Weatherford®

Wellhead Systems

Product Catalog

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Weatherford Wellhead Systems, WFT Family

Our family of wellhead equipment is designed for a complete range of pressures from 2000 to 15,000 psi – with manual and automatic casing and tubing hangers.

It features industry proven internal "straight-bore" profiles for casing heads, casing spools, and tubing spools for maximum flexibility and user convenience.

WFT-22 Casing Heads

Casing hangers accepted: WFT-21 or WFT-22. Hangers can be lowered through the BOP stack and suspend pipe up to the API allowable joint strength.

- Bottom connection options: Slip-on weld (SOW) standard, Slip-on weld with O ring, Casing thread connections.
- Test port for pressure testing the connection for SOW designs.
- Also available with special non-threaded and non-welded bottom preps.
- To retain a wear bushing, a WFT-22-WB can be furnished with two lockdown screws in the upper flange, or a hold-down flange with lockdown screws can be used.
- Side outlets: 2” nominal (larger optional); with threaded (standard), studded, or extended flange. Valve-removal threads standard in studded and flanged outlets. Valve removal plugs are available.
- Top connections: Flanged (standard) or clamp hub.
- Reinforcing base plates available for heavy stack loads.

WFT-22-BP is the same as WFT-22 casing head except for two lockdown screws used (only) for retaining a wear bushing.

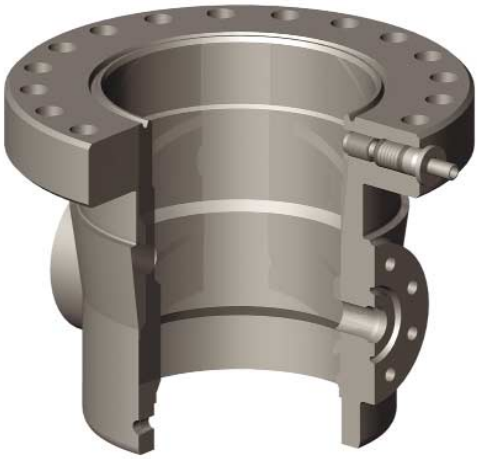
Top Flange				Dimensions		
Size (in.)	W.P.	Bottom Threaded (in.)	Outlets (in.)	Min. Bore (in.)	Bowl I.D. (in.)	Weight (lb.)
9	2,000	7 5/8	2 LP	7	8 3/4	210
9	3,000	7 5/8	2 LP	7	8 3/4	240
9	5,000	7 5/8	2 LP	7	8 3/4	301
9	2,000	8 5/8	2 LP	8	8 3/4	180
9	3,000	8 5/8	2 LP	8	8 3/4	240
9	5,000	8 5/8	2 LP	8	8 3/4	250
11	2,000	8 5/8	2 LP	8	10 7/8	340
11	3,000	8 5/8	2 LP	8	10 7/8	460
11	5,000	8 5/8	2 LP	8	10 7/8	710
11	2,000	9 5/8	2 LP	9	10 7/8	320
11	3,000	9 5/8	2 LP	9	10 7/8	430
11	5,000	9 5/8	2 LP	9	10 7/8	680
11	2,000	10 3/4	2 LP	10	10 7/8	300
11	3,000	10 3/4	2 LP	10	10 7/8	410
11	5,000	10 3/4	2 LP	10	10 7/8	560
13 5/8	2,000	11 3/4	2 LP	11	13 1/2	469
13 5/8	3,000	11 3/4	2 LP	11	13 1/2	587
13 5/8	2,000	13 3/8	2 LP	12 1/2	13 1/2	380
13 5/8	3,000	13 3/8	2 LP	12 1/2	13 1/2	500
13 5/8	5,000	13 3/8	2 LP	12 1/2	13 1/2	750
16 3/4	2,000	16	2 LP	15 1/4	16 5/8	980
16 3/4	3,000	16	2 LP	15 1/4	16 5/8	995
21 1/4	2,000	20	2 LP	19 3/16	20 1/8	1210
20 3/4	3,000	20	2 LP	19 3/16	20 1/8	1331

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

Nominal dimensions; when precise measurements are needed for an application, please consult Weatherford Wellhead Systems.

WFT-29 Casing Heads

WFT-29 casing heads are designed to suspend heavier casing loads. The deep bowl accepts all WFT-series casing hangers. Available top and bottom connections are the same as for WFT-22 casing heads. Side outlets are normally 2”LP.



WFT-29-BP casing heads have two lockdown screws to retain a wear bushing during drilling.

WFT-29-L heads have a full complement of lockdown screws in the top flange to hold down a wear bushing or WFT-29 casing hanger.

Top Flange			Outlet (in.)	Dimensions		
Size (in.)	W.P.			Min. Bore (in.)	Bowl I.D. (in.)	Weight (lb.)
11	3,000	$8^{5}/_{8}$	2 LP	8	$10^{7}/_{8}$	565
11	5,000	$8^{5}/_{8}$	2 LP	8	$10^{7}/_{8}$	780
11	3,000	$9^{5}/_{8}$	2 LP	9	$10^{7}/_{8}$	545
11	5,000	$9^{5}/_{8}$	2 LP	9	$10^{7}/_{8}$	760
11	3,000	$10^{3}/_{4}$	2 LP	10	$10^{7}/_{8}$	520
11	5,000	$10^{3}/_{4}$	2 LP	10	$10^{7}/_{8}$	745
$13^{5}/_{8}$	3,000	$13^{3}/_{8}$	2 LP	$12^{1}/_{2}$	$13^{1}/_{2}$	800
$13^{5}/_{8}$	5,000	$13^{3}/_{8}$	2 LP	$12^{1}/_{2}$	$13^{1}/_{2}$	1500
16-3/4	3,000	16	2 LP	$15^{3}/_{8}$	$16^{5}/_{8}$	1306
20-3/4	3,000	20	2 LP	$19^{3}/_{16}$	$20^{1}/_{8}$	1772

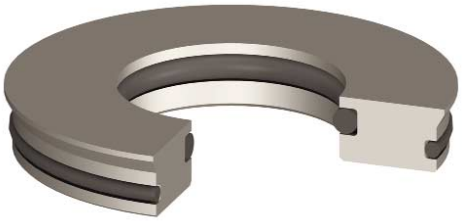
**Available in Flanged or Studded Outlet*

Nominal dimensions; when precise measurements are needed for an application, please consult Weatherford Wellhead Systems.

WFT-21 Casing Hangers

Segmented slips with no annulus seal. (Typically used when minimum casing loads are present.)

Size (in.)	Weight (lb.)	Size (in.)	Weight (lb.)
9 x $4^1/_2$	85	$13^5/_8$ x 5	232
9 x 5	75	$13^5/_8$ x $5^1/_2$	212
9 x $5^1/_2$	67	$13^5/_8$ x 7	191
11 x $4^1/_2$	136	$13^5/_8$ x $7^5/_8$	166
11 x 5	129	$13^5/_8$ x $8^5/_8$	144
11 x $5^1/_2$	116	$13^5/_8$ x $9^5/_8$	116
11 x $6^5/_8$	104	$16^3/_4$ x $9^5/_8$	350
11 x 7	94	$16^3/_4$ x $10^3/_4$	324



Seal ring: WFT Type H seal ring isolates the hanger from between-flange test pressure; this seal ring is installed after the casing has been cut. It is used in WFT casing heads or spools that do not have lockdown screws.

WFT-22 Casing Hangers (Wrap around design). This hanger combines the packoff, slip bowl, and slips in a single unit. Only 50,000 to 60,000 pounds casing load is required to energize the annulus seal.

Slip-types with automatic seal use the casing load to automatically energize compression seals in the annulus below the slips. A latch mechanism locks the hanger around the casing when installed above the wellhead. The hanger can be lowered through the BOP stack or installed at the wellhead level.

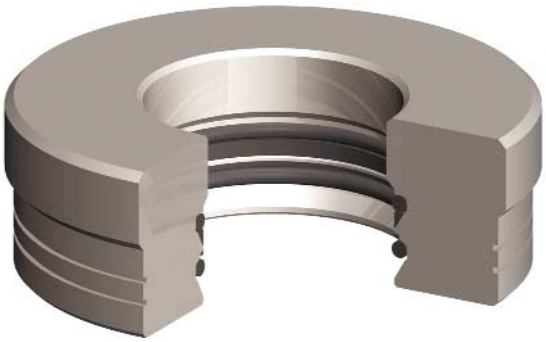
	Dimensions		
Size (in.)	O.D. (in.)	Height (in.)	Weight (lb.)
9 x $4^1/_2$	$8^{11}/_{16}$	$8^1/_{16}$	45
9 x 5	$8^{11}/_{16}$	$8^1/_{16}$	40
9 x $5^1/_2$	$8^{11}/_{16}$	$8^1/_{16}$	34
11 x $4^1/_2$	$10^{13}/_{16}$	$8^1/_{16}$	100
11 x 5	$10^{13}/_{16}$	$8^1/_{16}$	95
11 x $5^1/_2$	$10^{13}/_{16}$	$8^1/_{16}$	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 $5^1/_2$	$13^7/_{16}$	$8^1/_{16}$	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 $13^3/_8$	$20^1/_{16}$	9	310

WFT-29 Casing Hanger

Load-sharing slips distribute heavy casing loads to reduce casing deflection.

As the upper slips move down and energize, the packoff, non-tapered lower slips engage automatically. Since the lower slips do not move down the slip bowl like conventional slips, high compressive forces are reduced.

Dimensions			
Size (in.)	**O.D. (in.)**	**Height (in.)**	**Weight (lb.)**
11 x $4^{1}/_{2}$	$10^{13}/_{16}$	$8^{7}/_{8}$	191
11 x 5	$10^{13}/_{16}$	$8^{7}/_{8}$	186
11 x $5^{1}/_{2}$	$10^{13}/_{16}$	$8^{7}/_{8}$	150
11 x $6^{5}/_{8}$	$10^{13}/_{16}$	$8^{7}/_{8}$	142
11 x 7	$10^{13}/_{16}$	$8^{7}/_{8}$	135
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 $5^{1}/_{2}$	$13^{7}/_{16}$	$8^{7}/_{8}$	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 $13^{3}/_{8}$	$20^{1}/_{16}$	$9^{3}/_{8}$	288
$21^{1}/_{4}$ x $16^{3}/_{4}$	$20^{1}/_{16}$	$9^{3}/_{8}$	166



WFT-29 Hanger Isolation Ring

For 10,000 psi and 15,000 psi working pressures, these rings fit only WFT-29 casing spools with special modification.

Provides a second annulus seal and isolates the casing hanger from between-flange test pressure.

WFT-PE Reducer and Seal Assemblies

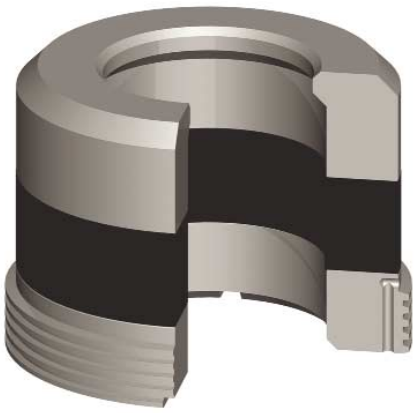
Is pressure-energized, held in place by a snap ring, used as the standard secondary packoff.

Size (in.)	Weight (lb.)
7 x $4^1/_2$	28
7 x $5^1/_2$	19
9 x $4^1/_2$	60
9 x $5^1/_2$	50
9 x 7	30
9 x $7^5/_8$	24
$10^3/_4$ x $8^5/_8$	40
$10^3/_4$ x $9^5/_8$	20

WFT-HPPE High Pressure Annulus Seals

Is held in place by Acme-threaded lock ring (to 15,000 psi) with non-extrusion backup rings.

Size (in.)	Weight (lb.)
7 x $4^1/_2$	40
7 x $5^1/_2$	28
9 x $4^1/_2$	86
9 x $5^1/_2$	72
9 x 7	46
9 x $7^5/_8$	33
$10^3/_4$ x $8^5/_8$	58
$10^3/_4$ x $9^5/_8$	33

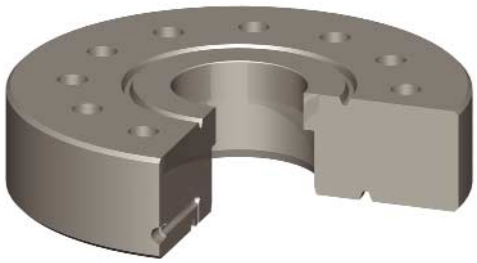


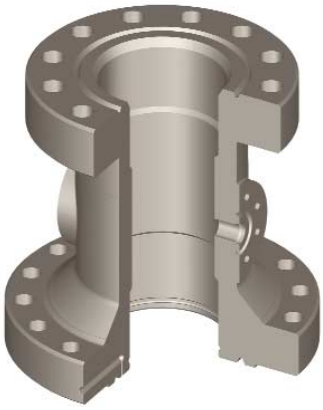
WFT-4-0

Is a secondary seal reducer bushing with O-ring sealing around the casing (not shown).

Packoff/Crossover Flanges

This flange may be installed to raise the pressure rating of an intermediate wellhead flange connection to the next higher rated WP (e.g. 5,000 psi to 10,000 psi).





WFT-22 Casing Spools

WFT-22 casing spools features are similar to those of WFT-22 casing heads except for a bottom flange connection with secondary seal preps for either a WFT-PE/WFT HPPE seal assembly or WFT-4-0 reducer bushing.

WFT-22 spools are available with line pipe, studded or flanged side outlets. Valve removal plugs are available.

The WFT-22-BP spool provides two lockdown screws for a wear bushing (only) during drilling.

Top Flange		Bottom Flange		Dimensions				
Size (in.)	W.P.	Size (in.)	W.P.	Casing Size (in.)	Outlet (in.)	Min. Bore (in.)	Bowl I.D. (in.)	Weight (lb.)
11	2,000	11	2,000	10 3/4	2 LP	10	10 7/8	520
11	2,000	11	2,000	10 3/4	2 1/16 Flg.	10	10 7/8	570
11	2,000	13 5/8	2,000	10 3/4	2 LP	10	10 7/8	680
11	3,000	11	3,000	10 3/4	2 LP	10	10 7/8	710
11	3,000	11	3,000	10 3/4	2 1/16 Flg.	10	10 7/8	770
11	3,000	13 5/8	2,000	9 5/8	2 LP	9	10 7/8	680
11	3,000	13 5/8	3,000	9 5/8	2 1/16 Flg.	9	10 7/8	740
11	3,000	13 5/8	2,000	10 3/4	2 LP	10	10 7/8	680
11	3,000	13 5/8	2,000	10 3/4	2 1/16 Flg.	10	10 7/8	740
11	3,000	13 5/8	3,000	9 5/8	2 LP	9	10 7/8	710
11	3,000	13 5/8	3,000	9 5/8	2 1/16 Flg.	9	10 7/8	770
11	3,000	13 5/8	3,000	10 3/4	2 LP	10	10 7/8	710
11	3,000	13 5/8	3,000	10 3/4	2 1/16 Flg.	10	10 7/8	770
11	3,000	16 3/4	2,000	9 5/8	2 LP	9	10 7/8	1232
11	3,000	16 3/4	2,000	9 5/8	2 1/16 Flg.	9	10 7/8	1285
11	3,000	16 3/4	2,000	10 3/4	2 LP	10	10 7/8	846
11	3,000	16 3/4	2,000	10 3/4	2 1/16 Flg.	10	10 7/8	900
11	3,000	16 3/4	3,000	9 5/8	2 LP	9	10 7/8	1120
11	3,000	16 3/4	3,000	9 5/8	2 1/16 Flg.	9	10 7/8	1173
11	3,000	16 3/4	3,000	10 3/4	2 LP	10	10 7/8	1080
11	3,000	16 3/4	3,000	10 3/4	2 1/16 Flg.	10	10 7/8	1140
11	5,000	13 5/8	3,000	9 5/8	2 LP	9	10 7/8	1115
11	5,000	13 5/8	3,000	9 5/8	2 1/16 Flg.	9	10 7/8	1168
11	5,000	13 5/8	3,000	10 3/4	2 LP	10	10 7/8	1100
11	5,000	13 5/8	3,000	10 3/4	2 1/16 Flg.	10	10 7/8	1160
11	5,000	13 5/8	5,000	9 5/8	2 LP	9	10 7/8	1430
11	5,000	13 5/8	5,000	9 5/8	2 1/16 Flg.	9	10 7/8	1483
11	5,000	16 3/4	3,000	9 5/8	2 LP	9	10 7/8	1465
11	5,000	16 3/4	3,000	9 5/8	2 1/16 Flg.	9	10 7/8	1518
11	5,000	16 3/4	5,000	10 3/4	2 LP	10	10 7/8	1300
11	5,000	16 3/4	3,000	10 3/4	2 1/16 Flg.	10	10 7/8	1360
13 5/8	3,000	16 3/4	3,000	9 5/8	2 LP	12 1/2	13 1/2	1355
13 5/8	3,000	16 3/4	3,000	9 5/8	2 1/16 Flg.	12 1/2	13 1/2	1408
13 5/8	3,000	16 3/4	3,000	10 3/4	2 LP	12 1/2	13 1/2	1452
13 5/8	3,000	16 3/4	3,000	10 3/4	2 1/16 Flg.	12 1/2	13 1/2	1510
13 5/8	3,000	21 1/4	2,000	13 3/8	2 1/16 Flg.	12 1/2	13 1/2	2063
13 5/8	5,000	20 3/4	3,000	13 3/8	2 1/16 Flg.	12 1/2	13 1/2	2450

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

WFT-29/WFT-29-L Casing Spools

WFT-29 and WFT-29-L casing spools have the same design as WFT-29 casing heads except for bottom flange with secondary seal preparations for either WFT Type PE/HPPE Type seal assembly or WFT-4-0 reducer bushing.

WFT-29/WFT-29-L spools are normally furnished with studded outlets but can be furnished with line pipe or flanged outlets. Valve removal plug threads are available (WFT-29 shown).

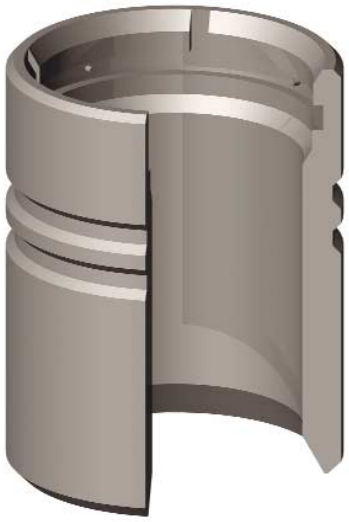
Top Flange		Bottom Flange		Dimensions				
Size (in.)	W.P.	Size (in.)	W.P.	Casing Size (in.)	Outlet (in.)	Min. Bore (in.)	Bowl I.D. (in.)	Weight (lb.)
11	3,000	13 5/8	3,000	BG 10 3/4	2 LP	10	10 7/8	785
11	3,000	16 3/4	3,000	BG 10 3/4	2 1/16 Flg.	10	10 7/8	1200
11	5,000	13 5/8	3,000	BG 10 3/4	2 1/16 Flg.	10	10 7/8	1175
11	5,000	13 5/8	5,000	BG 10 3/4	2 1/16 Flg.	10	10 7/8	1595
11	10,000	13 5/8	5,000	9 5/8	1 13/16 Flg.	9	10 7/8	1698
11	10,000	13 5/8	10,000	9 5/8	1 13/16 Flg.	9	10 7/8	2950
11	10,000	16 3/4	5,000	9 5/8	1 13/16 Flg.	10	10 7/8	3235
11	15,000	13 5/8	10,000	9 5/8	1 13/16 Flg.	9	10 7/8	3900
13 5/8	3,000	16 3/4	3,000	11 3/4	2 1/16 Flg.	11	13 1/2	1725
13 5/8	3,000	21 1/4	2,000	13 3/8	2 1/16 Flg.	12 1/2	13 1/2	1830
13 5/8	5,000	20 3/4	3,000	13 3/8	2 1/16 Flg.	12 1/2	13 1/2	1960
13 5/8	5,000	16 3/4	3,000	11 3/4	2 1/16 Flg.	12 1/2	13 1/2	1950
13 5/8	5,000	20 3/4	3,000	13 3/8	2 1/16 Flg.	12 1/2	13 1/2	2060
13 5/8	10,000	16 3/4	5,000	11 3/4	1 13/16 Flg.	11	13 1/2	3243

Note: WFT-29 and WFT-29-L Casing Heads are available in larger sizes and higher pressure ratings. Nominal dimensions; when precise measurements are needed for an application, please consult Weatherford Wellhead Systems.

Bowl Protectors and Tools

WFT-22 and WFT-29 Bowl Protector

These bowl protectors are compatible with all WFT-22 and WFT-29 casing heads and spools and all straight-bore WFT tubing heads. Lockdown screws hold them in the bowl to protect against wear during drilling. Bowl protectors are available in bit retrievable or with coarse acme running/retrieving thread designs.

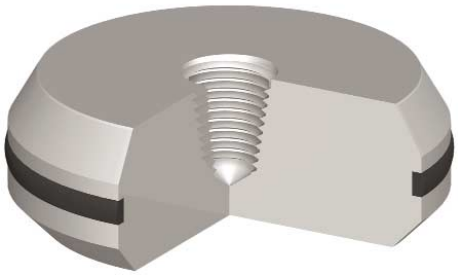


Bowl Protector Running/Retrieving Tool

This basic J-type tool runs on drill pipe. It locks into a bowl protector with a quarter turn to the right, releases with a quarter turn left. Bowl protector is retrieved with straight pull after lockdown screws retracted. Also available with coarse acme running/retrieving threads.

Combination Bowl Protector Running Tool and Test Plug

This combination tool runs on drill pipe. With the pin up, it installs and retrieves bowl protectors. With pin down, it lands and seals in the head or spool bore for pressure testing a BOP stack or manifold connections. Drill pipe can be suspended below the test plug to eliminate the need to trip all pipe out of the hole. External bushing changes for each nominal bore size.



BOP Test Plug

This simple, basic plug runs on drill pipe for BOP testing and is available to fit all WFT casing heads, casing spools, and tubing heads.

WFT-TCM/WFT-TC/WFT-TC60

These are full-opening, straight-bore spools. Lockdown screws in top flange are standard. Two 2" screwed or studded outlets are also standard. Studded outlets utilize valve removal threads to provide the ability to replace or add a full opening valve under pressure. The lower flange has a test port, bleeder port, or plastic-injection port to test/energize seals inside the tubing spool.

- WFT-TCM spool has no aligning pins.
- WFT-TC spool has one alignment pin.
- WFT-TC60 spool has two aligning pins.

WFT Model	Compatible Tubing Hanger
WFT-TCM	All single-string without orientation: WFT-TCIW, WFT-TCIA, WFT-TCIAEN
WFT-TC	WFT-TCD-2C, TC-2P (not shown)
WFT-TC60	Dual string with orientation: WFT-TC60 Dual string with control/injection lines

Tubing Spools, cont.

Top Flange		Bottom Flange				Dimensions		
Size (in.)	W.P.	Size (in.)	W.P.	BTM Prep	Outlet (in. - psi)	Min. Bore (in.)	Bowl I.D. (in.)	Weight (lb.)
7 1/16	2,000	11	2,000	7"00"	2 LP	6 13/16	7	350
7 1/16	2,000	11	2,000	7"00"	2 1/16-2,000	6 13/16	7	355
7 1/16	2,000	13 5/8	2,000	9 BL.	2 LP	6 13/16	7	440
7 1/16	2,000	13 5/8	2,000	9 BL.	2 1/16-2,000	6 13/16	7	445
7 1/16	3,000	11	2,000	7"00"	2 LP	6 3/8	7	550
7 1/16	3,000	11	2,000	7"00"	2 1/16-5,000	6 3/8	7	555
7 1/16	3,000	11	3,000	9 BL.	2 LP	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 5/8	2,000	9 BL.	2 LP	6 3/8	7	620
7 1/16	3,000	13 5/8	2,000	9 BL.	2 1/16-5,000	6 3/8	7	625
7 1/16	3,000	13 5/8	3,000	9 BL.	2 LP	6 13/16	7	675
7 1/16	3,000	13 5/8	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 LP	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 LP	6 13/16	7	875
7 1/16	5,000	11	3,000	9 BL.	2 1/16-2,000	6 13/16	7	880
7 1/16	5,000	13 5/8	3,000	9 BL.	2 LP	6 13/16	7	800
7 1/16	5,000	13 5/8	3,000	9 BL.	2 1/16-2,000	6 13/16	7	805
9	2,000	11	2,000	7"00"	2 LP	6 13/16	7	855
9	2,000	11	2,000	7"00"	2 1/16-2,000	6 13/16	7	860
9	2,000	13 5/8	2,000	10 3/4 BL.	2 LP	8 1/4	8 3/4	500
9	2,000	13 5/8	2,000	10 3/4 BL.	2 1/16-5,000	8 1/4	8 3/4	505
9	3,000	11	2,000	7"00"	2 LP	8 1/4	8 3/4	710
9	3,000	11	2,000	7"00"	2 1/16-5,000	8 1/4	8 3/4	715
9	3,000	11	3,000	9 BL.	2 LP	8 1/4	8 3/4	750
9	3,000	11	3,000	9 BL.	2 1/16-5,000	8 1/4	8 3/4	755
9	3,000	13 5/8	2,000	10 3/4 BL.	2 LP	8 1/4	8 3/4	650
9	3,000	13 5/8	2,000	10 3/4 BL.	2 1/16-5,000	8 1/4	8 3/4	655
9	3,000	13 5/8	3,000	10 3/4 BL.	2 LP	8 1/4	8 3/4	700
9	3,000	13 5/8	3,000	10 3/4 BL.	2 1/16-5,000	8 1/4	8 3/4	705
9	5,000	11	3,000	9 BL.	2 LP	8 1/4	8 3/4	800
9	5,000	11	3,000	9 BL.	2 1/16-5,000	8 1/4	8 3/4	805
9	5,000	13 5/8	3,000	10 3/4 BL.	2 LP	8 1/4	8 3/4	710
9	5,000	13 5/8	3,000	10 3/4 BL.	2 1/16-5,000	8 1/4	8 3/4	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 3/4	7	1318
9	10,000	11	5,000	9 BL.	1 13/16-10,000	8 1/4	8 3/4	1249
11	10,000	13 5/8	5,000	9 5/8 BL.	1 13/16-10,000	9	10 7/8	1754
7 1/16	15,000	11	10,000	7"00"	1 13/16-15,000	6 3/8	7	1384
9	10,000	11	10,000	9 BL.	1 13/16-10,000	7	8 3/4	1700

Nominal dimensions; when precise measurements are needed for an application, please consult Weatherford Wellhead Systems.

Tubing Hangers

WFT-TC-1W

A slick-joint wrap-around hanger that seals off the casing annulus while nippling up the tree. Tubing weight may be supported on the hanger with a SB-02 coupling while BOP's are removed. This hanger does not require a polished joint.

WFT-TC1A-EN

An extended neck hanger with packing rings to confine all pressures and well fluids to the tubing bore. If a hydraulically controlled downhole safety valve is used, the hanger can be configured to include connections and ports for a hydraulic control line. Back pressure valve threads are standard.

WFT-02

A threaded coupling used with SB-02 tubing head adapter when string manipulation with BOP protection is desired. Back pressure valve thread is standard. The SB-TH-1W wrap-around packoff is required for use with the coupling.

WFT-TC1A

A threaded hanger energized by tubing weight and by tightening tubing head flange lockdown screws. Back pressure valve threads are optional.

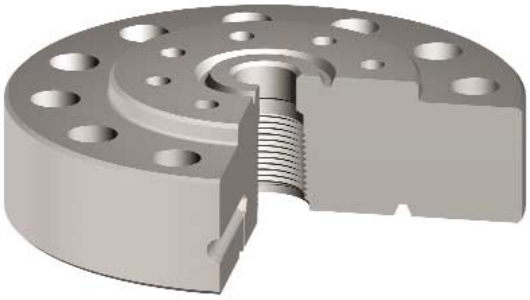
WFT-TC60

This split design, dual hanger is easy to run. An integral compression-type annulus seal is actuated by lockdown screws. Tubing strings can be run/pulled independently. Maximum clearance is provided for gas-lift valves, SSV's and packers. Each of the dual hangers has internal SB Type H back pressure valve threads. Storm mandrel is included as standard in each hanger half.

Tubing Spool Adapters

WFT-02

WFT-02 coupling is used with WFT-TCIW tubing hangers. Studded top connection is standard.

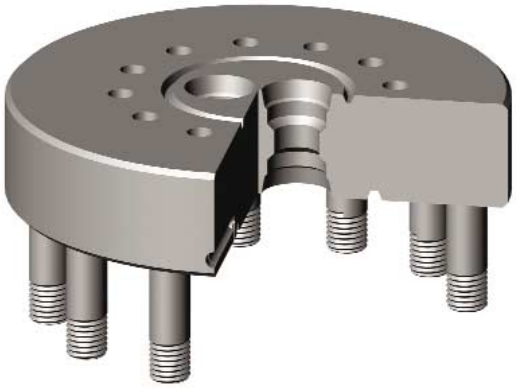


WFT-B2P

Used with WFT-TCIW tubing hanger. WFT-B1 indicates single string, threaded top connection (not shown). WFT-B2P indicates single-string, studded top connection.

WFT-A5P-EN

Used with WFT-TCIA EN tubing hanger. Also available for single or multiple control line applications.



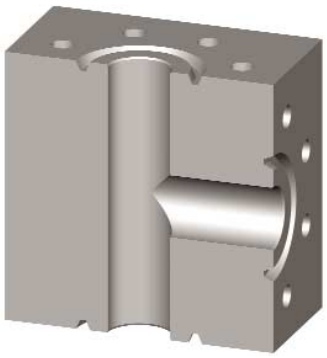
Dual Adapters

Used with WFT-TC60 WFT-TC-2C and WFT-TCD-2C tubing hanger.

Also available for single or multiple control line applications.

Studded top connections only.

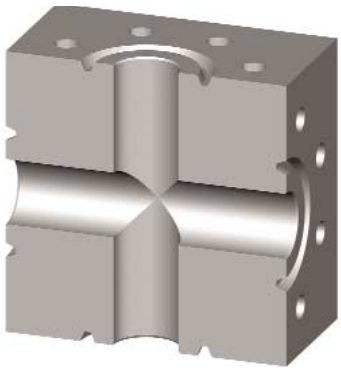
Studded Tees



Tees

Run (in. to psi)	Outlets (in. to psi)	Weight (lb)
2 1/16 - 2,000	2 1/16 - 2,000	95
2 1/16 - 5,000	2 1/16 - 5,000	160
2 9/16 - 2,000	2 1/16 - 2,000	125
2 9/16 - 5,000	2 1/16 - 5,000	395
3 1/8 - 2,000	2 1/16 - 2,000	165
3 1/8 - 2,000	3 1/8 - 2,000	198
3 1/8 - 3,000	2 1/16 - 5,000	264
3 1/8 - 3,000	3 1/8 - 3,000	264
3 1/8 - 5,000	2 1/16 - 5,000	300
3 1/8 - 5,000	3 1/8 - 5,000	414
4 1/16 - 2,000	2 1/16 - 2,000	231
4 1/16 - 2,000	4 1/16 - 2,000	405
4 1/16 - 3,000	2 1/16 - 5,000	374
4 1/16 - 3,000	4 1/16 - 3,000	495
4 1/16 - 5,000	2 1/16 - 5,000	407
4 1/16 - 5,000	2 9/16 - 5,000	447
4 1/16 - 5,000	3 1/8 - 5,000	488
4 1/16 - 5,000	4 1/16 - 5,000	565
1 13/16 -10,000	1 13/16 - 10,000	191
1 13/16 -15,000	1 13/16 - 15,000	257
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 - 15,000	1 13/16 - 15,000	257
2 1/16 - 15,000	2 1/16 - 10,000	257
2 9/16 - 10,000	1 13/16 - 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 - 15,000	1 13/16 - 10,000	389
2 9/16 - 15,000	2 1/16 - 15,000	389
3 1/16 - 10,000	2 1/16 - 10,000	370
3 1/16 - 10,000	2 9/16 - 10,000	407
3 1/16 - 10,000	3 1/16 - 10,000	480
4 1/16 - 10,000	2 1/16 - 10,000	486
4 1/16 - 10,000	2 9/16 - 10,000	537
4 1/16 - 10,000	3 1/16 - 10,000	614
4 1/16 - 10,000	4 1/16 - 10,000	702

Studded Crosses



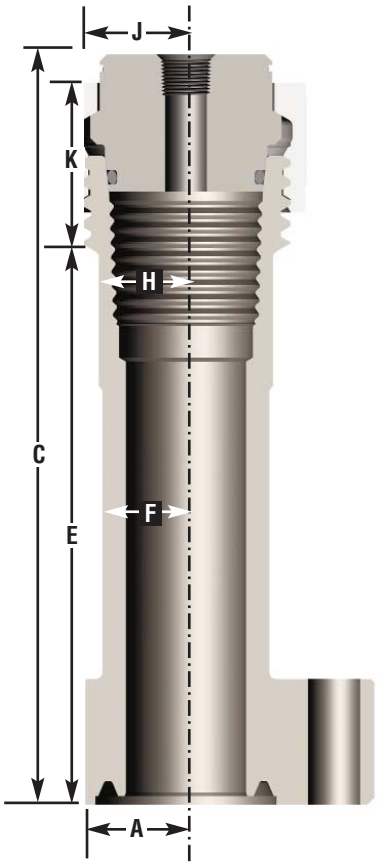
Crosses

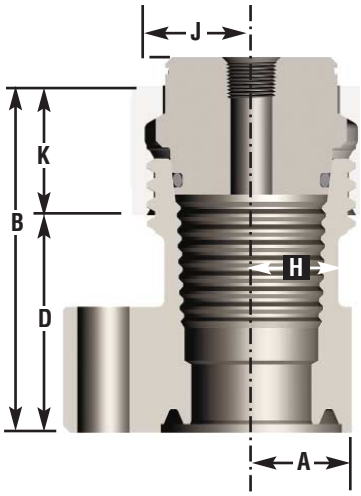
Run (in. to psi)	Outlets (in. to psi)	Weight (lb)
2 1/16 - 2,000	2 1/16 - 2,000	85
2 1/16 - 5,000	2 1/16 - 5,000	161
2 9/16 - 2,000	2 1/16 - 2,000	119
2 9/16 - 5,000	2 1/16 - 5,000	254
3 1/8 - 2,000	2 1/16 - 2,000	147
3 1/8 - 2,000	3 1/8 - 2,000	185
3 1/8 - 3,000	2 1/16 - 5,000	231
3 1/8 - 3,000	3 1/8 - 3,000	271
3 1/8 - 5,000	2 1/16 - 5,000	295
3 1/8 - 5,000	3 1/8 - 5,000	321
4 1/16 - 2,000	2 1/16 - 2,000	205
4 1/16 - 2,000	4 1/16 - 2,000	354
4 1/16 - 3,000	2 1/16 - 5,000	354
4 1/16 - 3,000	4 1/16 - 3,000	451
4 1/16 - 5,000	2 1/16 - 5,000	381
4 1/16 - 5,000	2 9/16 - 5,000	425
4 1/16 - 5,000	3 1/8 - 5,000	425
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 -15,000	1 13/16 - 15,000	253
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 - 15,000	1 13/16 - 15,000	253
2 1/16 - 15,000	2 1/16 - 10,000	253
2 9/16 - 10,000	1 13/16 - 10,000	246
2 9/16 - 10,000	2 1/16 - 10,000	246
2 9/16 - 10,000	2 9/16 - 10,000	301
2 9/16 - 15,000	1 13/16 - 15,000	307
3 1/16 - 10,000	1 13/16 - 10,000	350
3 1/16 - 10,000	2 1/16 - 10,000	350
3 1/16 - 15,000	2 1/16 - 10,000	433
3 1/16 - 10,000	3 1/16 - 10,000	464
3 1/16 - 10,000	2 1/16 - 15,000	470
4 1/16 - 10,000	1 13/16 - 10,000	458
4 1/16 - 10,000	2 1/16 - 10,000	458
4 1/16 - 10,000	2 9/16 - 10,000	531
4 1/16 - 10,000	3 1/16 - 10,000	609
4 1/16 - 10,000	4 1/16 - 10,000	695

Dual String Tree Top Adapters

Type WFT-DRX Dual String Tree Top Adapters

WFT-DRX dual christmas tree top adapters are designed to be used side-by-side on independent flanged multi-string christmas tree runs. The WFT-DRX adapters are furnished with an API segmented WFT-DRX flanged bottom connection. All adapters provide a quick-change union connection with a pressure bleed-off port and upset tubing lift threads.





Dimensional Data

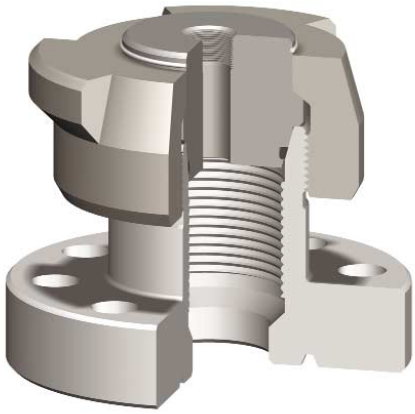
Nom. Flg. Size (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	H (in.)	J (in.)	K (in.)
$1^{3}/_{4}$	$1^{3}/_{8}$	5	$10^{7}/_{8}$	$3^{3}/_{8}$	$9^{1}/_{4}$	$1^{1}/_{16}$	$1^{3}/_{8}$	$1^{11}/_{16}$	2
2	$1^{3}/_{4}$	$6^{1}/_{2}$	13	$3^{3}/_{4}$	$10^{1}/_{4}$	$1^{29}/_{64}$	$1^{33}/_{64}$	$2^{1}/_{16}$	$2^{1}/_{4}$
$2^{1}/_{2}$	$2^{7}/_{32}$	$7^{1}/_{8}$	$11^{7}/_{8}$	5	$9^{3}/_{4}$	$1^{55}/_{64}$	$1^{55}/_{64}$	$2^{5}/_{8}$	$2^{7}/_{16}$

Nominal dimensions; when precise measurements are needed for an application, please consult Weatherford Wellhead Systems.

Tree Caps

WFT-15A

Bottom Flange (in. to psi)	Bore (in.)	Lift Thread (in.)	Weight (lb.)
$2^{1}/_{16}$ - 2,000	$2^{1}/_{16}$	$2^{3}/_{8}$ EUE	36
$2^{1}/_{16}$ - 5,000	$2^{1}/_{16}$	$2^{3}/_{8}$ EUE	52
$2^{9}/_{16}$ - 2,000	$2^{9}/_{16}$	$2^{7}/_{8}$ EUE	40
$2^{9}/_{16}$ - 5,000	$2^{9}/_{16}$	$2^{7}/_{8}$ EUE	60
$3^{1}/_{8}$ - 2,000	$2^{9}/_{16}$	$2^{7}/_{8}$ EUE	43
$3^{1}/_{8}$ - 2,000	$3^{1}/_{16}$	$3^{1}/_{2}$ EUE	60
$3^{1}/_{8}$ - 3,000	$2^{9}/_{16}$	$2^{7}/_{8}$ EUE	48
$3^{1}/_{8}$ - 3,000	$3^{1}/_{16}$	$3^{1}/_{2}$ EUE	64
$3^{1}/_{8}$ - 5,000	$2^{9}/_{16}$	$2^{7}/_{8}$ EUE	86
$3^{1}/_{8}$ - 5,000	$3^{1}/_{16}$	$3^{1}/_{2}$ EUE	88
$4^{1}/_{16}$ - 3,000	$4^{1}/_{16}$	$4^{1}/_{2}$ EUE	50



WFT-11-AO

Bottom Flange (in. to psi)	Bore (in.)	Lift Thread (in.)	Weight (lb.)
$2^{1}/_{16}$ - 10,000	$2^{1}/_{16}$	$2^{3}/_{8}$ EUE	84
$2^{1}/_{16}$ - 15,000	$2^{1}/_{16}$	$2^{3}/_{8}$ EUE	90
$2^{9}/_{16}$ - 10,000	$2^{9}/_{16}$	$2^{7}/_{8}$ EUE	88
$2^{9}/_{16}$ - 15,000	$2^{9}/_{16}$	$2^{7}/_{8}$ EUE	95
$3^{1}/_{16}$ - 10,000	$3^{1}/_{16}$	$3^{1}/_{2}$ EUE	95
$3^{1}/_{16}$ - 15,000	$3^{1}/_{16}$	$3^{1}/_{2}$ EUE	103
$4^{1}/_{16}$ - 10,000	$4^{1}/_{16}$	$4^{1}/_{2}$ EUE	103

Other WFT Equipment

Two Way Check

Type H BPV

WFT Conventional Wellhead Equipment Accessories

WFT Conventional Wellhead Equipment uses the WFT Type H Back Pressure Valve and tool. The BPV is a one-way check seal to seal tubing pressure up to 20,000 psi while BOP's are removed and the tree installed. It also permits fluid to be circulated down the tubing and prevents backflow.

Also available in two-way check design and other OEM BPV profiles.

			Tubing Hanger		Christmas Tree	
Size (in.)	Max O.D. (in.)	Weight (lb.)	Tubing O.D. (in.)	Min. Bore B.P.V.Thds. (in.)	Min. Vert. Bore* (in.)	Christmas Tree Min. Bore Dia. (in.)
1 1/4	1.356	1.3	1.660	1.286	–	–
1 1/2	1.605	1.8	1.900	1.525	1 5/8	1.610
1 3/4	1.775	2.0	2 1/16	1.695	1 13/16	1.795
2	2.020	2.4	2 3/8	1.940	2 1/16	2.030
2 1/2	2.485	3.8	2 7/8	2.405	2 9/16	2.500
3	3.030	6.0	3 1/2	2.950	3 1/8	3.060
3 1/2	3.530	11.0	4	3.450	4 1/16	3.580
4	3.980	16.2	4 1/2	3.900	4 1/16	4.020

**Desired minimum bore should be specified.*

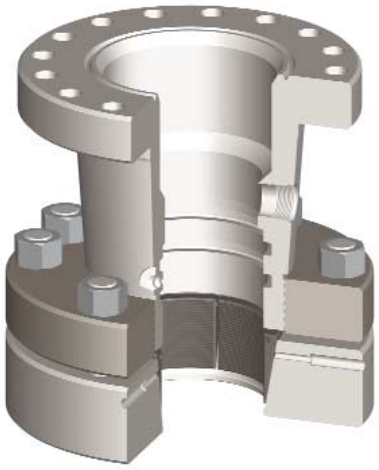
WFT Valve Removal Plugs

All studded and flanged outlets on WFT casing heads, casing spools and tubing spools are threaded to accept VR plugs. Use of a VR plug allows pressure isolation for removal, installation or repair of gate valves.

Nominal dimensions; when precise measurements are needed for an application, please consult Weatherford Wellhead Systems.

WFT-NWS

No-Weld Starting Heads



The No-Weld Starting Head (NWS) eliminates welding operations, saves time and is quick to install. Additionally, the NWS can be moved from well to well when exploratory drilling, eliminating extra transportation and repair charges associated with conventional weld-on heads.

Installation is simple: cut the casing in one of two ways, by torch or mechanical cutter, slip the NWS over the casing, test between the seals and tighten the exposed nuts. The connection is complete. Adjustable baseplate design available.

Type WFT-GT Carrier Assemblies

The primary purpose of a WFT-GT Carrier Assembly is to provide tubing run seals in close center requirements. The seal is achieved by use of a T-shaped high pressure resilient material. The transition carrier is used between the tubing hanger and the bonnet assembly. They provide double seal isolation of the producing fluid as standard. These assemblies are available in stainless steel as standard.

WFT-DA Carrier Assemblies

These carrier assemblies are used to seal the connection between the tubing hanger and the bonnet assembly. They can also be used in other applications like valve 'T' connections and double barrier (carrier and gasket) flanges.
The regular assembly seals the connection between components of a multi-string tree (such as valve-to-tee).

"O" rings trap the upper and lower Laurent ring on the carrier body. A guide ring is installed on the bottom portion of the carrier. The pressure-actuated Laurent ring, one of the most efficient sealing elements available, self-aligns as it floats on the carrier body. It requires minimum care during installation and provides a metal-to-metal seal in the tubing run of the wellhead assembly. Injection or use of plastic packing or other supplemental sealing agents is not required.

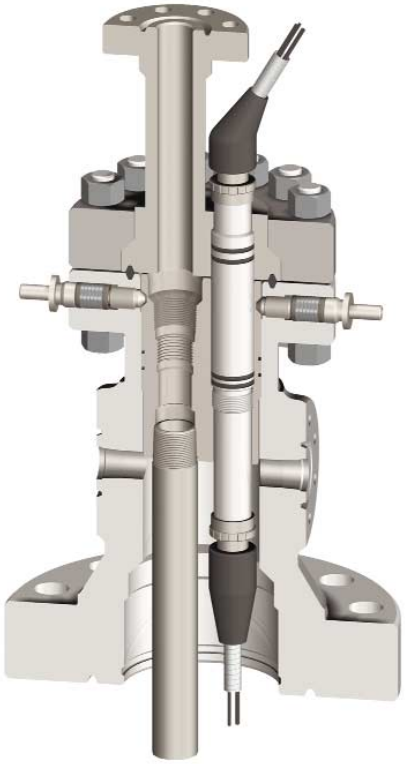
Assemblies are made of stainless steel in lengths for use with standard API ring-joint seal gaskets and RX API ring-joint gasket.

WFT-Breech-Lock Tubing Hangers

WFT Breech-Lock Tubing Hanger is an innovative solution to requirements where it is beneficial to set production tubing in tension. The Breech-Lock tubing hanger allows the operator to run and set tubing in tension, seal the annulus and set a back pressure valve, all before blowout preventers have been removed. The Breech-Lock tubing hanger allows the operator to release tubing tension, release the packer and retrieve the tubing with the preventers in place.

WFT-Breech-Lock Tubing Hanger features include:

- Ease of operation
- High reliability
- Safety
- Affordable price
- Available with metal-to-metal seals in the tubing bore



Type WFT-EFT System

The WFT-EFT System Tubing Hanger was developed to provide a satisfactory packoff for electrical cables commonly used with downhole submersible pumps. After the downhole assembly is attached to the tubing string, the cable is cut near the landing joint and spliced to the pigtail assembly.

The tubing hanger body is attached to the tubing, the electrical mandrel inserted and tightened, the lower pigtail connection made, and the assembly is lowered through the preventers. Lockdown screws lock the hanger in place. The bonnet assembly and the upper pigtail connection can then be made.

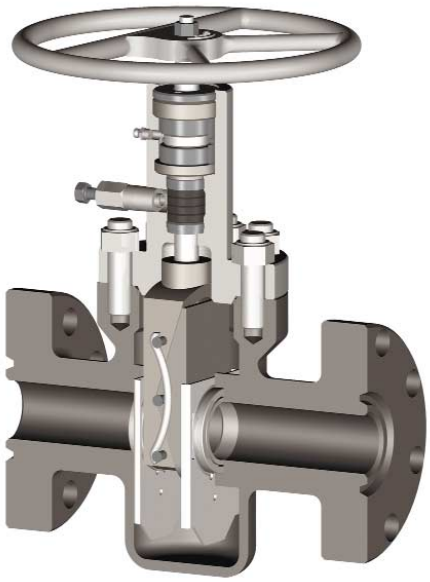
Split-Gate and Slab-Gate Valves

Weatherford's 'WSG', 'N' and 'MS' series gate valves undergo rigid inspections for incoming materials, during fabrication, and of final assembly before shipment.

Tests and inspections insure that all applicable specifications have been met, including our own requirements which are often more demanding than those from customers or “regulations.”

Gamma ray, magnetic particle, ultrasonic, and various other inspection methods are used as appropriate. In addition to normal hydro tests, gas tests are also available.

Ask for a complete list of tests and various standards met by our valves.

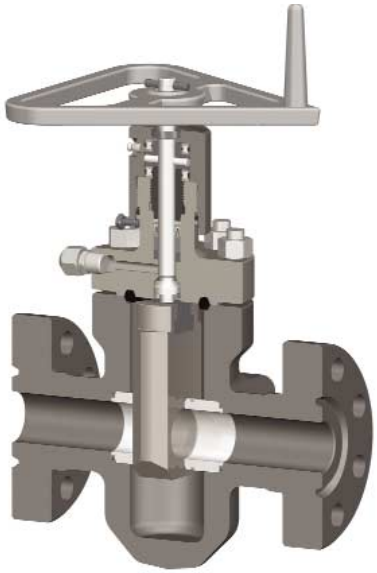


'WSG' Series
Split-gate (Expanding Gate) Valves

- In 2000, 3000, 5000, psi ratings, 2’’ through 4” nominal sizes.
- Full-bore design. No extra pressure drop; tools/debris pass freely.
- Valve-seat replacement and maintenance with valve in-line.
- Polymer valve-seat inserts help the metal-to-metal interface for very tight, secure sealing. The tighter the valve is torqued, the tighter the seal.
- Minimum-friction coating baked on gate, expanding section, and stems; reducing operational torque and improving corrosion resistance.
- No lubrication required, but can be lubricated for extra corrosion protection, easier operation, and longer service. Sealant injection for stem packing is also possible.
- Two sets of stem roller thrust bearings for low torque at all line pressures.

Type 'N' & 'MS' Series
Slab-gate Valves

- In 2000 to 15,000 psi ratings (to 20,000 psi for special applications) with forged bodies and bonnets. Sizes 3/4” through 9”.
- Meet API-6A.
- Stem seal packing: TFE with metal-to-metal; back seat.
- Seat/gate and seat/body seals metal-to-metal; seat/body. Seals available with options of metal/metal/nonelastomeric.
- Operating temperature: -50° to 250°F (-45° to 120°C); extended to -75°F (-60°C) for frigid climates.
- PR-2 tested.



Wellhead Systems

Region	Location	Sales Office	Sales & Service	Engineering & Technology
Gulf Coast	Broussard, LA		337-837-1899	
	New Orleans, LA	504-671-8780		
	Corpus Christi, TX		361-289-1858	
	Houston, TX	713-874-6400	713-466-0752	713-983-5000
Mid-Continent	Bridgeport, TX		940-683-8285	
	Kilgore, TX		903-984-1543	
	Shreveport, LA		318-221-4338	
	Punxsutawney, PA		814-938-9662	
	Yukon, OK		405-350-3357	
Rockies	Denver, CO	720-946-1365		
	Farmington, NM		505-564-8381	
	Hobbs, NM		505-397-6035	
	Midland/Odessa, TX	432-683-1604	432-561-8508	
	Rock Springs, WY		307-382-0972	
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