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DATE:	May. 09, 2011
SUPERSEDES:	10.582
DATE:	Sep. 11, 2009

## Astro Express Hot Water Delivery System

## SUBMITTAL


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

Quantity	Item#	Description
	110123-401	Astro Express System (Wet rotor circulator with timer, line cord, union hardware, and one Astro Express valve)
	561100-001	Astro Express Valve (only) for lengthy branches to additional faucets off main distribution pipe

### Hot Water Delivery System Applications

The Armstrong Astro Express 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 system the ideal retrofit solution for existing residential buildings, and a cost-effective solution for new housing construction.

### TECHNICAL DATA

ASTRO EXPRESS CIRCULATOR	
Power Requirements	120 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	5.8 ft (1.7 m)
Max. Flow	11.5 GPM (0.73 L/s)
Max. Working Pressure	140 psi (965 kPa)
Ambient Temperature	39°F (4°C) to 104°F (40°C)
Max. Water Temperature	230°F (110°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	Cast bronze with 1-1/4" NPSM union threads
Impeller	Glass filled polypropylene
Shaft	Stainless steel
Bearings / Seal	Graphite / EPDM
Union Tailpieces	Brass, 3/4" FPT (two) and 3/4" MPT (one)
Union Gaskets	EPDM (two)
Approvals	 us listed



ASTRO EXPRESS VALVE	
Housing	Forged 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



PWHS - 866-289-4652

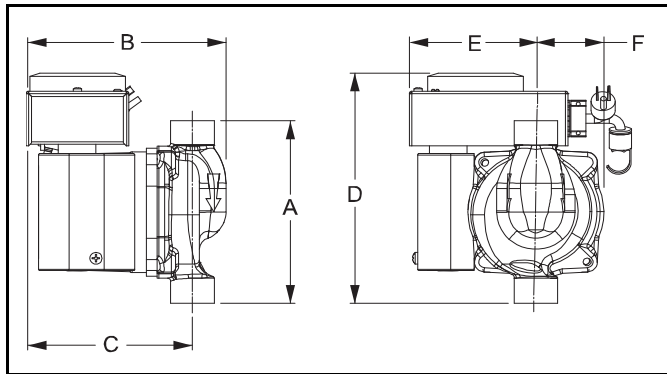


### Dimensions and Weights

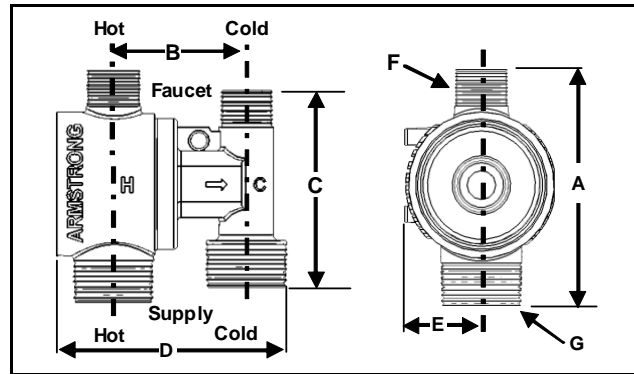
Product	A	B	C	D	E	F	G	Weight
Astro Express Circulator (with union tailpieces)	7.5 (191)	4.4 (112)	5.3 (134)	7.9 (200)	3.4 (86)	1.8 (46)		7.3 (3.3)
Astro Express Valve	2.5 (63)	1.5 (38)	2.1 (53)	2.8 (71)	0.8 (20)	3/8" IPS	1/2" IPS	0.40 (0.18)

Note: All dimensions are in inches (mm)

#### Astro Express Circulator



#### Astro Express Valve



### Astro Express Performance Curves

