

DB-6-Series Top No-Go Lock

The DB-6-series lock is a top no-go locking device designed to be landed and locked in a DB-6 landing nipple and B-6-series hydraulic safety valve landing nipples.

APPLICATION

- Anchor and seal pressure control device in single or dual completions

BENEFITS

- One-trip setting
- One-trip retrieval
- Operational versatility

FEATURES

- Top no-go style lock
- Internal fishing neck
- Two hold-down mechanisms
- Tattletale on running tool
- Field-proven design
- Available in various materials
- Choice of sealing systems

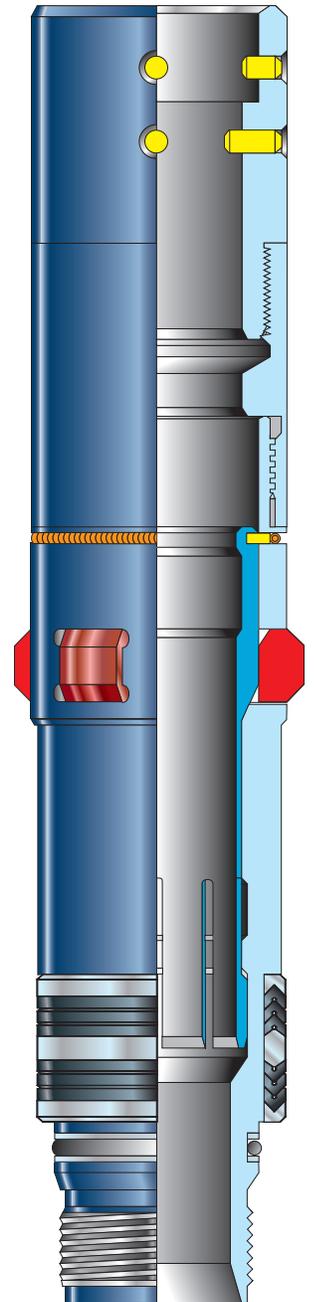
This lock anchors and seals an attached pressure-control device in position in the tubing string. It is used in applications involving differential pressures to 5,000 psi (34,475 kPa) from below the lock assembly. Pressure ratings for differential pressures from above the lock vary with each assembly. DB-6-MP locks are for medium pressure differentials above the lock and have a slightly larger no-go diameter.

DESCRIPTION AND OPERATION

The design of this lock series features an internal fishing neck that allows a large bore through the lock. When set in position, an internal sleeve, the expander tube, is held in the locked position by a collet and shear pins that prevent unlocking at high flow rates. The DB-6 lock is also designed to use the Z-6 tattletale type running tool. These tools give the slickline operator a positive indication that the assembly is installed in the nipple and is in the locked position. Optional high-temperature packing for temperatures above 300°F (149°C) is available for the DB-6 lock.

DB-6 locks can be attached to subsurface control devices such as surface-controlled subsurface safety valves, blanking plugs, and standing valves. The lock anchors the valve or accessory in position in the tubing string. The lock and accessory are landed in an appropriate nipple by standard slickline methods.

The DB-6 lock is run into the well on a Z-6 running tool. When the lock reaches the landing nipple, the no-go shoulder of the lock stops at the no-go shoulder of the landing nipple, preventing further downward travel of the lock and attachments. Downward jarring on the lock will shear the pins that hold the running tool plunger in the running position. With continued downward jarring, the collet moves down, its fingers engage the lock housing collet recess, and the lock seats in the landing nipple. The brass pins engage a groove in the collet when it is set. When the running tool is returned to the surface, the garter spring on the Z-6 running tool will have shifted position, indicating whether or not the lock is set properly.



DB-6-MP Top No-Go Lock

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The DB-6 lock is pulled from the landing nipple with a PRS-type pulling tool. The tool string is run into the well until the collet fingers of the PRS pulling tool engage the locking recess of the internal fishing neck in the lock. After pressure has been equalized across the assembly, upward jarring shifts the expander tube up, shearing the pins in the neck of the lock collet, and disengaging the fingers of the lock collet. As the lock collet is pulled upward, the locking dogs are released. Then the pulling tool, DB-6 lock, and attachments can be removed from the well.

DB-6-Series Top No-Go Lock Specifications				
Lock Type	No-Go OD (in. [mm])	Packing OD[†] (in. [mm])	Min. ID (in. [mm])	
DB-6	3.172 [80.6]	3.125 [79.4]	1.875 [47.6]	
	3.234 [82.1]	3.187 [80.9]		
	3.296 [83.7]	3.250 [82.6]		
	3.360 [85.3]	3.312 [84.1]		
	3.484 [88.5]	3.437 [87.3]		
	3.547 [90.1]	3.500 [88.9]		
	3.609 [91.7]	3.562 [90.5]	2.250 [57.2]	
	3.657 [92.9]	3.625 [92.1]		
	3.735 [94.9]	3.687 [93.6]		
	3.785 [96.1]	3.750 [95.3]		
	3.843 [97.6]	3.813 [96.9]		
	3.910 [99.3]	3.875 [98.4]		
	3.975 [101.0]	3.937 [100.0]		
	4.046 [102.8]	4.000 [101.6]		
	4.110 [104.4]	4.063 [103.2]		
	4.172 [106.0]	4.125 [104.8]		
	4.360 [110.7]	4.312 [109.5]		2.781 [70.6]
	4.482 [113.8]	4.437 [112.7]		
4.545 [115.4]	4.500 [114.3]			
4.610 [117.1]	4.562 [115.9]			
5.732 [145.6]	5.687 [144.4]			
DB-6-MP	5.740 [145.8]	5.750 [146.1]	4.000 [101.6]	
DB-6	5.795 [147.2]	5.750 [146.1]		
	5.858 [148.8]	5.813 [147.7]		
DB-6-MP	5.890 [149.6]	5.813 [147.7]		
DB-6	5.920 [150.4]	5.875 [149.2]		
	5.982 [151.9]	5.937 [150.8]		
	6.045 [153.5]	6.000 [152.4]		

[†] Other sizes are available on request. Contact your local Schlumberger representative.

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