



ProPhase™ Well Test Valve

The ProPhase™ Well Test Valve is Halliburton's premier telemetry controlled electrohydraulic tester/circulation valve that combines the functionality of a downhole Tester Valve and a Circulating Valve into one tool. The tester valve controls the flow from the reservoir and is joined with the circulating valve to enable kill-weight fluids to be pumped into or out of the wellbore. The ProPhase valve is integral to Halliburton's RezConnect™ acoustic telemetry system, enabling acoustic control and feedback of the Tester and Circulation Valves. Additionally, the ProPhase valve can be operated with low-pressure annulus commands as a redundant control method.

The mechanical and electronic controller assemblies of the ProPhase valve can be serviced and maintained at the rig site where they can also be tested independently. With its modular design, the Electronic Telemetry Controller Sub-Assembly can quickly and completely isolate electronics from a large-scale mechanical assembly. This interchangeability decreases down time if a redress/controller exchange is required.

Acoustic Telemetry Control Method

Both the mechanical assembly and electronics controller assembly can be completely serviced and function tested independent of each other. (The mechanical assembly can be function tested without electronics.) If required, both the mechanical and electrical controller assembly can be maintained at the rig site.

Pressure Telemetry Control Method

The Pressure Telemetry Control Method can be used as either a primary method of the ProPhase valve operation or as a secondary backup method of tool operation when used with the the RezConnect™ system. The Pressure Telemetry Control Method operates the tool, based on user-defined pressure differentials, whereby unique pressure annulus profiles are interpreted by the tool to execute tool movements. Low-pressure annulus profiles enable the tool to be operated in deeper (high-hydrostatic) environments, which can simplify job planning and costs, such as minimizing the need for premium casing and enabling additional tools to be run in a single sting. The pressure telemetry is hydrostatic independent, which permits multizone testing or operations to be accomplished in a single trip.

Integrated Circulating Sleeve / Ball Valve

The ProPhase valve has an integrated circulating sleeve/ball valve, enabling the operator to spot cushion or reverse circulate just above the closed tester ball valve. This feature reduces debris fallout on top of a closed ball.

Tool Override

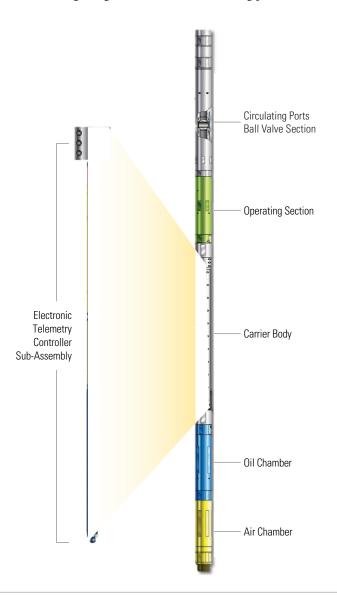
If the tool becomes unresponsive for any reason, then it can be completely disabled with a rupture disc override, downhole to a pipe condition.

Extra Carrier Slot

The ProPhase valve contains a secondary slot within the carrier body, enabling a memory gauge to be run with a pressure tap below the tester ball valve (single battery condition). This secondary slot can alternately be used for double battery configuration for extending-duration well testing.

Industry Leading Circulating Rates

The ProPhase valve provides the industry with high circulating rates through large area (3.61 in²) circulating ports.



OD O	5.25 in.	
D	2.25 in.	
and Connections	3 % CAS	
Лаke-Up Length	33.95 ft	
Circulating Flow Area	3.61 in. ²	
ervice (NACE MR-0175)	H ₂ S/Acid	
Design Ratings		
Differential Pressure Rating	15,000 psi (1,034 bar)	
absolute Pressure Rating *	25,000 psi (1,724 bar)	1
Pensile Rating	357,000 lb (161,932 kg)	1
alve Operating Range*	2,000 to 25,000 psi (138 to 1,723 bar)	
Number of Movements	40	~
Emperature Rating	320°F (160°C)	
Hydrostatic pressure plus applied pressure. Contingent	on not exceeding the differential pressure rating.	0
Ball Valve Pressure Ratings		c
Differential Across Ball From Above		0
tatic	15,000 psi (1034 bar)	0
Opening	1,000 psi (68.9 bar)	0
Differential Across Ball From Below		0
tatic	15,000 psi (1,034 bar)	1
Opening	5,000 psi (344.7 bar)	
Circulating Valve Pressure Ratings		
Differential Across Seal From Inside		
tatic	15,000 psi (1,034 bar)	
pening	0 psi (0 bar)**	
Recommend minimal ID to OD (tubing to annulus) d	lifferential pressure when opening circulating valve.	
across Seal From Outside		
tatic	15,000 psi (1,034 bar)	
Opening	5,000 psi (344.7 bar)	
Battery Autonomy		
ingle Battery	15 days at 320°F (160°C) 20 Days at 300°F (150°C)	1116
Double Battery	30 days at 320°F (160°C) with Double Battery Kit	

HALLIBURTON

www.halliburton.com

Sales of Halliburton products and services will be in accord solely with the terms and conditions contained in the contract between Halliburton and the customer that is applicable to the sale.

H011190 $\mbox{@}$ 2014 Halliburton. All Rights Reserved.