

## Astro Express 2 Hot Water Delivery System

*SUBMITTAL*


JOB: _____	REPRESENTATIVE: _____
_____	_____
ENGINEER: _____	ORDER NO: _____ DATE: _____
CONTRACTOR: _____	SUBMITTED BY: _____ DATE: _____
_____	APPROVED BY: _____ DATE: _____

Quantity	Item#	Description
	110223-401	Astro Express 2 System (Wet rotor circulator with timer, line cord, union hardware, and one Astro Express LF valve)
	561100LF-001	Astro Express LF Valve (only) for lengthy branches to additional faucets off main distribution pipe

### Hot Water Delivery System Applications

The Armstrong Astro Express 2 system delivers hot water to the tap, recirculating cooled water back to the water heater via existing cold water piping. In addition to providing the homeowner instant hot water access, the system also helps to conserve municipal drinking water resources and save metered water charges. It's easy to install, and does not require special return piping to the water heater. This makes the Astro Express 2 system the ideal retrofit solution for existing residential buildings, and a cost-effective solution for new housing construction.

### TECHNICAL DATA

ASTRO EXPRESS 2 CIRCULATOR	
Power Requirements	115 Vac, 60 Hz, 1/25 hp, 0.5 A max.
Power Connection	5.0 ft (1.5 m) power cord, molded duplex plug with ground
Environment	Indoor use only
Max. Head	5.5 ft (1.7 m)
Max. Flow	9.5 GPM (0.60 L/s)
Max. Working Pressure	100 psi (689 kPa)
Ambient Temperature	39°F (4°C) to 104°F (40°)
Max. Water Temperature	140°F (60°C)
Clock Timer	12-hour analog clock with am/pm indication
Timer Settings	Individual toggles for each 15 minute interval over 24 hours
Manual Override	3 position slide switch, on/off/auto
Pump Casing	Stainless steel* with 1-1/4" NPSM union threads
Impeller	Polyether Imide (PEI)
Shaft	Ceramic
Bearings / Seal	Ceramic
Union Tailpieces	Lead Free Brass*, 3/4" FPT (two) and 3/4" MPT (one)
Union Gaskets	EPDM (two)
Approvals	 listed



ASTRO EXPRESS LF VALVE	
Housing	Forged ECO brass* with Noryl cap
Internal Components	Stainless steel and plastic with EPDM o-rings
Connections	Threaded, 1/2" hot & cold inlets, 3/8" hot & cold outlets
Environment	Indoor use only
Flowrate Adjustment	0 – 100%, multi-turn slotted screw
Max. Working Pressure	100 psi (689 kPa)
Max. Water Temperature	140°F (60°C)
Mounting	Plastic wall anchor with screw

\* Complies with section 116875 at the California Health and Safety /Code and Vermont Act 193 (Lead content of wetted surface is 0.25% or less)

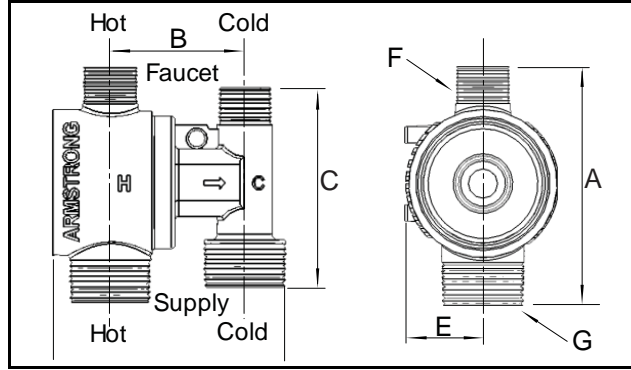
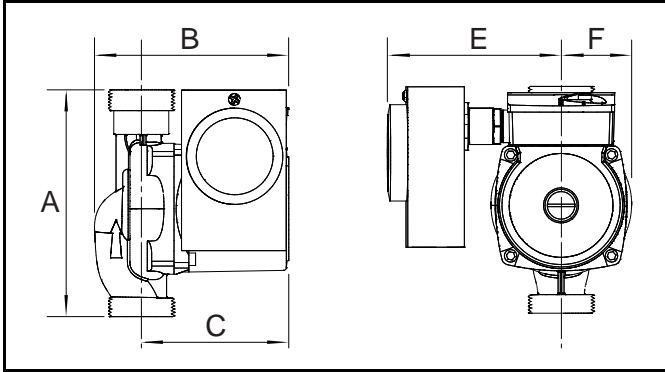
## Dimensions and Weights

Product	A	B	C	D	E	F	G	Weight
Astro Express 2 Circulator (with union tailpieces)	6.00 (152)	5.00 (127)	4.00 (102)	--	5.00 (127)	1.8 (46)	--	8.00 (3.63)
Astro Express LF Valve	2.5 (63)	1.5 (38)	2.1 (53)	2.8 (71)	0.8 (20)	3/8" IPS	1/2" IPS	0.40 (0.18)

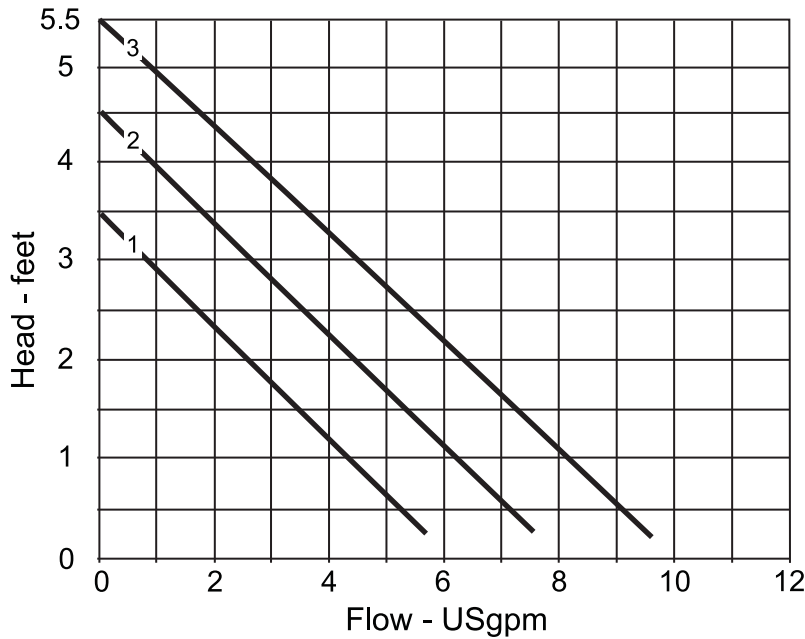
Note: All dimensions are in inches (mm)

### Astro Express 2 Circulator

### Astro Express LF Valve



### Astro Express 2 Performance Curves



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