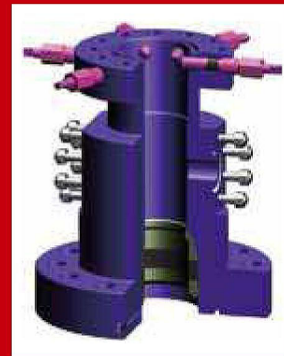


# Wellhead Equipment



# Casing Heads C-22/C-29

C-22 Casing Heads use a straight-bore bowl design that prevents damage to sealing areas from drilling tools and prevents test-plug and bowl-protector wedging problems under pressure. This straightbore design also reduces maintenance costs and permits suspension of heavy casing loads. C-22 Casing Heads normally are furnished with 2-inch threaded outlets, but optional sizes and studded outlets are available upon request. Bottom connections can be furnished slip-on-weld, threaded or slip-n-lock. C-22 Casing Heads permit interchangeability of casing hangers C-22 and C-21.

The C-29 Casing Head uses a straight bore based on the same reliable design as the C-22, except the bowl is 2 inches deeper, permitting the acceptance of the minimal-deflection C-29 Casing Hanger. This allows extreme-load casing-hanging capacity compared with the C-22 profile.



## C-29 Casing Head Specifications (API-6A)

Top Flange Size (inches)	Working Pressure (psi)	Casing Size (inches)	Outlet
11"	3,000	8-5/8"	LP/SSO
11"	5,000	8-5/8"	LP/SSO
11"	3,000	9-5/8"	LP/SSO
11"	5,000	9-5/8"	LP/SSO
11"	3,000	10-3/4"	LP/SSO
11"	5,000	10-3/4"	LP/SSO
13-5/8"	3,000	13-3/8"	LP/SSO
13-5/8"	5,000	13-3/8"	LP/SSO
16-3/4"	2,000	16"	LP/SSO
16-3/4"	3,000	16"	LP/SSO
16-3/4"	5,000	16"	LP/SSO
21-1/4"	2,000	20"	LP/SSO
20-3/4"	3,000	20"	LP/SSO

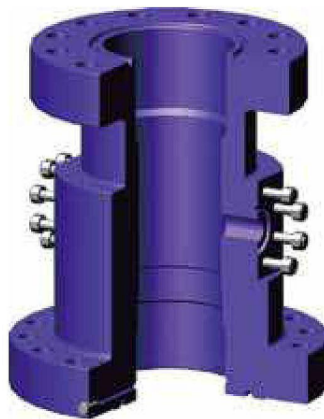
**C-22 Casing Head Specifications (API-6A)**

Top Flange Size (inches)	Working Pressure (psi)	Casing Size (inches)	Outlet
9"	2,000	7"	2" LP
9"	3,000	7"	2" LP
9"	2,000	7-5/8"	2" LP
9"	3,000	7-5/8"	2" LP
9"	5,000	7-5/8"	2" LP
9"	2,000	8-5/8"	2" LP
9"	3,000	8-5/8"	2" LP
9"	5,000	8-5/8"	2" LP
11"	2,000	8-5/8"	2" LP
11"	3,000	8-5/8"	2" LP
11"	5,000	8-5/8"	2" LP
11"	2,000	9-5/8"	2" LP
11"	3,000	9-5/8"	2" LP
11"	5,000	9-5/8"	2" LP
11"	2,000	10-3/4"	2" LP
11"	3,000	10-3/4"	2" LP
11"	5,000	10-3/4"	2" LP
13-5/8"	2,000	11-3/4"	2" LP
13-5/8"	3,000	11-3/4"	2" LP
13-5/8"	2,000	13-3/8"	2" LP
13-5/8"	3,000	13-3/8"	2" LP
13-5/8"	5,000	13-3/8"	2" LP
16-3/4"	2,000	16"	2" LP
16-3/4"	3,000	16"	2" LP
21-1/4"	2,000	20"	2" LP
20-3/4"	3,000	20"	2" LP

## Casing Spools C-22/C-29

C-22 Casing Spools are designed with a straightbore bowl that prevents damage to sealing areas from drilling tools and prevents test-plug and bowl/protector wedging problems under pressure. This straight-bore design also reduces maintenance costs and permits suspension of heavy casing loads. C-22 Casing Spools normally are furnished with studded outlets, but optional threaded outlets are available upon request. Bottom preparation can include PE seals or X-bushing secondary seals. HPE seals for high-performance frac wells are available upon request. C-22 Casing Spools allow interchangeability between C-22 and C-21 Casing Hangers.

The C-29 Casing Spool uses a straight bore based on the same reliable design as the C-22 except the bowl is 2 inches deeper, permitting the acceptance of the minimal-deflection C-29 Casing Hanger. This allows extreme-load casing-hanging capacity compared with the C-22 profile. C-29 Casing Spools normally are furnished with studded outlets, and threaded outlets are available upon request. Bottom preparation can include PE seal or X-bushing secondary seals. HPE seals for high-performance frac wells are available upon request.



### C-22 Casing Spool Specifications (API-6A)

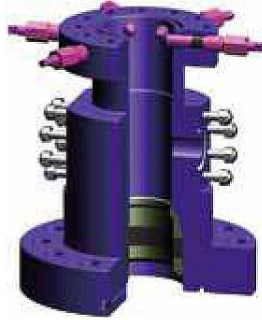
Top Flange Size (inches)	Working Pressure (psi)	Bottom Flange Size (inches)	Working Pressure (psi)
11"	2,000	11"	2,000
11"	2,000	13-5/8"	3,000
11"	3,000	11"	3,000
11"	3,000	11"	2,000
11"	3,000	13-5/8"	2,000
11"	3,000	13-5/8"	3,000
11"	3,000	16-3/4"	2,000
11"	3,000	16-3/4"	3,000
11"	5,000	13-5/8"	3,000
11"	5,000	16-3/4"	3,000
11"	10,000	13-5/8"	5,000
13-5/8"	3,000	16-3/4"	3,000
13-5/8"	3,000	21-1/4"	2,000
13-5/8"	5,000	20-3/4"	3,000

**C-29 Casing Spool Specifications (API-6A)**

Top Flange Size (inches)	Working Pressure (psi)	Bottom Flange Size (inches)	Working Pressure (psi)
11"	3,000	11"	3,000
11"	3,000	13-5/8"	3,000
11"	3,000	16-3/4"	3,000
11"	5,000	11"	3,000
11"	5,000	13-5/8"	3,000
11"	5,000	13-5/8"	5,000
11"	5,000	16-3/4"	3,000
11"	5,000	16-3/4"	5,000
11"	10,000	11"	10,000
11"	10,000	13-5/8"	5,000
13-5/8"	3,000	20-3/4"	3,000
13-5/8"	5,000	20-3/4"	3,000

# Tubing Heads & Spools TCM

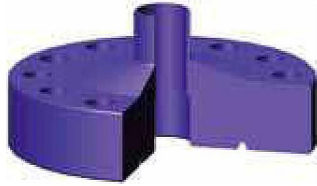
TCM Tubing Heads & Spool use a straight-bore bowl design for single and multiple completions in working pressures through 15,000 psi and in sizes to meet all multiple-completion requirements Bottom preparation can include PE seal or X-bushing secondary seals. HPE seals for high-performance frac wells are available upon request.



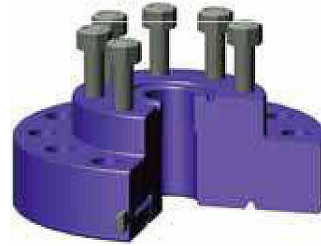
## TCM Tubing Head Specifications (API-6A)

Top Flange Size (inches)	Working Pressure (psi)	Bottom Flange Size (inches)	Working Pressure (psi)
7-1/16"	3,000	11"	2,000
7-1/16"	3,000	11"	3,000
7-1/16"	3,000	13-5/8"	2,000
7-1/16"	3,000	13-5/8"	3,000
7-1/16"	5,000	11"	3,000
7-1/16"	5,000	11"	5,000
7-1/16"	5,000	13-5/8"	3,000
7-1/16"	10,000	11"	5,000
7-1/16"	10,000	11"	10,000
7-1/16"	15,000	11"	10,000
9"	3,000	11"	3,000
9"	3,000	13-5/8"	2,000
9"	3,000	13-5/8"	3,000
9"	5,000	11"	3,000
9"	5,000	13-5/8"	3,000
9"	10,000	11"	5,000
9"	10,000	11"	10,000
11"	10,000	13-5/8"	5,000

# Tubing Head Adapters



B1 Tubing Head Adapter



B2P Tubing Head Adapter

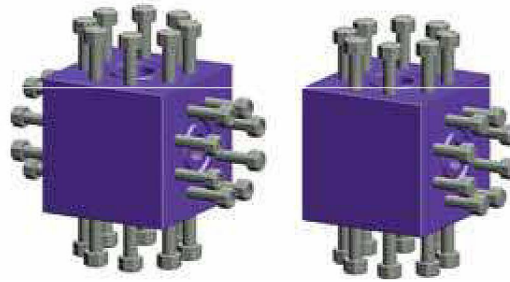
## B1 Tubing Head Adapter

Flange Size (inches)	Working Pressure (psi)	Threaded Top	Bottom Thread
7-1/16	2,000	2-3/8" UP TBG	2-3/8" UP TBG
7-1/16	2,000	2-7/8" UP TBG	2-7/8" UP TBG
7-1/16	2,000	3-1/2" UP TBG	3-1/2" UP TBG
7-1/16	3,000	2-3/8" UP TBG	2-3/8" UP TBG
7-1/16	3,000	2-7/8" UP TBG	2-7/8" UP TBG
7-1/16	3,000	3-1/2" UP TBG	3-1/2" UP TBG
7-1/16	5,000	2-3/8" UP TBG	2-3/8" UP TBG
7-1/16	5,000	2-7/8" UP TBG	2-7/8" UP TBG
7-1/16	5,000	3-1/2" UP TBG	3-1/2" UP TBG

## B2P Tubing Head Adapter

Flange Size (inches)	Working Pressure (psi)	Studded Top	Bottom Thread
7-1/16	2,000	2-1/16" 2,000 psi	2-3/8" UP TBG
7-1/16	3,000	2-1/16" 5,000 psi	2-3/8" UP TBG
7-1/16	3,000	2-9/16" 5,000 psi	2-7/8" UP TBG
7-1/16	3,000	3-1/8" 5,000 psi	3-1/2" UP TBG
7-1/16	5,000	2-1/16" 5,000 psi	2-3/8" UP TBG
7-1/16	5,000	2-9/16" 5,000 psi	2-7/8" UP TBG
7-1/16	5,000	3-1/8" 5,000 psi	3-1/2" UP TBG

# Crosses & Tees



## Cross & Tee Specifications

Run Size (inches)	Working Pressure (psi)	Outlet Size (inches)	Working Pressure (psi)
2-1/16"	2,000	2-1/16"	2,000
2-1/16"	5,000	2-1/16"	2,000
2-9/16"	2,000	2-1/16"	2,000
2-9/16"	5,000	2-1/16"	2,000
3-1/8"	2,000	2-1/16"	2,000
3-1/8"	3,000	2-1/16"	5,000
3-1/8"	3,000	3-1/8"	3,000
3-1/8"	5,000	2-1/16"	5,000
3-1/8"	5,000	3-1/8"	5,000
4-1/16"	2,000	2-1/16"	2,000
4-1/16"	2,000	4-1/16"	2,000
4-1/16"	3,000	2-1/16"	5,000
4-1/16"	3,000	4-1/16"	3,000
4-1/16"	5,000	2-1/16"	5,000
4-1/16"	5,000	2-9/16"	5,000
4-1/16"	5,000	3-1/8"	5,000
4-1/16"	5,000	4-1/16"	5,000
1-13/16"	10,000	1-13/16"	10,000
1-13/16"	15,000	1-13/16"	15,000
2-1/16"	10,000	1-13/16"	10,000
2-1/16"	10,000	2-1/16"	10,000
2-1/16"	15,000	1-13/16"	15,000
2-1/16"	15,000	2-1/16"	15,000
2-9/16"	10,000	1-13/16"	10,000
2-9/16"	10,000	2-1/16"	10,000
2-9/16"	10,000	2-9/16"	10,000
2-9/16"	15,000	1-13/16"	15,000
2-9/16"	15,000	2-1/16"	15,000
2-9/16"	15,000	2-9/16"	15,000
3-1/16"	10,000	2-1/16"	10,000
3-1/16"	10,000	2-9/16"	10,000
3-1/16"	10,000	3-1/16"	10,000
4-1/16"	10,000	2-1/16"	10,000
4-1/16"	10,000	3-1/16"	10,000
4-1/16"	10,000	4-1/16"	10,000



# X-mas Tree Caps



## X-mas Tree Cap (BHTA) Specifications

Bottom Flange Size (inches)	Working Pressure (psi)	Bore (inches)	Lift Thread
2-1/16"	2,000	2-1/16"	2-3/8" EUE
2-1/16"	5,000	2-1/16"	2-3/8" EUE
2-9/16"	2,000	2-9/16"	2-7/8" EUE
2-9/16"	5,000	2-9/16"	2-7/8" EUE
3-1/8"	2,000	2-9/16"	2-3/8" EUE
3-1/8"	2,000	3-1/16"	3-1/2" EUE
3-1/8"	3,000	2-9/16"	2-7/8" EUE
3-1/8"	3,000	3-1/16"	3-1/2" EUE
3-1/8"	5,000	2-9/16"	2-7/8" EUE
3-1/8"	5,000	3-1/16"	3-1/2" EUE
4-1/16"	3,000	4-1/16"	4-1/2" EUE
2-1/16"	10,000	2-1/16"	2-3/8" EUE
2-9/16"	10,000	2-9/16"	2-7/8" EUE
3-1/16"	10,000	3-1/16"	3-1/2" EUE
4-1/16"	10,000	4-1/16"	4-1/2" EUE

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## FC Gate Valves

FC type gate valve has a non-rising stem with a slab gate, floating seat ring body bushing design to provide safe dependable services. The standard features of FC gate valves include full-bore thru-conduit design and metal to metal seals between body and bonnet, gate and seat, and seat and body. The above features make it ideally suited for drilling manifold and production operations. Materials and trims are available for all operating conditions. It is available in flanged ends in standard bore sizes from 1-13/16" through 7-1/16" in working pressures from 2,000 psi to 20,000 psi.

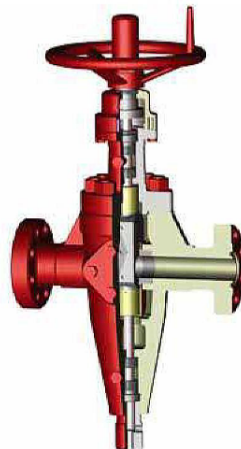
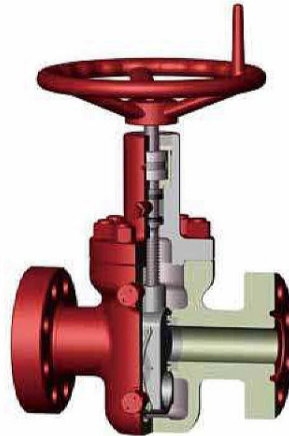
Ball Screw Operator is available for large bore and high pressure gate valves. All of our valves can be actuated by hydraulic or pneumatic actuators.



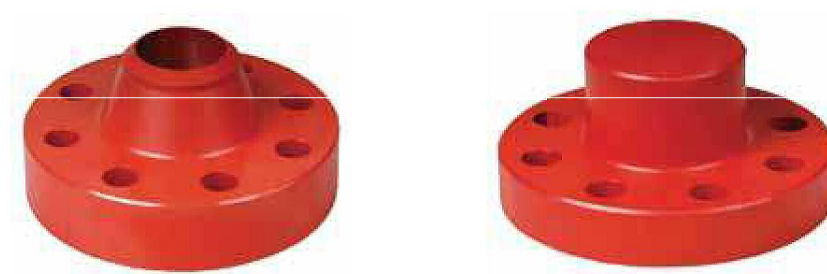
## M Expanding Gate Valves

M type expanding gate valve has a non-rising stem with an expanding gate design to provide safe dependable services in a variety of environments. It is available in flanged ends or threaded ends in standard bore sizes from 1-13/16" through 7-1/16" in working pressures from 2,000 psi to 10,000 psi.

Ball Screw Operator is available for large bore and high pressure gate valves. All of our valves can be actuated by hydraulic or pneumatic actuators.



# Flanges



Flange Size	Working Pressure (psi)	Outside Diameter	Number of Bolt Holes	Diameter of Bolts	Length of Bolts	API Ring Gasket
1-13/16"	10,000	7-3/8"	8	3/4"	5-1/4"	BX-151
	15,000	8-3/16"	8	7/8"	6"	BX-151
	20,000	10-1/8"	8	1"	7-3/4"	BX-151
2-1/16"	2,000	6-1/2"	8	5/8"	5/8"	R-23
	3,000/5,000	8-1/2"	8	7/8"	7/8"	R-24
	10,000	7-7/8"	8	3/4"	3/4"	BX-152
	15,000	8-3/4"	8	7/8"	7/8"	BX-152
	20,000	11-5/16"	8	1-1/8"	1-1/8"	BX-152
2-9/16"	2,000	7-1/2"	8	3/4"	5-1/4"	R-26
	3,000/5,000	9-5/8"	8	1"	7"	R-27
	10,000	9-1/8"	8	7/8"	6-1/4"	BX-153
	15,000	10"	8	1"	7"	BX-153
	20,000	12-13/16"	8	1-1/4"	9-1/2"	BX-153
3-1/8"	2,000	8-1/4"	8	3/4"	5-1/2"	R-31
	3,000	9-1/2"	8	7/8"	6-1/4"	R-31
	5,000	10-1/2"	8	1-1/8"	7-3/4"	R-35
3-1/16"	10,000	10-5/8"	8	1"	7-1/4"	BX-154
	15,000	11-5/16"	8	1-1/8"	8"	BX-154
	20,000	14-1/16"	8	1-3/8"	10-3/4"	BX-154
4-1/16"	2,000	10-3/4"	8	7/8"	6-1/4"	R-37
	3,000	11-1/2"	8	1-1/8"	7-1/2"	R-37
	5,000	12-1/4"	8	1-1/4"	8-1/2"	R-39
	10,000	12-7/16"	8	1-1/8"	8-3/8"	BX-155
	15,000	14-3/16"	8	1-3/8"	9-3/4"	BX-155
	20,000	17-9/16"	8	1-3/4"	12-3/4"	BX-155
5-1/8"	5,000	14-3/4"	8	1-1/2"	10-3/4"	R-44

## Wellhead Equipment

Flange Size	Working Pressure (psi)	Outside Diameter	Number of Bolt Holes	Diameter of Bolts	Length of Bolts	API Ring Gasket
7-1/16"	2,000	14"	12	1"	7-1/2"	R-45
	3,000	15"	12	1-1/8"	8-1/2"	R-45
	5,000	15-1/2"	12	1-3/8"	11-1/4"	R-46
	10,000	18-7/8"	12	1-1/2"	11-3/4"	BX-156
	15,000	19-7/8"	16	1-1/2"	13"	BX-156
	20,000	25-13/16"	16	2"	17-3/4"	BX-156
9"	2,000	16-1/2"	12	1-1/8"	8-1/2"	R-49
	3,000	18-1/2"	12	1-3/8"	9-1/2"	R-49
	5,000	19"	12	1-5/8"	12-1/2"	R-50
	10,000	21-3/4"	16	1-1/2"	13-1/4"	BX-157
	15,000	25-1/2"	16	1-7/8"	16"	BX-157
11"	2,000	20"	16	1-1/4"	9-1/4"	R-53
	3,000	21-1/2"	16	1-3/8"	10"	R-53
	5,000	23"	12	1-7/8"	14-1/4"	R-54
	10,000	25-3/4"	16	1-3/4"	15-3/8"	BX-158
	15,000	32"	20	2"	19-1/2"	BX-158
13-5/8"	2,000	22"	20	1-1/4"	9-1/2"	R-57
	3,000	24"	20	1-3/8"	10-3/4"	R-57
	5,000	26-1/2"	16	1-5/8"	12-3/4"	BX-160
	10,000	30-1/4"	20	1-7/8"	17-3/4"	BX-159
	15,000	34-7/8"	20	2-1/4"	21"	BX-159
16-3/4"	2,000	27"	20	1-1/2"	10-3/4"	R-65
	3,000	27-3/4"	20	1-5/8"	12-1/4"	R-66
	5,000	30-3/8"	16	1-7/8"	14-3/4"	BX-162
	10,000	34-5/16"	24	1-7/8"	17-3/4"	BX-162
18-3/4"	5,000	35-5/8"	20	2"	18"	BX-163
	10,000	40-15/16"	24	2-1/4"	23"	BX-164
20-3/4"	3,000	33-3/4"	20	2"	15-1/4"	R-74
21-1/4"	2,000	32"	24	1-5/8"	12-1/2"	R-73
	5,000	39"	24	2"	19"	BX-165
	10,000	45"	24	2-1/2"	24-3/4"	BX-166
26-3/4"	2,000	41"	20"	1-3/4"	14-1/4"	BX-167
	3,000	43-3/8"	24"	2"	17-1/2"	BX-168