

# Tornar® Circulation Valve

## Clean and solids-free Wellbore



The Tornar® Circulation Valve removes debris from the wellbore rapidly and reliably. Its unique design utilizes Tornar® flow ports to create a powerful cyclone to clean and optimize well fluid velocity.

The Tornar® Circulation Valve can be integrated as a part of a complete wellbore cleaning string used during displacement process for optimum fluid velocity and cleaning. Improper cleaning can possibly damaging or plugging the productive zone, and impeding the running of the completion assembly. Proper cleaning contributes to a successful completion and reduces the potential for wellbore contamination.

The Tornar® Circulation Valve can also be integrated as a part of the Tornar® Sub Sea BOP cleaning string for cleaning Wellhead areas prior to cleaning BOP and Riser. The Tornar® Circulation Valve is then positioned below the Tornar® BOP Cleaner. You can now clean the Wellhead and BOP in one run.

### Benefits

- Secure wellbore integrity
- Reduced downtime
- One run BOP and wellhead cleaning
- Large flow areas
- Cyclone effect keeps solids afloat
- Increased fluid pressure for more effective cleaning
- No limitations on running speed
- No run in hole restrictions

### Features

- Optional flow split sleeve
- Tornar® flow ports
- Stabilizer blades for support on low side
- Drill pipe or premium connection
- One piece mandrels. No parts lost in hole
- Up to 75 rpm rotation
- Large flow by area
- High circulation rates (6500lpm)

### Specifications

Size, in [mm]	8.30	Min recommended rump rate	3500 lpm
Max OD, in	8.30	Max rotation speed	75 rpm
Drift ID, in	2.25	Max allowed Tensile (lbs)	1,175,450 lbs
Tool Joint OD	6 5/8	Torsional strength (ft. lbs)	116,206 ft. lbs
Nozzle diameter, mm	Ø18mm x 12]	Pressure rating- shifting sleeve*	1200 - 1700 psi
Max tripping speed in casing	200 ft/min	Shifting method	2 3/4" steel ball
Recommended cleaning speed in casing	0.5 ft/min	Max working temp	150°C
Recommended rotation speed while cleaning	15 rpm	Material main body	AISI 4145M
Max pump rate	6,500 lpm	Connection	NC-50 box/pin]

\* can be used without the shifting sleeve