

Tornar® Balanced Circulation Valve

Clean and solids-free wellbore

The Tornar® Balanced Circulation Valve is a circulating sub for wellbore clean-up and displacement applications, boosting the annular velocity in the wellbore casing and liner annulus. It can be part of a complete wellbore cleaning tool string used during the displacement process before running completion.



Features & Benefits

- Fluid velocity balance in different size wellbores
- Operation at maximum parameters
- No external nuts or bolts
- Heavy duty clutch assembly
- High strength mandrel
- Simple to run
- Multiple run possible

The Tornar® Balanced Circulation Valve achieves a higher flow rate to be pumped up the production casing, circulating through the liner and the production casing. The result is a balanced fluid velocity in the wellbore annulus during displacement. The valve can isolate the lower drill string rotation during circulation. It is in first position when run in hole, allowing torque transmittal to upper and lower drill string while circulating 100% of the flow through the tool. In this position, the velocity booster ports are closed.

The Tornar® Balanced Circulation Valve can open velocity booster ports to the annulus, allowing a higher flow rate to be pumped up the production casing than normally possible in liner and production casing. This balances the fluid velocity in the different size wellbores during displacement. It is used for displacements, post-perforating, pre-fracturing, multi-zone completions, milling, burning, fishing, and smart completions.

Specifications

Casing size	9 5/8 and up
Comm. no	601-09-0001
Max OD	171.45 mm / 6.75"
Thread	NC 50 box/pin
ID	50.8 mm / 2"
Overall length	2020 mm / 79.53"

General Operating Parameters

Size	9 5/8"
Tensile Yield	460 tons / 1014684 lbs.
Torsional strength	51114 Nm / 37700 ft. lbs.
Max rotation RPM	150
Working temperature	150°C / 302°F
Max. trip speed in casing	45 m/min / 150 ft/min
Maximum operation pressure	345 bar - 5000 psi
Material (main body)	AISI 4145M 110 KSI / 125 KSI
Force to open	87 kN - 348 kN / 20 000 - 80 000 lbs.



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