



FLOAT EQUIPMENT



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Eneroil Float equipment is a key component when running casing and performing cementing operations. While running casing, it is used to control casing fill and isolate clean circulating fluids from the well-bore fluids. When surge on the formation is a concern, it can be configured to auto-fill to prevent formation damage. During cementing operations, float equipment is essential for preventing back-flow while also serving as a landing point for wiping plugs.

Eneroil Float equipment is manufactured to the highest quality standard as per API specifications. Quality control testing and inspection is all performed by trained Eneroil technicians. Both standard and highly customized equipment is available in sizes 4½" - 30".



SPECIFICATION GUIDE

SIZE (in.)	WEIGHT (PPF)	OD (in.)	ID (in.)
4½	9.5-13.5	5.000	4.281
5	15-18	5.563	4.406
5½	14-17	6.050	4.969
5½	20-26	6.050	4.750
7	17-26	7.875	6.453
7	29-38	7.875	6.125
9⅝	36-43.5	10.625	8.906
9⅝	47-53.5	10.625	8.656
13⅜	48-68	14.375	12.625
13⅜	72-98	14.375	12.250
16	55-65	17.000	15.312
16	75-109	17.000	15.031
18⅝	78 & HVR.	20.000	17.843
20	90 & HVR.	21.000	19.125

NOTE : Float Equipment can be supplied in different grades of material with end connections in standard or premium thread as per customer requirement.

SINGLE VALVE CEMENT FLOAT SHOE & COLLAR

Eneroil Cement Float Shoe & Collar offers dependable performance for all classes of oil and gas wells. The Plunger Type valve prevents cement back-flow, provides casing buoyancy during run-in, and acts as an internal BOP during the process of running and cementing the casing.

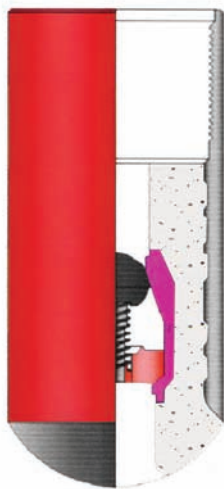
Float equipment is manufactured to match customer's casing specifications. All float shoes and float collars are **PDC** drillable.

FEATURES AND BENEFITS

- Fast drill-out
- Valve parts-will not damage PDC bits.
- Operator-controlled buoyancy-regulated by filling casing at surface.
- Cost effective

CEMENT FLOAT SHOE

S-FSSV-S100-01



CEMENT FLOAT COLLAR

S-FCSV-S101-01



DOUBLE VALVE CEMENT FLOAT SHOE & COLLAR

Eneroil Double Valve Cement Float Shoe & Collar offers dependable performance for all classes of oil and gas wells. The valve prevents cement back-flow, provides casing buoyancy during run-in, and acts as an internal BOP during the process of running and cementing the casing.

The Double Valve Float Shoe and Collar acts as an extra back pressure valve sealing against pressure from below when floating in a liner or casing.

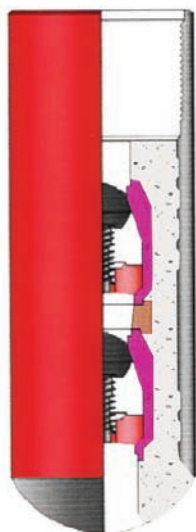
Float equipment is manufactured to match customer casing specifications. All float shoes and float collars are PDC drillable.

FEATURES AND BENEFITS

- Fast drill-out
- Valve parts-will not damage PDC bits.
- Operator-controlled buoyancy-regulated by filling casing at surface.
- Double Valve acts as an extra back pressure valve.
- Cost effective

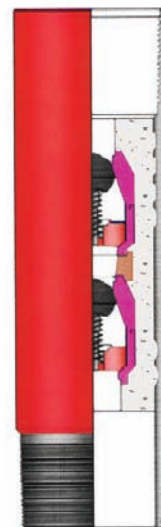
CEMENT FLOAT SHOE WITH DOUBLE VALVE

S-FSDV-S100-04



CEMENT FLOAT COLLAR WITH DOUBLE VALVE

S-FCDV-S101-02

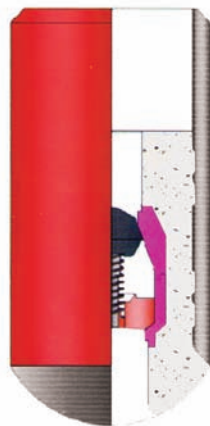


BUTT WELD FLOAT SHOE & COLLAR

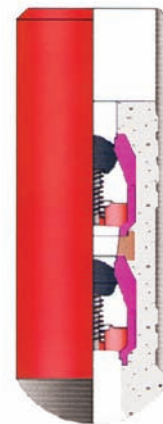
Eneroil Cement / Plunger-type Float equipment offers dependable performance for all classes of oil and gas wells. The valves prevent cement backflow, provide casing buoyancy during run in, and acts as an internal BOP during the process of running and cementing the casing.

Float equipment is manufactured to match customer's casing specifications. All plunger type cement float shoe & collars are PDC drillable. Butt Weld Casing Collar O.D. matches with the casing O.D. and the upper end is only bevelled, not recessed for directly welding on to the casing pipe.

BUTT WELD FLOAT SHOE WITH SINGLE VALVE
S-FSSV-BW-S100-23



BUTT WELD FLOAT SHOE WITH DOUBLE VALVE
S-FSDV-BW-S100-24



BUTT WELD FLOAT COLLAR WITH SINGLE VALVE
S-FCSV-BW-S101-11



BUTT WELD FLOAT COLLAR WITH DOUBLE VALVE
S-FCDV-BW-S101-12



STAB-IN CEMENT FLOAT SHOE & COLLAR

Stab-In cementing is an improved method for cementing large diameter casing. Conventional method require excessive amounts of cement to ensure cement circulation to the surface because of open hole volume, losses to the formation, or mud displacement efficiency that cannot be determined with sufficient accuracy. In addition, large plugs must be used to separate the cement from the mud and have to be drilled out, along with any cement in the casing. With stab-in cementing, the drill pipe is stabbed directly into the Float Shoe or Collar and cement is pumped through the drill pipe until it returns to reach the surface. Cement is then displaced to the bottom of the drill pipe, a wiper dart can be used. The drill pipe is then picked up, circulated, and pulled out of the hole.

The Stab-In Float Equipment is used for cementing large diameter casing, lowered on drill pipe. The string presents special cementing consideration due to high displacement volume of large diameter casing. Problems with high displacement are overcome by using Stab-In cementing equipment to allow cementing through drill pipe.

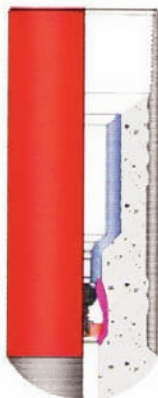
The Stab-in cementing equipment is available in size 9 $\frac{5}{8}$ "-30".

The Stab-in cement Float Shoe & Collar are also available with Double Valve and any combination.

FEATURES AND BENEFITS

- Improves displacement accuracy - cement mixing, while pumping continues until cement returns to reach the surface.
- Get better cementing quality - reduced cement/mud interface area and high velocity of flow in the drill pipe minimizes cement contamination while the short pumping time eliminates the need for cement retarders.
- Reduces cement volume - conventional displacement requires calculation of excess cement factor, whereas with Stab-in methods excess cement needs to be not greater than the volume of the drill pipe. No large plugs are needed.
- Reduces rig time - circulating, pumping, and drill-out time is minimized.
- Protects casing - cementing pressures are confined to the drill pipes in a squeeze job.

STAB-IN FLOAT SHOE
WITH SINGLE VALVE
S-SIFSSV-100-0



STAB-IN FLOAT COLLAR
WITH SINGLE VALVE
S-SIFCSV-101-03



STAB-IN SEAL
SUB
S-SISS-103-01



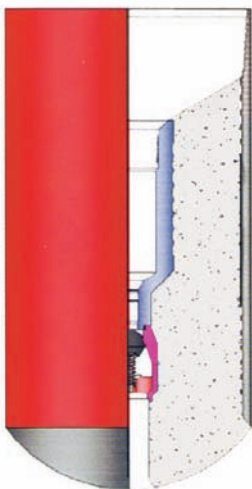
DUPLEX CEMENT FLOAT SHOE & COLLAR

Eneroil Duplex Shoe and Collar sizes 9 $\frac{5}{8}$ " to 30" are furnished with heavy duty duplex connection. These heavy duty connections have 4" O.D. left hand threads, 3 $\frac{1}{4}$ " to 1" bores, and are capable of carrying 100,000 lbs. with a minimum safety factor 2. Special accessories products are available for use with large Duplex Equipment. The Tubing Seal Nipple has field proven Chevron Seals for positive sealing of the nipple in the seal bore.

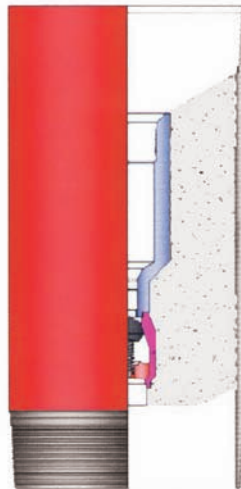
Duplex Cement Float Shoe and Collar has an expandable left hand latch mechanism which allows the nipple to be "stabbed" into the duplex connection, and when up-strain is applied the latch is expanded to provide full engagement in the duplex assembly. The nipple is released by rotating to the right, unscrewing the latch mechanism of the duplex connection. Left hand square thread subs with 4" O.D. left hand threads are also available for use with Large Duplex Equipment.

The Duplex cement Float Shoe & Collar are also available with Double Valve and any combination.

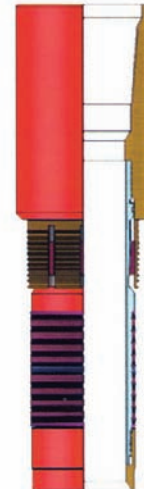
DUPLEX FLOAT SHOE WITH
SINGLE VALVE
S-FSSV-DX-S100-13



DUPLEX FLOAT COLLAR
WITH SINGLE VALVE
S-FCSV-DX-S101-05



DUPLEX TUBING SEAL
NIPPLE
S-DTSN-S103-02



REAMER SHOES

Eneroil Reamer Shoe is designed for demanding down hole applications and are ideal for well bore condition with severe doglegs, high build rates, and extended horizontal runs. The selection of Float Shoes accompanied with a variety of aluminium eccentric noses offer down hole solutions when dealing with well-bore conditions that involve ledges or sloughing.

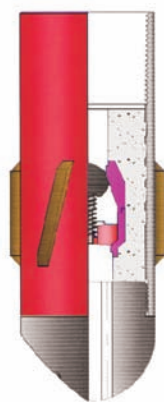
This Float Shoe is specifically designed for reaming and reciprocating applications. Various styles of noses are offered: Bullet, Eccentric, Spade and Cone. The valves prevent cement back-flow, provide casing buoyancy during run in, and acts as an internal BOP during the process of running and cementing the casing.

FEATURES AND BENEFITS

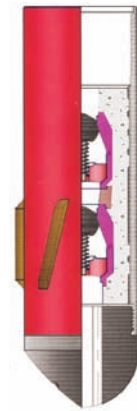
Equipped with a Cut-Rite carbide cutting material structure to help eliminate any obstructions and to keep from having to pull the casing to make another wiper run by assuring near gauge hole when running casing.

- A tapered composite nose is standard with high-port up jet and down-jet nose options to help Jet away filter cake and low side debris in horizontal and deviated well-bores .
- For use with and without rotation.
- Specially built to fit any casing and hole size combinations.
- PDC drillable
- Reamer shoes are equipped with a standard enclosed down-jet nose with an aggressive cutting structure.
- Supplied in a P-110 casing grade.

REAMER SHOE WITH SINGLE VALVE
AND ALUMINIUM ECCENTRIC NOSE
S-RSSV -ALEN-S100-20



REAMER SHOE WITH DOUBLE VALVE
AND ALUMINIUM ECCENTRIC NOSE
S-RSDV-ALEN-S100-22



DOWN JET / UP JET CEMENT FLOAT SHOE

Eneroil Down-jets/Up-jets Cement Float Shoe offers dependable performance for all classes of oil and gas wells. The Plunger Type valves prevent cement backflow, provide casing buoyancy during run-in, and acts as an internal BOP during the process of running and cementing the casing.

Float equipment is manufactured to match customer casing specifications. All float shoes are **PDC** drillable.

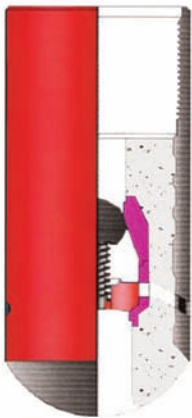
Has the ability to circulate through down-jets/center of shoe while running in the hole. This provides a means of washing casing/liner to seat if required. Once converted, has the ability for cement to be pumped through up-jets for optimum cement placement. Ports force circulation flow in a downward jetting action.

The Down-jets/Up-jets Cement Float Shoe are also available with Double Valve for extra back pressure, valve sealing against pressure from below when floating in a liner or casing.

FEATURES AND BENEFITS

- Fast drill-out
- Valve parts-will not damage PDC bits.
- Operator-controlled buoyancy-regulated by filling casing at surface.
- Cost effective

FLOAT SHOE WITH SINGLE
VALVE DOWN JET
S-FSSV-DJ-S100-02



FLOAT SHOE WITH DOUBLE
VALVE DOWN JET
S-FSDV-DJ-S100-05



FLOAT SHOE WITH
SINGLE VALVE UP JET
S-FSSV-UJ-S100-03



FLOAT SHOE WITH
DOUBLE VALVE UP JET
S-FSDV-UJ-S100-06



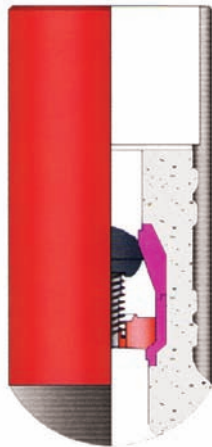
SLIP-ON FLOAT SHOE & COLLAR

Eneroil Cement / Plunger-type Float equipment offers dependable performance for all classes oil and gas wells. The valves prevent cement back-flow, provide casing buoyancy during run in, and acts as an internal BOP during the process of running and cementing the casing.

Float equipment is manufactured to match customer's casing specifications. All Plunger type cement float shoe & collars are PDC drillable. Slip-On Casing Collar O.D. matches with the casing O.D. and the upper end is only bevelled and not recessed for directly welding on to the casing pipe.

SLIP ON FLOAT SHOE WITH SINGLE VALVE

S-FSSV-SL-S100-25



SLIP ON FLOAT SHOE WITH DOUBLE VALVE

S-FSDV-SL S100-26



SLIP ON FLOAT COLLAR WITH SINGLE VALVE

S-FCSV-SL-S101-13



SLIP ON FLOAT COLLAR WITH DOUBLE VALVE

S-FCDV-SL-S101-14



GUIDE SHOE

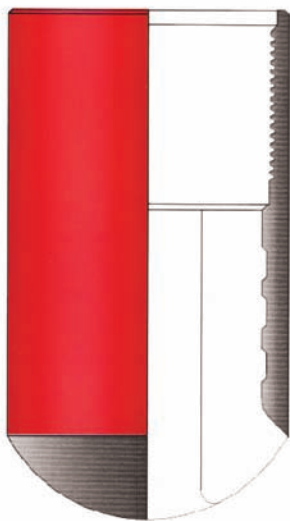
Eneroil Guide shoes are attached to the lower most end of the casing string to provide a low-cost method of enabling the casing to pass ledges or obstructions in the well-bore, which aids bit re-entry. The cement guide shoe may be used in combination with any type of collar. It efficiently guides casing past sidewall irregularities.

Has the ability to circulate through down - jets/centre of the shoe while running in the hole. This provides a means of washing casing/liner to seat if required.

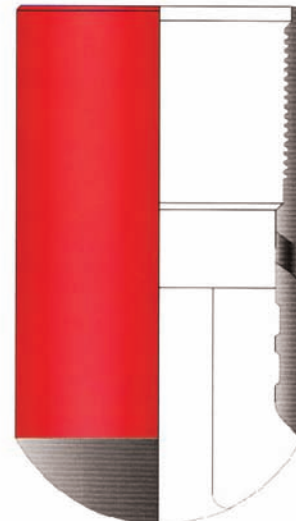
FEATURES AND BENEFITS

- Orifice is sufficiently large as to allow tripping balls, tubes and debris to exit the casing without obstruction
- Rounded nose assists while running casing in hole
- Load bearing capability for setting at bottom
- PDC drillable

GUIDE SHOE WITH SINGLE VALVE
S-GUSE-S100-27



GUIDE SHOE WITH DOWN JET
S-GUSE-DJ-S100-28



AUTO FILL CEMENT FLOAT SHOE & COLLAR

Eneroil Auto Fill Cement Float Shoe & Collar permits the casing to fill automatically while being run in the hole. The valve is always in the open position allowing maximum filling of the casing as it is lowered into the well bore.

The circulation may be established at any time during or after casing is run. The flapper type back pressure valve does not become operative until the drop ball is dropped or pumped down. Like differential fill-up equipment, the shoe is activated by the same ball. From this point on, like differential fill-up shoe, this model Auto Fill Cement Float Shoe acts as conventional Floating equipment. All Auto fill Cement Float Shoes & Collar are PDC drillable.

This is especially effective on liner job and sensitive hole conditions.

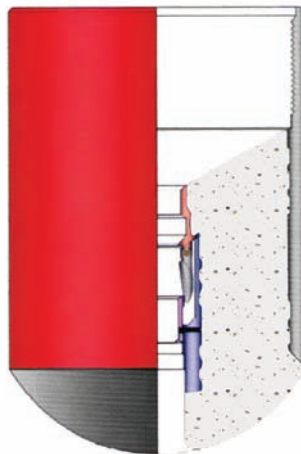
Non-Rotating Auto Fill Float Collar also available as per customer requirement.

FEATURES AND BENEFITS

- Flapper type valve that is installed in short 8 round API casing couplings in shallow well applications.
- Auto fill-up/pump-out sleeves are available to convert into an automatic fill-up unit.
- Manufactured to withstand various differential pressures.

AUTO FILL CEMENT FLOAT SHOE

S-FSAF-S100-29



NON ROTATIONAL CEMENT FLOAT COLLAR

Eneroil Cement/Plunger-type float equipment offers dependable performance for all classes of oil and gas wells. The valves prevent cement backflow, provides casing buoyancy during run-in, and acts as an internal BOP during the process of running and cementing the casing.

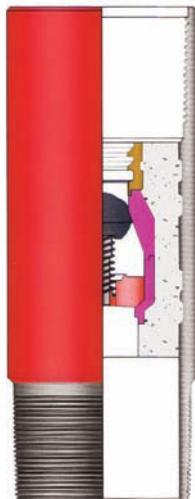
Float equipment is manufactured to match customer's casing specifications. All plunger type cement float collars are PDC drillable.

Float Collar is Non-Rotational type pressure and cementing plug activated. The latch down type anti-rotational feature of the plug which is compatible with the Float Collar, eliminates rotation during drilling. The Cement Float Collar are also available with Double Valve for extra back pressure valve sealing against pressure from below when floating in a liner or casing.

FEATURES AND BENEFITS

- Fast drill-out
- Operator-controlled buoyancy-regulated by filling casing at surface.
- Cost effective.

NON-ROTATIONAL CEMENT FLOAT
COLLAR WITH SINGLE VALVE
S-FCSV-NR-S101-07



NON-ROTATIONAL CEMENT FLOAT
COLLAR WITH DOUBLE VALVE
S-FCDV-NR-S101-0

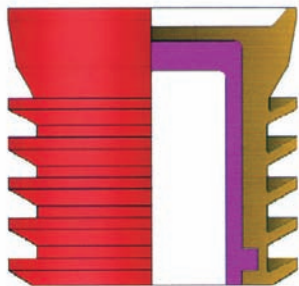


CEMENTING PLUGS

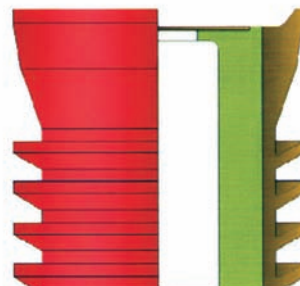
Eneroil Non-Rotating Top and Bottom Cementing Plugs significantly reduce the drill out time, thereby resulting in cost saving. The Bottom Plug separates the cement from drill mud, and features a rubber diaphragm which is opened once the plug has landed and latched into the Anti-Rotational Float Collar. The top plug is used as a follow up plug to displace cement, latches into the upper end of the bottom plug after latching these provide anti-rotational feature to eliminate rotation during drilling and save drill out time. No metal parts are used, therefore the plugs are completely PDC Drillable.

Conventional Top and Bottom Plug is also available and can be drilled out with PDC and conventional drill bit

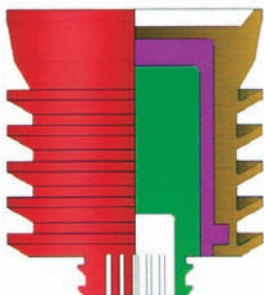
CONVENTIONAL TOP
CEMENTING PLUG
S-TOPG-S102-01



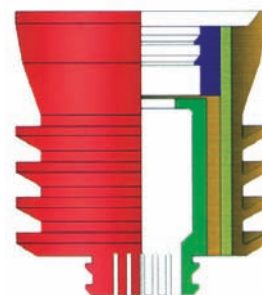
CONVENTIONAL BOTTOM
CEMENTING PLUG
S-BOTG-S102-02



NON ROTATIONAL TOP
CEMENTING PLUG
S-TOPG-NR-S102-03



NON ROTATIONAL BOTTOM
CEMENTING PLUG
S-BOTG-NR-S102-04





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