# **ARMSTRONG**



### Custom In-Line Circulators

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# Classic Horizontal In-Line Design, Engineered for Durability.



#### **▶**Applications

- ► Hydronic heating and cooling
- ►Domestic water systems
- ► Multi-stage zoning
- ►General industrial service

#### ► Standard Three-Piece Design

#### ▶Body

Radially-split body can be left in the line while servicing the pump, eliminating needless disconnecting of pipes.

#### **▶**Oversized Shaft

Armstrong circulating pumps have oversized shafts of special alloy steel, machined to exacting tolerances. Shafts have integral thrust collars, heat treated to provide long life under severe working conditions.

#### ► Extra Long Sleeve Bearings

Series 1060 features extra long, bronze sleeve bearings to keep the shaft in perfect alignment and provide quiet operation.

#### ▶ Positive Mechanical Seal

A tried and proven method of preventing water leakage, the silicon carbide construction is an often imitated feature of the Armstrong circulator. Made of strong, long-lasting materials ensures many years of noise-free, trouble-free service.

#### ► Modular Construction

Series 1050 features the unique Armstrong shaft and bearing module for ease of serviceability and reduced inventory costs.

#### ► Materials of Construction

Part Name		Iron Body Pump	Bronze Body Pump		
		Bronze-Fitted Construction			
Pump Body		Cast Iron	Bronze		
	Series 1050	Non-Ferrous	Non-Ferrous		
Impeller	Series 1060	Bronze	Bronze		
Bearings		Sleeve-Oil Lubricated	Sleeve-Oil Lubricated		
Shaft		Alloy Steel-Copper Sleeve	Alloy Steel-Copper Sleeve		
Mechanical Seal Assembly		Carbon/silicon carbide, stainless steel trim, viton seal			

#### **▶** Design Information

		Iron Body Pump	Bronze Body Pump	
		Bronze-Fitted Construction		
Maximum Operating Temp.		225°F (107°C)	225°F (107°C)	
Maximum	Series 1050	175 psi (1207 kPa)	175 psi (1207 kPa)	
Working Pressure	Series 1060	175 psi (1207 kPa)	175 psi (1207 kPa)	

#### Notes:

- All circulators are to be mounted with pump and shaft in horizontal position.
- For domestic hot water or fresh water systems always specify bronze body pumps.
- For temperatures over 225°F (107°C) consult your Armstrong Representative.

## Custom In-Line Circulators

#### **▶**Pump and Motor Data

Duna Cina	hp	Resilient Mount inches (mm)		Rigid Mount inches (mm)			Shipping Weight	
Pump Size		Α	С	K	L	M	N	lbs. (kg)
1050 1B	1/4	171/4 (438)	13½ (343)	7³/ <sub>8</sub> (187)	_	_	_	48 (22)
1000 16	1/3	171/4 (438)	131/2 (343)	$7^{3}/_{8}(187)$	_	_	_	48 (22)
	1/4	171/4 (438)	13½ (343)	7 <sup>3</sup> / <sub>8</sub> (187)	_	_	_	48 (22)
1050 11/4B	1/3	171/4 (438)	13½ (343)	$7^{3}/_{8}(187)$	_	_	_	48 (22)
	1/2	19 <sup>3</sup> / <sub>4</sub> (502)	16 (406)	9 <sup>7</sup> / <sub>8</sub> (251)	_	_	_	58 (26)
	1/4	171/4 (438)	131/2 (343)	$7^{3}/_{8}(187)$	_	_	_	48 (22)
1050 1½B	1/3	171/4 (438)	131/2 (343)	7 <sup>3</sup> / <sub>8</sub> (187)	_	_	_	48 (22)
1030 1726	1/2	19 <sup>3</sup> / <sub>4</sub> (502)	16 (406)	$9^{7}/_{8}(251)$	_	_	_	58 (26)
	3/4	20 (508)	16½ (419)	10 <sup>3</sup> / <sub>8</sub> (264)	_	_	_	75 (34)
	1/3	171/4 (438)	13½ (343)	$7^{3}/_{8}(187)$	_	_	_	55 (25)
1050 2B	1/2	19 <sup>3</sup> / <sub>4</sub> (502)	16 (406)	$9^{7}/_{8}(251)$	_	_	_	72 (33)
1000 26	3/4	20 (508)	16½ (419)	10 <sup>3</sup> / <sub>8</sub> (264)	_	_	_	75 (34)
	1	203/4 (527)	17 (431)	$10^{7}/_{8}(276)$	_	_	_	80 (36)
	1/2	22 (559)	18³/ <sub>4</sub> (476)	$9^{7}/_{8}(251)$	_	-	-	86 (39)
1060 1½D	<sup>3</sup> / <sub>4</sub>	23 (584)	19³/ <sub>4</sub> (502)	10³/ <sub>8</sub> (264)	_	_	_	82 (37)
1000 1720	1	23½ (597)	201/4 (514)	$10^{7}/_{8}(276)$	_	_	_	92 (42)
	11/2	_	_	_	21½ (546)	181/4 (464)	8 <sup>7</sup> / <sub>8</sub> (225)	115 (52)
	1/2	$22^{3}/_{4}(578)$	19¼ (489)	$9^{7}/_{8}(251)$	_	_	_	90 (41)
	3/4	23³/₄ (603)	19³/ <sub>4</sub> (502)	10³/ <sub>8</sub> (264)	_	_	_	96 (44)
1060 2D	1	23³/₄ (603)	201/4 (514)	$10^{7}/_{8}(276)$	_	-	-	100 (45)
	11/2	_	_	_	213/4 (552)	181/4 (464)	8 <sup>7</sup> / <sub>8</sub> (225)	120 (54)
	2	-	_	_	223/4 (578)	19¼ (489)	$9^{7}/_{8}(251)$	124 (56)
	1	_	_	_	23½ (597)	181/2 (470)	8 <sup>7</sup> / <sub>8</sub> (225)	135 (61)
1060 3D	11/2	-	_	_	24 (610)	19 (483)	$8^{7}/_{8}(225)$	138 (63)
1000 3D	2	_	_	_	25 (635)	20 (508)	$9^{7}/_{8}(251)$	143 (65)
	3	_	_	_	27³/₄ (705)	22³/ <sub>4</sub> (578)	9 <sup>7</sup> / <sub>8</sub> (251)	150 (68)

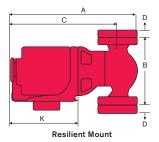
Voltages:  $\frac{1}{4}$  and  $\frac{1}{3}$  hp are 115 volt 1 phase.  $\frac{1}{2}$ ,  $\frac{3}{4}$  1 and  $\frac{1}{2}$  hp are  $\frac{115}{230}$  volt 1 phase, or  $\frac{208^{230}}{460}$  volt or 575 volt 3 phase. 2 and 3 hp available only in 3 phase.

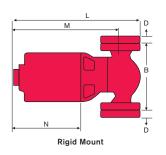
Dump Size	Flange size (N.P.T)	Dimensions inches (mm)					
Pump Size		В	D	Е	F	Н	
1050 1B	1	11½ (292)	<sup>3</sup> / <sub>4</sub> (19)	13/8 (35)	33/4 (95)	41/8 (105)	
1050 11/4B	1 1/4	11½ (292)	<sup>7</sup> / <sub>8</sub> (22)	13/8 (35)	33/4 (95)	41/8 (105)	
1050 1½B	1 1/2	11½ (292)	<sup>7</sup> / <sub>8</sub> (22)	13/8 (35)	33/4 (95)	41/8 (105)	
1050 2B	2	11½ (292)	<sup>7</sup> / <sub>8</sub> (22)	13/8 (35)	33/4 (95)	41/8 (105)	

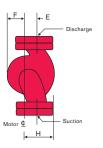
1060 1½D	1 1/2	13½ (343)	<sup>7</sup> / <sub>8</sub> (22)	1 (25)	45/8 (117)	47/8 (124)
1060 2D	2	14 (356)	<sup>7</sup> / <sub>8</sub> (22)	1 (25)	43/4 (121)	51/8 (130)
1060 3D	3	18 (457)	1 (25)	0 (0)	57/8 (149)	5 (127)

#### Notes:

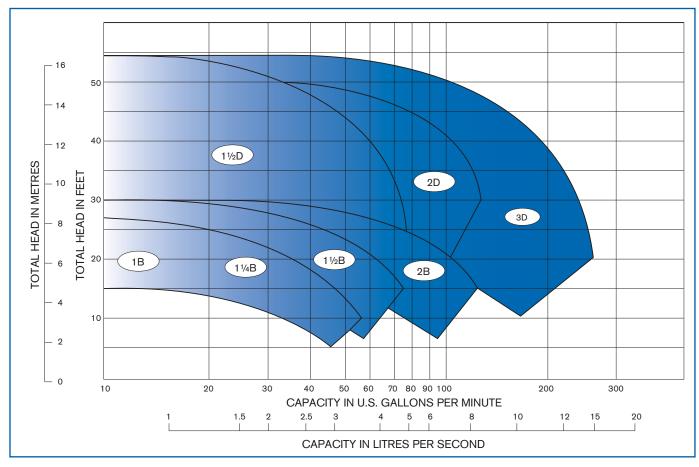
- Dimensions given are for reference only For exact dimensional data, contact factory.
- 2. Pumps are shipped for up discharge.
- 3. Tapped openings are provided in body for venting and draining.
- 4. Companion flanges furnished with pump.







#### **▶** Composite Performance Chart



Note: For custom selections, refer to individual curves for impeller diameters and motor horsepowers.

#### ▶ Typical Specifications

Furnish and install as shown on the plans and the specification, an Armstrong Series\_\_\_\_\_ In-Line Circulating Pump, designed and guaranteed by the manufacturer for the intended application. The pump shall have a capacity of \_\_\_\_\_ USgpm (I/s), total head \_\_\_\_\_ feet (metres), liquid \_\_\_\_\_, temperature \_\_\_\_\_°F(°C), viscosity \_\_\_\_\_ SSU, pump size \_\_\_\_\_, 1800 rpm, \_\_\_\_ hp (kw), \_\_\_\_\_ volt, \_\_\_\_ phase, \_\_\_\_\_ hertz mounted motor. Pump shall be \_\_\_\_\_\_ construction, suitable for 175 psi (1207 kPa) working pressure. The shaft shall have an integral thrust collar and shall be supported by two oil-lubricated bronze sleeve bearings. The pump to be equipped with a water-tight, long-life Sintered silicon carbide mechanical seal.

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