

WingSeal™



U.S. Patent No. 5176409



### MSI WingSeal™

The patented WingSeal™ connector is a revolutionary metal-to-metal sealing connector that can replace existing connectors such as flanges, clamp hubs, and hammer-lug unions. The WingSeal™ connector requires no elastomer seals or sealant grease, and has proven reliable at both low and high pressure, low and high temperatures, with both gas and liquid media.

The MSI WingSeal™ has been used extensively in some of the most severe environments in the oilfield. High pressure, high temperature, abrasive sand, and high volume natural gas wells have been tested using WingSeal™ flow back manifolds and components. Pressures exceeding 12,000psi, temperatures exceeding 300F and volumes surpassing 50mmcf/day are not uncommon conditions for an MSI WingSeal™ manifold.

The MSI WingSeal™ is designed for:

- 15,000wp STD
- 15,000wp H2S
- High temperatures
- Low temperatures
- High volumes
- Abrasive environments
- Dependable service life
- Safer, faster rig up and rig down times (compared to clamp hub, flanged)

Customers have benefited from the compact design, light-weight components and dependable service that the WingSeal™ provides.

The WingSeal™ connector is an inexpensive unit to purchase, use and maintain. The seal ring is reusable, the individual components are easily replaceable, and should the seal faces of the seal subs become damaged, they are repairable without welding.



## Metal to Metal

**MSI is a division of Dixie Iron Works, Ltd.**

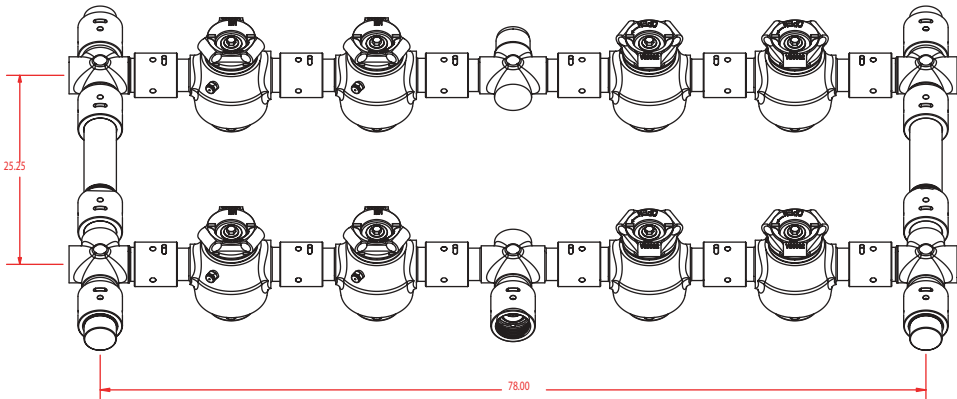
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# WingSeal™ 20



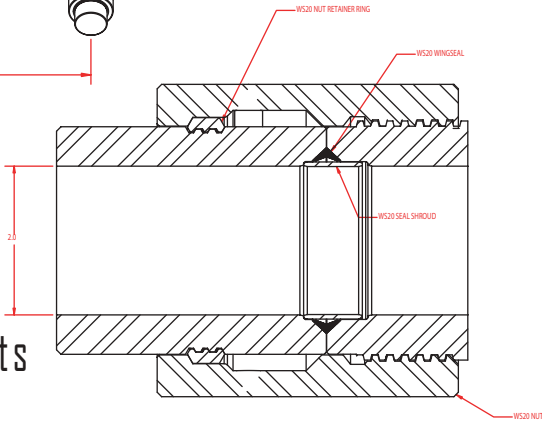
Manifold Weight Comparisons

WingSeal™ 20:	2412 lbs
Clamp Hub:	3314 lbs
Flanged 2 1/16 15M:	4126 lbs

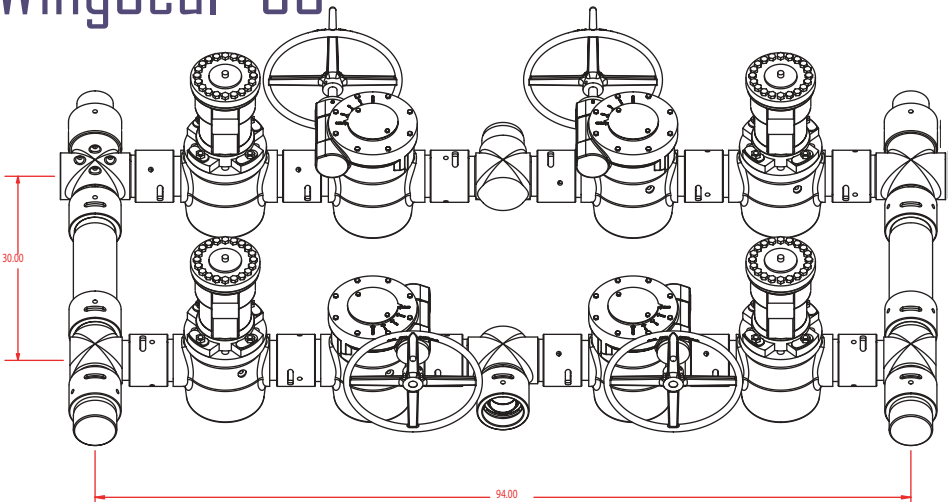
Full 2" ID

Smooth Flow Bores

No Internal Upsets



# WingSeal™ 30



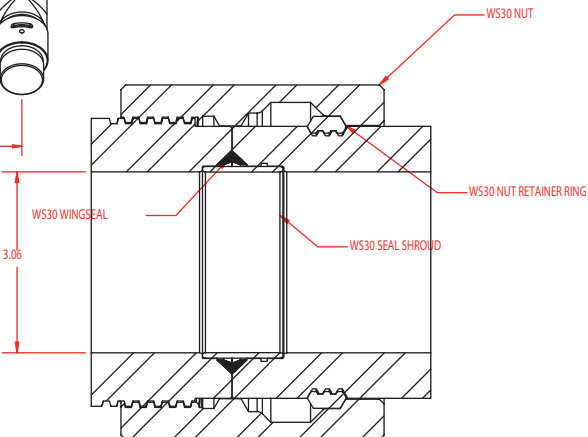
Manifold Weight Comparisons

WingSeal™ 30:	3707 lbs
Clamp Hub:	4860 lbs
Flanged 3 1/16 15M:	5890 lbs

Full 3" ID

Smooth Flow Bores

No Internal Upsets



represented by

