

Product Data Sheet

5-1/8" Compact Shear & Seal (CSS) Valve



Unity has developed the Compact Shear and Seal (CSS), a single ram BOP valve, which can be used to shear various conveyance systems offshore, during well intervention operations. This includes: Slickline Cables, SIS Hollow Rod and Coiled Tubing. The equipment consists of two hydraulically operated shear and seal rams, that can be pumped closed to form a seal against wellbore pressure. By incorporating static pistons inside ram cylinders, preventer rams can be operated in much smaller envelope than conventional BOP valves.



Benefits:

- Compact design to permit use in tight spaces
- Can be fitted through majority of rig hatches
- 50% lighter than conventional BOP design
- Technology platform for Triple/Quad BOP
- Capable of shearing high loads
- Suitable for shearing slickline, coil tubing and SIS hollow rods
- Easy in-field ram access without using a crane
- Replaceable rams for varying applications
- Replaceable cutting blades for low cost replacement parts

Specification:

Valve Type	Compact Shear and Seal – Single Ram
Valve Size	5-1/8"
Height	21.25"
Length	31.50" (Pins retracted)
Width	19.93"
Weight	2,100 [lbs]
Max. Wellbore Pressure (MWP)	5,000 [psi]
Max. Operating Pressure (MOP)	6,000 [psi] to close; 2,000 [psi] to open
Operating Temperature	Temp Class U (-18° C to +121° C)
Trim Level	EE, other trims AOR
Service	H2S, Sour Service
Interface	5-1/8" 6BX 10K Face/Flange Mount

Product Data Sheet

Compact Shear & Seal (CSS) Valve



Shear rating	100,000 [lbf]
Shear Ram Position Indicator	Yes, Through Indicator Pins
Ram Locking Device	Yes, Mechanical
Applicable Standards	API 6A: 21st Edition
	API 16A: 4th Edition
	API 16ST: 2nd Edition
	API 16D: 3rd Edition
	Nace MR0175: 2015
Qualification Level	API 16A PR1

Example of Cutting Capabilities:
Non exhaustive list. Additional Cutting
Capabilities are Available on Request

Unity SIS Hollow Rod	1.75" OD x 0.325" WT (80 ksi min. yield)
Coil Tubing	2.875" OD x 0.156" WT (100 ksi min yield)
	2.875" OD x 0.204" WT (100 ksi min yield)
	2.875" OD x 0.275" WT (100 ksi min yield)
	2.875" OD x 0.156" WT (130 ksi min yield)
	0.125" OD (220 ksi min yield)
Slickline	0.160" OD (220 ksi min yield)

