E-BOOK

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Solutions for High Temperature Injection Molding Cells

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High-performance, engineered plastics – particularly in aerospace, medical and automotive – increasingly require higher mold temperatures than those used in traditional molding applications. These high temperatures are required to meet tight tolerances and high surface finishes, often required with parts molded from high-performance resins. In many cases, high mold temperatures are also required to ensure parts have the correct physical properties post-molding.

Achieving high mold temperatures requires advancements in high temperature water and oil circulation systems, including water circulation systems capable of running up to 445°F, with oil units running up to 550°F. Both types of circulation systems pose challenges for processors, especially for those unfamiliar with operating molding cells with mold temperatures up to 450°F.

To protect your team and ensure optimal throughput when using high temperature circulation systems, several issues must be addressed. In this guide, we will focus on the following:

- ✓ **Safety for personnel and plant operations**
- ✓ **The importance of a clean water for equipment and circulation loops**
- ✓ **The correct system components needed**

Ensuring Safe Operation of Injection Molds Operating Higher than 300°F

High temperature circulation equipment must be treated with respect and the installation of this equipment requires planning to ensure supporting components and materials meet safe operating requirements. Operational procedures for this equipment can be unique when compared to similar equipment running in a typical molding facility.

Equipment shielding, hose insulation, and personal protection equipment (PPE) requirements must be considered to ensure safe operation of the molding cell on a busy production floor. Generally, circulation systems need guarding or shielding on the Supply and Return connections of your process manifolds to protect operators who work closely with these units. All high temperature hoses going to and from the mold must be insulated to protect molding technicians who access the molding area, and for process stability and efficiency.

Mold insulation that isolates the mold from platens is also strongly recommended to keep the platens from heating up and causing safety and operational issues. This must be the same type of insulation used on the hot runner side of the mold, but also installed on the ejector side of the mold. This insulation can be machined to size from a number of plastic industry sources.

For both high pressure water and oil units, it's imperative to avoid leaks in the manifolds, valves, connections, and hoses or serious operational issues can occur if there are leaks of any size in either system. This is why component selection related to this equipment is so important and discussed in its own section below.

For high pressure water circulation units, it's important to understand that they circulate water instead of steam, even at 400°F or higher. With the help of controls and valving, these units generally operate 1 Bar above the vapor pressure of water so, for whatever the water temperature set point is, the water is always circulating as a liquid. This is important because it makes it very

difficult to identify leaks – when a leak occurs, it releases as steam since there isn't enough pressure, which can be difficult to see. As a matter of safety, steam loses heat quickly and is less likely to cause injury beyond approximately 1-2 feet of the leak.

On the other hand, oil units generally operate at low pressure, i.e. > 50 PSI in most equipment. Heat transfer oil (the *only* oil that can be used in these systems) has low viscosity at operating temperatures over 300°F. This can cause seepage leaks in any area of the system not tightened and sealed with the correct techniques. This often causes smoking as the oil degrades and the seepage is exposed to air. A major difference with oil versus pressurized water is that heat transfer oil is an insulator, which can cause severe burns to exposed skin, regardless of distance from the leak point.

When operating at elevated temperatures, safety considerations are critical. The equipment and components that tie these units to the mold must be closely evaluated to ensure all high temperature and pressure requirements are met.

The Importance of a Clean Water Supply for Water Circulation

Many injection molders overlook water system quality, which has a direct impact on plant equipment and the ability to produce high quality parts. It's even more important when using water circulation units operating with temperatures from 300°F to 445°F. A key feature that manufacturing engineers need to discuss with their equipment suppliers is the availability, as a standard or optional addition, of a separate water supply for the temperature circulation unit. A water supply is needed for the cooling water (supplying the heat exchanger), and another water supply is needed to supply the unit and mold filling circuit. It's important to fill the mold circulation circuit of these units independently from the plant water systems.

Here are some of the issues to identify and recognize when the plant cooling loop is used for both cooling the heat exchanger and filling the water circulation unit and the mold:

1. Glycol in Closed Loop Chiller Systems

Closed-loop, chilled water systems are common in industrial processes for their efficiency and ability to maintain consistent temperatures. A key ingredient in many of these systems is glycol, which serves as antifreeze to ensure the system remains operational in colder conditions.

However, when exposed to temperatures over 260° F (126° C), glycol breaks down and transforms into a sticky, gum-like substance. This not only restricts water flow, but also can cause significant issues for the molding cell trying to run at high temperatures.

Solution:

✓ **Separate Water Supply System for Distilled Water:** the X-PURE Water Supply System, manufactured by Plastixs, is recommended for this application – or another system that can maintain pressure and supply the unit with enough water to fill the system, hoses and mold

Note: pressure must be maintained on the water inlet for the circulation system to run

Consequences:

X **Blocked Lines & Passageways:** the gum-like residue from decomposed glycol can clog lines, valves and passageways, reducing flow rates and causing drastically reduced heat transfer rates that reduce cycle times and part quality

X **Equipment Failure:** the degraded glycol will cause major issues with the sensitive valves in this type of circulation system, leading to system failures, and causing undue stress on pumps, leading to degraded seals and expensive repairs

X **Reduced Heat Transfer Efficiency:** the insulating properties of the decomposing glycol can inhibit heat transfer, causing systems to work harder to achieve desired temperatures, which leads to increased energy consumption and decreased product quality

X **Safety Concerns:** glycol decomposition can release hazardous byproducts, causing unsafe operating conditions and posing risks to both the operator and equipment

2. Open Loop (Cooling Tower) Central Systems

Open loop systems are vulnerable to contamination, impurities and mineral deposits, especially calcium. As temperatures and pressure rise in high temperature circulation systems, the solubility of these minerals decreases, forcing them out of the circulating water and causing them to solidify and form hard deposits, known as scale, on the internal piping of the circulation system, hoses and the mold itself.

Buildup of as little as 1/16" can equal 3-5" of steel in terms of heat transfer resistance. This inefficiency can result in increased energy consumption and potential product defects, a significant concern in high-end applications like composite plastics, where material integrity is crucial.

Solutions:

√ **Separate Water Supply System for Distilled Water:** the X-PURE Water Supply System, manufactured by Plastixs, is recommended for this application – or another system that can maintain pressure and supply the unit with enough water to fill the system, hoses and mold

Note: pressure must be maintained on the water inlet for the circulation system to run

√ **Regular Cleaning:** scheduled cleaning of the system can prevent scale from reaching problematic levels – highly effective, but costly in terms of downtime and labor availability

√ **Adding Heat Exchangers to Tower Cooling Systems:** this isolates the tower loop from the process loop, allowing the process loop to be treated and filtered to a high level

√ **Using "Dry" Cooling Towers:** these air-to-water heat exchangers provide a completely closed loop system, allowing the process loop to be treated and filtered to a high level

√ **Anti-Scaling Agents:** for use with closed loop systems, there are chemical additives available that, when introduced to the water, prevent the formation of scale by inhibiting the precipitation of minerals

Eliminate scale and other contaminants with X-PURE, a compact solution that ensures clean, distilled water for use in high-temperature units

Consequences:

X **Reduced Efficiency:** scale buildup constricts water flow, making the system work harder to achieve the same cooling effect, increasing energy costs, reducing equipment life and impairing product quality

X **Maintenance Costs:** removing scale can be a tricky and arduous process, often requiring specialized equipment, chemicals and professionals; regular maintenance to prevent scale buildup or to remove existing scale can significantly increase operational costs and downtime

X **Inhibited Heat Transfer:** because scale acts as an insulating layer, even a minuscule layer of scale can drastically reduce the efficiency of heat transfer, and a compromised heat transfer rate can lead to increased energy consumption and longer process times

X **Material Property Alteration:** in processes like injection molding, precise temperature control is critical in ensuring that plastic achieves its desired and intended properties – even slight deviations, due to scale buildup, can lead to products with compromised quality, strength, flexibility, and finishh

X **Equipment Damage & Reduced Lifespan:** over time, scale leads to corrosion, pitting and other forms of damage to equipment, which can result in frequent maintenance needs, potential system breakdowns, and shortened equipment lifespans

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High Temperature System Components

Everything used with high temperature injection molding needs to be rated for the temperatures and pressures required by these systems. Using products that do not meet these requirements can result in poor functionality, decreased efficiency, and injuries to plant personnel. By investing in specialized high temperature solutions, you can ensure a safer and more efficient production process.

These high temperature solutions include the following:

HiTemp & Xtreme HiTemp Stainless Steel Manifolds

- √ Standard HiTemp Water Manifolds can withstand temperatures up to 400°F (204°C) and pressure up to 250 PSI / 17 Bar
- √ Xtreme HiTemp Water Manifolds can withstand temperatures up to 450°F (232°C) and pressure up to 680 PSI / 47 Bar
- √ HiTemp Oil Manifolds can withstand temperatures up to 600°F (315°C) and pressure up to 250 PSI / 17 Bar

Avoid:

- X Aluminum manifolds that start to soften at their annealing temperature of 320°F (160°C)
- X Manifolds with soldered valves – the solder will melt under high temperatures
- X Square steel and stainless steel manifolds, as they are made from structural steel and have no pressure or temperature rating – they are commonly used for applications only up to 250° F and 150 PSI for applications up to 250°F and 150 PSI)

HiTemp Hoses

- √ Smooth bore PTFE hoses with steel braids and hydraulically crimped fittings can withstand temperatures up to 450° F (232° C) and pressure up to a minimum of 1000 PSI / 69 Bar – ideal for high temperature water and oil applications
- √ Corrugated PTFE hoses are ideal for high temperature water and oil applications requiring increased flexibility, especially for small lengths that need to be bent in tight spaces, and for temperatures up to 450° F (232° C) and pressure up to a minimum of 1000 PSI / 69 Bar
- √ PTFE hose with hydraulically crimped/swaged swivel JIC fittings allow coupling and hose connections to rotate and move freely, which prevents twisting, kinking and excessive bending
- √ Corrugated stainless steel flexible metal hoses with steel braids and welded-on fittings can withstand temperatures up to 1000° F (535° C) and pressure up to a minimum of 1000 PSI / 69 Bar
- √ Silicone insulation covers for the PTFE and stainless steel hoses listed above are required to protect plant personnel and also to reduce heat loss from the hose

HiTemp Water Fittings & Valves

- √ Durable construction can handle the high temperatures and pressures required for high temperature applications
- √ Swivel JIC fittings and matching NPT adapters provide leak-free connections without sealant; female swivel fittings prevent hose twisting and kinking, which extends the life of the hose
- √ Quick connect fittings quickly and easily connect and disconnect coolant lines to molds and dies;

  Note: currently, these fittings are limited to 360° F (180° C) – temperatures above this require specialized fittings that have limited availability
- √ Steel or stainless steel pipe nipples for mold applications are sometimes required, and NPT by JIC adapters are readily available
- √ Stainless steel 2-piece and 3-piece valves are required for high temperature water;

  Note: the pressure rating on 2-piece valves decreases after 400° F; temperatures above 400° F require specialized 3-piece valves with the correct pressure rating for the equipment being used
- √ Steel 3-piece valves with special seats and packing are required for high temperature oil;

  Note: due to its very low viscosity at operating temperature, heat transfer oil requires specialized valves, fittings and assembly techniques to ensure it does not leak
- √ Locking valve handles provide safety and prevention of accidental opening

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Other HiTemp Components

- √ HiTemp Flowmeters: specifically designed for high temperature oil and pressurized water circulating loops, these SMARTFLOW® durable devices effectively and accurately measure flow rate and provide visual indications of flow rate (available with optional thermometers)
- √ HiTemp Flow Regulators: specifically designed for high temperature water applications, SMARTFLOW regulators precisely regulate the flow; when used in conjunction with high temperature flowmeters, they accurately control and balance flow in critical injection mold cooling circuits
- √ HiTemp Low Flow Indicators: designed to show the presence of flow in very low flow applications, SMARTFLOW low flow indicators are ideal for use in critical injection mold cooling circuits, such as bubblers and baffles, where flow is restricted and effective cooling is essential
- √ HiTemp, Heat-Resistant Mold Releases, Lubricants & Purge Compounds: reputable, high-quality SLIDE products that won't degrade or lose efficacy at high temperatures and maintain excellent mechanical stability, lubrication integrity, and load-bearing properties; these products are ideal for injection molding applications
- √ HiTemp Heat Transfer Fluids: industry leading, proven fluid formulations for superior heat transfer from Paratherm are ideal for your high temperature molding, extrusion, press heating, line tracing, and roll coating applications

Your HiTemp Partner

Plastixs, known for its expertise in high temperature injection molding, carries a full range of superior brands and products that address numerous challenges. Plastixs also engineers and manufactures its own HiTemp products that ensure optimal cooling and heating for applications ranging from 300° F to 600° F.

As a distributor and manufacturer of high-quality, high-value, innovative products for the plastics industry and with over 35 years of industry experience, the Plastixs team understands the needs and challenges you face in your high temperature processes. Customers count on Plastixs to increase productivity, eliminate downtime, and prevent small issues from becoming big problems.

While standard distributors supply products, the Plastixs team acts as your partner, working with you to solve problems, increase uptime, optimize efficiency of work cells, boost productivity, and maximize profitability.

Put our expansive supplier network, extensive product knowledge, in-house engineering support, and responsive customer service to work for you. To learn more, visit www.plastixs.com, email us at sales@plastixs.com, or call (888) 792-2223.

About Plastixs

Plastics processors, OEMs, and many other manufacturers all rely on Plastixs to keep their machines running smoothly, increase productivity of skilled workers, eliminate downtime, increase profitability, and prevent small issues from becoming big problems – especially with injection molding, process cooling, and material handling.

Let the Plastixs productivity experts identify and deliver the right system components, accessories and supplies that tie your systems together, including high temperature water manifolds, hose, fittings, valves, flow regulators, leak detectors, Moldshields, and other leading products from Tigerflex, Alfagomma, Kuri Tec, Kuriyama, NORRES, AIRTECT, Barb-Tech, Bunting, Morris Coupling, Paratherm, PowerTech, Rechner, SLIDE, SMARTFLOW, UniTherm, and more.

More: www.plastixs.com

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A GUIDE TO HiTemp Products

- HiTemp Oil Manifolds
- HiTemp & Xtreme HiTemp Water Manifolds
- HiTemp EPDM Water Hose
- HiTemp Insulated PTFE Hose
- HiTemp Insulated Flexible Metal Hose
- HiTemp Flow Regulators
- HiTemp Water/Oil Flowmeters
- X-PURE Water Supply System

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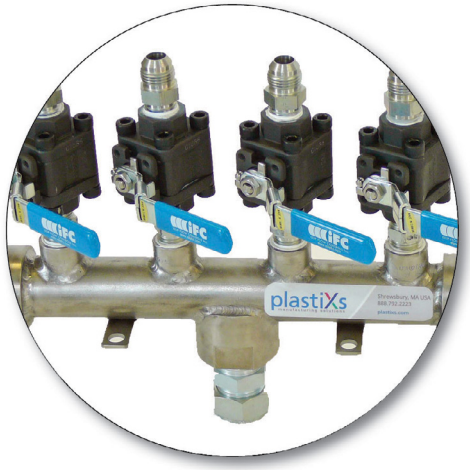
TABLE OF CONTENTS

HiTemp Oil Manifold Assemblies

Back to Table of Contents



Oil Manifold Systems for High Temperature Applications

Features

- All **stainless steel** construction reduces corrosion
- **Mounts directly** onto oil unit or can be remotely connected
- Manifold rated at **550°F, 250 psi**
- **JIC connections** provide leak free assembly
- **Shut-off valves** designed for heat transfer oil up to 550°F with **locking handles** for added safety
- **Configurable**, compact, ready to install design
- **Ideal for injection molding applications**
- Designed for use with **Plastixs HiTemp Insulated Flexible Metal Hose Assemblies**

Description

Finding a safe and effective way to distribute high temperature process oil can be a challenge. Plastixs HiTemp Oil Manifold Assemblies are uniquely designed and engineered to meet the demands of high temperature processing where durability and reliability are key. These manifolds are integrated with special corrosion resistant stainless steel components to create a flow management system suitable for a wide range of process applications operating at higher temperatures produced by oil circulating systems. Providing solutions for successful fluid handling has been the foundation of our business for years. We understand the challenges you face. HiTemp will help you handle the heat.

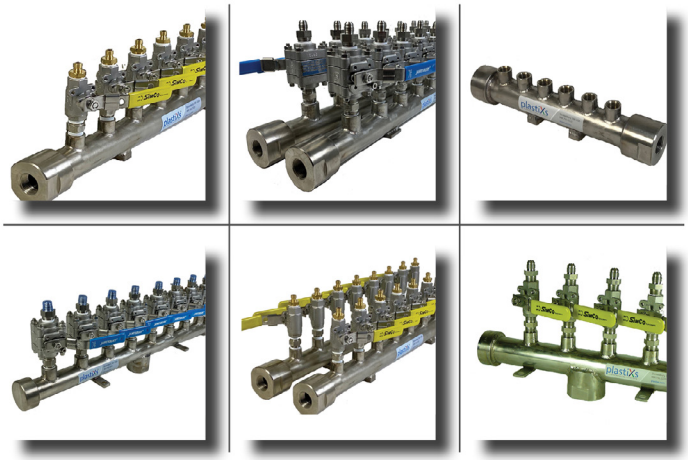
HOC Series HiTemp Oil Manifold Assembly (center inlet)

Manifold Specifications	Model PLX-HOC4	Model PLX-HOC6
Inlet Size	1″ NPT	1″ NPT
Port Size	1/2″ NPT	1/2″ NPT
No. of Ports	4	6
Overall Length	13″	19″
Rated Working Pressure	250 PSI	250 PSI
Max Temperature Rating	550°F (288°C)	550°F (288°C)

HiTemp & Xtreme HiTemp

Back to Table of Contents

Water Manifold Assemblies for High Temperature Applications



Features

- All **stainless steel** construction reduces corrosion
- **Mounts directly** onto water unit or can be remotely connected
- Available in **single manifold** and **parallel pair** manifolds
- Supports temperatures and pressure up to **400°F, 250 psi (HiTemp) and 450°F, 680 psi (Xtreme HiTemp)**
- **JIC connections** provide leak free assembly
- **Shut-off valves** with locking handles for added safety
- **Configurable**, compact, ready-to-install design
- Ideal for **injection molding applications**

Description

Finding a safe and effective way to distribute high temperature process water can be a challenge. Higher temperatures can anneal aluminum manifolds eventually causing leaks, and the higher pressures exceed the ratings of many conventional stainless steel manifolds. Plastixs has designed the HiTemp and Xtreme HiTemp Manifold Systems to meet the unique demands of higher temperature processing where reliability, durability and flexibility are of key importance. Corrosion resistant stainless steel components are integrated to create a flow management system suitable for a wide range of process applications operating at higher temperatures and pressures.

Providing solutions for successful fluid handling has been the foundation of our business for years. We understand the challenges you face. HiTemp will help you handle the heat.

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PLASTIXS HITEMP MANIFOLD ASSEMBLIES

HiTemp

Back to Table of Contents

Built to handle the heat.

The Plastixs HiTemp Manifold Assemblies includes:

- HTC/HTE/HTP Series 304 stainless steel manifolds
- 3/8” JIC (M) to 3/8” NPT (M) 316 stainless steel adapter installed in each port
- 3/8” NPT 316 stainless steel full port ball valves/shut-off valves with locking handles installed in each port

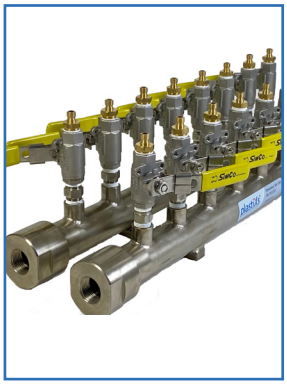
HTE Series HiTemp Manifold Assembly (end inlet)

Manifold Specifications	Item# PLX-HTE4-A1	Item# PLX-HTE6-A1	Item# PLX-HTE8-A1
Inlet Size	3/4” NPT	3/4” NPT	3/4” NPT
Port Size	3/8” NPT	3/8” NPT	3/8” NPT
No. of Ports	4	6	8
Overall Length	16”	20-15/16”	26-1/8”
Rated Working Pressure	250 PSI	250 PSI	250 PSI
Max Temperature Rating	400°F (204°C)	400°F (204°C)	400°F (204°C)
Price	**$815.00**	**$970.00**	**$1,135.00**

HTC Series HiTemp Manifold Assembly (center inlet)

Manifold Specifications	Item# PLX-HTC4-A1	Item# PLX-HTC6-A1	Item# PLX-HTC8-A1
Inlet Size	3/4” NPT	3/4” NPT	3/4” NPT
Port Size	3/8” NPT	3/8” NPT	3/8” NPT
No. of Ports	4	6	8
Overall Length	12-7/8”	17-3/8”	23-7/8”
Rated Working Pressure	250 PSI	250 PSI	250 PSI
Max Temperature Rating	400°F (204°C)	400°F (204°C)	400°F (204°C)
Price	**$815.00**	**$970.00**	**$1,135.00**

HTP Series HiTemp Parallel Pair Manifold Assembly



Manifold Specifications	Item# PLX-HTP8-A1	Item# PLX-HTP12-A1	Item# PLX-HTP16-A1
Inlet Size	3/4” NPT	3/4” NPT	3/4” NPT
Port Size	3/8” NPT	3/8” NPT	3/8” NPT
No. of Ports	(2) 4 (8 Total)	(2) 6 (12 Total)	(2) 8 (16 Total)
Overall Length	14-1/2”	18”	23”
Rated Working Pressure	250 PSI	250 PSI	250 PSI
Max Temperature Rating	400°F (204°C)	400°F (204°C)	400°F (204°C)
Price	**$1,560.00**	**$1,878.00**	**$2,145.00**

Xtreme HiTemp

Back to Table of Contents

Built to handle the heat.

The Plastixs Xtreme HiTemp Manifold Assemblies includes:

- XTE/XTC/XTP Series 304 stainless steel manifolds
- 3/8” JIC (M) to 1/2” NPT (M) 316 stainless steel adapters installed in each port
- 1/2” NPT 316 stainless steel full port ball valves/shut-off valves with locking handles installed in each port

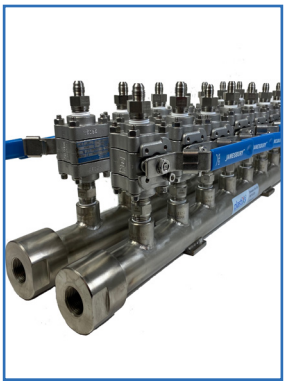
XTE Series Xtreme HiTemp Manifold Assembly (end inlet)

Manifold Specifications	Item# PLX-XTE4-A1	Item# PLX-XTE6-A1	Item# PLX-HTE8-A1
Inlet Size	3/4” NPT	3/4” NPT	3/4” NPT
Port Size	1/2” NPT	1/2” NPT	1/2” NPT
No. of Ports	4	6	8
Overall Length	14-1/2”	20-1/2”	26-1/2”
Rated Working Pressure	680 PSI	680 PSI	680 PSI
Max Temperature Rating	450°F (232°C)	450°F (232°C)	450°F (232°C)
Price	**$1,780,00**	**$2,423.00**	**$3,127.00**

XTC Series Xtreme HiTemp Manifold Assembly (center inlet)

Manifold Specifications	Item# PLX-XTC4-A1	Item# PLX-XTC6-A1	Item# PLX-HTC8-A1
Inlet Size	3/4” NPT	3/4” NPT	3/4” NPT
Port Size	1/2” NPT	1/2” NPT	1/2” NPT
No. of Ports	4	6	8
Overall Length	13-7/8”	19-7/8”	25-7/8”
Rated Working Pressure	680 PSI	680 PSI	680 PSI
Max Temperature Rating	450°F (232°C)	450°F (232°C)	450°F (232°C)
Price	**$1,780.00**	**$2,423.00**	**$3,127.00**

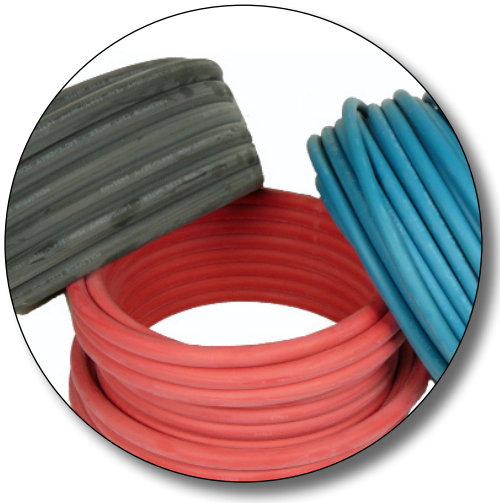
XTP Series Xtreme HiTemp Parallel Pair Manifold Assembly



Manifold Specifications	Item# PLX-XTP8-A1	Item# PLX-XTP12-A1	Item# PLX-HTP16-A1
Inlet Size	3/4” NPT	3/4” NPT	3/4” NPT
Port Size	1/2” NPT	1/2” NPT	1/2” NPT
No. of Ports	(2) 4 (Total 8)	(2) 6 (Total 12)	(2) 8 (Total 16)
Overall Length	14-1/2”	20-1/2”	26-1/2”
Rated Working Pressure	680 PSI	680 PSI	680 PSI
Max Temperature Rating	450°F (232°C)	450°F (232°C)	450°F (232°C)
Price	**$3,475.00**	**$4,738.00**	**$5,995.00**

HiTemp EPDM Superflex Hose

Back to Table of Contents



High Temperature EPDM Superflex Industrial Water Hose

Features

- Ideal for **high temperature water lines** for molds
- Service temperature **up to +284°F (+140°C)**
- **Flexible EPDM cover** resists abrasion, ozone, heat and weather
- **Cover design prevents blistering and bubbling**
- **Synthetic textile yarn reinforcement**
- Available in **3/8”**, **1/2”** and **3/4”** ID sizes
- **In stock** for fast delivery
- **Oetiker ear clamps, ferrules and crimper also available**

Description

Plastixs® HiTemp EPDM Hose is specially designed for high temperature water in applications such as mold temperature control. The tube is constructed of a smooth antistatic EPDM Nitrosamine-free rubber compound and is reinforced with synthetic textile yarns. Available in blue, red or black, the cover is designed to prevent blistering and bubbling and is resistant to abrasion, ozone, heat, and weather. Sold in standard roll lengths or per foot.

HiTemp EPDM Superflex Hose

Back to Table of Contents

High Temperature EPDM Superflex Industrial Water Hose

Specifications

Cover: Blue, red or black smooth EPDM Nitrosamine-free rubber compound
Reinforcement: Synthetic textile yarns
Tube: Black antistatic smooth EPDM Nitrosamine-free rubber compound
Service Temperature Range: Up to +284°F (+140°C)
Standard Lengths: 164 foot roll (3/8" and 1/2" ID), 98 foot roll (3/4 ID)

Part Number	ID	Color	Working Pressure psi/bar	Roll Length
PLX-HT10Bx50m	3/8"	Blue	215/15	164ft (50m)
PLX-HT10Rx50m	3/8"	Red	215/15	164ft (50m)
TFW10Sx50m	3/8"	Black	215/15	164ft (50m)
PLX-HT13Bx50m	1/2"	Blue	215/15	164ft (50m)
PLX-HT13Rx50m	1/2"	Red	215/15	164ft (50m)
TFW13Sx50m	1/2"	Black	215/15	164ft (50m)
PLX-HT19Bx30m	3/4"	Blue	215/15	98ft (30m)
PLX-HT19Rx30m	3/4"	Red	215/15	98ft (30m)
TFW19Sx30m	3/4"	Black	215/15	98ft (30m)

Purchase online at https://www.plastixs.com/categories/epdm-water-hoses

For per foot pricing, email sales@plastixs.com

For quick connect applications, we recommend Plastixs standard Quick Connect Water Couplers or Series "SC" Quick Couplers with locking security collars.

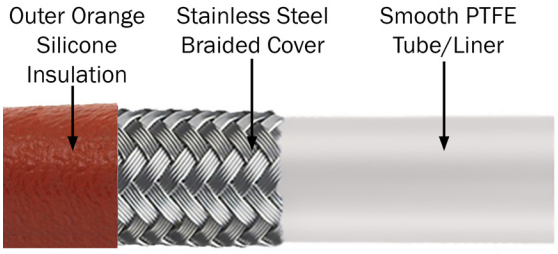
HiTemp Insulated PTFE Hose Assemblies

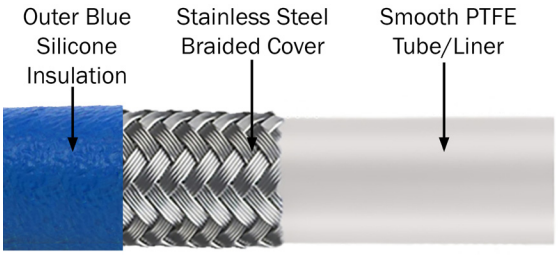
Back to Table of Contents

PTFE Hose Assemblies for High Temperature Applications

Features

- Ideal for use with **Plastixs HiTemp Manifold Assemblies**
- Hose assemblies rated up to **450°F, 1000 PSI**
- **Prevents energy loss** through hoses
- Provides **optimal thermal insulation** in high heat applications
- Protective insulation sleeve **protects employees from burns**
- Insulation sleeve available in **orange or blue silicone**
- Stainless steel female **swivel JIC fittings** on each end
- Available in **2,4,6,8 and 10 foot lengths**





906 SERIES Supply Hoses include 3/8″ Fluoropolymer Hose with Stainless Steel Overbraid and Orange or Blue Silicone Protective Insulation Sleeve. Assembled with 3/8” Stainless Steel Female Swivel JIC Fittings on each end.

912 SERIES Remote Hoses include 5/8″ Fluoropolymer Hose with Stainless Steel Overbraid and Orange Silicone Protective Insulation Sleeve. Assembled with 3/4” Stainless Steel Female Swivel JIC Fittings on each end.

Description

PTFE (Polytetrafluoroethylene) hose assemblies from Plastixs come equipped with stainless steel female swivel JIC fittings on each end. The inner PTFE tube/liner is covered with a stainless steel overbraid and an orange or blue silicone insulation sleeve. Protective insulation sleeve is made of knitted fiberglass yarns in a flexible substrate and then coated with a high grade silicone rubber. Insulation sleeve is resistant to hydraulic fluids, lubricating oils and fuel, and helps prevent energy loss through hoses.

HiTemp Insulated PTFE Hose Assemblies

Back to Table of Contents

Built to handle the heat.

906 Series HiTemp Insulated Supply Hose with orange or blue silicone sleeve

Supply Hose Specifications	PLX-906x24-B PLX-906x24-O	PLX-906x48-B PLX-906x48-O	PLX-906x72-B PLX-906x72-O	PLX-906x96-B PLX-906x96-O	PLX-906x120-B PLX-906x120-O
ID Size	3/8″	3/8″	3/8″	3/8″	3/8″
Length	2 ft (24″)	4 ft (48″)	6 ft (72″)	8 ft (96″)	10 ft (120″)
Rated Working Pressure	1,000 psi	1,000 psi	1,000 psi	1,000 psi	1,000 psi
Max Temp Rating	450°F (232°C)	450°F (232°C)	450°F (232°C)	450°F (232°C)	450°F (232°C)

912 Series HiTemp Insulated Remote Hose with orange silicone sleeve

Remote Hose Specifications	PLX-912x24-O	PLX-912x48-O	PLX-912x72-O	PLX-912x96-O	PLX-912x120-O
ID Size	5/8″	5/8″	5/8″	5/8″	5/8″
Length	2 ft (24″)	4 ft (48″)	6 ft (72″)	8 ft (96″)	10 ft (120″)
Rated Working Pressure	1,000 psi	1,000 psi	1,000 psi	1,000 psi	1,000 psi
Max Temp Rating	450°F (232°C)	450°F (232°C)	450°F (232°C)	450°F (232°C)	450°F (232°C)

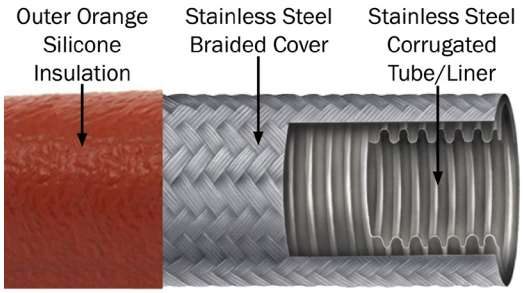
HiTemp Insulated Flexible Metal Hose Assemblies

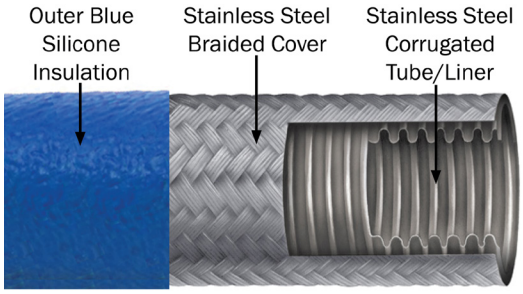
Back to Table of Contents

HiTemp Insulated Flexible Metal Hose Assemblies for High Temperature Applications

Features

- Ideal for use with **Plastixs HiTemp Manifold Assemblies**
- Hose assemblies rated up to **600°F, 1000 PSI**
- **All Stainless Steel** construction
  - **Stainless Steel corrugated tube/liner**
  - **Stainless Steel braided cover**
- Insulation sleeve available in **orange or blue silicone**
- Available in **1/2" and 3/8" ID**
- Stainless steel female **swivel JIC fittings** on each end
- **Prevents energy loss** through hoses
- Provides **optimal thermal insulation** in high heat applications
- Protective insulation sleeve **protects employees from burns**
- Available in **1.5, 4, 6, 8 and 10 foot lengths**



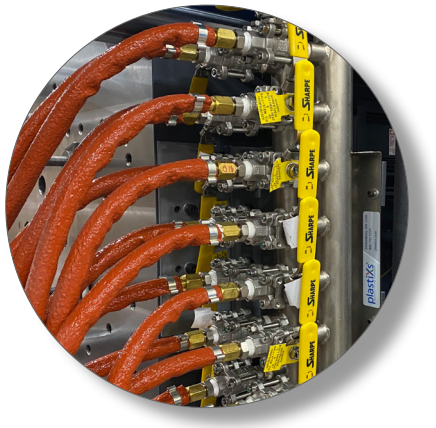


Description

Flexible metal hose assemblies from Plastixs come equipped with stainless steel female swivel JIC fittings on each end. The inner stainless steel corrugated tube/liner is covered with a stainless steel overbraid and an orange or blue silicone insulation sleeve. Protective insulation sleeve is made of knitted fiberglass yarns in a flexible substrate and then coated with a high grade silicone rubber. Insulation sleeve is resistant to hydraulic fluids, lubricating oils and fuel, and helps prevent energy loss through hoses.

HiTemp Insulated Flexible Metal Hose Assemblies

Back to Table of Contents



Built to handle the heat.

3/8" ID HiTemp Insulated Flexible Metal Hose with orange or blue silicone sleeve

Supply Hose Specifications	PLX-FMH6X72-B PLX-FMH6X72-O	PLX-FMH6X96-B PLX-FMH6X96-O	PLX-FMH6X120-B PLX-FMH6X120-O
ID Size	3/8"	3/8"	3/8"
Length	6 ft (72")	8 ft (96")	10 ft (120")
Rated Working Pressure	1,000 psi	1,000 psi	1,000 psi
Max Temp Rating	600°F (315°C)	600°F (315°C)	600°F (315°C)

1/2" ID HiTemp Insulated Flexible Metal Hose with orange or blue silicone sleeve

Supply Hose Specifications	PLX-FMH8X18-B PLX-FMH8X18-O	PLX-FMH8X48-B PLX-FMH8X48-O	PLX-FMH8X72-B PLX-FMH8X72-O	PLX-FMH8X96-B PLX-FMH8X96-O	PLX-FMH8X120-B PLX-FMH8X120-O
ID Size	1/2"	1/2"	1/2"	1/2"	1/2"
Length	1.5 ft (18")	4 ft (48")	6 ft (72")	8 ft (96")	10 ft (120")
Rated Working Pressure	1,000 psi	1,000 psi	1,000 psi	1,000 psi	1,000 psi
Max Temp Rating	600°F (315°C)	600°F (315°C)	600°F (315°C)	600°F (315°C)	600°F (315°C)

SMARTFLOW® High Pressure and Temperature Stainless Steel Flow Regulators

Back to Table of Contents

General Description

Smartflow High Pressure and Temperature Stainless Steel Flow Regulators are designed for use in hot water or oil cooling systems up to 400° F (204°C) and 150 psi (10.3 bar).

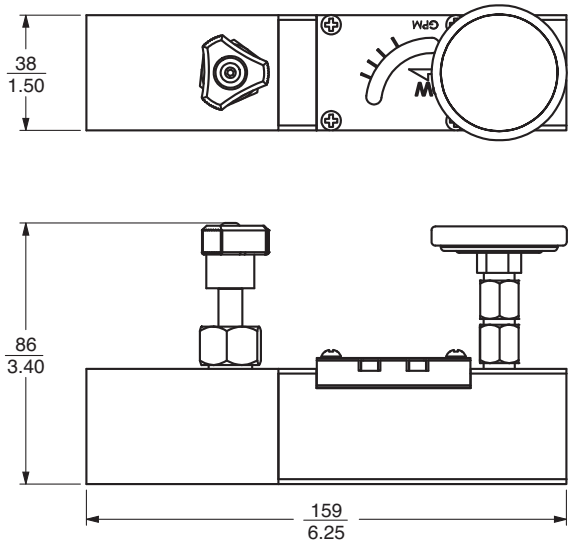
These regulators are ideal for connection to temperature control units in an injection molding environment. 1/2"NPT(F) threaded ends are standard. Temperature Gauge is optional.

Stainless steel valve seat and high temperature seals provide long, trouble-free service.

Model Number

HFR4 - A - 60

Temperature Gauge			**Flow Range**
No Temperature Gauge	**A**	**60**	2 - 6 gpm (gallons per minute)
With Temperature Gauge	**B**	**220**	5 - 22 lpm (liters per minute)



Wetted Parts and Materials

Body .....Stainless Steel
Viewing Window .....Glass
Vane.....Stainless Steel
Spring .....Stainless Steel
Hinge Pin .....Stainless Steel
Gasket .....Non-Asbestos Fiber
Magnet .....Sintered Alnico 8GE
Accuracy.....±10%

Specifications

Operating Temperature max. .....400°F (204°C)
Operating Pressure max.....150 psi (10.3 bar)
Dual Scale Temperature Gauge.....0° to 600°F (0° to 300°C)

Design and specifications are subject to change without notice.

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SMARTFLOW®

HOT OIL/WATER FLOWMETERS

HF4-B-60
Hot Oil/Water

HF8-A-40
Hot Oil Only

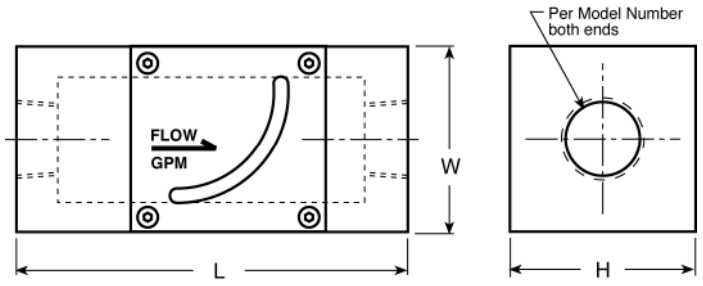
General Description

Smartflow® hot oil/water flowmeters are durable, vane-operated devices that provide visual indication of flow rate in gallons per minute. The indicator ball is separated from the process by a high temperature gasket and stainless steel plate. A glass window retains the indicator ball. This flowmeter is designed specifically for high temperature circulating loops in industrial processes.

Features and Benefits

- **Compact size** works well in restricted-space locations.
- **Rugged construction** provides years of dependable service.
- **Optional Temperature Gauge** provides added function.
- **550°F (288°C) Temperature Rating** allows installation into high temperature applications.
- **Economical** for use in many locations throughout the plant.
- **Line mounted** for easy installation without extra brackets or hardware.

Dimensions



Model Number

Model HF4
Stainless steel body with 1/2"NPT connection, suitable for hot oil or pressurized water applications, 2-6gpm scale

Model No.	Temp. Ga.	L x W x H
HF4-A-60	no	3.75 x 1.5 x 1.5"
HF4-B-60	yes	

Model HF8
Carbon steel body (black oxide finish) with 1"NPT connection, suitable for hot oil applications, 5-40gpm scale

Model No.	Temp. Ga.	L x W x H
HF8-A-40	no	4.75 x 2.25 x 2.25"
HF8-B-40	yes	

Wetted Parts and Materials

Viewing Window .....Glass
Vane .....Stainless Steel
Spring.....Stainless Steel
Pin .....Stainless Steel
Gasket.....Non-Asbestos Fiber
Magnet.....Sintered Alnico 8HE

Specifications

Operating Temperature .....550°F max. (288°C max.)
Pressure .....150 psi max. (10.3 bar max.)
Accuracy .....±10%

Design and specifications are subject to change without notice.

Back to Table of Contents

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X-PURE Water Supply System

Eliminate Contaminants & The Damage They Cause

Plant water used in plastic injection molding facilities can be full of contaminants, including minerals (primarily scale causing calcium). As temperatures and pressure increase in the new generation of high-temperature water circulation units, these contaminants are forced out of the water and "plate out" on molds and machinery. This causes damage and decreases heat transfer, emphasizing the need for these units to operate with clean, distilled water treated for high-temperature operation.

Scale, with a build-up of as little as 1/16" can equal 3-5" of steel in terms of heat transfer resistance. Scale increases roughness and pressure drop and decreases flow through cooling circuits. Scale build-up dramatically increases energy costs for pumping and cooling and reduces productivity, increases cycle time, and causes product defects by not allowing full crystallization of high-temperature materials.

What is X-PURE?

Plastixs® developed the X-PURE Water Supply System as a compact and cost-effective solution for eliminating these contaminants by supplying clean, distilled water for use in high-temperature water units. When used as recommended, X-PURE is 100% effective in preventing contaminants from damaging expensive molds and machinery that operate with water at 300°F–450°F.

Water Issues and Contaminants Eliminated by X-PURE:

Tower Systems

- Variable water quality
- Make-up water that brings higher concentration of minerals
- Water treatment for anti-corrosion and biocides that have maximum operating temperature of 280°F

Chiller Systems

- Minerals (calcium) present in water
- Glycol thickens and degrades at its maximum operating temperature of 300°F

Tap Water

- Untreated for equipment protection
- High concentration of dissolved solids

plastiXs®

PlastixsLLC Plastixs PlastixsLLC www.plastixs.com sales@plastixs.com

(Toll Free) 888.792.2223 (Phone) 508.842.1606 (Fax) 508.842.4406

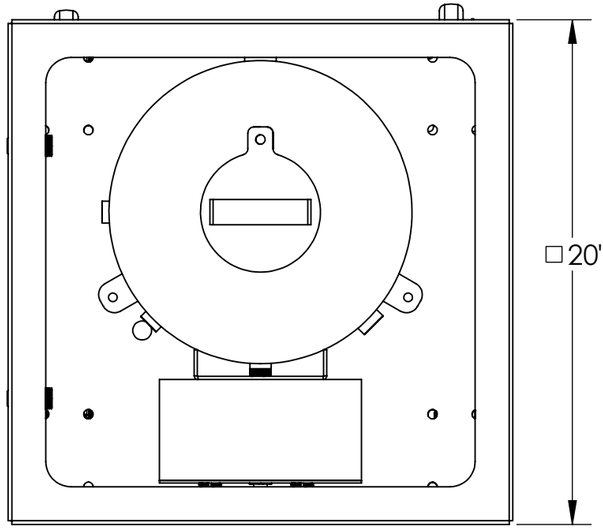
Back to Table of Contents

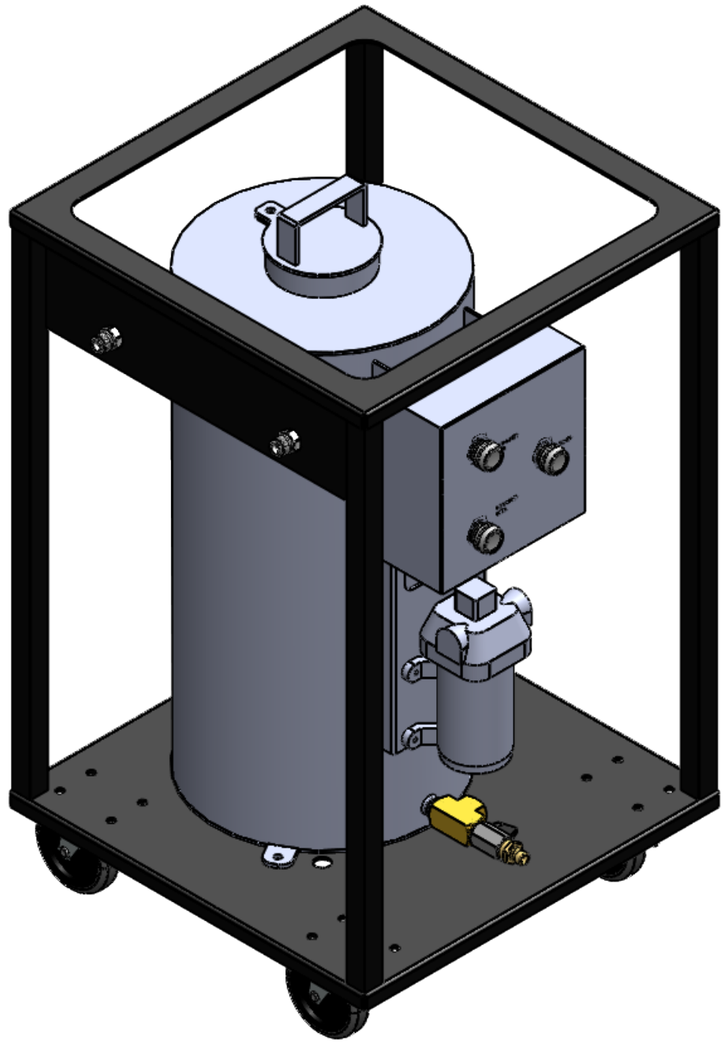
X-PURE
Water Supply System

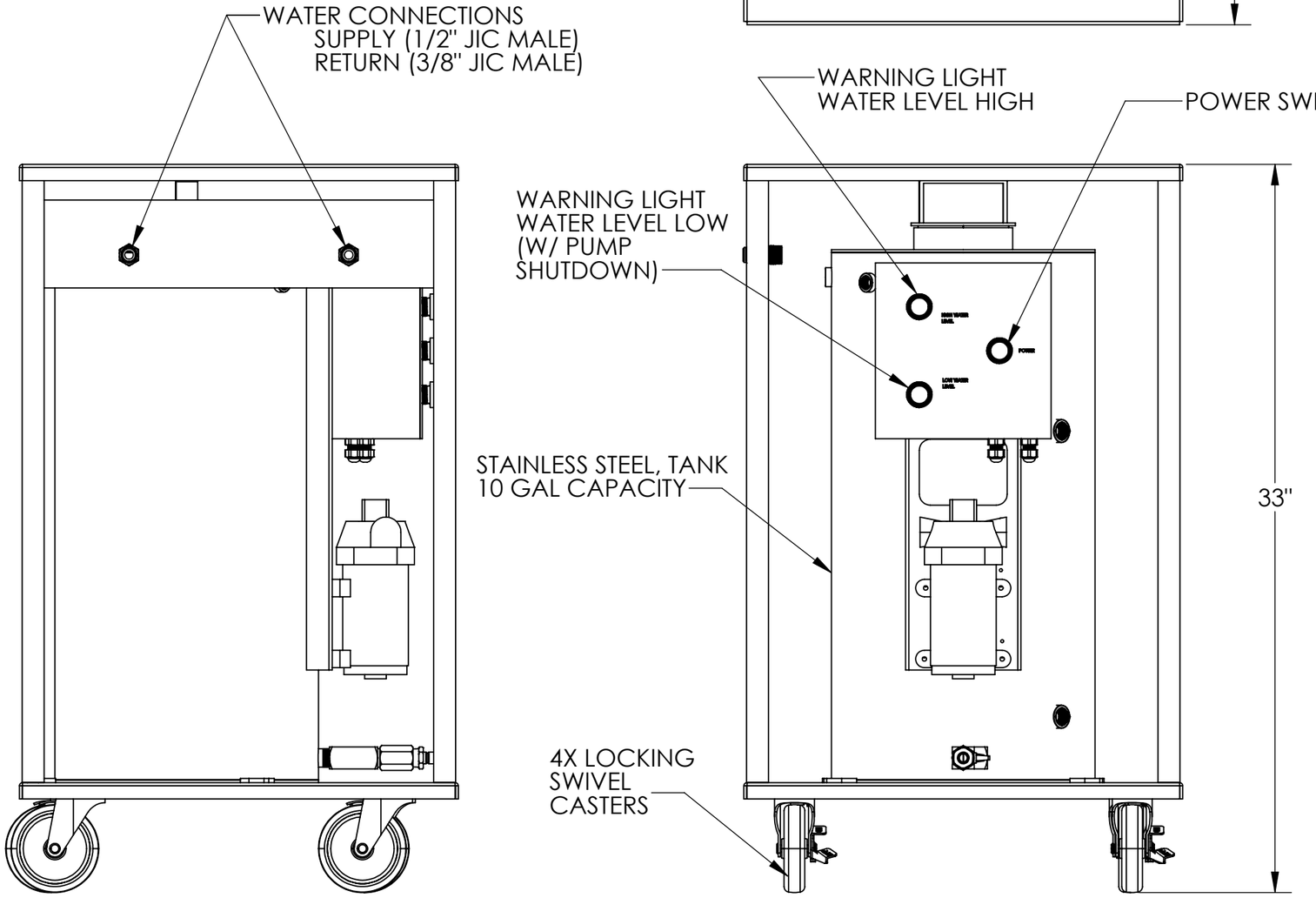
Product Specifications

- Maximum 10-gallon stainless steel tank with supply pump and connection hoses
- 8-foot connection hoses provided with #8 JIC swivels on the supply hose and #6 JIC swivels on the return hose
- Pump is automatically controlled with an integrated pressure switch to provide pressure required for water unit to start up and run
- Automatic low water shutdown at 1.5 gallons—indicator lights display Low (1.5 gallons) and High (7.5 gallons) water levels
- Tank is mounted on a portable cart with locking casters
- UL Certified Control Pane

Back to Table of Contents







plastiXs
151 Memorial Drive
Shrewsbury, MA 01545

DRAWN BY: PJS	DATE: 10-30-2019
TITLE: SYSTEM WATER CART	
MATERIAL: NOTED	
FINISH:	

UNLESS OTHERWISE SPECIFIED:
1. TOLERANCES: .XX ± .01 .XXX ± .005
FRACTIONAL ± 1/16 ANGULAR ± 1°
2. BREAK ALL EDGES AND DEBURR COMPLETELY.
3. NO NICKS, GOUGES OR SCRATCHES PERMISSIBLE.
4. ALL DIMENSIONS AND TOLERANCES APPLY AFTER FINISH.

THIRD ANGLE PROJECTION

DRAWING NUMBER	DRAWING REVISION	SCALE	PAGE	OF
PLX-DART10.6	A1		1	1