

Hot Taps and Line Stops



Leader in Hot Tap and Line Stop Services



Advantages of Team's Hot Tap / Line Stop Services

- + No shutdowns or service interruptions
- + Eliminates emissions and loss of product
- + Backed by over 40 years of experience
- + In-house engineering design and support
- + In-house technician training and certification programs
- + Single provider for all hot tap and line stop needs

Team has led the industry in the delivery of safe, effective hot taps and line stops for more than 40 years. We use the latest technology to safely create tie-ins, repair, and modify virtually any on-stream transmission or distribution line while under full operating conditions. Our hot taps and line stops can be performed on all types of pipe grades, sizes, pressures and temperatures, utilizing our own equipment both on land and offshore.

Team provides engineering, manufacturing, and many other related services offering you a single source for all hot tap and line stop needs from start to finish. Team's hot tap and line stop equipment is strategically located across our large network of locations for the fast delivery of our resources to your job site. Whether it is an emergency, planned or routine maintenance, Team is prepared to meet any hot tap or line stop challenge 24/7/365.

Certified Technicians Ensure the Job is Done Right the First Time

At Team, we employ the most qualified technicians to ensure each and every job is completed to the highest standards every time. Our technicians are put through a rigorous method specific, multi-level certification and training process. The training process is comprised of both classroom and hands-on training resulting in knowledgeable and experienced technicians.

Ranges

- + Sizes ½" to 48" for hot tap and up to 84" for line stop (15 mm to 2,100 mm)
- + Temperatures from cryogenic to 1,350°F (730°C)
- + Pressure from vacuum to 4,300 psig (296 bar)

Applications

- + Valve installation, replacement, repairs
- + Pipe or fitting replacement, repairs
- + Pipeline tie-ins
- + Re-routing process piping
- + Repairing pressure letdown stations
- + Isolating pressure vessels
- + Decommissioning piping
- + Pressure and vacuum installations
- + Quality control sample points
- + Thermowell installations
- + Flowmeter installations



In-House Engineering and Manufacturing

Choosing Team means you are working with the largest and most experienced specialized service provider ready to bring an unmatched level of safety and quality. We manufacture and stock our own equipment and fittings, which results in faster response times for you. This also enables us to train and certify our technicians in-house on the exact equipment they will be using in the field. Our Engineering and Manufacturing team backs our field technicians and your staff with advanced engineering software, machining and fabrication facilities, and around the clock availability. The result is a seamless service experience. From engineering assessment to implementation, Team can quickly deliver a complete engineering package, fabrication and service solution for you 24/7/365.



Hot Tap Services

Team's Hot Tap Services provide reliable, safe and controlled entry into piping or vessels operating at pressure or vacuum without losing product or interrupting system operations. Our hot taps have been used extensively and successfully worldwide for making branch connections into operating piping systems, heat exchangers, vessels, columns, tanks and pipelines. We provide a variety of taps including offset taps, angle taps and tank taps – just to name a few. Hot taps are performed by Team certified technicians in full coordination with plant personnel.

Team Hot Tap Capabilities

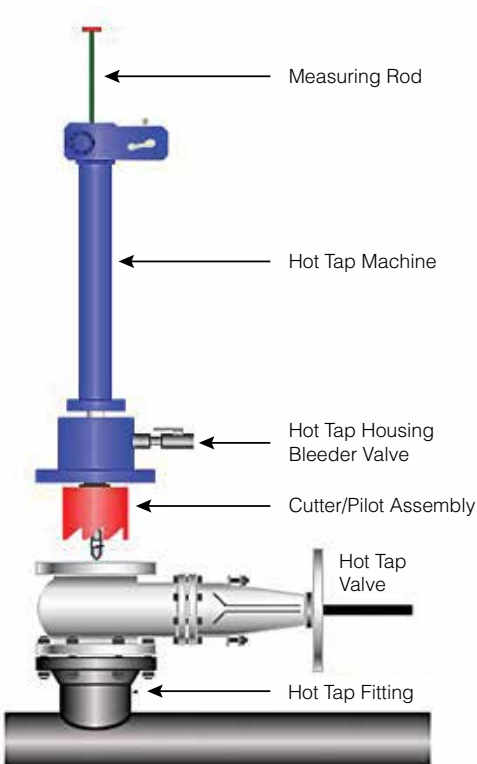
- + From ½" to 48" in diameter
(15 mm to 1,219.2 mm)
- + Temperatures from cryogenic
to 1,350°F (732°C)
- + Pressures from vacuum to
4,300 psig (296 bar)

Advantages of Team's Hot Tap Services

- + No shutdowns or service interruptions
- + Shorter downtime
- + Eliminates emissions and loss of product
- + Avoids costly redesign of pipeline sections
and reduces cost of planning

Common Applications

- + New construction tie-ins
- + Installation of by-pass systems
- + Pressure and vacuum gauge installation
- + New pipeline construction
- + Sight glass installations
- + Quality control sample points
- + Valve installations
- + Angle taps
- + Thermowell coupling installation
- + Orifice taps for flow meters
- + Offshore and underwater service
- + Pipe inspection
- + Temperature indicators
- + Sparger installations



Line Stop Services

Line stopping is a procedure that temporarily holds pressure in an operating line without depressurizing the entire system, so that the isolated section of pipe can be repaired or replaced. Team's line stops are performed after a hot tap has been completed, isolating sections of pipe for repair, maintenance or reconfiguration. We offer line stops for low, medium and high pressure piping systems of all grades and compositions. Regardless of your line stop or bypass challenges, our expert team of engineers, manufacturers and technicians will develop a solution that is completed safely, quickly and to the highest quality standards.

Team Line Stop Capabilities

- + Piping systems from ½" to 84" diameter (15 mm to 2,100 mm)
- + Pressured piping systems to 1,480 psig (102 bar, higher pressures on special applications)
- + Piping systems with temperatures from -20°F to 550°F (-32°C to 288°C)

Pivoting Head Line Stops

- + 3" to 36" diameter to 1,480 psi (15 mm to 914 mm to 102 bar)

Folding Head Line Stops

- + 16" to 84" diameter to 150 psi (15 mm to 914 mm diameter to 10 bar)

Double Line Stop with Bypass

- + Size-on-size and reduced outlets available

HotStops®

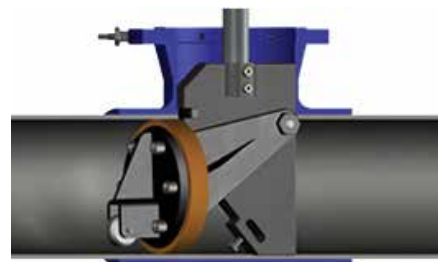
- + Special sealing elements for applications where temperatures exceed elastomer seals.
- + Up to 700°F to 700 psi. (Up to 371°C to 48 bar)

Advantages of Team's Line Stop Services

- + Eliminates down time by keeping your system in operation
- + In-house access to state-of-the-art equipment
- + Multi U-wire pilot used for coupon retention
- + Bolt on fittings can be provided

Common Applications

- + Valve installation/replacement
- + Pipe replacement
- + Pipe repairs
- + Repair pressure letdown stations
- + Valve repairs
- + Decommissioning pipes
- + Isolate pressure vessels
- + Rerouting of process flow
- + Repair external leaks



Pivoting head line stop

HiStop® Services

Team's patented high temperature, high pressure (HTHP) HiStops® are used primarily to solve maintenance and engineering problems where operating conditions exceed conventional line stop limitations.

Team HiStops® Capabilities

- + Applications to 1,350°F, 2,600 psi (to 732°C, 179 bar)
- + Patented metal-to-metal plug
- + Piping systems up to 16" (up to 406 mm)

Super HiStops®

Super HiStops® are specialized applications used when pressures and/or temperatures exceed standard HiStop® limitations.

Permanent HiStops®

Permanent HiStops® provide isolation of a piping system without leaving line stop equipment on the line.

Basic installation steps are shown below.

Common Applications

- + Valve installation replacement
- + Pipe replacement
- + Pipe repairs
- + Decommissioning pipes
- + Isolate pressure vessels
- + Repair pressure letdown stations
- + Rerouting of process flow
- + External leaks

Step One



HighStop® fitting is welded to the pipe and pressure-tested.

Step Two



The pipe is tapped and reamed in one operation, leaving a tapered hole completely through the pipe.

Step Three



The HiStop® tapered plug provides a safe and reliable seal to the pipe.

Step Four



Team's SealTite® completion plug is set and locked into place. Next, the blind flange is installed.

For more information on HiStop® applications, contact your Team representative.

Specialty Line Stop Services

Team has been providing innovative line stops for unique service applications to meet customer's needs for over 40 years. Our in-house engineering, manufacturing and experienced HTS Reliability group accept unique challenges daily. Below are examples of specialty line stops that are routinely performed by Team.

Through-the-Valve Stop

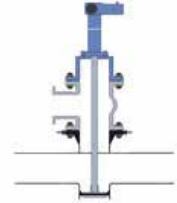
Ideal for non-functioning valves on tanks and vessels.

- 1** Specialty machine installed to an existing valve
- 2** Damaged valve is removed and new valve installed
- 3** Specialty machine is removed



Tee Stop

- 1** Special SealTite® fitting installed to backside of Tee
- 2** Temporary valve installed and Hot Tap performed
- 3** Line Stop plug passes through Tee and set into outlet
- 4** SealTite® completion plug set and temporary valve removed



Across-the-Header Stop

When clearance limitation will not allow normal line stopping methods.

- 1** SealTite® fitting welded to header and valve installed
- 2** Hot Tap made and plug set
- 3** Repairs completed and SealTite® completion plug set



Elbow Stop

- 1** Special SealTite® fitting installed to elbow
- 2** Angle Tap performed on elbow through temporary valve
- 3** Line Stop set and defective valve replaced
- 4** SealTite® completion plug set and temporary valve removed



Double Block and Bleed Line Stop

- + Bleed will keep pressure from secondary line stop

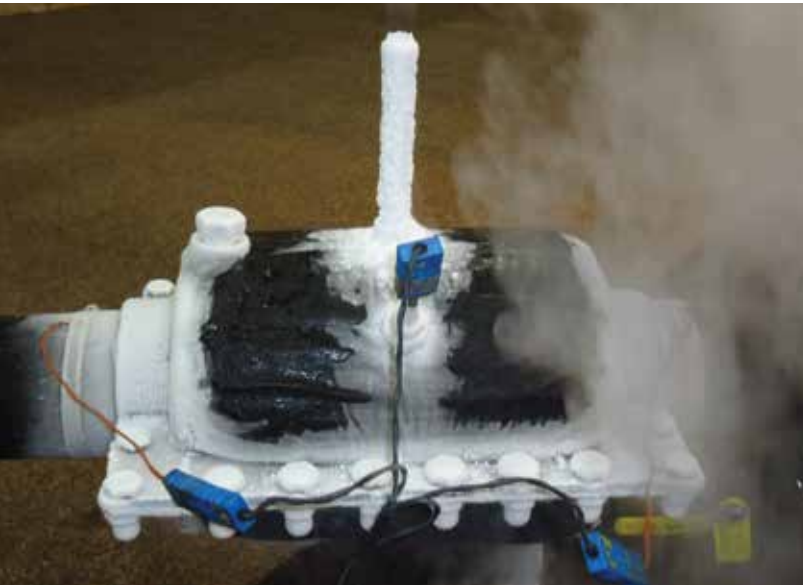


Double Line Stop

- + Double line stop with bypass through the housings



Freeze Stop Services



Team Freeze Stop Capabilities

- + Piping systems up to 30" (on larger piping systems upon request)
- + Pressures up to the rating of the pipe

Application Requirements

- + The product in the line must be freezable
- + The line must be full of product
- + There cannot be any flow in the line

The freeze stop is an economical and non-intrusive method used to isolate piping systems. It is ideal for piping made of carbon steel, stainless steel, alloys or cast iron that contain water, hydrocarbons or any chemical with a suitable freeze point and no flow. It is also suitable for effectively isolating sections of pipe where valves are unavailable or inoperable.

Advantages of Team's Freeze Stop Services

- + Clean, quick, simple, and economical
 - + No permanent modification to your piping system
 - + No mechanical work or welding to the piping system
 - + Branch connections can be easily shut off without putting the main line out of service
 - + No risk of dripping liquid during welding operations once the piece downstream of the plug is dried
 - + Eliminates bulk transfer and storage of toxic or corrosive liquids since only a very small amount of liquid needs collecting when a pipe is opened after it's plugged cryogenically
 - + Minimizes the amount of expensive liquids lost (thus saving you money)
 - + Does not permanently alter the metallurgy of your pipes
-

Valve Insertion Services

Team's patented InsertValve delivers value, reliability and performance that is second to none. This field proven valve installs under pressure, eliminating the need for line shut downs in the event of planned or emergency valve cut-ins.

Designed for a wide range of line sizes and types, the InsertValve's wedge gate seats on the valve body, not the pipe bottom. This unique feature prevents the seat from coming into contact with the cut pipe edges to significantly extend valve life. If a repair is ever needed, it is the only valve on the market that can be repaired under pressure.

Team offers professional installation services by trained and certified technicians or packaged solutions ready for line cut-in. Either way, you get a valve that meets or exceeds recognized industry requirements and complies with all health and safety regulations.

Team InsertValve™ Installation Capabilities

- + AWWA C515 valve specs
- + AWWA standard turns to open
- + Resilient wedge seats on the valve body, not on pipe
- + Ductile body with NSF 61 epoxy



Advantages of Team's InsertValve™ Installation Services

- + Installs and repairs under pressure
- + Reduces costly risks associated with shut downs
- + Advocates trench and employee safety
- + Capabilities include line stops up to 84"

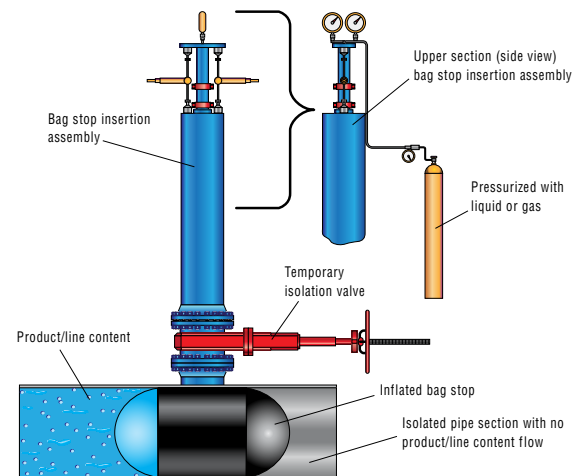


Bag Stop Services

Inflatable bag stops are another method of line isolation. It can be used when a pipe is out of round or inside surface conditions of the pipe prevent a standard line stop. It can also be used to back up a line stop. A smaller hot tap is made into a pipe and an inflatable bag is inserted into the pipe which stops the flow in the line.

Advantages of Team's Bag Stop Services

- + Significant weight reduction of equipment compared to a traditional line stop
- + Cost savings resulting from smaller and lighter equipment
- + Reduced cost due to nozzle size and design
- + Designed to meet customer operating conditions



Water and Wastewater Services

Team offers a range of services and products for the water and wastewater industry. Team's services provide economical solutions for repairing piping, controlling flow and keeping piping in service.

Team Freeze Stop Capabilities

- + Hot/wet tapping to 48", larger on request
- + Line stops to 84"
- + Hot/wet tap fittings and line stop fittings for all types of piping
- + Online valve insertion up to 12"

Services

- + Live valve cut-in
- + Pump station rehabs
- + Concrete wall taps up to 48" OD
- + Freeze stops up to 30" OD
- + Onstream leak repairs
- + Composite pipe wraps
- + Specialty concrete coatings

Benefits

- + Repairs or modifications completed without shutdown or interruption of flow.
- + Fittings meet AWWA standards
- + MJ standard connection wet/hot taps available
- + Live valve cut in
- + Most versatile methods of hot taps and line stops available in the industry

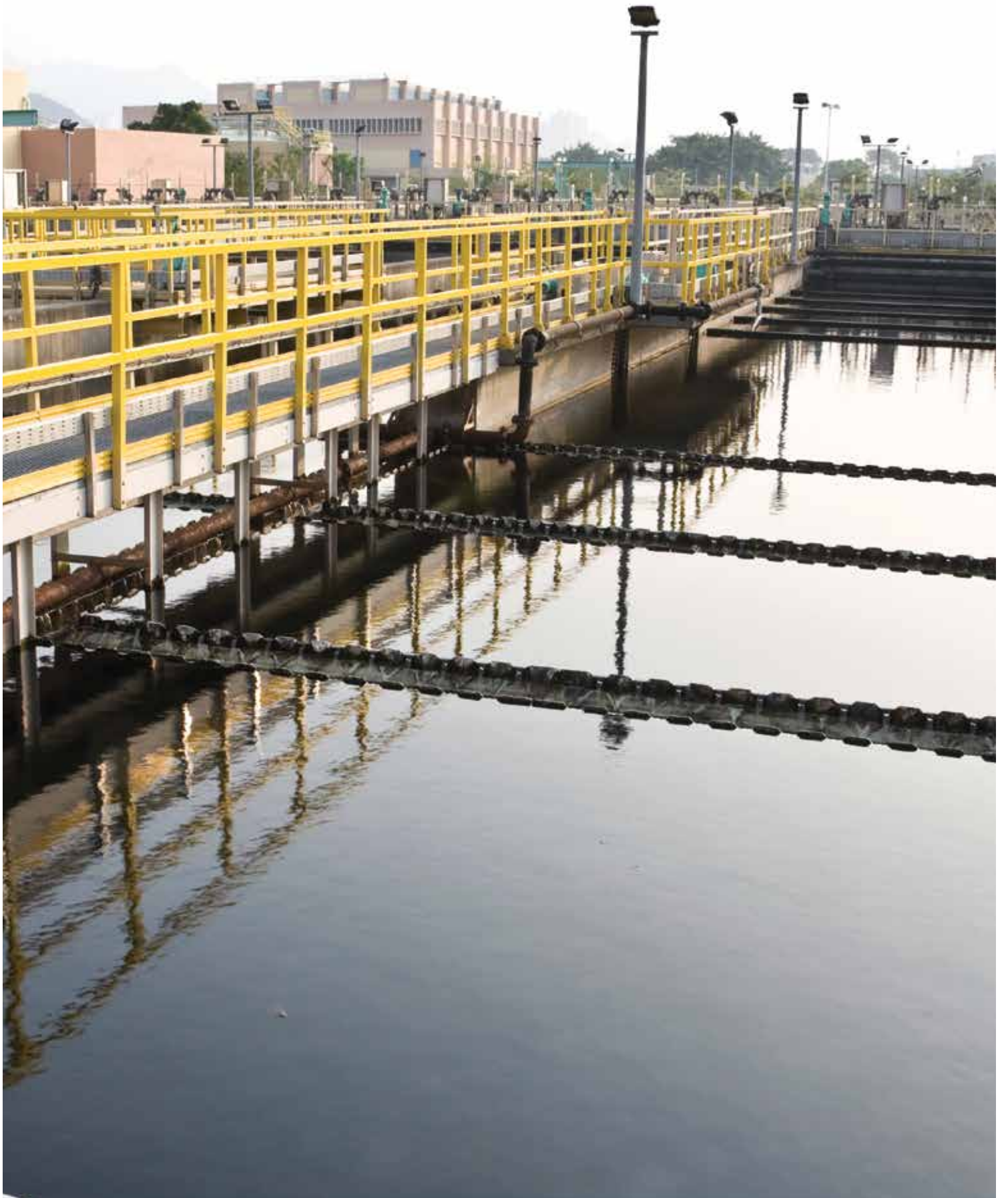
Building and Facilities Services

Regional equipment centers are strategically located throughout Team's service areas to quickly and effectively meet your service demand.

- + Available 24/7/365, we are your complete service provider



Typical 18" x 12" folding head line stop operation with separate bypass on sewage force main



Team Fittings

Team designs, engineers, manufactures, sells, installs and services a wide range of fittings. We maintain a large inventory of stock clamps and enclosures. Team fittings meet or exceed design code requirements for ANSI/ASME B 31.1, B 31.3, B 31.4, and B 31.8. Engineering design packages are available for all fittings.

Fitting Inventory

- + ½" through 36"
(12 mm through 914 mm)
- + B31.3 - B31.4 - B31.8 available
for immediate delivery
- + Full encirclement split tee and
scarfed nozzle with full encirclement
saddle design available
- + Welded or mechanical bolt-on
for both low and high pressure
applications
- + Custom design capabilities for
specific application

SealTite® Completion Flanges, Plugs

When modifications or damage to pipe components or pipeline systems occur, repairs must be performed to eliminate the mechanical weaknesses. This can be completed by utilizing hot tapping and line stopping methods. To perform safe hot tap or line stop operations it is imperative the fittings installed enable safe and efficient production while the repair is conducted. Team's line stop fittings with SealTite® Completion Flanges offer the safest, most secure leak-tight flanged connection available.

Several variations of the SealTite® completion flange are available for hot taps and line stops to provide the ultimate seal. Plant series with metal to metal seal with O-ring backup and pipeline series with primary O-ring seals are available.



Features and Benefits

Plant Series

- + Compatible with other designs
- + O-ring on completion plug provides
additional safety seal
- + Packing glands located on the
SealTite® flange's jack bolts
- + Eliminates potential check valve leaks
- + Enable safe line re-entry at high
temperatures and pressures
- + Can be rebuilt online regardless of
temperature or pressure
- + Available in stock for 150#, 300#
and 600# flange ratings
- + 900#, 1500# and 2500# flange
ratings available upon request

Pipeline Series

- + Universally compatible with
industry equipment
- + Available with or without check
valves to eliminate leak point
- + O-ring seal
- + Easily re-entered
- + Scarfed nipple for coupon
attachment for pigability
- + Flow through pig bars available
for hot tap applications
- + Available in stock for 150#, 300#
and 600# flange ratings, higher
available upon request
- + 900#, 1500# and 2500# flange
ratings available upon request



Split Tee Fittings

Team's split tees are designed for use when installing branch lines.

Features and Benefits

- + Suitable for both hot taps and line stops
- + Compatible with standard hot tapping/line stopping equipment
- + Eliminate nozzle alignment problems
- + No potential for weld to penetrate tapping area
- + Allow full-bore hot tap size
- + Full range of reducing branch sizes available
- + Custom fittings for any size, flange rating, temperature, pressure and process



Full Encirclement Saddle Fittings

Team's full encirclement and pipe reinforcing saddles are used for branch connections into high and low pressure operating systems.

Features and Benefits

- + Handles both hot taps and line stops
- + Compatible with existing hot tapping/plugging equipment
- + Nozzle holds fitting pressure
- + Eliminates pressure-bearing fillet welds
- + Minimizes hot tap size
- + Available in 3" to 36" sizes, any alloy
- + Full range of reducing branch sizes available



Part No. 1

2-Piece full encirclement saddle with vertical split



Part No. 2

2-Piece full encirclement saddle with horizontal split



Part No. 3

2-Piece full encirclement saddle with vertical split and split collar



Part No. 4

2-Piece full encirclement saddle with horizontal split and reinforcing collar



Part No. 5

3-Piece full encirclement saddle

Team Fittings (continued)

Bolt-On Hot Tap Fittings

When welding is prohibited, Team offers a cost effective way to perform a hot tap utilizing bolt-on hot tap fittings. A bolt-on hot tap fitting can be used in restricted areas with installations on copper, brass and carbon steel pipes.

Features and Benefits

- + Handles critical service for extended periods of time
- + Available for hot taps and line stops
- + Sizes from 1/2" to 36" (15 mm to 900 mm)
- + 150#, 300# and 600# ANSI rated flanges
- + No welding required
- + Effective in fluctuating temperatures and pressures
- + Can be utilized to reenter the line
- + Custom-manufactured options available for any size, shape, pressure, temperature, process or material



Sealing Elements

Team's sealing element creates the seal when it aligns with the interior wall of a pipe.

Features and Benefits

- + Pressures to 1,480 psi
- + Sizes from 3" to 36"
- + Temperatures to 350°F
- + Available drilled, ground-to-size, unground
- + Buna-N material standard
- + Viton, EPDM, Aflas available



Gas Distribution and Transmission Fittings

Team offers gas distribution and transmission fitting products for natural gas piping systems.

Features and Benefits

- + ANSI 150# and 300# series
- + No special adapters required
- + Pressure control fittings for steel piping
- + 1-1/4" to 3" threaded fittings with completion plug, O-ring and cap
- + 4" to 12" flanged fittings with completion plug, O-ring and blind flange

