08CR	4380-08DV	4380-08DV	4380-08DX	4380-08DX				20.8
320	4380-06DI	4380-06DL	4380-06DO	4380-06DO	4380-08CR	4380-08CR	4380-08CR	4380-08DV	4380-08DV	4380-08DX				20.2
310	4380-06DI	4380-06DL	4380-06DO	4380-06DO	4380-08CR	4380-08CR	4380-08CR	4380-08DV	4380-08DV	4380-08DX				19.6
300	4380-06DI	4380-06DL	4380-08CO	4380-06DO	4380-08CR	4380-08CR	4380-08CR	4380-08DV	4380-08DV	4380-08DX				18.9
290	4380-06DI	4380-08CO	4380-08CO	4380-06DO	4380-08CR	4380-08CR	4380-08CR	4380-08CR	4380-08DV	4380-08DX				18.3
280	4380-06DI	4380-08CO	4380-08CO	4380-08CO	4380-06DO	4380-08CR	4380-08CR	4380-08CR	4380-08DV	4380-08DX				17.7
270	4380-06DI	4380-06DI	4380-08CO	4380-08CO	4380-06DO	4380-08CR	4380-08CR	4380-08CR	4380-08DV	4380-08DX				17.0
260	4380-06DI	4380-06DI	4380-08CO	4380-08CO	4380-06DO	4380-08CR	4380-08CR	4380-08CR	4380-08DV	4380-08DX				16.4
250	4380-06DI	4380-06CL	4380-06DL	4380-08CO	4380-06DO	4380-08CR	4380-08CR	4380-08CR	4380-08CR	4380-08DX				15.8
240	4380-06DI	4380-06CL	4380-06DL	4380-08CO	4380-08CO	4380-08CR	4380-08CR	4380-08CR	4380-08CR	4380-08CV				15.1
230	4380-06CI	4380-06CL	4380-06CL	4380-08CO	4380-08CO	4380-08CR	4380-08CR	4380-08CR	4380-08CR	4380-08CV				14.5
220	4380-06CI	4380-06CI	4380-06CL	4380-08CO	4380-08CO	4380-08CO	4380-08CR	4380-08CR	4380-08CR	4380-10BV	4380-10BV	4380-10BV		13.9
210				4360D-CO	4360D-CO									13.2
200				4360D-CO	4360D-CO	4360D-CO								12.6
190	4380-06CG	4380-06CI	4380-06CL	4380-06DL	4380-08CO	4380-08CO	4380-08BR	4380-08BR	4380-08CR	4380-10BR	4380-10BV	4380-10BV		12.0
180				4360D-CL	4360D-CL	4360D-CO	4360D-CO							11.4
170	4380-06CG	4380-06CI	4380-06CI	4380-06CL	4380-08CO	4380-08CO	4380-08CR	4380-08CR	4380-08CR	4380-10BR	4380-10BV	4380-10BV		10.7
160				4360D-CI	4360D-CI	4360D-CL	4360D-CL	4360D-CO	4360D-CO					10.1
150				4380-06CG	4380-06CI	4380-06CL	4380-08CO	4380-08CO	4380-08CO	4380-10BR	4380-10BV	4380-10BV		9.5
140				4360D-CI	4360D-CI	4360D-CL	4360D-CL	4360D-CO	4360D-CO					8.8
130				4380-06CG	4380-06CI	4380-06CL	4380-08CO	4380-08CO	4380-08CO	4380-10BR	4380-10BV	4380-10BV		8.2
120				4360D-CI	4360D-CI	4360D-CL	4360D-CL	4360D-CO						7.6
110				4380-06DI	4380-06CI	4380-06CI	4380-06CL	4380-08BL	4380-08BO	4380-08BO	4380-10AR	4380-10AR	4380-10BV	6.9
100								4360D-CI	4360D-CO					6.3
90				4380-06DI	4380-06CG	4380-06BI	4380-08BL	4380-08BO	4380-08BO	4380-10AR	4380-10AR	4380-10AR		5.7
80				4360B-CD	4360B-CF	4360D-BI	4360D-BI	4360D-CI	4360D-CO	4360D-CO				5.0
70								4360B-AH	4360B-AJ	4360B-AJ	4360B-BJ	4360B-BM	4360B-BM	4.4
60				4380-06BG	4380-06BI	4380-06BI	4380-08BL	4380-08BO	4380-08BO	4380-10AO	4380-10AR	4380-10AR		3.8
50				4360B-CC	4360B-BC	4360B-BC	4360B-CF	4360D-AG	4360D-BI	4360D-BI	4360D-BL	4360D-BL		3.2
45								4360B-AH	4360B-AH	4360B-AJ	4360B-AJ	4360B-BM	4360B-BM	2.8
40				4380-06BG	4380-06BI	4380-06BI	4380-08BL	4380-08AI	4380-08AI	4380-08AL	4380-10AR	4380-10AR	4380-10AR	2.5
35				4360B-CC	4360B-BC	4360B-CD	4360D-AG	4360D-AG	4360D-AI	4360D-AI	4360D-AI	4360D-BM	4360D-BM	2.2
30				4360B-CC	4360B-BC	4360B-BC	4360D-AD	4360D-AG	4360D-AI	4360D-AI	4360B-AH	4360B-AJ	4360B-BM	1.9
25							4380-06BG	4380-06BI	4380-08AI	4380-08AI	4380-08AL			1.6
20				4360B-CC	4360B-CC	4360B-BC	4360B-CF	4360D-AG	4360D-AG	4360D-AI	4360D-AI	4360B-AH	4360B-AJ	1.3
15				4360B-CC	4360B-CC	4360B-BC	4360D-AD	4360D-AG	4360D-AG	4360D-AI	4360D-AI	4360B-AH	4360B-AJ	0.9
10				4360B-CC	4360B-CC	4360B-BC	4360D-AD	4360D-AG	4360D-AG	4360D-AI	4360D-AI	4360B-AH	4360B-AJ	0.6
5				4360B-CC	4360B-CC	4360B-BC	4360D-AD	4360D-AG	4360D-AG	4360D-AI	4360D-AI	4360B-AH	4360B-AJ	0.3

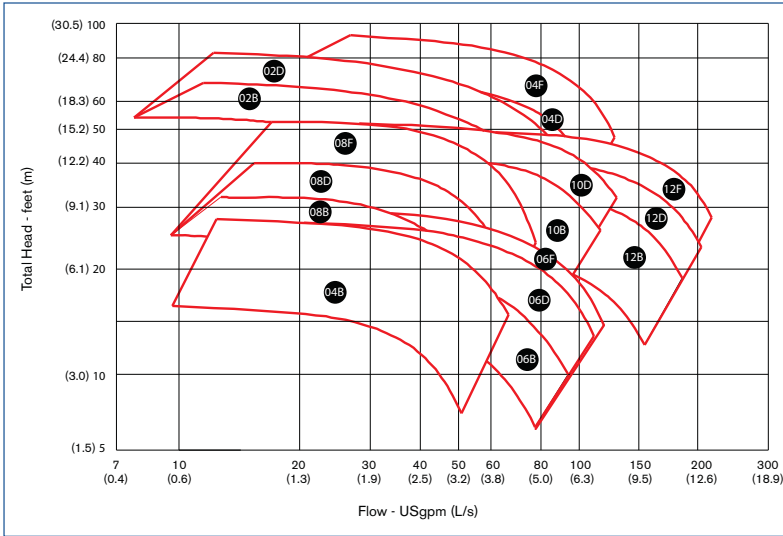
Flow in USgpm

Flow in L/s

Head in Feet

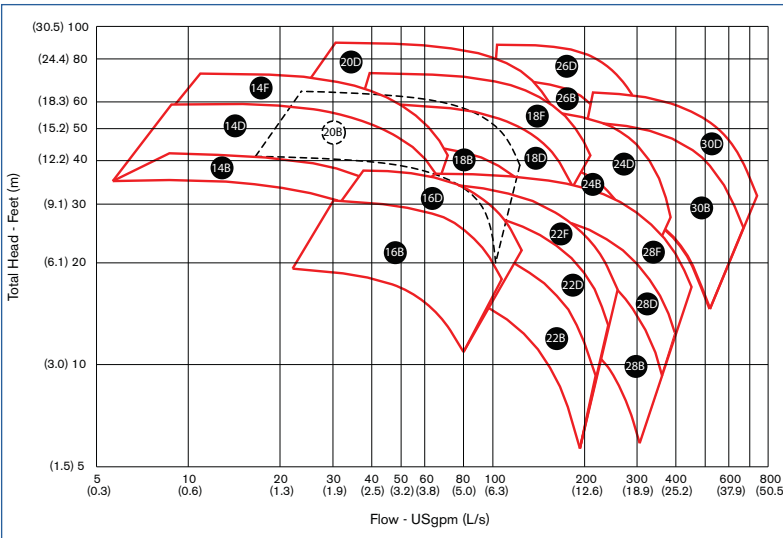
► Performance Curves

4360



4360					
Performance Curve	Model	Part Number		Inlet & Outlet (NPT)	HP
		208-230/460 Volts	575 Volts		
02B	4360B-AH	4360B00AH-083	4360B00AH-068	1.25"x1.25"	① 1.5
02D	4360B-AJ	4360B00AJ-083	4360B00AJ-068	1.25"x1.25"	① 2
04B	4360B-BC	4360B00BC-062 (115/230V only)		1.5"x1.5"	② 0.5
04D	4360B-BJ	4360B00BJ-083	4360B00BJ-068	1.5"x1.5"	① 2
04F	4360B-BM	4360B00BM-083	4360B00BM-068	1.5"x1.5"	① 3
06B	4360B-CC	4360B00CC-062 (115/230V only)		2"x2"	② 0.5
06D	4360B-CD	4360B00CD-083	4360B00CD-068	2"x2"	0.75
06F	4360B-CF	4360B00CF-083	4360B00CF-068	2"x2"	1
08B	4360D-AD	4360D00AD-083	4360D00AD-068	1.5"x1.5"	0.75
08D	4360D-AG	4360D00AG-083	4360D00AG-068	1.5"x1.5"	1
08F	4360D-AI	4360D00AI-083	4360D00AI-068	1.5"x1.5"	1.5
10B	4360D-BI	4360D00BI-083	4360D00BI-068	2"x2"	1.5
10D	4360D-BL	4360D00BL-083	4360D00BL-068	2"x2"	2
12B	4360D-CI	4360D00CI-083	4360D00CI-068	3"x3"	1.5
12D	4360D-CL	4360D00CL-083	4360D00CL-068	3"x3"	2
12F	4360D-CO	4360D00CO-083	4360D00CO-068	3"x3"	3

4380 & 4380 IVS



4380					
Performance Curve	Model	Part Number		Inlet & Outlet (ANSI 125)	HP
		208-230/460 Volts	575 Volts		
14B	4380-08AG	4380008AG-083	4380008AG-068	1.5"x1.5"	1
14D	4380-08AI	4380008AI-083	4380008AI-068	1.5"x1.5"	1.5
14F	4380-08AL	4380008AL-083	4380008AL-068	1.5"x1.5"	2
16B	4380-06BG	4380006BG-083	4380006BG-068	2"x2"	1
16D	4380-06BI	4380006BI-083	4380006BI-068	2"x2"	1.5
18B	4380-08BL	4380008BL-083	4380008BL-068	2"x2"	2
18D	4380-08BO	4380008BO-083	4380008BO-068	2"x2"	3
18F	4380-08BR	4380008BR-083	4380008BR-068	2"x2"	5
20B	4380-10AO	4380010AO-083	4380010AO-068	2"x2"	3
20D	4380-10AR	4380010AR-083	4380010AR-068	2"x2"	5
22B	4380-06CG	4380006CG-083	4380006CG-068	3"x3"	1
22D	4380-06CI	4380006CI-083	4380006CI-068	3"x3"	1.5
22F	4380-06CL	4380006CL-083	4380006CL-068	3"x3"	2
24B	4380-08CO	4380008CO-083	4380008CO-068	3"x3"	3
24D	4380-08CR	4380008CR-083	4380008CR-068	3"x3"	5
26B	4380-10BR	4380010BR-083	4380010BR-068	3"x3"	5
26D	4380-10BV	4380010BV-083	4380010BV-068	3"x3"	7.5
28B	4380-06DI	4380006DI-083	4380006DI-068	4"x4"	1.5
28D	4380-06DL	4380006DL-083	4380006DL-068	4"x4"	2
28F	4380-06DO	4380006DO-083	4380006DO-068	4"x4"	3
30B	4380-08DV	4380008DV-083	4380008DV-068	4"x4"	7.5
30D	4380-08DX	4380008DX-083	4380008DX-068	4"x4"	10

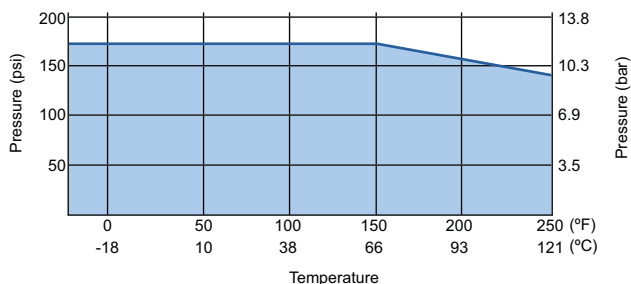
Notes: All motors are 3-phase 1800 RPM except:

① 3600 RPM

② 1-phase

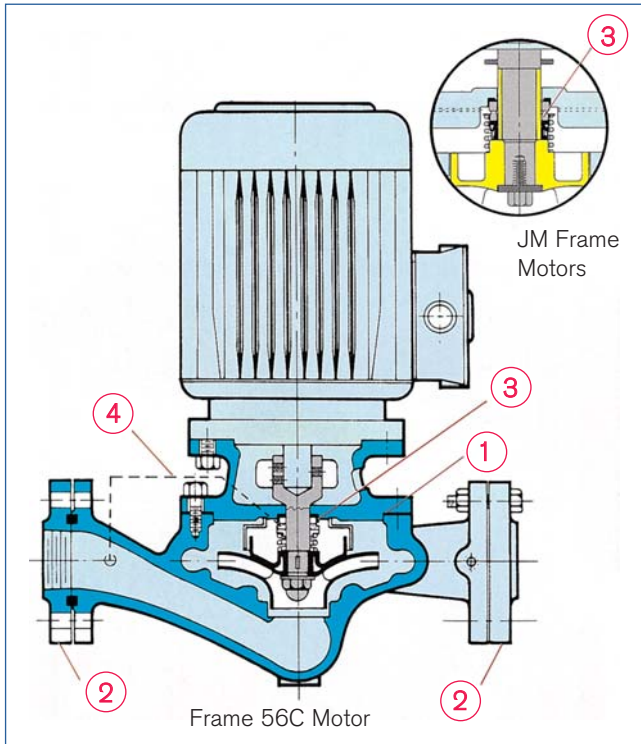
4380 IVS					
Performance Curve	Model	Part Number		Inlet & Outlet (ANSI 125)	HP (kW)
		460 Volts ONLY			
14B	4380S-08AG	4380S08AG-081		1.5"x1.5"	1 (0.75)
14D	4380S-08AI	4380S08AI-081		1.5"x1.5"	1.5 (1.1)
16B	4380S-06BG	4380S06BG-081		2"x2"	1 (0.75)
16D	4380S-06BI	4380S06BI-081		2"x2"	1.5 (1.1)
18B	4380S-08BL	4380S08BL-081		2"x2"	2 (1.5)
20B	4380S-10AO	4380S10AO-081		2"x2"	3 (2.2)
20D	4380S-10AR	4380S10AR-081		2"x2"	5 (4)
22B	4380S-06CG	4380S06CG-081		3"x3"	1 (0.75)
22D	4380S-06CI	4380S06CI-081		3"x3"	1.5 (1.1)
22F	4380S-06CL	4380S06CL-081		3"x3"	2 (1.5)
24B	4380S-08CO	4380S08CO-081		3"x3"	3 (2.2)
24D	4380S-08CR	4380S08CR-081		3"x3"	5 (4)
26B	4380S-10BR	4380S10BR-081		3"x3"	5 (4)
26D	4380S-10BV	4380S10BV-081		3"x3"	7.5 (5.5)
30B	4380S-08DV	4380S08DV-081		4"x4"	7.5 (5.5)
30D	4380S-08DX	4380S08DX-081		4"x4"	10 (7.5)

► Pressure and Temperature



PiB 4360 & 4380 Series

► Series 4360



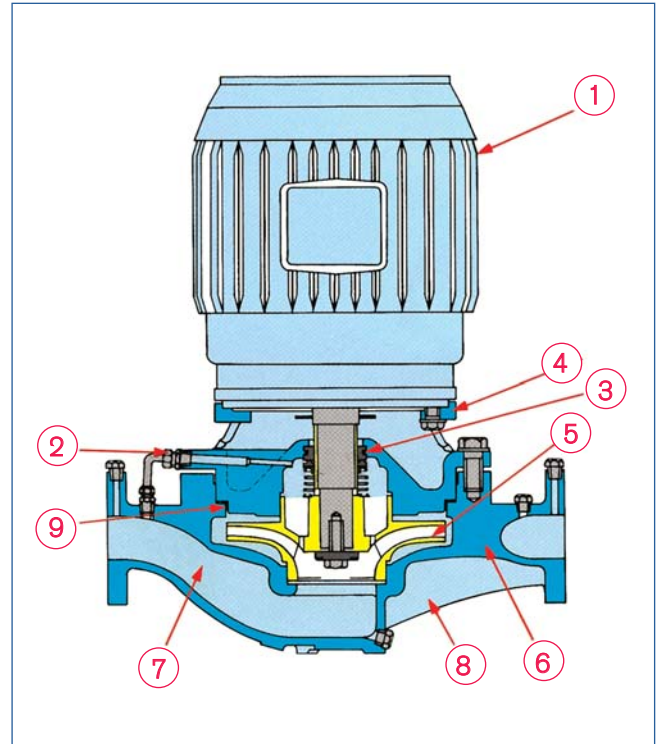
► Design Features

- 1 Armstrong VIL pumps are easy to service. A radially split casing permits removal of the motor and pump rotating assembly, without removing the pump casing from the line.
- 2 Easy removal of complete pump from the line when necessary, due to companion flanges, supplied with the pump.
- 3 Inside type mechanical seal can be serviced without breaking pipe connections.
- 4 Flush and vent connection removes entrained air and ensures constant flow of liquid to the seal face at all times.
- 5 Equal suction and discharge connections result in simplified piping design and installation.
- 6 Fewer maintenance and servicing problems due to bearing-free pump design.

► Typical Applications

- Cooling and heating systems
- Pressure boosting systems
- Industrial applications requiring a compact pump
- OEM (Cooling tower, spray washer, fountain, etc.)

► Series 4380



► Design Features

- 1 Motor is face mounted to reduce components and simplify design.
- 2 Flush and vent connection removes entrained air and ensures constant flow of liquid to the seal face at all times.
- 3 Inside type mechanical seal can be serviced without breaking pipe connections.
- 4 Heavy cylindrical bracket with 360° register on both flanges provides a rigid union of pump and motor.
- 5 Dynamically balanced impeller assures smooth vibration-free operation.
- 6 Radially split casing with equal suction and discharge flange sizes. Separate tapped openings for gauge, flush and drain connections.
- 7 Liberal inlet passageways and straightening vanes provide optimum suction performance and quiet operation.
- 8 Ribs are integrally cast in the pump casing, to provide added strength and rigidity. Machined surface to accept floor support when specified.
- 9 Confined casing gasket to meet stringent industrial temperature and pressure applications.

► Typical Specifications

Pump Type:	Vertical In-Line
Max. Working Pressure:	175 psi @ 140°F
Max. Working Temperature:	225°F (107°C)
End Connections:	ANSI 125 Flanges or NPT with Companion Flanges
Primary Seal:	Armstrong Type 21A Mechanical Inside Unbalanced
Max. Flow:	725 USgpm (45.7 L/s)
Max. Head:	95 ft (29 m)
Motor Enclosure:	Open Drip Proof (ODP) Totally Enclosed Fan Cooled (TEFC) (4380 IVS Only)
Motor Efficiency:	Standard
Motor Frames:	JM/JP/56C

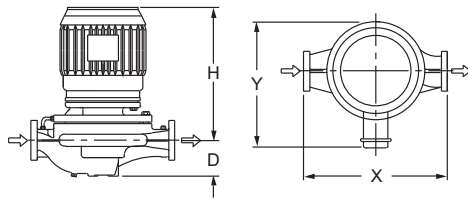
► Materials of Construction

Casing:	Cast Iron ASTM A48
Impeller:	Bronze ASTM B584
Casing Gasket:	Fiber
Adaptor Bracket:	Cast Iron ASTM A48
Motor Shaft:	Carbon Steel
PIB 4360B	Stainless Steel ASTM A314 Type
Stub Shaft:	416 (56C motors only)
PIB 4360D/4380	Stainless Steel ASTM A314 Type
Stub Shaft:	303 (56C motors only)
Shaft Spacer:	Stainless Steel ASTM A276 Type 304 (PIB 4360D & PIB 4380 only)
Water Slinger:	Neoprene (PIB 4360D/4380 only)
Rotating Seal Face:	Carbon
Stationary Seal Face:	Silicon Carbide
Secondary Seal:	Buna-N (PIB 4360B) EPDM (PIB 4360D/4380)

► Dimensions

4360					
Model	Dimensions - inches (mm)				Weight lbs (kg)
	X	Y	H	D	
4360B-AH	12.38 (314)	8.75 (222)	12.75 (324)	3.56 (90)	42 (19.0)
4360B-AJ	12.38 (314)	8.75 (222)	13.13 (334)	3.56 (90)	47 (21.3)
4360B-BC	12.50 (318)	8.75 (222)	12.75 (324)	3.56 (90)	43 (19.5)
4360B-BJ	12.50 (318)	8.75 (222)	13.13 (334)	3.56 (90)	53 (24.0)
4360B-BM	12.50 (318)	8.75 (222)	13.13 (334)	3.56 (90)	58 (26.3)
4360B-CC	12.63 (321)	8.88 (226)	12.75 (324)	3.50 (89)	49 (22.2)
4360B-CD	12.63 (321)	8.88 (226)	12.75 (324)	3.50 (89)	51 (23.1)
4360B-CF	12.63 (321)	8.88 (226)	12.75 (324)	3.50 (89)	54 (24.5)
4360D-AD	14.38 (365)	10.50 (267)	13.69 (348)	3.25 (83)	102 (46.3)
4360D-AG	14.38 (365)	10.75 (273)	13.75 (349)	3.25 (83)	110 (49.9)
4360D-AI	14.38 (365)	10.75 (273)	14.75 (375)	3.25 (83)	115 (52.2)
4360D-BI	14.88 (378)	11.13 (283)	14.75 (375)	3.50 (89)	115 (52.2)
4360D-BL	14.88 (378)	11.13 (283)	14.75 (375)	3.50 (89)	120 (54.4)
4360D-CI	19.00 (483)	13.13 (334)	14.81 (376)	4.50 (114)	130 (59.0)
4360D-CL	19.00 (483)	13.13 (334)	14.81 (376)	4.50 (114)	130 (59.0)
4360D-CO	19.00 (483)	14.63 (372)	15.56 (395)	4.50 (114)	165 (74.8)

4380 & 4380 IVS					
Model	Dimensions - inches (mm)				Weight lbs (kg)
	X	Y	H	D	
4380-08AG	16.00 (406)	11.75 (298)	14.75 (375)	5.75 (146)	151 (68.5)
4380-08AI	16.00 (406)	11.75 (298)	15.75 (400)	5.75 (146)	156 (70.8)
4380-08AL	16.00 (406)	11.75 (298)	15.75 (400)	5.75 (146)	156 (70.8)
4380-06BG	15.00 (381)	10.63 (270)	14.75 (375)	4.88 (124)	140 (63.5)
4380-06BI	15.00 (381)	10.63 (270)	15.75 (400)	4.88 (124)	145 (65.8)
4380-08BL	18.00 (457)	11.75 (298)	15.75 (400)	5.13 (130)	172 (78.0)
4380-08BO	18.00 (457)	12.75 (324)	20.13 (511)	5.13 (130)	187 (84.8)
4380-08BR	18.00 (457)	12.75 (324)	20.13 (511)	5.13 (130)	212 (96.2)
4380-10AO	19.00 (483)	13.75 (349)	20.13 (511)	5.38 (137)	220 (99.8)
4380-10AR	19.00 (483)	13.75 (349)	20.13 (511)	5.38 (137)	245 (111.1)
4380-06CG	18.00 (457)	11.88 (302)	14.75 (375)	6.00 (152)	156 (70.8)
4380-06CI	18.00 (457)	11.88 (302)	15.75 (400)	6.00 (152)	161 (73.0)
4380-06CL	18.00 (457)	11.88 (302)	15.75 (400)	6.00 (152)	161 (73.0)
4380-08CO	22.00 (559)	13.88 (253)	20.13 (511)	6.38 (162)	213 (96.6)
4380-08CR	22.00 (559)	13.88 (253)	20.13 (511)	6.38 (162)	238 (108.0)
4380-10BR	21.00 (533)	14.25 (362)	20.13 (511)	6.25 (159)	282 (128.0)
4380-10BV	21.00 (533)	16.63 (422)	25.63 (651)	6.25 (159)	331 (150.1)
4380-06DI	22.00 (559)	12.88 (327)	16.00 (406)	7.75 (197)	198 (89.8)
4380-06DL	22.00 (559)	12.88 (327)	16.00 (406)	7.75 (197)	198 (89.8)
4380-06DO	22.00 (559)	13.88 (353)	20.38 (518)	7.75 (197)	213 (96.6)
4380-08DV	25.00 (635)	17.38 (441)	25.88 (657)	8.00 (203)	304 (137.9)
4380-08DX	25.00 (635)	17.38 (441)	25.88 (657)	8.00 (203)	320 (145.1)



For exact installation data please contact factory for certified dimensions.

EXPERIENCE BUILDING...

S. A. Armstrong Limited
23 Bertrand Avenue
Toronto, Ontario
Canada, M1L 2P3
T: (416) 755-2291
F (Main): (416) 759-9101

Armstrong Pumps Inc.
93 East Avenue
North Tonawanda, New York
U.S.A., 14120-6594
T: (716) 693-8813
F: (716) 693-8970

Armstrong Holden Brooke Pullen
Wenlock Way
Manchester
United Kingdom, M12 5JL
T: +44 (0) 161 223 2223
F: +44 (0) 161 220 9660



© S.A. Armstrong Limited 2008

For Armstrong locations worldwide, please visit www.armstrongpumps.com