



ASTRO EXPRESS
HOT WATER
RE-CIRCULATION SYSTEM

STRONGER.
FASTER.
BETTER.

ARMSTRONG 
EXPERIENCE BUILDING...



A SALES TOOL THAT CAN HELP YOU BUILD A MORE PROFITABLE BUSINESS

The demand for hot water distribution systems is growing fast and it's a huge opportunity to build your business. When it comes to dependable hot water delivery, Armstrong quality and durability ensure quick installation, zero maintenance, satisfied customers - and additional profitability.



AN EXCITING BUSINESS OPPORTUNITY

As more municipalities move towards water conservation policies, there's a growing demand for professionals who can supply and install technologies that save water. The Astro Express system does just that; it saves on average 12,000 gallons a year for a typical family!

The system also provides convenience to households that are already using water-saving showerheads and other conservation tools. As beneficial as those tools are to the environment, they cause even longer wait times for hot water, creating a real demand for instant hot water solutions.

YOU & ARMSTRONG: A WINNING BUSINESS COMBINATION

The push for conservation is an incredible opportunity to grow your business. Next time you're in a home to install or repair a water heater, it won't be hard to upsell the homeowners to an Astro Express System. Outline the benefits (see page 4), and it's an easy sell – and a great chance to boost your profitability.

For more information on how you can use Armstrong products to build your business, visit;

WWW.ARMSTRONGPUMPS.COM/ASTROEXPRESS

BENEFITS

Instant hot water at every tap.

Your customers need a dependable system that's inexpensive to install, easy to use, and heats their water to just the right temperature - every time.

A quality product that will not have you running back to your customers for adjustments and repairs.

The Astro Express Hot Water Re-circulation System offers dependability that keeps your customers satisfied, plus thoughtful design and industry-leading quality that minimize maintenance - and maximize your profitability.

The Astro Express is the solution that is **stronger, faster** and simply **better** than anything else on the market today.



STRONGER

The Astro Express is a clear winner for quality, durability and strength. With a rugged, forged-brass valve and a powerful circulator with a greater capacity than anything else on the market.

FASTER

No dedicated lines make for a quick installation. Quality parts and an adjustable flow rate mean zero maintenance. Our one-size-fits-all solution ensures you'll always have the right model in your truck. **Install it in as little as 30 minutes flat.**

BETTER

Offer your customers something more than just a standard re-circulation system.

Give them something better: the Astro Express System is the highest-quality, most dependable system on the market. The pump can handle the widest range of homes, from a small bungalow to a sprawling ranch-style house. The system is powerful enough to ensure that several faucets can be in use at the same time throughout the house, without any impact on temperature or speed of hot water delivery.



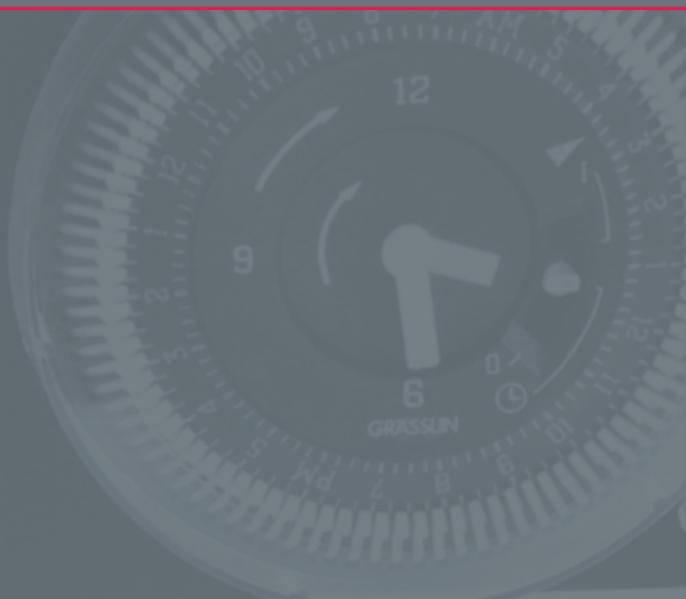
Circulator

Disconnect hot water pipe from heater nipple	4 min
Mount Astro Express circulator to nipple	4 min
Reconnect hot water pipe to circulator	4 min
Open faucet to purge air	5 min
Plug in power cord and set timer	5 min

Valve

Disconnect flex hoses from faucet	2 min
Connect hoses to valve	2 min
Add extra hoses from valve to faucets	2 min
Mount to wall with supplied screw and anchor	2 min

Add it up:	30 min
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ZERO TO HOT IN LESS THAN A SECOND

Serious comfort and convenience. Your customers will love having instant hot water at every tap. The Astro Express is especially useful for those who have large homes or use water saving fixtures that restrict flow and slow the delivery of heated water. Plus, top quality construction ensures it's virtually maintenance-free.

Leaves lots of room under the sink. A space-saving design places the pump at the hot water heater, which means only the small valve goes under the sink. It's discreet and doesn't take up space that's needed for storage.

Simple to install. Since it doesn't need a dedicated line, the system is inexpensive and can easily be installed as a retrofit in existing homes. There's no pump under the sink, so there's no GFI outlet and no need to bring in an electrician.

Saves water. In the typical household, over 12,000 gallons of water go down the drain each year as people wait for their water to warm up. Installing the Astro Express conserves water, saves money – and does a little bit to help the environment.

A close-up photograph of a white ceramic knob, likely from a vintage telephone. The knob has a four-lobed, star-like shape with rounded ends. In the center of the knob is a circular white disc with a thin, dark border. The word "HOT" is printed on this disc in a bold, black, serif font, rotated slightly counter-clockwise. The background is a plain, light-colored surface, possibly a wall or a desk, which is out of focus. The lighting is soft and even, highlighting the smooth texture of the ceramic.

HOT



A COST-EFFECTIVE OPTION FOR NEW HOMES

Instead of going to the expense of installing dedicated lines when a new home buyer chooses the option of a hot water delivery system, Astro Express can be offered as an easy retrofit upgrade with no up-front construction costs.

ADD VALUE TO YOUR NEXT BATHROOM

Waiting for hot water will detract from your client's enjoyment of their new bathroom. Adding an Astro Express system can make things that much more luxurious. The cost of installation is likely a small percentage of the overall reno cost - and the payoff is your clients' complete satisfaction with the project.

HOW IT WORKS

The Astro Express System works like a thermostat. The snap-acting valve opens and closes to circulate hot water so it stays at a specific temperature throughout the distribution system. Hot water at each tap stays hot, and cold water stays cold.

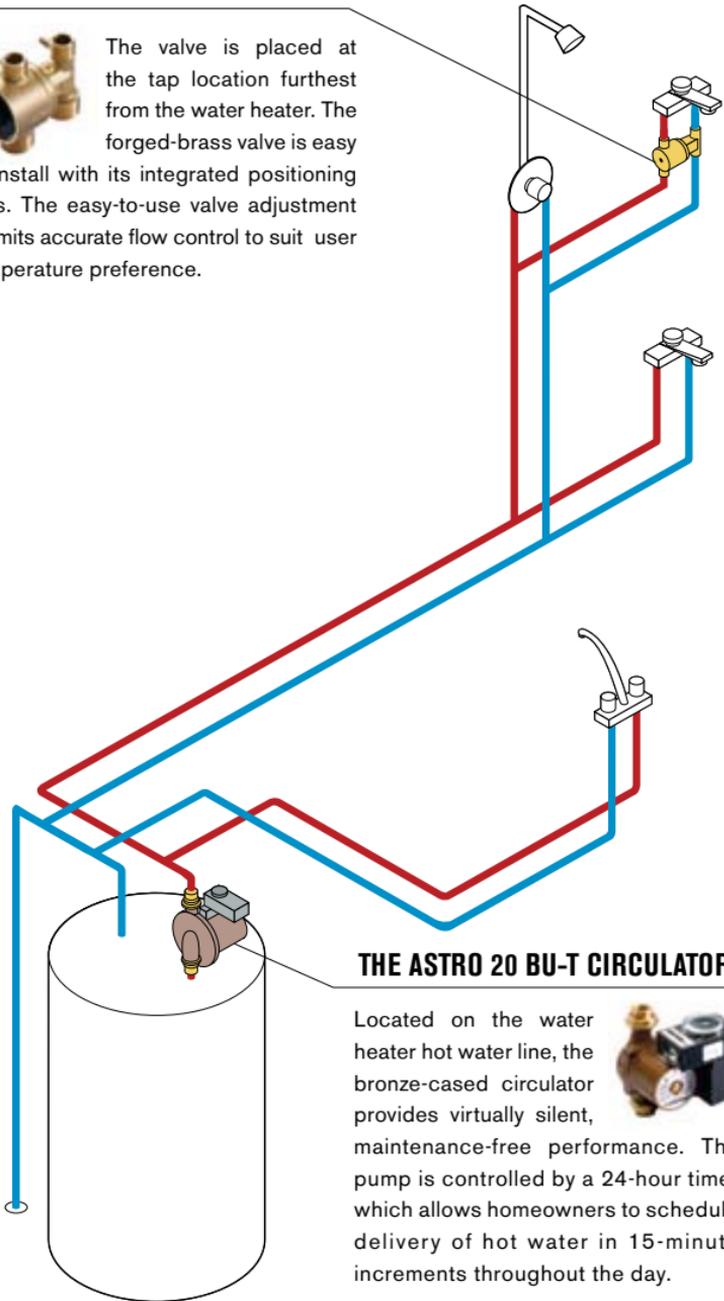
The timer can be set for multiple on/off periods per day, reducing operating costs. The Astro Express can be set to circulate water based on the individual homeowners usage patterns, such as; coming on, when they awake, and turning off, when asleep or at work. The simple-to-use mechanical timer also includes manual on/off overrides and eliminates complicated programming instructions.

Each system comes with one valve, which is installed at the faucet furthest away from the water heater. This ensures that hot water is delivered to all the faucets in between. Large homes that feature a distribution line with multiple branches, will need a valve for the faucet at the end of each branch line. Additional valves are available separately.

ASTRO EXPRESS VALVE



The valve is placed at the tap location furthest from the water heater. The forged-brass valve is easy to install with its integrated positioning legs. The easy-to-use valve adjustment permits accurate flow control to suit user temperature preference.



THE ASTRO 20 BU-T CIRCULATOR

Located on the water heater hot water line, the bronze-cased circulator provides virtually silent, maintenance-free performance. The pump is controlled by a 24-hour timer which allows homeowners to schedule delivery of hot water in 15-minute increments throughout the day.



THE ASTRO 20 BU-T CIRCULATOR

The Astro 20 BU-T circulator is a small pump with twice the capacity of competitive circulators. It can handle flow to up to 5 valves so it is perfect for the kind of “branch plumbing” that can make hot water distribution in a large or ranch-style home such a challenge.

Most dedicated return systems are oversized and have a short duty cycle when the aquastat is activated. Our injection system uses lower flow to maintain a more stable water temperature at the hot water faucet and prevent noise and erosion. Plus, higher capacity means several people can turn on taps throughout the house and they will all get hot water instantly.



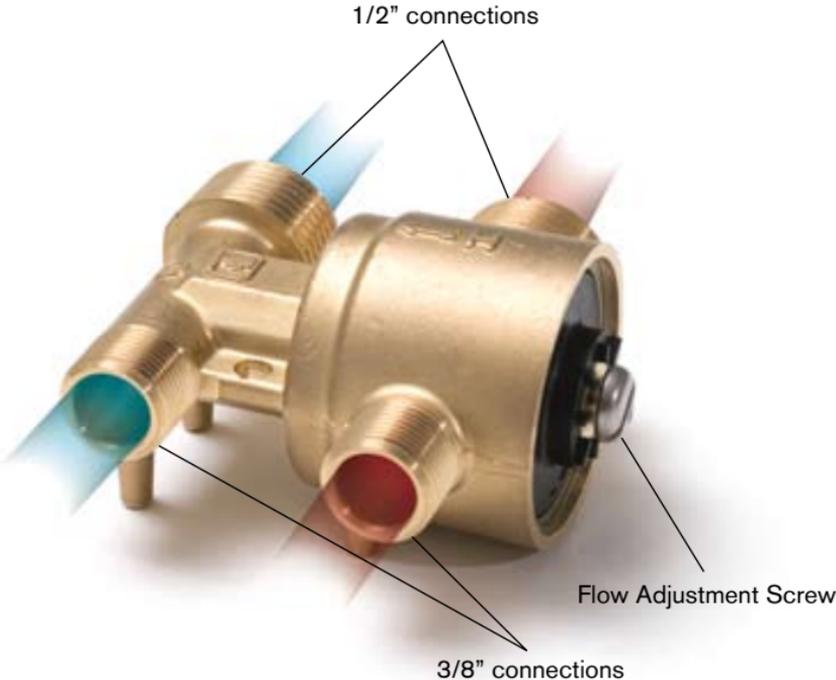
FEATURES

- _ 24-hour clock timer
- _ 15 minute user selectable intervals
- _ On/Off/Auto switch
- _ 120Vac, 1/25 HP, .5A
- _ 5 ft power cord
- _ Max head: 5.8 ft
- _ Max flow: 11.5 GPM
- _ Brass full unions
- _ EPDM O-rings
- _ 1 male and 2 female $\frac{3}{4}$ " tailpieces
- _ Wet rotor design ensures virtually silent operation
- _ Bronze housing for potable water use
- _ High starting torque overcomes mineral build-up
- _ Built for durability with bronze casing, stainless steel shaft and graphite bearings

THE ASTRO EXPRESS VALVE

The contractor's friend

Ultra-durable and easy-to-install, our valve has a unique design that makes adjusting flow rate and temperature so simple that homeowners could adjust it themselves.



FEATURES

- _ Sturdy construction: forged brass housing
- _ Integrated mounting supports for easy, flush installation
- _ Simple screw adjustment for flow setting preference
- _ Ratings: 125 psi (862 kPa) / 150°F (66°C)
- _ Bidirectional hot and cold connections in 3/8" and 1/2" ensure easy installation in a wide variety of applications.
- _ Large, self-cleaning screen prevents clogging

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, when offered as an option in new home 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	150 psi (1034 kPa)
Ambient Temperature	-40°F to 180°F (-40°C to 82°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	 listed

ASTRO EXPRESS VALVE



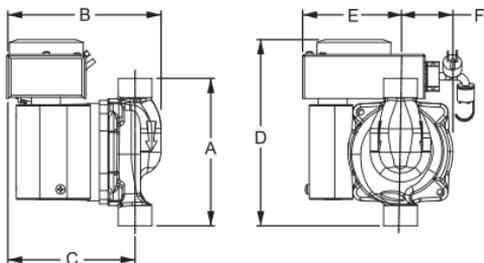
Housing	Forged brass with Noryl cap
Internal Components	Stainless steel and plastic with EPDM o-rings
Connections	Threaded, 1/2" hot & cold inlets, 3/8" hot & cold outlets
Environment	Indoor use only
Flowrate Adjustment	0 – 100%, multi-turn slotted screw
Max. Working Pressure	125 psi (862 kPa)
Max. Water Temperature	150°F (66°C)
Mounting	Plastic wall anchor with screw

DIMENSIONS AND WEIGHTS

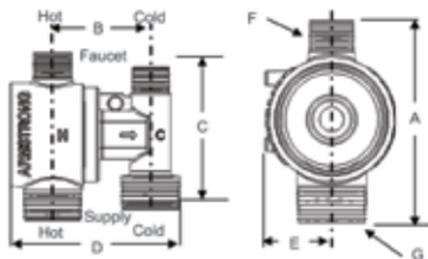
PRODUCT	A	B	C	D	E	F	G	WEIGHT
Astro Express Circulator (with union tailpieces)	7.5 (191)	4.4 (112)	5.3 (134)	7.6 (195)	3.4 (86)	1.8 (46)		7.3 (3.3)
Astro Express Valve	2.5 (63)	1.5 (38)	2.1 (53)	2.6 (66)	0.8 (20)	3/8" IPS	1/2" IPS	0.40 (0.18)

Note: All dimensions are in inches (mm)

ASTRO EXPRESS CIRCULATOR



ASTRO EXPRESS VALVE



ARMSTRONG SALES MATERIALS

In support of the Astro Express product line, Armstrong has developed a series of promotional collateral to assist your organization in presenting and selling the Astro Express Hot Water Re-circulation Systems. Appreciating that to develop promotional literature can be expensive and time-consuming, these items have been created and are available to you to advertise your business.

HOW TO ORDER?

All of these promotional materials are available to you, with opportunity to custom imprint your company name on most. To order all of them or the pieces which you believe will best promote your business, visit our website at **www.armstrongpumps.com/astroexpress/marketing**

In addition to English, promotional materials may be available in Spanish and French. Please visit the web site to review availability.

ASTRO EXPRESS DOOR HANGER

Size: 4" x 9"

Style: Full colour with a large open area on the back where you can have your company information imprinted or labelled.

Use: These are meant to be hand distributed in the neighborhoods where you want to build business. Simply slip over the front doorknob. The large shower graphic will compel the recipient to open and read fully.

INSTANT HOT WATER IN EVERY TAP IN YOUR HOME!

Imagine never waiting for your shower to heat up – and always having warm water the amount you want to wash your hands or do the dishes.

With the Astro Express Hot Water Re-Circulation System, you get hot water as soon as you turn on the tap. No warm-up, no waiting, no waste. Just flawless warmth – on demand.

ASTRO EXPRESS HOT WATER RE-CIRCULATION SYSTEM

It's the ultimate in comfort and convenience: hot water when and where you need it.

Designed to handle any size home. Our Armstrong system has the capacity of anything else on the market – so no matter how far your taps are from your water heater, you'll get hot water as soon as you turn them on, guaranteed.

COMFORT YOU CAN COUNT ON

The Astro Express Hot Water Re-Circulation System provides you with the comfort of hot water when you need it, and an additional benefit: it's energy efficient. It's a small step that makes a big difference.

A SMALL STEP THAT MAKES A BIG DIFFERENCE

Most people have to let their water run for 10-15 minutes to get hot water. Our Armstrong system has the capacity of anything else on the market – so no matter how far your taps are from your water heater, you'll get hot water as soon as you turn them on, guaranteed.

WARM UP YOUR LIFE INSTANTLY.

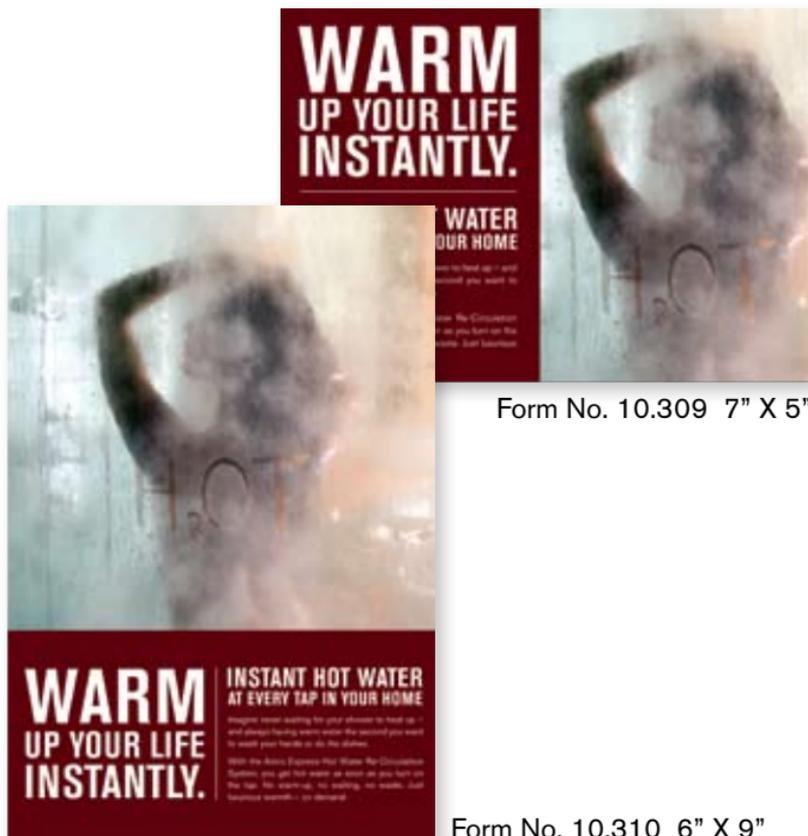
ARMSTRONG

ASTRO EXPRESS POSTCARD

Size: Available at either 5" x 7" or 6" x 9"

Style: Full colour front and a large open area on the reverse where you can have your company information imprinted or labelled.

Use: These cards can be direct mailed to a mailing list that you have, or distributed through a Postal Service walk for a community you wish to reach.



Form No. 10.309 7" X 5"

Form No. 10.310 6" X 9"

NEW HOME CONSTRUCTION SELLSHEET

Size: 8.5" x 11"

Style: Full colour high glossy sheets with imprint area for your company information.

Use: This sheet can be inserted into a new home builder's option section to assist homeowners in choosing the system. The sell sheet articulates the value, the benefits and how the system works.



The advertisement features a top section with a white background and several water droplets of varying sizes. Below this is a dark blue rectangular box containing the text "ASTRO EXPRESS" in large, bold, white capital letters, with "HOT WATER RE-CIRCULATION SYSTEM" in smaller white capital letters underneath. To the right of this box is a red rectangular box with the text "WARM UP YOUR LIFE INSTANTLY." in white capital letters. Below these boxes, the text "INSTANT HOT WATER AT EVERY TAP IN YOUR HOME" is written in bold black capital letters. Underneath that, a paragraph reads: "Upgrade to an Astro Express Hot Water Delivery System, and you'll get hot water as soon as you turn on the tap. No warm-up, no waiting, no waste. Just luxurious warmth on demand." At the bottom of the advertisement is a photograph of a white clawfoot bathtub in a bathroom. The bathtub is positioned in front of a window with a view of trees. To the left of the bathtub is a small black metal side table with a potted plant on it.

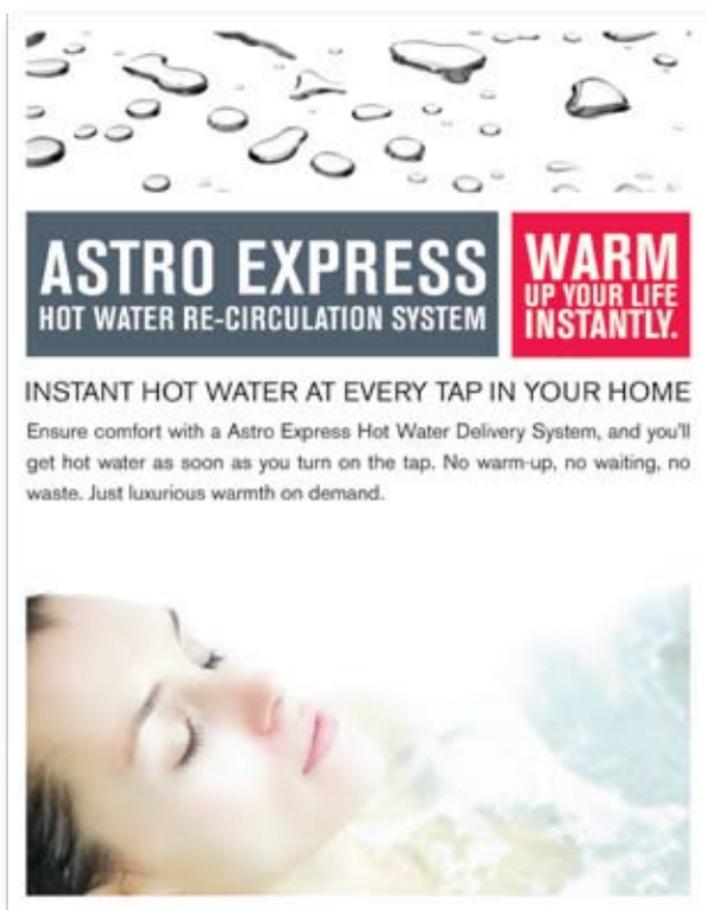
Form No. 10.314

RETROFIT CONSTRUCTION SELLSHEET

Size: 8.5" x 11"

Style: Full colour high glossy sheets.

Use: An aid to introduce the Astro Express for retrofit situations in existing houses, this sell sheet articulates the value, the benefits and how the system works.



The advertisement features a top section with a pattern of water droplets. Below this, a dark blue box contains the text "ASTRO EXPRESS" in large white letters, with "HOT WATER RE-CIRCULATION SYSTEM" in smaller white letters underneath. To the right of this box is a red box with the text "WARM UP YOUR LIFE INSTANTLY." in white. Below the text boxes, the headline "INSTANT HOT WATER AT EVERY TAP IN YOUR HOME" is followed by a paragraph: "Ensure comfort with a Astro Express Hot Water Delivery System, and you'll get hot water as soon as you turn on the tap. No warm-up, no waiting, no waste. Just luxurious warmth on demand." The bottom of the advertisement shows a close-up, low-angle shot of a woman's face with her eyes closed, looking upwards, set against a bright, blurred background.

Form No. 10.315

ASTRO EXPRESS INTERACTIVE BROCHURE

Size: 5.125" x 9.25"

Style: This is a self mailing brochure that is sent with all sides sealed, and perforated for opening.

Use: These brochures can be sent through the mail or hand delivered. The tear-aways will provoke curiosity to open the document. This ensures the message is read and understood, leading to the prospect contacting you for further information.



Form No. 10.307

EXPERIENCE BUILDING... _____

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