

Flowhead

Multifunction flow control from the top of the well

APPLICATIONS

- Reservoir testing and evaluation
- Subsea completion installation
- Reservoir cleanup
- Well intervention
- Well abandonment
- Well stimulation

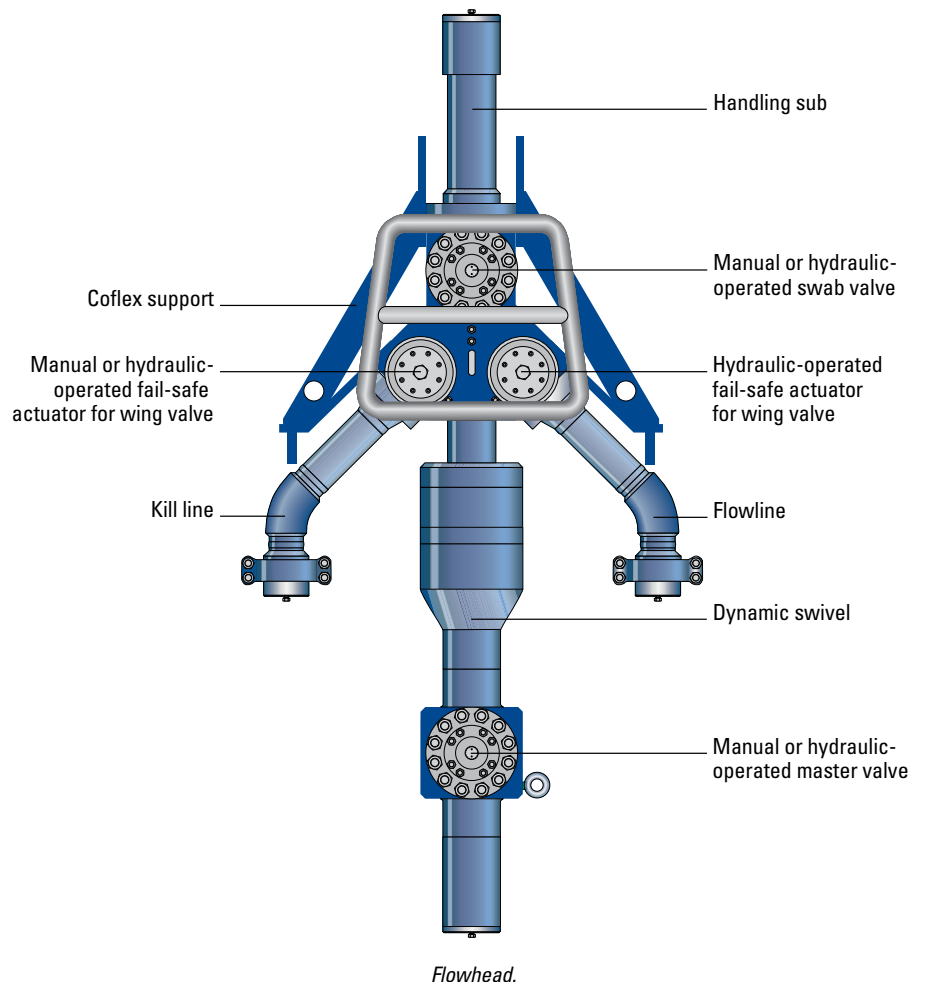
FEATURES

- Provides at least two surface pressure barriers
- Ensures reliable shut-in for harsh-environment operations
- Provides immediate flow shut-in if downstream equipment fails
- Prevents overpressure conditions on downstream equipment
- Allows test string to be hung from the elevator
- Enables rotation of the string without rotating the flowhead
- Includes double metal-to-metal seal for reliability in harsh environments
- Activates remotely
- Automatically closes flow valve if control pressure is lost
- Allows a kill-line connection for pressure testing, injection, or killing the well
- Allows tools to be introduced and run into the well through the swab valve

The flowhead supports the test string and provides a means of surface well control when completing, testing, or performing live well intervention operations. Two off-wing valves connect to the kill and flow manifolds to control the flow of the wellbore fluids.

Valve actuators are controlled from a console located on the rig floor and link to the emergency shutdown system for the flow wing valve. This configuration allows for remote shut-in of the well at the flowhead. The handling sub attached to the top of the flowhead valve block is used to tension the flowhead and the riser landing string.

The handling sub also provides an interface to the surface wireline or coiled tubing equipment. A dynamic swivel is located between the main valve block and the lower master valve, allowing rotation of the string without rotating the flowhead and preventing any rig movement from transferring torque into the riser or landing string.



Specifications

Model	Nominal Size, in	Working Pressure, psi [MPa]	Test Pressure, psi [MPa]	Temperature Class, degF [degC]	Connections			
					Flowline	Kill Line	Top	Bottom
FHT-F	3/8	5,000 [34]	10,000 [69]	-20 to 250 [-29 to 121]	3-in Fig 1002 Male	3-in Fig 1002 Female	6 1/2-4 ACME Box Otis 5K	4 1/8-4 Stub ACME Box 5K
FHD-P	2 9/16	5,000 [34]	10,000 [69]	-20 to 250 [-29 to 121]	2-in Fig 1502 Male	2-in Fig 1502 Female	4 1/8-4 Stub ACME Box	4 1/8-4 (60°) Stub ACME
FHT-L	6 1/8	6,100 [41]	9,000 [62]	-20 to 250 [-29 to 121]	6-in Grayloc® GR-52 Hub	3-in Fig 1502 Female	9 1/2-4 ACME Box Otis	8 5/8-4 ACME Box
FHT-M	2 1/4	10,000 [69]	15,000 [103]	-20 to 250 [-29 to 121]	2-in Fig 1502 Male	2-in Fig 1502 Female	3 1/2-IF Box	4 1/8-4 (60°) Stub ACME
FHT-G	3 1/16	10,000 [69]	15,000 [103]	-20 to 250 [-29 to 121]	3-in Fig 1502 Male	3-in Fig 1502 Female	6 1/2-4 ACME Box Otis 10K	6 1/2-4 ACME Box 10K
FHT-GK	3 1/16	10,000 [69]	15,000 [103]	-20 to 250 [-29 to 121]	3-in Fig 1502 Male	3-in Fig 1502 Female	6 1/2-4 ACME Box Otis 10K	6 1/2-4 ACME Box 10K
FHT-GH	3 1/16	10,000 [69]	15,000 [103]	-20 to 320 [-29 to 160]	3-in Fig 1502 Male	3-in Fig 1502 Female	6 1/2-4 ACME Box Otis 10K	6 1/2-4 ACME Box 10K
FHT-K	5 1/8	10,000 [69]	15,000 [103]	-20 to 250 [-29 to 121]	6-in Grayloc GR-52 Hub	3-in Grayloc GR-52 Hub	8 1/2-4 x 2 ACME Box Bowen	7-4 ACME Box
FLHD-AA	7 3/8	10,000 [69]	15,000 [103]	-20 to 250 [-29 to 121]	Grayloc GR-52 Hub	Grayloc GR-52 Hub	10 1/2-4 ACME 2G Box	10 1/2-4 ACME 2G RH
FHHP-AA	6 3/8	15,000 [103]	22,500 [155]	0 to 350 [-18 to 177]	API Flange 3 1/16-BX154	API Flange 3 1/16-BX154	10 1/2-4 Stub ACME-2G RH Box	10 1/2-4 Stub ACME 2G RH
FHT-HC	3 1/16	15,000 [103]	22,500 [155]	-20 to 320 [-29 to 160]	API Flange 3 1/16-BX154	API Flange 3 1/16-BX154	7-5 Stub ACME Box Bowen	6 1/2-4 ACME Hostile Box 15K
FHT-HD	3 1/16	15,000 [103]	22,500 [155]	-20 to 320 [-29 to 160]	API Flange 3 1/16-BX154	API Flange 3 1/16-BX154	7-5 Stub ACME Box Bowen	6 1/2-4 ACME Hostile Box 15K
FHT-HDK	3 1/16	15,000 [103]	22,500 [155]	-20 to 320 [-29 to 160]	API Flange 3 1/16-BX154	API Flange 3 1/16-BX154	7-5 Stub ACME Box Bowen	6 1/2-4 ACME Hostile Box 15K
FHT-HE	3 1/16	15,000 [103]	22,500 [155]	-20 to 320 [-29 to 160]	API Flange 3 1/16-BX154	API Flange 3 1/16-BX154	7-5 Stub ACME Box Bowen	6 1/2-4 ACME Hostile Box 15K

Specifications and Codes

Model	Hydraulic Valves			Tensile Rating, lbf [kN]		Hard Facing (Colmonoy®)	Dimensions (L x W x H), ft [m]	Weight, lbf [kg]		Applied Codes
	Flow	Master	Kill	At 0 psi	At Working Pressure			Flowhead	Basket	
FHT-F	Yes	No	No	300,000 [1,334]	200,000 [890]	5	3.77 x 3.61 x 12 [1.15 x 1.10 x 3.65]	4,200 [1,905]	1,003 [455]	API-6A (PSL-2, PR2), H ₂ S (NACE MR0175), DNV [†] Rules, BS [‡] 7072
FHD-P	Yes	No	No	250,000 [1,112]	200,000 [890]	5	4.2 x 2.53 x 6.46 [1.28 x 0.77 x 1.97]	3,858 [1,750]	na [§]	API-6A (PSL-2, PR2), H ₂ S (NACE MR0175), DNV Rules, BS 7072
FHT-L	Yes	No	Yes	500,000 [2,224]	285,000 [1,268]	5	4.27 x 2.53 x 13.2 [1.30 x 1.60 x 4.02]	10,360 [4,700]	5,510 [2,500]	API-6A (PSL-2, PR2), H ₂ S (NACE MR0175), DNV Rules, BS 7072
FHT-M	Yes	No	Yes	250,000 [1,112]	200,000 [890]	na	1.97 x 0.99 x 14.5 [0.60 x 0.30 x 4.42]	4,410 [2,000]	na	API-6A (PSL-3, PR2), H ₂ S (NACE MR0175), DNV Rules, BS 7072
FHT-G										
FHT-GK	Yes	No	No	490,000 [2,180]	300,000 [1,334]	75	4.27 x 3.61 x 12.5 [1.30 x 1.10 x 3.81]	4,805 [2,180]	4,630 [2,100]	API-6A (PSL-3, PR2), H ₂ S (NACE MR0175), DNV Rules, BS 7072
FHT-GH										
FHT-K	Yes	No	Yes	700,000 [3,114]	380,000 [1,690]	75	6.07 x 5.65 x 13.7 [1.85 x 1.72 x 4.18]	13,000 [5,897]	4,630 [2,100]	API-6A (PSL-3, PR2), H ₂ S (NACE MR0175), DNV Rules, BS 7072
FLHD-AA	Yes	Yes	Yes	1,500,000 [6,672]	750,000 [3,336]	NA	6.07 x 8.58 x 19.00 [1.85 x 2.62 x 5.79]	32,055 [14,540]	11,905 [5,400]	API-6A (PSL-3, PR2), H ₂ S (NACE MR0175), DNV Rules
FHHP-AA	Yes	Yes	Yes	1,400,000 [6,228]	700,000 [3,114]	NA	5.74 x 8.58 x 16.33 [1.75 x 2.62 x 4.98]	21,500 [9,752]	14,000 [6,350]	API-6A (PSL-3, PR2), H ₂ S (NACE MR0175), DNV Rules
FHT-HC	Yes	Yes	Yes	660,000 [2,936]	320,000 [1,423]	75	4.10 x 3.15 x 12.7 [1.25 x 0.96 x 3.87]	6,835 [3,100]	4,630 [2,100]	API-6A (PSL-3, PR2), H ₂ S (NACE MR0175), DNV Rules, BS 7072
FHT-HD										
FHT-HDK	Yes	No	No	660,000 [2,936]	320,000 [1,423]	75	4.10 x 3.15 x 12.7 [1.25 x 0.96 x 3.87]	6,835 [3,100]	4,630 [2,100]	API-6A (PSL-3, PR2), H ₂ S (NACE MR0175), DNV Rules, BS 7072
FHT-HE	Yes	Yes ^{††}	Yes	660,000 [2,936]	300,000 [1,334]	75	6.76 x 5.90 x 13.7 [2.06 x 1.80 x 4.18]	5,955 [2,701]	4,630 [2,100]	API-6A (PSL-3, PR2), H ₂ S (NACE MR0175), DNV Rules, BS 7072

[†] Det Norske Veritas

[‡] Complies with British Standard Code of Practice for Inspection and Repair of Offshore Containers

[§] Not applicable

^{††} Automatic and manual