ASTRAL PIPES

INDIA'S NO.1 PIPE BRAND

# WATER HAMMER ARRESTOR

Protects piping system from hydraulic shocks




*For more details visit astralpipes.com

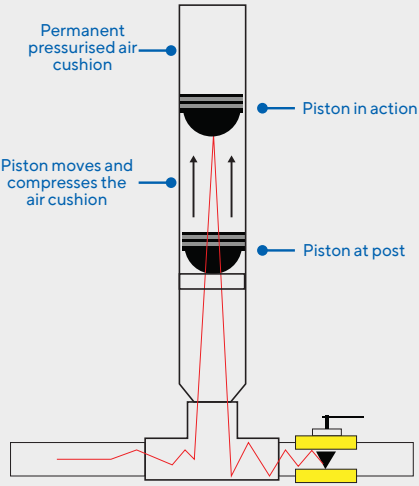
## About Astral

Established in 1996, Astral Pipes is a leading manufacturer of plastic piping systems in India. Renowned for unbeatable quality and innovation, Astral has been at the forefront of the industry, introducing CPVC technology and securing NSF approval. With production facilities across India, Astral offers a wide range of products for plumbing, drainage, agriculture, fire sprinklers, industrial piping, and cable protection pipes, infrastructure pipes and ancillary itams. In addition to its core piping business, Astral has successfully diversified into Adhesives, Water Tanks, Bathware, Paints, and Industrial Valves, showcasing adaptability and growth in the building materials sector.

## About Astral Water Hammer Arrestor

Sudden stoppage of water flow in piping systems can cause destructive shockwaves, leading to vibrations, and potential damage to pipes and appliances. This phenomenon, known as water hammer, is a common issue in both residential and commercial plumbing.

Astral Water Hammer Arrestors are specifically designed to address this problem. Equipped with a precharged, permanently sealed air chamber, they effectively absorb these shockwaves, preventing damage and ensuring a smooth, noise-free operation. With their durable and maintenance-free design, Astral Water Hammer Arrestors provide long-lasting protection, safeguarding your plumbing system and extending its service life




## Key Features

- Easy installation with BSP threaded solid hex brass adapter or solder end connection.
- No access panel required for installation.
- Compatible with new and existing systems; install vertically or horizontally with a standard pipe tee.
- Durable, maintenance-free design with a single moving part (piston).
- Pre-loaded air pressure of 60 psi (4.2 kg/cm$^2$), factory sealed for reliability.

## Working Pressure & Temprature

**Pressure:** Suitable for domestic and commercial lines up to 150 psi (10.6 kg/cm$^2$)

**Temperature:** Operates between 33°F to 180°F (0.5°C to 82°C)

## Sizing and Placement

Proper sizing and placement are crucial for the effective performance of Astral Water Hammer Arrestors. It is recommended to install the arrestor at the end of the branch line, positioned between the last two fixtures served.

For branch lines up to 20 ft. (6 m) in length (measured from the start of the horizontal branch line to the last fixture supply), a single water hammer arrestor is sufficient. However, if the branch line exceeds 20 ft. (6 m) in length, additional water hammer arrestors must be installed.

**This placement practice is defined by two established rules:**

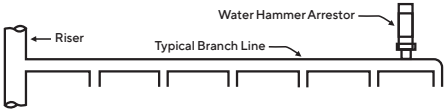
**Rule 1:** Applicable for multiple fixture branch lines not exceeding 20 ft. (6 m) in length.

**Explanation:** A fixture-unit sizing and selection table is used to determine the appropriate water hammer arrestor.




**Rule 2:** Applicable for multiple fixture branch lines exceeding 20 ft. (6 m) in length.

**Explanation:** The fixture-unit sizing and selection table is used to accurately select the required water hammer arrestors. The combined fixture unit rating of units X and Y must be equal to or greater than the total demand of the branches to ensure proper functionality.



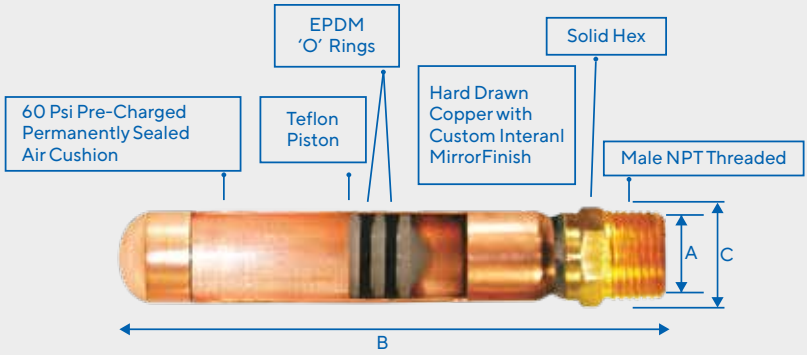

## Fixture unit Chart as per NBC - 2016

| Sr. | Type of Fixture | Application | |
|---|---|---|---|
| | | Private | Public |
| 1 | Bathtub | 4 | - |
| 2 | Ablution Faucet / Bidet | 1 | 1 |
| 3 | Clothes Washer | 4 | 4 |
| 4 | Dishwasher | 1.5 | 1.5 |
| 5 | Drinking fountain | - | 0.5-(0.75*) |
| 6 | Hose bib | 2.5 | 2.5 |
| 7 | Wash basin (with metered faucet) | 1 | 1 |
| 8 | Wash basin (with standard faucet) | 1.5 | 1.5(2) |
| 9 | Service sink | 1.5 | 3 |
| 10 | Kitchen sink | 2 | 4 |
| 11 | Surgical sink | - | 2 |
| 12 | Scrub station in hospital (per outlet) | - | 3 |
| 13 | Shower | 2 | 3 |
| 14 | Bathroom group (flush tank) | 5 | 6 |
| 15 | Bathroom group (flush valve) | 8 | 10 |
| 16 | Urinal (Flush Valve) | 3 | 5(6) |
| 17 | Urinal (Flush tank) | 2 | 2(3) |
| 18 | Urinal (Sensor Operated) | 2 | 2(3) |
| 19 | Water closet (flush Valve) | 6 | 8(10) |
| 20 | Water closet (flush tank) | 2 | 3(5) |
| 21 | Combination Fixture (Faucet) | 3 | - |
| 22 | Laundry trays (Faucet) | 3 | - |

## Fixture Unit Chart

| Fixture Unit Size | Supply Control | Weight in Fixture Unit | | | | | |
|---|---|---|---|---|---|---|---|
| | | Public / Commercial | | | Private/Individual | | |
| | | Total | Cold Water | Hot Water | Total | Cold Water | Hot Water |
| Water Closet | Flush Valve | 8 | 8 | - | 5 | 5 | - |
| Water Closet | Flush Tank | 5 | 5 | - | 2.5 | 2.5 | - |
| Pedestal Urinal | Flush Valve | 4 | 4 | - | - | - | - |
| Stall or Wall Urinal | Flush Valve | 4 | 4 | - | - | - | - |
| Stall or Wall Urinal | Flush Tank | 2 | 2 | - | - | - | - |
| Lavatory / Washbasin | Faucet | 2 | 1½ | 1½ | 1 | 1 | 1 |
| Bathtub | Faucet | 4 | 2 | 3 | 2 | 1½ | 1½ |
| Shower Head | Mixing Valve | 4 | 2 | 3 | 2 | 1 | 2 |
| Bathroom Group | Flush Valve Closet | - | - | - | 8 | 8 | 3 |
| Bathroom Group | Flush Valve Closet | - | - | - | 6 | 6 | 3 |
| Separate Shower | Mixing Valve | - | - | - | 2 | 1 | 2 |
| Service Sink | Faucet | 3 | 3 | 3 | - | - | - |
| Laundry Tubs (1-3) | Faucet | - | - | - | 3 | 3 | 3 |

## Water Hammer Arrester Construction




| Sr. No. | Item Name | Item Code | Size (Inch) | Size (mm) | A (ID) | B (HD) | C (HEX) | Fixture Unit | PDI Standard |
|---|---|---|---|---|---|---|---|---|---|
| 1 | WATER HAMMER ARRESTOR A-15mm | AST-WHA-CP-A15 | ½" | 15 | 14.5 | 151 | 21 | 1-11 | A |
| 2 | WATER HAMMER ARRESTOR B-20mm | AST-WHA-CP-B20 | ¾" | 20 | 19.5 | 185 | 27 | 12-32 | B |

*All dimensions are in mm.

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Please get in touch with us between 10 AM to 6 PM between Monday to Friday and the last Saturday of the month. We will remain closed on Public Holidays.


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