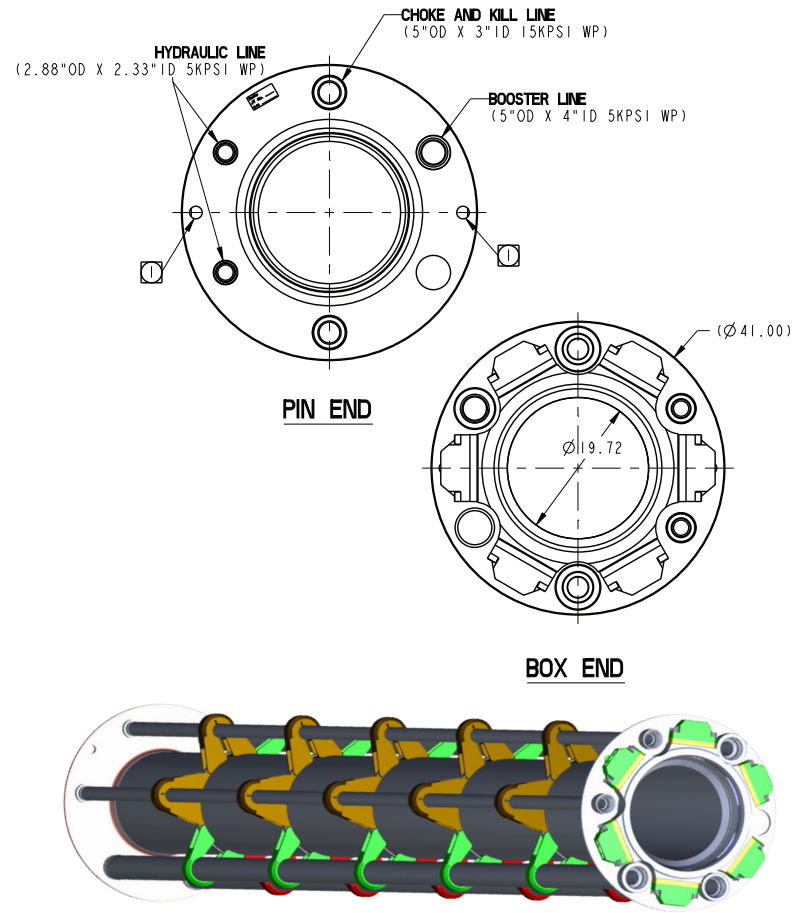
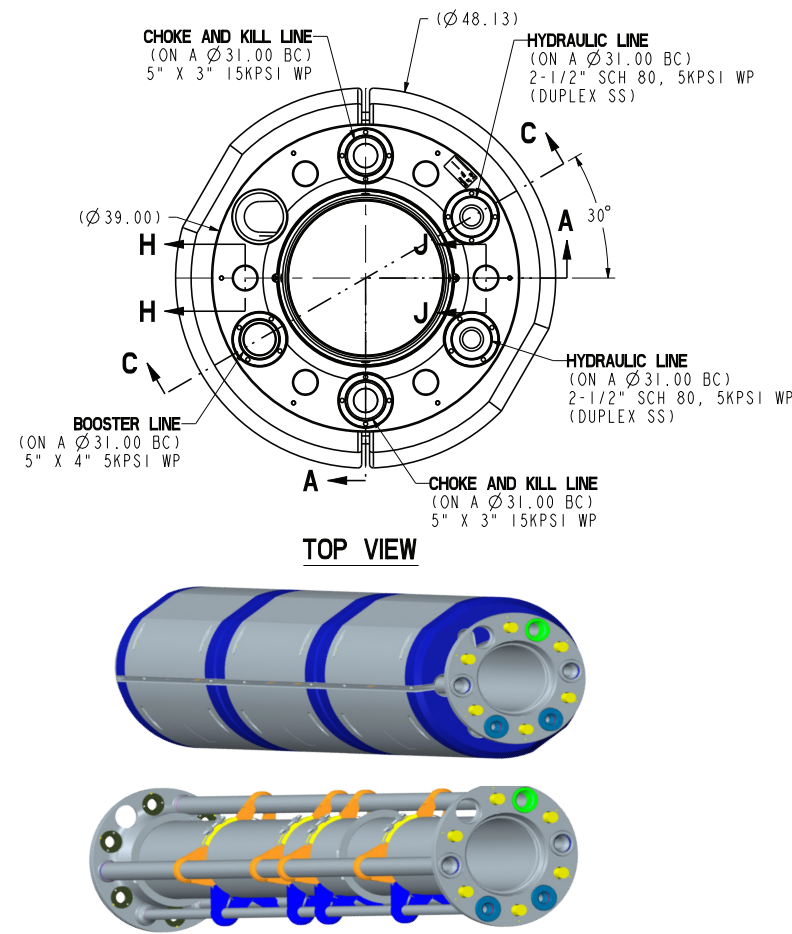


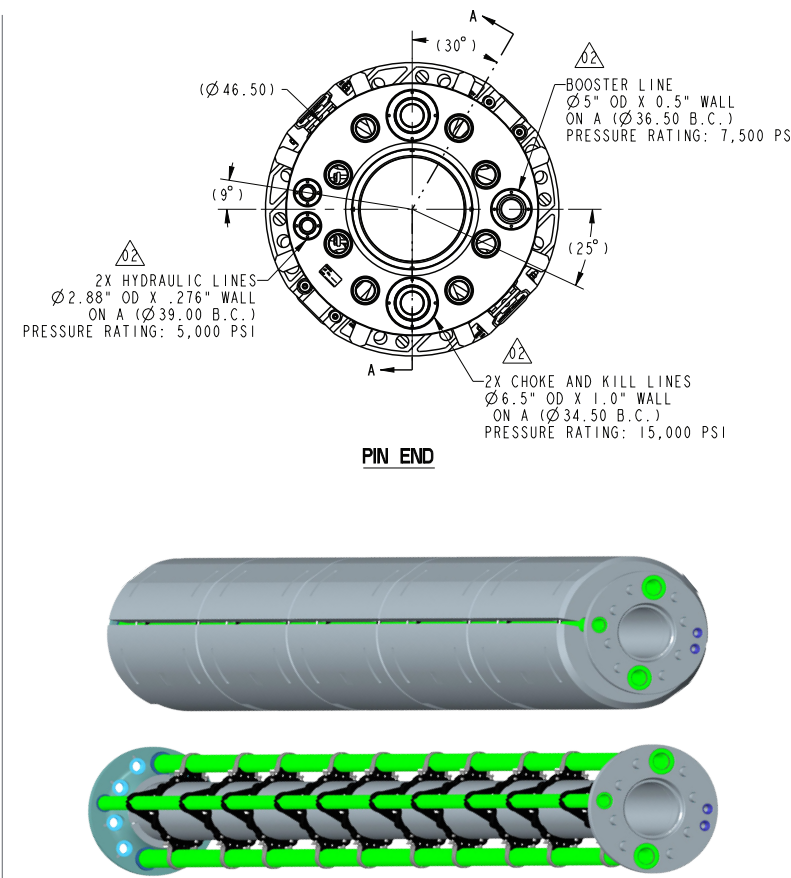
Dog Type 2™



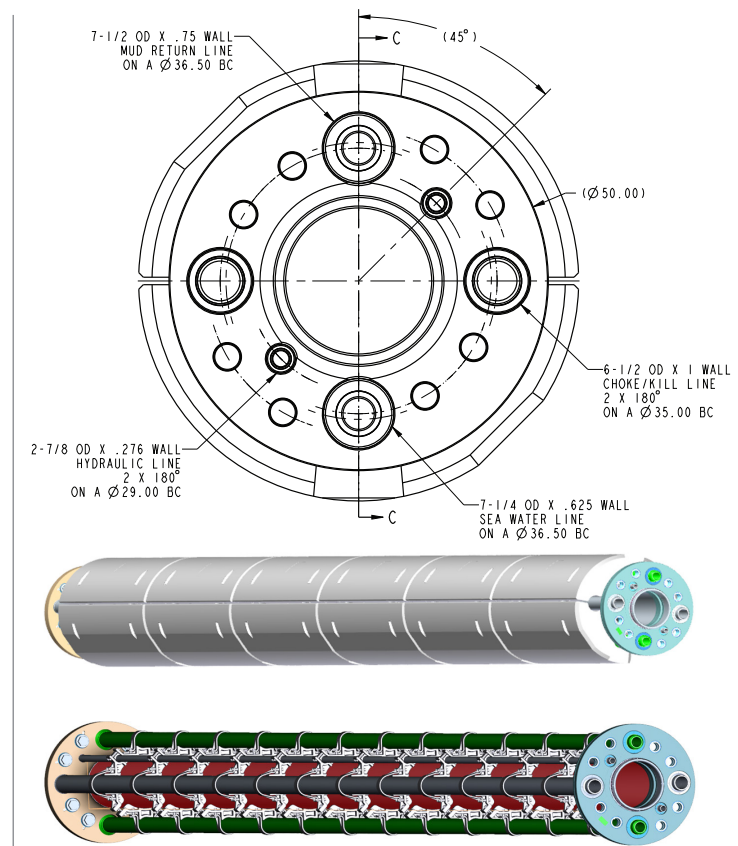
Flange Type-E™



Flange Type-H™



Flange Type-H DG™



	Dog Type-2 (shown above)	Dog Type-1
Tension Load	2,000,000 lb.	1,125,000 lb.
Lengths	50 ft, 75 ft	50 ft, 75ft
OD Pipe	21"	21"
Unique Configurations	5	8
Foot Lengths	5, 10, 15, 20, 25, 30, 40, 50, 60, 75	10, 20, 25, 31.25, 35, 40, 50, 65, 75
Wall Thickness	5/8", 11/16", 3/4", 13/16"	5/8"
Flange Diameter(s)	48.0", 41.0"	41.50", 41", 35.625"
Line Configurations	2 Line (Choke, Kill) 4 Line (Choke, Kill, Booster, 1x Hydraulic) 5 Line (Choke, Kill, Booster, 2x Hydraulic)	2 Line (Choke, Kill) 3 Line (Choke, Kill, Booster) 3 Line (Choke, Kill, 1x Hydraulic) 4 Line (Choke, Kill, Booster, 1x Hydraulic) 4 Line (Choke, Kill, 2x Hydraulic)
Line Pressures and Sizes	Choke/Kill: 15K and 10K / 6.5"x4.5", 5"x3 Booster: 5K / 5"x4", 5.5"x4.75" Hydraulic: 5K and 3K / 2.5" Sch80 (316 Stainless and Duplex SS)	Choke/Kill: 15K and 10K/5"x3", 4.375"x2.575", 4"x 2.75" Booster - 5K and 3K / 3.5" Sch80, 4" Sch80, 4.5" Sch80, 5"x4", 4"x3" Hydraulic - 5K and 3K / 2.5" Sch80 (316 Stainless and Duplex SS)
Other	All lines are 60 degrees apart. Some styles may not have extra holes for lines.	All lines are 60 degrees apart. Some styles may not have extra holes for lines.

	Flange Type-E (shown)	Flange Type-GB
Tension Load	2,000,000 lb.	3,000,000 lb.
Lengths	50 ft, 75ft	51 ft, 75ft
OD Pipe	21"	42"
Unique Configurations	4	4
Foot Lengths	5, 10, 15, 20, 25, 30, 35, 40, 50	5, 10, 20, 25, 30, 40, 75
Wall Thickness	5/8" and 11/16"	13/16", 7/8" and 15/16"
Line Configurations	3 Line (Choke, Kill, Booster) 4 Line (Choke, Kill, Booster, 1x Hydraulic) 5 Line (Choke, Kill, Booster (Upper), 2x Hydraulic) 5 Line (Choke, Kill, Booster (Lower), 2x Hydraulic)	4 Line (Choke, Kill, Booster, 1x Hydraulic) 5 Line (Choke, Kill, Booster, 2x Hydraulic)
Line Pressures and Sizes	Choke/Kill - 15K / 5"x3" Booster - 5K and 3K / 5"x4" (AISI Gr 4130 and ASTM A106 Gr C) Hydraulic - 5K and 3K / 2.5" Sch80 (316 Stainless and Duplex SS)	Choke/Kill - 15K / 6.5"x4.5" Booster - 5K / 5x4" Hydraulic - 5K / 2.5" Sch80 (Duplex SS)
Other	All lines are 60 degrees apart. All Flanges should have extra holes for lines.	All lines are 60 degrees apart. All Flanges should have extra holes for lines.

	Flange Type-H (shown)	Flange Type-G	Flange Type-I
Tension Load	3,500,000 lb.	3,000,000 lb.	4,000,000 lb.
Lengths	75ft, 90ft	75ft, 90ft	75ft, 90ft
OD Pipe	21"	21"	21"
Unique Configurations	4		
Foot Lengths	5, 10, 20, 25, 30, 40, 75, 90	5, 10, 20, 25, 30, 40, 75, 90	5, 10, 20, 25, 40, 90
Wall Thickness	3/4", 7/8" and 15/16"	13/16", 7/8" and 15/16"	13/16" and 15/16"
Flange Diameter(s)	46.50, same as FT-G *Some Flanges have a Glycol pocket between Hyds	46.5	47.13 All Flanges have a Glycol pocket between Hyds
Line Configurations	5 Line (Choke, Kill, Booster, 2x Hydraulic)	4 Line (Choke, Kill, Booster, 1x Hydraulic)	6 Line (Choke, Kill, Booster, 2x Hydraulic, Glycol)
Line Pressures and Sizes	Choke/Kill - 15K / 6.5"x4.5" Booster - 7.5K / 5"x4" Hydraulic - 5K / 2.5" Sch80 (Duplex SS)	Choke/Kill: 15K / 6.5"x4.5" Booster - 5K / 5"x4" Hydraulic - 5K / 2.5" Sch80 (Duplex SS)	Choke/Kill - 15K / 6.5"x4.5" Booster - 7.5K / 5"x4" Hydraulic - 5K / 2.5" Sch80 (Duplex SS) Glycol - 15K / 3"x2"
Other	All lines are 90 degrees apart. NO extra holes for extra lines in flange except hydraulic hole.	All lines are 90 degrees apart. NO extra holes for extra lines in flange except hydraulic hole.	All lines are 90 degrees apart. NO extra holes for extra lines in flange.

	FT-H DG (Shown Above)
Tension Load	3,500,000 lb.
Lengths	50ft, 75 ft
OD Pipe	21"
Unique Configurations	5
Foot Lengths	5, 10, 20, 25, 40, 90
Wall Thickness	7/8" and 15/16"
Flange Diameter(s)	50
Line Configurations	6 Line (Choke, Kill, Mud Return, Seawater, 2x Hydraulic)
Line Pressures and Sizes	Choke/Kill - 15K / 6.5"x4.5" Mud Return - 7.5K / 7.5"x6.0" Seawater Line - 7.5K / 7.25"x6.0" Hydraulic - 5K / 2.5" Sch80 (Duplex SS)
Other	All lines are 90 degrees apart with split hydraulic lines. NO extra holes for extra lines in flange

The marine drilling riser system connects the subsea BOP stack to the drilling vessel. It is a continuation of the well bore from the seabed to the surface.

Marine Drilling Riser: A tubular conduit serving as an extension of the well bore from the equipment on the wellhead at the seafloor to a floating drilling rig.

Riser Joint: A section of riser main tube having ends fitted with a box and pin and including choke, kill and (optional) auxiliary lines and their support brackets.

Primary Functions of the marine riser system are to:

- Provide for fluid communication between the drilling vessel and the BOP Stack and the well:
 - Through the main bore during drilling operations;
 - Through the choke and kill lines when the BOP Stack is being used to control the well
 - Through the auxiliary lines such as a hydraulic fluid supply and mud boost lines.
- Guide tools into the well
- Serve as a running and retrieving string for the BOP stack.