



Weatherford®

Blowout Preventers

The ONE stop for all blowout preventer (BOP) and pressure control equipment

Weatherford has built its worldwide reputation by providing the right equipment, available when it's needed, installed expertly and with the assurance of highest quality. These attributes are particularly necessary when renting blowout preventers and other pressure control equipment. At Weatherford, we offer the industry's largest inventory, available as part of a complete BOP package from a single source - rental, shop testing, service and installation.



Blowout Preventers

Ram-Type Blowout Preventers

Weatherford's available inventory of ram-type BOPs ranges in bore size from 2-inches to 30-inches, with working pressures to 25,000 psi. The various models, available with single or double ram sets and hydraulic or manual operation, are suited for virtually any workover, drilling, producing or snubbing application. The inventory includes Cameron® T, TL, U, UC, SQRC and UM models; Shaffer® Models SL, LWS, LWP and Sentinel®; Bowen and Hydril® models; and other manufacturers. Among the product features from these manufacturers are:

- A full range of preventer rams is available including blind, offset, shear, variable bore and specialty
- BOPs are available for high pressure, severe H₂S service
- Hinged bonnets for easy access to ram changeout
- API 16A monogram and compliance to NACE MR-01-75 for H₂S service
- Side rams for overall height reduction
- Field-replaceable bonnet cylinders, seals and pistons
- Automatic hydraulic locking systems available
- Internal fluid connections and hydraulic passages

Advantages of renting from Weatherford include:

- **Selection** - Weatherford stocks an enormous variety of annular and ram-type preventers and snubbing stacks from the major manufacturers - including *Cameron*, *Shaffer* and *Hydril*. Models are available to 30-inch bore size and pressures to 25,000 psi. BOPs for geothermal service are also stocked.
- **Accessories** - In addition to blowout preventers, Weatherford provides a full complement of accumulators, choke and kill manifolds, diverter valves and pressure control accessory equipment.
- **Availability** - Blowout preventers, control equipment, accessories and spare parts are readily available at Weatherford locations in more than 100 countries worldwide.
- **Quality** - All Weatherford BOPs and pressure control equipment are checked to verify its meeting OEM and API specifications, including specification 16A for drill-through equipment.
- **Experience** - Weatherford personnel know pressure control equipment. They are well trained and capable of testing and servicing any of the equipment available at Weatherford's rental locations.
- **Testing** - Prior to shipment to the well site, each blowout preventer is thoroughly hydraulically and hydrostatically tested to assure its reliable performance under pressure.

Annular Blowout Preventers

Weatherford offers a complete range of annular blowout preventers with bore sizes from 1 9/16-inches to 30-inches and working pressures to 20,000 psi. Models are available for onshore and offshore, surface and subsea applications. Inventory includes *Hydril* models GX®, GL® and GK®; *Shaffer* Spherical®; and *Cameron* models D and DL.

Among the product features are:

- Preventers meet API 16A standard and NACE MR-01-75 for H₂S service
- Quick packer changeout designs
- Uniquely designed seal elements for longer service life
- Many preventers are certified under DNV, ABS and Lloyd's of London
- Minimum of moving parts for efficiency, ease of maintenance, personnel safety and reduced downtime



Control Systems

Weatherford provides all the necessary blowout preventer control systems including accumulators, power assemblies, manifolds and control panels with accessories for remote operation. Range of accumulator features include:

- Electric, pneumatic, diesel or gasoline powered operation
- Two to nine station models available
- Hydraulic fluid capacity ranging from 20 to 210 gallons
- System pressures to 3,000 psi
- Units meet or surpass API representative 16E standards

Specialty BOPs

Weatherford's unique 30-in., 3,000 psi ram type BOP was specifically designed and built to handle large casing strings. It offers:

- Studded top and bottom connections
- Quick ram changes through hinged side doors
- Excellent performance in critical, deep wells or as a solution to diverter problems in shallow wells
- Faster closing than other BOPs, needing only 10 gallons of hydraulic fluid to close in 10 seconds



Snubbing Units

For "live-well" snubbing applications, Weatherford has the essential inventory available of high pressure equalizing loops and snubbing loops. These units can accommodate long or short stroke snubbing units and handle virtually any wellhead pressure.

Testing

Weatherford prides itself in its state-of-the-art BOP testing. In Lafayette Louisiana, our facility utilizes a specialized test bunker with capabilities of hydraulic test pressures to 6,000 psi and hydrostatic pressures to 30,000 psi. Tests are remotely conducted by technicians in a modern control room using four monitors connected to six observation cameras in the test chamber. Weatherford's test group has vast experience, with an average of 13+ years per man in this specialty.

The Weatherford engineered blanket test clamp safely and effectively seals the ram-type BOP flange for hydrostatic testing. The unique test device reduces make-ready time yet, by eliminating the conventional manual nipping-up process, it additionally promotes personnel safety.



Blowout Preventers

Bore Size	Pressure	Cameron®	Hydrii®	Shaffer®	Other
2" - 3-1/2"					Various manual & hydraulic for wireline
2-9/16"	5M		A		
3-1/16"	15M		SH		
4-1/16"	3M	SH			Regan A
4-1/16"	5M		A		Bowen SM, Dm, Regan A
4-1/16"	10M		A	A, SH	Bowen SM, SH, DH
4-1/16"	15M				Bowen SH, DH, & Foley SH, DH
7-1/16"	2M		A		WSI, KSI, Townsend SM, Regan A
7-1/16"	3M		A	SM, DM, DH, A	Guiberson SM, DM
7-1/16"	5M	SH, DH, A	DH, A	SH, DH, A	Flocan SH, DH, Guiberson DH
7-1/16"	10M	SH, DH, A	SH, DH, A	SH, DH, A	WSI, KSI, Townsend DH
7-1/16"	15M	SH, DH, A	A	SH, DH, A	
7-1/16"	20M	SH, DH, A			
9"	2M		A		
9"	3M		A	SM, DM, SH, DH, A	WSI, KSI, Townsend DH, Regan A
9"	5M		A	DH, A	
11"	3M		A	SM, DM, SH, DH, A	PATCO
11"	5M	SH, DH, A	A	DH, A	
11"	10M	SH, DH, A	A	SM, DM, SH, DH, A	
11"	15M	SH, DH, A	A	SH, DH, A	
13-5/8"	3M		DH, A	SH, DH, A	
13-5/8"	5M	SH, DH, A	SH, DH, A		
13-5/8"	10M	SH, DH, A	A	SM, DM, SH, DH, A	
13-5/8"	15M	SH	SH, DH, A	SH, DH, A	
16-3/4"	2M		A	SH, DH, A	
16-3/4"	3M	SH, DH, A	A	DH	
16-3/4"	5M	SH, A	A	DH	
21-1/4"	2M	SH	A	SH, DH, A	
21-1/4"	3M	SH		SH, DH	
21-1/4"	5M	SH	A	SH, DH, A	
21-1/4"	10M			A	
29-1/2"	500		A		
30"	1M				
30"	3M			A	Presco - SH

KEY: SH - Single Hydraulic SM - Single Manual A - Annular
 DH - Double Hydraulic DM - Double Manual

Note: 562, 675 and 862 Series pumps are also available on request.



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