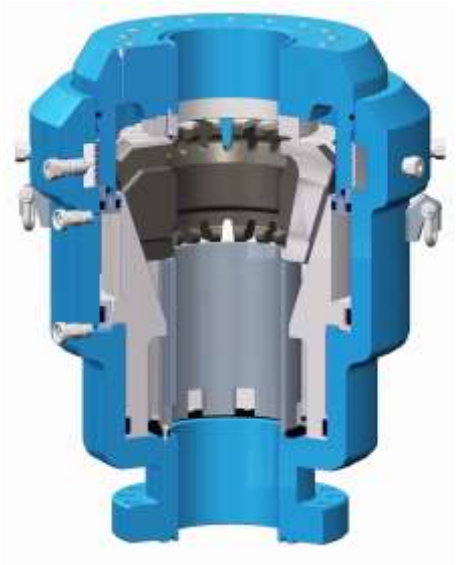


GENERAL DESCRIPTION:

Model **ARH** Annular Blowout Preventers used for drilling operations are designed to close the well and protect personnel and equipment by reliably stopping unexpected rash of oil, gas and drilling mud from the well bore.
The Annular Blowout Preventers seal the annulus around drill pipes, casings, tubing's or the hole when the strings of pipes, casings, tubing's are out of hole.
Model **ARH** Annular Blowout Preventers are available in bore sizes from 7 1/16" ÷ 20 3/4"
(21 1/4") and for 2000 to 10000 psi service. Operating pressure for hydraulic mechanisms is 1000 ÷ 2000 psi.
Model ARH meet all current API 16A requirements, made for standard or sour service application.

FEATURES AND BENEFITS:

Operating temperature
Model ARH & ARHA Annular Blowout Preventers are available with API Temperature ratings of T0 (-0F ÷ 250F), T20 (-20F ÷ 250F) and T75 (-75F ÷ 250F).

Annular packer
Wellbore pressure acts on the packing unit to increase the sealing force and maintain the seal in case of hydraulic pressure loss. Packing unit has the capacity to provide positive pressure control for stripping drilling pipe into and out of the hole. Annular packer is actuated by double acting hydraulic cylinders.

Body
Body Annular Blowout Preventers is provided with API flange connections.

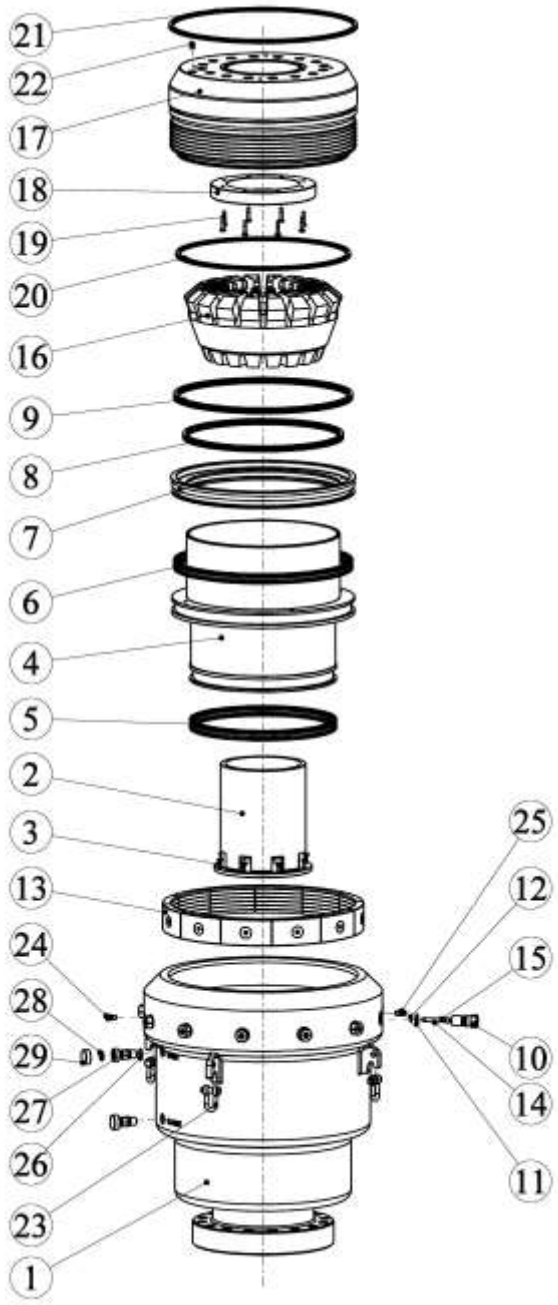
Bonnet
Quick-release head design with a split lock ring permits quick packing unit change-out with no loose parts involved.
Small sizes and low pressure screw head type

Hydraulically operated mechanisms
Hydraulically operated mechanisms provide fast and reliable closure of the well bore. Annular packer is actuated by double acting hydraulic piston, large „U" seals are used for dynamically sealing piston chambers. The opening chamber head prevent inadvertent contamination of hydraulic system during annular packing replacement.

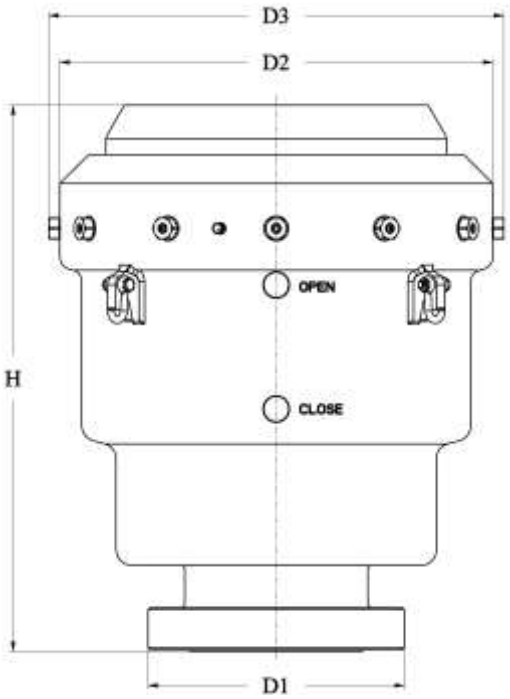
Maintenance
The Annular Blowout Preventers is designed to simplify field maintenance. Replaceable wear plate eliminated metal to metal contact between annular packing inserts and bonnet, making field repair fast and economical.

Hydraulic control connection
Quick hydraulic control connection for operation of annular packer. There are two 1" Wing Union.

Main components:



Item	Description
1	Body
2	Skirt
3	Bolt
4	Piston
5	Packing seal
6	Packing seal
7	Intermediary ring
8	Packing seal
9	Packing seal
10	Locking bolt
11	„O”-ring
12	„O”-ring
13	Locking segment
14	Gasket
15	Special bolt
16	Annular packer
17	Bonnet
18	Wear plate
19	Bolt
20	Sleeve seal
21	Sleeve seal
22	Plug
23	Lifting ring
24	Grease fitting
25	Vent fitting
26	Gasket
27	Special connector
28	Gasket
29	Plug



Size	PN		Dimensions			
			D1	D2	D3	H
inch	bar	psi	mm	mm	mm	mm
7 1/16”	140	2000	355	820	900	890
7 1/16”	210	3000	381	820	900	920
7 1/16”	350	5000	394	1020	1100	1100
*7 1/16S”	350	5000	480	1020	1180	1223
7 1/16”	700	10000	480	1045	1200	1230
9”	350	5000	483	958	1025	1180
11”	210	3000	546	860	1020	1010
11”	350	5000	584	1020	1105	1290
**11S”	350	5000	654	1020	1105	1350
11”	700	10000	654	1450	1580	1580
****11S”	700	10000	813	1450	1580	1740
13 5/8”	210	3000	610	1110	1175	1150
13 5/8”	350	5000	673	1140	1225	1435
***13 5/8S”	700	10000	768	1140	1225	1502
16 3/4”	210	3000	705	1250	1335	1500
21 1/4”	140	2000	813	1355	1530	1385
21 1/4”	350	5000	1143	1770	1850	2150

*) Lower flange: 7 1/16” - 10000 psi (700 bar)
**) Lower flange: 11” - 10000 psi (700 bar)
***) Lower flange: 13 5/8” - 10000 psi (700 bar)
****) Lower flange: 11” - 15000 psi (1050 bar)

Hydraulic fluid volume required to operate the blowout preventer:

Size	Max working pressure		Max. stroke	Hydraulic fluid volume			
				On unit piston stroke		On max. piston stroke	
				Close	Open	Close	Open
inch	bar	psi	mm	Liters/mm	Liters/mm	Liters	Liters
7 1/16”	140	2000	114	0.18	0.16	21	18
7 1/16”	210	3000	114	0.18	0.16	21	18
7 1/16”	350	5000	140	0,25	0,15	35	21
7 1/16S”	350	5000	140	0,25	0,15	35	21
7 1/16”	700	10000	140	0,28	0,18	39,2	25,2
9”	350	5000	146	0,20	0,15	29,2	21,9
11”	210	3000	155	0,25	0,20	38,8	31
11”	350	5000	185	0,25	0,15	46.6	32.2
11S”	350	5000	185	0,25	0,15	46.6	32.2
11”	700	10000	190	0,62	0,45	118	86
11S”	700	10000	190	0,62	0,45	118	86
13 5/8”	210	3000	181	0,25	0,15	45,3	27,2
13 5/8”	350	5000	246	0,22	0,20	54,2	49,2
13 5/8S”	350	5000	246	0,22	0,20	54,2	49,2
16 3/4”	210	3000	228	0,42	0,31	95,5	71,8
21 1/4”	140	2000	286	0,41	0,25	118	72
21 1/4”	350	5000	315	0,55	0,35	155	110

Working environments:

Depending on the working environment, Annular Blowout Preventers are manufactured on the following two types:

Manufacturing alternative type	Working environment
TRIM STANDARD	Drilling fluids based on water or oilfield products with 212˚F (100˚C) maximum temperature.
TRIM NACE*	Drilling fluids based on water or oilfield products with H_2S content acc. third class of NACE-MR-01.75, with 212˚F (100˚C) maximum temperature.