

CAST IRON AND STEEL SIPHONS FOR ALUMINIUM TRANSFER



Siphon tubes are primarily utilized in the potroom department of aluminium smelters to extract molten aluminium and molten bath (cryolite) from reduction cells. All aluminium smelters use a siphon assembly design.

Many siphon designs are an assembly of tubes designed with flanged joints, which often connect to a vacuum crucible. This design is found globally and is the most common.

Other siphons are designed as stand-alone equipment, meaning they are not attached to a crucible. This type is used primarily in older plants where open top crucibles are standard.

The typical failure mode for siphons is wear from erosion. The constant movement of bath and metal through the tube causes normal wear to the inside wall of all sections, but the tip is continuously submerged in molten metal and bath where erosion is more severe. This causes shorter life for the tip compared with other siphon parts.

In certain environments, damage can also occur from arcing. With certain siphon designs, the siphon can move off-center and make contact with the anode and the metal pad. This causes arcing, which can reduce wall thickness. This problem is mostly found in older plants where the unattached "rainbow" siphon is used.

INDUSTRY

- Smelters

APPLICATIONS

- Aluminium tapping and bath

ADVANTAGES

- Manufacture to customer specifications, or a Pyrotek recommended, high-temperature resistant material suitable for recommended use.
- Reduce annual costs with Pyrotek's competitive pricing.
- Local sales contact with local stocking available. (VMI-vendor managed inventory is available for discussion.)
- Reduce purchasing costs via vendor consolidation.

Pricing available FOB Pyrotek plant, nearest port, or delivered.

Note: The physical and chemical properties listed represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice.

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