



BOW SPRING CENTRALIZERS

These are the most commonly used centralizers.

They consist of two parts: bows and end rings. The bows of centralizers have a special 'bow spring' action hence these can be flexed under external pressure. Since the bow springs are slightly larger than the wellbore, they can provide complete centralization in vertical or slightly deviated wells. However, they do not support the weight of the casing very well in deviated wellbores.



End Ring



Bow



RIGID POSITIVE CENTRALIZERS

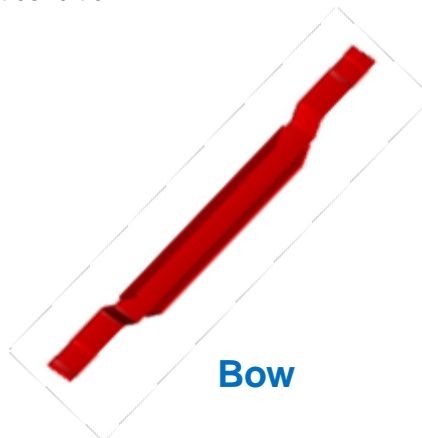
The second type is a rigid blade design.

This type is rugged and works well even in deviated wellbores, but since the centralizers are smaller than the wellbore, they will not provide as good centralization as bow-spring type centralizers in vertical wells.

Rigid-blade casing centralizers are slightly more expensive and can cause trouble downhole if the wellbore is not in excellent condition.



End Ring



Bow





NeOz INNOVATION

The Stello-N -Centralizer is a NeOz patent* centralizer designed By **NeOz** which is a single piece construction bow spring centralizer with the ability of an inbuilt extremely low friction buttons.

The single piece construction uses high quality spring steel to give a robust strength to the centralizer.

This special centralizers serves two primary purpose.

The single piece construction provides the maximum standoff.

It gives the strength of rigid centralizers with the flexibility of a bow spring centralizer.

The solid high tensile low friction buttons provides two most important features:

- It gives the lowest co-efficient of friction as there is no contact between the bows and the borehole.
- Thus the friction is only generated at the point of contact of the buttons.
- It provides maximum torque reduction in open and cased hole situation.



THE TWISTO-N-CENTRALIZER IS A NeOz patent* centralizer designed By NeOz which is a single piece construction spiral bow spring centralizer which gives 360 degree casing centering with extremely easy casing rotation and reciprocation with no weak points.

The single piece construction uses high quality spring steel to give a robust strength to the centralizer.

This special spiral centralizers serves the following purpose.

The single piece spiral construction acts as a canopy which gives the casing a complete 360 degree centering.

It makes casing rotating and reciprocation extremely easy.

Encountering ledges is not a problem for this centralizer as a little rotation or reciprocation of the casing bypasses the ledges.





SOLID CENTRALIZERS

The third type is a rigid/solid blade design.

This type is specifically suited for the complex wellbore trajectories of today. It has robust design, low co-efficient of friction and angular blades.

Presently they are available in Cast Steel, Cast Aluminum and Cast Zinc Alloys.

They are also produced with welded steel blades which are known as Spiroglader, these are light in weight as well as robust in nature.



STOP COLLARS

The primary function of stop collars is to limit the movement of Centralizers onto the casing pipe.

Stop Collars are able to withstand high axial forces with 'one go' locking system which makes them the primary choice of drilling operators.

They are available in following types:

- 1) Hinged type with Spiral Nail
- 2) Hinged type with Grub Screws
- 3) Hinged type with Bolts
- 4) Slip on type with Grub Screws



FLOAT EQUIPMENT

Floating equipment is generally used in the lower section of the well to help: Reduce strain on the derrick while guiding casing past ledges and slough zones in the hole;

Provide a landing point for bottom and top cementing plugs (pumped ahead of and behind the slurry as part of cementing operations); Provide a backpressure valve to prevent cement from flowing back into the inner diameter of the casing after the cement has turned the corner into the annulus and the top plug has been bumped.

FLOATS AND PLUGS

- 5) Single and Double Valve Float Shoe
- 6) Up Jet and Down Jet Float Shoe
- 7) Stab in Float Shoe
- 8) Single and Double Valve Float Collar
- 9) Stab in Float Collar
- 10) Guide Shoe
- 11) Reamer Shoe
- 12) Standard Top Plug
- 13) Standard Bottom Plug
- 14) Non Rotating Top Plug
- 15) Non Rotating Bottom Plug





THREAD LOCKING COMPOUND

NeOz Thread Locking Compound is a two part epoxy with metallic fillers that can be used to permanently lock threaded connections under normal operating conditions. It is designed for use on all threaded joints or fasteners where an exceptionally strong and durable bond is required. It is specially used on drilling tools, casing and other tubulars where effective prevention of joint loosening is required.

NeOz API Modified (High Pressure Thread Compound) API-MODIFIED will seal and withstand pressures to 10,000 psi and will not harden or dry. Its lubricating characteristics reduce friction in the makeup of casing and tubing, preventing galling and wear. Maximum thread engagement is ensured, providing optimum leak resistance.



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