INTERNATIONAL FLOW TECHNOLOGIES, INC.

PIPELINE SERVICES

1-800-221-3332

www.InternationalFlow.com

HOT TAPPING: 1/2" - 96"

LINE STOPPING: 1/2"- 72"

PIPE FREEZING: 1/2" - 36"

WALL TAPPING: UP TO 120"

LINE BYPASSING: 1/2" - 48"

INSERT VALVES

AIR-VALVE REPLACEMENTS

TAPPING OF BUTTERFLY VALVES

CONVERSION & LATERIAL TEE INSTALL

- **-Water & Waste Water**
- **-Petroleum Products**
- **-Gas Pipelines**
- **-Natural Gas**
- **-Chemicals**
- **-Sewage**
- **-Steam**

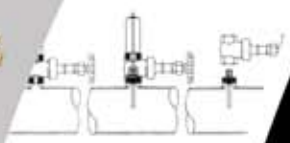
International Flow Technologies (IFT) offers a wide range of pipeline services that make changing your system a welcome alternative for your engineering department. Commitment to getting the job done correctly and safely is our top priority! We are your cost effective pipeline service provider Nationwide!

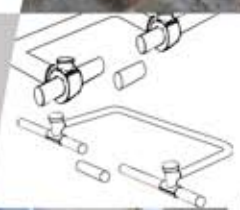
Call today for a free quote!
800-221-3332

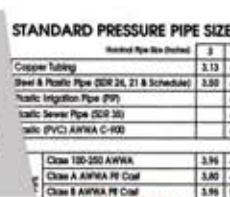
www.BigTaps.com

PROUDLY AMERICAN

EVERYTHING IS STOPPABLE BUT US!






STANDARD PRESSURE PIPE SIZES

Nominal Pipe Size (Inches)	3	4
Copper Tubing	3.13	4.13
Steel & Plastic Pipe (SDR 26, 21 & Schedule)	3.50	4.50
Plastic Irrigation Pipe (PIP)		4.13
Plastic Sewer Pipe (SDR 35)		4.22
Plastic (PVC) AWWA C-900		4.80
Class 150-250 AWWA	3.96	4.80
Class A AWWA PE Coat	3.80	4.80
Class B AWWA PE Coat	3.96	5.00

- Nuclear Power Plants
- Power Generation Plants
- USA Government Facilities
- Transmission Pipeline
- Industrial Piping
- Data Centers
- Refineries
- Hospitals
- Mining

Our manufacturing division is continually updating; therefore expanding our capabilities. IFT is the proven leader in "Live Valve" Replacements and pipeline modifications, working Nationwide to solve your pipeline management needs.

HOT TAPPING

Hot Tapping and Line Stopping are necessary and economical solutions for the growing demand of adding valves, replacing valves, and changing a pressurized system without a shut down.

With today's great demand for expansion and changes, large diameter feeder lines are not easily shut down and drained to make modifications. The unnecessary waste of large volumes of water, sewage or chemicals is of great concern to everyone. In addition, the possibility of a fire starting while fire lines are emptied is a risk not worth taking.

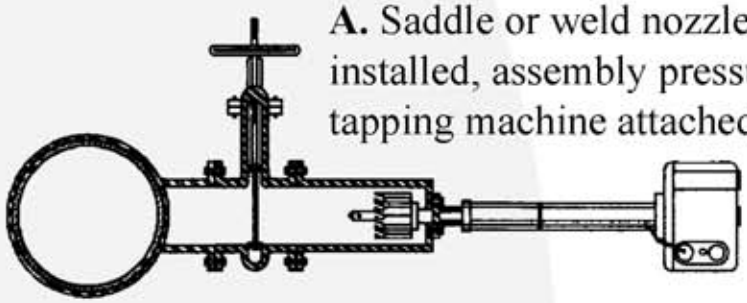
Call today for a free quote!
800-221-3332

www.HotTap.com

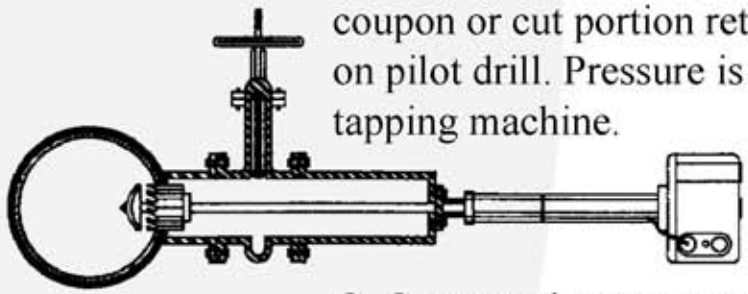
SERVICES 1/2” - 96”

Hot tapping or pressure tapping is the method of making a connection to existing piping or vessels without interruption to the system. Hot tapping is also the first procedure in line stopping, where the hole saw is used to make an opening in the pipe, so a line plugging head can be inserted. IFT’s hot tapping services include tapping 1/2" to 96" on natural gas, water, sewage, steam, petroleum products, and chemicals.

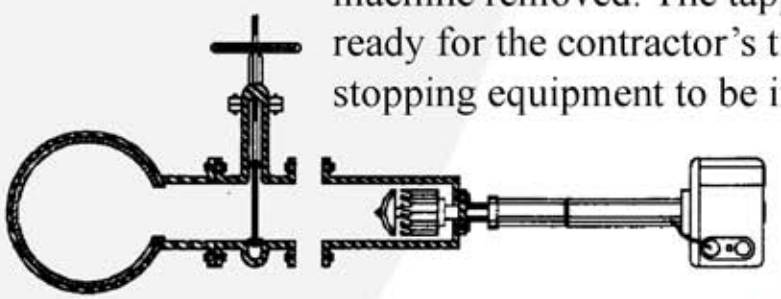
A. Saddle or weld nozzle installed, valve installed, assembly pressure tested and tapping machine attached.



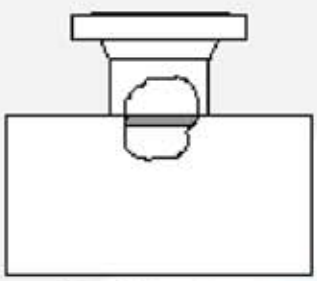
B. Valve opened, hot tap completed, coupon or cut portion retained by latches on pilot drill. Pressure is contained within tapping machine.



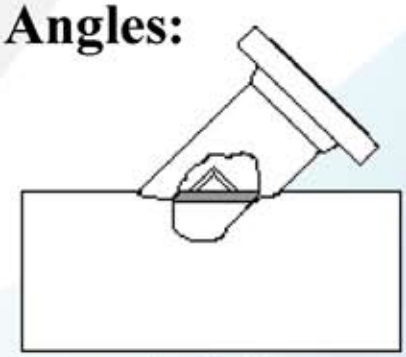
C. Cutter and coupon retracted and valve closed. Fluid is drained and tapping machine removed. The tapped valve is now ready for the contractor’s tie-in or IFT line stopping equipment to be inserted.



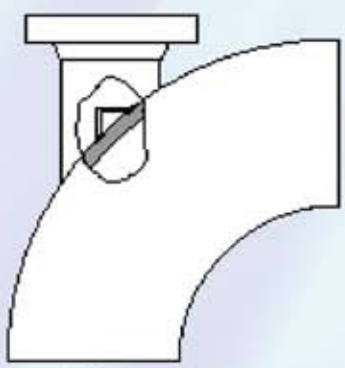
Typical Tapping Angles:



Straight Tap



Angle Tap



Elbow Tap

HOT TAPPING MACHINES

Louie Jr. Tapping Machine

Tap Size: **3/4" - 2"**
Max. Operating Pressure: **300 psi. @ 100° F**
Max. Operating Temp.: **250° F @ 200 psi.**
Machine Weight: **14 lbs.**
Machine Length: **33"**

T1-4 Tapping Machine

Tap Size: **3/4" - 4"**
Max. Operating Pressure: **300 psi. @ 100°F**
Max. Operating Temp.: **250°F @ 200psi**
High temp packing: **495 Deg. F° @ 200PSI**
Machine Weight: **28 lbs.**
Machine Length: **30" & 35"**

HP-106 Tapping Machine

Tap Size: **1/2" - 6"**
Max. Operating Pressure: **1440 psi. @ 100° F**
Max. Operating Temp.: **700° F @ 700 psi.**
Max. Continuous rating: **350° F @ 1000 psi.**
Machine Weight: **85 lbs.**
Machine Length: **30" & 35"**

T-24E Tapping Machine

Tap Size: **3" - 8"**
Max. Operating Pressure: **300 psi. @ 100° F**
Max. Operating Temp.: **250° F @ 200 psi.**
Machine Weight: **110 lbs.**
Machine Length: **60"**

T-30 Tapping Machine

Tap Size: **3" - 12"**
Max. Operating Pressure: **300 psi. @ 100° F**
Max. Operating Temp.: **250° F @ 200 psi.**
Machine Weight: **125 lbs.**
Machine Length: **60”**

T-46 Tapping Machine

Tap Size: **12" - 24"**
Max. Operating Pressure: **300 psi. @ 100° F**
Max. Operating Temp.: **250° F @ 200 psi.**
Machine Weight: **495 lbs.**
Machine Length: **84”**

T-60 Tapping Machine

Tap Size: **24" - 96"**
Max. Operating Pressure: **300 psi. @ 100° F**
Max. Operating Temp.: **250° F @ 200 psi.**
Machine Weight: **3985 lbs.**
Machine Length: **144”**

IFT-1060 Tapping Machine

Tap Size: **10" - 60"**
Max. Operating Pressure: **1500 psi. @ 100° F**
Max. Operating Temp.: **800psi @ 800° F**
Machine Weight: **2,730 lbs.**
Machine Length: **120”**

LINESTOP™

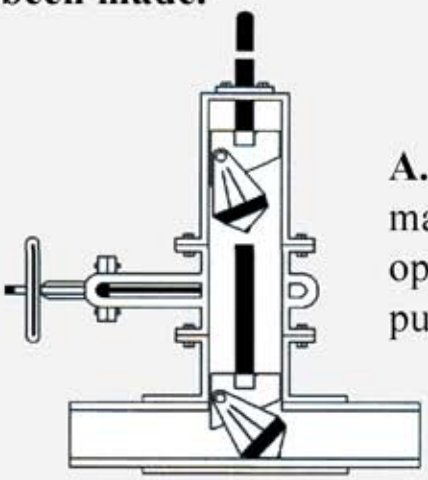
Linestop™ machinery with optional by-pass capability eliminates the need for additional by-pass taps. IFT offers up to "Full-size" built-in by-passes through 48" if flow concerns are an issue.

Call today for a free quote!
800-221-3332

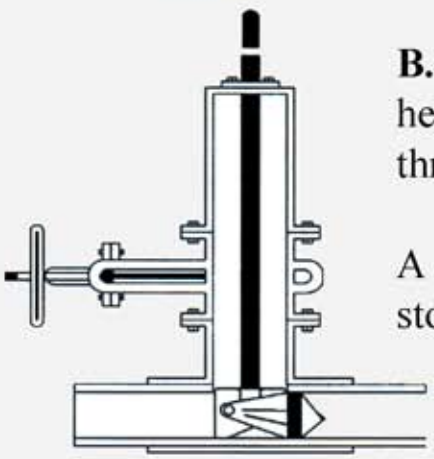
www.Linestop.com

SERVICES 1/2" - 72"

Line stopping or line plugging is a means of isolating a piping system and providing a shut off where none exists. This process serves as a control, or temporary valve that is removed after alterations or valve replacements have been made.

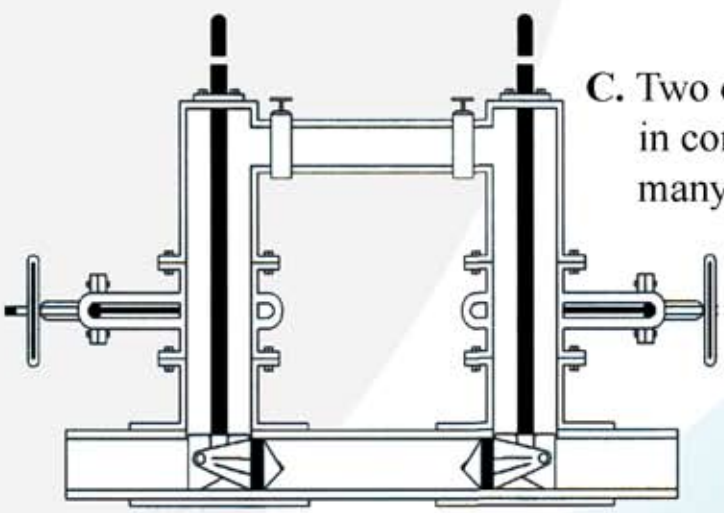


A. Hottap on line previously made, linestop™ machine attached to temporary valve and valve opened. Linestop™ hydraulically or mechanically pushed into line to plug the pipe.



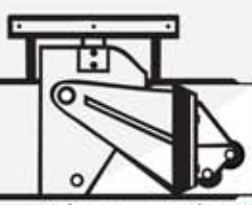
B. There are various types of line stopping heads. The type illustrated can hold pressures through 1000 psi.

A single linestop™ can be used to temporarily stop off and abandon a pipeline.



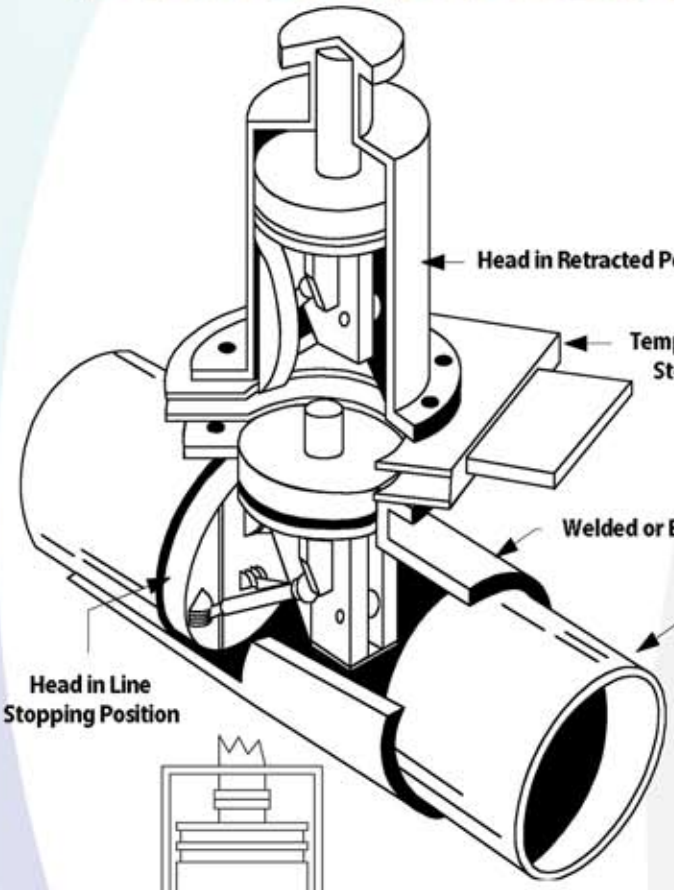
C. Two or more linestops can be used in conjunction to isolate and bypass many intersecting lines at once.

Fluid in line is bypassed, leaving a workable dead section to alter, repair or add a valve, while service provided by this line is continued.



LINESTOP.COM®

LINESTOP™ MACHINES

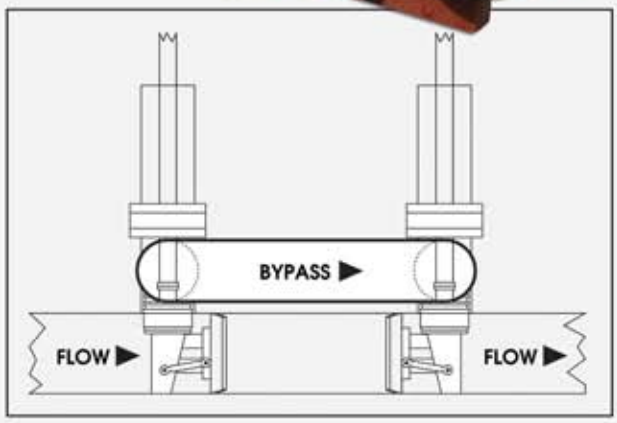


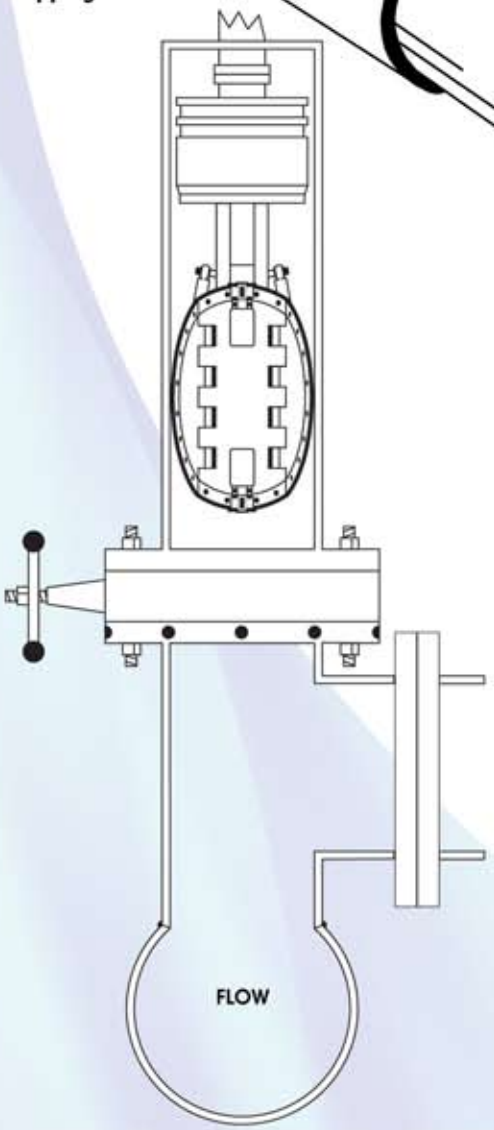
IFT Folding Head

Folding head machinery was designed for low cost line stopping on all types of pipelines. For example, by utilizing folding equipment IFT can stop a 60" line through a 36" tap. For futher information contact our office.

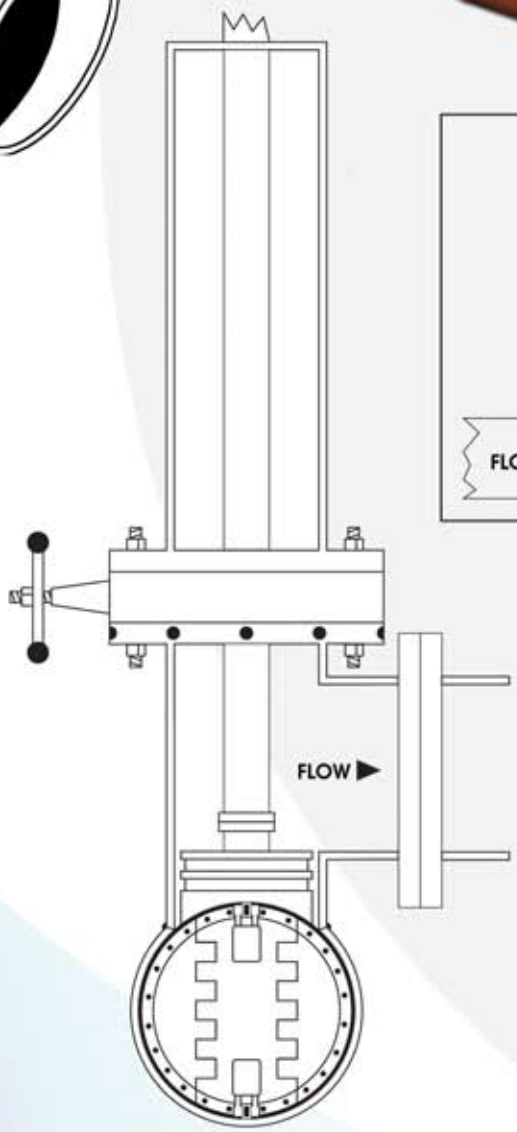
Specifications:

- 14" - 72" Line Stops
- 150 psi Working Pressure
- For Mortar Lined and Out of Round Pipelines

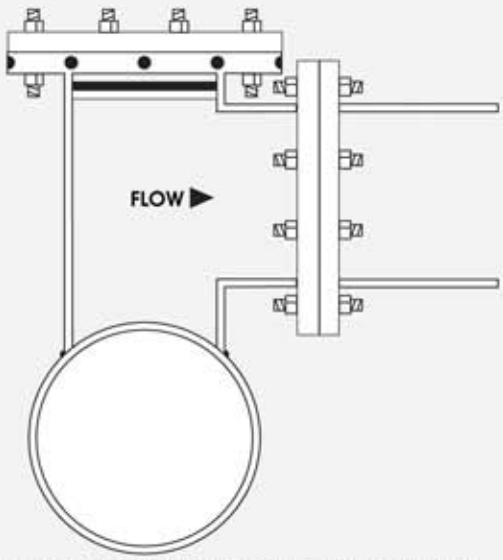




Line stop fitting installed and hot tapped. Line stop head connected to temporary access valve and bypass line connected.



Line stopping head installed, stopping existing flow and re-routing it thru bypass outlet.



Line is capped, new valve is installed or modified. The bypass outlet can be removed or left as a permanent bypass. Line stopping equipment removed under pressure.

IFT Top Stop 1000

The TOP STOP 1000 was designed to linestop high pressure lines up to 1000 psi. The head tilts down so that it can pivot into the pipeline. When the wheels touch the bottom of the pipe, they guide the head and sealing element into place. The line pressure presses the cup up against the walls of the pipe to help set the seal.

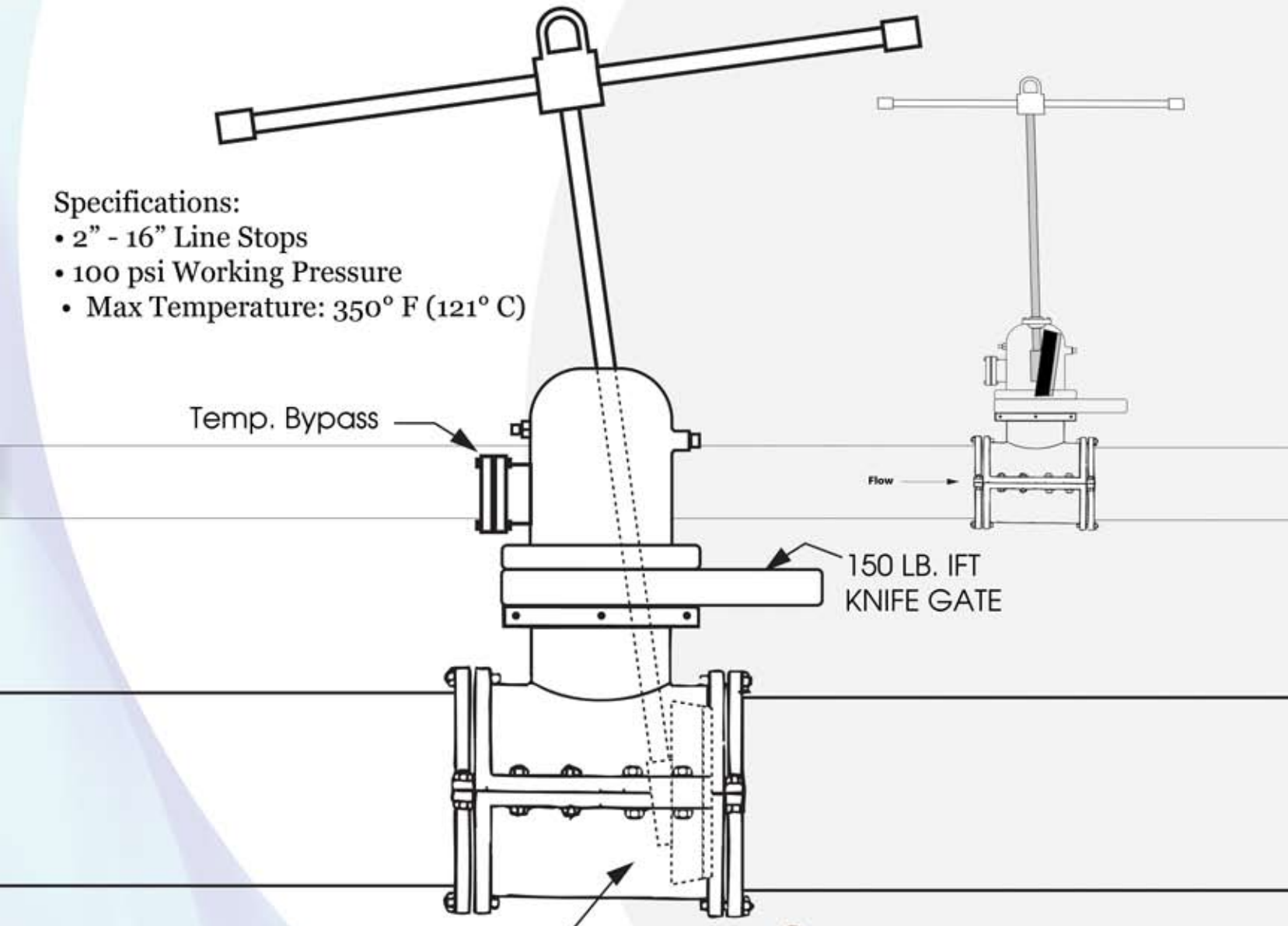
Specifications:
Capabilities from: 1"- 48"
Temperatures up to:
500 F (260 C)

LINESTOP™ MACHINES

IFT Soft Stop 100

Low pressure line stopping equipment is lightweight and is easily used for stopping lines on most types of pipelines and fluids.

Specifications:
- 2" - 16" Line Stops
- 100 psi Working Pressure
- Max Temperature: 350° F (121° C)



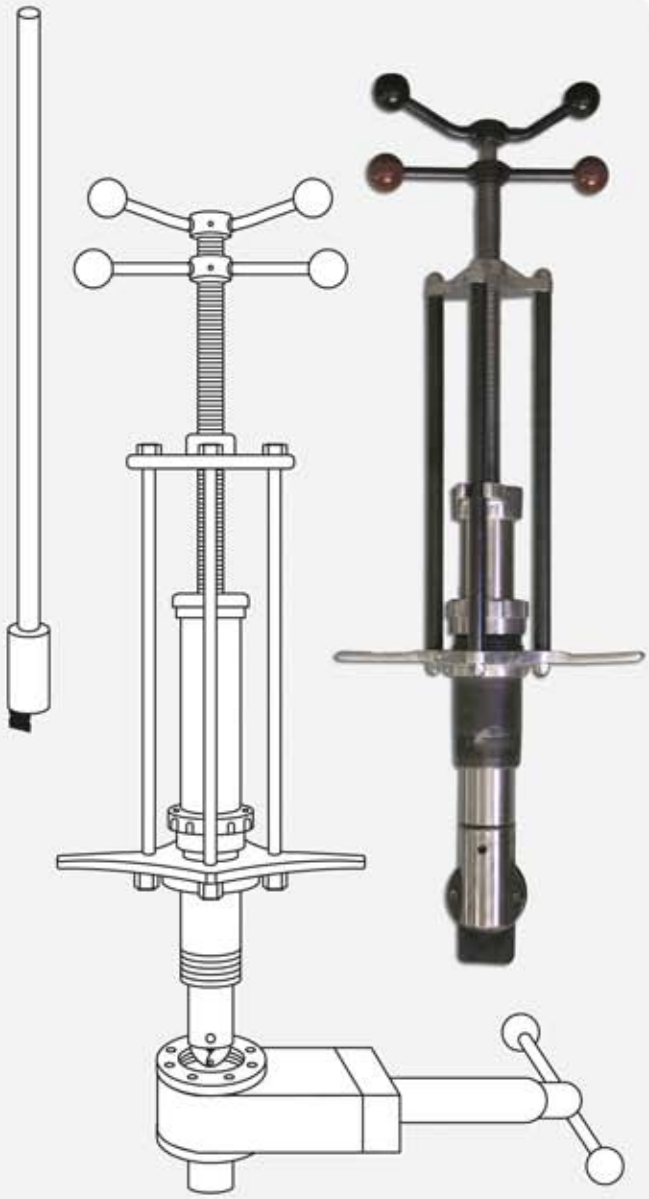
IFT On-Size MJ
Line Stop Fitting

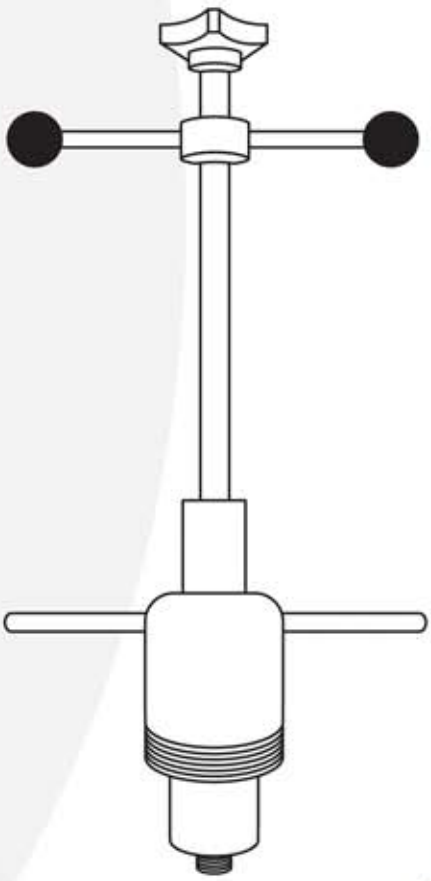
QT Linestop Machine

The QT Linestop machine and its correct fittings will provide a means of making a positive shutoff in pipelines containing water, oil, or gas.

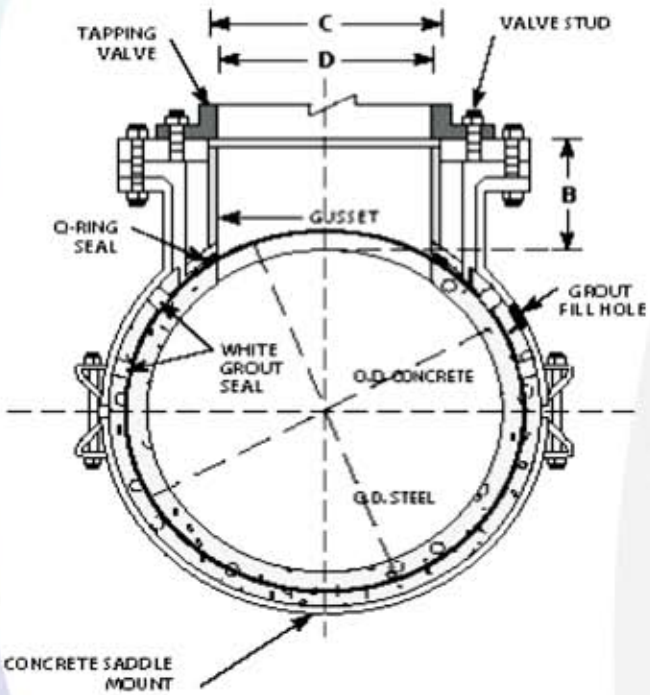
Specifications:

- 3/4" - 6" Line Stops
- 300 psi Working Pressure



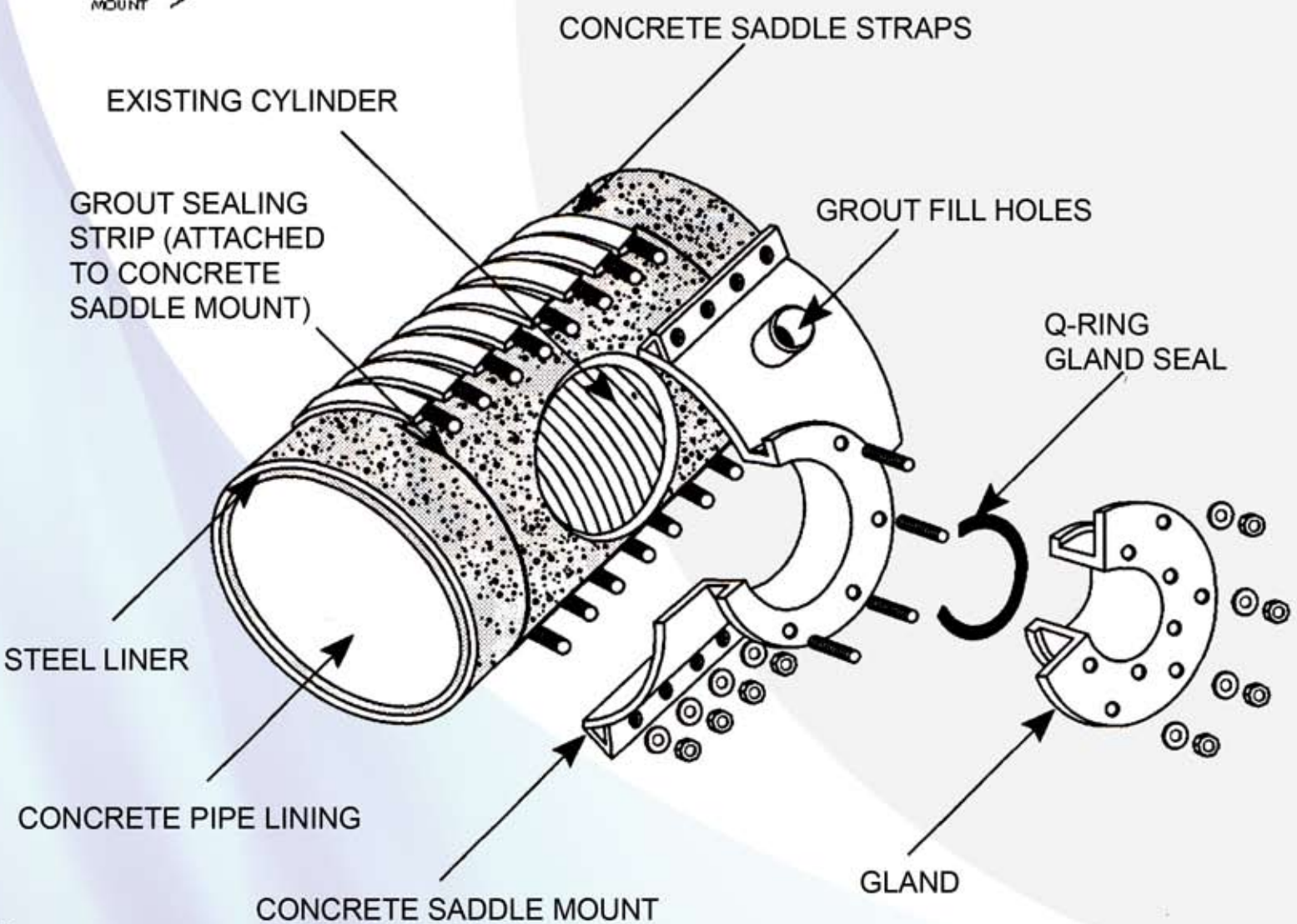


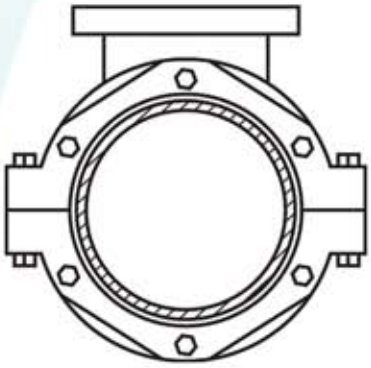
HOTTAP/LINESTOP FITTINGS

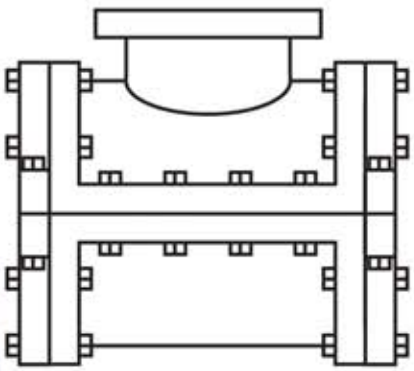


IFT Series 400 Cylinder Tech

The IFT Cylinder Line Stop/Hot Tap Fitting was designed to overcome the problems arising from thin guaged concrete cylinder pipe and the difficulties of welding it. The sleeve has a separate body which permits installation of a retaining assembly prior to cutting the tensioned wires. The sealing gland is drawn against the steel cylinder and seals the outlet with an IFT Q-Ring. Sizes are available for pipelines ranging from 8" to 144" in diameter.

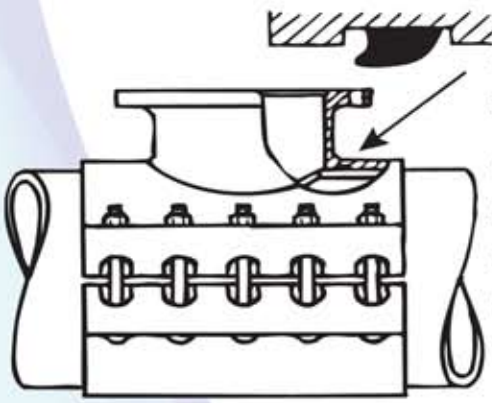






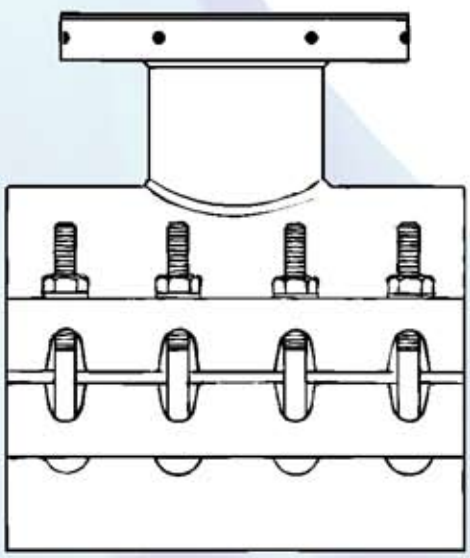
The IFT On-Size Mechanical Joint Linestop Sleeve

The IFT On-Size Mechanical Joint Linestop Sleeve Fitting is typically fabricated to a specific outside diameter for your line. It is constructed of carbon steel that is normally fusion epoxy coated and assembled with stainless steel bolts and nuts. The advantage of this sleeve is seen primarily for cast iron pipe, A/C pipe, plastic pipe and other fragile pipelines that run the risk of beam breaks. The saddle is completely sealed at all points so if breakage occurs the product is sealed within the containment sleeve. MJ saddles are suggested on temperamental pipelines when the line stop nozzle exceeds 75% of the main size.



IFT Q-Ring Seal Linestop Saddle

The Q-Ring Seal Saddles are constructed of carbon steel and are available with shop coat or fusion epoxy coating, including stainless or low alloy bolts and nuts. These saddles are well suited for many applications. On fragile pipelines outlet size should not exceed 75% of the pipeline main. See IFT Mechanical Joint for a larger bypass.



IFT STP Stainless Steel Linestop Fitting

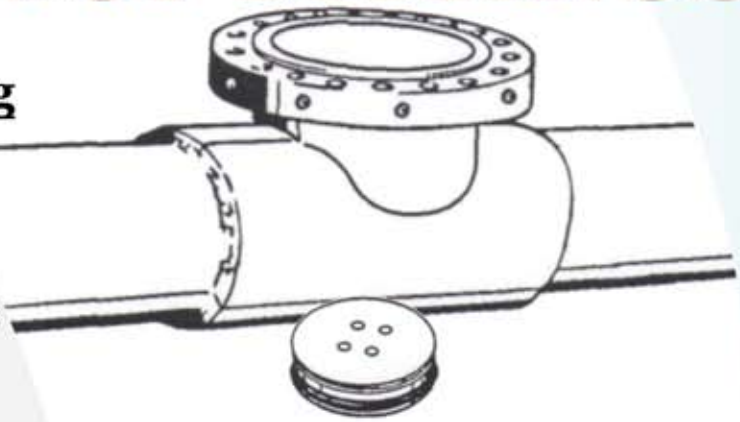
The IFT STP fitting is well known in the water and wastewater industries for line stopping 1" through 16" pipelines. Its lightweight, ease of installation and low price makes it practical for these applications. The design features a full seal around the pipe for fragile mains.

Two styles are available:
STP- standard style has a size on size outlet
STPR - has a reduced outlet for IFT folding head or IFT Flow Master stopping equipment. The STP is also compatible with other line stopping equipment. (Please call for more information.)

HOTTAP/LINESTOP FITTINGS

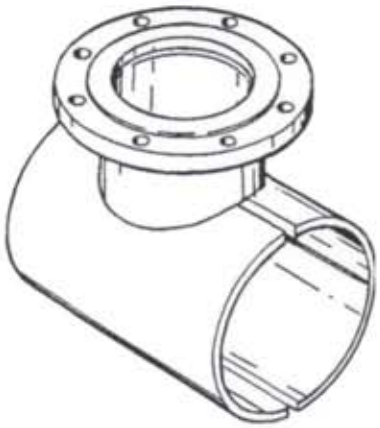
IFT On-Size Weld Linestop Fitting

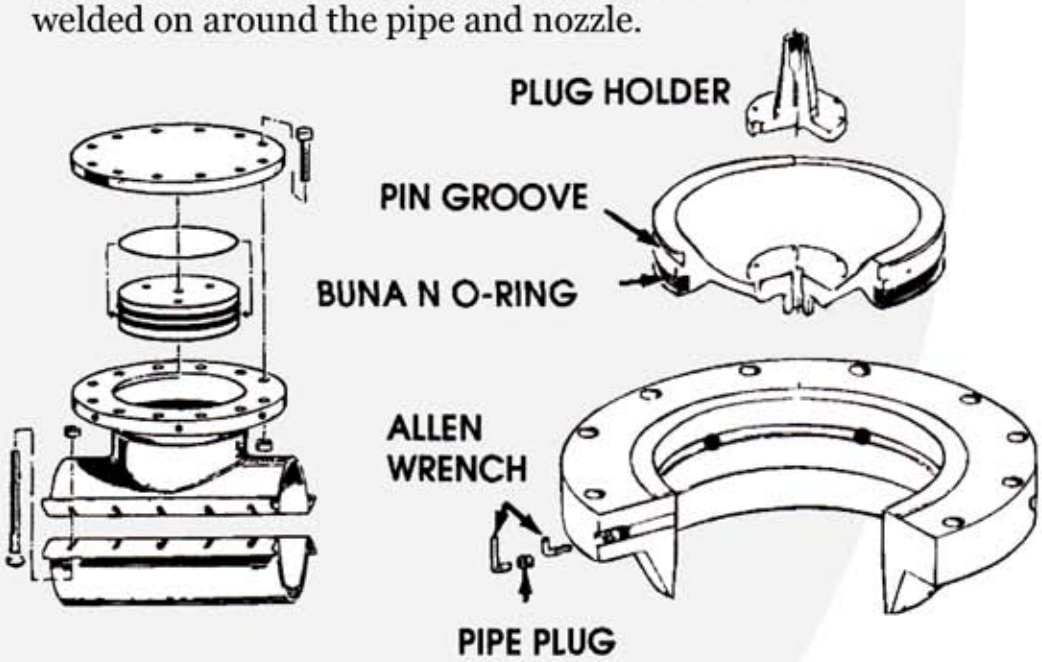
The IFT On-Size Weld Fittings are available in 150,300, and 600 Ib. flange ratings, through 48". The flange has a completion plug retaining mechanism built in so that expensive valves can be removed after the line stopping process is complete.



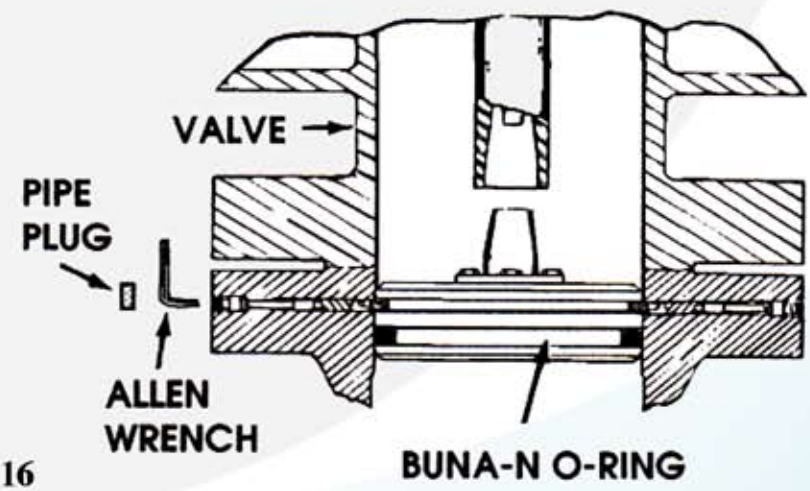
IFT Folder Fitting - Weld Type

The IFT Folder Fitting is designed for economical line stops on small and large diameter lines. Bypass capability is decreased, due to its reduced outlet size. The equipment needed to operate through this smaller outlet is easier to use due to its size. This fitting is available in Class 150 Ib. and 300 Ib. flange ratings for line stopping through 60". The folder fitting's weld type nozzle is separate from the full wrap and is welded onto the pipeline prior to the wrap. The full wrap is then welded on around the pipe and nozzle.





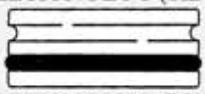
The completion plug fits into the flange and seals with an O-ring against the inside of the nozzle. The plug is held in place by the pin assembly that is installed from the outside with an allen wrench. Once the completion plug is set, the temporary valve can be removed and a blind flange can be installed over the assembly as a secondary cover. One benefit of using this type of fitting is that the access can be utilized later to restop the line through the original linestop fitting if needed.



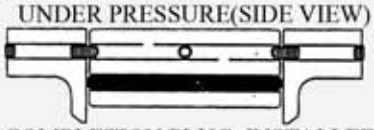
Completion Plug Assemblies

The IFT Completion plug assemblies come in many different styles. IFT completion plugs for pressures through 300 psi. use a pin type assembly that requires boring and threading of the flange. The inside threaded hole holds a retainer pin which threads into the top groove of the completion plug. The outside thread is tapered to match a pipe plug that seals the pin assembly.

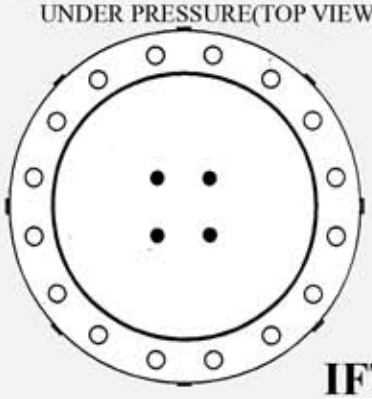
COMPLETION PLUG (SIDE VIEW)



COMPLETION PLUG INSTALLED UNDER PRESSURE(SIDE VIEW)



COMPLETION PLUG INSTALLED UNDER PRESSURE(TOP VIEW)

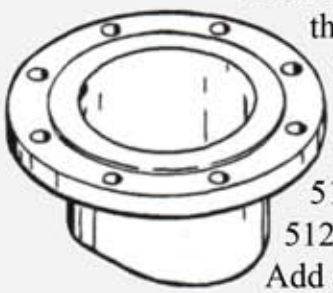


FLANGE SIZE	SIZE OF PINS	NUMBER OF PINS	SIZE OF O-RING
8"	5/8"	6	9/16"
10"	5/8"	6	9/16"
12"	3/4"	6	9/16"
16"	3/4"	8	9/16"
20"	1"	10	5/8"
24"	1"	10	5/8"
30"	1"	14	3/4"
36"	1"	16	3/4"
42"	1 1/4"	18	1"

MATERIAL SPECIFICATIONS:

FLANGE - FORGED STEEL WELD NECK ANSI 150 LB. DRILLING
O-RING - COMPOUNDS FOR USE WITH WATER, SEWAGE, AND NATURAL GAS
SET PINS - ASTM-F-912 ALLOY STEEL HEAT TREATED CLASS 3A THREAD FIT, ROCKWELL HARDNESS C-45-53, CONFORMS TO ASME/ANSI B-18.3

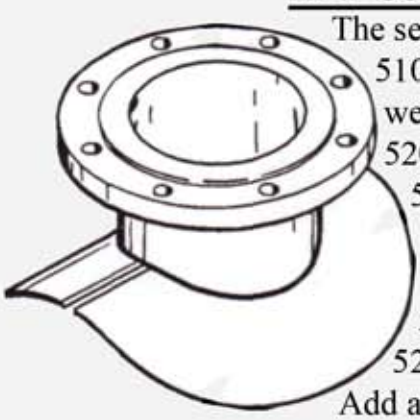
IFT Series 500 For Weldable Steel Pipe



The series 510 tapping/linestop outlets are available in 150 Ib. and 300 Ib. flange ratings through 120". The flange is available in flat face or raised face depending upon your application. The outlet neck is fabricated of non seamed carbon steel pipe which is contoured to match your existing pipeline.

IFT 510 Tapping outlet - IFT 515 for linestop outlet
510 for non lined outlets
512 for mortar lined outlets
Add an (L) after series / for 300lb. flange

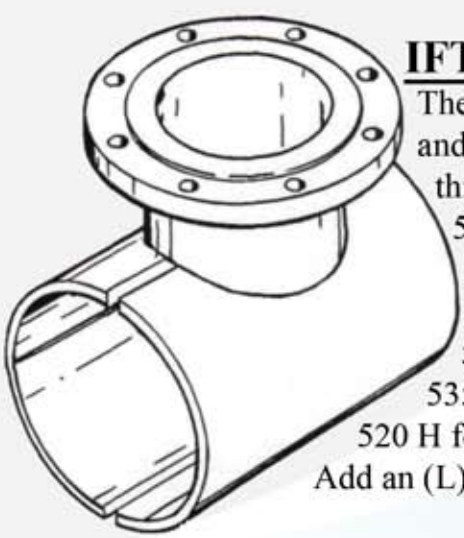
IFT Series 520 Tapping Outlets



The series 520 tapping/linestop outlets are fabricated to meet most of the series 510 specifications and in addition, include a weld collar to help distribute weights that may be encountered on thin walled pipelines.

520 for non lined outlet w/ 3/16" collar
520 M for non lined outlet w/1/4" collar
520 H for non lined outlet w/ 3/8" collar
525 mortar lined w/ 3/16" collar
525 M mortar lined w/1 /4" collar
525 H mortar lined w/ 3/8" collar
Add an (L) after series # for 300lb, flange

IFT Series 530 Tapping/Line Stopping Outlets

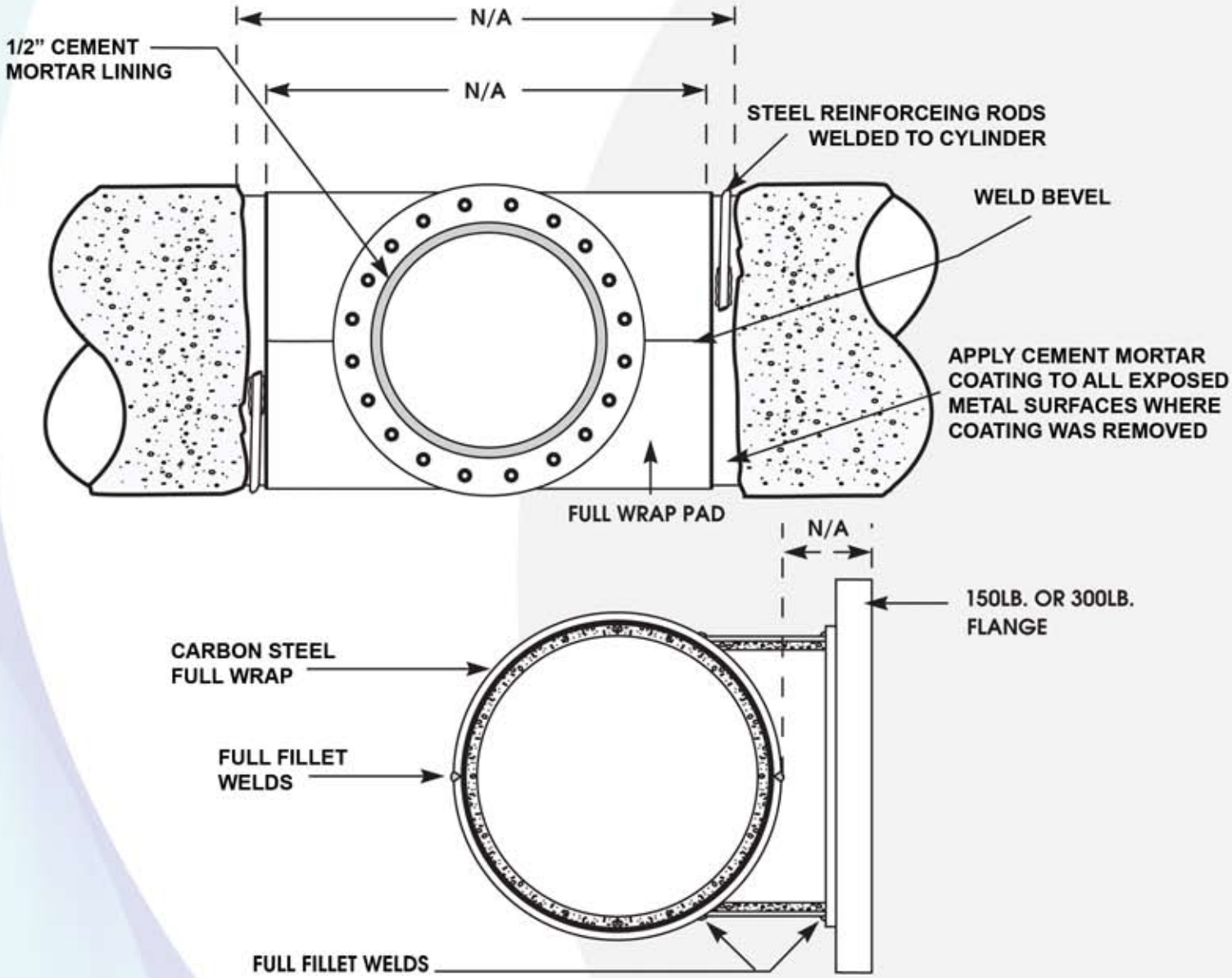


The series 530 tapping outlets are fabricated to meet the series 520 specifications and in addition, include a full wrap to distribute weights that may be encountered on thin walled pipelines or where excessive weights may be introduced.

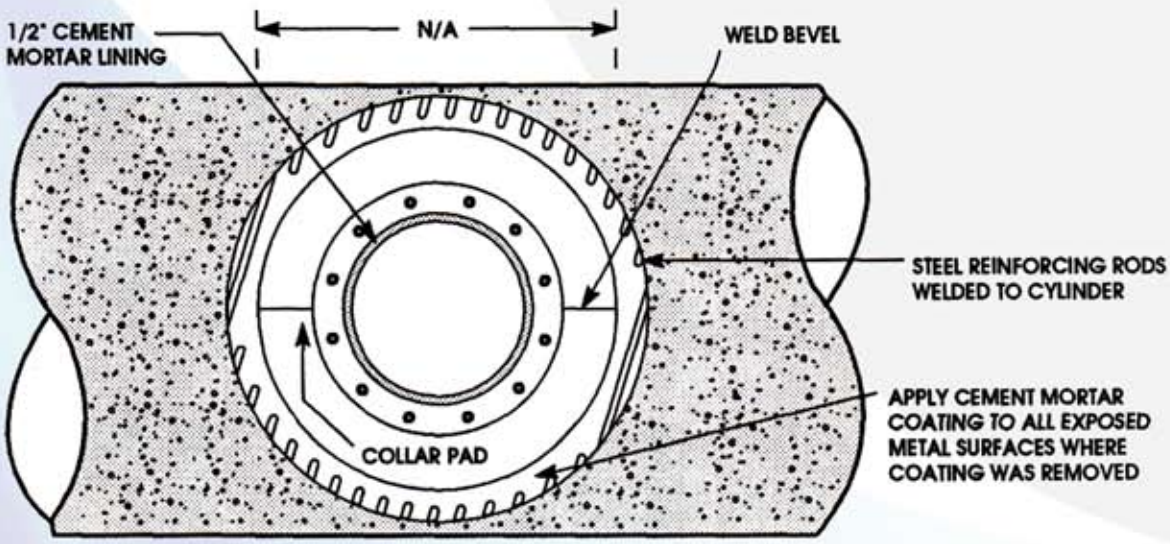
530 for non lined outlet w/ 3/16" full wrap
530 M for non lined outlet w/1/4" full wrap
530 H for non lined outlet w/ 3/8" full wrap
535 for mortar lined outlet w/ 3/16" full wrap
535 M for mortar lined outlet w/1 /4" full wrap
520 H for mortar lined outlet w/ 3/8" full wrap
Add an (L) after series / for 3OOIb. flange

HOTTAP/LINESTOP FITTINGS

IFT Series 520 Hot Tap Fitting With Full Wrap For Concrete Cylinder Pipe



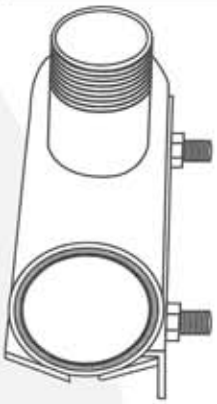
IFT Series 520 Hot Tap Fitting With Collar For Concrete Cylinder Pipe

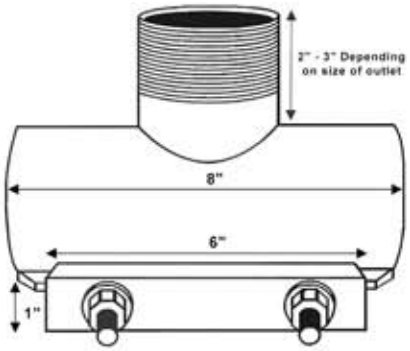


COPPERSADDLES.COM

IFT 499 Copper, PVC and Steel Hottap & Linestop Fittings

Size on size tapping sleeves for copper and small sized problem pipes are now available. The IFT Copper Pipe Saddle offers a wide range of tapping outlets through size on size for Copper, Steel, Cast Iron, Ductle Iron, PVC and Polyethylene pipelines. The standard assembly is constructed of all 304 stainless steel. The gasket creates a full encirclement seal and insulates against electrolysis.

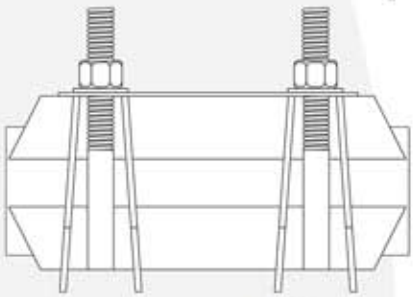




PANEL - 304 SST, ASTM A240
GASKET - NBR, ASTM D2000
NIPPLE - 304 SST, ASTM A240
STUD BOLT - 304 SST, ASTM A193
HEAVY HEX NUT - 304 SST, ASTM193
FRICTION WASHER - Delrin Plastic
ARMOR PLATE - 304 SST, ASTM A240
WASHER BAR - 304 SST, ASTM A240

Saddle Specifications:

Max Working Pressure: **150psi**
Max temperatures available:
32°F to 180°F



Linestop ™Saddles Specifications

1. Panel: Type 304 (18-8) Stainless steel per ASTM A240
2. Gasket: 1/4" thick (EPDM) Chek-O-Seal with multi o-ring sealing ribs from 100% new rubber to ensure performance under varying pressures with superior storage characteristics. Suitable for oils, acids, alkalines, most Hydrocarbon Fluids (aliphatic), portable water, and many other chemicals within temperature range of 32°F to 180°F
3. Lugs: Type 304 (18-8) Stainless steel per ASTM A240
4. Bolts and Nuts: Type 304 (18-8) Stainless steel per ASTM A193 & A194. Note: Hex nuts are furnished with fusion bonded coating to prevent seizing and galling.
5. Outlet: Type Stainless Steel 304/304L seamless, machined
6. All outlets are "Male Threaded NPT" outside
7. Inlets threaded
8. Brass Plug: half-hard, SAE, CA-360 per ASTM B-16
9. Cap: Standard MI type
10. Working Pressure: Maximum 150 PSI.
11. Designed for QT style Linestop machines

Now Available 3/4" - 8" Copper Tubing and Steel/PVC Pipelines

2LBIN.COM

1-800-279-5659

Pipeline Hot Tapping Machines & Equipement

Louie Jr.
Taps 3/4”-2”
11” Travel

T-24E
Taps 3”-8”
24” Travel

HP Series 1440 PSI
HP-104 Taps 1”-4” • 18” Travel
HP-106 Taps 1”-6” • 28” Travel

T-30
Taps 3”-12” • 30” Travel
Hydraulic or Air Drive

T1 Series
T1-2 Taps 3/4”-2” • 18”-30” Travel
T1-4 Taps 3/4”-4” • 18”-30” Travel

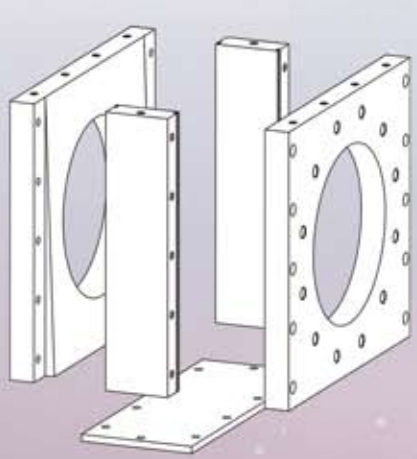
T46+ “Big Louie”
Taps 12”-24” • 46” Travel
Dual Hydraulic Drive

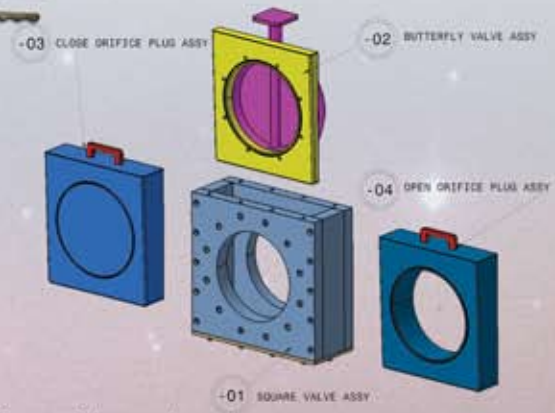
1-800-279-5659

WWW.2LBIN.COM

2"- 96" SQUARE FLANGE™

100 YEAR ISOLATION FLANGE





The **SquareFlange™** provides a dependable and long lasting isolation point without leaving a permanent valve. The **SquareFlange** is similar in diameter to a standard flange and the laying length is compact, making it easily adaptable for your growing systems. Our patented design allows internal surfaces to be free of corrosive fluid, giving them very long life. Compared to standard sewage valves which are known to perform poorly, show a short life span, and are expensive to replace in a pressurized system, the **SquareFlange** offers longevity, performance, confidence, is inexpensive, and offers the ability to replace internal controls while pressurized!

SquareFlange sizes range from 2"through 96" allowing for future isolation.

SquareFlange can be installed during construction or used to perform a hottap connection without leaving a permanent valve. Other options include tapping for odd ported valves such as a plug-valve or butterfly valve, or to provide a repairable/replaceable butterfly Valve known as the **SquareFlange Butterfly**.

SquareFlange Butterfly valves allow for a conventional butterfly valve to be pulled and replaced without de-pressurizing the critical system.

SquareFlange Butterfly is available through 48" allowing for future butterfly replacement without a shut down or depressurization of product.

Service Locations: Southern & Northern California, Nashville-TN, Baltimore-MD, Anchorage-AK, Jacksonville-FL

Contact SquareFlange - **"Where Critical is just Routine"** 800-221-3332

CURRENT MATERIALS INCLUDE: CARBON STEEL, STAINLESS STEEL, PLASTICS, COMPOSITES AND EXOTICS.
CURRENT COATINGS INCLUDE: FUSION, PAINTS, TEFLON, POLYURETHANES AND GLASS.
CURRENT MAX PRESSURE RATINGS: - 300 PSI / 20 BAR - AMERICAN & BRITISH STANDARDS.
HIGHER PRESSURE RATINGS AVAILABLE.

INTERNATIONAL PATENTS PENDING

PIPE FREEZING

Pipe freezing is a safe, cost-effective method to perform pipeline maintenance or pipeline modifications without draining. Using liquid nitrogen, IFT can isolate the problem area in the line by freezing the product inside the pipeline to form a solid freeze plug. This allows for very little drain-down or refill, and in many cases no system downtime. Once the work is complete, the plugs are thawed and the line is back in operation. Standard freeze plugs range in size from 1/2" to 36" and can be performed on most fluids including some petro chemicals

Call today for a free quote!
800-221-3332

www.PipeFreeze.com

SERVICES 1/2" - 36"

Our repeat customers include power plants, hospitals, industrial companies, mechanical contractors, hotels and manufacturing facilities. With the use of liquid nitrogen, pipe freezing is accomplished by establishing a secure and solid ice plug to isolate pressures in excess of 3000 psi.

The Jaguar-CrayXT5 Super Computer Data Facility is the worlds fastest. The Department of Energy relies on IFT's Pipe Freeze, Hottap and Linestop services to upgrade its pipeline computer systems "Live." Keep your hospital running, manufacturing plant in production, or modify your computer cooling system without a shut down.

PipeFreeze.com

INSERT VALVE

- The **InsertValve**™ with Resilient Seat Gate, from start to finish; Made in the **USA**.

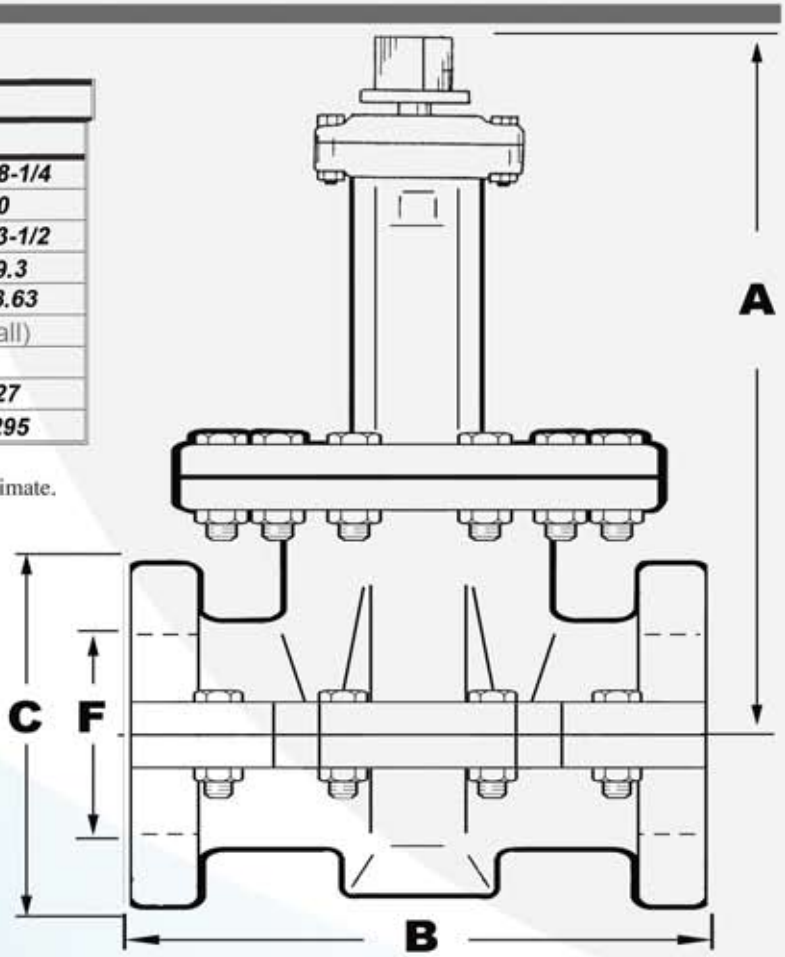
- Sizes – 4", 6", 8", 10", 12" Water & Sewer Applications
- Standard valve body installs on Steel, PVC, C-900, Cast-iron Ductile-iron and class 150 A/C pipe without modifications.
- 2" square wrench nut (Optional Hand-wheel) open left or open right Non-rising stem (NRS)
- Meets or exceeds ANSI/AWWA C515 Standards
- Ductile Iron body with nominal 10 mils Epoxy Coated
- Epoxy coating meets or exceeds ANSI/AWWA C550 Standards and ANSI/NSF 61
- Iron wedge, encapsulated with molded rubber
- Triple O-ring seal stuffing box (2 upper & 1 lower O-rings)
- 4"-12" sizes – 250 psig (1723 kPa) maximum working pressure
- Call today for a free quote! 800-221-3332 or visit www.InsertValve.com

Dimensions

Dimension*	Nominal size		
	4"	6"	8"
A	18	23-1/2	28-1/4
B	16	18	20
C	9-1/8	11-1/4	13-1/2
F Largest std. O.D.	5	7.2	9.3
Smallest std. O.D.	4.5	6.63	8.63
(Larger & smaller custom O.D.'s available, Please Call)			
Turns to open	15	21	27
Weight*	155	230	295

*All dimensions are in inches. All weights are in pounds and are approximate.

Dimension*	Nominal size	
	10"	12"
A	35	37-1/2
B	24	27
C	15-11/16	17-7/8
F Largest std. O.D.	11.4	13.5
Smallest std. O.D.	10.75	12.75
(Larger & smaller custom O.D.'s available, Please Call)		
Turns to open	34	39
Weight*	490	595



(patent# 6776184 /other patents pending)

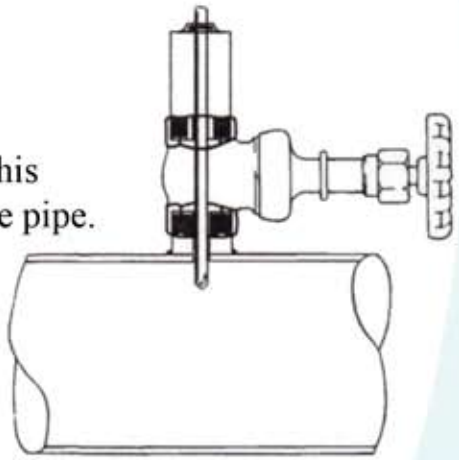
THERMO-WELL SERVICES

IFT Thermo-Well Inserting

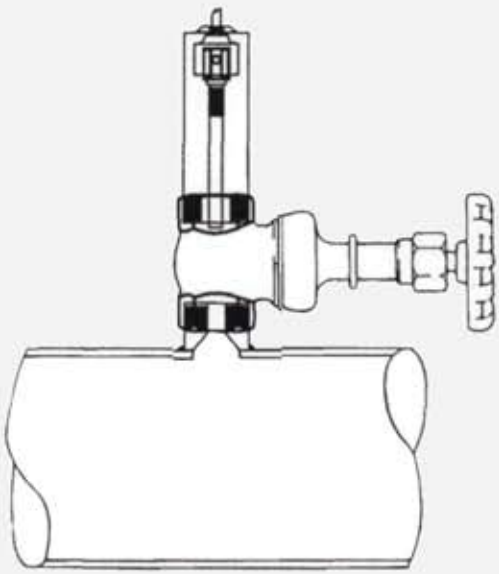
One of the many services offered by International Flow Technologies, Inc. is the installation of temperature sensing wells into existing systems without a shutdown.

IFT can provide thermowells and/or install your thermowells without interruption of service. A number of thermowell models are available for a wide range of temperature applications, pressures, and types of lines.

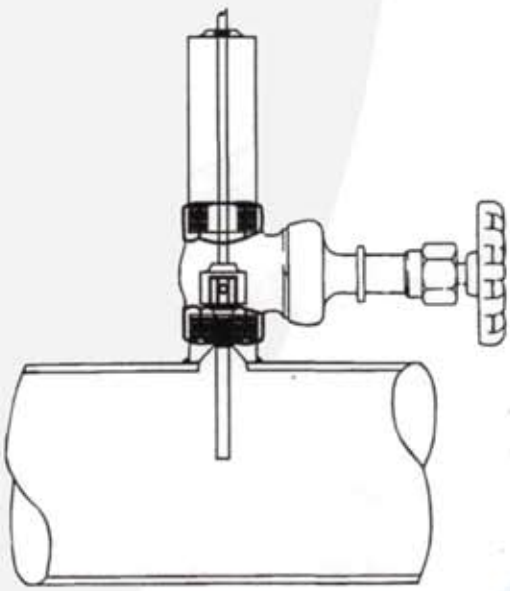
Monitoring equipment available varies from basic on-line thermometers to high tech microprocessor temperature controllers.



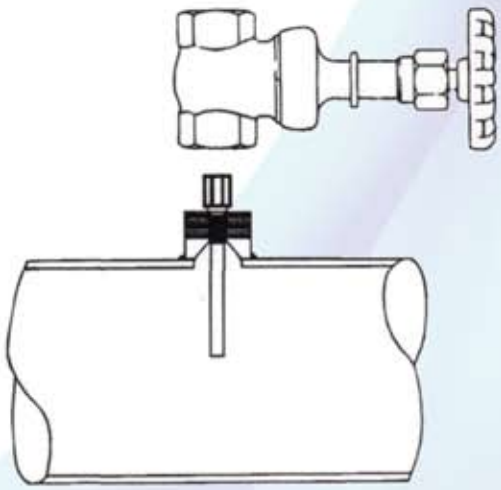
A wide variety of thermowells can be installed into any type of pipeline. In this particular case, the pipeline is steel and the "Weldone" fitting is welded to the pipe. With non-weldable pipe, a bolt-on saddle may be supplied. The "Weldone" assembly has been welded to the pipeline and a temporary access valve has been installed and pressure tested. After testing the fitting and temporary valve, the hot tap can be made into the pipeline. After the drill is retracted above the valve, the valve is closed and the tapping machine is removed from the line.



The thermowell is held by a hex socket that has an allen screw to retain the thermowell. The housing containing the thermowell is screwed onto the temporary access valve.



The valve is opened and the thermowell is pushed past the valve and threaded into the inside thread of the "weldone" fitting.

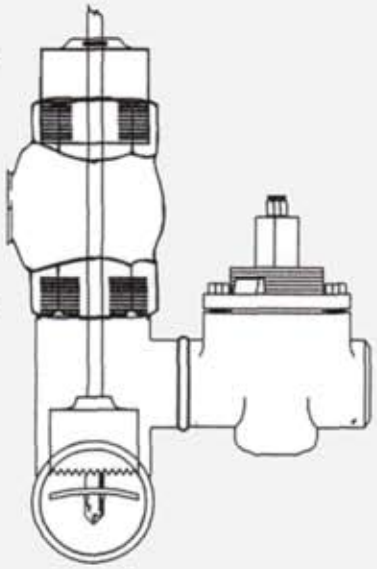


When properly installed, the pressure is sealed off by the thermowell and the temporary valve can be removed.

LATERAL TEE INSTALL

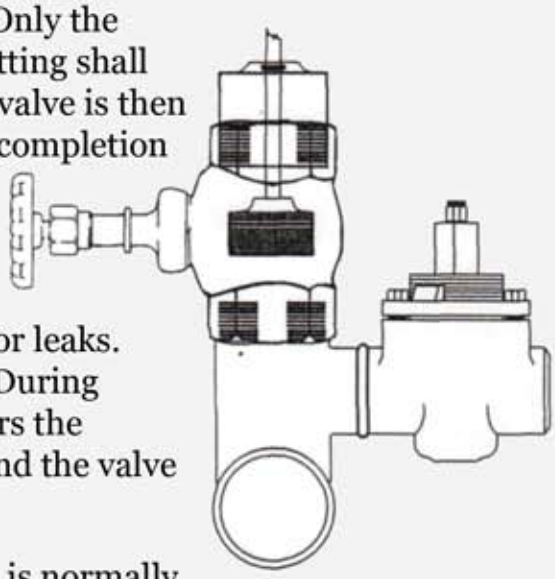
IFT Tee Way Fittings

The IFT Tee Way fittings are used to make connections primarily to existing lines where a plug or butterfly valve is to be used as a main shut off for a new branch line. Since these types of valves do not have a round port to accept a typical shell cutter or drill bit, the hot tap is made straight down through the top and sealed off with a completion plug and capped once complete.



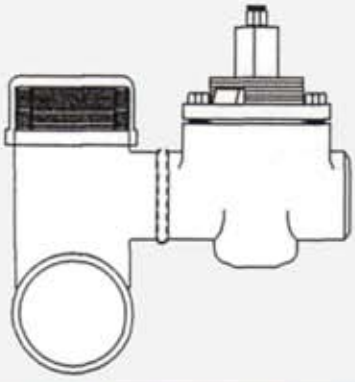
Before any work is performed, the O.D. of the line, pressure, and product shall be submitted to IFT's office. Prior to welding the assembly, the pipe coating is removed and the pipe is cleaned. The IFT Tee Way is set and leveled on the existing pipe where proper fit is then checked. The fitting should have both completion plug and cap in place during welding to keep the fitting from warping due to the heat produced.

Before welding, both sides should be tacked so the IFT Tee Way will not be pulled to one side and will stay uniformly straight. A minimum of three passes are required to fill the bevel, not including the root pass. (Only the outside of fitting is to be welded) Once welding is complete, the fitting shall be allowed to cool for approximately 15 minutes. The branch line valve is then installed in the closed position on the 90 degree leg. The cap and completion plug are removed and a temporary tapping valve is installed along with the tapping machine.



Prior to hot tapping, the whole assembly is pressure tested with air or CO_2, and a solution of soapy water is brushed on to check for leaks. Once it is determined to be a qualified weld, the hot tap is made. During tapping, the pilot drill penetrates the line and as the product enters the chamber, air is bled off through a valve in the tapping machine and the valve is closed when product is noticed.

When the hot tap is completed, the "cookie" or cut portion which is normally retained by the pilot drill, is lifted out and the temporary tapping valve is closed. A completion setting device is installed in its place and when the valve is reopened, the completion plug will be locked in place to shut off the product so the tapping valve can be removed. A cap or blind flange is installed to finish lateral tee procedures.

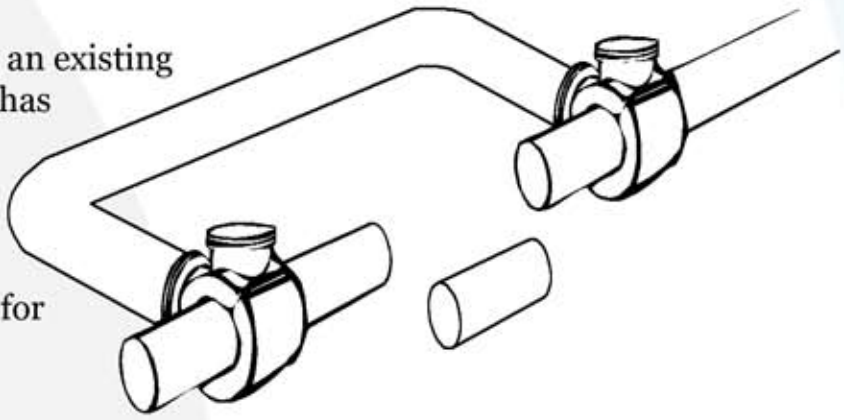


The branch valve is now ready to be used.

CONVERSION TEE INSTALL

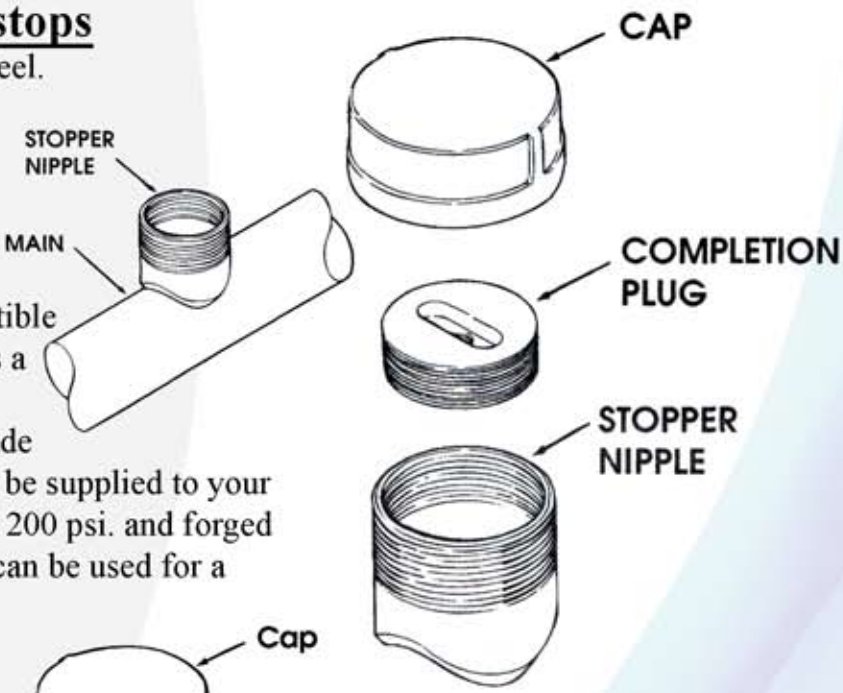
IFT Conversion Tee

The conversion tee is best used for converting an existing line to a new bypass line. The line stop fitting has a permanent side outlet for the new line to be tied into prior to line stopping. Once the line stops are in place the flow passes through the new line. The abandoned section can then be removed and the existing ends can be capped for a permanent relocation.



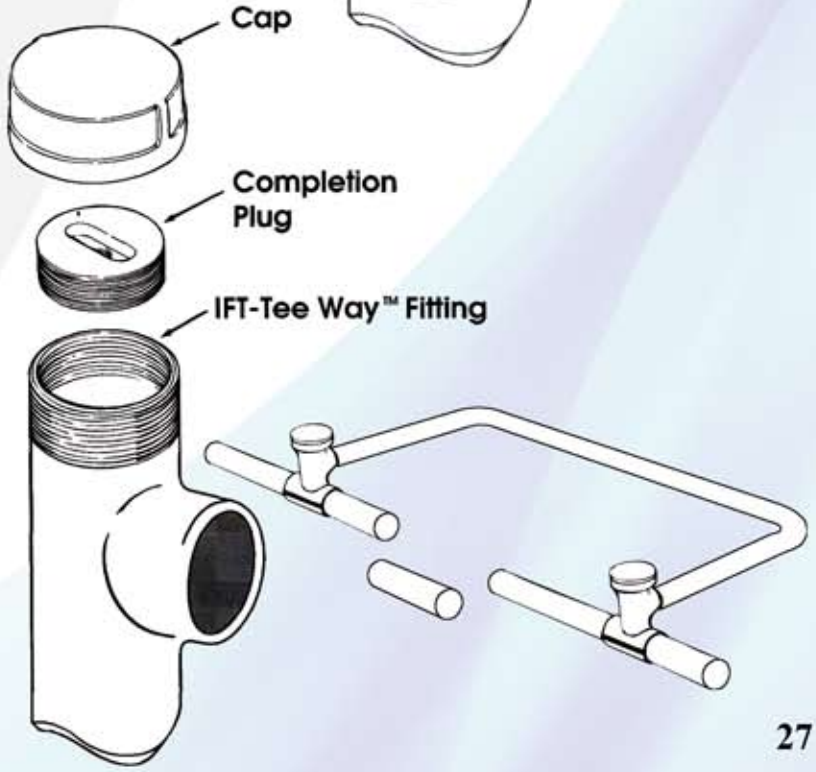
IFT 7560 Fittings for 3/4" - 6" Linestops

IFT 7560 Fittings are available in steel or stainless steel.
7560 - W for carbon steel weld type
7560 - S for stainless steel weld type
7560 - MJ for non weldable pipe or steel pipe in areas not suited for welding
7560 fittings and completion plugs are designed for IFT Flow Master stopping equipment, yet are compatible withother manufacturer's equipment. The fitting uses a threaded completion plug available with or without an o-ring seal. The standard completion plugs are made of cast iron, though brass, steel, or stainless steel can be supplied to your specifications. The standard cap is malleable iron for 200 psi. and forged steel through 1000 psi. An optional Buna-N O-Ring can be used for a bubble tight seal.



IFT Tee Way Fitting

The IFT Tee Way™ fitting is used for adding plug valves where round ported valves, which are typical for hot tapping, cannot be used. Fittings are available for weldable and non-weldable pipe. These fittings are used for outlets through 12". For larger outlet sizes, see IFT RUP Flange Assemblies.

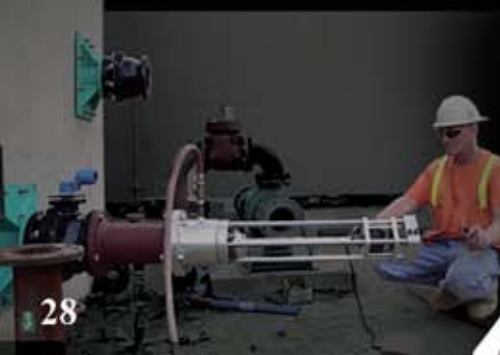


WALL TAPPING

IFT's wall tapping assemblies are used for hot tapping onto concrete walls, concrete storage tanks, and large diameter concrete conduits where a backing draw plate is impractical. IFT can manufacture any size contour to match your needs with any size outlet through 120", in 125, 150, and 300 lb. classes.

Call today for a free quote!
800-221-3332

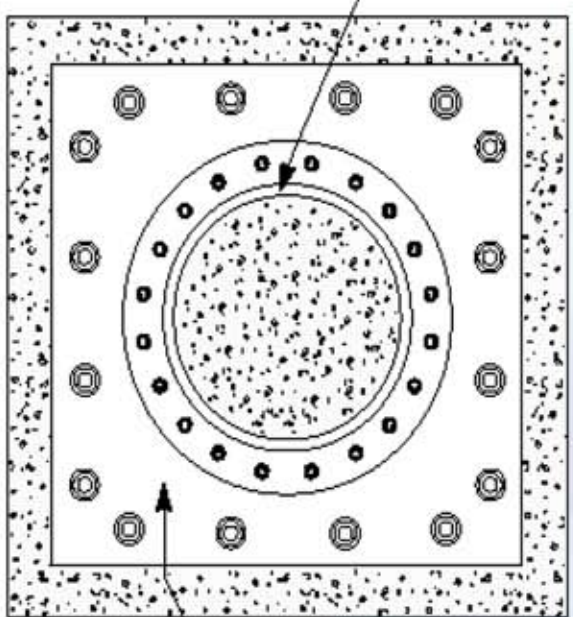
www.WallTaps.com

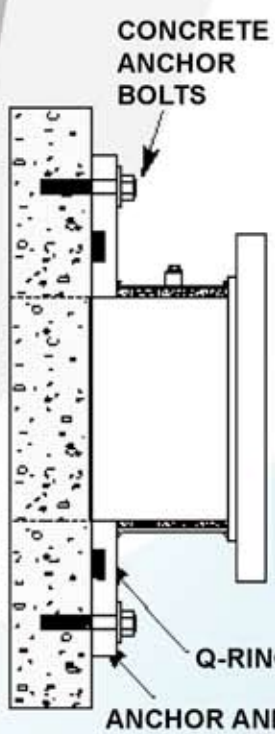


SERVICES UP TO 120"

IFT SERIES 470 CONCRETE WALL ASSEMBLY

The IFT Series 470 concrete wall assembly body is fabricated of carbon steel and available in shop coat or fusion epoxy coat, with either shop coated, fusion epoxy lined or mortar lined waterways. The assembly is fabricated to match the existing wall contour. IFT's stainless steel anchor bolts are used to attach the tapping outlet securely to the wall. For smooth walls, one Q-Ring seal is adequated, though for extra security two Q-Rings seals can be used. All assemblies include stainless steel anchor bolts, and carbide drill bit structure for drilling the concrete structure.



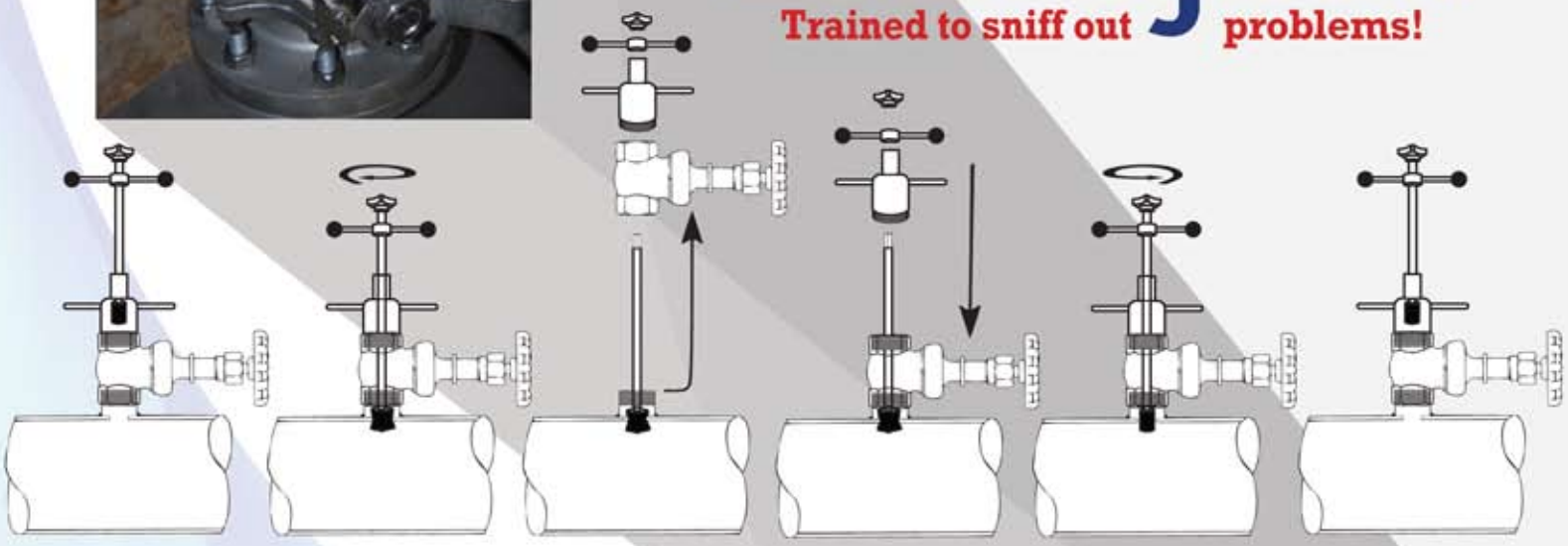


The IFT 470 wall tapping assemblies are used for hot tapping onto concrete walls, concrete storage tanks and large diameter concrete conduits where a backing draw plate is impractical.

LIVE AIR-VALVE REPLACEMENT

IFT Dutch Finger

The Dutch Finger is installed onto the defective valve in fluid tight arrangement. The defective valve is opened to allow manual insertion of plugging finger into the pipeline opening to a predetermined position. Manual operation of the tool contracts the finger to plug the opening and enlarges the finger inside the pipe, restraining it from movement. The defective valve, nipple and Dutch Finger housing can be removed by lifting it up and over the tool. The new Air-valve, nipple and Dutch Finger is set over the tool and installed onto the pipeline. The Dutch Finger is relaxed and pulled into the pressure tight housing and the new Air-valve is closed completing the process.



Dutch Finger
by InternationalFlow™

This is a typical "live valve installation" in it's completion stage. The new valve is cut into place, the completion plug is installed, temporary valve is removed, and blind flange installed.

LOCATIONS NATIONWIDE

Corporate Address:
30230 Los Alamos Rd.
Murrieta, CA. 92563
Phone: 800-221-3332
Fax: 951-926-2334

Baltimore, MD:
Phone: 410-394-9918
Fax: 951-926-2334

Nashville, TN:
Phone: 615-507-4884
Fax: 951-926-2334

Anchorage, AK:
Phone: 909-721-7764
Fax: 951-926-2334

About IFT

IFT has been serving the Americas and the World for 29 years, providing pipeline solutions including emergency response for turn-key bypassing of pipelines, hot tapping, line stopping and valve installation services. IFT is capable of handling modifications to most piping systems. Our specialty is replacing and adding new valves to existing systems without interruption of service and wet tapping of butterfly valves. These solutions are led by a team of technicians using innovative techniques that have helped define the industry. We have completed many projects around the world on water, natural gas, sewage, petroleum and chemical products. IFT has a broad background in handling all types of piping problems, and has a full engineering department to produce the solutions for your pipeline needs. Thank you for your interest and we look forward to assisting you in the future.

This pipe O.D. chart is furnished for your convenience and is based on the latest pipe standards and information supplied by pipe manufacturers. Due to occasional changes and variances in outside diameters, the pipe O.D. should always be verified before ordering fittings.

SMALL DIAMETER PIPE SIZES

Nominal Pipe Size (inches)	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Copper Tubing	.63	.88	1.13	1.38	1.63	2.13	2.63
Steel & Plastic Pipe	.84	1.05	1.32	1.66	1.90	2.38	2.88

STANDARD PRESSURE PIPE SIZES

Nominal Pipe Size (inches)		3	4	5	6	8	10	12	14	15	16	18	20	24	30
Copper Tubing		3.13	4.13	5.13	6.13										
Steel & Plastic Pipe (SDR 26, 21 & Schedule)		3.50	4.50	5.56	6.63	8.63	10.75	12.75	14.00		16.00	18.00	20.00	24.00	30.00
Plastic Irrigation Pipe (PIP)			4.13		6.14	8.16	10.20	12.24		15.30		18.70	22.05	24.80	
Plastic Sewer Pipe (SDR 35)			4.22		6.28	8.40	10.50	12.50		15.30		17.40	19.50	21.60	25.80
Plastic (PVC) AWWA C-900			4.80		6.90	9.05	11.10	13.20	15.30		17.40	19.50	21.60	25.80	
CAST IRON PIPE	Class 100-250 AWWA	3.96	4.80		6.90	9.05	11.10	13.20	15.30		17.40	19.50	21.60	25.80	32.00
	Class A AWWA Pit Cast	3,80	4.80		6.90	9.05	11.10	13.20	15.30		17.40	19.50	21.60	25.80	31.74
	Class B AWWA Pit Cast	3.96	5.00		7.10	9.05	11.10	13.20	15.30		17.40	19.50	21.60	25.80	32.00
	Class C-D AWWA Pit Cast	3.96	5.00		7.10	9.30	11.40	13.50	15.65		17.80	19.92	22.06	26.32	
ASBESTOS-CEMENT PIPE — CLASS 100	Machined	3.74	4.64		6.91	9.11	11.24	13.44	15.07		17.15	19.90	22.12	26.48	33.12
	Flintite Rough Barrel	3.94	4.90		7.13	9.33	11.30	13.42	15.45		17.60				
	Fluid-Tite Rough Barrel	3.93	5.05		7.16	9.32	11.46	13.70	15.36		17.50	20.44	22.50	27.17	
	Permaflex Rough Barrel		4.84		7.15	9.35	11.47	13.74	15.55		17.55	20.50	22.70	27.15	
	Ring-Tite Rough Barrel	3.95	4.92		7.19	9.39	11.47	13.74	15.51		17.65	20.44	22.68	27.12	33.80
	Min. Standard Rough Barrel		4.79		7.05	9.22	11.25	13.37	15.36		17.50				
	Max. Standard Rough Barrel		5.26		7.40	9.57	11.77	14.04	15.80		17.94				
ASBESTOS-CEMENT PIPE — CLASS 150	Machined End	3.84	4.81		6.91	9.11	11.66	13.93	16.22		18.46	20.94	23.28	27.96	35.00
	Flintite Rough Barrel	4.04	5.06		7.13	9.33	11.88	14.14	16.48		18.72				
	Fluid-Tite Rough Barrel	4.03	5.14		7.12	9.32	11.85	14.11	16.41		18.65	21.20	23.54	28.22	
	Permaflex Rough Barrel		5.00		7.20	9.40	11.92	14.20	16.50		18.75	21.30	23.64	28.32	
	Ring-Tite Rough Barrel	4.13	5.07		7.17	9.37	11.92	14.18	16.48		18.72	21.30	23.64	28.32	35.42
	Min. Standard Rough Barrel		4.97		7.07	9.27	11.82	14.08	16.38		18.62				
	Max. Standard Rough Barrel		5.32		7.37	9.62	12.12	14.38	16.73		18.97				
ASBESTOS-CEMENT PIPE — CLASS 200	Machined End	3.84	4.81		6.91	9.11	11.66	13.93	16.22		18.46	22.18	24.66	29.62	37.06
	Flintite Rough Barrel	4.17	5.32		7.26	9.44	11.88	14.14	16.53		18.84				
	Fluid-Tite Rough Barrel	4.18	5.32		7.36	9.46	11.88	14.11	16.44		18.90	22.54	25.02	29.98	
	Permaflex Rough Barrel		5.32		7.25	9.50	11.95	14.20	16.55		18.90	22.54	25.02	29.98	
	Ring-Tite Rough Barrel	4.17	5.33		7.32	9.50	11.92	14.18	16.59		18.90	22.54	25.02	29.98	37.48
	Min. Standard Rough Barrel		5.22		7.26	9.39	11.77	14.03	16.44		18.74				
	Max. Standard Rough Barrel		5.57		7.60	9.79	12.12	14.38	16.88		19.19				
Nominal Pipe Size (inches)		3	4	5	6	8	10	12	14	15	16	18	20	24	30

DECIMAL EQUIVALENT CHART

1/32	.03	1/4	.25	7/16	.44	5/8	.63	13/16	.81
1/16	.06	9/32	.28	15/32	.47	21/32	.66	27/32	.84
3/32	.09	5/16	.31	1/2	.50	11/16	.69	7/8	.88
1/8	.13	11/32	.34	17/32	.53	23/32	.72	29/32	.91
5/32	.19	3/8	.38	9/16	.56	3/4	.75	15/16	.94
3/16	.19	13/32	.41	19/32	.59	25/32	.78	31/32	.97