



CIRULATION BYPASS VALVE

"LIMIT THE LESS WITH LIMITLESS..."

Vigor USA's latest technology LIMITLESS Circulation Bypass Valve is engineered to provide multiple-opening circulation with unlimited activation of "on" and "off" by a single ball drop that changes the drilling fluid flow path from the ID of the string (non-bypass) to the annulus (bypass).

FEATURES AND BENEFITS

- » Safe, Reliable and easy operation with only one ball
- » The working mode for bypass and non-bypass can be switched easily within 10 seconds when the ball seating is activated
- » Limitless cycling flow rate control with on-ball activation
- » Different ball sizes with flexibility for various string IDs
- » Configure anywhere in the drill string above a tool that does not require fluid to pass through the water hole
- » Saves time by avoiding unwanted wasted trips for an exhausted ball catcher
- » Empty the strings automatically during tripping
- » Fishing can be operated below the tool, open through bore before activation, or by a fishing ball
- » Ports will be automatically closed when pump flow is significantly reduced, to keep the control well safe.

SPECIFICATION

1	Tool OD	4.75 " (121mm)	6.50 " (165mm)	7.00 " (178mm)	8.00 " (203mm)
2	Connections	NC38	NC50	NC50	6-5/8REG
3	Tool ID	1.25 " (31.8mm)	1.875 " (47.6mm)	1.875 " (47.6mm)	2.375 " (60.3mm)
4	Bypass Port ID	2×0.75 " 2×19mm	2×0.97 " 2×24.6mm	2×0.97 " 2×24.6mm	2×1.38 " 2×35mm
5	Non-Bypass Port ID	2×0.70 " 2×17.8mm	2×0.96 " 2×24.4mm	2×0.96 " 2×24.4mm	2×1.13 " 2×28.7mm
6	Standard Activation ball OD	1.63 " 41.3mm	2.25 " 57.2mm	2.25 " 57.2mm	2.5 " 63.5mm
7	Tensile Yield	500,000lbs (2222.5kN)	1,250,000lbs (5556.3kN)	1,250,000lbs (5556.3kN)	1,800,000lbs (8001kN)
8	Torsional Yield	30,000ft-lbs (40.7kN.m)	50,000ft-lbs (67.8kN.m)	50,000ft-lbs (67.8kN.m)	110,000ft-lbs (149kN.m)
9	Max. recommended Operating Torque	18,000ft-lbs (24.4kN.m)	30,000ft-lbs (40.7kN.m)	30,000ft-lbs (40.7kN.m)	60,000ft-lbs (81.3kN.m)
10	Max. allowable flow rate	700gpm (2650L/M)	900gpm (3401L/M)	900gpm (3401L/M)	1,400gpm (5299L/M)
11	Activation flow rate (water)	230gpm (871L/M)	430gpm (1628L/M)	430gpm (1628L/M)	580gpm (2195L/M)
12	Shoulder to Shoulder Length	82.5 " (2096mm)	81.125 " (2060mm)	81.125 " (2060mm)	96 " (2438mm)

Notes: Optional non - standard diameter activation balls are available upon request to accommodate different drill string diameters (optional activation ball diameter is respectively 1.14", 2", 2.38")

