

## ASTRO 2 HOT WATER RE-CIRCULATION SYSTEM | SUBMITTAL

**File No:** 10.585  
**Date:** JULY 14, 2015  
**Supersedes:** 10.585  
**Date:** APRIL 4, 2011

Job: \_\_\_\_\_ Representative: \_\_\_\_\_  
 \_\_\_\_\_ Ordered by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Engineer: \_\_\_\_\_ Submitted by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Contractor: \_\_\_\_\_ Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

| QUANTITY | TAG NO. | MODEL NO. | FLOW (USgpm) | HEAD (feet) | COMMENTS |
|----------|---------|-----------|--------------|-------------|----------|
|          |         |           |              |             |          |

### TECHNICAL DATA

**Power connection:** 6.0 ft (1.8 m) power cord, molded duplex plug with ground

**Environment:** Indoor use only

**Max. working pressure:** 150 PSI (1034 kpa)

**Ambient temperature:** 39°F (4°C) to 104°F (40°C)

**Max. water temperature:** 230°F (110°C)

**Low temperature switchpoint**<sup>①</sup>: 85°F (29°C) ± 10%

**High temperature switchpoint**<sup>①</sup>: 105°F (40°C) ± 10%

**Clock/timer:** 12 hour analog clock with AM/PM indication

**Timer settings:** Individual mechanical toggles for each 15 minute interval over 24 hours

**Manual override:** 3 position slide switch, ON/OFF/AUTO

Approvals:  listed

NSF-372 certified

#### NOTE:

- ① High/low temperature switchpoints are as measured on pipe surface with the Aquastat (TA models only).

### HOT WATER RE-CIRCULATION SYSTEM APPLICATIONS

Armstrong Astro 2 hot water re-circulation systems automatically circulate water through domestic hot water distribution pipes. This helps to ensure that everyone in the household has 'instant' hot water at the tap when they need it, while also helping to conserve water and save water heating energy costs. All systems are assembled, wired, tested and then shipped from the factory, ready for installation.

### MATERIALS OF CONSTRUCTION (Wetted parts)

**Pump casing:** Lead free bronze\* (BS models),  
Stainless steel\* (SS models)

**Pump shaft:** Ceramic

**Impeller:** Noryl

**Bearings:** Ceramic

#### NOTE:

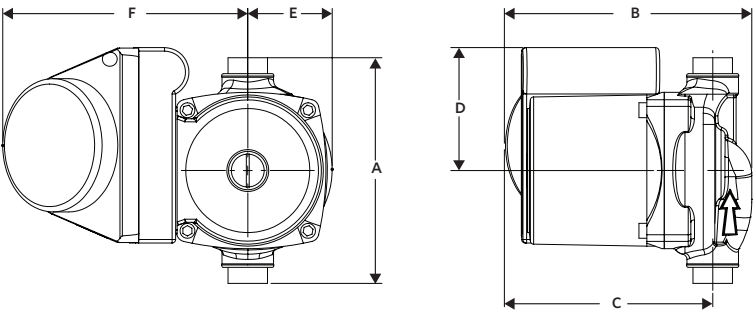
- \* Complies with section 116875 at the California Health and Safety/Code and Vermont Act 193 (Lead content of wetted surface is 0.25% or less)

DIMENSIONS

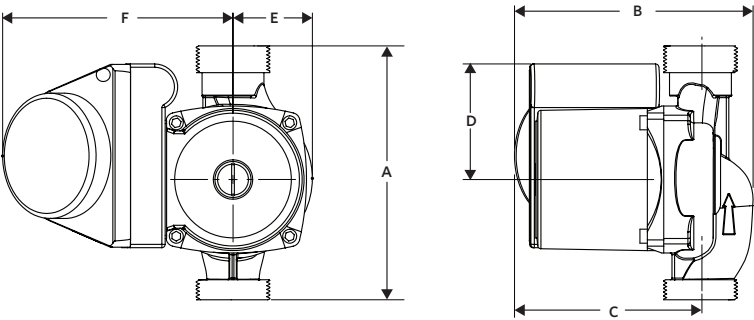
| MODEL            | A          | B          | C          | D         | E         | F          |
|------------------|------------|------------|------------|-----------|-----------|------------|
| ASTRO 225BS      | 5.00 (127) | 5.46 (139) | 4.59 (117) | 2.72 (69) | 1.87 (48) | 5.43 (138) |
| ASTRO 220/225SSU | 5.98 (152) | 5.62 (143) | 4.38 (111) | 2.72 (69) | 1.87 (48) | 5.43 (138) |
| ASTRO 230/250SS  | 6.38 (162) | 6.49 (165) | 4.52 (115) | 2.72 (69) | 1.82 (46) | 5.43 (138) |

NOTE: All dimensions are in inches (mm)

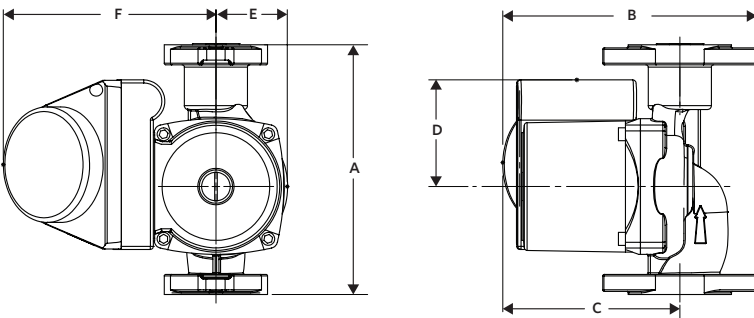
ASTRO 225BS



ASTRO 220/225SSU



ASTRO 230/250SS

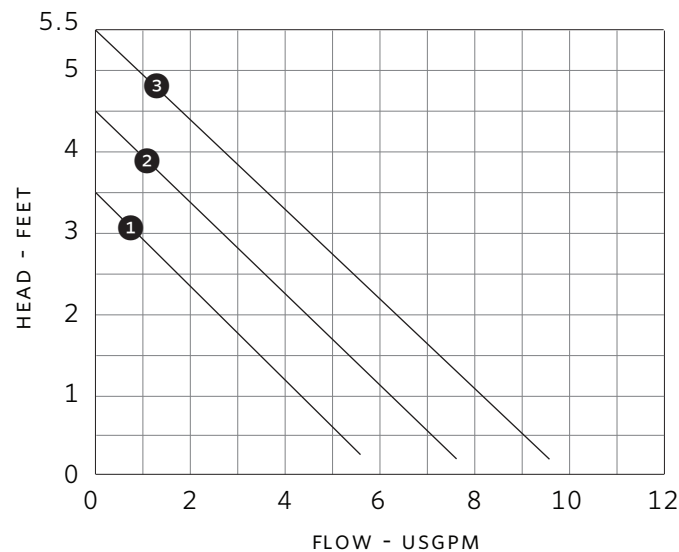


| ITEM        | MODEL                | CONNECTION    | SIZE          | CORD | TIMER | AQUASTAT | ELECTRICAL DATA              | WEIGHT       |
|-------------|----------------------|---------------|---------------|------|-------|----------|------------------------------|--------------|
| 110223B-140 | ASTRO 220SSU050S-TA* | Sweat         | ½"            | ✓    | ✓     | ✓        | 115 Vac, 60 Hz, 0.29 A, 33W  | 7.50 (3.40)  |
| 110223B-141 | ASTRO 220SSU075S-TA* | Sweat         | ¾"            | ✓    | ✓     | ✓        | 115 Vac, 60 Hz, 0.29 A, 33W  | 7.50 (3.40)  |
| 110223B-142 | ASTRO 225BS050S-TA   | Sweat         | ½"            | ✓    | ✓     | ✓        | 115 Vac, 60 Hz, 0.64 A, 75W  | 7.00 (3.18)  |
| 110223B-143 | ASTRO 225BS075S-TA   | Sweat         | ¾"            | ✓    | ✓     | ✓        | 115 Vac, 60 Hz, 0.64 A, 75W  | 7.00 (3.18)  |
| 110223B-144 | ASTRO 220SSU-TA      | NPSM union    | 1¼"           | ✓    | ✓     | ✓        | 115 Vac, 60 Hz, 0.29 A, 33W  | 7.50 (3.40)  |
| 110223B-145 | ASTRO 225SSU-TA      | NPSM union    | 1¼"           | ✓    | ✓     | ✓        | 115 Vac, 60 Hz, 0.69 A, 83W  | 7.50 (3.40)  |
| 110223B-148 | ASTRO 230SS-TA       | 2 bolt flange | 2 bolt flange | ✓    | ✓     | ✓        | 115 Vac, 60 Hz, 0.81 A, 97W  | 10.00 (4.54) |
| 110223B-149 | ASTRO 250SS-TA       | 2 bolt flange | 2 bolt flange | ✓    | ✓     | ✓        | 115 Vac, 60 Hz, 0.98 A, 117W | 10.00 (4.54) |
| 110223B-240 | ASTRO 220SSU050S-T*  | Sweat         | ½"            | ✓    | ✓     | —        | 115 Vac, 60 Hz, 0.29 A, 33W  | 7.50 (3.40)  |
| 110223B-241 | ASTRO 220SSU075S-T*  | Sweat         | ¾"            | ✓    | ✓     | —        | 115 Vac, 60 Hz, 0.29 A, 33W  | 7.50 (3.40)  |
| 110223B-242 | ASTRO 225BS050S-T    | Sweat         | ½"            | ✓    | ✓     | —        | 115 Vac, 60 Hz, 0.64 A, 75W  | 7.00 (3.18)  |
| 110223B-243 | ASTRO 225BS075S-T    | Sweat         | ¾"            | ✓    | ✓     | —        | 115 Vac, 60 Hz, 0.64 A, 75W  | 7.00 (3.18)  |
| 110223B-244 | ASTRO 220SSU-T       | NPSM union    | 1¼"           | ✓    | ✓     | —        | 115 Vac, 60 Hz, 0.29 A, 33W  | 7.50 (3.40)  |
| 110223B-245 | ASTRO 225SSU-T       | NPSM union    | 1¼"           | ✓    | ✓     | —        | 115 Vac, 60 Hz, 0.69 A, 83W  | 7.50 (3.40)  |
| 110223B-248 | ASTRO 230SS-T        | 2 bolt flange | 2 bolt flange | ✓    | ✓     | —        | 115 Vac, 60 Hz, 0.81 A, 97W  | 10.00 (4.54) |
| 110223B-249 | ASTRO 250SS-T        | 2 bolt flange | 2 bolt flange | ✓    | ✓     | —        | 115 Vac, 60 Hz, 0.98 A, 117W | 10.00 (4.54) |
| 110223-340  | ASTRO 220SSU050S-LC* | Sweat         | ½"            | ✓    | —     | —        | 115 Vac, 60 Hz, 0.29 A, 33W  | 7.00 (3.18)  |
| 110223-341  | ASTRO 220SSU075S-LC* | Sweat         | ¾"            | ✓    | —     | —        | 115 Vac, 60 Hz, 0.29 A, 33W  | 7.00 (3.18)  |
| 110223-342  | ASTRO 225BS050S-LC   | Sweat         | ½"            | ✓    | —     | —        | 115 Vac, 60 Hz, 0.64 A, 75W  | 6.50 (2.95)  |
| 110223-343  | ASTRO 225BS075S-LC   | Sweat         | ¾"            | ✓    | —     | —        | 115 Vac, 60 Hz, 0.64 A, 75W  | 6.50 (2.95)  |
| 110223-344  | ASTRO 220SSU-LC      | NPSM union    | 1¼"           | ✓    | —     | —        | 115 Vac, 60 Hz, 0.29 A, 33W  | 7.00 (3.18)  |
| 110223-345  | ASTRO 225SSU-LC      | NPSM union    | 1¼"           | ✓    | —     | —        | 115 Vac, 60 Hz, 0.69 A, 83W  | 7.00 (3.18)  |
| 110223-348  | ASTRO 230SS-LC       | 2 bolt flange | 2 bolt flange | ✓    | —     | —        | 115 Vac, 60 Hz, 0.81 A, 97W  | 9.00 (4.08)  |
| 110223-349  | ASTRO 250SS-LC       | 2 bolt flange | 2 bolt flange | ✓    | —     | —        | 115 Vac, 60 Hz, 0.98 A, 117W | 9.00 (4.08)  |

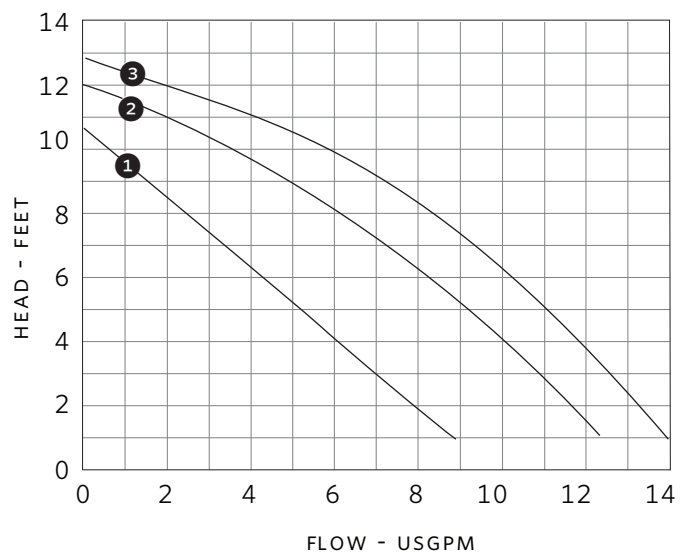
**NOTE:** All weights are in lbs. (kg) \*Union model with sweat hardware kit.

## PERFORMANCE CURVE

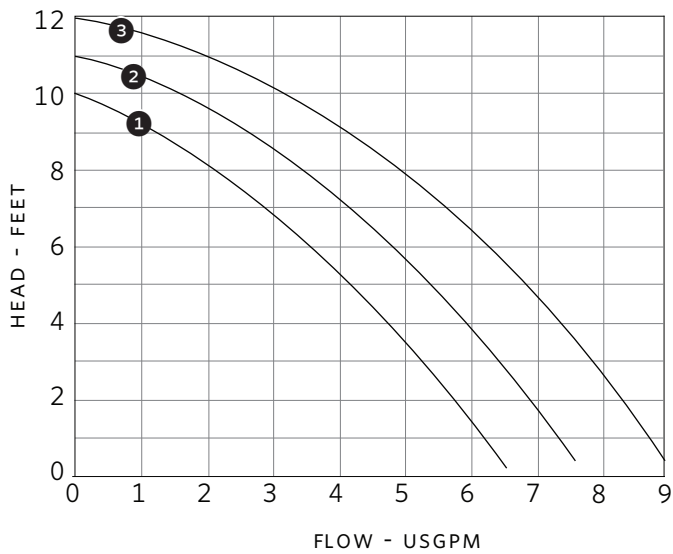
**ASTRO 220SS**



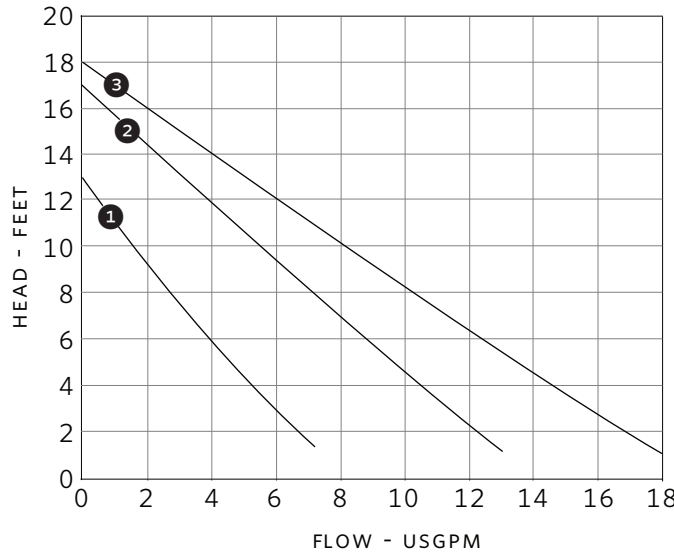
**ASTRO 225SS**



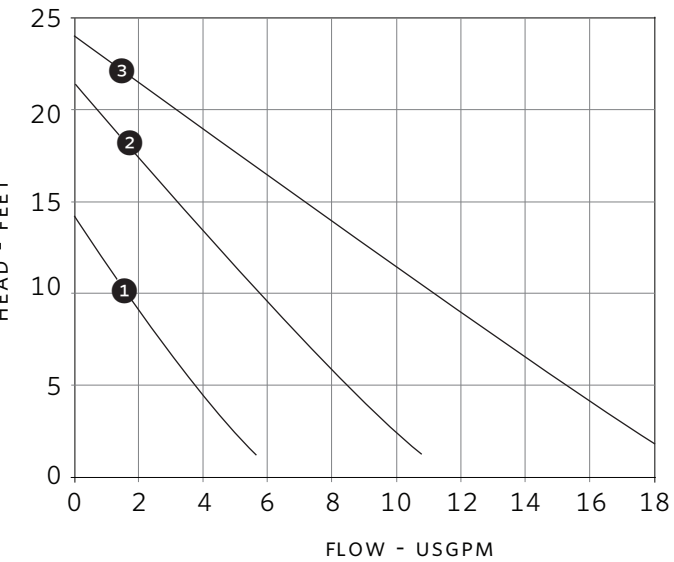
ASTRO 225BS



ASTRO 230SS



ASTRO 250SS



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