

# Mud-Chek AP

## Advanced-Performance Kelly Mud Saver Valve

### APPLICATIONS

- Rotary rigs utilizing a kelly drive can benefit from the use of a Mud-Chek AP\* advanced-performance kelly mud-saver valve
- Top drive rotary rigs can benefit from the use of a Mud-Chek AP mud saver valve
- Hazardous drilling fluids can be effectively contained, reducing environmental impact and subsequent clean-up costs

The Mud-Chek AP mud saver valve is designed to eliminate the undesirable loss of drilling fluid when making a connection. Placed on the end of the kelly, it opens from pressure when the rig pumps are engaged, enabling circulation down the drill string. The Mud-Chek AP closes when circulation is stopped, trapping the drilling fluid inside the kelly, thus making drill string trips drier, faster and safer.

### Designed to withstand extreme drilling conditions

- 850 gpm mud flow rate
- 4,500 psi drill string pressure
- 18 ppg mud density
- 30% solids content

### Wireline operation eliminates risk

- No need to use an overshot and deal with the complexities of shearing pins and retrieving a spear assembly
- Easy to use sinker bar breaks a plastic cap for wireline operations

### Designed for superior durability & reliability

- The geometry is optimized using fluid flow analysis to reduce erosion in critical areas.
- Solid tungsten carbide seat reduces wear and improves reliability.
- Backflow feature permits pressure equalization in the kelly, allowing normal drill pipe readings at the standpipe.
- Rugged design extends tool life, eliminating the need to make and break connections to pick up a backup mud saver valve during a job.

### Low crack pressure and pressure drop

- Valve cracks open at 150 psi to allow holding at least 100 ft of 18 ppg mud.
- Maximum pressure drop through the valve is 100 psi.



*Mud-Chek AP in open position*

# Mud-Chek AP



Mud-Chek AP in closed position

## Increased safety for higher productivity

- Eliminates mud loss during connections.
- Eliminates rig time lost waiting for the kelly to drain.
- Dry rig floor reduces the risk of a serious accident.
- Improves crew efficiency when racking back tubulars.

## Compact easy to use design

- 36 inches shoulder-to-shoulder
- Doubles as a kelly saver sub

## Completely automatic operation

- Closes immediately when the mud pumps are shut down
- Opens when mud flow is resumed
- No manual intervention required

### Mud-Chek AP Specifications

	4 3/4 in	5 1/4 in	6 1/2 in
Minimum Flow area in Open position, in <sup>2</sup>	4.75	4.75	3.98
Length (Shoulder to Shoulder), no protector, in	34	34	36
Length (Shoulder to Shoulder), protector, in	N/A	N/A	40
Connections (API)	NC38, 3 1/2 IF	NC40	NC46, NC50, 4 IF
			4 1/2 IF
Tool Sub OD, in	4 3/4	5 1/4	6 1/2
Tool Sub ID, in	2 1/4	2 1/4	2 13/16
Tool Sub Weight (No rubber protector groove), lbm	105	140	212
Valve weight, lbm	18	18	36
Valve Crack Pressure, psi	200	200	150
Maximum Pressure Drop (After Valve Opens), psi	100	100	100
<b>Max Operating Limits</b>			
Flow Rate, galUS/min	400	400	850
Drill String Pressure, psi	4500	4500	4500
Mud Density, lbm/galUS	18	18	18
Solids Content, %	30	30	30
Sinker bar for wireline, in	1 11/16	1 11/16	1 3/4
Sinker bar length for wireline, ft	8	8	3
Impact strength of knock out cap, ft.lbf	875	875	144
Clear opening with knock out cap ruptured by sinker bar, in	1 3/4	1 3/4	2

[www.slb.com/mud-chekAP](http://www.slb.com/mud-chekAP)

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