

# ARMSTRONG



## In-Line Circulators

|             |               |
|-------------|---------------|
| FILE NO:    | 10.10         |
| DATE:       | Oct. 12, 2007 |
| SUPERSEDES: | 10.10         |
| DATE:       | Feb. 9, 2004  |

Armstrong Series S & H in-line circulators are suitable for applications such as hydronics heating and cooling, domestic water systems, multi-stage zoning and general industrial service. Both models are available in a wide range of sizes to match the performance requirements of any of these applications. Armstrong Series S & H circulators are durable and trusted products that have been used by HVAC professionals for decades.



### ► Design Features

Armstrong Series S & H in-line circulators are built using a standard three-piece design that features a radially-split body, oversized shaft, centrifugal impeller, positive mechanical seal and modular construction.

### ► Body

The radially-split body can be left in line while servicing the pump, eliminating cumbersome disconnecting of pipes.

### ► Oversized Shaft

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

### ► Centrifugal Impeller

The balanced, centrifugal-design impeller ensures maximum water delivery in the HVAC system.

### ► Positive Mechanical Seal

A proven method of preventing water leakage, the well known **ARMseal** construction is a frequently imitated feature of the Armstrong circulator. Made from long-lasting hard-wearing materials, it ensures many years of noise-free, trouble-free service.

### ► Modular Construction

Models S-25 through S-57 and H-32 through H-54 feature a unique Armstrong shaft and bearing module which fits all of these models for ease of serviceability and reduced inventory costs.

## ► Materials of Construction

| Part Name                | Iron Body Pump                   |                           | Bronze Body Pump |
|--------------------------|----------------------------------|---------------------------|------------------|
|                          | Bronze-Fitted Construction       |                           |                  |
| Volute                   | Cast Iron                        |                           | Bronze           |
| Impeller                 | S-25 to S-57                     |                           | Non-Ferrous      |
|                          | H-32 to H-54                     |                           | Non-Ferrous      |
|                          | S-69                             |                           | Brass-Stamped    |
|                          | H-63 to H-68                     |                           | Cast Bronze      |
| Shaft                    | Alloy Steel-Copper Sleeve        | Alloy Steel-Copper Sleeve |                  |
| Mechanical Seal Assembly | Carbon Brass Trim - Ceramic Seat |                           |                  |

## ► Design Information

|                               | Iron Body Pump             |  | Bronze Body Pump   |
|-------------------------------|----------------------------|--|--------------------|
|                               | Bronze-Fitted Construction |  |                    |
| Maximum Operating Temperature | 225°F (107°C)              |  | 225°F (107°C)      |
| Maximum Working Pressure      | S-25 to S-69, H-32, H-41   |  | 125 psi (862 kPa)  |
|                               | H-51 to H-54, H-63 to H-68 |  | 175 psi (1207 kPa) |

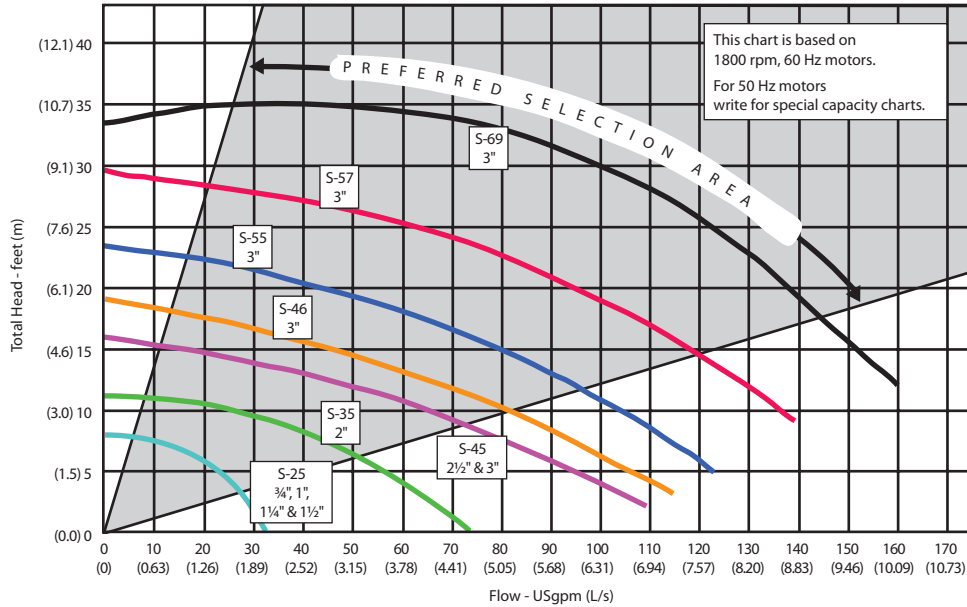
#### Notes:

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

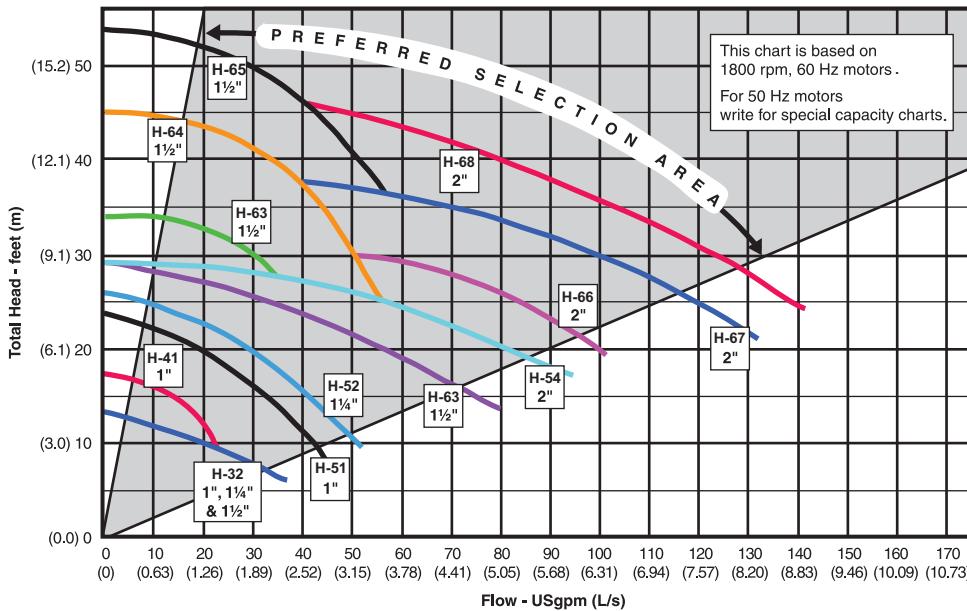
# Series S & H In-Line Circulators

## ► Composite Performance Charts

### ► Series S



### ► Series H



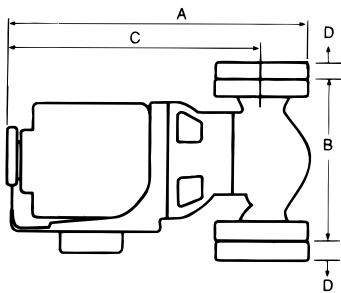
## ► Typical Specification

Furnish and install as shown on the plans, Armstrong S or H Series Circulating Pump, designed for quiet operation and guaranteed by the manufacturer for the intended application. The pump shall have a capacity of \_\_\_\_ USgpm (L/s), handling (state liquid and temperature) against a total head of \_\_\_\_ ft (m). Pump shall be equipped with a \_\_\_\_ hp (kW), \_\_\_\_ Volt, \_\_\_\_ phase, \_\_\_\_ Hz, 1800 rpm drip-proof mounted motor. Pump shall be \_\_\_\_ construction, three-piece design featuring the Armstrong shaft and bearing module which shall fit all models S-25 through S-57 and H-32 through H-54. The shaft shall have an integral thrust collar and shall be supported by oil-lubricated bronze sleeve bearings. Pump to be equipped with a water-tight, long-life **ARMseal** mechanical seal and be suitable for \_\_\_\_ psi (kPa) working pressure.

## ► Pump and Motor Data

| Model | Flange Size (NPT) | Motor |   | Dimensions inches (mm) |              |              |          | Shipping Weight lbs (kg) |
|-------|-------------------|-------|---|------------------------|--------------|--------------|----------|--------------------------|
|       |                   | hp    | Volts & Phase   | A                      | B            | C            | D        |                          |
| S-25  | 3/4               | 1/2   | 115 Volt<br>1 phase   | 13 3/4 (349)           | 6 1/2 (165)  | 11 1/2 (292) | 3/4 (19) | 20 (9)                   |
|       | 1                 | 1/2   |   | 13 3/4 (349)           | 6 1/2 (165)  | 11 1/2 (292) | 3/4 (19) | 20 (9)                   |
|       | 1 1/4             | 1/2   |   | 13 3/4 (349)           | 6 1/2 (165)  | 11 1/2 (292) | 7/8 (22) | 20 (9)                   |
| S-35  | 1 1/2             | 1/2   | 115 Volt<br>1 phase   | 13 3/4 (349)           | 6 1/2 (165)  | 11 1/2 (292) | 7/8 (22) | 20 (9)                   |
|       | 2                 | 1/6   |   | 15 (381)               | 8 1/2 (216)  | 12 1/2 (318) | 7/8 (22) | 35 (16)                  |
| S-45  | 2 1/2             | 1/4   | 115/230 Volt<br>1 phase or<br>208-230/460<br>or 575 Volt<br>3 phase | 15 3/4 (400)           | 10 (254)     | 12 1/2 (318) | 1 (25)   | 51 (23)                  |
|       | 3                 | 1/4   |   | 15 3/4 (400)           | 10 (254)     | 12 1/2 (318) | 1 (25)   | 51 (23)                  |
| S-46  | 3                 | 1/3   |   | 15 3/4 (400)           | 10 (254)     | 12 1/2 (318) | 1 (25)   | 51 (23)                  |
| S-55  | 3                 | 1/2   |   | 19 1/2 (495)           | 12 (305)     | 16 (406)     | 1 (25)   | 82 (37)                  |
| S-57  | 3                 | 3/4   |   | 20 (508)               | 12 (305)     | 16 1/2 (419) | 1 (25)   | 85 (39)                  |
| S-69  | 3                 | 1     |   | 25 (635)               | 14 1/4 (362) | 20 1/4 (514) | 1 (25)   | 135 (61)                 |

| Model | Flange Size (NPT) | Motor |                                       | Dimensions inches (mm) |              |              |          | Shipping Weight lbs (kg) |
|-------|-------------------|-------|---------------------------------------|------------------------|--------------|--------------|----------|--------------------------|
|       |                   | hp    | Volts & Phase                         | A                      | B            | C            | D        |                          |
| H-32  | 1                 | 1/6   | 115 Volt<br>1 phase                   | 15 (381)               | 8 1/2 (216)  | 12 1/2 (318) | 7/8 (22) | 33 (15)                  |
|       | 1 1/4             | 1/6   |                                       | 15 (381)               | 8 1/2 (216)  | 12 1/2 (318) | 7/8 (22) | 33 (15)                  |
|       | 1 1/2             | 1/6   |                                       | 15 (381)               | 8 1/2 (216)  | 12 1/2 (318) | 7/8 (22) | 33 (15)                  |
| H-41  | 1                 | 1/6   |                                       | 15 1/4 (387)           | 8 1/2 (216)  | 12 1/2 (318) | 3/4 (19) | 33 (15)                  |
| H-51  | 1                 | 1/4   |                                       | 17 1/4 (438)           | 11 1/2 (292) | 13 1/2 (343) | 3/4 (19) | 54 (24)                  |
| H-52  | 1 1/4             | 1/3   |                                       | 17 1/4 (438)           | 11 1/2 (292) | 13 1/2 (343) | 7/8 (22) | 54 (24)                  |
| H-53  | 1 1/2             | 1/2   |                                       | 20 (508)               | 11 1/2 (292) | 16 1/2 (419) | 7/8 (22) | 64 (29)                  |
| H-54  | 2                 | 3/4   | 115/230 Volt                          | 20 (508)               | 11 1/2 (292) | 16 1/2 (419) | 7/8 (22) | 71 (32)                  |
| H-63  | 1 1/2             | 1/2   | 1 phase or                            | 23 (584)               | 13 1/2 (343) | 19 3/4 (502) | 7/8 (22) | 96 (44)                  |
| H-64  | 1 1/2             | 3/4   | 208-230/460                           | 23 (584)               | 13 1/2 (343) | 19 3/4 (502) | 7/8 (22) | 100 (45)                 |
| H-65  | 1 1/2             | 1     | or 575 Volt                           | 23 (584)               | 13 1/2 (343) | 19 3/4 (502) | 7/8 (22) | 102 (46)                 |
| H-66  | 2                 | 3/4   | 3 phase                               | 23 1/4 (591)           | 14 (356)     | 19 3/4 (502) | 7/8 (22) | 120 (54)                 |
| H-67  | 2                 | 1     |                                       | 23 1/4 (591)           | 14 (356)     | 19 3/4 (502) | 7/8 (22) | 125 (57)                 |
| H-68  | 2                 | 1 1/2 | 208-230/460<br>or 575 Volt<br>3 phase | 21 3/4 (552)           | 14 (356)     | 18 1/4 (464) | 7/8 (22) | 130 (59)                 |



### Notes:

- Dimensions given are for reference only. For exact dimensional data, contact factory.
- All single-phase motors are equipped with built-in thermal overload protection. Three-phase motors require external overload protection.
- Companion flanges not furnished as standard on S-25, S-45 and H-32.
- Conduit box not supplied on 1/2 hp or greater.
- For other design characteristics, consult your Armstrong Representative.

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

**ARMSTRONG** 

© S.A. Armstrong Limited 1991, 2004, 2007

For Armstrong locations worldwide, please visit [www.armstrongpumps.com](http://www.armstrongpumps.com)