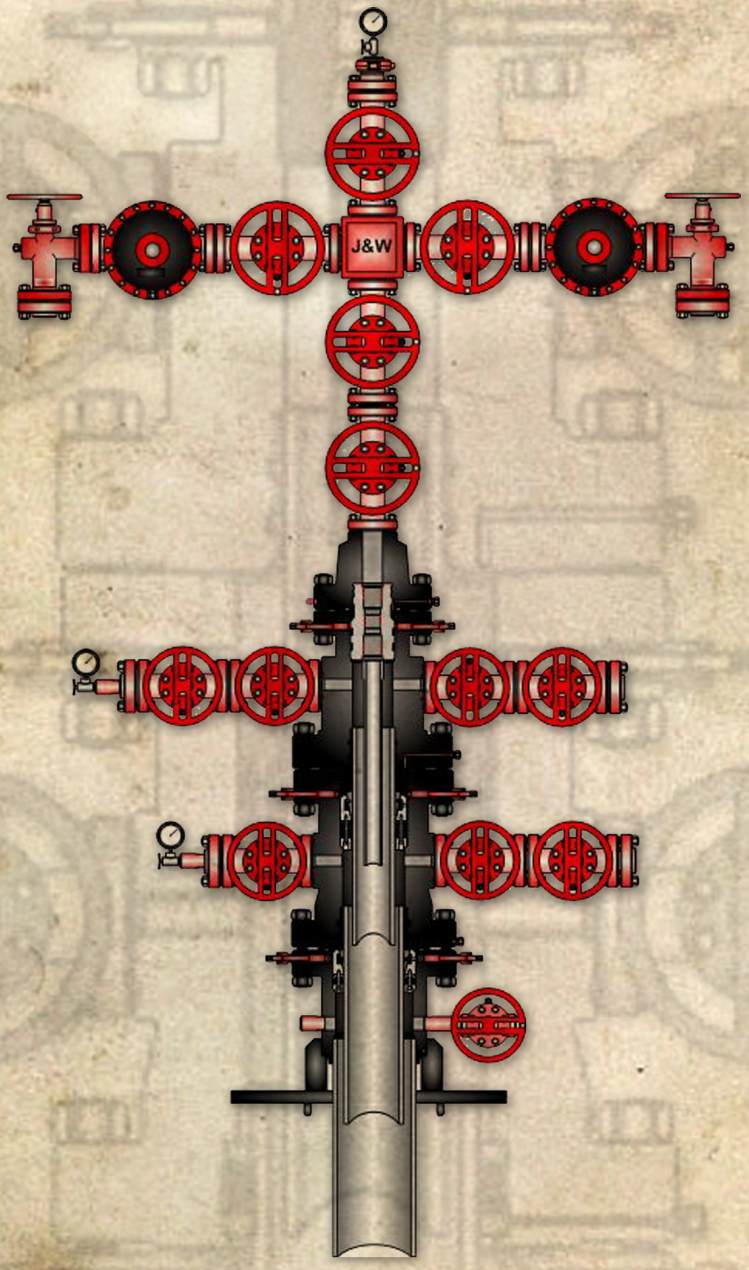
J&W SERVICES & EQUIPMENT COMPANY



MIDLAND, TX • BRIDGEPORT, TX • SNYDER, TX • GUYMON, OK

432-687-0515 940-683-1770 325-574-1948 580-374-1371

J&W SERVICES & EQUIPMENT COMPANY
MIDLAND, TEXAS

MISSION STATEMENT

GUIDED BY RELENTLESS FOCUS, J&W WILL CONSTANTLY STRIVE TO IMPLEMENT THE CRITICAL INITIATIVES TO ACHIEVE OUR VISION. ACHIEVEMENTS OF THIS ORGANIZATION ARE THE RESULTS OF THE UNITED EFFORT OF EACH INDIVIDUAL. WE ARE DEDICATED TO SERVING OUR CUSTOMERS WITH A PASSION WHICH EXCEEDS THEIR EXPECTATIONS. WITH HONESTY, INTEGRITY AND COMMITMENT TO THE BUSINESS, J&W STRIVES TO BE YOUR CHOICE.

DEDICATION. PASSION. HONESTY. INTEGRITY.

THE PRESSURE IS ON US.





J&W SERVICES & EQUIPMENT COMPANY

J&W SERVICES AND EQUIPMENT COMPANY WELLHEAD DIVISION

At J&W Services and Equipment Company, it is our goal to achieve 100% customer satisfaction. Whether it is low pressure low spec, or high pressure high spec, we will dedicate all of our resources to meeting your wellhead requirements.

At J&W Services and Equipment Company, we can suit all of your wellhead needs, supply you with standard wellhead equipment, or custom fabricate products for your specific requirements. We repair and test all makes of standard wellhead equipment including wellheads, Christmas trees, and API gate and ball valves. If you need it, we can get it.

The staff here at J&W consists of some of the best in the industry. We have an Operations Manager that is dedicated to fulfilling our customers' needs, ensuring that nothing is overlooked. Our Quality Control Manager ensures that our quality system is current and that the customer is getting the very best equipment with trouble-free installation. The Shop Foreman reviews every order and makes sure that it is completed in a timely manner. Our knowledgeable Field Service Technicians are available 24/7 to install, maintain, and troubleshoot your equipment. The Valve Technicians are capable of repairing any valve from 1,000 PSI to 15,000 PSI. Our test booth is designed with the capability to produce pressures up to 25,000 PSI with nitrogen gas to ensure your valves are up to the demanding rigors of the oil and gas industry. An inventory control system is in place to ensure that the customer's property is maintained and used when needed. Here at J&W your needs are our specialty.

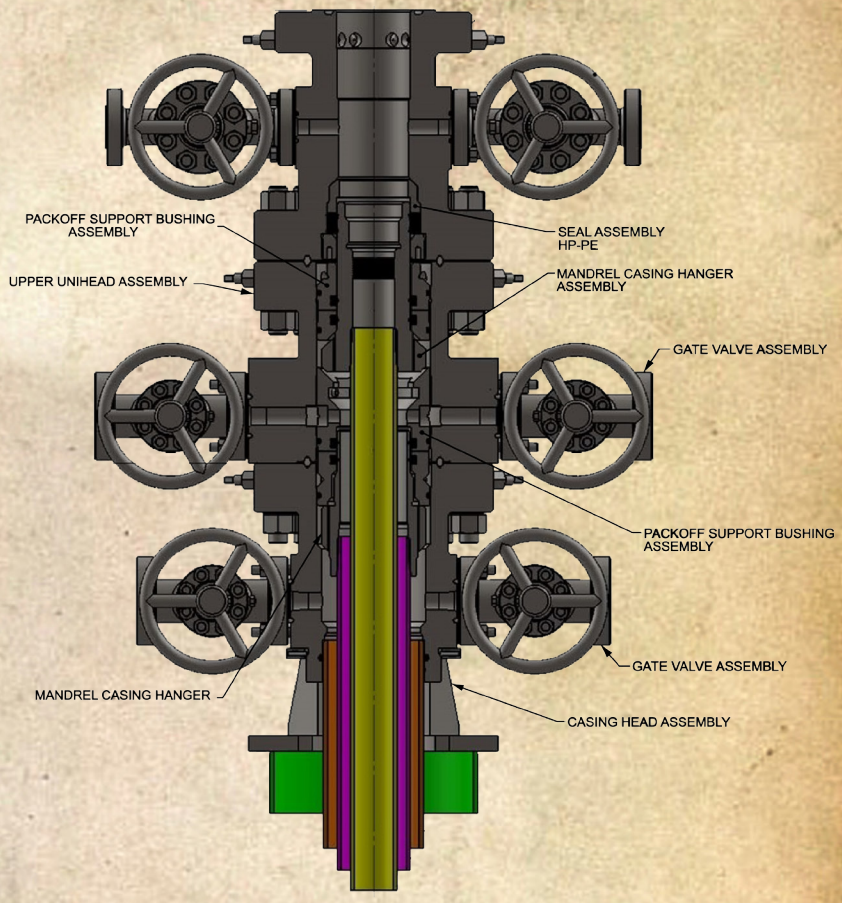
J&W has facilities in Western Oklahoma, East Texas, and the Permian Basin. The full-service facility headquarters located in Midland, Texas provides service to the West Texas and New Mexico areas. J&W's Snyder facility services the surrounding area. J&W's facility located in Bridgeport, Texas services all of East Texas' needs. Our facility in Guymon, Oklahoma is available to service your needs in Western Oklahoma.

"There is no order too big, just let us know your needs."

Multi-Bowl Wellhead System

The MBS offers a seal assembly for a unitized wellhead system by utilizing a fraction grip technology to create maintainable metal-to-metal seals. By utilizing an externally activated gripping system, the MBS offers simplified running procedures during the drilling process. The BOP is landed only one time, and all assemblies are done through the BOP eliminating the need to nipple up and down the BOP as with conventional wellhead assemblies.

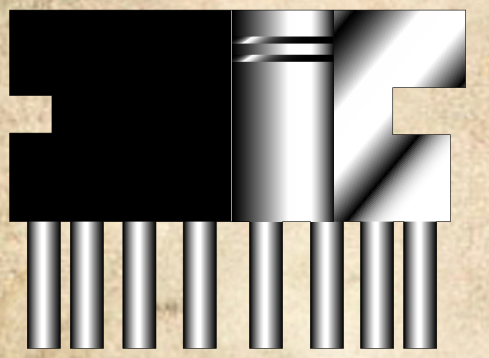
Benefits of the Multi-Bowl System



- The multi-bowl wellhead systems are manufactured to API 6A specifications and are available in several sizes and pressure ratings to accommodate your needs.
- Improved drilling efficiency and added safety, since the BOP connection is never broken, time is saved, well control and safety is always maintained & the BOP stays on until the production tree is fastened to the wellhead; therefore, all operations can be done through the BOP.
- The multi-bowl system can be used when casing stacks are cemented up to the surface, and the casing hanger contains flow-by-ports to allow for cement circulation while the hanger is landed.
- J&W Services and Equipment Co. stocks a full line of service tools to support the multi-bowl wellhead system; including wear bushings, running tools, casing hanger installation tools, and wash-out-tools.
- With the multi-bowl wellhead system, the casing, casing hanger, pack off bushing, tubing and tubing hanger can all be run through the BOP stack into a preassembled wellhead and tubing head.
- The casing head is attached to the surface casing using a slip-on weld connection. The tubing head comes tested and preassembled to the casing head & an o-ring is used to provide an inner seal between the casing head and the surface casing.
- The casing hanger used is a high strength mandrel hanger to support heavy casing loads and the casing hanger is available in several sizes to allow for different casing sizes and weight requirements.
- The multi-bowl wellhead system utilizes a pack-off-bushing to provide an annular seal between the surface and production casing strings. There is no external energizing because of the dual elastomeric seals; which allows for pressure testing.

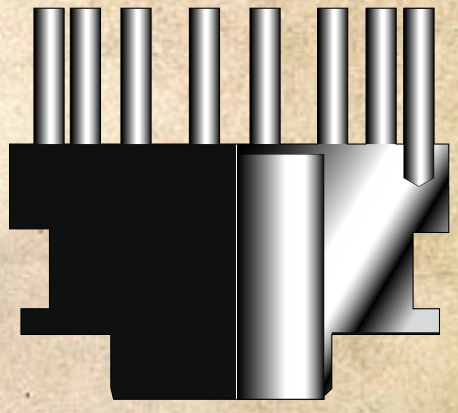
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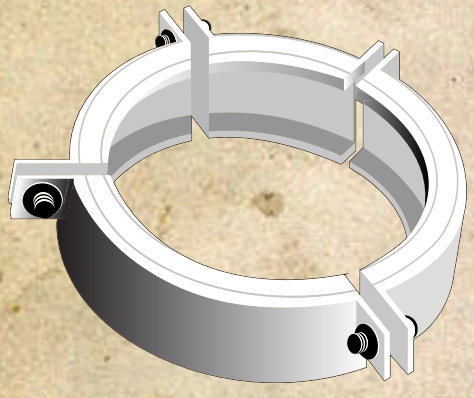
J&W QuickLock



QuickLock Adapter (Lower Section)

QuickLock Adapter (Upper Section)

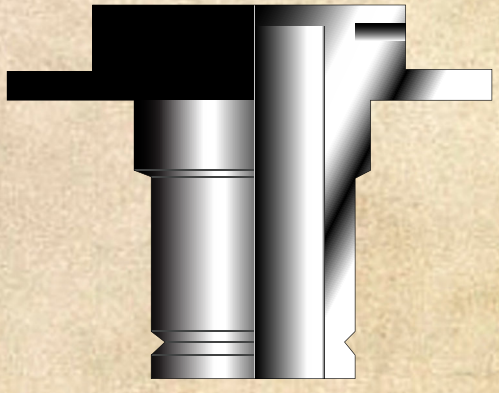




QuickLock Adapter Clamp Ring

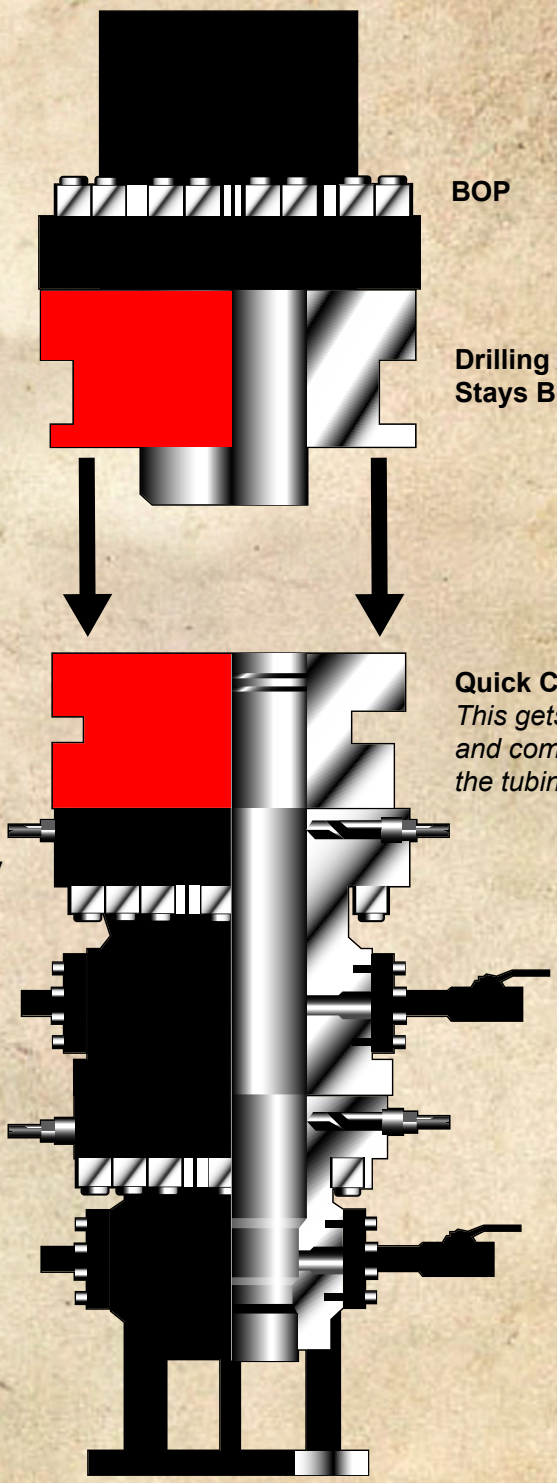
Capping Plug

When drilling intermediate and skidding over, the QuickLock Plug will be installed on this piece to protect the well



The use of the QuickLock system on Multi-well pads saves an average of 8-10 hours and nipple up cost.

J&W QuickLock



BOP

Drilling Adapter
Stays Bolted to BOP

Quick Lock
Drilling Adapter

Quick Connect Bottom Piece
This gets bolted on in the shop and comes off before installing the tubing head

Casing Spool Assembly

Casing Head Assembly

13-3/8" SOW

J&W SERVICES & EQUIPMENT COMPANY

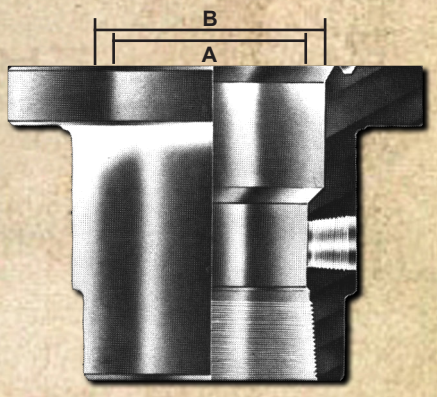
JW-22 Casing Heads

J&W"s durable JW-22 Casing Head is a straight bore casing head which accepts either the JW-21 or the JW-22 Casing Hanger. These hangers can be lowered through blowout preventers to suspend pipe up to the joint strength of the pipe.

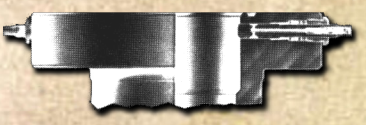
There are two standard types of casing connections with the JW-22 Casing Head. These are the female casing thread connection or the slip-on weld connection with a one-half inch "O" Ring seal on the inside of the casing head. These casing heads are furnished with two 2-inch outlets. If larger outlets are needed, they can be furnished.

The JW-22's straight bore design reduces maintenance cost and allows suspension of heavy casing loads. When using test plugs and bowl protectors, the straight bore prevents wedging when pressure is applied.

When using bowl protectors in JW-22 Casing Heads, two lock screws can be furnished in the upper flange (JW-22-BP) or J&W will supply a hold down flange with lock screws.



JW-22 Casing Head



JW-22-BP Casing Head
(2 hold down screws for bowl protector)

Note: JW-22 Casing Heads are available with slip-on and slip-on with "O" ring bottoms and with extended flange outlets.

Specifications:

Top Flange		Bottom Threaded		Dimensions		
Size	W.P.		Outlets	A	B	Weight
9"	2,000	7 5/8"	2" L.P.	7"	8 3/4"	210#
9"	3,000	7 5/8"	2" L.P.	7"	8 3/4"	240#
9"	5,000	7 5/8"	2" L.P.	7"	8 3/4"	301#
9"	2,000	8 5/8"	2" L.P.	8"	8 3/4"	180#
9"	3,000	8 5/8"	2" L.P.	8"	8 3/4"	240#
9"	5,000	8 5/8"	2" L.P.	8"	8 3/4"	250#
11"	2,000	8 5/8"	2" L.P.	8"	10 7/8"	340#
11"	3,000	8 5/8"	2" L.P.	8"	10 7/8"	460#
11"	5,000	8 5/8"	2" L.P.	8"	10 7/8"	710#
11"	2,000	9 5/8"	2" L.P.	9"	10 7/8"	320#
11"	3,000	9 5/8"	2" L.P.	9"	10 7/8"	430#
11"	5,000	9 5/8"	2" L.P.	9"	10 7/8"	680#
11"	2,000	10 3/4"	2" L.P.	10"	10 7/8"	300#
11"	3,000	10 3/4"	2" L.P.	10"	10 7/8"	410#
11"	5,000	10 3/4"	2" L.P.	10"	10 7/8"	560#
13 5/8"	2,000	11 3/4"	2" L.P.	11"	13 1/2"	469#
13 5/8"	3,000	11 3/4"	2" L.P.	11"	13 1/2"	587#
13 5/8"	2,000	13 3/8"	2" L.P.	12 1/2"	13 1/2"	380#
13 5/8"	3,000	13 3/8"	2" L.P.	12 1/2"	13 1/2"	500#
13 5/8"	5,000	13 3/8"	2" L.P.	12 1/2"	13 1/2"	750#
16 3/4"	2,000	16"	2" L.P.	15 1/4"	16 5/8"	980#
16 3/4"	3,000	16"	2" L.P.	15 1/4"	16 5/8"	995#
21 1/4"	2,000	20"	2" L.P.	19 3/16"	20 1/8"	1,210#
20 3/4"	3,000	20"	2" L.P.	19 3/16"	20 1/8"	1,331#

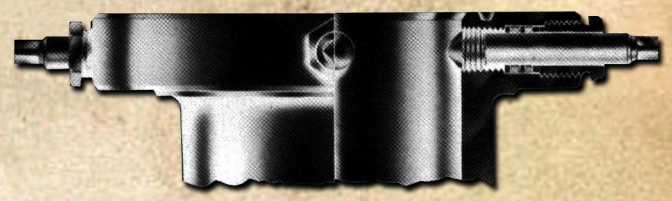
Note: JW-22 Casing Heads are available in larger sizes and higher pressure ratings

J&W SERVICES & EQUIPMENT COMPANY

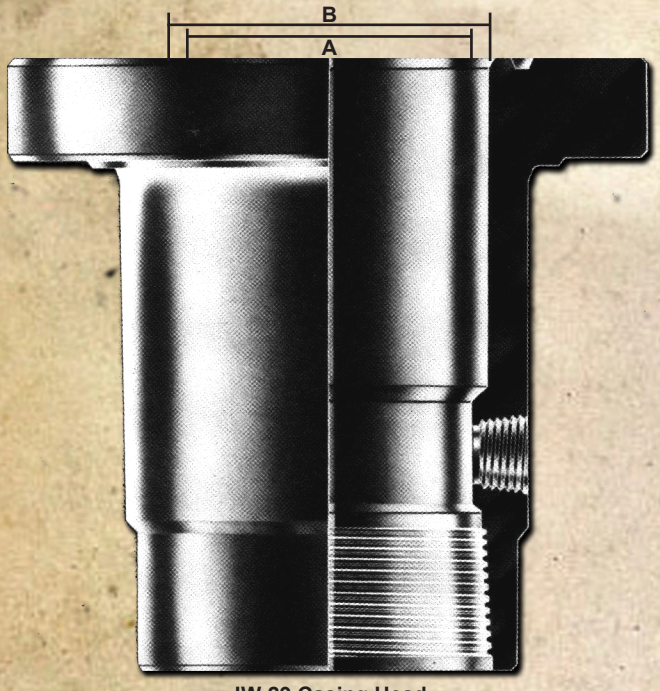
JW-29 and JW-29-L Casing Heads

The JW-29 casing head is designed for heavy duty service and long casing strings. It is available with threaded and slip-on weld bottom connections.

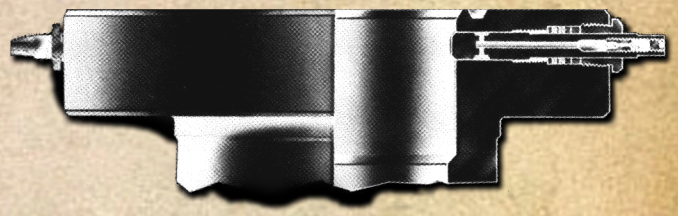
The JW-29L has the same design as the JW-29 except that it has lockdown screws in the top flange to hold down a bowl protector or JW-29 casing hanger. Also available is the JW-29-BP which has two hold down screws that is designed only to hold down a bowl protector during the drilling process. Each of these heads are available with 2" LP threaded or flanged outlets.



JW-29-L Casing Head



JW-29 Casing Head



JW-29-BP Casing Head
(2 hold down screws for bowl protector)

Specifications:

Top Flange		Bottom Threaded		Dimensions		
Size	W.P.		Outlet*	A	B	Weight
11"	3,000	8 5/8"	2 L.P.	8"	10 7/8"	565#
11"	5,000	8 5/8"	2 L.P.	8"	10 7/8"	780#
11"	3,000	9 5/8"	2 L.P.	9"	10 7/8"	545#
11"	5,000	9 5/8"	2 L.P.	9"	10 7/8"	760#
11"	3,000	10 3/4"	2 L.P.	10"	10 7/8"	520#
11"	5,000	10 3/4"	2 L.P.	10"	10 7/8"	745#
13 5/8"	3,000	13 5/8"	2 L.P.	12 1/2"	13 1/2"	800#
13 5/8"	5,000	13 5/8"	2 L.P.	12 1/2"	13 1/2"	1,500#
16"	3,000	16"	2 L.P.	15 3/8"	16 5/8"	1,306#
20"	3,000	20"	2 L.P.	19 3/16"	20 1/8"	1,722#

*Available Flanged Outlet

J&W Casing Hangers

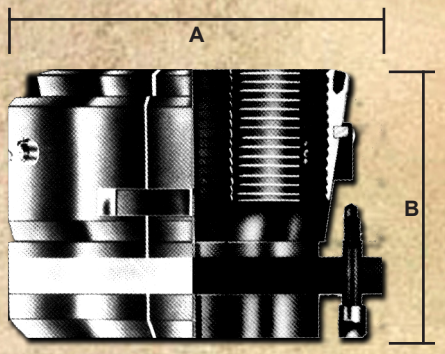
JW-22 Casing Hangers

The JW-22 Wrap-around Casing Hanger incorporates packoff, slip bowl, and slips in a single unit. When the casing load is applied, the packoff automatically seals the annulus below the slips, thus allowing the annulus to be packed off before removing blowout preventers and cutting the casing.

The simple construction and fewer parts make the JW-22 economical and easy to repair.

Specifications:

Dimensions			
Size	A	B	Wt.
9 x 4 ½"	8 11/16"	8 1/16"	45#
9 x 5"	8 11/16"	8 1/16"	40#
9 x 5 ½"	8 11/16"	8 1/16"	34#
11 x 4 ½"	10 13/16"	8 1/16"	100#
11 x 5"	10 13/16"	8 1/16"	95#
11 x 5 ½"	10 13/16"	8 1/16"	89#
11 x 6 5/8"	10 13/16"	8 1/16"	79#
11 x 7"	10 13/16"	8 1/16"	75#
11 x 7 5/8"	10 13/16"	8 1/16"	60#
13 5/8 x 5"	13 7/16"	8 1/16"	170#
13 5/8 x 5 ½"	13 7/16"	8 1/16"	160#
13 5/8 x 7"	13 7/16"	8 1/16"	152#
13 5/8 x 7 5/8"	13 7/16"	8 1/16"	140#
13 5/8 x 8 5/8"	13 7/16"	8 1/16"	125#
13 5/8 x 9 5/8"	13 7/16"	8 1/16"	108#
16 3/4 x 9 5/8"	16 9/16"	9"	360#
16 3/4 x 10 3/4"	16 9/16"	9"	320#
21 1/4 x 13 3/8"	....	9"	310#



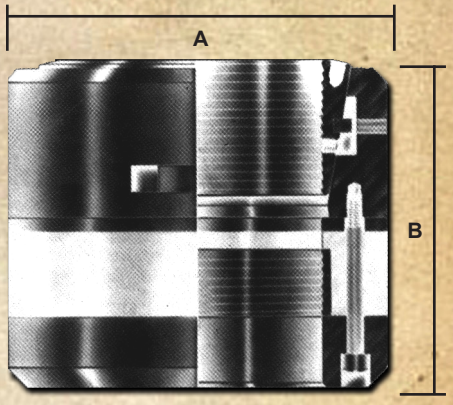
JW-22 Casing Hanger

JW-29 Casing Hangers

With the JW-29 Casing Hanger, you obtain far less casing deflection and much greater hanging capacity. When the upper slips move down and energize the packoff, the non-tapered lower slips engage automatically. The lower slips do not move down the pipe, so unlike conventional tapered slips, they do not create the high compressive forces.

Specifications:

Dimensions			
Size	A	B	Wt.
11 x 4 ½"	10 13/16"	8 7/8"	191#
11 x 5"	10 13/16"	8 7/8"	186#
11 x 5 ½"	10 13/16"	8 7/8"	150#
11 x 6 5/8"	10 13/16"	8 7/8"	142#
11 x 7"	10 13/16"	8 7/8"	153#
11 x 7 5/8"	10 13/16"	8 7/8"	115#
13 5/8" x 5"	13 7/16"	8 7/8"	310#
13 5/8 x 5 ½"	13 7/16"	8 7/8"	298#
13 5/8 x 7"	13 7/16"	8 7/8"	266#
13 5/8 x 7 5/8"	13 7/16"	8 7/8"	258#
13 5/8 x 8 5/8"	13 7/16"	8 7/8"	210#
13 5/8 x 9 5/8"	13 7/16"	8 7/8"	177#
16 3/4 x 9 5/8"	16 9/16"	10 3/8"	265#
16 3/4 x 10 3/4"	16 9/16"	10 3/8"	254#
21 1/4 x (2 / 5 / 10,000) x 13 3/8"	20 1/16"	9 3/8"	288#



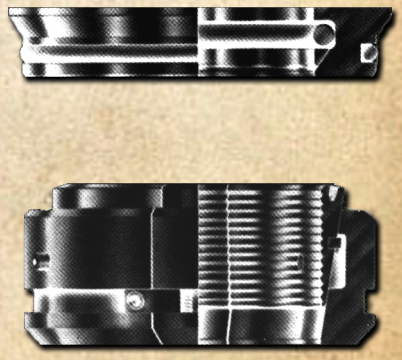
JW-29 Casing Hanger

JW-21 Casing Hangers

The JW-21 Casing Hanger is an economical hanger consisting of slips, slip bowl and a seal ring. The slips and slip ring bowl are identical to the JW-22 and may be lowered through the blowout preventers crossing casing weight. The seal ring is installed after the blowout preventers are removed and casing is cut off. The JW-21 casing hanger cannot be used in a JW-22-BP casing head.

Specifications:

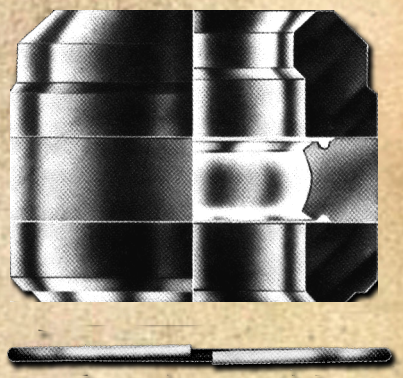
Size	Wt.
9 x 4 ½"	85#
9 x 5"	75#
9 x 5 ½"	67#
11 x 4 ½"	136#
11 x 5"	129#
11 x 5 ½"	116#
11 x 6 5/8"	104#
11 x 7"	94#
11 x 7 5/8"	81 #
13 5/8 x 5"	232#
13 5/8 x 5 ½"	212#
13 5/8 x 7"	191#
13 5/8 x 7 5/8"	166#
13 5/8 x 8 5/8"	144#
13 5/8 x 9 5/8"	116#
16 3/4 x 9 5/8"	350#
16 3/4 x 10 3/4"	324#


JW-21 Casing Hanger and Seal Ring

Secondary Seals

JW-PE Reducer and Seal Assembly

The JW-PE seal assembly is a pressure energized seal that is held in with a snap ring. This seal assembly is used as a secondary packoff. This seal assembly can be tested through the test port in the bottom flange of the casing or tubing spool.



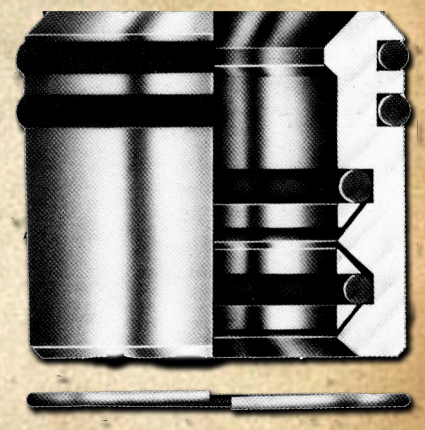
JW-PE Seal Assembly

Specifications:

Size	Wt.
7 x 4 ½"	28#
7 x 5 ½	19#
9 x 4 ½"	60#
9 x 5 ½"	50#
9 x 7"	30#
9 x 7 ⅝"	24#
10 ¾ x 8 ⅝	40#
10 ¾ x 9 ⅝	20#

JW-4-0 Reducer Bushing

The JW-4-0 Reducer Bushing has two "O" rings on the outside of the bushing to packoff between the bushing and the preparation in the bottom of the casing or tubing head spool and the two "O" rings that seal off around the casing stub. The seals can be pressure tested through the test port provided in the bottom flange of the spool.

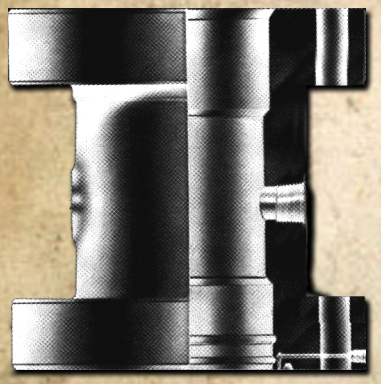


JW-4-0 Reducer Bushing

Specifications:

Size	Wt.
7 x 4 ½"	40#
7 x 5 ½"	28#
9 x 4 ½"	86#
9 x 5 ½"	72#
9 x 7"	46
9 x 7 ⅝"	33#
10 3.4 x 8 ⅝"	58#
10 ¾ x 9 ⅝"	33#

JW-22 Casing Spools



JW-22 Casing Spool

The JW-22 casing spool has the same features as the JW-22 casing head except that it has a bottom flange connection. The flange has secondary seal preparations to receive either the JW-PE assembly or the JW-4-0 reducer bushing.

The JW-22-BP spool has two hold down screws that hold down a bowl protector during the drilling process.



JW-22-BP Casing Spool
(2 hold down screws for bowl protector)



JW-22-00 Casing Spool

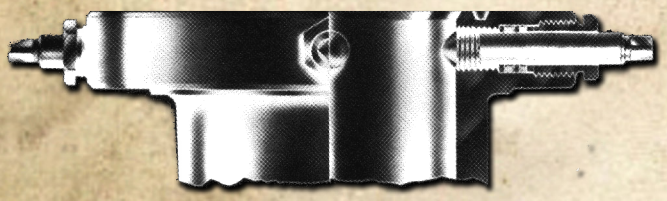
Specifications:

Top Flange		Bottom Flange		Casing Size		Dimensions		
Size	W.P.	Size	W.P.		Outlet	A	B	Weight
11″	2,000	11″	2,000	10 ¾″	2″ L.P.	10″	10 7⁄8″	520#
11″	2,000	11″	2,000	10 ¾″	2 1⁄16″ Flgd.	10″	10 7⁄8″	570#
11″	2,000	11″	2,000	10 ¾″	2″ L.P.	10″	10 7⁄8″	680#
11″	3,000	13 5⁄8″	3,000	10 ¾″	2″ L.P.	10″	10 7⁄8″	710#
11″	3,000	11″	3,000	10 ¾″	2 1⁄16″ Flgd.	10″	10 7⁄8″	770#
11″	3,000	11″	2,000	9 5⁄8″	2″ L.P.	9″	10 7⁄8″	680#
11″	3,000	13 5⁄8″	2,000	9 5⁄8″	2 1⁄16″ Flgd.	9″	10 7⁄8″	740#
11″	3,000	13 5⁄8″	2,000	10 ¾″	2″ L.P.	10″	10 7⁄8″	680#
11″	3,000	13 5⁄8″	2,000	10 ¾″	2 1⁄16″ Flgd.	10″	10 7⁄8″	740#
11″	3,000	13 5⁄8″	3,000	9 5⁄8″	2″ L.P.	9″	10 7⁄8″	710#
11″	3,000	13 5⁄8″	3,000	9 5⁄8″	2 1⁄16″ Flgd.	9″	10 7⁄8″	770#
11″	3,000	13 5⁄8″	3,000	10 ¾″	2″ L.P.	10″	10 7⁄8″	710#
11″	3,000	13 5⁄8″	3,000	10 ¾″	2 1⁄16″ Flgd.	10″	10 7⁄8″	770#
11″	3,000	13 5⁄8″	2,000	9 5⁄8″	2″ L.P.	9″	10 7⁄8″	1232#
11″	3,000	16 ¾″	2,000	9 5⁄8″	2 1⁄16″ Flgd.	9″	10 7⁄8″	1285#
11″	3,000	16 ¾″	2,000	10 ¾″	2″ L.P.	10″	10 7⁄8″	846#
11″	3,000	16 ¾″	2,000	10 ¾″	2 1⁄16″ Flgd.	10″	10 7⁄8″	900#
11″	3,000	16 ¾″	3,000	9 5⁄8″	2″ L.P.	9″	10 7⁄8″	1120#
11″	3,000	16 ¾″	3,000	9 5⁄8″	2 1⁄16″ Flgd.	9″	10 7⁄8″	1173#
11″	3,000	16 ¾″	3,000	10 ¾″	2″ L.P.	10″	10 7⁄8″	1080#
11″	3,000	16 ¾″	3,000	10 ¾″	2 1⁄16″ Flgd.	10″	10 7⁄8″	1140#
11″	5,000	13 5⁄8″	3,000	9 5⁄8″	2″ L.P.	9″	10 7⁄8″	1115#
11″	5,000	13 5⁄8″	3,000	9 5⁄8″	2 1⁄16″ Flgd.	9″	10 7⁄8″	1168#
11″	5,000	13 5⁄8″	3,000	10 ¾″	2″ L.P.	10″	10 7⁄8″	1100#
11″	5,000	13 5⁄8″	3,000	10 ¾″	2 1⁄16″ Flgd.	10″	10 7⁄8″	1160#
11″	5,000	13 5⁄8″	5,000	9 5⁄8″	2″ L.P.	9″	10 7⁄8″	1430#
11″	5,000	13 5⁄8″	5,000	9 5⁄8″	2 1⁄16″ Flgd.	9″	10 7⁄8″	1483#
11″	5,000	16 ¾″	3,000	9 5⁄8″	2″ L.P.	9″	10 7⁄8″	1465#
11″	5,000	16 ¾″	3,000	9 5⁄8″	2 1⁄16″ Flgd.	9″	10 7⁄8″	1518#
11″	5,000	16 ¾″	3,000	10 ¾″	2″ L.P.	10″	10 7⁄8″	1300#
11″	5,000	16 ¾″	3,000	10 ¾″	2 1⁄16″ Flgd.	10″	10 7⁄8″	1360#
13 5⁄8″	3,000	16 ¾″	3,000	9 5⁄8″	2″ L.P.	....	....	1355#
13 5⁄8″	3,000	16 ¾″	3,000	9 5⁄8″	2 1⁄16″ Flgd.	....	....	1408#
13 5⁄8″	3,000	16 ¾″	3,000	10 ¾″	2″ L.P.	12 ½″	13 ½″	1452#
13 5⁄8″	3,000	16 ¾″	3,000	10 ¾″	2 1⁄16″ Flgd.	12 ½″	13 ½″	1510#
13 5⁄8″	3,000	21 ¼″	2,000	13 3⁄8″	2 1⁄16″ Flgd.	....	....	2063#
13 5⁄8″	5,000	20 ¾″	3,000	13 3⁄8″	2 1⁄16″ Flgd.	12 ½″	13 ½″	2450#
11″	10,000	13 5⁄8″	5,000	9 5⁄8″	1 13⁄16″ St.	9″	10 7⁄8″	1948#

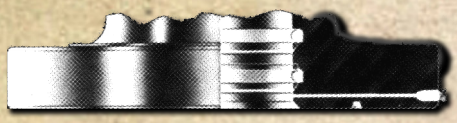
Note: other sizes and Spools with higher pressure ratings available on request.

JW-29 and JW-29-L Casing Spools

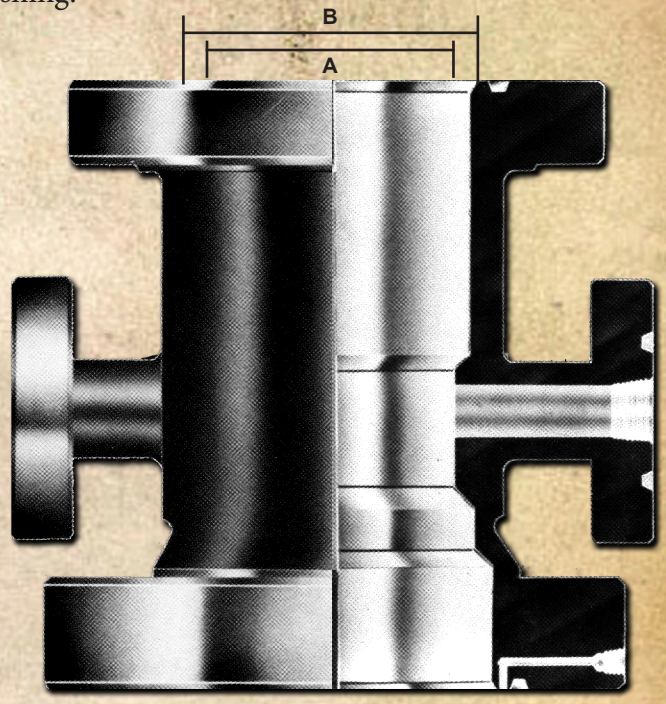
The JW-29 and JW-29-L casing spool has all the features of the JW-29 casing head except that it has a bottom flange and is usually furnishd with flanged outlets. The bottom flange has secondary seal preparations to receive either the JW-PE seal assembly or the JW-4-0 reducer bushing.



JW-29-L Casing Spool



"OO" Bottom



JW-29 Casing Spool

Note: ER-29 and ER-29-L Casing Spools are availalable with flanged outlets.

Specifications:

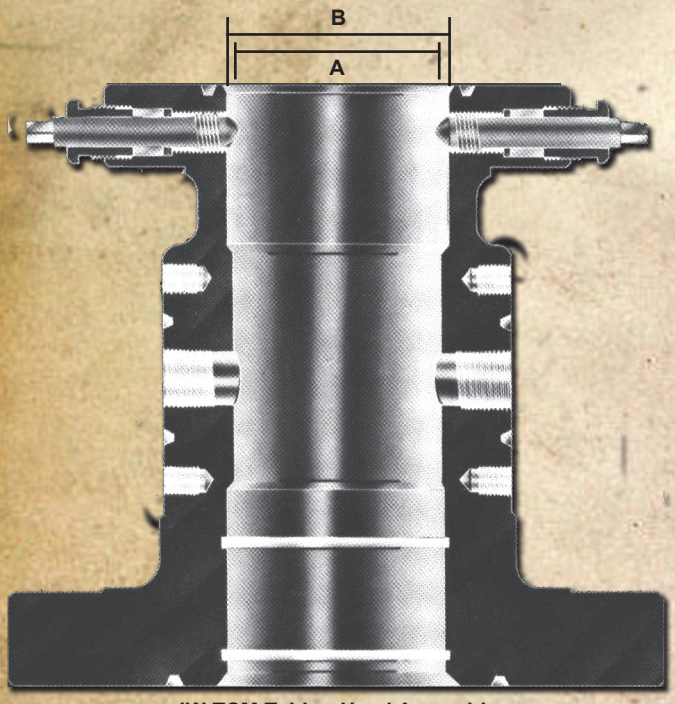
Top Flange		Bottom Flange		Casing Size		Dimensions		
Size	W.P.	Size	W.P.		Outlet	A	B	Weight
11"	3,000	13 5/8"	3,000	BG 10 3/4"	2" L.P.	10"	10 7/8"	785#
11"	3,000	16 3/4"	3,000	BG 10 3/4"	2 1/16" Flgd.	10"	10 7/8"	1,200#
11"	5,000	13 5/8"	3,000	BG 10 3/4"	2 1/16" Flgd.	10"	10 7/8"	1,175#
11"	5,000	13 5/8"	5,000	BG 10 3/4"	2 1/16" Flgd.	10"	10 7/8"	1,595#
11"	10.000	13 5/8"	5,000	9 5/8"	1 13/16" Flgd.	9"	10 7/8"	1,698#
11"	10.000	13 5/8"	10,000	9 5/8"	1 13/16" Flgd.	9"	10 7/8"	2,950#
13 5/8"	10.000	16 3/4"	5,000	9 5/8"	1 13/16" Flgd.	10"	10 7/8"	3,235#
13 5/8"	15,000	13 5/8"	10,000	9 5/8"	1 13/16" Flgd.	9"	10 7/8"	3,900#
13 5/8"	3,000	16 3/4"	3,000	11 3/4"	2 1/16" Flgd.	11"	13 1/2"	1,725#
13 5/8"	3,000	21 1/4"	2,000	13 3/8"	2 1/16" Flgd.	12 1/2"	13 1/2"	1,830#
13 5/8"	3,000	20 3/4"	3,000	13 3/8"	2 1/16" Flgd.	12 1/2"	13 1/2"	1,960#
13 5/8"	5,000	16 3/4"	3,000	11 3/4"	2 1/16" Flgd.	12 1/2"	13 1/2"	1,950#
13 5/8"	5,000	20 3/4"	3,000	13 3/8"	2 1/16" Flgd.	12 1/2"	13 1/2"	2,060#
13 5/8"	10,000	16 3/4"	5,000	11 3/4"	1 13/16" Flgd.	11"	13 1/2"	3,243#

Note: JW-29 and JW-29-L Casing Heads and Spools are available in larger sizes and higher pressure ratings.

J&W Tubing Heads

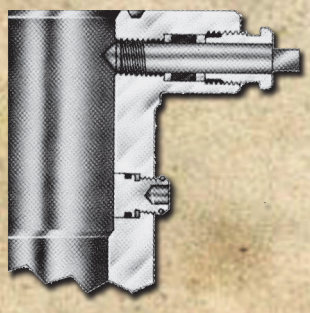
The JW-TCM Tubing Head is a full opening, straight bore head. Locking screws in the top flange are standard equipment. Normally, there are two 2-inch screwed or studded outlets. All studded outlets have V-R threads to accept J&W type V-R plugs, should the operator need to replace or add a full opening valve under pressure the lower flange has a test port, bleeder port, or a plastic injection port to test or energize seals on the inside of the tubing head.

The JW-TC is identical to the JW-TCM, except that it has an aligning pin for multiple completions.



JW-TCM Tubing Head Assembly

Note: Type JW-TC is identical to JW-TCM except that JW-TC has an alignment pin.



Inset showing aligning pin.

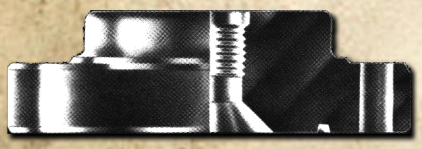
Specifications:

Top Flange		Bottom Flange		Prep.	Outlet	Dimensions		Weight
Size	W.P.	Size	W.P.			A	B	
*7-1/16"	2,000	11"	2,000	7"OO"	2-L.P.O.	6-13/16"	7"	350#
*7-1/16"	2,000	11"	2,000	7"OO"	2-1/16-2,000	6-13/16"	7"	355#
*7-1/16"	2,000	13-⅝"	2,000	9 BL.	2-L.P.O.	6-13/16"	7"	440#
*7-1/16"	2,000	13-⅝"	2,000	9 BL.	2-1/16-2,000	6-13/16"	7"	445#
7-1/16"	3,000	11"	2,000	7"OO"	2-L.P.O.	6-⅜"	7"	550#
7-1/16"	3,000	11"	2,000	7"OO"	2-1/16-5,000	6-⅜"	7"	555#
7-1/16"	3,000	11"	3,000	9 BL.	2-L.P.O.	6-13/16"	7"	600#
7-1/16"	3,000	11"	3,000	9 BL.	2-1/16-5,000	6-13/16"	7"	605#
7-1/16"	3,000	13-⅝"	2,000	9 BL.	2-L.P.O.	6-⅜"	7"	620#
7-1/16"	3,000	13-⅝"	2,000	9 BL.	2-1/16-5,000	6-⅜"	7"	625#
7-1/16"	3,000	13-⅝"	3,000	9 BL.	2-L.P.O.	6-13/16"	7"	675#
7-1/16"	3,000	13-⅝"	3,000	9 BL.	2-1/16-5,000	6-13/16"	7"	670#
7-1/16"	5,000	11"	3,000	9 BL.	2-L.P.O.	6-13/16"	7"	670#
7-1/16"	5,000	11"	3,000	9 BL.	2-1/16-5,000	6-13/16"	7"	670#
7-1/16"	5,000	11"	5,000	9 BL.	2-L.P.O.	6-13/16"	7"	875#
7-1/16"	5,000	11"	5,000	9 BL.	2-1/16-5,000	6-13/16"	7"	880#
7-1/16"	5,000	13-⅝"	3,000	9 BL.	2-L.P.O.	6-13/16"	7"	800#
7-1/16"	5,000	13-⅝"	3,000	9 BL.	2-1/16-5,000	6-13/16"	7"	805#
*9"	2,000	11"	2,000	7"OO"	2-L.P.O.	6-13/16"	7"	855#
*9"	2,000	11"	2,000	7"OO"	2-1/16-2,000	6-13/16"	7"	860#
*9"	2,000	13-⅝"	2,000	10-¾ BL.	2-L.P.O.	8-¼"	8-¾"	500#
*9"	2,000	13-⅝"	2,000	10-¾ BL.	2-1/16-2,000	8-¼"	8-¾"	505#
9"	3,000	11"	2,000	7"OO"	2-L.P.O.	8-¼"	8-¾"	710#
9"	3,000	11"	2,000	7"OO"	2-1/16-5,000	8-¼"	8-¾"	715#
9"	3,000	11"	3,000	9 BL.	2-L.P.O.	8-¼"	8-¾"	750#
9"	3,000	11"	3,000	9 BL.	2-1/16-5,000	8-¼"	8-¾"	755#
9"	3,000	13-⅝"	2,000	10-¾ BL.	2-L.P.O.	8-¼"	8-¾"	650#
9"	3,000	13-⅝"	2,000	10-¾ BL.	2-1/16-5,000	8-¼"	8-¾"	655#
9"	3,000	13-⅝"	3,000	10-¾ BL.	2-L.P.O.	8-¼"	8-¾"	700#
9"	3,000	13-⅝"	3,000	10-¾ BL.	2-1/16-5,000	8-¼"	8-¾"	705#
9"	5,000	11"	3,000	9 BL.	2-L.P.O.	8-¼"	8-¾"	800#
9"	3,000	11"	3,000	9 BL.	2-1/16-5,000	8-¼"	8-¾"	805#
9"	5,000	13-⅝"	3,000	10-¾ BL.	2-L.P.O.	8-¼"	8-¾"	710#
9"	5,000	13-⅝"	3,000	10-¾ BL.	2-1/16-5,000	8-¼"	8-¾"	715#
7-1/16"	10,000	11"	5,000	9 BL.	1-13/16-10,000	6-13/16"	7"	856#
7-1/16"	10,000	11"	10,000	9 BL.	1-13/16-10,000	6-¾"	7"	1318#
9"	10,000	13-⅝"	5,000	9 BL.	1-13/16-10,000	8-¼"	8-¾"	1249#
11"	10,000	11"	5,000	9-⅝ BL.	1-13/16-15,000	9"	10-⅞"	1754#
7-1/16"	15,000	11"	10,000	7"OO"	1-13/16-10,000	6-⅜"	7"	1384#
9"	10,000	16-¾"	10,000	9 BL.	1-13/16-10,000	7"	8-¾"	1700#

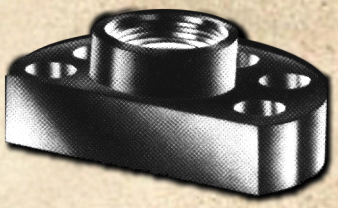
Note: Other designs or profiles are available on request.

Adapter Flanges

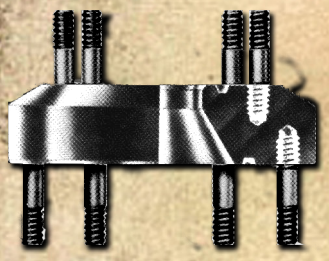
Adapter Flanges



Adapter Flange

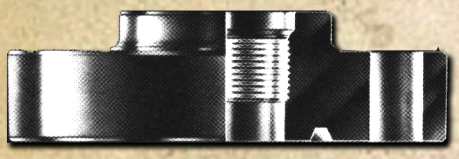


Dual Adapter Flange

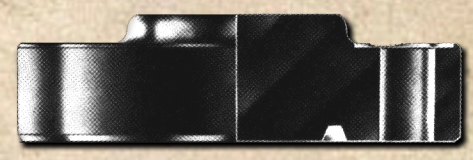


Double-Studded Adapter

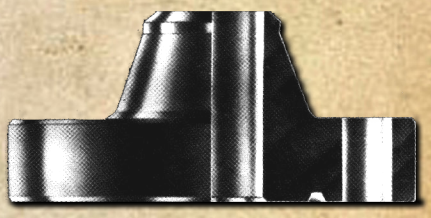
Flanges



Companion Flange



Blind Flange

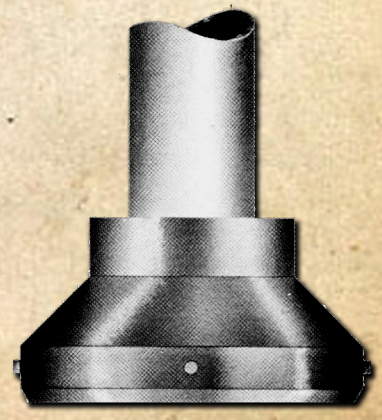


Weld Neck Flange

Wear Bushing and Tool



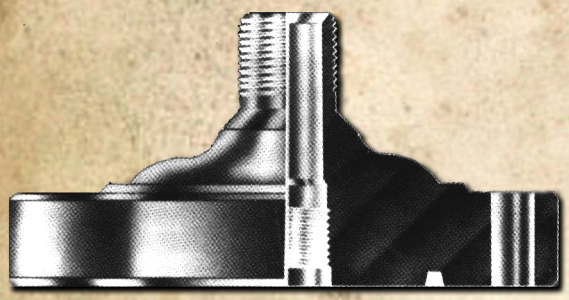
Wear Bushing



Retrieving Tool

Tubing Head Adapters

JW-B-1 Threaded

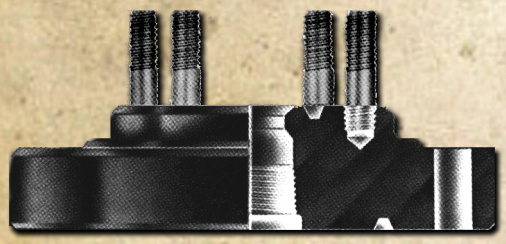


JW-B-1

Specifications

Flange	Top Thread	Bottom Thread	Wt.
7-1/16"-2,000	2-⅜" API UP Tbg.	2-⅜" API UP Tbg.	117#
7-1/16"-2,000	2-⅞" API UP Tbg.	2-⅞" API UP Tbg.	110#
7-1/16"-3,000	2-⅞" API UP Tbg.	2-⅜" API UP Tbg.	142#
7-1/16"-2,000	3-½" API UP Tbg.	3-½" API UP Tbg.	110#
7-1/16"-3,000	2-⅜" API UP Tbg.	2-⅜" API UP Tbg.	142#
7-1/16"-3,000	2-⅞" API UP Tbg.	2-⅞" API UP Tbg.	135#
7-1/16"-3,000	2-⅞" API UP Tbg.	2-⅜" API UP Tbg.	145#
7-1/16"-3,000	3-½" API UP Tbg.	3-½" API UP Tbg.	125#
7-1/16"-5,000	2-⅜" API UP Tbg.	2-⅜" API UP Tbg.	230#
7-1/16"-5,000	2-⅞ API UP Tbg.	2-⅞ API UP Tbg.	220#
7-1/16"-5,000	3-½ API UP Tbg.	3-½ API UP Tbg.	205#
7-1/16"-10,000	2-⅜" API UP Tbg.	2-⅜" API UP Tbg.	230#
7-1/16"-10,000	2-⅞ API UP Tbg.	2-⅞ API UP Tbg.	220#
7-1/16"-10,000	3-½ API UP Tbg.	3-½ API UP Tbg.	205#

JW-B-2-P Studded

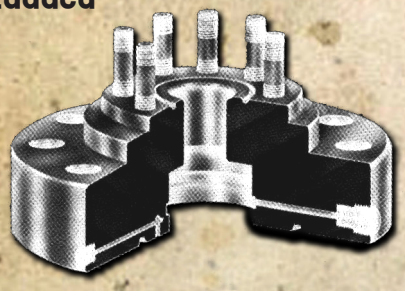


JW-B-2

Specifications

Flange X Top Stdd.	Thread Description	Wt.
7-1/16"-2,000 x 2-1/16"-2,000	2-⅜" API UP Tbg.	107#
7-1/16"-3,000 x 2-1/16"-5,000	2-⅜" API UP Tbg.	114#
7-1/16"-3,000 x 2-9/16"-5,000	2-⅞" API UP Tbg.	170#
7-1/16"-3,000 x 3-1/16"-5,000	3-½" API UP Tbg.	225#
7-1/16"-5,000 x 2-1/16"-5,000	2-⅜" API UP Tbg.	160#
7-1/16"-5,000 x 2-9/16"-5,000	2-⅞" API UP Tbg.	230#
7-1/16"-5,000 x 3-1/16"-5,000	3-½" API UP Tbg.	330#

JW-A-5-P Studded

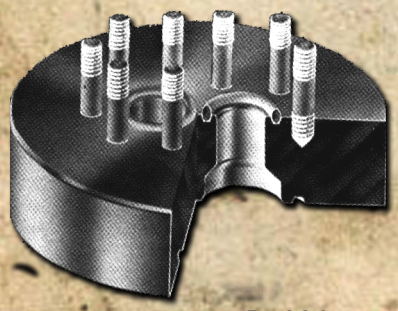


A-5-P with Control-Line Preparation

Specifications

Flange X Top Stdd.	Wt.
7-1/16"-3,000 x 2-1/16"-5,000	184#
7-1/16"-5,000 x 2-1/16"-5,000	178#
7-1/16"-5,000 x 2-9/16"-5,000	175#
7-1/16"-10,000 x 2-1/16"-5,000	318#
7-1/16"-10,000 x 2-9/16"-5,000	316#
7-1/16"-10,000 x 2-1/16"-10,000	318#
7-1/16"-10,000 x 2-9/16"-10,000	316#

Multiple Completion



Dual Adapter

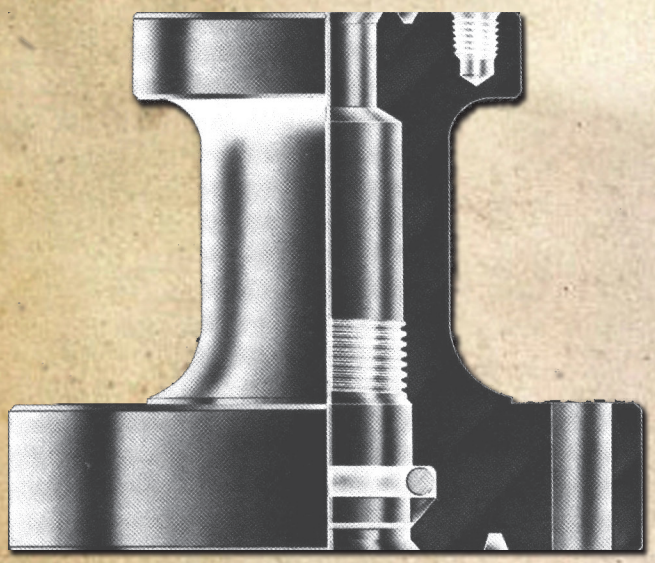
Specifications

Botton Flg.-Studded Size-W.P.	Top Thread-ed Size	Wt.	Bottom Flg.-Studded Size-W.P.	Top Fig.-Studded Size-W.P.	Wt.
7-1/16"-2,000	2 x 2 EUE	172#	7-1/16"-2,000	2-1/16" x 2-1/16"-5,000	172#
7-1/16"-3,000	2 x 2 EUE	201#	7-1/16"-3,000	2-1/16" x 2-1/16"-5,000	201#
7-1/16"-5,000	2 x 2 EUE	280#	7-1/16"-5,000	2-1/16" x 2-1/16"-5,000	280#
11"–2,000	2-½ x 2 EUE	342#	11"–2,000	2-9/16" x 2-1/16"-5,000	342#
11"–2,000	2-½ x 2-½ EUE	337#	11"–2,000	2-9/16" x 2-9/16"-5,000	337#
11"–3,000	2-½ x 2 EUE	428#	11"–3,000	2-9/16" x 2-1/16"-5,000	428#
11"–3,000	2-½ x 2-½ EUE	421#	11"–3,000	2-9/16" x 2-9/16"-5,000	421#
11"–5,000	2-½ x 2 EUE	467#	11"–5,000	2-9/16" x 2-1/16"-5,000	467#
11"–5,000	2-½ x 2-½ EUE	461#	11"–5,000	2-9/16" x 2-9/16"-5,000	461#

Tubing Head Adapters and Couplings

JW-02 Tubing Head Adapters

The JW-02 Tubing Head Adapter is equipped with Acme threads that make up with the JW-02 Coupling. This coupling is supplied with JW-BPV threads. The adapter is equipped with seal rings on the inside plus test ports on the flange for the purpose of testing all seals at the Christmas Tree flange. The JW-02 Coupling, which has the Acme threads and BPV threads, also can be supplied with the operator's desire of tubing threads on the inside top and inside bottom of the coupling.

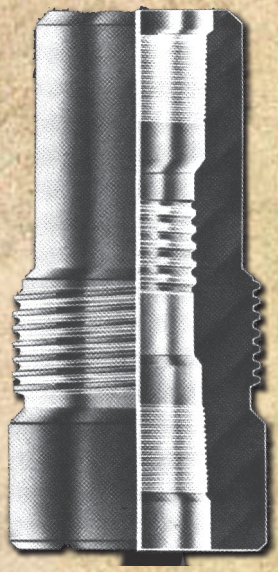


JW-02 Adapter

Specifications

Bottom Flange		Top Studded		Tubing Size	Wt.
Size	W.P.	Size	W.P		
7-1/16"	2,000	2-1/16"	2,000	2"	170#
7-1/16"	2,000	2-9/16"	2,000	2-½"	180#
7-1/16"	2,000	3-1/18"	2,000	2-½"	190#
7-1/16"	3,000	2-1/16"	5,000	2"	205#
7-1/16"	3,000	2-9/16"	5,000	2-½"	220#
7-1/16"	3,000	3-⅛"	3,000	2-½"	230#
7-1/16"	5,000	2-1/16"	5,000	2"	275#
7-1/16"	5,000	2-9/16"	5,000	2-½"	295#
7-1/16"	5,000	3-⅛"	5,000	2-½"	315#
7-1/16"	10,000	2-1/16"	10,000	2"	600#
7-1/16"	10,000	2-9/16"	10,000	2-½"	600#
7-1/16"	15,000	2-1/16"	15,000	2"	650#
7-1/16"	15,000	2-9/16"	15,000	2-½"	675#
9"	10,000	3-⅛"	10,000	3"	965#
9"	10,000	4-1/16"	10,000	4"	1010#
11"	10,000	3-1/16"	10,000	3"	1450#
11"	10,000	4-1/16"	10,000	4"	1500#

JW-02 Hanger Couplings

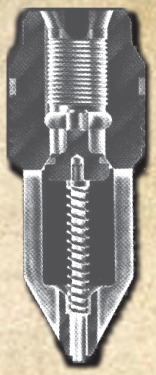


JW-02 Coupling

Specifications

Size	Wt.
2-⅜" O.D. EUE x 2-⅜" O.D. EUE	22#
2-⅞" O.D. EUE x 2-⅞" O.D. EUE	16#
3-½" O.D. EUE x 3-½" O.D. EUE	35#

JW Back Pressure Valves



JW-H Back Pressure Valve

Specifications

Size	Max. O.D.	Wt.	Tubing Hanger		Christmas Tree	
			Tubing O.D	Min. Bore B.P.V. Thds.	Min. Vertical Bore *	Minimum Drift Dia.
1-¼"	1.356"	1.3#	1.660"	1.286"		
1-½"	1.605"	1.8#	1.900"	1.525"	1-5.8"	1.610"
1-¾"	1.775"	2.0#	2-1/16"	1.695"	1-13/16"	1.795"
2"	2.020"	2.4#	2-⅜"	1.940"	2-1/16"	2.030"
2-½"	2.485"	3.8#	2-⅞"	2.405"	2-9/16"	2.500"
3"	3.030"	6.0#	3-½"	2.950"	3-⅛"	3.060"
3½"	3.530"	11.0#	4"	3.450"	4-1/16"	3.580"
4"	3.980"	16.2#	4-½"	3.900"	4-1/16"	4.020"

*Desired Minimum Bore should be specified

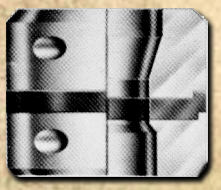
Tees and Crosses

JW-TC-1W

The JW-TC-1W is a slick joint wrap around that is designed to seal off the casing annulus while nippling up the Christmas Tree. Tubing weight may be supported on the hanger by means of a JW-02 coupling while the preventers are being removed. It does not require a polished joint.

Specifications

Size	Wt
7-1/16" x 2-3/8" O.D.	70#
7-1/16" x 2-7/8" O.D.	70#
7-1/16" x 3-1/2" O.D.	67#
9" x 2-3/8" O.D.	113#
9" x 2-7/8" O.D.	110#
11" x 2-3/8" O.D.	169#
11" x 2-7/8" O.D.	164#

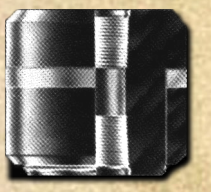


JW-TC-1W

JW-TC-1A

The JW-TC-1A is a threaded hanger. It is energized with the tubing weight and tightening the lock screws in the tubing head flange. Back pressure valve threads are also available on request.

Size	Wt
7-1/16" x 2-3/8" O.D. EUE 8RF TBG	68#
7-1/16" x 2-7/8" O.D. EUE 8RF TBG	66#
7-1/16" x 3-1/2" O.D. EUE 8RF TBG	63#
9" x 2-3/8" O.D. EUE 8RF TBG	110#
9" x 2-7/8" O.D. EUE 8RF TBG	108#
11" x 2-3/8" O.D. EUE 8RF TBG	160#
11" x 2-7/8" O.D. EUE 8RF TBG	155#

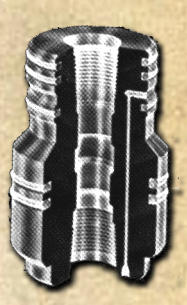


JW-TC-1A

JW-TC-1A-EN

The JW-TC-1A-EN is the same as the JW-TC-1A except that it has an extended neck with packing rings that confine all pressures and well fluids to the tubing bore. When a hydraulically controlled down-hole safety valve is to be installed, the JW-TC-1A-EN Tubing Hanger can be modified to include connections and ports for the hydraulic control line.

Size	Wt
7-1/16" x 2-3/8" O.D. EUE 8RF TBG	77#
7-1/16" x 2-7/8" O.D. EUE 8RF TBG	70#
7-1/16" x 3-1/2" O.D. EUE 8RF TBG	60#
9" x 2-3/8" O.D. EUE 8RF TBG	117#
9" x 2-7/8" O.D. EUE 8RF TBG	111#
11" x 2-3/8" O.D. EUE 8RF TBG	271#
11" x 2-7/8" O.D. EUE 8RF TBG	266#



JW-TC-1A-EN

JW-TCD-2C

The JW-TCD-2C dual tubing hanger is a mandrel type consisting of a master bushing and two mandrel type couplings that after landing tubing, a sandwich type compression packoff may be lowered through the blowout preventers and made up over the couplings to packoff.

Each of the dual hangers has J&W back pressure valve threads internally.

Description	Centers	Wt.
7-1/16" x 2" UP x 2" UP	3-3⅝4"	65#
9" x 2" UP x 2" UP	3-3⅝4"	95#

JW-TC-2P

The JW-TC-2P dual tubing hanger is a segmented hanger that is designed for use when down hole control valves or gas lift valves are run through the hanger.

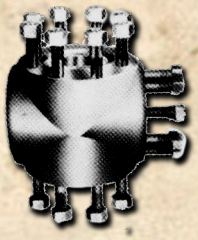
Description	Centers	Wt.
7-1/16" x 1-1/2" UP x 1-1/2" UP	2-24/32"	64#
7-1/16" x 1-1/2" UP x 1-1/2" UP	3-3⅝4"	64#
9" x 2" Up x 2" UP	3-3⅝4"	95#
11" x 2" UP x 2" UP	3-3⅝4"	169#
11" x 2-1/2" UP x 2-1/2" UP	4-1/2"	163#

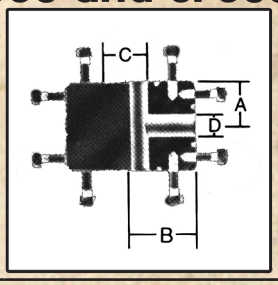


JW-TCD-2C
Dual String Hanger

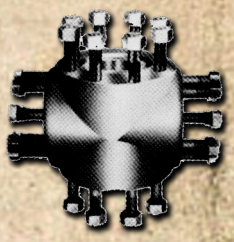
Tees and Crosses

J&W Tees





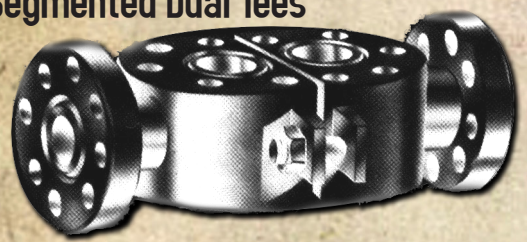
J&W Crosses



Specifications

		.	Dimensions						
Run	Outlets	Wt	A	B	C	D	Run	Outlets	Wt.
2-1/16" -2,000	2-1/16" -2,000	95#	3-⅞"	3-⅞"	2-1/16"	2-1/16"	2-1/16" -2,000	2-1/16" -2,000	85#
2-1/16" -5,000	2-1/16" -5,000	160#	4-13/16"	4-13/16"	2-1/16"	2-1/16"	2-1/16" -5,000	2-1/16" -5,000	161#
2-9/16" -2,000	2-9/16" -2,000	125#	3-13/16"	4-5/16"	2-9/16"	2-1/16"	2-9/16" -2,000	2-1/16" -2,000	119#
2-9/16" -5,000	2-9/16" -5,000	395#	4-13/16"	6"	2-9/16"	2-1/16"	2-9/16" -5,000	2-1/16" -5,000	254#
3-⅛" -2,000	2-1/16" -2,000	165#	3-13/16"	4-11/16"	3-1/16"	2-1/16"	3-⅛" -2,000	2-1/16" -2,000	147#
3-⅛" -2,000	3-⅛" -2,000	198#					3-⅛" -2,000	3-⅛" -2,000	185#
3-⅛" -3,000	2-1/16" -5,000	264#	4-⅞"	5-7/16"	3-⅛"	2-1/16"	3-⅛" -3,000	2-⅛" -5,000	231#
3-⅛" -3,000	3-⅛" -3,000	264#					3-⅛" -3,000	3-⅛" -3,000	271#
3-⅛" -5,000	2-1/16" -5,000	300#	4-13/16"	6"	3-1/16"	2-1/16"	3-⅛" -5,000	2-1/16" -5,000	295#
3-⅛" -5,000	3-⅛" -5,000	414#					3-⅛" -5,000	3-⅛" -5,000	321#
4-1/16" -2,000	2-1/16" -2,000	231#	4-⅝"	5-⅝"	6-7/16"	4-⅛"	4-1/16" -2,000	2-1/16" -2,000	205#
4-1/16" -2,000	2-1/16" -5,000	405#					4-1/16" -2,000	4-1/16" -2,000	354#
4-1/16" -3,000	2-1/16" -5,000	374#	4-7/16"	6-7/16"	4-⅛"	2-1/16"	4-1/16" -3,000	2-1/16" -5,000	354#
4-1/16" -3,000	4-1/16" -3,000	495#					4-1/16" -3,000	4-1/16" -3,000	451#
4-1/16" -5,000	2-1/16" -5,000	407#	4-¾"	6-11/16"	4-⅛"	2-1/16"	4-1/16" -5,000	2-1/16" -5,000	381#
4-1/16" -5,000	2-9/16" -5,000	447#					4-1/16" -5,000	2-9/16" -5,000	425#
4-1/16" -5,000	3-⅛" -5,000	488#					4-1/16" -5,000	3-⅛" -5,000	425#
4-1/16" -5,000	4-1/16" -5,000	565#					4-1/16" -5,000	4-1/16" -5,000	486#
1-13/16"-10,000	1-13/16"-10,000	191#					1-13/16"-10,000	1-13/16"-10,000	191#
1-13/16"-15,000	1-13/16"-15,000	257#					1-13/16"-15,000	1-13/16"-15,000	253#
2-1/16" -10,000	1-13/16"-10,000	191#	4-⅞"	4-⅞"	2-1/16"	1-13/16"	2-1/16" -10,000	1-13/16" -10,000	191#
2-1/16" -10,000	2-1/16" -10,000	191#					2-1/16" -10,000	2-1/16" -10,000	191#
2-1/16" -15,000	1-13/16" -15,000	257#	4-⅞"	6"	2-1/16"	1-13/16"	2-1/16" -15,000	1-13/16" -15,000	253#
2-1/16" -15,000	2-⅛" -15,000	257#					2-1/16" -15,000	2-1/16" -15,000	253#
2-9/16" -10,000	1-13/16" -10,000	246#	4-⅞"	5-7/16"	2-9/16"	1-13/16"	2-1/16" -15,000	1-13/16" -10,000	246#
2-9/16" -10,000	2-1/16" -10,000	246#					2-9/16" -10,000	2-1/16" -10,000	246#
2-9/16" -10,000	2-9/16" -10,000	286#					2-9/16" -10,000	2-9/16" -10,000	301#
2-9/16" -15,000	1-13/16" -15,000	389#	4-⅞"	6"	2-9/16"	1-13/16"	2-9/16" -10,000	1-13/16" -15,000	307#
2-9/16" -15,000	2-1/16" -15,000	389#					2-9/16" -15,000	1-13/16" -10,000	350#
3-1/16" -10,000	2-1/16" -10,000	370#					3-1/16" -10,000	2-1/16" -10,000	350#
3-1/16" -10,000	2-9/16" -10,000	407#					3-1/16" -10,000	2-9/16" -10,000	433#
3-1/16" -10,000	3-1/16" -10,000	480#					3-1/16" -10,000	3-1/16" -10,000	464#
4-1/16" -10,000	2-1/16" -10,000	486#					3-1/16" -10,000	2-1/16" -15,000	470#
4-1/16" -10,000	2-9/16" -10,000	537#	4-9/16"	6-¾"	4-1/16"	1-13/16"	3-1/16" -15,000	1-13/16" -10,000	458#
4-1/16" -10,000	3-1/16" -10,000	614#					4-1/16" -10,000	2-1/16" -10,000	458#
4-1/16" -10,000	4-1/16" -10,000	702#					4-1/16" -10,000	2-9/16" -10,000	561#
							4-1/16" -10,000	3-1/16" -10,000	609#
							4-1/16" -10,000	4-1/16" -10,000	695#

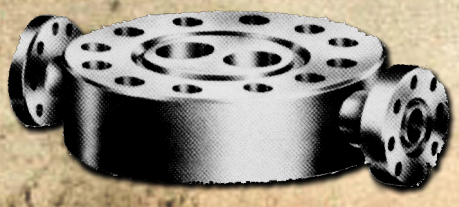
J&W Segmented Dual Tees



Specifications

Top Threaded EUE			Top Studded			Wt.
Pressure	Run	Outlet	Pressure	Run	Outlet	
2,000	2-1/16"	2 LP	2,000	2-1/16"	2 LP	83#
2,000	2-9/16"	2 LP	2,000	2-9/16"	2 LP	83#
2,000	2-1/16"	2-1/16"-2,000	2,000	2-1/16"	2-1/16"-2,000	85#
2,000	2-9/16"	2-1/16"-2,000	2,000	2-9/16"	2-1/16"-2,000	124#
3,000	2-1/16"	2 LP	3,000	2-1/16"	2 LP	184#
3,000	2-9/16"	2 LP	3,000	2-9/16"	2 LP	184#
3,000	2-1/16"	2-1/16"-5,000	3,000	2-1/16"	2-1/16"-5,000	188#
3,000	2-9/16"	2-1/16"-5,000	3,000	2-9/16"	2-1/16"-5,000	248#
5,000	2-1/16"	2 LP	5,000	2-1/16"	2 LP	124#
5,000	2-9/16"	2 LP	5,000	2-9/16"	2 LP	184#
5,000	2-1/16"	2-1/16"-5,000	5,000	2-1/16"	2-1/16"-5,000	188#
5,000	2-9/16"	2-1/16"-5,000	5,000	2-9/16"	2-1/16"-5,000	248#

J&W Dual Tees



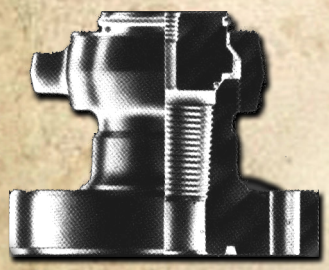
Specifications

Flanges				
Btm. Stdd.	Top Stdd.	Run	Outlet	Wt.
7-1/16"-2,000	7-1/16"-2,000	2-1/16"	27-1/16"-2,000	286#
7-1/16"-3,000	7-1/16"-3,000	2-1/16"	2-1/16"-5,000	360#
7-1/16"-5,000	7-1/16"-5,000	2-1/16"	2-1/16"-5,000	450#
7-1/16"-10,000	7-1/16"-10,000	2-1/16"	1-13/16"-10,000	740#
11"-3,000	11"-3,000	2-9/16"	2-1/16"-5,000	940#
11"-5,000	11"-5,000	2-9/16"	2-1/16"-5,000	1200#

Bottom Hole Test Adapters

JW-15-A

The JW-15-A body is a one piece forging, and is designed for use where a flanged unit is preferred by the operator. It has an internal lift thread.



Specifications

Bottom Flange	Bore	Lift Thread	Wt.
2-1/16"-2,000	2-1/16"	2-⅜" EUE	36#
2-1/16"-5,000	2-1/16"	2-⅜" EUE	52#
2-9/16"-2,000	2-9/16"	2-⅞" EUE	40#
2-9/16"-5,000	2-9/16"	2-⅞" EUE	60#
3-⅛"-2,000	2-9/16"	2-⅞" EUE	43#
3-⅛"-2,000	3-1/16"	3-½" EUE	60#
3-⅛"-3,000	2-9/16"	2-⅞" EUE	48#
3-⅛"-3,000	3-1/16"	3-½" EUE	64#
3-⅛"-3,000	2-9/16"	2-⅞" EUE	86#
3-⅛"-5,000	3-1/16"	3-½" EUE	88#
4-1/16"-3,000	4-1/16"	4-½" EUE	50#

JW-14-A

The JW-14-A is like the JW/-15-A, except that it has a threaded bottom enabling it to be utilized with threaded connections with working pressure up to 5,000 PSI.



Specifications

Bottom Thread	Lift Thread	Bore	Nut	Wt.
2 LP	2-⅜" EUE 8RD	2-1/16"	2-½"	25#
2-⅜" EUE 8RD	2-⅜" EUE 8RD	2-1/16"	2-½"	25#
2-⅜" EUE 8RD	2-⅜" EUE 8RD	2-1/16"	2-½"	26#
2-⅜" EUE 8RD	2-⅞" EUE 8RD	2-9/16"	2-½"	27#
3 LP	2-⅞" EUE 8RD	2-9/16"	2-½"	28#
3-½" EUE	3-½" EUE	3-1/16"	2-½"	29#

JW-11-AO

The JW-11-AO is used in extreme high pressure cases. It is designed with an "O" Ring seal in the sealing cap.

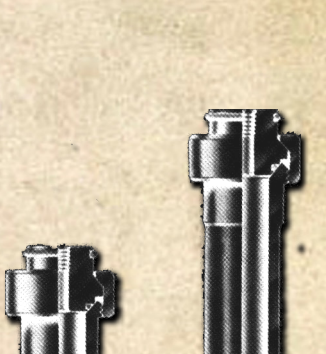


Specifications

Bottom Flange	Bore	Lift Thread	Wt.
2-1/16"-10,000	2-1/16"	2-⅜" EUE	84#
2-1/16"-15,000	2-1/16"	2-⅜" EUE	90#
2-9/16"-10,000	2-9/16"	2-⅞" EUE	88#
2-9/16"-15,000	2-9/16"	2-⅞" EUE	95#
3-1/16"-10,000	2-9/16"	3-½" EUE	95#
3-1/16"-15,000	3-1/16"	3-½" EUE	103#
4-1/16"-10,000	4-1/16"	4-½" EUE	103#

JW-14-AD

The JW-14-AD is designed to be used on multiple completions to 5,000 PSI. They can be equipped with segmented flanged bottoms.



Specifications

Bottom Flange	Wt.	Length	Lower Conn.	Wt.
2-1/16"-5,000	24#	Short	2-⅜" EUE	11#
2-1/16"-5,000	29#	Long	2-⅜" EUE	15#
2-9/16"-5,000	29#	Short	2-⅞" EUE	13#
2-9/16"-5,000	35#	Long	2-⅞" EUE	20#
3-⅛"-5,000	33#	Short	3-½" EUE	18#
3-⅛"-5,000	40#	Long	3-½" EUE	24#

Bottom Hole Test Adapters and Flanges

Combination Bottom Hole Test Adapters, Crosses and Tees

The JW-B-15-A bottom Hole Test Adapter Tee Assemblies are furnished with API 8RD female tubing threads under the cap assembly. It is available in various combinations of flanges and threaded bottoms or threaded or screwed outlets.



JW-T-15-A



JW-T-15-A with flanged bottom and screwed outlets



JW-T-15-A with flanged bottom and outlets

JW-T-15-A

Bottom	Outlet	Lift Thread	Wt.
2-3⁄8″ O.D. EUE	2″ L.P.	2-3⁄8″ O.D. EUE	71#
2-7⁄8″ O.D. EUE	2″ L.P.	2-7⁄8″ O.D. EUE	66#
3″ L.P.	2″ L.P.	2-7⁄8″ O.D. EUE	66#
3″ L.P.	3″ L.P.	2-7⁄8″ O.D. EUE	79#

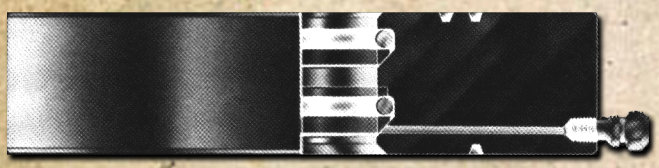
JW-T-15-A

Bottom Flange	Outlet	Lift Thread	Wt.
2-1/16″-2,000	2″ L.P.	2-3⁄8″ O.D. EUE	93#
2-1/16″-2,000	2-1/16″-2,000	2-3⁄8″ O.D. EUE	116#
2-1/16″-5,000	2″ L.P.	2-3⁄8″ O.D. EUE	95#
2-1/16″-5,000	2-1/16″-5,000	2-3⁄8″ O.D. EUE	118#
2-9/16″-2,000	2″ L.P.	2-7⁄8″ O.D. EUE	100#
2-9/16″-2,000	2-1/16″-2,000	2-7⁄8″ O.D. EUE	127#
2-9/16″-5,000	2″ L.P.	2-7⁄8″ O.D. EUE	103#
2-9/16″-5,000	2-1/16″-5,000	2-7⁄8″ O.D. EUE	130#

Flanges

JW-00 Packoff Flanges

The JW-OO Packoff Flange is designed to slip over the casing stub and packoff around the casing just above the primary seal in the head. A test port is installed to allow the operator to pressure test all seals. This packoff flange is available in combination studded flange sizes to allow going from a lower pressure to a higher pressure flanges.



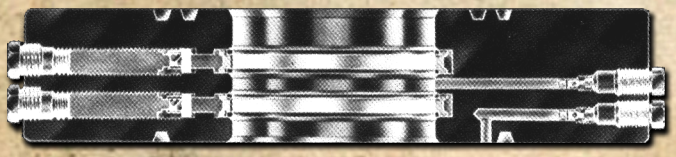
JW-OO Packoff Flange

Specifications

	Flange		
Casing size	Size	W.P.	Wt.
5-1⁄2″ O.D.	11″	2,000	348#
	11″	3,000	407#
	11″	5,000	587#
7″ O.D.	11″	2,000	329#
	11″	3,000	389#
	11″	5,000	564#
7-5⁄8″ O.D.	11″	2,000	321#
	11″	3,000	481#
	11″	5,000	553#
8-5⁄8″ O.D.	13-5⁄8″	2,000	385#
	13-5⁄8″	3,000	472#
	13-5⁄8″	5,000	691#
9-5⁄8″ O.D.	13-5⁄8″	2,000	368#
	13-5⁄8″	3,000	455#
	13-5⁄8″	5,000	669#

JW-P Packoff Flanges

The JW-P Packoff Flange has the same features as the JW-OO Packoff Flange except that it is for plastic injection.



JW-P Packoff Flange

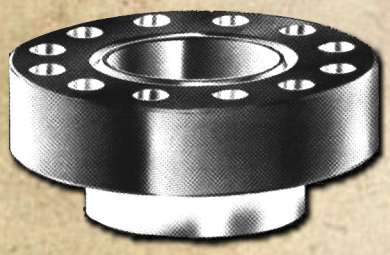
Specifications

	Flange		
Casing size	Size	W.P.	Wt.
5-1⁄2″ O.D.	11″	2,000	348#
	11″	3,000	407#
	11″	5,000	587#
7″ O.D.	11″	2,000	329#
	11″	3,000	389#
	11″	5,000	564#
7-5⁄8″ O.D.	11″	2,000	321#
	11″	3,000	481#
	11″	5,000	553#
8-5⁄8″ O.D.	13-5⁄8″	2,000	385#
	13-5⁄8″	3,000	472#
	13-5⁄8″	5,000	691#
9-5⁄8″ O.D.	13-5⁄8″	2,000	368#
	13-5⁄8″	3,000	455#
	13-5⁄8″	5,000	669#

Adapter Flanges for Independent Casing and Tubing Heads

The J&W Adapter Flange provides a means to get from the standard 8RD modified casing thread on top of the casing or tubing head to the flange on the blowout preventer. The top nut on the heads must be removed to apply this flange.

Note: Bell Nipples and male thread Frac Adapters are available in all sizes.



Adapter Flanges

Specifications

Sizes	Wt.
7-1/16"-3,000 x 8-⅝" O.D. 8RF	120#
11"-3,000 x 8-⅝" O.D. 8RF	461#
11"-3,000 x 9-⅝" O.D. 8RF	431#
11"-3,000 x 10-¾" O.D. 8RF	401#
11"-3,000 x 11-¾" O.D. 8RF	355#
11"-3,000 x 12-¾" O.D. 8RF	314#

Belled Nipples

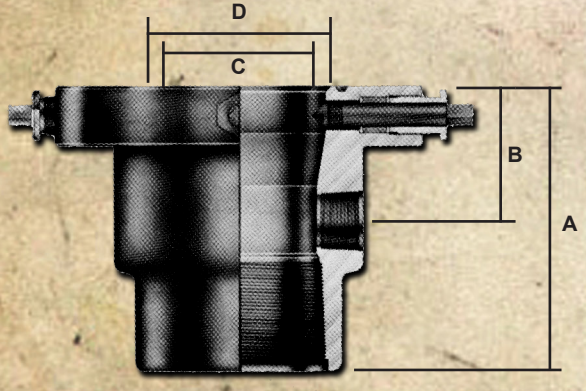


Belled Nipples

Specifications

Size	Wt.
4-½" O.D.	15#
5" O.D.	18#
5-½" O.D.	21#
7" O.D.	38#

TCM & T-16 Tubing Heads



T-16 Tubing Head

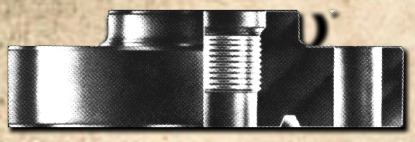
The JW-T-16 & TCM Tubing Heads are full-opening, tapered or straight bore heads. They are available with threaded or slip-on type bottoms for welding. Outlets are normally 2" line pipe.

Specifications

Top Flange	Bottom Thread	Outlet	Dimensions				Wt.
			A	B	C	D	
7-1/16"-2,000	5-½" O.D. 8RF	2" L.P.	14-1/16"	6-⅞"	5"	7"	164#
7-1/16"-2,000	7"" O.D. 8RF	2" L.P.	12-⅜"	6-¼"	6-⅜"	7"	154#
7-1/16"-3,000	5-½" O.D. 8RF	2" L.P.	14-13/16"	6-13/16"	5"	7"	208#
7-1/16"-3,000	7" O.D. 8RF	2" L.P.	12-⅝"	6-½"	6-⅜"	7"	198#
7-1/16"-5,000	5-½" O.D. 8RF	2" L.P.	15-½"	8-½"	6-13/16"	7"	211#
7-1/16"-5,000	7" O.D. 8RF	2" L.P.	15-½"	8-½"	6-13/16"	7"	201#
7 1/16"-5,000	7 ⅝" O.D. SOW	2" L.P.	15 ½"	8 ½"	6 13/16"	7"	198#

J&W SERVICES & EQUIPMENT COMPANY

API Flange Chart



API Flange



Flange Stud Bolt and Nuts

Ring Gaskets



RX



R



BX

Specifications

Size	Dimensions: Diameter	Thickness	No. of Bolts	Bolt Sizes	Wt./Set	Bolt Circle Diameter	Seal Ring: API No.	Wt.	Ring Dia. CC	Approx Dist. Bet. Madeup Flanges
Series 600 - 2,000 PSI API Working Pressure, 4,000 PSI Test Pressure										
2-1/16"	6-½"	1-5/16"	8	⅝" x 4-½"	5#	5"	23	1#	3-¼"	3/16"
2-9/16"	7-½"	1-7/16"	8	¾ x 5"	8#	5-⅞"	26	1#	4"	3/16"
3-⅛"	8-¼"	1-9/16"	8	¾ x 5-¼"	8-½#	6-⅝"	31	1-½#	4-⅞"	3/16"
4-1/16"	10-¾"	1-13/16"	8	⅞ x 6"	13#	8-½"	37	1-½#	5-⅞"	3/16"
7-1/16"	14"	2-3/16"	12	1 x 7"	29#	11-½"	45	2-¼#	8-5/16"	3/16"
9"	16-½"	2-½"	12	1-⅛ x 8"	41#	13-¾"	49	3#	10-⅝"	3/16"
11"	20"	2-13/16"	16	1-¼ x 8-¾	73#	17"	53	3-½#	12-¾"	3/16"
13-⅜"	22"	2-15/16"	20	1-¼ x 9"	94#	19-¼"	57	4#	15"	3/16"
16-¾"	27"	3-5/16"	20	1-½ x 10-¼"	155#	23-¾"	65	5#	18½"	3/16"
21-¼"	32"	3-⅞"	24	1-⅝ x 11-¾"	376#	28-½"	73	7#	23"	⅛"
Series 900 – 3,000 PSI API Working Pressure, 6000 PSI Test Pressure										
2-1/16"	8-½"	1-13/16"	8	⅞ x 6"	13#	6-½"	24	1#	3-¾"	⅛"
2-9/16"	9-⅝"	1-15/16"	8	1 x 6-½"	19#	7-½"	27	1-¼#	4-¼"	⅛"
3-⅛"	9-½"	1-13/16"	8	⅞ x 6"	13#	7-½"	31	1-½#	4-⅞"	5/32"
4-1/16"	11-½"	2-1/16"	8	1-⅛ x 7"	25#	9-¼"	37	1-½#	5-⅞"	5/32"
7-1/16"	15"	2-½"	12	1-⅛ x 8"	41#	12-½"	45	2-¼#	8-5/16"	5/32"
9"	18-½"	2-13/16"	12	1-⅜ x 9"	70#	15-½"	49	3#	10-⅝"	5/32"
11"	21-½"	3-1/16"	16	1-⅜ x 9-½"	97#	18-½"	53	3-½#	12-¾"	5/32"
13-⅜"	24"	3-7/16"	20	1-⅜ x 10-¼"	128#	21"	57	4#	15"	5/32"
16-¾"	27-¾"	3-15/16"	20	1-⅝ x 11-¾"	205#	24-¼"	66	8#	18-½"	5/32"
20-¾"	33-¾"	4-¾"	20	2 x 14-½"	379#	29-½"	74	16#	23"	3/16"
Series 1500 – 5,000 PSI API Working Pressure, 10,000 PSI Test Pressure										
2-1/16"	8-½"	1-13/16"	8	⅞ x 6"	13#	6-½"	24	1#	3-¾"	⅛"
2-9/16"	9-⅝"	1-15/16"	8	1 x 6-½"	19#	7-½"	27	1-¼#	4-¼"	⅛"
3-⅛"	10-½"	2-13/16"	8	1-⅛ x 7-½"	26#	8"	35	1-½#	5-⅜"	⅛"
4-1/16"	12-¼"	2-7/16"	8	1-¼ x 8"	35#	9-½"	39	1-¾#	6-⅜"	⅛"
7-1/16"	15-½"	3-⅜"	12	1-⅜ x 10-¾"	79#	12-½"	46	2-½#	8-5/16"	⅛"
9"	19"	4-1/16"	12	1-⅝ x 12"	125#	15-½"	50	3-¾#	10-⅝"	5/32"
11"	23"	4-11/16"	12	1-⅞ x 13-¾"	189#	19"	54	6-¼#	12-¾"	5/32"
Obsolete Series 2900 – 10,000 PSI Working Pressure, 15,000 PSI Test Pressure										
1"	6-¾"	2"	4	1 x 6-¾"	10#	4-⅝"	R82	1#	2-¼"	⅛"
1-½"	7-¼"	2-1/16"	4	1 x 6-¾"	10#	5-⅛"	R84	1#	2-½"	⅛"
2"	7-¾"	2-⅜"	8	⅞ x 7"	14#	5-¾"	R85	1-½#	3-⅛"	⅛"
2-½"	8-⅞"	2-¾"	8	1 x 8"	21#	6-⅝"	R86	1-½#	3-9/16"	5/32"
3"	10"	3-1/16"	8	1-⅛ x 9"	30#	7-½"	R87	2#	3-15/16"	5/32"
3-½"	11-½"	3-⅜"	8	1-¼ x 9-¾"	40#	8-½"	R89	2-½#	4-½"	5/32"
4"	12-½"	3-⅝"	8	1-⅜ x 10-½"	51#	9-½"	R88	3#	4-⅞"	5/32"
5"	14-¼"	4-3/16"	8	1-⅝ x 12-½"	85#	11"	R90	5#	6-⅛"	3/16"
10"	20-¾"	5-11/16"	12	2 x 16-½"	249#	16-¾"	R91	17#	10-4/8"	5/16"

Size	Dimensions: Diameter	Thickness	No. of Bolts	Bolt Sizes	Wt./Set	Bolt Circle Diameter	Seal Ring: API No.	Wt.
Type 6 BX 5,000 API Working Pressure, 10,000 PSI Test Pressure								
13-⅝"	26-½"	4-7/16"	16	1-⅝ x 12-12"	170#	23-¼"	BX-160	9-½#
16-¾"	30-⅜"	5-⅛"	16	1-⅞ x 14-½"	262#	26-⅝"	BX-162	5#
Type 6 BX 10,000 PSI API Working Pressure, 15,000 PSI Test Pressure								
1-13/16"	7-⅜"	1-2½"	8	¾ x 5"	8#	5-¾"	BX-151	½#
2-1/16"	7-⅞"	1-47/64"	8	¾ x 5-¼"	8-½#	6-¼"	BX-152	½#
2-9/16"	9-⅛"	2-1/64"	8	⅞ x 6"	13#	7-¼"	BX-153	¾#
3-1/16"	10-⅝"	2-19-64"	8	1 x 6-¾"	20#	8-½"	BX-154	1#
4-1/16"	12-7/16"	2-49/64"	8	1-⅛ x 8"	29#	10-3/16"	BX-155	1-½#
7-1/16"	18-⅞"	4-1/16"	12	1-½ x 11-1/16"	99#	15-⅞"	BX-156	4-¼#
9"	21-¾"	4-⅞"	16	1-½ x 13"	147#	18-¾"	BX-157	6-½#
11"	25-¾"	5-9/16"	16	1-¾ x 15"	230#	22-¼"	BX-158	10#
13-⅝"	30-¼"	6-⅝"	20	1-⅞ x 17-¼"	370#	26-½"	BX-159	14#
16-¾"	34-5/16"	6-⅝"	24	1-⅞ x 17-½"	449#	30-9/16"	BX-162	5#
Type 6 BX 15,000 PSI API Working Pressure, 22,500 PSI Test Pressure								
1-13/16"	8-3/16"	1-247/32"	8	⅞ x 5-½"	12#	6-5/16"	BX-151	½#
2-1/16"	8-¾"	2"	8	⅞ x 6"	13#	6-⅞"	BX-152	½#
2-9/16"	10"	2-¼"	8	1 x 6-¾"	20#	7-⅞"	BX-153	¾#
3-1/16"	11-5/16"	2-17/32"	8	1-⅛ x 7-½"	27#	9-1/16"	BX-154	1#
4-1/16"	14-13/16"	3-3/32"	8	1-⅜ x 9-¼"	48#	11-7/16"	BX-155	1-½#
7-1/16"	19-⅞"	4-11/16"	16	1-½ x 12-¾"	145#	16-⅞"	BX-156	4-¼#
9"	25-½"	5-¾"	16	1-⅞ x 15-¾"	275#	21-¾"	BX-157	6-½#
11"	32"	7-⅜"	20	2 x 19-¼"	463#	28"	BX-158	10#
Type 6 BX 20,000 PSI API Working Pressure, 30,000 PSI Test Pressure								
1-13/16"	10-⅛"	2-½"	8	1 x 7-½"	20#	8"	BX-151	½#
2-1/16"	11-5/16"	2-13/16"	8	1-⅛ x 8-¼"	28#	9-1/16"	BX-152	½#
2-9/16"	12-13/16"	3-⅛"	8	1-½ x 9-¼"	38#	10-5/16"	BX-153	¾#
3-1/16"	14-1/16"	3-⅜"	8	1-⅜ x 10"	50#	11-5/16"	BX-154	1#
4-1/16"	17-9/16"	4-3/16"	8	1-⅜ x 12-¼"	100#	14 1/16"	BX-155	1-½#
7 1/16"	25 13/16"	6 ½"	16	2 x 17 ½"	346#	21 13/16"	BX-156	4 ½#

Bull Plugs and Nipples

Forged Bull Plugs

The Bull Plug is a plain, heavy walled plug that is recessed inside to fit over the VR plug. The Tapped Bull Plug has the same features of the Plain, but it is tapped ½" for a pressure gauge.

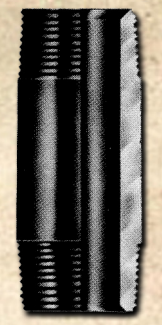


Specifications

Size	Wt.
2" LP	5#
2-⅜" EUE 8RD	5#
2-½" LP	8#
2-⅞" EUE 8RD	8#
3" LP	12#
4" LP	22#

Double X Nipples

The Double X-Nipples are threaded at both ends and are rated for 5,000 WP.

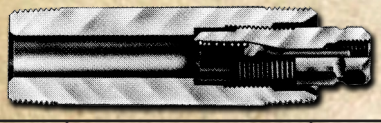


Specifications

Size	Wt.
2" LP x 4" through 12"	.75#/in.
2-½" LP x 4" through 12"	1.14#/in.
2-⅜" EUE 8RF x 6"	.5#
2-⅜" EUE 8RF x 8"	6#
2-⅞" EUE 8RF x 6"	7#
2-⅞" EUE 8RF x 8"	9#

Reinstallation Nipples and Needle Valves

Reinstallation Nipple



Size	Length	Wt.
2" L.P.	8"	10#

Valve Removal Plug

The Valve Removal Plug is designed to be used with a VR lubricator. The plug will clear a full opening valve.



Specifications

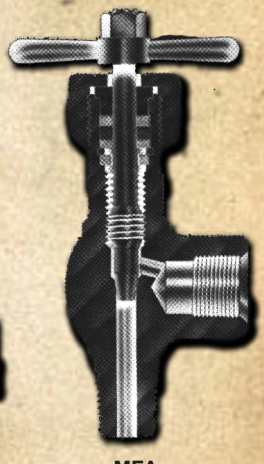
Size	Wt.
1-¼"	1-½#
1-½"	1-½#
2-⅜"	3#
2-⅞"	4-½#

Needle Valves

The MFS and MFA Needle Valves are rated for 10,000 PSI. Higher pressure needle valves are available upon request.



MFS



MFA

Specifications

Size	Wt.
¼"	1-¼#
⅜"	1-½#
½"	2 ¼"

Electric Feed-Thru

INTRODUCTION

The use of electrically powered submersible pumps has provided problems to wellhead designs in the past. This is particularly true in applications requiring complete pressure integrity of the wellhead.

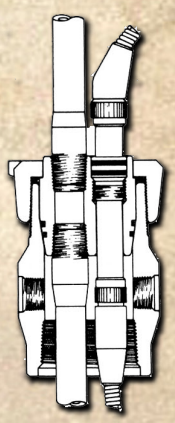
The Raider Electric Feed-Thru System is engineered to provide an efficient and reliable means of adapting high voltage power cable into any required wellhead design and is capable of handling all submersible pumps. The Electric Feed-Thru System is also designed to handle surface temperatures of up to 300°F and can be supplied for sour gas service if required.

The Raider Electric System provides complete pressure integrity and prevents pressure leaks of gas, oil or water at the surface.

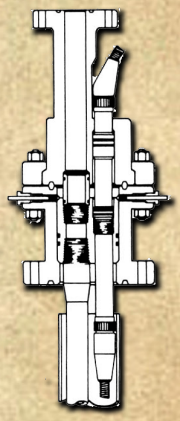
FEATURES

Raider Electric Feed-Thru System utilizes a dual type hanger with one port used to suspend the tubing and the other port used for passing electrical power into the well. To do this an electrical mandrel is utilized. This mandrel contains the required electrical conductors which are sealed (potted) within the mandrel, using specially developed dielectric material that provides both insulation and pressure integrity. The mandrel's outer shell is packed off in the second port of the tubing hangers mandrel. The dual high pressure seals contained on the O.D. of the mandrel prevent any leakage of well pressure between the hanger body and the "EFT" mandrel. Raider offers two basic designs of the Electric Feed-Thru mandrel.

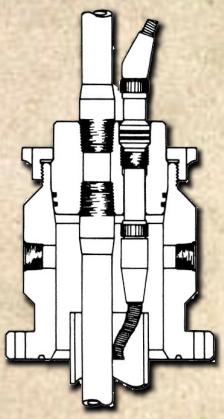
*** The standard or long mandrel provides a means of packing off both in the tubing hanger and in the tree adapter above. A standard API ring gasket is installed between the tree adapter and the wellhead flange connection and can be pressure tested at any time during the life of the well. The standard-long mandrel is normally required in high pressure, H2S or critical service installations both on and offshore.



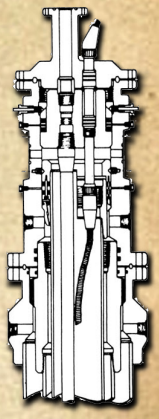
Threaded Independent Wellhead



"Power Feed-Thru "Adjustable Adapter to facilitate tree alignment



Adaption for flange or clamp wellhead



Adaption for unitized wellhead

*** The mini-mandrel is a shorter mandrel and is designed to work in applications where a tree adapter is not required. In these installations, the mini-mandrel seals off in the tubing hanger only.

The Raider "EFT" system is especially suited for complete "blowout preventor" protection, since the entire assembly can be run or retrieved through any OBP stack while providing complete control of the well.

Additionally both mandrels can be provided with an integral upper power cable or with attachable power leads (pigtails) for both the top and bottom of the mandrel.

The power cable leads (pigtails) utilize pressure proof threaded connectors which couple to the "EFT" mandrel. Power cable leads are available in both a metal sheathed or non-metal sheath design.

All threaded plug-in connectors are polarized and provide a unique internal seal to provide pressure integrity between the connectors and mandrel. Various lengths of cable type and size are available to match the requirements of your particular application.

GT ADAPTER

The type GT Adapter is a universal adapter that fits most API flanges. Tubing is suspended by a mandrel hanger. Type GT is particularly suited for using "EFT" mandrels on existing wells where standard tubing hangers cannot be used. Other sizes are available on request.

Type GT-7 is double drilled to fit either 7-1/16" – 2000 or 7-1/16"-3000 flanged connections.

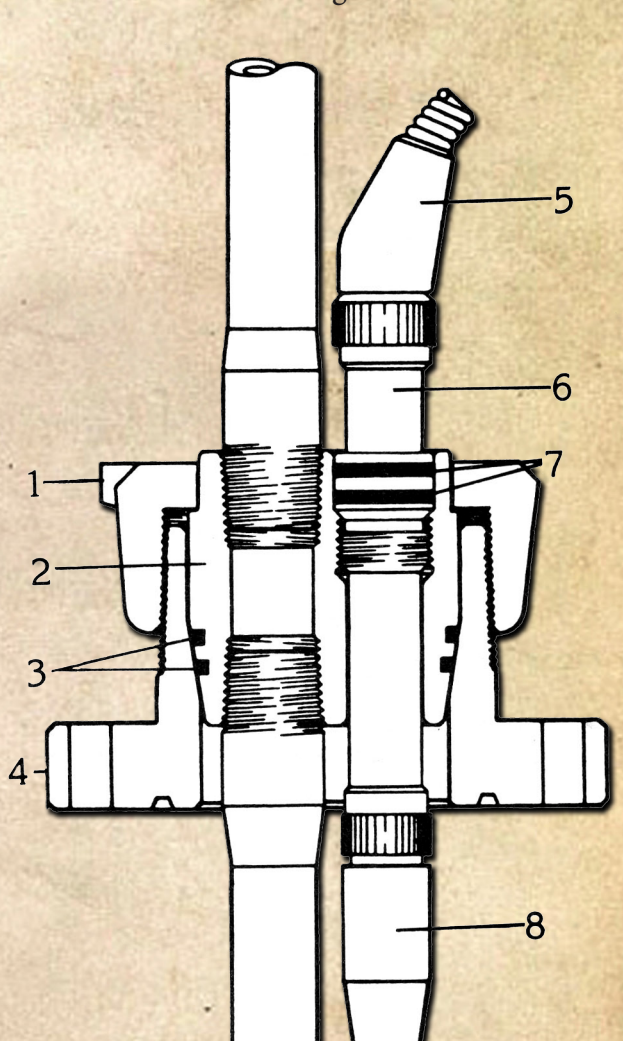
Type GT-8 can be double drilled to fit either 9"-2000 or 3000 flanged connections.

Type GT-11 can be double drilled for 11"-2000 or 11"-3000 flanged connections.

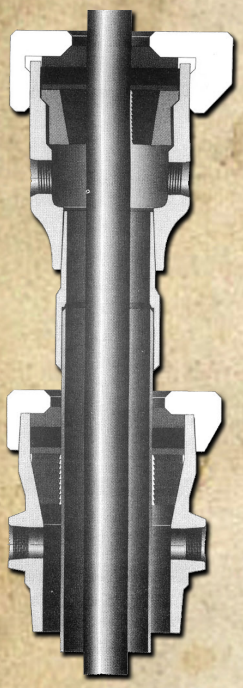
The tubing hanger is held in place with a heavy-duty threaded cap equipped with hammer lugs. The top con RDnection for the type GT-7 is 8-5/8" O.D. 8 short casing thread. The GT-8 is a 9-5/8" O.D. 8 RD short casing thread, and the GT-11 is 10-3/4" O.D. 8RD short casing thread. Both are adaptable to flanged blowout preventers by use of a threaded adapter flange.

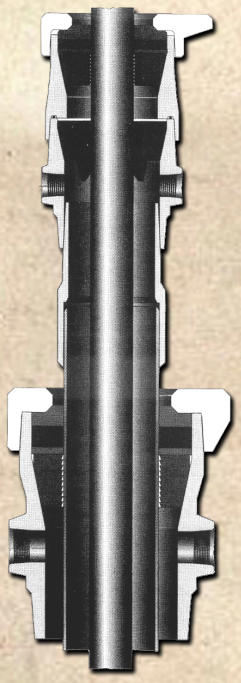
GT Adapter

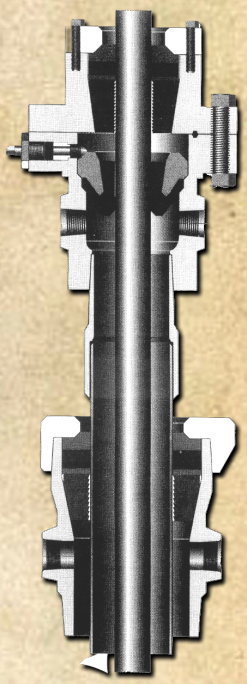
1. Knock-off Cap
2. Tubing Hanger
3. O-Rings
4. Adapter Flange
5. Upper Pigtail
6. Mini-Mandrel
7. T-Seals
8. Lower Pigtail

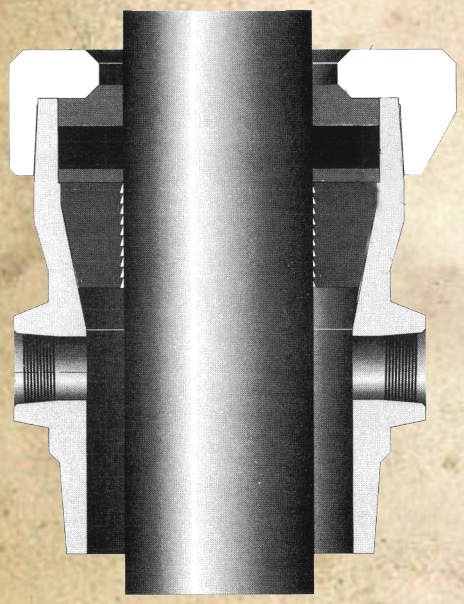


Independent Wellheads









FEATURES: FIG. 92

- Full Opening Body
- Compact Design
- Hardened Steel Sups
- 2000 PSI Max. W.P.
- Can be furnished with Frac adapter
- Top body thread is a tapered API thread for direct flanging

FEATURES: FIG. MSR

- Heavy duty hammer lugs on top nut
- Compact design
- Hardened steel sups
- Pressure options:
- 2000 PSI Max. W.P.

*Full opening body in 7" and 7-5/8"

*One piece forged steel body

These casing heads are designed to provide a safe and economical means of suspending and packing off casing strings of medium depth and pressure. Simplicity and compactness incorporated in the design make for ease of installation and neatness of hook-up.

Specifications – Fig. 92

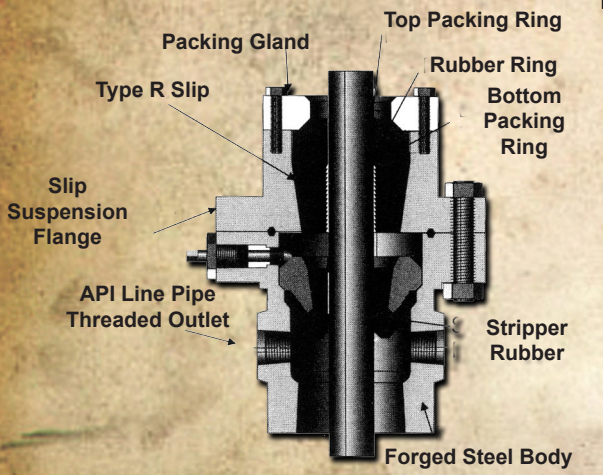
BOTTOM THREAD SIZE	API SIZE TUBING OR CASING SUSPENDED	MINIMUM BORE DIAMETER	TOP BODY THREAD API (MODIFIED)	HEIGHT M OR F	WEIGHT	BOTTOM CONNECTION TYPE	LPO SIZE
7" O.D.	2-⅜" – 5-½" O.D.	6.437"	8-⅝" O.D. 8RD	13-¼"	90#	M, F, SJ	2"
7-⅝" O.D.	2-⅜" – 5-½" O.D.	6.937"	9-⅝" O.D. 8RD	14"	125#	M, F, SJ	2"
8-⅝" O.D.	2-⅜" – 7" O.D.	7.922"	10-¾" O.D. 8RD	14"	137#	M, F, SJ	2"
9-⅝" O.D.	2-⅜" – 7" O.D.	8.875"	11-¾" O.D. 8RD	14"	150#	M, F, SJ	2"
10-¾" O.D.	2-⅜" – 8-⅝" O.D.	9.922"	12-¾" O.D. 8RD	14-¼"	175#	M, F, SJ	2"
11-¾" O.D.	8-⅝" O.D. & 9-⅝" O.D.	10.875"	16" O.D. 8RD	19"	450#	M, F, SJ	2"
12-¾" O.D.	8-⅝" O.D. & 9-⅝" O.D.	12.000"	16" O.D. 8RD	19"	440#	M, F, SJ	2"
13-⅝" O.D.	8-⅝" O.D. & 9-⅝" O.D.	12.969"	16" O.D. 8RD	19"	430#	M, F, SJ	2"
MAXIMUM SLIP LOAD CAPACITY – SEE CHART – PAGES 32-34 FOR FULL RANGE OF CASING AND TUBING SIZES							

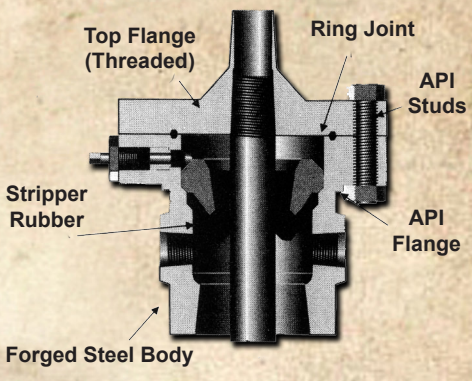
Specifications – Fig. MSR

MINIMUM BORE DIAMETER	TOP BODY THREAD API (MODIFIED)	HEIGHT M OR F	WEIGHT
6.437"	8-⅝" O.D. 8RD	13-¾"	117#
6.937"	8-⅝" O.D. 8RD	13-¾"	117#
6.937"	8-⅝" O.D. 8RD	12-¼"	119#
MAXIMUM SLIP LOAD CAPACITY – 90,000 LBS. SEE CHART PAGES 32-34 FOR FULL RANGE OF CASING AND TUBING SIZES			

J&W SERVICES & EQUIPMENT COMPANY

Fig. 612 Tubing Heads





Features: Figure 612

- Forged steel body (material in accordance to API STD 6A)
- Forged steel hanger flanges (material in accordance to API STD 6A)
- Flanges machined in accordance to API STD 6A
- Full opening body
- One-piece stripper rubber will pass through 7-1/16" BOP
- Mandrel suspension and wraparound hanger available
- Pressure options:

  2000 PSI Max. W.P.

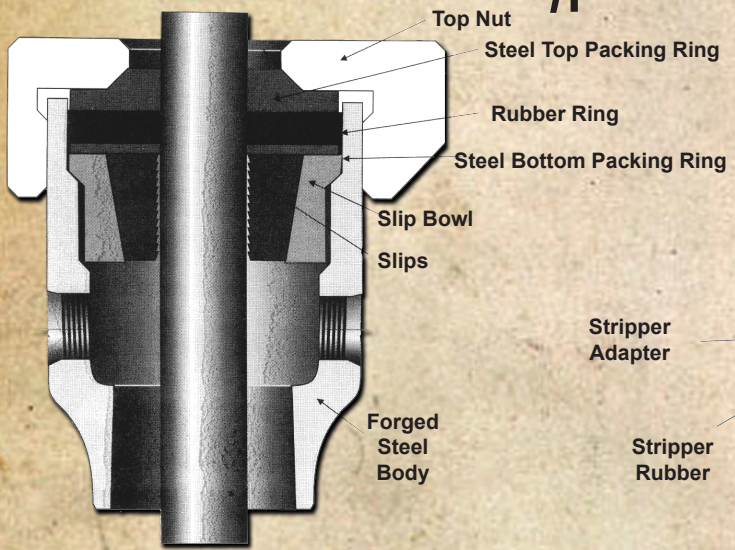
  3000 PSI Max. W.P.

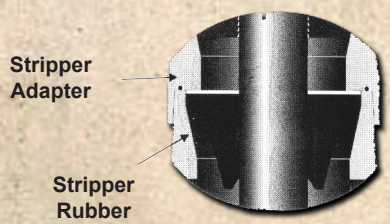
*Female bottom connection

Specifications – FIG. 612

BOTTOM THREAD SIZE (FEMALE)	API SIZE TUBING OR CASING SUSPENDED	MIN. BORE DIAMETER (FEMALE)	THREADED SUSPENSION		SLIP SUSPENSION		TOP FLANGE THREADED OR SLIP SUSPENSION	LPO SIZE
			HEIGHT	WEIGHT	HEIGHT	WEIGHT		
4-½" O.D.	2-⅜" – 3-½"	4.090"	19-13/16"	320#	20-¼"	380#	7-1/16" 2000-3000 #r45	2"
5-½" O.D.	2-⅜" – 3-½"	5.012"	19-3/16"	310#	20-¼"	370#	7-1/16" 2000-3000 #r45	2"
7" O.D.	2-⅜" – 3-½"	6.437"	19-13/16"	300#	20-¼"	360#	7-1/16" 2000-3000 #r45	2"
MAXIMUM SLIP LOAD CAPACITY – 127,000 LBS. SEE CHART PAGEs 32-34 FOR FULL RANGE OF TUBING SIZES								

Type R Tubing Heads





Features: Type R

- Full opening forged steel body
- Top nut has three hammer lugs plus ample tong space
- All packing rings are split so the tubing head can be repacked without disturbing the tubing
- Same top nut and slip bowl will accommodate all sizes 2-7/8" and smaller, separate top nut and slip bowl are required for suspension of 3-1/2" or 4-1/2" O.D. tubing
- 2000 PSI Max. W.P.

Specifications – TYPE R

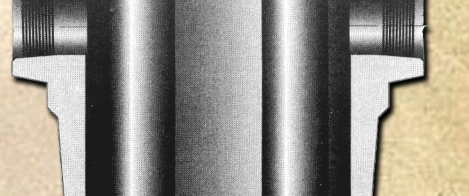
BOTTOM THREAD SIZE	API SIZE TUBING SUSPENDED	MIN. BORE DIAMETER (FEMALE)	TOP BODY THREAD API (MODIFIED)	HEIGHT		WEIGHT		BOTTOM CONNECTION TYPE	LPO SIZE
				R	SR	R	SR		
4-½" O.D. 8RD	1" – 2-⅞"	4.090"	8-⅝" O.D. 8RD	13-⅞"	19-⅝"	133#	203#	M,F,SJ	2"
5" O.D. 8RD	1" – 2-⅞"	4.408"	8-⅝" O.D. 8RD	13-⅞"	19-⅝"	132#	202#	M,F,SJ	2"
5-½" O.D. 8RD	1" – 3-½"	5.012"	8-⅝" O.D. 8RD	13-⅞"	19-⅝"	132#	202#	M,F,SJ	2"
6-⅝" O.D. 8RD	1" – 4"	6.049"	8-⅝" O.D. 8RD	13-⅞"	19-⅝"	130#	200#	M,F,SJ	2"
7"	1" – 4-½"	6.456"	8-⅝" O.D. 8RD	13-⅞"	19-⅝"	130#	200#	M,F,SJ	2"
MAXIMUM SLIP LOAD CAPACITY – 85,000 LBS. SEE CHART PAGE 32-34 FOR FULL RANGE OF TUBING SIZES									

Type R – Slip suspension with oil and gas resistant Nitrile packing ring
Type SR – Addition of stripper adapter and stripper rubber converts Type R to the Type SR. These parts may be used as a permanent installation or can be easily removed for use on other wells equipped with Type R or MR Tubing Heads.
Type MR – For use when mandrel suspension of tubing is desired. The mandrel can be threaded to suspend tubing of any size.
Same top nut and slip bowl will accommodate all sizes 2-7/8" and smaller, separate top nut and slip bowl are required for suspension of 3-1/2" or 4-1/2" O.D. tubing.

Fig. 92 Multiple String Hangers

The fig. 92 Dual String Tubing Head provides a compact and economical means to suspend multiple tubing strings either as an original completion or when converting from single to dual completion.

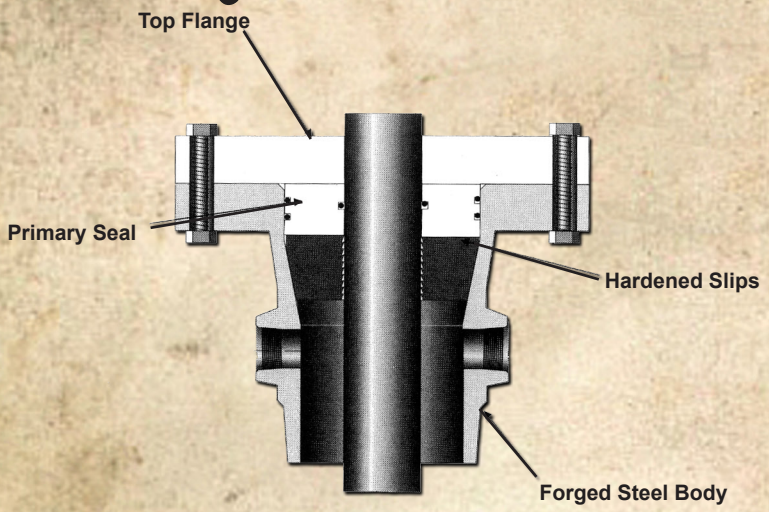
This unique design allows the tubing strings to be oriented to any position relative to the side outlets of the body. The operator may then, if required, run the tubing strings together, set the slips and pack-off both tubing strings at one time.



Specifications

	STRING						
CASING SIZE	#1	#2	A	B	C	WEIGHT	LPO SIZE
7", 7-⅝", 8-⅝" O.D.	2-⅞" EUE	1-½" EUE	3.750"	1.650"	2.100"	130#	2"
7", 7-⅝", 8-⅝" O.D.	2-⅜" EUE	2-⅜" EUE	4.000"	2.000"	2.000"	142#	2"
7", 7-⅝", 8-⅝" O.D.	2-⅞" REG	2-⅜" EUE	3.550"	1.650"	1.900"	142#	2"

Fig. 92 and Mandrel 92 Casing Heads

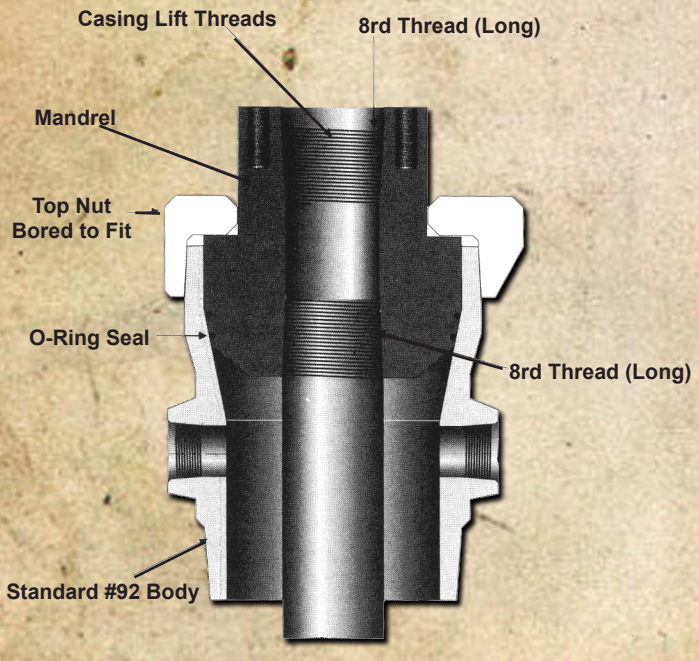


Features: Fig. 92

- full opening bore
- one piece forged steel body
- slip suspension available
- 2000-3000 PSI Max. W.P.
- Primary seal available
- Flanged connection standard
- Flanges machined in accordance to API STD. 6A
- R53 ring joint connection is standard

Specifications – FIG. F92

BOTTOM THREAD SIZE	API SIZE TUBING OR CASING SUSPENDED	MINIMUM BORE DIAMETER	TOP FLANGE CONNECTION	HEIGHT	BODY ONLY WEIGHT	BOTTOM CONNECTION TYPE	LPO SIZE
8-⅝" O.D.	4-½" – 5-½" O.D.	8.000"	11" - 2000# R 53	16-¼"	486#	F, SJ	2"
9-⅝" O.D.	4-½" – 7" O.D.	8.875"	11" - 2000# R 53	16-¼"	464#	F, SJ	2"
10-¾" O.D.	4-½" – 7" O.D.	9.875"	11" - 2000# R 53	16-¼"	441#	F, SJ	2"
MAXIMUM SLIP LOAD CAPACITY (FIG. 92) – SEE CHARGE PAGES 32-34 FOR FULL RANGE OF CASING SIZES							



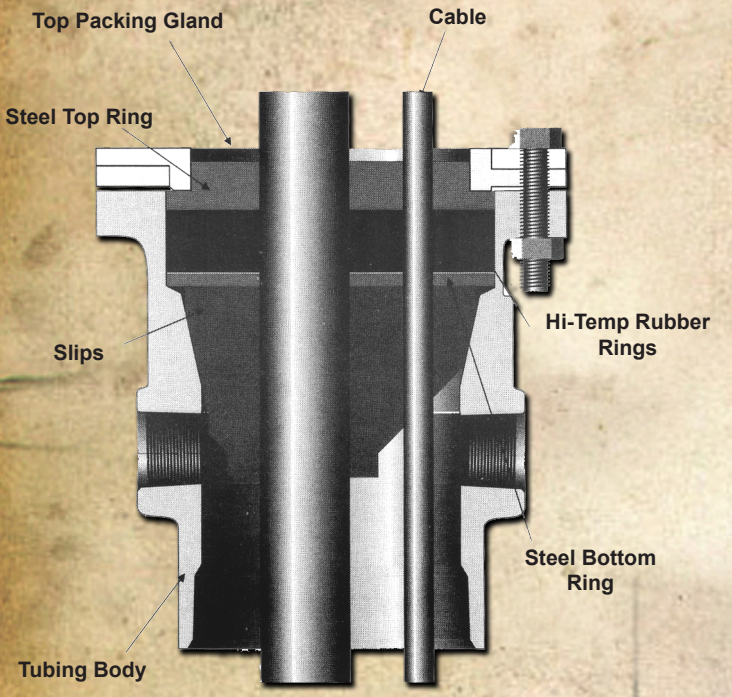
Standard Fig. 92 Body

The Mandrel for 8-5/8", 9-5/8", or 10-3/4" Fig. 92 casing heads offers operator a tool which will pass through an 11" – 2,000 or 3,000 # BOP and suspend 4-1/2" or 5-1/2" casing (8 RD casing threads standard).

Features:

- Higher than normal tensile loads are possible providing greater depth capability.
- Mandrel seals off annulus, which allows quick nipple down of BOP.
- Higher Frac pressures than rating of well head body are possible (up to 5,000 PSI maximum W.P.).
- Tubing head may be connected directly to Mandrel.

Fig. WSP Submersible Tubing Heads



Features: Fig. WSP

- Steel top plates provide a positive packoff around tubing and cable
- Top packing glands are split and bolted at 8 places for ease of packoff, maintenance and installation.
- Solid steel hinged and hardened slips provide uniform tubing suspension
- Accommodates both round and flat cable types
- Packing rubbers of high temperature compound are standard
- Full opening body
- 1500 PSI Max. W.P.

Specifications – FIG. WSP SUBMERSIBLE

BOTTOM THREAD SIZE	API SIZE TUBING SUSPENDED	MINIMUM BORE DIAMETER	TOP CONNECTION	HEIGHT	WEIGHT	BOTTOM CONNECTION TYPE	LPO SIZE
4-½" O.D.	2-⅜" – 2-⅞"	4.000"	BOLTED	14"	171#	F	2"
5-½" O.D.	2-⅜" – 2-⅞"	4.937"	BOLTED	14"	162#	F	2"
7" O.D.	2-⅜" – 3-½"	6.437"	BOLTED	14"	150#	F	2"
MAXIMUM SLIP LOAD CAPACITY 85,000 LBS. SEE CHARGE PAGES 32-34 FOR FULL RANGE OF TUBING SIZES							

Tubing and Casing Slips, Belled Nipples

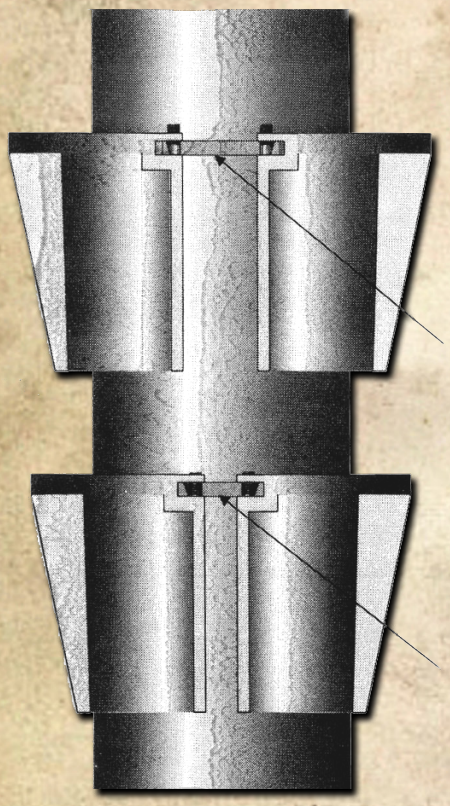


Fig. 1

Fig. 2

MASTER LINK CASING SLIP

The Master Link offers a means of adjusting tension ("bite") of the casing slips on pipe so as to set them by either of two methods:

FIG. 1. Slips are securely latched around pipe, but are free to slide on pipe. Slips can then be lowered through the BOP to set in casing head.

FIG. 2 Slips are tight on pipe and pipe is lowered until slips set in wellhead.



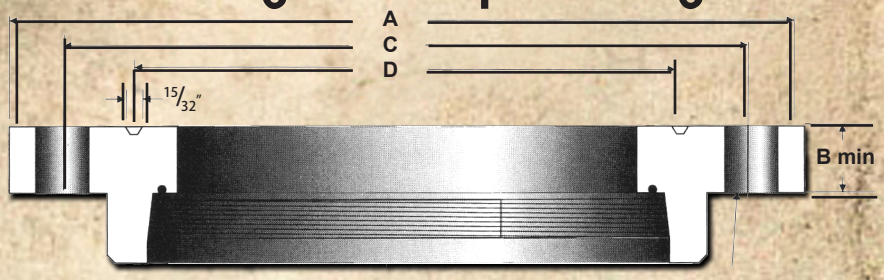
Specifications – BELLED NIPPLES

DESCRIPTION	WEIGHT	MINIMUM BORE DIAMETER
4-½" O.D. 8 RD	7.0#	4.09"
5-½" O.D. 8 RD	9.4#	4.95"
7" O.D. 8 RD	14.6#	6.36"
8-⅝" O.D. 8 RD	26.7#	7.97"

A belled nipple assures a neat, compact hook-up without requiring specially cut spacer nipples.

When a Belled Nipple is to be used, the casing is lowered to exactly the desired depth and suspended in the Casing Head. After the casing is cemented, it is cut off just a few inches above the casing head. The Belled Nipple is then slipped over the casing and welded. In addition to the exterior welding bevel, there is also a bevel where the casing shoulders in the Belled Nipple to permit welding in the I.D. without obstructing the inside diameter of the casing. The Tubing Head is then screwed onto the top male thread of the Belled Nipple. Standard material is K55.

Drilling and Adapter Flanges



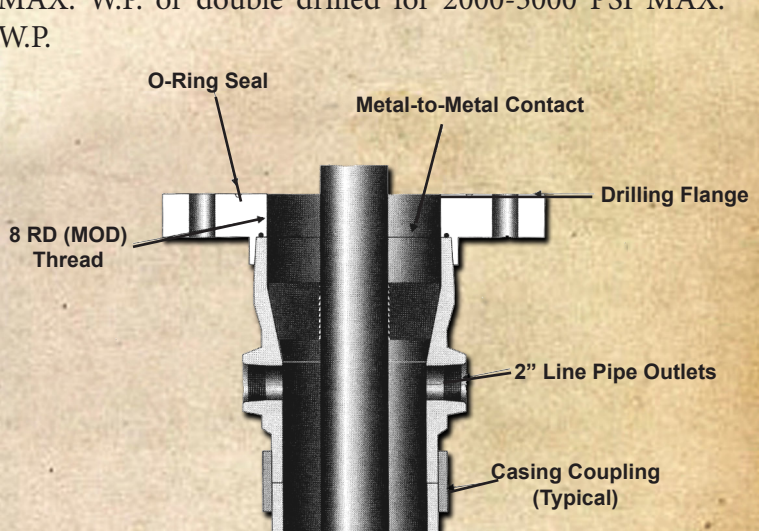
These threaded drilling and adapter flanges adapt the top of our Casing Heads to a flange for the installation of a flanged blowout preventor and incorporate an O-ring seal with the face of the body for a pressure tight seal.

Drilling Flanges are available in 2000 and 3000 PSI MAX. W.P.

Adapter Flanges are available in 2000 and 3000 PSI MAX. W.P. or double drilled for 2000-3000 PSI MAX. W.P.

INSTALLATION INSTRUCTIONS:

1. Visually inspect the ring joint groove for possible damage which might prevent seal.
2. Clean threads on flange and OD of the wellhead. Then lubricate lightly with a casing thread lubricant.
3. Install O-ring in the groove on inner shoulder of the flange and make sure O-ring is seated uniformly. Lubricate O-ring with light coat of oil or grease.
4. Set flange gently onto casing head and rotate clockwise until O-ring is seated on top of casing head.
5. Apply torque to flange until metal-to-metal contact between flange seal shoulder and top surface of casing is made. DO NOT EXCEED 1,000 FT.-LBS. TORQUE.



Specifications – DRILLING AND ADAPTER FLANGES

TOP FLANGE API SIZES MAX.PSI W.P.	"OLD" NOMINAL SIZE	A O.D. FLANGE	B FLANGE THICKNESS	C BOLT CIRCLE	D PITCH DIAMETER RING GROOVE	API RING NUMBER	STUD BOLT INFORMATION	
							NUMBER REQUIRED	SIZE *
7-1/16" – 2000 #	6" Series 600	14"	2-3/16"	11-½"	8-5/16"	45	12	1" x 7"
7-1/16" – 3000 #	6" Series 900	15"	2-½"	12-½"	8-5/16"	45	12	1-⅛" x 8"
9" – 2000 #	8" Series 600	16-½"	2-½"	13-¾"	10-¾"	49	12	1-⅛" x 8"
9" – 3000 #	8" Series 900	18-½"	2-13/16"	15-½"	10-¾"	49	12	1-⅜" x 9"
11" – 2000 #	10" Series 600	20"	2-13/16"	17"	13-½"	53	16	1-¼" x 8-¾"
11" – 3000 #	10" Series 900	21-½"	3-1/16"	18-½"	13-½"	53	16	1-⅜" x 9-½"
13-⅝" – 2000 #	12" Series 600	22"	2-15/16"	19-¼"	15-¾"	57	20	1-¼" x 9"
13-⅝" – 3000 #	12" Series 900	24"	3-7/16"	21"	15-¾"	57	20	1-⅜" x 10-¼"
* HOLES ARE ⅛" LARGER THAN BOLT DIAMETER								
O-RING SIZE	13-⅜"	10-¾"	9-⅝"	8-⅝"	R			
	458	453	450	448	443			

Information Required to Order Casing and Tubing Heads

INFORMATION REQUIRED: CASING HEADS

LOWER BODY CONNECTION
- (A) Size O.D.
- (B) Type Connection
  - (1) Thread (Male or Female) 8 RC, 8 V, 10 V, 11-1/2 V
  - (2) Slip Joint Female

SUSPENSION STRING
- (A) Casing size O.D.
- (B) Tubing Size O.D
- (C) Type Suspension
  - (1) Slips
  - (2) Threaded mandrel

PRESSURE RATING
- (A) 1,000 PSI MAX. W.P.
- (B) 2,000 PSI MAX. W.P.
- (C) 3,000 PSI MAX. W.P.

SIDE OUTLETS
- (A) 2" 11=1/2 V L.P. Standard
- (B) Other sizes on application

INFORMATION REQUIRED: TUBING HEADS

LOWER BODY CONNECTION
- (A) Size O.D.
- (B) Type Connection
  - (1) Thread (Male or Female) 8 RD, 8 V, 10V, 11-1/2 V
  - (2) Slip Joint Female
  - (3) Flange Size and W.P.

UPPER BODY FLANGE CONNECTION
- (A) 2,000 PSI W.P.
- (B) 3,000 PSI W.P.

SUSPENSION STRING
- (A) Tubing Size O.D.
- (B) Type Suspension
  - (1) Slips
  - (2) Mandrel
  - (3) Slip Flange (Fig. 612 only)
  - (4) Threaded Hanger flange (Fig. 612 only)

PRESSURE RATING:
- (A) 1,000 PSI MAX. W.P.
- (B) 1,500 PSI MAX. W.P.
- (C) 2,000 PSI MAX. W.P.
- (D) 3,000 PSI MAX. W.P.

Technical Information

TUBING, DRILL PIPE AND CASING STRETCH DATA

GENERAL STRETCH FORMULA

$$\Delta L = \frac{F \times L \times 12}{E \times a_s}$$

Where ΔL = stretch, in inches
F = pull force, in pounds
L = Length, in feet

E= modulus of elasticity, in pounds per square inch
(for steel, E= 30,000,000 PSI)

a_s = cross sectional area (wall area or O.D. area minus I.D. area for tubular material) in square inches

Note: The rate of stretch isnot affectged by the grade of steel (i.e. J-55, N-80, etc.)

LB./GAL.	BOUYANCY FACTOR †	LB./GAL	BOUYANCY FACTOR †	LB./GAL	BOUYANCY FACTOR †	LB./GAL	BUOYANCY FACTOR †
6.1	.9068	9.6	.8533	13.2	.7983	16.8	.7433
6.3	.9037	9.8	.8502	13.4	.7952	17.0	.7402
6.5	.9007	10.0	.8472	13.6	.7922	17.2	.7372
6.7	.8976	10.2	.8441	13.8	.7891	17.4	.7341
6.9	.8946	10.4	.8411	14.0	.7861	17.6	.7311
7.1	.8915	10.6	.8380	14.2	.7830	17.8	.7280
7.3	.8884	10.8	.8350	14.4	.7800	18.0	.7249
7.5	.8854	11.0	.8319	14.6	.7769	18.2	.7219
7.7	.8823	11.2	.8289	14.8	.7738	18.4	.7188
7.9	.8793	11.4	.8258	15.0	.7708	18.6	.7158
8.1	.8762	11.6	.8227	15.2	.7677	18.8	.7127
8.3*	.8732	11.8	.8197	15.4	.7647	19.0	.7097
8.5	.8716	12.0	.8166	15.6	.7616	19.2	.7066
8.7	.8686	12.2	.8136	15.8	.7586	19.4	.7035
8.9	.8655	12.4	.8105	16.0	.7555	19.6	.7005
9.0	.8625	12.6	.8075	16.2	.7524	19.8	.6974
9.2	.8594	12.8	.8044	16.4	.7494	20.0	.6944

***Weight of water at 68˚F (20˚C)**

$$\text{Bouyancy Factor} = \frac{\text{Wt. of pipe per unit volume - wt. of mud per unit volume}}{\text{Wt. of pipe per unit volume}}$$

†Bouyancy factor is used to compensate for loss of weight when steel tubulars are immersed in fluid, and are applicable only where tubing or casing is completely filled with fluid. Actual hook load = length of string (ft.) x weight of string (lb/ft) x Bouyancy Factor.

Technical Information

MAXIMUM RECOMMENDED TUBING SUSPENSION LOADS
LOADS SHOWN ARE IN POUNDS WITH NO SAFETY FACTOR
BASED ON NOMINAL O.D., WALL THICKNESSES & MINIMUM YIELD STRENGTH

O.D.	WALL THICKNESS	WEIGHT (LBS/FT.)	ENDS	GRADE	TYPE "R"	FIG. "612"
1.050"	.113"	1.14	NON EUE	J	15,000	
				N	22,000	
		1.20	EUE	J	15,000	
				N	22,000	
1.315"	.133"	1.70	NON EUE	J	22,000	
				N	32,000	
		1.72	I-J	J	22,000	
				N	32,000	
		1.80	EUE	J	22,000	
				N	32,000	
1.660"	.125"	2.10	I-J	J	25,000	
	.140"	2.30	NON EUE	N	28,000	
				J	32,000	
		2.33	I-J	N	28,000	
				J	41,000	
		2.40	EUE	N	28,000	
				J	41,000	
1.900"	.125"	2.40	I-J	N	28,000	
	.145"	2.75	NON EUE	J	28,000	
				N	47,000	
		2.76	I-J	J	32,000	
				N	47,000	
		2.90	EUE	J	32,000	
				N	47,000	
2.000"	.165"	3.40	BUTT	J	38,000	
				N	55,000	
2.063"	.156"	3.25	I-J	J	37,000	
				N	54,000	
2.375"	.167"	4.00	NON EUE	J	44,000	44,000
				N	63,000	63,000
	.190"	4.60		J	49,000	49,000
				N	71,000	71,000
		4.70	EUE	J	49,000	49,000
				N	71,000	71,000
	.254"	5.80	NON EUE		85,000	93,000
		5.95	EUE		85,000	93,000
2.875"	.217"	6.40	NON EUE	J	63,000	63,000
				N	85,000	92,000
		6.50	EUE	J	63,000	63,000
				N	85,000	92,000
	.308"	8.60	NON EUE		85,000	127,000
		8.70	EUE		85,000	127,000
3.500"	.216"	7.70	NON EUE	J	65,000	65,000
				N	85,000	85,000
	.254"	9.20		J	79,000	79,000
				N	85,000	86,000
		9.30	EUE	J	79,000	79,000
				N	85,000	86,000
	.289"	10.20	NON EUE	J	85,000	85,000
				N	85,000	98,000
	.375"	12.70			85,000	124,000
		12.95	EUE		85,000	124,000
4.000"	.226"	9.50	NON EUE	J	70,000	
				N	85,000	
	.262"	11.00	EUE	J	85,000	
				N	85,000	
4.500"	.271"	12.60	NON EUE	J	85,000	
				N	85,000	
		12.75	EUE	J	85,000	
				N	85,000	
MAXIMUM LOADS					85,000	127,000

NOTE: The pipe collapse load used for these calculations was based on "yield strength collapse pressure formula" for D/t rations of 14.80 and less for J-K-55 and 13.38 and less for N-80. the "plastic collapse pressure formula" was used for D/t ratios of 14.80 – 24.99 for J-K-55 and 13.38 – 22.46 for N-80. These formulas are found in API Bulletin 5C3 "formulas and calculations for pipe properties." A series of tests, using instrumentation to determine yield, was conducted to verify validity of calculations. "Maximum loads" shown is maximum well head capacity.

Technical Information for Standard Casing Slips

MAXIMUM RECOMMENDED CASING SUSPENSION LOADS
LOADS SHOWN ARE IN POUNDS WITH NO SAFETY FACTOR
BASED ON NOMINAL O.D., WALL THICKNESSES & MINIMUM YIELD STRENGTH

O.D.	WALL THICKNESS	WEIGHT (LBS/FT.)	GRADE	FIG. MSR	FIG. 92 – BOTTOM CONNECTION					
					7" O.D.	7-⅝" O.D.	8-⅝" O.D.	9-⅝" O.D.	10-¾" O.D.	11-¾, 12-¾, 13-⅜" O.D.
4.500"	.205"	9.50	J-K	57,000	62,000	66,000	66,000	66,000	66,000	
	.224"	10.50		67,000	72,000	77,000	77,000	77,000	77,000	
	.250"	11.60		80,000	86,000	92,000	92,000	92,000	92,000	
			N	90,000	115,000	123,000	123,000	123,000	123,000	
	.290"	13.50		90,000	146,000	156,000	156,000	156,000	156,000	
5.000"	.220"	11.50	J-K		66,000	70,000	70,000	70,000	70,000	
	.253"	13.00			85,000	92,000	92,000	92,000	92,000	
	.286"	15.00			109,000	116,000	116,000	116,000	116,000	
			N		148,000	158,000	158,000	158,000	150,000	
	.362"	18.00			176,000	176,000	176,000	160,000	150,000	
5.500"	.244"	14.00	J-K	70,000	76,000	82,000	82,000	82,000	82,000	
	.275"	15.50		87,000	95,000	102,000	102,000	102,000	102,000	
	.304"	17.00		90,000	112,000	120,000	120,000	120,000	120,000	
			N	90,000	149,000	160,000	160,000	160,000	150,000	
	.361"	20.00		90,000	176,000	176,000	176,000	160,000	150,000	
	.415"	23.00		90,000	176,000	176,000	176,000	160,000	150,000	
6.625"	.288"	20.00	J-K				99,000	99,000	99,000	
	.352"	24.00					144,000	144,000	144,000	
			N				176,000	160,000	150,000	
	.417"	28.00					176,000	160,000	150,000	
	.475"	32.00					176,000	160,000	150,000	
7.000"	.272"	20.00	J-K				84,000	84,000	84,000	
	.317"	23.00					116,000	116,000	116,000	
			N				142,000	142,000	142,000	
	.362"	26.00	J-K				148,000	148,000	148,000	
			N				176,000	160,000	150,000	
	.408"	29.00					176,000	160,000	150,000	
	.453"	32.00					176,000	160,000	150,000	
	.498"	35.00					176,000	160,000	150,000	
	.540"	38.00					176,000	160,000	150,000	
7.625"	.328"	26.40	J-K						115,000	
			N						140,000	
	.375"	29.70							150,000	
	.430"	33.70							150,000	
	.500"	39.00							150,000	
8.625"	.264"	24.00	J-K							250,000
	.352"	32.00								325,000
	.400"	36.00								325,000
			N							325,000
	.450"	40.00								425,000
	.500"	44.00								475,000
	.557"	49.00								525,000
9.625"	.352"	36.00	J-K							300,000
	.395"	40.00								325,000
			N							325,000
	.435"	43.50								375,000
	.472"	47.00								400,000
	.545"	53.50								450,000
MAXIMUM LOAD				90,000	176,000	176,000	176,000	160,000	150,000	525,000

NOTE: The pipe collapse load used for these calculations was based on "yield strength collapse pressure formula" for D/t rations of 14.80 and less for J-K-55 and 13.38 and less for N-80. the "plastic collapse pressure formula" was used for D/t ratios of 14.80 – 24.99 for J-K-55 and 13.38 – 22.46 for N-80. These formulas are found in API Bulletin 5C3 "formulas and calculations for pipe properties." A series of tests, using instrumentation to determine yield, was conducted to verify validity of calculations. "Maximum loads" shown is maximum well head capacity.

J&W SERVICES & EQUIPMENT COMPANY

Technical Information for HD Casing Slips

MAXIMUM RECOMMENDED CASING SUSPENSION LOADS

HEAVY DUTY SLIP APPLICATION

LOADS SHOWN ARE IN POUNDS WITH NO SAFETY FACTOR

BASED ON NOMINAL O.D., WALL THICKNESSES & MINIMUM YIELD STRENGTH

O.D.	Wall Thickness	Weight (lbs/ft)	Grade	Fig 92-- Bottom Connection					
				7″ O.D.	7 5/8″ O.D.	8 5/8″ O.D.	9 5/8″ O.D.	10 3/4″ O.D.	11 3/4, 12 3/4, and 13 3/8″ O.D.
4.500″	.205″	9.50	J-K	92,000	92,000	92,000	92,000	92,000	
	.224″	10.50		132,000	132,000	132,000	132,000	132,000	
	.250″	11.60		147,200	147,200	147,200	147,200	147,200	
			N	213,600	213,600	213,600	213,600	213,600	
	.290″	13.60		245,600	245,600	245,600	245,600	245,600	
5.500″	.244″	14.00	J-K	177,600	177,600	177,600	177,600	177,600	
	.275″	15.50		198,400	198,400	198,400	198,400	198,400	
	.304″	17.00		218,400	218,400	218,400	218,400	218,400	
			N	317,600	317,600	317,600	317,600	317,600	
	.361″	20.00		372,800	372,800	372,800	372,800	372,800	
	.415″	23.00		424,000	424,000	424,000	424,000	424,000	
7.000″	.272″	20.00	J-K		252,800	252,800	252,800	252,800	
	.317″	23.00			292,800	292,800	292,800	292,800	
			N		300,000	300,000	300,000	300,000	
	.362″	26.00	J-K		332,000	332,000	332,000	332,000	
			N		350,000	350,000	350,000	350,000	
	.408″	29.00			400,000	400,000	400,000	400,000	
	.453″	32.00			450,000	450,000	450,000	450,000	
	.498″	35.00			500,000	500,000	500,000	500,000	
	.540″	38.00			550,000	550,000	550,000	550,000	
7.625″	.328″	26.40	J-K					300,000	
			N					300,000	
	.375″	29.70						350,000	
	.430″	33.70						400,000	
	.500″	39.00						450,000	
8.625″	.254″	24.00	J-K						250,000
	.352″	32.00							325,000
	.400″	36.00							325,000
			N						325,000
	.450″	40.00							425,000
	.500″	44.00							475,000
	.557″	49.00							525,000
9.625	.352″	36.00	J-K						300,000
	.395″	40.00							325,000
			N						325,000
	.435″	43.50							375,000
	.472″	47.00							400,000
	.545″	53.50							450,000
Maximum Load				424,000	550,000	550,000	550,000	550,000	525,000

NOTE: The pipe collapse load used for these calculations was based on "yield strength collapse pressure formula" for D/t rations of 14.80 and less for J-K-55 and 13.38 and less for N-80. the "plastic collapse pressure formula" was used for D/t ratios of 14.80 – 24.99 for J-K-55 and 13.38 – 22.46 for N-80. These formulas are found in API Bulletin 5C3 "formulas and calculations for pipe properties." A series of tests, using instrumentation to determine yield, was conducted to verify validity of calculations. "Maximum loads" shown is maximum well head capacity.

Note: Heavy Duty slip loads were established from finite element analysis modeling and from strain gage pull tests and API drifts.

Technical Information

Casing Sizes - Threaded and Coupled

Casing Size O.D.	Coupling O.D. All Threads	API Thread						API V Thread (Obsolete)*					
		Short Thread			Long Thread			Short Thread			Long Thread		
		Coupling Length	Male Thread Length	Threads Per Inch	Coupling Length	Male Thread Length	Threads Per Inch	Coupling Length	Male Thread Length	Threads Per Inch	Coupling Length	Male Thread Length	Threads Per Inch
4 ½″	5.000″	6 ¼″	2.625″	8 RD	7″	3.000″	8 RD	--	--	--	--	--	--
5″	5.654″	6 ½″	2.750″	8 RD	7 ¾″	3.375″	8 RD	--	--	--	--	--	--
5 ½″	6.050″	6 ¾″	2.875″	8 RD	8″	3.500″	8 RD	7 ⅛″	2.750″	10V	8″	3.300″	10V
6 ⅝″	7.930″	7 ¼″	3.125″	8 RD	8 ¾″	3.875″	8 RD	7 ⅝″	3.000″	10V	9″	3.800″	10V
7″	7.656″	7 ¼″	3.125″	8 RD	9″	4.000″	8 RD	7 ⅝″	3.000″	10V	9 ½″	4.050″	10V
7 ⅝″	8.500″	7 ½″	3.250″	8 RD	9 ¼″	4.125″	8 RD	8 ⅛″	3.250″	8V	9 ½″	4.125″	8V
8 ⅝″	9.625″	7 ¾″	3.375″	8 RD	10″	4.500″	8 RD	8 ⅛″	3.250″	8V	9 ½″	4.125″	8V
9 ⅝″	10.625″	7 ¾″	3.375″	8 RD	10 ½″	4.750″	8 RD	8 ⅛″	3.250″	8V	10 ¾″	4.750″	8V
10 ¾″	11.750″	8″	3.500″	8 RD	10 ½″	4.750″	8 RD	8 ½″	3.625″	8V	12″	5.375″	8V
11 ¾″	12.750″	8″	3.500″	8 RD	10 ½″	4.750″	8 RD	8 ⅛″	3.250″	8V	12 ¼″	5.500″	8V
11 ⅜″	14.375″	8″	3.500″	8 RD	10 ½″	4.750″	8 RD	9″	3.875″	8V	12 ¼″	5.500″	8V
16″	17.000″	9″	4.000″	8 RD	--	--	--	--	--	--	--	--	--
20″	21.000″	9″	4.000″	8 RD	--	--	--	--	--	--	--	--	--

***V Threads are not recommended for suspending tubing or casing**
Note: 8RD and 8V threads are tapered 3/4" per linear foot. 10V threads are tapered 3.8" per linear foot.

Tubing Sizes - Threaded and Coupled

Nominal Size	API Size	I.D.	Wt. Per Ft. (lbs.)		API Thread					Non-API Thread			
			Plain End	Threaded and Coupled	Coupling O.D.		Coupling Length	Male Thread Length	Threads Per Inch	Coupling O.D.	Coupling Length	Male Thread Length	Threads Per Inch
					Standard	EUE Special							
¾″ NU ¾″ EUE	1.050″ 1.050″	.824″ .824″	1.13 1.13	1.14 1.20	1.313″ 1.660″		3 3/16″ 3 ¼″	1.094″ 1.125″	10 RD 10 RD				
1″ NU 1″ EUE	1.313″ 1.313″	1.049″ 1.049″	1.68 1.68	1.70 1.80	1.660″ 1.900″		3 ½″ 3 ½″	1.125″ 1.250″	10 RD 10 RD				
1 ¼″ NU 1 ¼″ EUE	1.660″ 1.660″	1.380″ 1.380″	2.27 2.27	2.30 2.40	2.054″ 2.200″		3 ½″ 3 ¾″	1.250″ 1.375″	10 RD 10 RD	2.200″	3 ½″	1.375″	11 ½ V
1 ½″ NU 1 ½″ EUE	1.900″ 1.900″	1.610″ 1.610″	2.72 2.72	2.75 2.90	2.200″ 2.500″		3 ¾″ 3 ⅞″	1.375″ 1.438″	10 RD 10 RD	2.200″ 2.500″	3 ⅜″ 3 ¾″	1.375″ 1.438″	11 ½ V 11 ½ V
2″ NU 2″ EUE 2″ NU 2″ EUE	2.375″ 2.375″ 2.375″ 2.375″	2.041″ 1.995″ 1.995″ 1.867″	3.94 4.43 4.43 5.75	4.00 4.70 4.60 4.95	2.875″ 3.063″ 2.875″ 3.063″	2.910″ 2.910″	4 ¼″ 4 ⅞″ 4 ¼″ 4 ⅞″	1.625″ 1.938″ 1.625″ 1.938″	10 RD 8 RD 10 RD 8 RD	2.875″ 3.063″ 2.875″ 3.063″	4 ¼″ 4 ⅞″ 4 ¼″ 4 ⅞″	1.625″ 1.938″ 1.625″ 1.938″	11 ½ V 10 V 11 ½ V 10 V
2 ½″ NU 2 ½″ EUE 2 ½″ NU 2 ½″ EUE	2.875″ 2.875″ 2.875″ 2.875″	2.441″ 2.441″ 2.259″ 2.259″	6.16 6.16 8.44 8.44	6.40 6.50 8.60 8.70	3.500″ 3.668″ 3.500″ 3.668″	3.460″ 3.460″	5 ⅛″ 5 ¼″ 5 ⅛″ 5 ¼″	2.063″ 2.125″ 2.063″ 2.125″	10 RD 8 RD 10 RD 8 RD	3.500″ 3.688″ 3.500″ 3.688″	5 ¼″ 5 ⅜″ 5 ¼″ 5 ⅜″	2.063″ 2.125″ 2.063″ 2.125″	11 ½ V 10 V 11 ½ V 10 V
3″ NU 3″ EUE 3″ NU 3″ EUE	3.500″ 3.500″ 3.500″ 3.500″	3.068″ 2.992″ 2.992″ 2.759″	7.58 8.81 8.81 12.95	7.70 9.30 9.20 12.95	4.250″ 4.500″ 4.250″ 4.500″	4.180″ 4.180″	5 ⅝″ 5 ¾″ 5 ⅝″ 5 ¾″	2.313″ 2.375″ 2.313″ 2.375″	10 RD 8 RD 10 RD 8 RD	4.250″ 4.500″ 4.250″ 4.500″	5 ⅞″ 6″ 5 ⅞″ 6″	2.313″ 2.375″ 2.313″ 2.375″	11 ½ V 10 V 11 ½ V 10 V
3 ½″ NU 3 ½″ EUE	4.000″ 4.000″	3.548″ 3.476″	9.11 10.46	9.50 11.00	4.750″ 5.000″		5 ¾″ 6″	2.375″ 2.500″	8 RD 8 RD	4.750″ 5.000″	6″ 6 ¼″	2.375″ 2.500″	10 V 10 V
4″ NU 4″ EUE	4.5000″ 4.5000″	3.958″ 3.958″	12.24 12.24	12.60 12.75	5.200″ 5.563″		6 ⅛″ 6 ¼″	2.563″ 2.625″	8 RD 8 RD	5.200″ 5.563″	6 ⅜″ 6 ½″	2.563″ 2.625″	10 V 10 V

Note: All threads are tapered 3/4" per linear foot.

Trim Chart for API 6A Gate Valves

As recommended by industry standards and practices

SERVICE CONDITIONS	TRIM	BODY	BONNET	GATE	SEAT	STEM	BSR
General / Non Corrosive	AA	A487 4C	4130	4130 NIT	4130 NIT	4140 NIT	1018 ZINC
General / Slightly Corrosive	BB	A487 4C	4130	410SS NIT	410SS NIT	17-4SS NIT	316SS
General, Moderately Corrosive, CO2	CC	410SS or CA15	410SS	410SS NIT	410SS NIT	17-4SS NIT	316SS
Sour, Non-Corrosive	DD	A487 4C	4130	4130 NIT	4130 NIT	4140 NIT	1018 ZINC
Sour, Slightly Corrosive	EE	A487 4C	4130	4100SS NIT	410SS NIT	17-4SS NIT	316SS
Sour Highly Corrosive, MOD Abrasive, CO2	EE-1	A487 4C	4130	17-4SS NIT	17-4SS NIT	17-4SS NIT	316SS
Sour Highly Corrosive, CO2, High Abrasive	EE-2	A487 4C	4130	410 HF	410 HF	17-4SS NIT	316SS
Sour, Moderately Corrosive, H2S	FF	410 SS or CA15	410SS	410SS NIT	410SS NIT	17-4SS NIT	316SS
Sour, Highly Corrosive, CO2 and H2S	FF-1	410 SS or CA15	410SS	410SS NIT	410SS NIT	17-4SS NIT	316SS
Sour, Highly Corrosive, CO2 and H2S	FF-2	410 SS or CA15	410SS	410 HF	410 HF	17-4SS NIT	316SS
High Corrosion Extreme Service	HH	410SS or CA15	410SS	410 HF	410 HF	17-4SS NIT	316SS
High Corrosion Extreme Service	HH-1	410SS or CA15	410SS	174SS HF	718		
INC	718						
INC	316SS						
High Corrosion Extreme Service	HH-2	316SS	316SS	316SS HFTC	718		
INC	718						
INC	316SS						

Material Description

Material selections should consider temperature, corrosion, and abrasion
Material trims "BB & above require NACE MR01-75 material specifications, heat treat and physical properties
Nitride-Salt Bath-QPQ-Quench Polish Quench-provides superior rust, abrasion and galling prevention
Hardfacing is available in spray and fuse, or the recommended latest technology of HVOF Tungsten Carbide
Hardface HVOF Tungsten Carbide offers superior bonding-density-and does not alter the original prehardface properties of the base material with zero post heattreat required

MATERIAL DESCRIPTION
A487 4C: Cast Carbon Steel
4130 CS: Forged, NQT, RC22 Max., good for -75°F and above
41OSS: NACE, QTT, RC22 Max., limited to -20°F and above
17-4SS: NACE, HH1150, RC33 Max., good for -75°F and above
INCONEL 718, extremely corrosive resistant and tough material for stem use
316SS Solution annealed used for critical service application

As specified in API Specification 6A – 17th Edition.

4.2.3 Material Class Ratings
a. General
Equipment shall be designed with materials, including metallics, which meet requirements set forth in Table 4.3. Table 4.3 does not define either the present or the future wellhead environment, but provides materials classes for increasing levels of severity of service conditions and relative corrosivity.
Provided the mechanical properties can be met, stainless steels may be used in place of carbon and low alloy steels and also corrosion resistant alloys may be used in place of stainless steels.

b. Material Classes
Choosing material classes is the ultimate responsibility of the user. In making these selections, the user should consider the various environmental factors and production variables listed in Appendix A.

J&W's JM gate valve features a non-rising stem with an expanding gate designed to provide safe, dependable service in a variety of environments. It is available in flanged or threaded ends in standard bore sizes from 2-1/16" thru 4-1/16" in working pressures of 2,000 PSI thru 5,000 PSI.

J&W JM gate valves in sizes 7-1/16" in working pressures of 2,000 PSI thru 5,000 PSI working pressure are available upon request.



Full-Bore Thru-Conduit Design

- Maximizes valve service life
- Eliminates the collection of destructive particles

Expanding Gate

- Produces a positive mechanical seal across the seats
- Isolates the body cavity from bore pressure in both the open and closed position

Press Fit Seats

- Press fit seats allow the seats to be tightly wedged into the seat pockets in the open or closed position

Metal-to-Metal Seals

- Body/bonnet interface, and gate/seat interface

In-line Repairability

- Stem packing is re-energized while the valve is under pressure

Long Life, Low Maintenance

- Simple routine maintenance program limits repairs, eases operation, protects against corrosion, and extends service life

Size Chart: 2,000 PSI

Flange Size	A	B	C	D	Approximate Weight
2 1/16"	11.62"	5.06"	19.62"	10"	96#
2 9/16"	13.12"	5.81"	20.62"	13"	140#
3 1/8"	14.12"	7.06"	22.75"	13"	218#
4 1/16"	17.12"	9.12"	25.88"	16"	406#

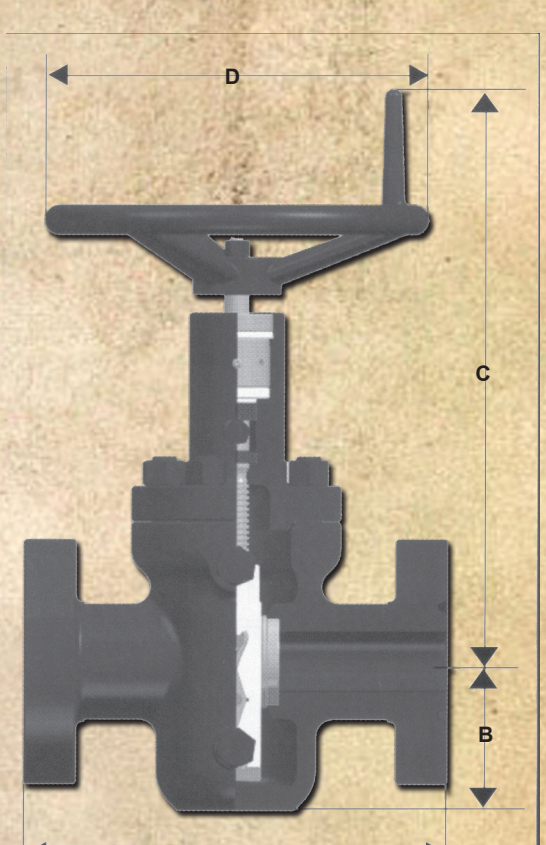
Size Chart: 3,000 PSI

Flange Size	A	B	C	D	Approximate Weight
3-1/8"	17.12"	7.31"	22.75"	16"	300#
4 1/16"	20.12"	9.12"	25.88"	16"	558#

Size Chart: 5,000 PSI

Flange Size	A	B	C	D	Approximate Weight
2 1/16"	14.62"	5.25"	19.62"	13"	176#
2 9/16"	16.62"	6.12"	20.62"	13"	224#
3 1/8"	18.62"	7.62"	22.75"	16"	334#
4 1/16"	21.62"	9.44"	25.88"	16"	614#

Contact your nearest J&W representative for JM type gate valve Part numbers



Trim Chart

Service Condition	Trim	Body	Bonnet	Gate	Seat	Stem
General Non-Corrosive	AA	Alloy	Alloy	Alloy	Alloy	Alloy
General Slightly Corrosive	BB	Alloy	Alloy	410SS Hardface	410 SS Hardface	17-4 PH
General Moderately Corrosive, CO2	CC	410 SS	410 SS	410 SS Hardface	410 SS Hardface	17-4 PH
Sour, Non-Corrosive	DD	Alloy	Alloy	Alloy	Alloy	17-4 PH
Sour, Slightly Corrosive	EE	Alloy	Alloy	410 SS Hardface	410 SS Hardface	17-4 PH
Sour, Moderately Corrosive H2S	FF	410 SS	410 SS	410 SS Hardface	410 SS Hardface	17-4 PH

J&W FC Gate Valves

J&W's JFC gate valve features a non-rising stem with a slab gate, floating seat ring body bushing design to provide safe dependable service. It is available in flanged or threaded ends in standard bore sizes from 1-13/16" thru 4-1/16" in working pressures of 5,000 PSI thru 10,000 PSI wp.

J&W JFC gate valves in sizes 7-1/16" in working pressures of 10,000 PSI and 15,000 PSI working pressure are available upon request.



Full-Bore Thru-Conduit Design

- Maximizes valve service life
- Eliminates the collection of destructive particles

Floating Slab Gate and Seats

- Produces a positive pressure energized seal
- Body pressure equalizes across the seat ring/body busing, eliminating body erosion in the seat pockets

Metal-to-Metal Seals

- Body/bonnet interface, gate/seat ring/body busing interfaces, body/body bushing interface

In-line Repairability

- Seat rings, body busings, gate, stems are easily replaced in the field

Metal-to-Metal Backseat

- Allows for body pressure containment in the case of stem packing leak

Long life, Low Maintenance

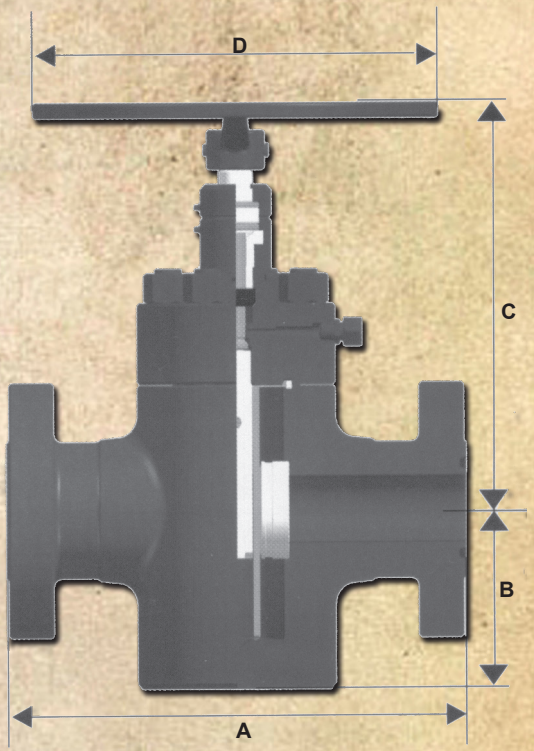
- Simple routing maintenance program limits repairs, eases operation, protects against corrosion, and extends service life

Size Chart: 5,000 PSI

Flange Size	A	B	C	D	Approximate Weight
2-1/16"	14.62"	5.62"	21.00"	25"	180#
2-9/16"	16.62"	6.50"	21.81"	14"	255#
3-⅛"	18.62"	7.38"	22.69"	18"	360#
4-1/16"	21.62"	9.12"	24.31"	18"	545#
7-1/16"	29.00"	12.75"	28.62"	24"	1090#

Size Chart: 10,000 PSI

Flange Size	A	B	C	D	Approximate Weight
1-13/16"	18.25"	5.75"	21.00"	14"	270#
2-1/16"	20.50"	5.88"	21.00"	14"	275#
2-9/16"	22.25"	6.81"	21.69"	18"	485#
3-1/16"	24.38"	8.06"	22.75"	18"	680#
4-1/16"	26.38"	10.06"	25.75"	24"	1060#
7-1/16"	35.00"	16.50"	33.25"	30"	3800#



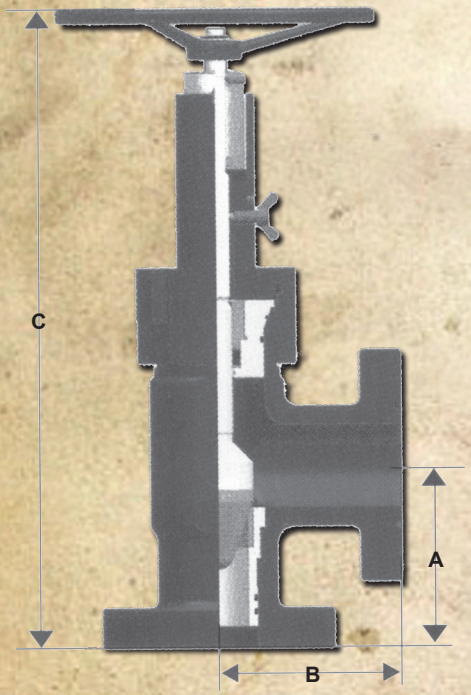
Trim Chart

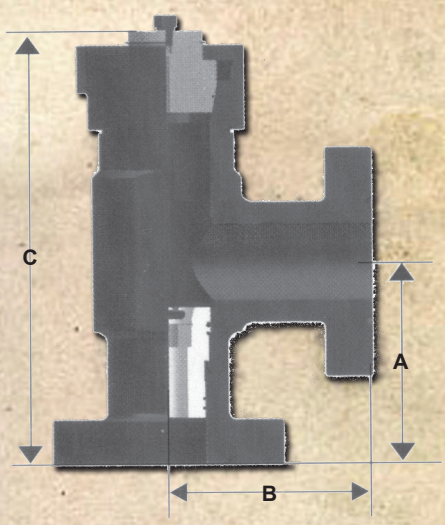
Service Condition	Trim	Body	Bonnet	Gate	Seat	Body Bushing	Stem
General Non-Corrosive	AA	Alloy	Alloy	Alloy	Alloy	410 SS	Alloy
General Slightly Corrosive	BB	Alloy	Alloy	410SS Hardface	410 SS Hardface	410 SS	17-4 PH
General Moderately Corrosive, CO2	CC	410 SS	410 SS	410 SS Hardface	410 SS Hardface	410 SS	17-4 PH
Sour, Non-Corrosive	DD	Alloy	Alloy	Alloy	Alloy	410 SS	17-4 PH
Sour, Slightly Corrosive	EE	Alloy	Alloy	410 SS Hardface	410 SS Hardface	410 SS	17-4 PH
Sour, Moderately Corrosive H2S	FF	410 SS	410 SS	410 SS Hardface	410 SS Hardface	410 SS	17-4 PH

Contact your nearest J&W Representative for JFC type gate valve part numbers

J&W Chokes

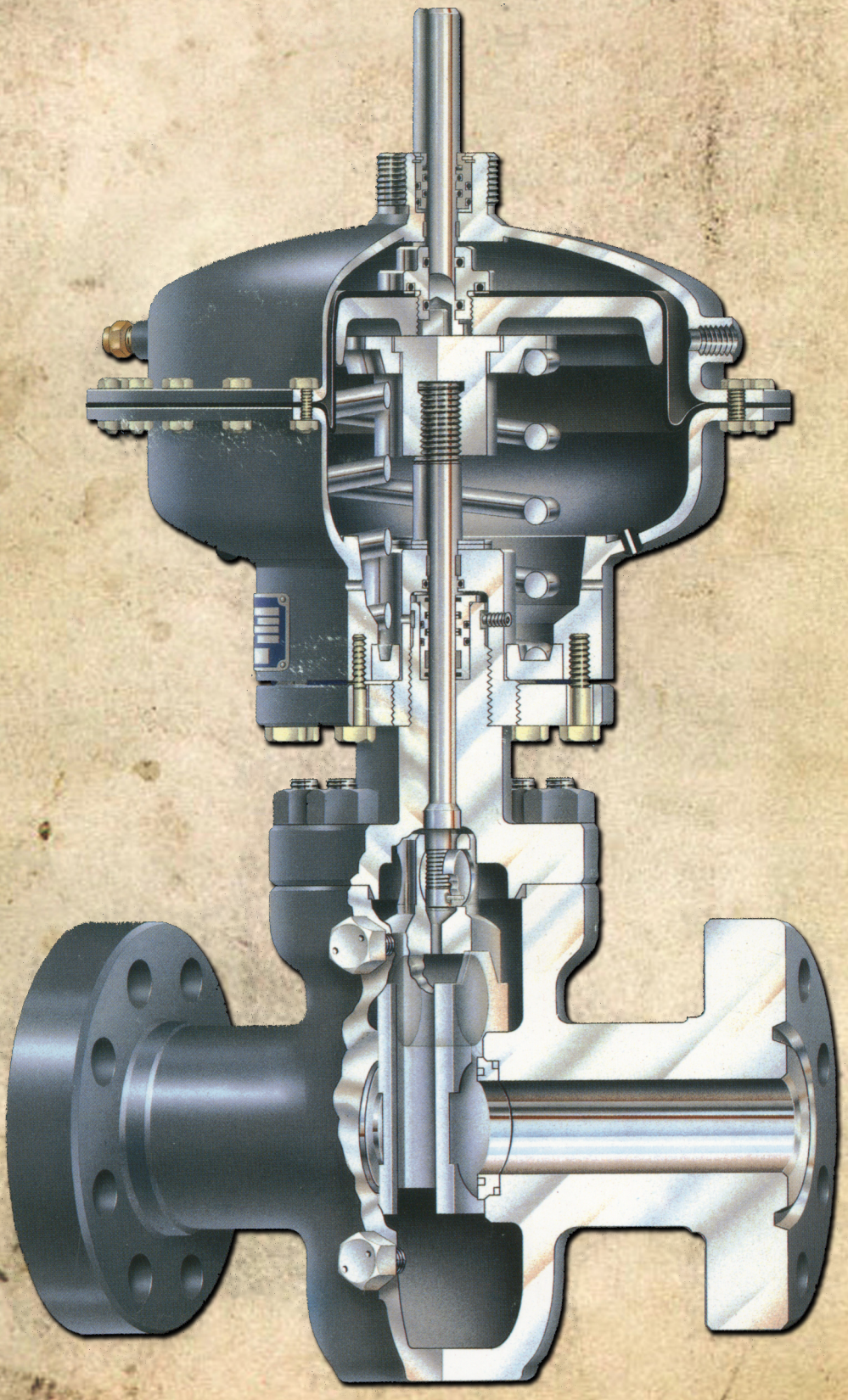
J&W's adjustable and positive production chokes are designed for reliable flow control and maximum wear life. J&W's chokes are available in flanged or threaded ends in standard bore sizes from 1-13/16" thru 4-1/16", in working pressures of 2,000 PSI through 10,000 PSI.

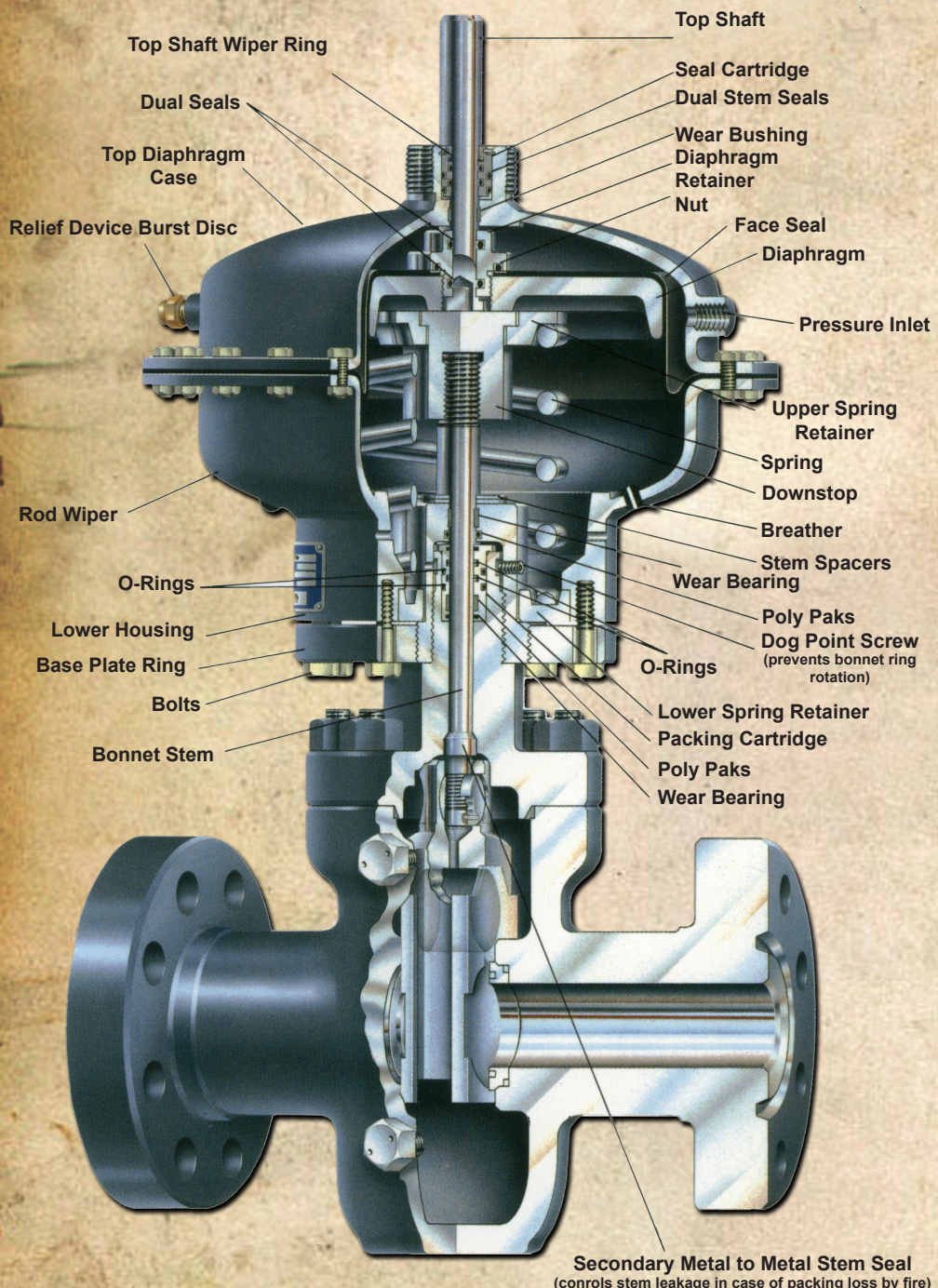




Configuration	Inlet	Working Pressure	Outlet	Working Pressure	A	B	C
JWN-62	2-1/16"	2,000	2-1/16"	2,000	9.38"	5.88"	24.38"
	2-1/16"	5,000	2-1/16"	5,000	9.38"	7.50"	24.38"
JWT-1	2-1/16"	2,000	2-1/16"	2,000	9.38"	5.88"	14.50"
	2-1/16"	5,000	2-1/16"	5,000	9.38"	7.50"	13.88"
JW-JWA	1-13/16"	10,000	1-13/16"	10,000	9.19"	7.50"	21.06"
	2-1/16"	10,000	2-1/16"	10,000	9.38"	7.50"	21.38"
	1-13/16"	15,000	1-13/16"	15,000	10.12"	7.38"	26.06"
	2-1/16"	15,000	2-1/16"	15,000	9.38"	8.69"	26.00"
JWPC	1-13/16"	10,000	1-13/16"	10,000	9.19"	7.50"	14.12"
	2-1/16"	10,000	2-1/16"	10,000	9.38"	7.50"	16.31"
	1-13/16"	15,000	1-13/16"	15,000	10.12"	7.38"	18.88"
	2-1/16"	15,000	2-1/16"	15,000	9.38"	8.69"	18.62"

Diaphragm Actuators (SSV)





ACCESSORIES

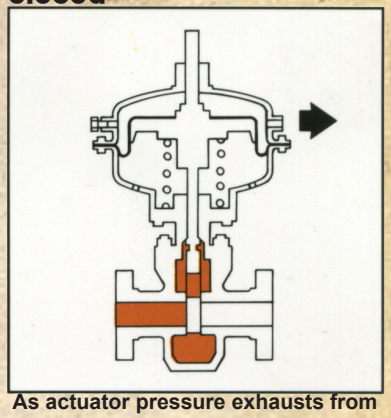
The sensitive lock open devices, manual handwheel operators, hydraulic operators, position indicators, remote control devices, actuator quick exhaust devices, stem protector, electromechanical switches, electrical indicating devices.

Fail Closed Operation

The SSV valve with a J&W actuator is normally supplied in the fail-closed configuration. Pneumatic actuator supply pressure drives the valves reverse ported gate down and holds it in the open position under normal operating conditions. In the event of an abnormal condition, the actuator supply pressure is released or bled off by quick exhaust mechanisms allowing the valve to close by body pressure acting on the bonnet stem diameter and spring force. Restoring of Pneumatic Actuator supply pressure automatically reopens the valve.

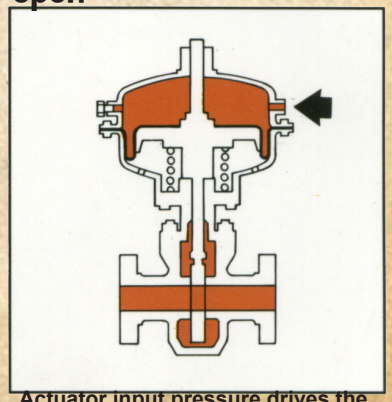
When required, the valve can be configured with a fail open gate design for a vent or blow-down system.

Closed



As actuator pressure exhausts from the housing or cylinder, valve body pressure and actuator spring force close the valve.

Open



Actuator input pressure drives the reverse-ported gate downward into open positon

Diaphragm-type Actuator Economy With Traditional Quality

The SAFOCO Diaphragm Actuator combines simplicity with ease of maintenance to provide an extraordinary value in a SS actuator.

Its operating principle and rugged design make this actuator inherently trouble-free. This diaphragm actuator design has eliminated the problems of downtime and added safety features vital to today's customer requirements. This actuator is designed for most surface safety applications.

The SAFOCO Actuator utilizes the traditional diaphragm concept by eliminating galling, misalignment, and distortion during operation.

The close tolerance problem has been eliminated by providing wear bearings in the actuator and bonnet to suspend the top shaft and bonnet stem from contacting metal during operation.

SAFOCO has designed into each model, series, and size of diaphragm actuator the industry's strongest compression spring. This is important to ensure gate valve closure. No special tools are required when loading the compression spring.

Ease of repair and service has been provided by designing the top seal cartridge so that it can be removed easily and quickly.

To remove the actuator from the bonnet remove 8 hex head bolts with a crescent wrench, then lift the actuator from the bonnet.

SAFOCOS' actuator philosophy emphasizes safety and reliability, compact and simple design, fast response time, easy maintenance, optional use of control pressure and quality in manufacture and service.

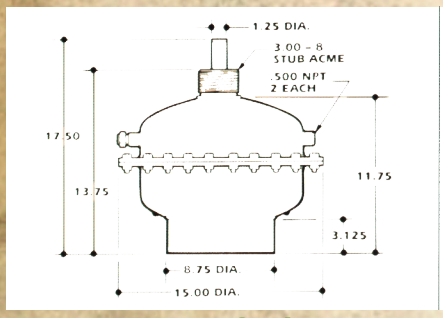
Features

- The top shaft is designed to eliminate the transfer of torque to the gate, seats and bonnet stem when using a manual override. A larger lower shoulder prevents the top shaft from being expelled from actuator. The top shaft indicates the stroke position of the gate in the valve. The top shaft is protected from metal to metal contact by a wear bearing and top seal cartridge.
- Diaphragm incorporates dual layers of nylon which requires no lubrication and will not wear due to friction. The diaphragm has eliminated the problem of damage to seals by twisting or rolling an O-ring. This design ensures product reliability and flexibility for years of service.
- Helical compressions spring provides maximum closure to valve with 900 to 1,000 lbs at full closed position.
- Top loaded seal cartridge enables top shaft seal replacement without disassembly of actuator. Top seal cartridge incorporates rod wiper to keep shaft sealing area clean for longer life of seals.
- All weld formations are full penetration welds under ASME section IX
- Base plate ring provides for a 360° actuator rotation when exacting plumbing is required for control pressure inlet.
- A permanent drift adjustment is accomplished by use of stainless steel spacers. Actuator removal does not affect drift adjustment.
- All non-stainless actuator and bonnet components are coated for resistance to marine environment.
- The standard SAFOCO Diaphragm Pneumatic Actuator material meets NACE MR-01-75 requirements.
- Pressure inlet and relief flow passages are .500 NPT. Larger ports are stronger and help eliminate trash buildup.
- The base plate ring to lower housing design utilizes the eight bolts to their strength. The bolts are loaded to use the entire length and diameter. This concept is stronger, safer and more reliable.
- All actuator designs have been finite element analyzed (FEA).

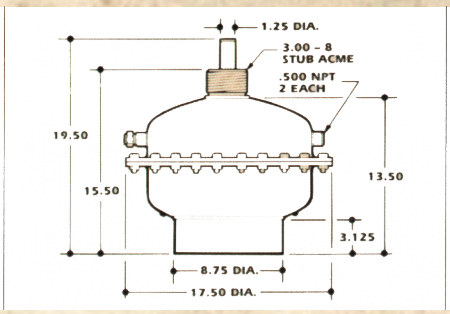
J&W SERVICES & EQUIPMENT COMPANY

Diaphragm Actuators (SSV)

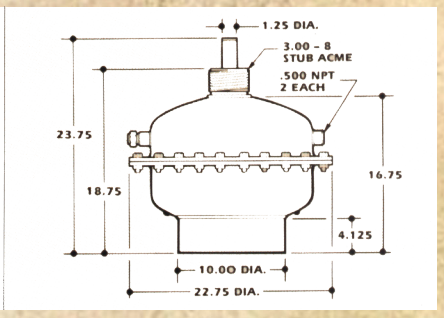
Actuator Sizes



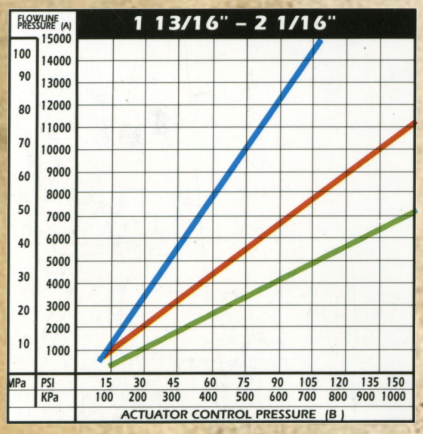
1200 Series

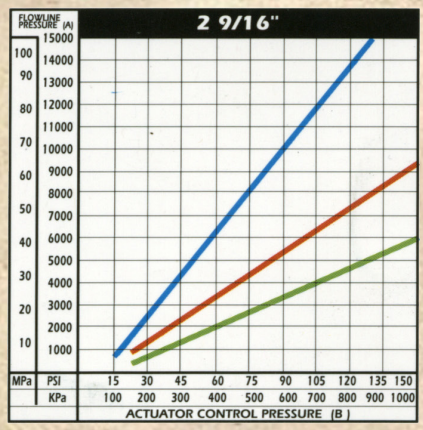


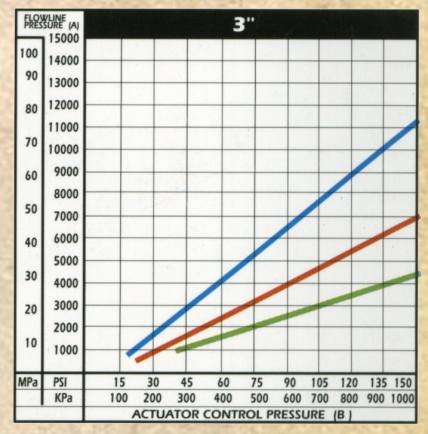
1500 Series

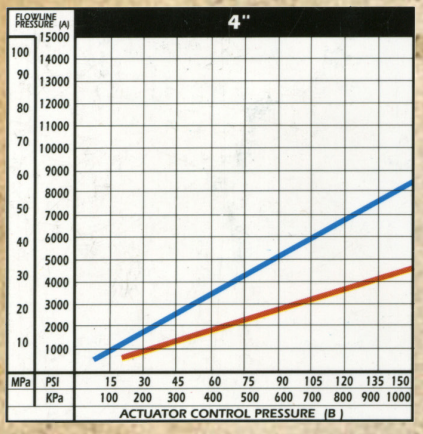


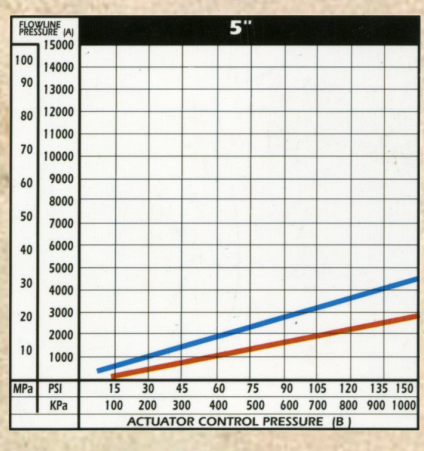
2000 Series

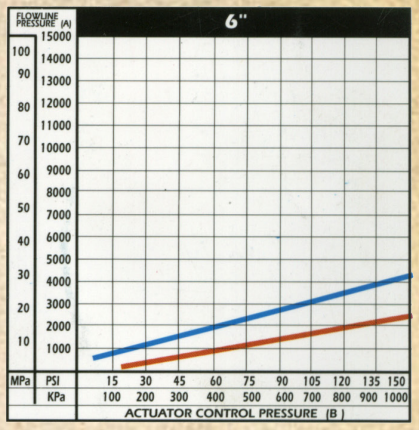












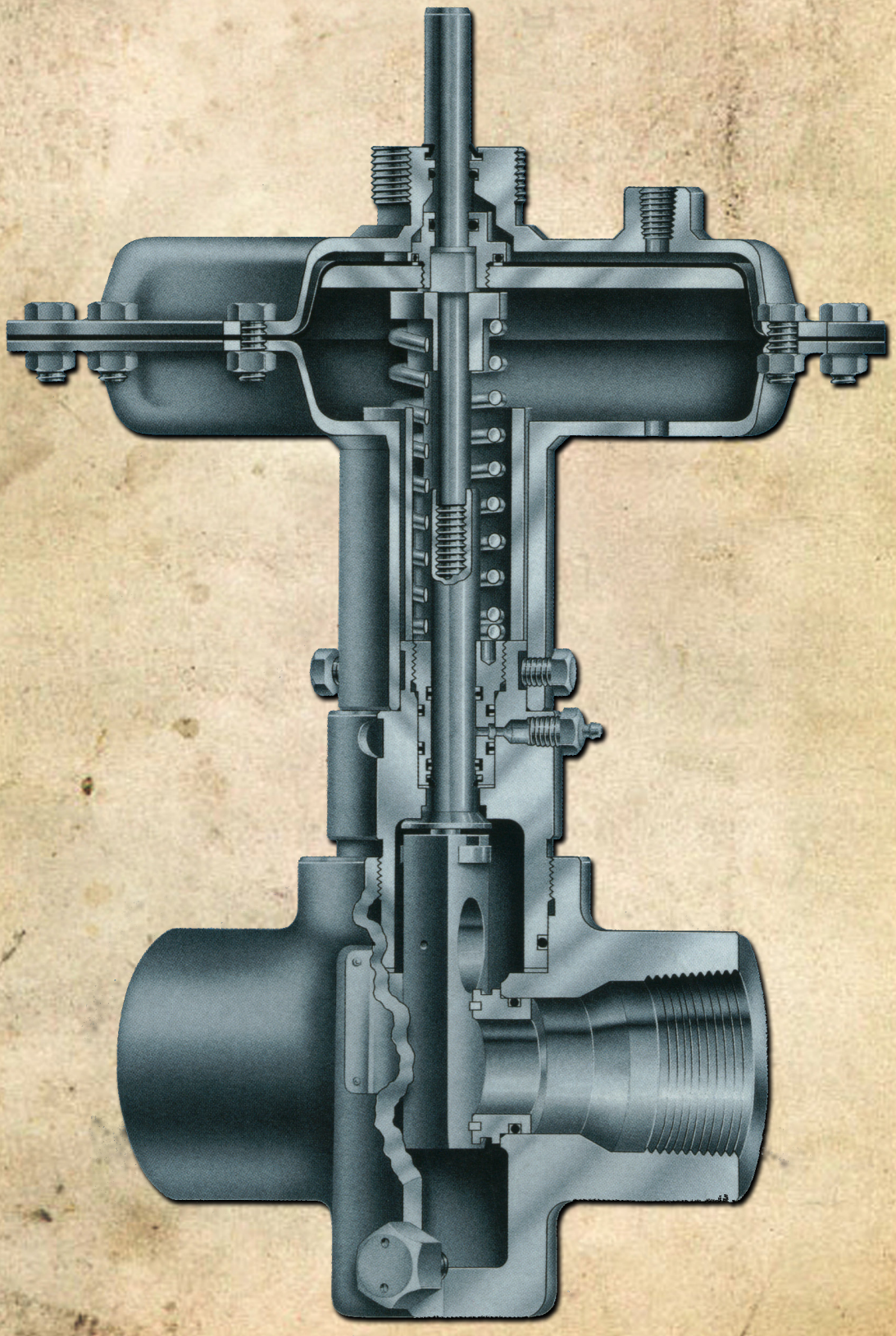
Specifications

Maximum Operating Pressure		150 PSI	10.4 Bars
Production Test Pressure		225 PSI	15.5 Bars
Operating Temperature Range		20°F to 150°F	-29°C to 65°C
Actuator Weight	1200 Series	89 lbs	
	1500 Series	132 lbs	
	2000 Series	162 lbs	
API 6A		PSI 1, 2, or 3	PR-2
API 14D		Class 1	

CONTROL PRESSURE EQUATION

Actuators Series	1200	1500	2000
1 13/16" Z 1/16" Valves	.019	.012	.006
2 9/16" Valves	.023	.015	.08
3" Valves	.034	.021	.012
4" Valves	-----	.032	.018
5" Valves	-----	.058	.032
6" Valves	-----	.068	.038

*Typical dimensions, for exact dimensions per application contact J&W customer service.



Diaphragm Actuated Gate Valve

The SAFOCO Diaphragm Actuated Gate Valve (Model DAGV) is a versatile product suitable for many different applications throughout the industry. The model DAGV may be furnished with a reverse gate (normally closed) or a direct gate (normally open).

The Model DAGV is operated by the application of a pneumatic pressure supply to the diaphragm. The Model DAGV will return to its normal position (open or closed) upon loss of pneumatic pressure supply.

The Model DAGV has a maximum valve rated working pressure of 3000 PSI (207 bars). The maximum rated working pressure of the actuator is 75 PSI (6 bars). Control pressure setting will depend on valve body pressure. (See pressure chart)

The Model DAGV is available with threaded end connection, or API 3000 RTJ, and ANSI 150, 300, 600 and 900 RF or RTJ flanged ends.

The Model DAGV is offered for standard service and for H2S service applications. The standard temperature range is -20°F (-20°C) to 250°F (121°C). For special temperature applications from -50°F (-40°C) to +400°F (+205°C) contact J & W.

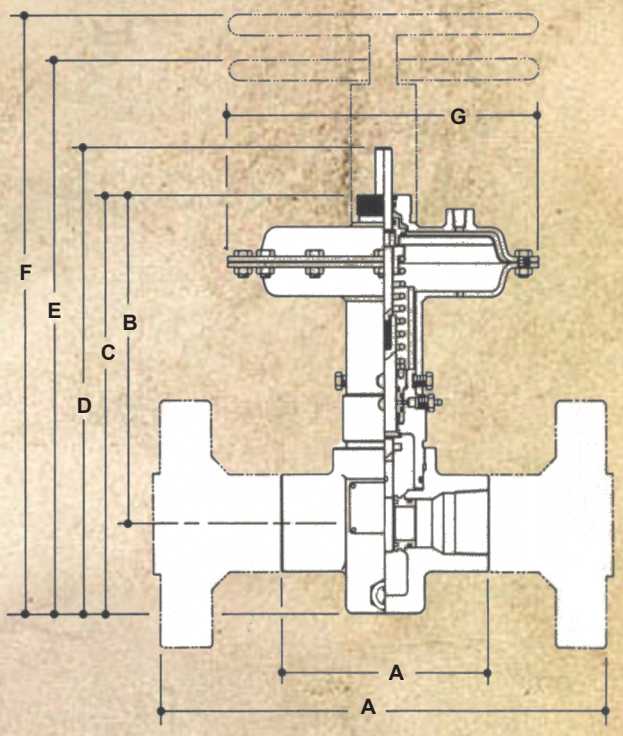
The Model DAGV T-seal bonnet sealing design provides the optimum in performance and simplicity at the minimum cost. For additional or special bonnet sealing requirements contact J&W.

The model DAGV design features a stainless rising stem. This stem provides visual indication of valve stroke.

No torque is transmitted to diaphragm when being manually operated.

The model DAGV provides an integral means for manual operation in the event of pneumatic pressure supply failure. A mechanical override can be ordered for any Model DAGV. An optional fusible lock open cap is available.

The Model DAGV fail safe design of the valve utilizes flowline pressure and spring force to oppose the force of the pneumatic pressure supply to the diaphragm. The DAGV incorporates a higher spring preload to insure sealing at low pressure. The larger spring initiates a positive fail safe operation when the pneumatic pressure supply is lost.



Features:

- Actuator has a higher rated working pressure. System does not require low pressure regulation.
- Wiper rings for top shaft and valve bonnet stem keep sealing area clean for longer life of seals.
- Bonnet packing cartridge removed as a unit thereby eliminating down time.
- Damage to diaphragm during manual operation is prevented by rotation of top shaft.
- Top shaft acts as indicator of valve stroke.
- Easy shrink loading with adjustable bolt.
- Positive backseating assured by high energy spring.
- Manual override, fusible lock open cap are standard accessories for all Model DAGV.
- Metal to metal fire seals.
- No special tools required for assembly or disassembly.
- Valve can be repaired without removal from flowline.
- Fail safe operation.
- Free floating gate for bi-directional flow.

SIZE	CONNECTION	MAX W.P.	CONTROL PRESSURE	BORE SIZE	A	B	C	D	E	F	G
2"	S.E.	3,000	60 PSI	1.25	7.50	11.70	15.00	16.90	19.80	21.70	11.30
2"	150 R.F.	285	15 PSI	1.25	7.00	11.70	15.00	16.90	19.80	21.70	11.30
2"	300 R.F.	740	20 PSI	1.25	8.50	11.70	15.00	16.90	19.80	21.70	11.30
2"	600 R.T.J.	1480	30 PSI	1.25	11.62	11.70	15.00	16.90	19.80	21.70	11.30
2"	600 R.F.	1480	30 PSI	1.25	11.50	11.70	15.00	16.90	19.80	21.70	11.30
2"	900 R.F.	2160	45 PSI	1.25	14.62	11.70	15.00	16.90	19.80	21.70	11.30
2"	900 R.T.J.	2160	45 PSI	1.25	14.62	11.70	15.00	16.90	19.80	21.70	11.30
2"	3000 R.T.J.	3000	60 PSI	1.25	14.62	11.70	15.00	16.90	19.80	21.70	11.30

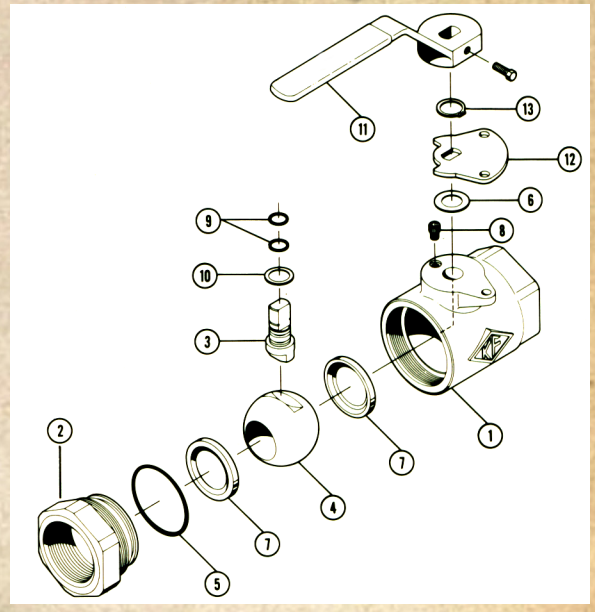
ASSEMBLY BASE NUMBERS

Valve Size		1½x1½	2x1½	2½x2	2x2	3x2	3x3	4x3
SER. C	THRD.	1500-	1501-	1502-	1503-	1504-	1505-	1506-
	GRVD	1507-	1508-	1509-	1510-	1511-	1512-	1513-
	RATING	2500 PSI		2160 PSI			1500 PSI	
SER. CH	THRD	3002-	3003-					
	RATNG	3000 PSI						



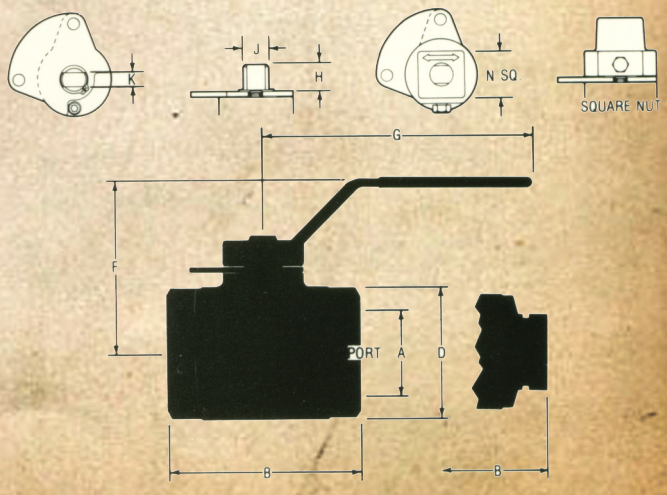
PARTS LIST & MATERIALS

INDEX	DESCRIPTION	TRIM				
		CARBON STEEL -1XXX9	STNLS. TRIM -2XXX9	ALL SS -7XXX9	CS NACE* -3XXX9	ALL SS NACE* -4XXX9
1	BODY	CARBON STEEL		STNLS. STEEL	CARBON STEEL	STNLS. STEEL
2	ADAPTER	CARBON STEEL		STNLS. STEEL	CARBON STEEL	STNLS. STEEL
3	STEM	CARBON STEEL	316 STAINLESS STEEL		316 STAINLESS STEEL	
4	BALL	CARBON STEEL	316 STAINLESS STEEL		316 STAINLESS STEEL	
5	BODY SEAL	BUNA N OR VITON			VITON	
6	STEM BEARING	NYLON			NYLON	
7	SEAT	NYLON OR TEFLON**			NYLON OR TEFLON**	
8	STOP SCREW	STEEL			STEEL	
9	STEM SEAL	BUNA N OR VITON			VITON	
10	THRUST BEARING	TEFLON			TEFLON	
11	HANDLE/SQ. NUT	DUCTILE IRON			DUCTILE IRON	
12	STOP PLATE	STEEL			STEEL	
13	RETAINER	SPRING STEEL			SPRING STEEL	



DIMENSIONAL DATA

DIM.	1½ x 1½	2x1½	2x2	2½x2	3x2	3x3	4x3
A	1½		2			3	
BTHRD. GRVD.	5½		6		8¼	8¾	
	6		6¼		N/A	8¾	
D	3⅜		4¼		4 7/16	6 ⅛	
F	5⅝		6 1/16			7¼	
G	8½					15	
H	¾					1	
J	.873/.871					1.248/1.246	
K	.560/.556					.622/.618	
N	1 7/16					1 13/16	



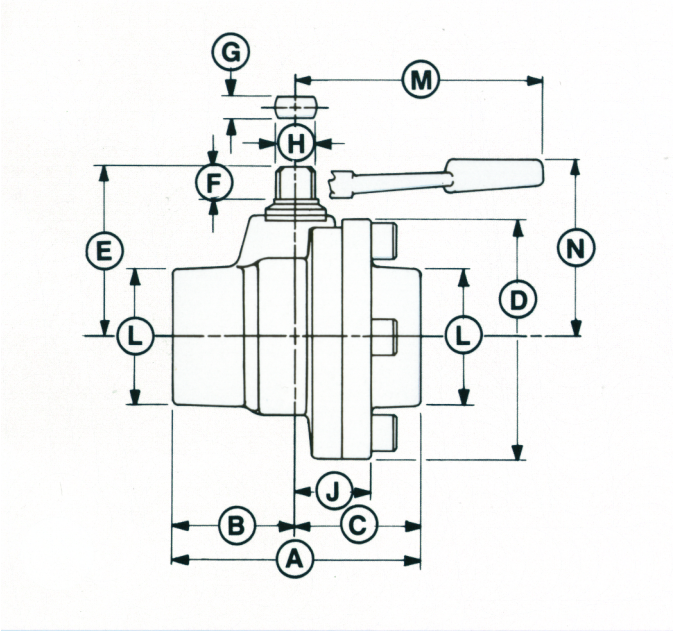
APPLICATION CODES

	Body & Trim Materials			Seal Materials			
	Duct. Iron	Carbon Steel	316 SS	Nylon	TEFLON	Buna N	Viton
Acetic Acid	U	G	E	E	E	G	E
Acetone	E	E	E	E	E	U	U
Acetylene (Dry)	E	E	E	E	E	G	E
Air	E	E	E	E	E	E	E
Alcohol, Amyl	G	G	E	G	E	G	E
Alcohol, Butyl	G	G	E	G	E	G	E
Alcohol, Ethyl, Methyl	G	G	E	E	E	G	E
Aluminum Chloride	F	G	E	G	E	G	E
Amines	G	E	E	G	E	F	F
Ammonia, Anhydrous	G	E	E	E	E	G	G
Ammonia (Aqueous)	G	E	E	E	E	G	E
Ammonia Solutions	G	G	E	E	E	G	E
Ammonium Carbonate	G	G	E	E	E	G	E
Ammonium Hydroxide	G	G	E	E	E	E	E
Asphalt	E	E	E	G	E	F	E
Barium Carbonate	F	G	G	E	E	E	E
Beet Sugar Liquors	G	G	E	E	E	E	E
Benzaldehyde	G	E	E	G	E	U	F
Benzene (Benzol)	G	E	E	G	E	U	G
Bunker Oils (Fuels)	G	E	E	E	E	E	E
Butadiene	G	G	E	E	E	E	E
Butane	G	E	E	E	E	E	E
Butylene	E	E	E	G	E	U	E
Carbon Disulfide	F	G	G	G	E	U	E
Carbon Dioxide (Dry)	G	E	E	G	E	G	E
Carbonic Acid	U	G	G	E	E	E	E
Castor Oil	G	G	E	E	E	G	E
Chlorine Gas (Dry)	F	G	G	G	E	G	G
Chlorobenzene (Dry)	G	G	E	G	E	U	E
Crude Oil, Sweet	G	E	E	E	E	E	E
Crude Oil, Sour	F	G	E	E	E	E	E
Cutting Oils, Water	G	G	E	E	E	E	E
Cyclohexane	G	E	E	G	E	E	E
Diesel Fuels	G	E	E	E	E	E	E
Diethylamine	G	E	E	G	E	G	G
Dowtherms	G	E	E	G	E	U	E
Drilling Mud	G	G	E	E	E	E	E
Ethane	E	E	E	E	E	E	E
Ethylene Glycol	G	G	E	F	E	E	E
Ethylene Oxide	G	G	E	G	E	U	F
Fish Oils	G	G	E	G	E	G	E
Formaldehyde (Cold)	F	G	E	G	E	G	E
Freon (dry)	F	G	E	G	E	G	G
Fuel Oil	G	E	E	E	E	E	E
Gas Natural	G	G	E	E	E	E	E
Gas Odorizers	G	G	E	E	E	E	E
Gasoline (Leaded)	G	E	E	E	E	G	E
Gasoline (Unleaded)	G	E	E	E	E	G	E
Glue	E	E	E	E	E	E	E
Glycerine/Glycerol	G	G	E	F	E	E	E
Glycols	G	G	E	F	E	G	E
Hexane	G	E	E	G	G	G	E
Hydraulic Oils	G	G	E	G	E	G	E
Hydrogen	G	G	E	E	E	E	E
Hydrogen Sulfide (Dry)	G	G	E	E	E	F	E
Hydrogen Sulfide (Wet)	F	G	G	G	E	U	E
Iso-octane	G	E	E	E	E	E	E
Isopropyl Alcohol	G	E	E	E	E	G	E
Isopropyl Ether	G	E	E	E	E	E	E
JP-5 Fuel	E	E	E	E	E	E	E

	Body & Trim Materials			Seal Materials			
	Duct. Iron	Carbon Steel	316 SS	Nylon	TEFLON	Buna N	Viton
Kerosene	E	E	E	E	E	E	E
Ketones	E	E	E	G	E	U	F
Linseed Oil	E	E	E	E	E	G	E
Liquefied Pet. Gas	G	E	E	E	E	E	E
Lubricating Oil	E	E	E	E	E	E	E
Magnesium hydroxide	G	G	E	E	E	E	E
Methane	E	E	E	E	E	E	E
Methyl Acetone	G	E	E	F	E	U	F
Methylamine	G	G	G	F	E	F	F
Methyl Ethyl Ketone	E	E	E	G	E	U	F
Mineral Oil	G	G	E	E	E	E	E
Molasses	E	E	E	E	E	E	E
Naphtha	G	E	E	E	E	E	E
Naphthalene	G	E	E	E	E	F	E
Nitric Acid	F	G	G	U	E	U	E
Nitrogen	E	E	E	E	E	E	E
Oils, Animal	E	E	E	E	E	E	E
Oxygen	G	E	E	E	E	E	E
Ozone (Dry)	G	E	E	G	E	G	E
Paints & Solvents	E	E	E	F	E	F	G
Paraffin	E	E	E	E	E	E	E
Pentane	G	E	E	E	E	E	E
Phenol	U	G	G	U	E	U	G
Potassium Chloride	F	E	E	E	E	E	E
Potassium Cyanide	G	G	G	E	E	E	E
Potassium Hydroxide	G	G	G	G	E	E	E
Potassium Nitrate	G	G	E	E	E	E	E
Propane	G	E	E	E	E	E	E
Propylene Glycol	G	E	E	F	E	E	E
Soap Solutions	F	G	E	E	E	E	E
Sodium Acetate	F	G	G	E	E	E	F
Sodium Carbonate	F	E	E	E	E	E	E
Sodium Chloride	U	G	G	E	E	E	E
Sodium Cyanide	F	E	E	E	E	E	E
Sodium Hydroxide 5%	F	F	E	G	E	E	G
Sodium Hydroxide 50%	U	F	G	G	E	G	G
Sodium Nitrate	F	G	E	E	E	E	E
Sodium Perborate	F	G	E	G	E	G	E
Sodium Phosphate	F	G	E	E	E	E	E
Sodium Silicate	F	G	E	E	E	E	E
Sodium Sulfate	F	G	E	E	E	E	E
Sodium Sulfide	F	G	E	G	E	G	E
Sodium Sulfite	F	G	F	E	E	E	E
Steam	G	E	E	U	E	F	U
Styrene	G	E	E	U	E	U	G
Sulphur Dioxide (dry)	F	G	E	G	E	F	E
Sulphur Trioxide (dry)	F	G	E	G	E	F	G
Tall Oil	F	G	E	E	E	E	E
Tar	G	E	E	G	E	G	E
Toluene/Toluol	G	E	E	F	E	U	G
Transformer Oil	G	E	E	E	E	E	E
Tributyl Phosphate	F	G	E	G	E	G	G
Turpentine	F	G	E	G	E	F	E
Water, Salt	U	U	E	E	E	E	E
Waxes	E	E	E	E	E	E	E
Xylene (Dry)	G	E	E	G	E	U	G
Zinc Chloride	F	G	G	G	E	G	G
Zinc Sulphate	F	E	E	E	E	E	E

E - Excellent
G - Good
F - Fair
U - Unsatisfactory

*EPT Seals recommended for steam service



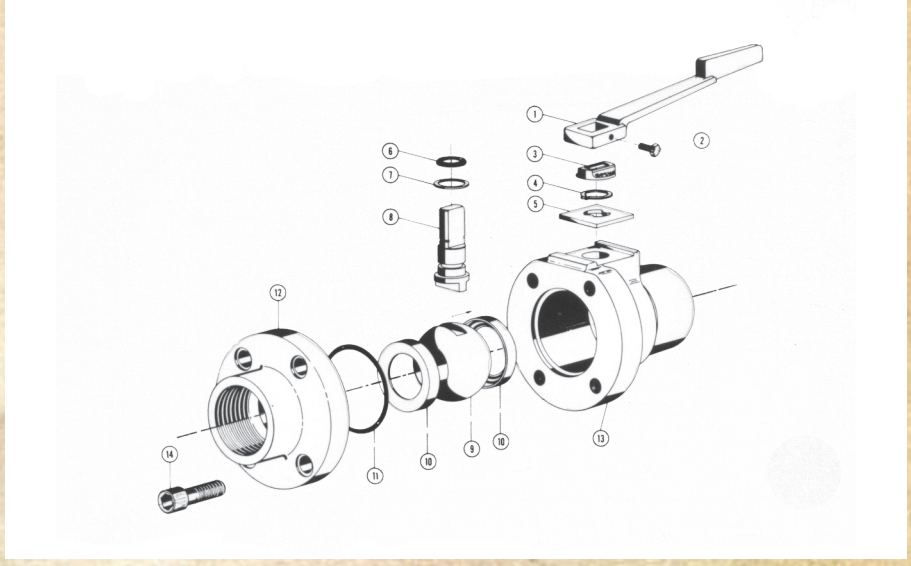
J&W TYPE 'F' BALL VALVE – DTL SCREWED END – DIM. DATA															
SIZE	CAT.NO.	PORT	MAX. W.P.	A	B	C	D	E	F	G	H	J	L	M	N
1x1x1	1F-F92-SE	1	2000	3 ⅜	1 15/16	1 15/16	3 ⅜	2 ⅜	½	.340	.685	1 ⅛	1 ⅞	4 ¾	2
2x1½x2	2R-F92-SE	1	2000	3 ½	2 ¾	2 ¾	4 ⅞	3 ⅝	¾	.434	.873	1 ⅝	3	7 ¼	5
2x2x2	SF-F62-SE	2	1500	5 ¾	2 ⅞	2 ⅞	6 ⅛	4 ⅜	⅞	.497	.998	2	3 ⅛	10 ¼	5 ⅜
2x2x2	2F-F92-SE	2	2000	5 ¾	2 ⅞	2 ⅞	6 ⅛	4 ⅜	⅞	.497	.998	2	3 ⅛	10 ¼	5 ⅜
2½x2½x2½	2½F-F62-SE	2	1500	7	3 ½	3 ½	6 ⅞	5 ¼	1 1/16	.622	1.248	2 ¼	3 ⅝	16	5 ¾
3x2x3	3R-F62-SE	2	1500	7 ¼	3 ⅝	3 ⅝	6 ¾	4 ⅜	⅞	.497	.998	2 ⅛	4 ¼	10 ¼	5 ⅜
3x3x3	3F-F42-SE	3	1000	8 ⅛	4 1/16	4 1/16	7 ¾	5 ¾	1 1/16	.747	1.373	2 ½	4 ¼	20	6 ¾
4x3x4	4R-F42-SE	3	1000	8 ⅝	4 5/16	4 5/16	7 ¾	5 ¾	1 1/16	.747	1.375	2 ½	5 ¼	20	6 ¾
4x4x4	4F-F32-SE	4	750	9 ⅜	4 11/16	4 11/16	9 ¼	5 ¾	1 1/16	.747	1.375	3 ⅛	5 ¼	20	6 ¾

J&W TYPE 'F' – CARBON STEEL – SCREWED END – DIM. DATA															
SIZE	CAT.NO.	PORT	MAX. W.P.	A	B	C	D	E	F	G	H	J	L	M	N
1x1x1	1F-F93-SE	1	2500	3 ⅜	1 15/16	1 15/16	3 ⅜	2 ⅜	½	.340	.685	1 ⅛	1 ⅞	4 ⅜	2
1x1x1	1F-F03-SE	1	3000	3 ⅜	1 15/16	1 15/16	3 ⅜	2 ⅜	½	.340	.685	1 ⅛	1 ⅞	4 ⅜	2
1½x1½x1½	1½-F93-SE	1½	2500	5 ½	2 ¾	2 ¾	4 ⅞	3 ⅝	¾	.434	.873	1 ⅝	2 ⅜	7 ¼	5
2x1½x2	2R-F93-SE	1½	2500	5 ½	2 ¾	2 ¾	4 ⅞	3 ⅝	¾	.434	.873	1 ⅝	3	7 ¼	5
2x1½x2	2R-F03-SE	1½	3000	5 ½	2 ¾	2 ¾	4 ⅞	3 ⅝	¾	.434	.873	1 ⅝	3	7 ¼	5
2x2x2	2F-F93-SE	2	2000	5¾	2 ⅞	2 ⅞	6 ⅛	4 ⅜	⅞	.497	.998	2	3 ⅛	10 ¼	5 ⅜
3x2x3	2R-F93-SE	2	2000	7⅝	3 13/16	3 13/16	6 ⅞	4 ⅜	⅞	.497	.998	2 1/16	4 ¼	10 ¼	5 ⅜
3x3x3	3F-F63-SE	3	1500	8 ⅜	4 3/16	4 3/16	8	5 ¾	1 1/16	.747	1.373	2 ½	4 ¼	20	6 ¾
4x3x4	4R-F63-SE	3	1500	8 ⅞	4 7/16	4 7/16	8	5 ¾	1 1/16	.747	1.375	2 7/16	5 ¼	20	6 ¾

J&W TYPE 'F' – ALUM. BRONZE – SCREWED END – GROOVED END – DIM. DATA															
SIZE	CAT.NO.	PORT	MAX. W.P.	A	B	C	D	E	F	G	H	J	L	M	N
1x1x1	1F-F04N-SE	1	3000	3 ⅜	1 15/16	1 15/16	3 ⅜	2 ⅜	½	.340	.685	1 ⅛	1 ⅞	4 ⅜	2
2x1½x2	2R-F04N-SE	1½	3000	5 ½	2 ¾	2 ¾	4 ⅞	3 ⅝	¾	.434	.873	1 ⅝	3	7 ¼	5
2x2x2	2F-F94N-SE	2	2000	5 ¾	2 ⅞	2 ⅞	6 ⅛	4 ⅜	⅞	.497	.998	2	3 ⅛	10 ¼	5 ⅜
2x1½x2	2R-94N-GE	1½	2000	5 ½	2 ¾	2 ¾	4 ⅞	3 ⅝	¾	.497	.873	1 ⅝	3	7 ¼	5

Ductile Iron
Carbon Steel
Aluminum Bronze

ITEM	PART NAME
1	Handle
2	Handle Bolt
3	Weather Guard
4	Stop Plate Retainer
5	Stop Plate
6	Stem O'ring
7	Stem Washer
8	Stem
9	Ball
10	Ball Seat
11	Body O'ring
12	End Adapter
13	Body
14	Body Bolts
15	Body Stud Nuts
16	Body Stud Bolts

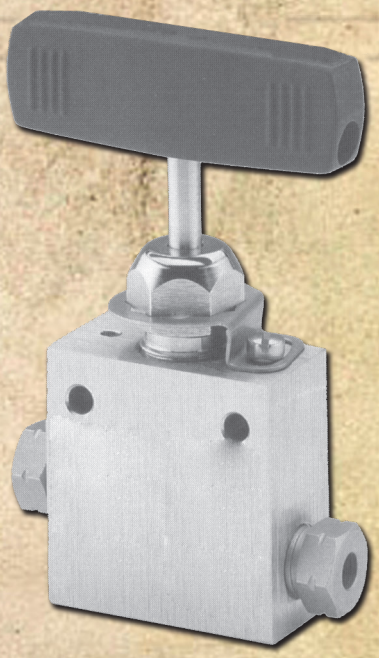


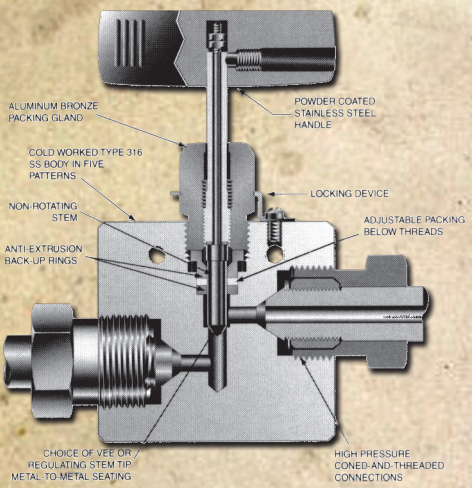
MATERIAL DESCRIPTION – DUCTILE IRON			
ITEM	PART NAME	MATERIAL (STANDARD)	MATERIAL (NACE)
1	Handle	Ductile Iron	Ductile Iron
2	Handle bolt	Standard hex bolt-plated	Standard hex bolt-plated
3	Weather Guard	Nylon	Nylon
4	Stop plate retainer	Carbon spring steel	Carbon spring steel
5	Stop Plate	AISI 1018 steel-zinc plated	AISI 316 stainless steel annealed ASTM A276-316
6	Stem O'ring	Buna	Viton
7	Stem washer	TFE	TFE
8	Stem	Stressproof" zinc plated ASTM A311-79 CLASS B	AISI 316 stainless steel annealed ASTM A276-316
9	Ball	AISI: 1018 nickel/chrome plated	ASTM-A 743-CF8M annealed stainless steel 160-200 BHN
10	Ball seat	Nylon (TFE Optional)	Nylon (TFE Optional)
11	Body O'ring	Buna	Viton
12	End adapter	ASTM A536-72-A395-74 class: 60-40-19 fully annealed	ASTM A536 A395 class: 60-40-18 fully annealed
13	Body	ASTM A536-72-A395-74 class: 60-40-19 fully annealed	ASTM A536 A395 class: 60-40-18 fully annealed
14	Body bolts	ANSI B18.3 ANSI/ASTM A574	ASTM A320/L7M-ASTM A-193/B7M
MATERIAL DESCRIPTION – CARBON STEEL			
ITEM	PART NAME	MATERIAL (STANDARD)	MATERIAL (NACE)
1	Handle	Ductile Iron	Ductile Iron
2	Handle bolt	Standard hex bolt-plated	Standard hex bolt-plated
3	Weather Guard	Nylon	Nylon
4	Stop plate retainer	Carbon spring steel	Carbon spring steel
5	Stop Plate	AISI 1018 steel-zinc plated	AISI 1018 steel-zinc plated
6	Stem O'ring	Buna	Viton
7	Stem washer	TFE	TFE
8	Stem	"Stressproof" zinc plated ASTM A311-79 CLASS B	AISI 316 stainless steel annealed ASTM A276-316
9	Ball	AISI: 1018 nickel/chrome plated	ASTM-A 743-CF8M annealed stainless steel 160-200 BHN
10	Ball seat	Nylon (TFE Optional)	Nylon (TFE Optional)
11	Body O'ring	Buna	Viton
12	End adapter	ASTM 216 grade WCB annealed carbon steel 130-180 BHN	ASTM 216 grade WCB annealed carbon steel 130-180 BHN
13	Body	ASTM 216 grade WCB annealed carbon steel 130-180 BHN	ASTM 216 grade WCB annealed carbon steel 130-180 BHN
14	Body bolts	ANSI B18.3 ANSI/ASTM A574	ASTM A320/L7M ASTM A-193/B7M
15	Body stud nuts	ASTM A-194 ASME SA194 2H	ASTM A194/ASME SA-194 2HM Cadmium plated redrawn 17-22 Rc
16	Body stud Bolts	ASTM A-193 ASME SA-193 B-7	ASTM A-193/ASME SA-193 B-7M Cadmium plated redrawn 17-22 RC
MATERIAL DESCRIPTION – DUCTILE IRON			
ITEM	PART NAME	MATERIAL (STANDARD)	
1	Handle	Ductile Iron	
2	Handle bolt	Standard hex bolt-plated	
3	Weather Guard	Nylon	
4	Stop plate retainer	Carbon spring steel	
5	Stop Plate	AISI 1018 steel-zinc plated	
6	Stem O'ring	Viton	
7	Stem washer	TFE	
8	Stem	AISI 316 stainless steel annealed ASTM A276-316	
9	Ball	ASTM-A 743-CF8M annealed stainless steel 160-200 BHN	
10	Ball seat	Nylon (TFE Optional)	
11	Body O'ring	Viton	
12	End adapter	ASTM: B148-9D	
13	Body	ASTM: B148-9D	
14	Body bolts	ASTM A320/L7M-ASTM A-193/B7M Cadmium plated	

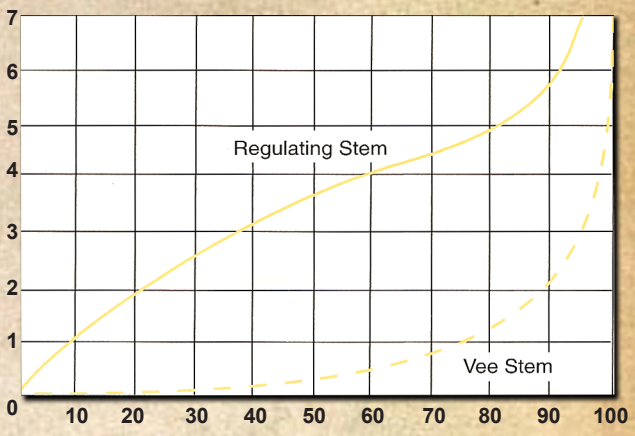
Tube Outside Diameter Size	Connection Type	Orifice Size	Rated CV*	Pressure/ Temperature Rating @ Room Temperature**
¼"	F250C	0.094" (2.39mm)	0.12	30,000 PSI (2068 bar)
⅜"	F375C	0.125" (3.18mm)	0.23	30,000 PSI (2068 bar)
9/16"	F562C	0.125" (3.18mm)	0.33	30,000 PSI (2068 bar)

Notes:

***CV values shown are for 2-way straight valve pattern. For 2-way angle patterns, increase CV value 50%.**







Ordering Procedure

For complete information on available stem types, optional connections and additional valve options, see Needle Valve Options section or contact your Sales Representative. The 30VM Series valves are furnished complete with connection components, unless otherwise specified.

Typical Catalog Number: 30VM4071

30VM	4	07	1	Options
Valve Series	Outside Diameter Tube Size	Stem/Seat Type	Body Pattern	Options
	4-¼"	07 – non-rotating Vee stem (on-off service)	1 – two-way straight	For extreme Temperature and other Options, see Valve Options.
	6-⅜"	08 – non-rotating regulating stem (tapered tip for regulating and shutoff)	2 – two-way angle	
	9-9/16"	87 – Vee stem with replaceable seat	3 – three-way, two on pressure	
		88 – Regulating stem with replaceable seat	4 – three-way, one on pressure	
			5 – three-way, two-stem Manifold valve	

Valve Options

Extreme Temperatures

Standard Autoclave valves with Teflon packing may be operated to 450°F (232°C). High temperature packing is available for service from -423°F (-252°C) to 1200°F (649°C) by adding the following suffixes to catalog order number.

- TG – standard valve with Teflon glass packing to 600°F (316°C)
- GY – standard valve with graphite braided yarn packing to 800°F (427°C).
- HT – extended stuffing box valve with graphite braided yarn packing to 1200°F (649°C).
- B – standard valve with cryogenic trim material and Teflon packing to -100°F (-73°C).
- LT – extended stuffing box valve with Teflon packing & Cryogenic trim materials to -423°F (-252°C).

Valve Maintenance

Repair Kits: add "R" to the front of valve catalog number for proper repair kit. (Example: R30SC16071)

Valve Bodies: Valve bodies are available. Order using the eight (8) digit part number found in the valve drawing or contact your Sales Representative for information.

Consult your J&W representative for pricing on repair kits and valve bodies.

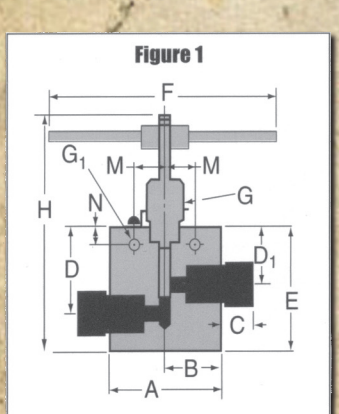
Catalog Number	Stem Type	Outside Diameter Tube	Orifice Diameter	Dimensions – inches (mm)												Block Thickness	Valve Pattern
				A	B	C	D	D_1	E	F	G	G_1	H*	M	N		
2-Way Straight																	
30SC16071	VEE REG	1"	0.438	4.13	2.06	0.72	3.50	2.75	4.44	10.25	1.62	0.56	8.42	1.25	1.12	1.75	See Figure 1
30SC16081		(25.40)	(11.12)	(104.90)	(52.32)	(18.28)	(88.90)	(69.85)	(112.77)	(260.35)	(41.14)	(14.22)	(213.86)	(31.75)	(28.44)	(44.45)	
2-Way Angle																	
30SC16072	VEE REG	1"	0.438	4.13	2.06	0.72	2.75		5.12	10.25	1.62	0.56	9.35	1.25	1.12	1.75	See Figure 2
30SC16082		(25.40)	(11.12)	(104.90)	(52.32)	(18.28)	(69.85)		(130.04)	(260.35)	(41.14)	(14.22)	(237.49)	(31.75)	(28.44)	(44.45)	
2-Way Angle/Replaceable Seat																	
30SC16072	VEE REG	1"	0.438	4.13	2.06	0.72	2.81	4.31	5.12	7.00	1.62	0.56	10.56	1.25	1.12	1.75	See Figure 3
30SC16082		(25.40)	(11.12)	(104.90)	(52.32)	(18.28)	(71.37)	(09.47)	(130.04)	(177.80)	(41.14)	(14.22)	(268.22)	(31.75)	(28.44)	(44.45)	

G – Packing gland mounting hold drill size
G1 – Bracket mounting hole size
Panel mounting drill size: 0.22" all valves.

All dimensions for reference only and subject to change
***H Dimension is with stem in closed position**

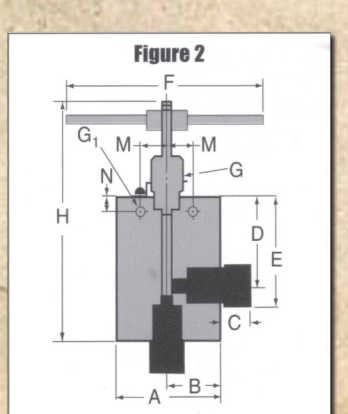
For prompt service, J&W stocks select products. Consult factory

Figure 1



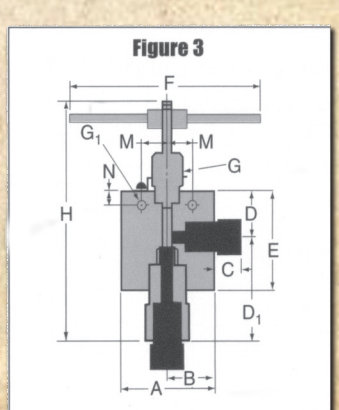
2-Way Straight

Figure 2



2-Way Angle

Figure 3

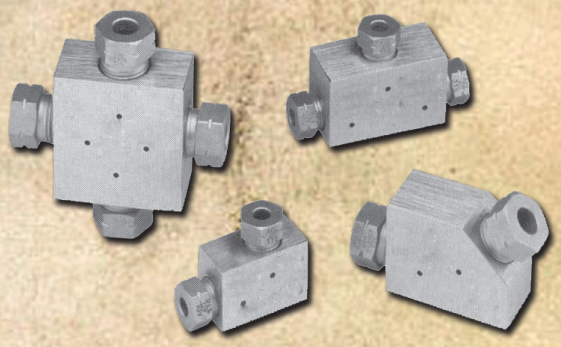


2-Way Angle / Replaceable Seat

High Pressure Fittings

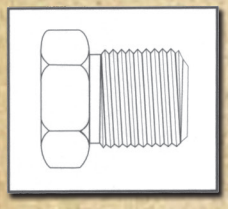
Pressures to 150,000 PSI (10342 bar)

J&W's Series F and SF high pressure fittings are the industry standard for pressures to 150,000 PSI (10342 bar). Utilizing J&W high pressure coned-and-threaded connections, these fittings are correlated with Series 30VM, 30SC, 40VM, 60VM, 100V, and 150V valves and J&W high pressure tubing.

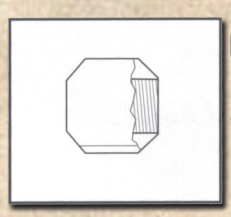


Connection Components

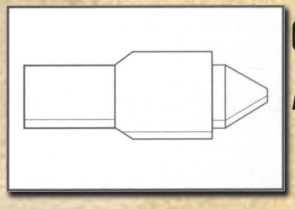
All J&W valves and fittings are supplied complete with appropriate glands and collars. To order these components separately, use order numbers listed. When using plug, collar is not required.



Gland
AGL ( )



Collar
ACL ( )



Gland
AP ( )

Add tube size ( )	Example:	To ensure proper fit use J&W tubing.
¼" – 40	¼" Gland – AGL (40)	
5/16 - 50		Note: Special material glands may be supplied with four flats in place of standard hex.
5/16 – 50		
⅜" – 60		
9/16" – 90		
1" - 160		

Connection Type	Gland	Collar	Plug	Connection Components (Industry Standard)
F250C F375C F562C	AGL( )	ACL( )	AP( )	Autoclave Engineer's high pressure fittings ¼, ⅜ and 9/16 connection components to 60,000 PSI (4137 bar). For use with 30VM, 40VM, 60V valves and fittings.
SF1000CX43	CGLX160	CCLX160	43CPX160	Autoclave Engineer's high pressure 1" connection components to 43,000 PSI (2965 bar) for use with 30SC, 43Y valves, and fittings.
F31C150	CGL50	CCL50	CP50	Autoclave Engineer's ultra high pressure 5/16 connection components to 150,000 PSI (10342 bar) for use with 100V and 150V valve and fittings.

High Pressure Coned-and-Threaded Nipples

Pressures to 150,000 PSI (10342 bar)

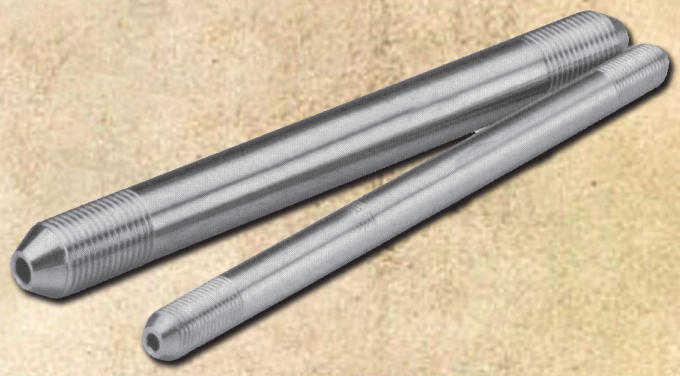
For rapid system make-up, J&W supplies precut, coned-and-threaded nipples in various sizes and lengths for J&W high pressure valves and fittings.

Special lengths

In additions to the standard lengths listed in the table below, nipples are available in any custom length. Consult factory.

Materials **

Catalog numbers in table refer to Type 316 Stainless steel.



Material in table is 316 Stainless steel										
Catalog Number							Fits Connection Type	Tube Size Inches (mm)		Working* Pressure At 100°F (37.8°C) Psi (bar)
Nipple Length In (mm)										
2.75" (69.85)	3.00" (76.20)	4.00" (101.60)	6.00"(152.40)	8.00" (203.20)	10.00" (254.00)	12.00" (304.80)		O.D.	I.D.	
CN4402	CN4403	CN4404	CN4406	CN4408	CN44010	CN44012	F250C	¼ (6.35)	0.083 (2.11)	60,000 (4136.79)
	CN6603-316	CN6604-316	CN6606-316	CN608-316	CN66010-316	CN66012-316	FC75C	⅜ (9.53)	0.125 (3.18)	60,000 (4136.79)
		CN9904-316	CN9906-316	CN9908-316	CN99010-316	CN99012-316	F562C	9/16 (14.29)	0.188 (4.78)	60,000 (4,136.79)
		CN5504-316	CN5506-316	CN5508-316	CN55010-316	CN55012-316	F312C150	5/16 (7.94)	0.062 (1.57)	150,000 (10341.97)
Material in table is 304 Stainless steel										
		40CN9904-304	40CN9906-304	40CN9908-304	40CN99010-304	40CN99012-304	F562C40	9/16 (14.29)	0.250 (6.35)	40,000 (2757.86)
			43CNX1606	43CNX1608	43CNX16010	43CNX16012	SF1000CX43	1 (25.40)	0.438 (12.40)	43,000 (2964.70)

Note:
See High pressure tubing section for pressure ratings at various temperatures.
****Type 304 stainless steel nipples available.**

***Maximum pressure rating is based on the lowest rating of any component.**
Actual working pressure may be determined by tubing pressure rating, if lower.

All dimensions for reference only and subject to change.
Consult your local representative.

Hammer Unions

J&W hammer unions are available in a wide range of sizes and in working pressures to 20,000 PSI. Pressure seal, non-pressure seal and welded styles are offered in various sizes and pressures. All J&W hammer unions provide pressure-tight, positive sealing. Available for standard service and sour gas models, J&W hammer unions for sour gas service are specially heat-treated for controlled hardness and utilize fluorocarbon elastomer and seal rings.

Figure Number	Pressure Rating (NWCWP)	Nominal Pipe Size (Inches)								
		1	1 ½	2	2 ½	3	4	6	8	10
100	1,000			●	●	●	●	●	●	
200	2,000	●	●	●	●	●	●			
206	2,000	●	●	●		●	●	●	●	●
207	2,000					●	●			
400	4,000			●		●	●			
402	4,000			●						
602	6,000	●	●	●		●	●			
1002	10,000	●	●	●		●	●			
1502	15,000	●	●	●		●	●			
2002	20,000			●						
2202	15,000			●						

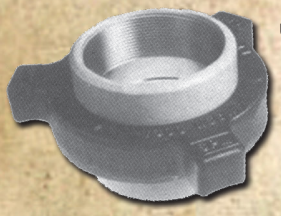


Fig. 100
An economical union with precision machined metal-to-metal sealing surfaces for air, water, oil or gas service to 1,000 PSI NSCWP*.



Fig. 200
Precision metal-to-metal sealing surface between male and female subs. For air, water, oil, gas, and mud service to 2,000 PSI NSCWP*.

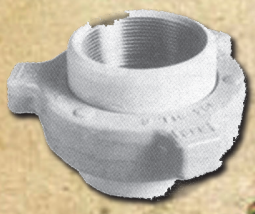


Fig. 206
Precision metal-to-metal seal plus O-ring seal for air, water, oil, gas and mud service to 2,00 PSI NSCWP*.



Fig. 207
Interchangeable Fig. 206 sub with blanking cap. O-rig seal to assure no-leak closure of manifolds and lines to 2,000 PSI NSCWP*.

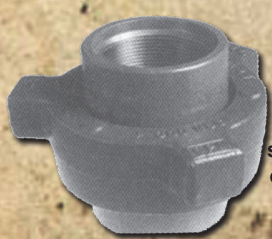


Fig. 400
Features a precision ball and cone sealing surface for sure metal-to-metal seal for air, water, oil, gas, and mud service to 4,000 PSI.

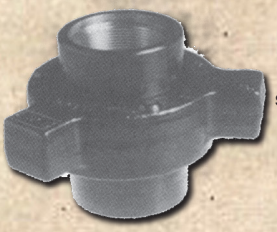


Fig. 402
Resilient lip-type seal for air, water, oil or mud service to 4,000 PSI NSCWP*.



Fig. 602
Replaceable lip-type seal ring minimizes fluid flow turbulence and gives pressure seal on air, water, oil, gas and mud service to 6,000 PSI NSCWP*.

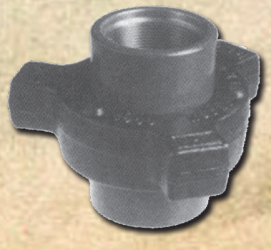


Fig. 1002
Resilient lip-type seal protects all and cone seal against abrasion in air, water, oil, gas and mud service to 10,000 PSI NSCWP*.



Fig. 1502
For manifold and truck mountings or installations encountering high pressures including air, water, oil, gas and mud service to 15,000 PSI.



Fig. 2002
For cementing, fracturing, acidizing, testing and choke-and-kill lines where extreme high pressures are encountered to 20,000 PSI.



Fig 2202
Especially for sour gas service; heat-treated components, fluoroelastomer seal rings. For service to 15,000 PSI NSCWP*.

Integral Union Connectors

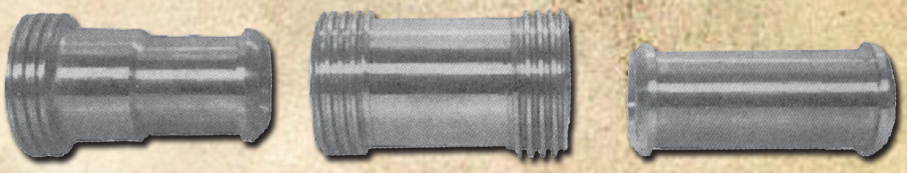
UNION ADAPTER FLANGES

In flange sizes from 2-1/16" thru 7-1/16" and integral union end sizes from 1-1/2" thru 4". Pressure ratings to 20,000 PSI NSCWP*.



UNION CHANGEOVER AND CROSSOVER ADAPTERS

Available in a variety of different sizes and thread types in female-to-male, female-to-female and male-to-male configurations from 1" thru 4" in pressure ratings from 6,000 to 20,00 PSI NSCWP* in standard service and up to 15,000 PSI in sour gas service.



SIZE	1-13/16 10M	1-13/16 10M	1-13/16 15	2-1/16 5M	2-1/16 5M	2-1/16 5M	2-1/16 10M	2-1/16 10M	2-1/16 15M	2-1/16 15M	4-1/16 5M
FIGURE	2" 1002	2" 1502	2"1502	2" 602	2" 1002	2" 1502	2" 1002	2" 1502	2" 1002	2" 1502	4" 602

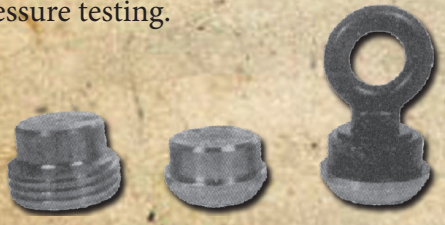
Additional sizes available upon request

SIZE	4-1/16 5M	4-1/16 5M	4-1/16 10M	4-1/16 10M	4-1/16 10M	7-1/16 5M	7-1/16 5M	7-1/16 5M	7-1/16 10M	7-1/16 10M	7-1/16 10M
FIGURE	4" 1002	4" 1502	4" 602	4" 1002	4" 1502	4" 602	4"1002	4"1502	4" 602	4" 1002	4" 1502

Additional sizes available upon request

UNION BULL GAUGE AND LIFTING BULL PLUGS

Available in 1", 1-1/2", 2", 3" and 4" sizes in male and female models in pressure ratings to 20,000 PSI NSCWP* in standard service and up to 20,000 PSI in sour gas service. Also available with special ports for high pressure testing.



UNION MALE AND FEMALE TO PIPE AND TUBING THREAD SWAGES

Available in numerous different sizes and threaded configurations from 1" thru 4" in pressure ratings from 6,000 to 10,000 PSI NSCWP*.



J&W SERVICES & EQUIPMENT COMPANY

Terms and Conditions

It is understood and agreed that the terms and conditions herein stated are a part of the consideration hereof and it is expressly understood that if such terms and conditions were not accepted by the Customer, a greater cash consideration would be charged by J & W Services & Equipment Company, Inc. for the products and/or services furnished. Therefore, the products are furnished and services are commenced and rendered upon the following terms and conditions of Customer's purchase order, work order or other similar documents.

PRICING

The products and services listed herein will be invoiced at the price shown therein or, if none, at the price shown in the current price list of the Company, to which shall be added charges for mileage, transportation, freight, packing and other related charges, if any, and any federal, state or local tax which may be applicable on the products or services.

TERMS OF PAYMENT

Unless otherwise specified, all invoices are due net 30 days from date of invoice. Any amounts unpaid at the end of thirty days shall bear interest at the rate of eighteen percent (18%) per annum. Customer further agrees to pay all attorney's fees if collected by an attorney or through legal proceedings.

QUOTATIONS

All quotations and sales are F.O.B. our plant Midland, Texas. Net prices and discounts are subject to change without notice. Prices in effect at the time of receipt of order, whether higher or lower, will prevail. All sales taxes, use taxes, or other excise taxes which may be required by law to be paid on or in connection with any sale will be added to the net sales price.

ORDER ACCEPTANCE AND CANCELLATIONS

All orders received are subject to final acceptance by our headquarters office in Midland, Texas. All orders accepted by us at our Midland office, when emanating from authorized personnel of operating companies or supply stores are not subject to modification or cancellation, without consent by writing. Orders taken for special equipment (anything not shown and listed as standard out-of-stock items in our catalog) are not subject to cancellation under any circumstances.

DELIVERY

All promises of shipments are as closely estimated as possible. We will make every effort to ship within the time promised, but do not guarantee to do so or assume further or implied liability. Our responsibility ceases on delivery to any common carrier or other agent furnished or specified by the Customer and we do not, unless previously instructed, insure shipments beyond the point of delivery of such carrier.

DESIGN

J&W reserves the right to make minor changes in design without notice.

WARRANTY

This warranty is in lieu of all other warranties, expressed or implied, including any implied warranty of merchantability or fitness. J&W warrants that all products manufactured by it and all repair work performed by it shall be free from defects in workmanship and material when the products are used within the service and pressure range for which they were manufactured. Such warranty shall be binding upon J&W in respect to products for a period of one year from shipment of such products and in respect to repair work for a period of 90 days from completion of such repairs and applies only to materials furnished and work performed in the repair operations. If, at any time within such periods, it is established to the satisfaction of J&W that any product manufactured by J&W was defective at time of shipment or any repair work performed by J&W was defective, J&W, at it's option, shall repair, or exchange such item, F.O.B. place of manufacture or repair or other J&W designated shipping point, or refund the purchase price paid. It is understood that the liability of J&W shall be limited to such repair or replacement and that J&W shall not be liable for any direct, indirect, incidental, or consequential damages arising out of any defects or from any cause whatsoever. This warranty does not cover deterioration by corrosion or aging of non-metallic parts, including stress corrosion or any other cause of failure other than defects in workmanship and material. Unless repairs to, alterations of, or work done on said products by the buyer shall be specifically authorized in writing by J&W, any warranty applicable thereto shall become null and void.

PATENT INFRINGEMENT

The seller shall not be liable for any damage or costs for any infringement of patents for products which are produced to purchaser's specifications and purchaser shall assume all responsibility for and save seller harmless from any and all damages, costs, royalties, and claims arising out of charges of any such infringement.

LIMITATIONS OF LIABILITY

Notwithstanding any other terms of provisions herein contained, the Company's liability in connection with the products sold or the services rendered shall be only to the Customer shown on the opposite side hereof and this liability shall be limited to replacement, re-coating, re-inspection or reworking the pieces of equipment where the material or service is found to be defective as a result of the Company's negligence, or the Company may determine to give the Customer a credit memorandum for the invoiced amount of such work. No claim with respect to products sold or services rendered shall in any event be allowable against the Company in excess of the price charged the Customer by the Company in respect to such items. It is expressly understood that the Company shall not in any event be liable for any special or consequential damages. Should the material or work of the Company be found to be defective or fail to meet the specifications stated hereon or if no specifications are stated hereon then the standard specifications of the company used in similar circumstances, then in that event the customer should immediately notify the Company so that the Company may investigate and determine the cause of such failure. All work and material furnished by the Company will be considered as acceptable by the Customer unless a claim is made by the Customer within ninety (90) days after completion of work by the Company. If the Customer's equipment and/or material is stored on the Company's premises after the Company has completed its work thereon, the Company will not be liable for the deterioration of such equipment and/or material resulting from atmospheric conditions and other Acts of God or other occurrences not within the reasonable control of the Company

GENERAL CONDITIONS

Failure to enforce any or all of the above terms and conditions in a particular instance, or instances, shall not constitute a waiver of or preclude subsequent enforcements. Company agrees that its employees and equipment shall be under the direction of the Customer or his agent where any products or services are furnished at any place other than Company's plant.

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