ARMSTRONG

S&H Series

In-line Circulators

SOLUTION OUTLINE

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PROVEN RELIABILITY CATEGORY LEADING VALUE

ECM motors available for reduced energy consumption

Permanently lubricated, maintenance-free models

Easily serviceable for lowest life cost

Fits existing pipe connections

TRADITIONAL S&H WITH MORE VALUE ADDED

Armstrong Series S&H in-line circulators are ideal for applications such as hydronic heating and cooling, domestic water systems, multi-stage zoning and general industrial service.

Armstrong 3-piece circulators use a proven design that continues to evolve. The expanded temperature range makes them suitable for more applications, and the industry-accepted flange configuration makes S&H circulators a perfect solution when you need to change out pumps quickly without the need for pipe modifications.

KEY BENEFITS

NO OILING
Maintenance-free design* uses permanently lubricated ball bearings.

* All models except (6 series)
s-69, H-63, H-64, H-65, H-66, H-67, H-68

LONG SEAL LIFE
EPDM mechanical seal made from long-lasting Sintered silicon carbide to withstand high temperatures.

LOW PART INVENTORY
Modular 3-piece design includes a universal shaft and bearing module that fits 12 models (s-25 to s-57 and H-32 to H-54).

RELIABILITY
Modular design supports a wide range of motor options.

LASTS FOR LIFE OF INSTALLATION
Easy to repair and rebuild.

MATERIALS OF CONSTRUCTION

PART NAME		IRON BODY PUMP BRONZE-FITTED CONSTRUCTION
Volute		Cast iron
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
Mechanical seal assembly		EPDM
Bearing		Permanently lubricated (2-5 series) / Sleeve oil lubricated (6 series)
Shaft		Stainless steel (2-5 series)/ carbon steel with copper sleeve (6 series)

PART NAME		LF BRONZE BODY PUMP*
Volute		Lead free 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
Mechanical seal assembly		EPDM
Bearing		Permanently lubricated (2-5 series) / Sleeve oil lubricated (6 series)
Shaft		Stainless Steel (2-5 series)/ carbon steel with copper sleeve (6 series)

* Certified ≤0.25 weighted average percent lead and complies with California Health and Safety Code Section 116875 (commonly known as AB1953).

DESIGN INFORMATION

MAX OPERATING CONDITIONS	s-25 to s-69, H-32, H-41
	175 PSI at 230°F (862 kPa at 110°C)
	H-51 to H-54, H-63 TO H-68
	175 PSI at 230°F (1207 kPa at 110°C)

Notes:
1. All circulators are to be mounted with motor and shaft in horizontal position.
2. For domestic hot water or fresh water systems, always specify lead free bronze body pumps.
3. Permanently lubricated, maintenance-free S&H circulators are identified by 'MF' in their item numbers.

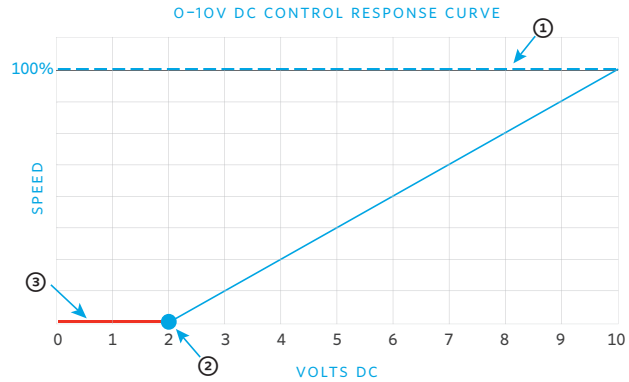
SAVE ENERGY AND THE PLANET
IDEAL FOR ENERGY UPGRADE

* Gold pump casing shown for potable water applications.

ECM (electronically commutated motor) technology offers important energy savings over traditional designs of electric motors. Circulators using ECM technology can be as much as 20% more efficient.

Armstrong offers ECM technology as an option for a range of S&H circulators, including S-55 to S-69 and H-53 to H-67.

WHEN PROVIDED WITH SINGLE PHASE	115 V	½ HP	¾ HP	
	230 V	½ HP	¾ HP	1 HP



① Pump max. curve
② Pump starts from min. curve
③ Pump off

KEY ECM BENEFITS

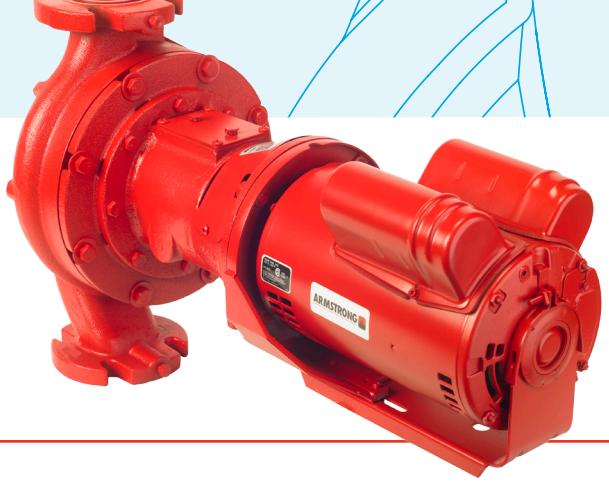
1. Instant efficiency savings – up to 20%.
2. Additional energy savings where system allows for manual speed reduction.
3. Accepts external control for optimized system performance where required.
4. Application flexibility as seen in the colour schemes for potable water* or HVAC** systems.

SAVE ENERGY

FOR LOWEST LIFETIME COST

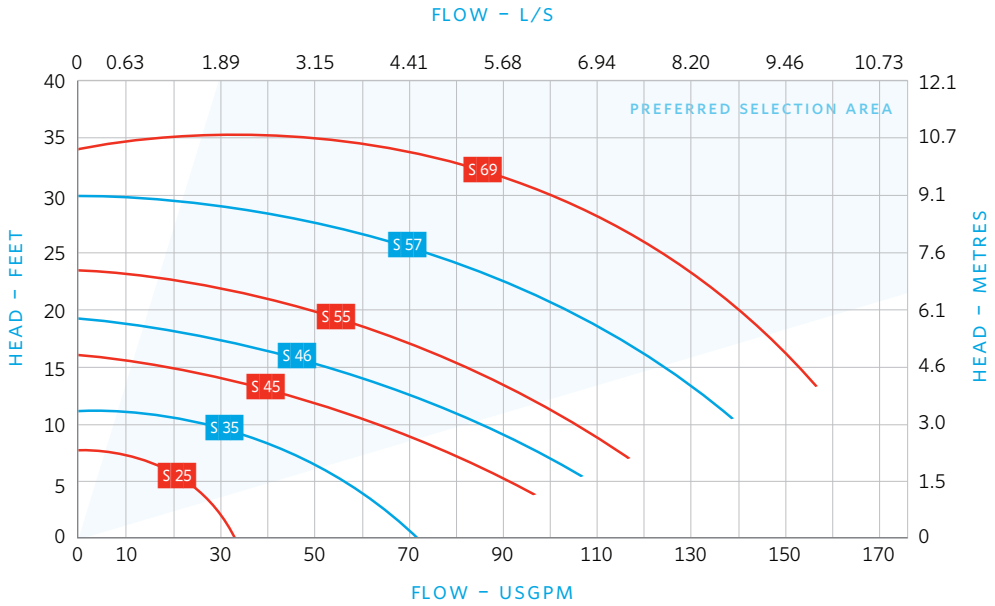
0-10V DC control saves up to 80% energy and 6% boiler gas consumption and reduce equipment or pipe wear and tear.

** Red pump casing shown for HVAC applications.

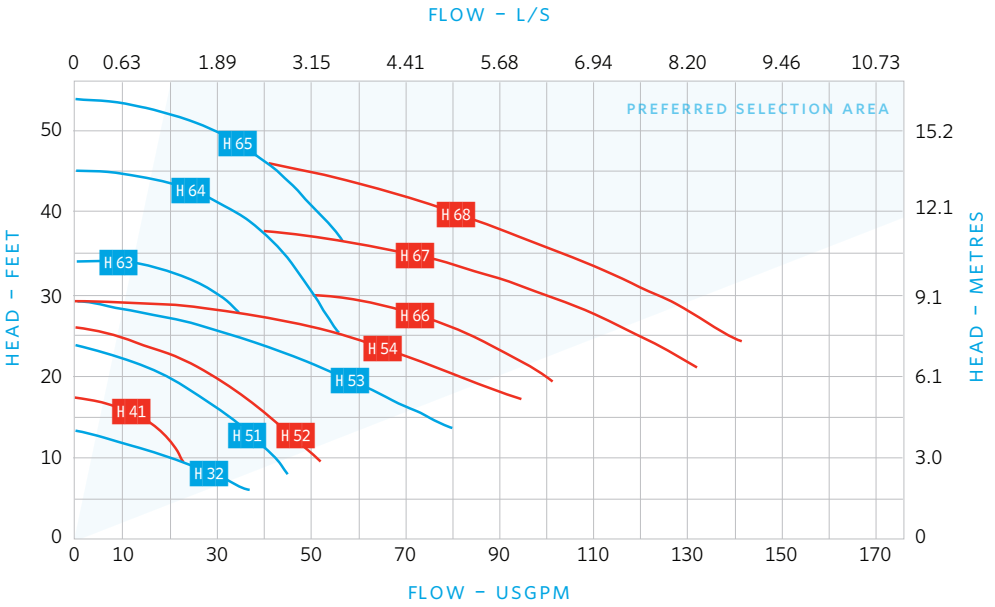


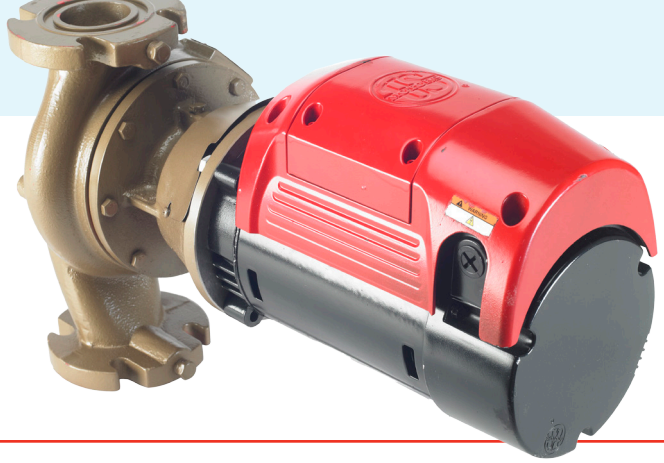
COMPOSITE PEFORMANCE CHARTS

S Series

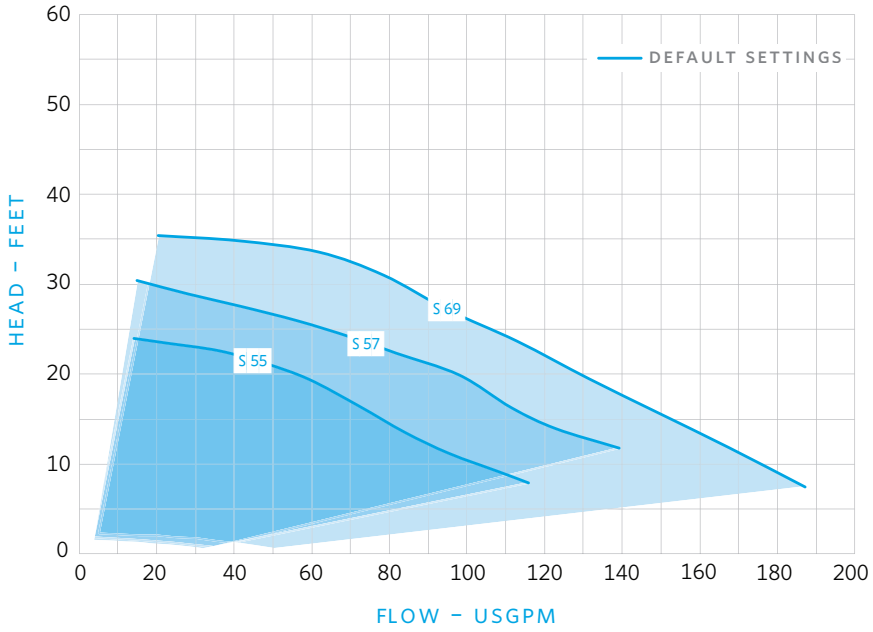


H Series



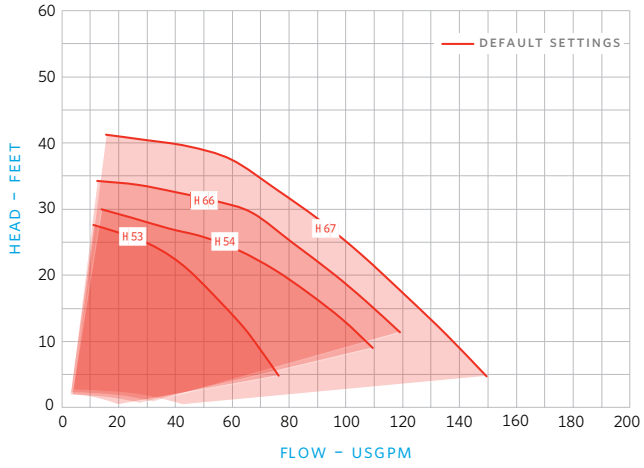


S Series with ECM Motors

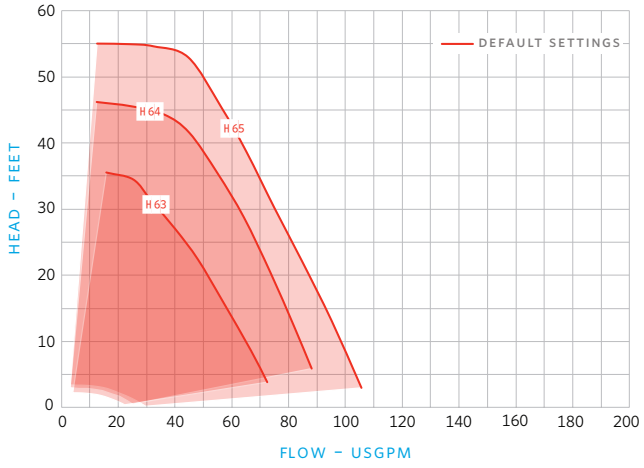


H Series with ECM Motors

H-ECM PERFORMANCE CURVE – HIGH FLOW



H-ECM PERFORMANCE CURVE – HIGH HEAD PRESSURE



Note:
The max range of the S&H with ECM is the same as that of the current S&H series, however the ECM technology provides full coverage over the entire circulator range that can be manually / externally controlled.

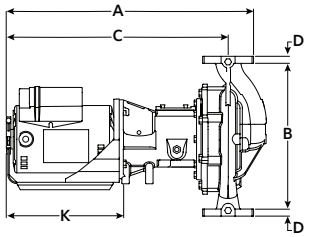
DIMENSION & MOTOR DATA

S Series

MODEL	FLANGE SIZE (NPT)	MOTOR		DIMENSIONS INCHES (MM)				
		HP	VOLTS & PHASE	A	B	C	D	WEIGHT lbs (kg)
S-25	¾	½₂	1 phase 115 V	13.75 (349)	6.50 (165)	11.50 (292)	0.75 (19)	20 (9)
	1	½₂		13.75 (349)	6.50 (165)	11.50 (292)	0.75 (19)	20 (9)
	1¼	½₂		13.75 (349)	6.50 (165)	11.50 (292)	0.88 (22)	20 (9)
	1½	½₂		13.75 (349)	6.50 (165)	11.50 (292)	0.88 (22)	20 (9)
S-35	2	⅙		15.00 (381)	8.50 (216)	12.50 (318)	0.88 (22)	35 (16)
S-45	2½	¼		15.75 (400)	10.00 (254)	12.50 (318)	1.00 (25)	51 (23)
	3	¼		15.75 (400)	10.00 (254)	12.50 (318)	1.00 (25)	51 (23)
S-46	3	⅓		15.75 (400)	10.00 (254)	12.50 (318)	1.00 (25)	51 (23)
S-55	3	½	1 phase 115/230 V or 3 phase 208-230/460 or 575 V	19.50 (495)	12.00 (305)	16.00 (406)	1.00 (25)	82 (37)
S-57	3	¾		20.00 (508)	12.00 (305)	16.50 (419)	1.00 (25)	85 (39)
S-69	3	1		25.00 (635)	14.25 (362)	20.25 (514)	1.00 (25)	135 (61)

H Series

MODEL	FLANGE SIZE (NPT)	MOTOR		DIMENSIONS INCHES (MM)				
		HP	VOLTS & PHASE	A	B	C	D	WEIGHT lbs (kg)
H-32	1	⅙	1 phase 115 V	15.00 (381)	8.50 (216)	12.50 (318)	0.88 (22)	33 (15)
	1¼	⅙		15.00 (381)	8.50 (216)	12.50 (318)	0.88 (22)	33 (15)
	1½	⅙		15.00 (381)	8.50 (216)	12.50 (318)	0.88 (22)	33 (15)
H-41	1	⅙		15.25 (387)	8.50 (216)	12.50 (318)	0.75 (19)	33 (15)
H-51	1	¼		17.25 (438)	11.50 (292)	13.50 (343)	0.75 (19)	54 (24)
H-52	1¼	⅓		17.25 (438)	11.50 (292)	13.50 (343)	0.88 (22)	54 (24)
H-53	1½	½	1 phase 115/230 V or 3 phase 208-230/460 or 575 V	20.00 (508)	11.50 (292)	16.50 (419)	0.88 (22)	64 (29)
H-54	2	¾		20.00 (508)	11.50 (292)	16.50 (419)	0.88 (22)	71 (32)
H-63	1½	½		23.00 (584)	13.50 (343)	19.75 (502)	0.88 (22)	96 (44)
H-64	1½	¾		23.00 (584)	13.50 (343)	19.75 (502)	0.88 (22)	100 (45)
H-65	1½	1		23.00 (584)	13.50 (343)	19.75 (502)	0.88 (22)	102 (46)
H-66	2	¾		23.25 (591)	14.00 (356)	19.75 (502)	0.88 (22)	120 (54)
H-67	2	1		23.25 (591)	14.00 (356)	19.75 (502)	0.88 (22)	125 (57)
H-68	2	1½	3 phase 208-230/460 or 575 V	21.75 (552)	14.00 (356)	18¼ (464)	0.88 (22)	130 (59)



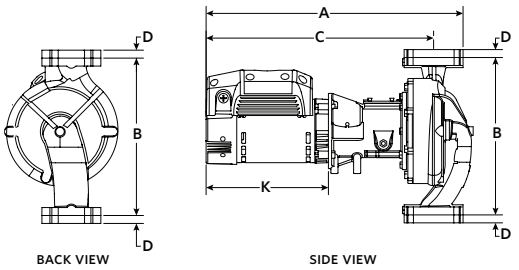
SIDE VIEW

Notes:

1. Dimensions given are for reference only. For exact dimensional data, contact factory.
2. All single-phase motors are equipped with built-in thermal overload protection. Three-phase motors require external overload protection.
3. Companion flanges furnished as standard on all models except for S-25, S-45 and H-32
4. For other design characteristics, consult your Armstrong Representative.
5. To order, please refer to item numbers in price pages.

S&H Series with ECM Motors

MODEL	FLANGE SIZE (NPT)	MOTOR		DIMENSIONS INCHES (MM)				
		HP	PHASE AND VOLT	A	B	C	D	WEIGHT lbs (kg)
H-53 ECM	1½	½	1 phase 115 v	20.36 (517)	11.5 (292)	16.79 (426)	0.88 (22)	59 (26.8)
		½	1 phase 208-230 v	20.36 (517)	11.5 (292)	16.79 (426)	0.88 (22)	59 (26.8)
H-54 ECM	2	¾	1 phase 115 v	20.42 (519)	11.5 (292)	19.93 (50 6)	0.88 (22)	66 (30.0)
		¾	1 phase 208-230 v	20.42 (519)	11.5 (292)	19.93 (506)	0.88 (22)	66 (30.0)
H-63 ECM	1½	½	1 phase 115 v	23.12 (587)	13.5 (343)	19.93 (506)	0.88 (22)	91 (41.4)
		½	1 phase 208-230 v	23.12 (587)	13.5 (343)	19.93 (506)	0.88 (22)	91 (41.4)
H-64 ECM	1½	¾	1 phase 115 v	23.12 (587)	13.5 (343)	19.93 (506)	0.88 (22)	95 (43.2)
		¾	1 phase 208-230 v	23.12 (587)	13.5 (343)	19.93 (506)	0.88 (22)	95 (43.2)
H-65 ECM	1½	1	1 phase 208-230 v	23.12 (587)	13.5 (343)	19.93 (506)	0.88 (22)	100 (45.4)
H-66 ECM	2	¾	1 phase 115 v	23.53 (598)	14.02 (356)	20.04 (509)	0.88 (22)	115 (52.3)
		¾	1 phase 208-230 v	23.53 (598)	14.02 (356)	20.04 (509)	0.88 (22)	115 (52.3)
H-67 ECM	2	1	1 phase 208-230 v	23.53 (598)	14.02 (356)	20.04 (509)	0.88 (22)	123 (55.9)
S-55 ECM	3	½	1 phase 115 v	20.24 (514)	12.00 (305)	16.93 (430)	1.00 (25)	77 (35.0)
		½	1 phase 208-230 v	20.24 (514)	12.00 (305)	16.93 (430)	1.00 (25)	77 (35.0)
S-57 ECM	3	¾	1 phase 115 v	20.42 (519)	11.50 (292)	16.93 (430)	1.00 (25)	80 (36.4)
		¾	1 phase 208-230 v	20.42 (519)	11.50 (292)	16.93 (430)	1.00 (25)	80 (36.4)
S-69 ECM	3	1	1 phase 208-230 v	24.44 (621)	14.25 (362)	19.93 (506)	1.00 (25)	113 (60.5)



BACK VIEW SIDE VIEW

DID YOU KNOW?

ECM models weigh an average of **5 pounds less** than standard induction motor circulators.

An on-board user interface supports manual adjustment of motor speed and displays the speed on the screen shown above. Armstrong ECM motors can also accept speed control input from a 0-10 V DC external control.

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