

Pressure Balanced Pump Open Sub

The Omega Pressure Balanced Pump Open Sub is designed to provide an equalising facility, prior to the retrieval of a bridge plug or blanking Plug. Alternatively, by attaching the pump open sub to any packer or lock, it provides a positive barrier between the tubing and the well bore fluid below.

The piston arrangement on this version of the tool removes the requirement of having to apply pressure greater than the BHP to equalise. This is beneficial in aged wells where applied pressures should be kept to a minimum. The pressure balanced pump open sub is run in hole in the closed position. Pressure can be applied to the tubing to pressure test and set completion equipment above the tool. The pressure balanced pump open sub is opened to allow equalisation prior to the retrieval of the plug or lock, or to allow production well fluid to flow up into the tubing above.

This is achieved in one of two ways. Pressure can be applied to the tubing which results in a load being applied to the shear screws. Once a predetermined load is reached the screws shear, allowing the plunger to drop down inside the larger bore.

A snap ring on the plunger then engages in a recess within the lower bore positively locking the tool open. The plunger can also be mechanically pushed off seat using a prong. Sufficient load needs to be transferred through the plunger into the shear screws, the plunger is then pushed to the bottom of the tool and locked in position.

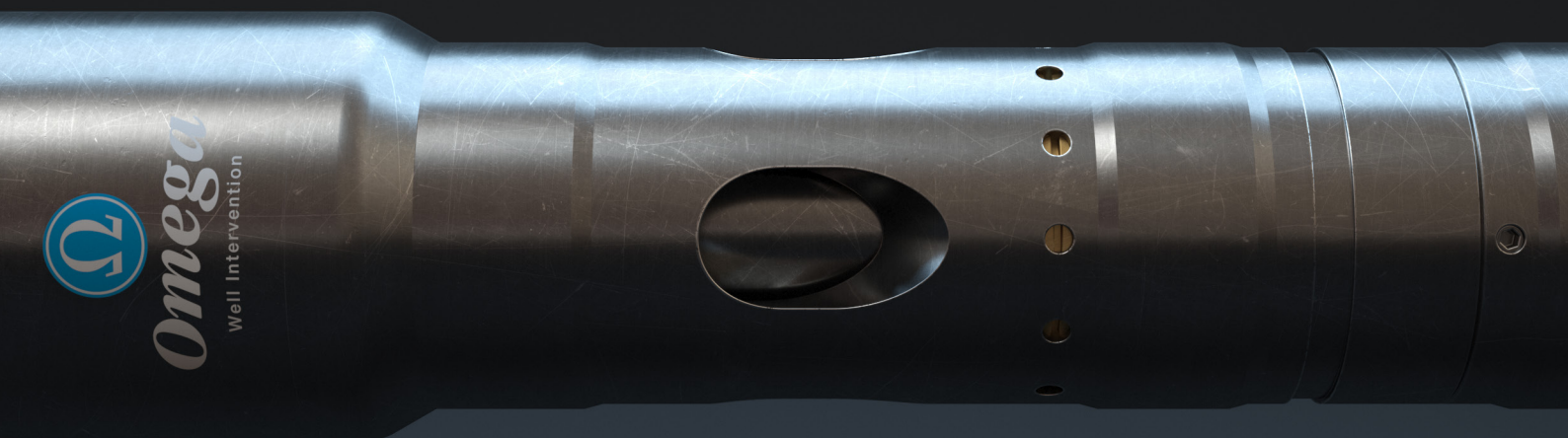
Technical Specifications

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Pressure Balanced Pump Open Sub

Tool Size	2-3/8"	2-7/8"	3-1/2"	4-1/2"	5-1/2"
End Connections	To suit packer / lock	To suit packer / lock	To suit packer / lock	To suit packer / lock	To suit packer / lock
Material	AISI 4140 / 13Cr	AISI 4140 / 13Cr	AISI 4140 / 13Cr	AISI 4140 / 13Cr	AISI 4140 / 13Cr
OD	1.75"	2.20"	2.25"	3.25"	4.20"
ID	0.39" min	1.25" min	1.25" min	1.75" min	2.50" min
Flow Area	0.121 in ²	1.231 in ²	1.231 in ²	2.411 in ²	4.910 in ²
Length	10.60"	11.70"	11.70"	17.60"	22.60"
Pressure Rating	7,500 psi	5,000 psi	5,000 psi	5,000 psi	5,000 psi
Max Operating Temp	150°C	150°C	150°C	150°C	150°C

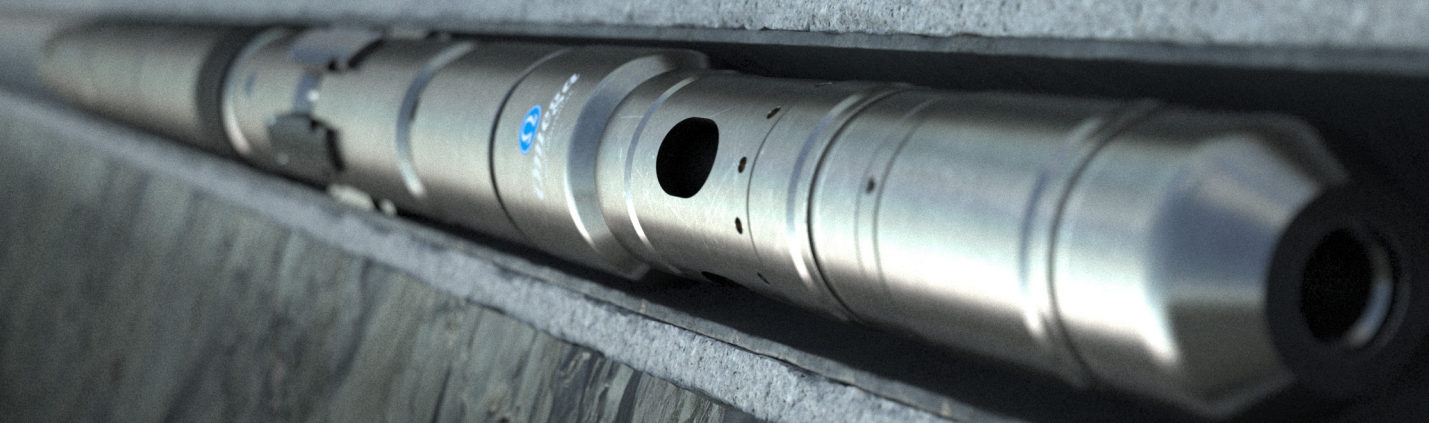
Other sizes, material and ratings available on request.



Features - Applications - Benefits

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FEATURES

- Balanced piston reduces amount of pressure input required at surface.
- Equalised via mechanical impact or by applying a predetermined pressure from above.
- Fully adjustable activation pressure.
- Once equalised the device is retained in the open position.
- All shear screws are retained within the tool.

APPLICATIONS

- Temporary well suspension.
- Completion or workover operations.
- Tubing integrity testing.
- Zonal isolation.
- High debris potential applications.

BENEFITS

- Simple maintenance and field redressable.
- Variable actuation pressure.
- Extendable debris sump.
- Easily adapted to any RBP or flow control lock.