

37° FLARE FLANGE CONNECTION

MAX. PRESSURE RANGE (CARBON STEEL/STAINLESS STEEL)

6000 (420)

4000 (280)

2000 (140)

5" .75" 1" 1.25" 1.5" 2" 2.5" 3" 4" 5" 6" 8"

FLANGE SIZE (INCHES)

The Flare Flange connection is based on flaring the pipe end to 37 degrees and utilizing flare flanges and two cone inserts. The o-ring face cone insert mates to the flat face cone insert, which produces the primary seal. Both cone inserts have back up o-rings, which seal against the 37 degree flare. Bolting the connection draws the flanges against the flared pipe ends joining the cone inserts together. The 37 degree flare flange connection is available from ½" - 8" and pressures up to 6000 PSI (420 Bar) and conforms to SAE, ISO and other flanges patterns.

- Size Range ½" through 8"
- Pressures to 6000 PSI (420 Bar)
- Safety Factor min. 4:1
- Metric and Imperial Sizes Available

### **SYSTEM BENEFITS:**

**OVERALL INSTALLED COST SAVINGS** 

PROVEN LEAK-FREE SYSTEM

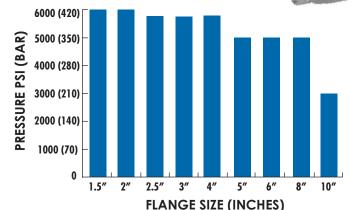
IMPROVED FLOW CHARACTERISTICS

EASE OF INSTALLATION
NO WELDING

NO ACID CLEANING
NO X-RAY

RETAIN RING FLANGE CONNECTION

RETAIN RING
CONNECTION
MAX. PRESSURE RANGE
(CARBON STEEL/STAINLESS STEEL)



• Size Range 1½" through 10"

• Pressures to 6000 PSI (420 Bar)

• Safety Factor - min. 4:1

• Metric and Imperial Sizes Available

The retain ring flange connection is based on grooving the pipe and utilizing retain ring flanges, an o-ring spacer and retain rings. This connection uses heavy wall pipe and has a machined butt end face, along with an annular groove on the outside diameter. After machining, the flange is slipped on the pipe and the retain ring is sprung over the outside diameter of the pipe into the annular groove. The o-ring spacer is placed between the ends of the pipe and centered within the flanges. Bolting the connection together draws the flanges against the retain rings and o-ring spacer which seals against both pipe ends. The retain ring flange connection is available fron 1½" - 10" and perssures up

to 6000 PSI (420 Bar) and conforms to SAE, ISO and

other flanges patterns.



PIPING TECHNOLOGIES

## IT'S THE WELDLESS, THREADLESS WAY TO JOIN PIPE/TUBE. THE ADVANTAGES OF PYPLOK'S

#### LEAKFREE PERFORMANCE, REDUCED INSTALLED COST AND MINIMIZED DOWNTIME.

Tube-Mac® Pyplok® connecting system is sparkless and has a successful history of pipe and tube fabrication in the most demanding environments and systems, where fire safety is essential.

Using a portable, hand-held installation tool, fittings are cold worked and permanently compressed onto piping. This process deforms the pipe diameter a controlled amount, thus forming a permanent leaktight seal.



Pyplok® Fittings can be used on stainless steel, copper, nickel and carbon steel pipe or tube.



Apply mark in window using



Position Pyplok® tooling around fitting assembly and pressurize.



Verify completed joint using same insertion gage.

#### HOW PYPLOK® IS INSTALLED.

The unique characteristics of the Tube-Mac® Pyplok® Fitting system allows for installation on piping/tubing with normal tolerances and surface conditions.

Tooling is positioned around the fitting assembly and is pressurized using a manual, or electric pump. The tool converts linear force into radial force, compressing, or swaging, the fitting and piping material together. The resulting connection results in joint tensile strength greater than the minimum pipe yield. A simple inspection gage verifies proper diameter reduction.

### SEALING CHARACTERISTICS.

Tube-Mac® Pyplok® Fittings incorporates unique sealing capabilities. It utilizes four non-metallic o-rings, which make Pyplok® Fittings adaptable to normal pipe and tube tolerances and surface conditions.

The outer o-ring seals prevent outside contaminants from entering the system.

The Tube-Mac® Pyplok® system is extremely versatile: Ideal for gaseous systems as well as fluids. Also available in various shapes: tees, elbows, 45° and 90°, reducers and custom ends.

#### USE IT ANYWHERE YOU'D WELD... BUT WOULDN'T WANT TO.

Now you can have the benefits of a welded joint, but without the hazards of hot work, using the Tube-Mac® Pyplok® coupling. It's not only a permanent system, it's also sparkless. It goes on cold. Which means all of the risks and requirements associated with "hot work" are avoided. And the permanent characteristics of the Tube-Mac® Pyplok® system make it ideal in place of welded flanges and threaded fittings which are prone to leaks due to flexure or vibration.

No hot work permits, no x-rays, no gas freeing, no system flushing or purging, no attached slag or contaminants enter the piping system. And with easy installation method, there is a substantial reduction of system downtime for repairs.

#### FITTING SPECIFICATIONS.

Fitting Material:	Stainless Steel Type 316, Duplex and Super Duplex, Carbon Steel, Copper Nickel 70/30 CuNi	
Pressure Range:	Up to 9300 PSI (640 bar) with 3:1 Safety Factor	
Fitting Size Range:	1/4" to 4" NPS PIPE, 1/4" to 2" OD TUBE and 6mm to 60mm Tube	
Seal Material/Operating Temperature:	<ul> <li>Viton -15°F to 400°F (-26°C to 205°C)</li> <li>EPDM (for Steam Applications) -60°F to 400°F (-51°C)</li> <li>to 205°C)</li> </ul>	

**Approvals and Testing:** 

- ABS, DNV, BV, LR, CCS, RMRS, CRN and NAVSEA
- API 6FB and ISO 15540/19921 fire tested
- Meets ASME B31.1 and B31.3 Requirements
- MIL-S-901D shock tested



THE TUBE-MAC® PYPLOK® SYSTEM

# Non-Welded Piping Technologies

Industries Served: Typical Applications:

MUNICIPAL INFRASTRUCTURE

Maintenance Facilities

MARINE / OFFSHORE

Steering Lines, Cutter Heads,

Winch Systems

LAND BASED OIL RIGS

Hyd. Top-Drive, ADR, CT Rig,

Flush-By Rig

OIL & GAS

LNG, CNG

STEEL

Tundish, EAF, Reheat Furnace

**FORESTRY** 

Wood Room, Truck Dumper, Sizer, CTL Lines, OSB, LVL, MDF

PULP & PAPER

Truck Dumper, Digester

SIMULATION

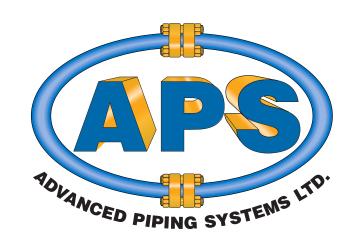
**Engine & Transmission Test** 

MINING

Crusher Systems, Lube & Air, Oil & Fuel, Storage & Distribution

INSTRUMENTATION

Control Panels



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Connection	Size Ranges	Pressure Rating	Material
37° Flare Pipe	½" - 8" NPS 20mm - 203mm O/D	up to 6000 PSI, ANSI B31.3 (420 bar)	Carbon / Stainless Steel
Retain Ring	1½" - 10" NPS 56mm - 254mm O/D	up to 6000 PSI, ANSI B31.3 (420 bar)	Carbon / Stainless Steel
Pyplok	½" - 4" OD and NPS 6mm - 100mm O/D	up to 9000 PSI, ANSI B31.3 (620 bar)	Carbon / Stainless Steel
37° Flare Tubing	1/4" - 2" OD	up to 5000 PSI	Carbon / Stainless Steel

#### **Flushing Services:**

DYNAMIC PRESSURE TESTING
 OIL FLUSHING
 OIL SAMPLING
 VACUUM DEHYDRATION

#### **Field Services:**

- ON-SITE SUPERVISION FIELD INSTALLATION JOB SITE TRAILERS SITE INSPECTION / LAYOUT
- PIPE LAYOUT & DESIGN
   PORTABLE INSTALLATION EQUIPMENT