

DDV[®] Downhole Deployment Valve

Enhances safety, improves tripping techniques, and allows for downhole isolation as and when required

Applications

- Underbalanced drilling
- Managed pressure drilling
 - Constant bottomhole pressure
 - Pressurized mud-cap drilling
- Continuous circulation
- Air drilling
- Conventional drilling

Features and Benefits

- Enhances safety by creating an additional downhole barrier
- Increases tripping speeds while limiting exposure to swabbing
- Reduces nonproductive time during tripping
- Easily integrates into standard casing programs
- Enables running long complex bottomhole assemblies (BHAs)
- Removes the need for snubbing if set below the pipe light point

Tool Description

The Weatherford DDV downhole deployment valve provides a reliable and easy-to-run method that isolates the wellbore during drilling operations. Run as an integral part of the casing program, the DDV allows for fullbore access. The DDV controls penetrate the wellhead, and they are actuated using an encapsulated dual control-line system that operates via a surface control unit.

Options

The RIT (retrievable instrumented tandem) DDV is a standard DDV run in a tandem configuration. This surface-controllable downhole valve system is run as part of a temporary casing tieback string to enhance well safety during drilling and completion operations.

The tandem configuration enables monitoring the intermediate pressure between the lower flapper and the upper flapper to detect a fluid bypass across the lower flapper. This configuration also enables monitoring pressure below the bottom flapper and above the top flapper. The flappers can be operated independently. The gauges are powered from the surface through the single signal line packaged with the hydraulic lines in a single flat pack run from the surface.

The RIT DDV meets the NACE MRO-175 standard for hydrogen sulfide (H₂S) applications.



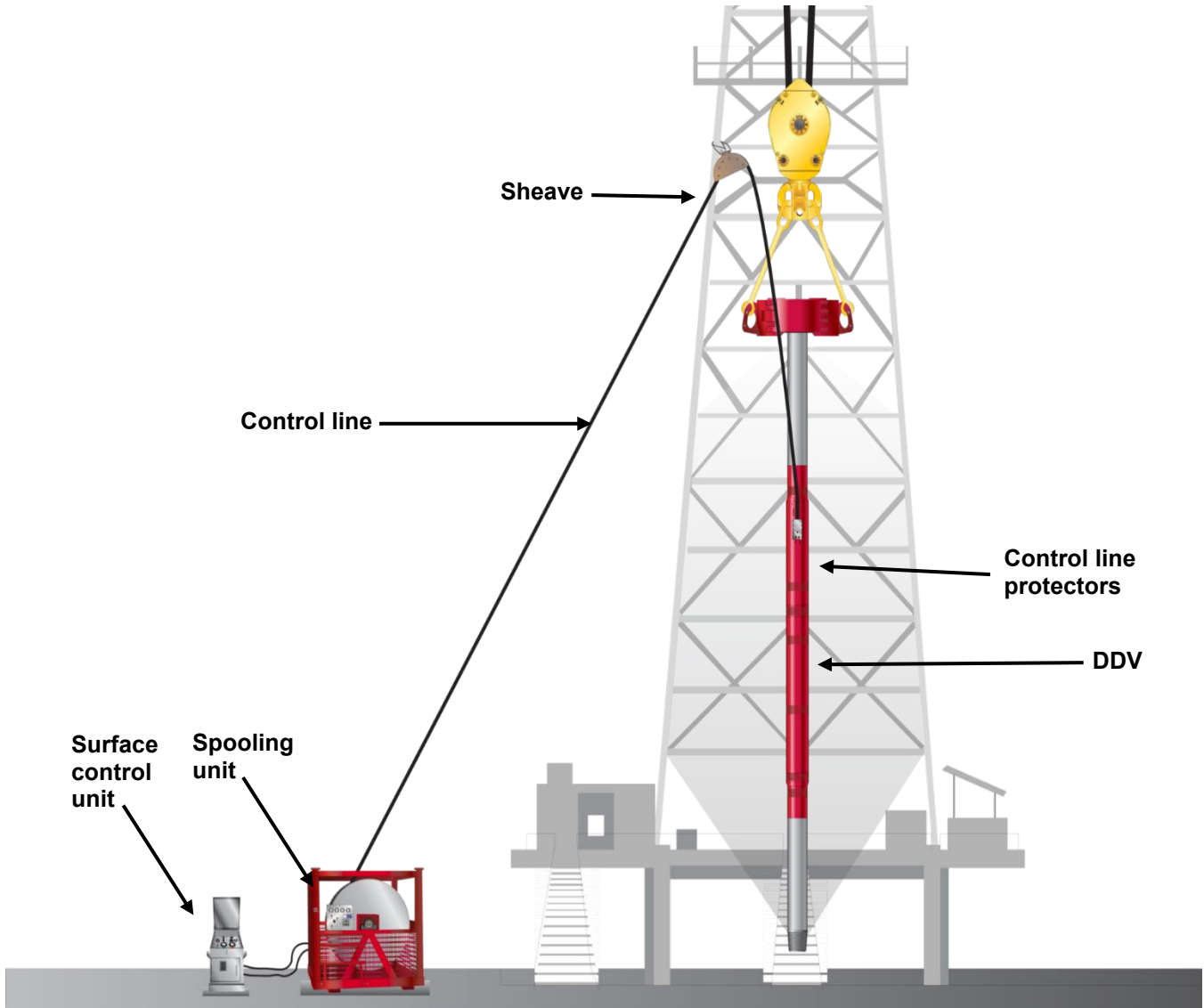
The Weatherford DDV integrates seamlessly into the casing program.



RIT DDV assembly



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The diagram illustrates the general layout of DDV equipment.



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Specifications

Size	7 in.	7 in.	7 in.	7 in.	7 in. RIT	7-5/8 in.	9-5/8 in.	9-5/8 in.	9-5/8 in. RFID	10-3/4 in.	13-5/8 in. RFID
OD	8.5 in.	8.5 in.	8.25 in.	8.312 in.	8.4 in.	9.125 in.	12 in.	12 in.	12 in.	12 in.	17 in.
ID	6.19 in.	6.266 in.	6.094 in.	6.094 in.	6.094 in.	6.662 in.	8.681 in.	8.535 in.	8.681 in.	8.750 in.	12.375 in.
Casing weight	26.0 lb (11.8 kg)	26.0 lb (11.8 kg)	32.0 lb (14.5 kg)	32.0 lb (14.5 kg)	32.0 lb (14.5 kg)	33.7 lb (15.3 kg)	47.0 lb (21.3 kg)	53.5 lb (24.3 kg)	53.5 lb (24.3 kg)	97.1 lb (44.0 kg)	88.2 lb (40.0 kg)
Casing grade equivalent	L80	5K	5K	10K	5K	P110	L80	Q125	—	T95	TN 110
Capacities											
Burst (working)	6,000 psi (41.4 MPa)	5,000 psi (34.5 MPa)	5,000 psi (34.5 MPa)	10,000 psi (68.95 MPa)	5,000 psi (34.5 MPa)	8,685 psi (59.9 MPa)	5,500 psi (37.9 MPa)	9,910 psi (68.3 MPa)	7,741 psi (53.4 MPa)	11,400 psi (78.6 MPa)	8,830 psi (60.9 MPa)
Collapse (working)	4,500 psi (31.0 MPa)	5,000 psi (34.5 MPa)	5,000 psi (34.5 MPa)	8,000 psi (55.2 MPa)	5,000 psi (34.5 MPa)	6,280 psi (43.3 MPa)	4,000 psi (27.6 MPa)	6,750 psi (46.5 MPa)	7,741 psi (53.4 MPa)	11,970 psi (82.5 MPa)	6,350 psi (43.8 MPa)
Tensile load	604,000 lb (273,970 kg)	600,000 lb (272,155 kg)	600,000 lb (272,155 kg)	897,000 lb (406,872 kg)	885,000 lb (401,429 kg)	1,069,000 lb (484,890 kg)	1,086,000 lb (492,601 kg)	1,595,000 lb (723,480 kg)	1,151,598 lb (522,356 kg)	1,700,000 lb (771,107 kg)	2,106,000 lb (955,265 kg)
Differential across flapper	5,000 psi (34.5 MPa)	5,000 psi (34.5 MPa)	5,000 psi (34.5 MPa)	10,000 psi (68.9 MPa)	5,000 psi (34.5 MPa)	5,000 psi (34.5 MPa)	5,000 psi (34.5 MPa)	5,000 psi (34.5 MPa)	5,000 psi (34.5 MPa)	5,000 psi (34.5 MPa)	3,000 psi (20.6 MPa)
Environment											
Suitable for H ₂ S	Yes	No	No	No	Yes	No	Yes	No	No	Yes	No
Suitable for CO ₂	No	No	No	No	Yes	No	No	No	No	No	No

