

Hydril® 18-15 WBSR-X & LX Series Rams

WBSR-X & WBSR-LX

Wireline Blind Shear Rams for shearing and sealing pipe and wireline.

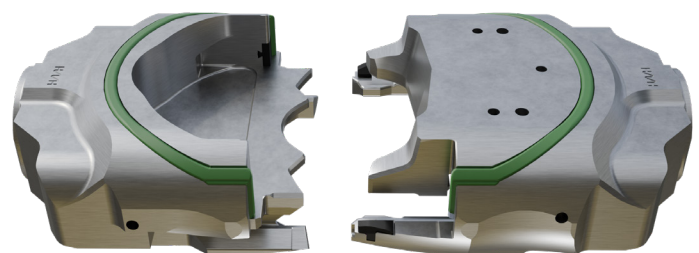
Product Description

HMH is continuously improving the shearing, sealing capability of our premier blind shear rams. The API 16A 4th Edition PR1 version of the WBSR was released in 2017. Since then, the drilling industry continues to require more efficient shearing and with more substantial tubulars. This results in a progression to the WBSR-X and WBSR-LX which represent the latest generation in shearing performance and continues the Hydril legacy of shearing and sealing a wide range of cables, pipes, and casing when needed most.

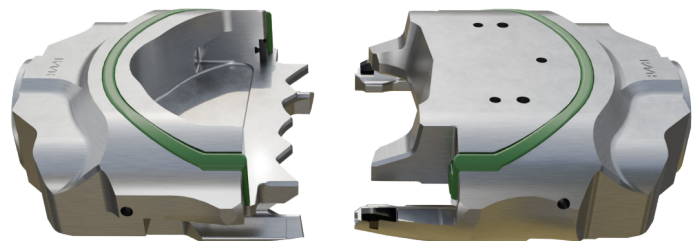
The evolution of the novel blade designs provide increased diametrical range, and/or greater shearing efficiency to comply with BSEE requirements in a single or multiple ram configuration. Product improvements will continue as HMH drives to further increase shearing capacity and efficiency.

Comparison

Efficient and consistent shearing and sealing of casing, pipe and wireline is a differentiator for high specification rigs. HMH has developed the X and LX versions to shear and seal the most difficult tubulars, to meet current regulatory requirements as well as challenging operator needs. Customers asked for greater efficiency on their drill pipe sizes and thus the WBSR-LX was developed to improve drill-pipe shearing efficiency with the same diametrical range of the WBSR. The comparison of these products is detailed in the table below.



WBSR-X



WBSR-LX

Product Efficiency Comparison				
Ram	6.625 Drill pipe	10.75 Casing	13.375 Casing	14.15 Casing
WBSR (2017)	good	good	N/A	N/A
WBSR-X (2025)	good	best	best	best
WBSR-LX (2026)	best	good	good, no seal	N/A



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Shear Pressure Comparisons (22"5K operator)

Shear Pressure (psi)		
Compact Ram Sample	WBSR-X (psi)	WBSR-LX (psi)
5.5" S-135 24.7#	1,352	1,161
6.625" V-150 57#	3,349	TBD
6.625" UD-165 57#	3,639	2,335
9.625 C-110. 52.4#	1,434	TBD
10.75 Q-125 85#	2,467	2,187
12.25" 134#	4,235	3,848
13-3/8" 72# Q125*	1,989	2,153
14.15" Q-125 127#	3,148	N/A
16.08 casing*	4,573	N/A
Wireline/Slickline	Yes	

*= shear / no seal

Technical Specifications for WBSR-X and WBSR-LX

Assembly Specification (16A Table 25)	Measurement
Bore (inches)	18 3/4"
Working pressure (psi)	15,000
Hydraulic operating pressure (psi)	5,000
Extreme low temp (°F)	20 (PR2), 10 (PR1)
Continuous hot temp (°F)	240
Extreme hot temp (°F)	350
High temp extended duration (°F)	250 (8 hrs)
H ₂ S	20%
CO ₂	5%
NACE Compliant	Yes, including all seal grooves
Metallic (°F)	-20/350 (LX 250, pending 350F analysis)
API 16A Compliance status	4th Ed.,PR2

