



CATALOGUE

PRIMARY CEMENTING

CEMENT FLOAT SHOE WITH POPPET VALVE

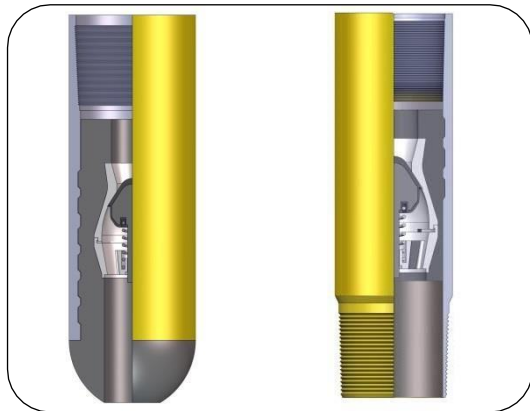
Product No.: BI 100-05

CEMENT FLOAT COLLAR WITH POPPET VALVE

Product No.: BI 101-05

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

Float equipment is manufactured to match customer casing specification. All Poppet type cement Float Shoe & Collars are PDC drillable.



Cement Float Shoe with Poppet Valve
Product No.: BI 100-05

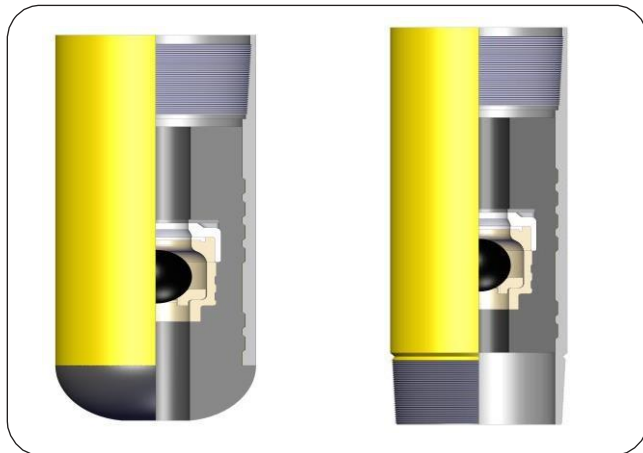
Cement Float Collar with Poppet Valve
Product No.: BI 101-05

CEMENT FLOAT COLLAR WITH BALL VALVE

Product No.: BI 101-01

CEMENT FLOAT SHOE WITH BALL VALVE

Product No.: BI 100-01



Cement Float Shoe
Product No.: BI 100-01

Cement Float Collar
Product No.: BI 101-01

Cement ball-type Float Equipment offers dependable performance for all classes of oil and gas wells. The valves prevent cement back-flow, provide casing buoyancy during run- in, and act as internal BOPs during the process of running and cementing the casing.

Float equipment is manufactured to match customer casing specifications. All ball type Cement Float Shoes and Float Collars are PDC drillable.

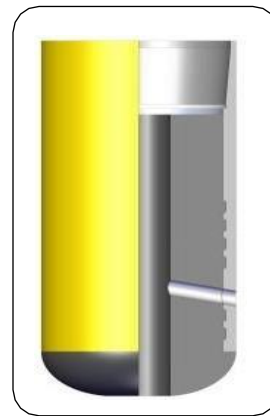
Benefits / Features:

- Fast drill-out
- No metal parts-will not damage PDC bits
- Free-floating ball abrades evenly.
- Operator controlled buoyancy-regulated by filling casing at surface
- No springs
- Cost effective

CEMENT DOWN-JET SWIRL GUIDE SHOE

Product No.: BI 102-40

This Shoe is used to provide turbulent flow at the shoe and where obstructions are expected while running in, the Down- Jet Swirl ports allow operator to "wash" casing down.



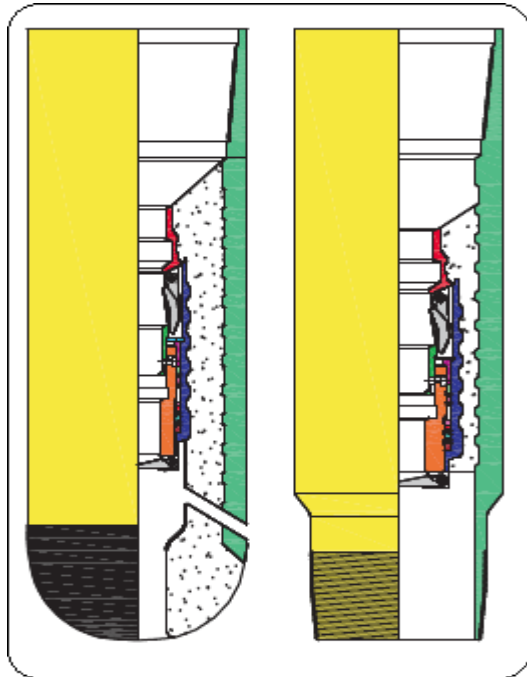
Cement Down Jet Swirl Guide Shoe
Product No.: BI 102-40

MODEL "G" DIFFERENTIAL FILL-UP DOWN-JET SWIRL SHOE

Product No.: BI 108-44

MODEL "G" CIRCULATING DIFFERENTIAL FILL-UP COLLAR

Product No.: BI 109-11



Model "G"
Differential Fill-Up
Down-Jet Swirl Shoe
Product No.: BI 108-44

Model "G"
Circulating Differential
Fill-Up Collar
Product No.: BI 109-11

Differential Fill-up Float Equipment allows 90 % casing fill-up during run-in, reducing surge pressures caused by the piston effect of running casing in restricted IDs. Use of Differential Collar with Shoe provides additional buoyancy by allowing only 81 per cent casing fill-up further enhancing draw works efficiency.

Circulation can be established at any time while running in. Dropping a ball converts the Differential Valve to a regular Back- Pressure Valve. When Collar and Shoe are run together, dropping one ball converts both units.

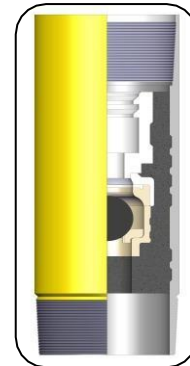
CEMENT FLOAT COLLAR WITH ANTI-ROTATIONAL PLUGS

Product No.: BI 101-02

Cement/ball type float equipment offers dependable performance for all classes of oil and gas wells. The valves prevent cement back-flow and provide casing buoyancy during run in.

Float Collar is Non-Rotational type pressure and Cementing Plug activated. Plugs feature the latch-down type anti-rotational feature which is compatible with the Float Collar and eliminates rotation during drilling.

Float Equipment is manufactured to match customer casing specification. All ball type Cement Float Collars are PDC drillable.

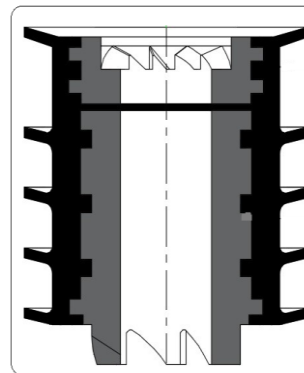


Cement Float Collar with Anti-
Rotational Plug
Product No.: BI 101-02

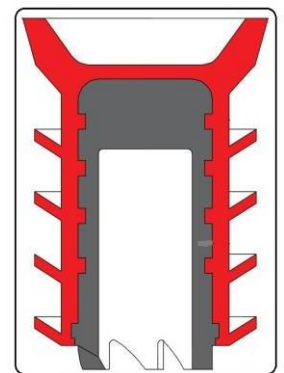
ANTI-ROTATIONAL CEMENTING PLUGS

Product No.: BI 177-20 & BI 177-21

The Non-Rotating Top & 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, used as a follow Plug to displace cement, latches into the upper end of the Bottom Plug. After latching, these provide the anti-rotational feature to eliminate rotation during drilling and save drill out time.



Top Plug
Product No.: BI 177-20



Bottom Plug
Product No.: BI 177-21

The body consists of insert of Nylon with additives, moulded with elastomer. No metal parts are used; therefore the Plugs are completely PDC drillable.

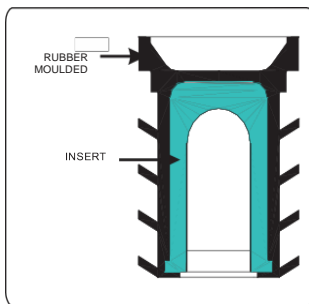
The plugs are available in various elastomers including HNBR for high temperature applications.

CEMENTING PLUGS

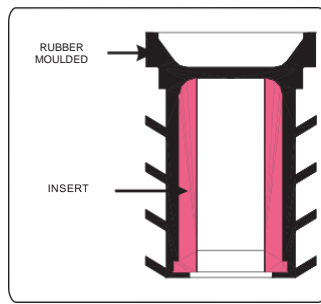
Product No.: BI 177-18 & BI 177-19

The Top & Bottom Plug are constructed of material selected to reduce the drill out time, there-by resulting in cost saving. The Bottom Plug separates the cement from the drill mud and features a rubber diaphragm which is opened once the plug has landed on the Cement Float Collar. The Top Plug is used as a follow plug to displace cement and land on the upper end of the Bottom Plug.

The body consists of insert of nylon with additives, moulded with elastomer. No metal parts are used; therefore the Plugs are PDC drillable.



Top Cement Plug
Product No.: BI 177-18



Bottom Cementing Plug
Product No.: BI 177-19

MODEL "B" DUPLEX CEMENT FLOAT SHOE

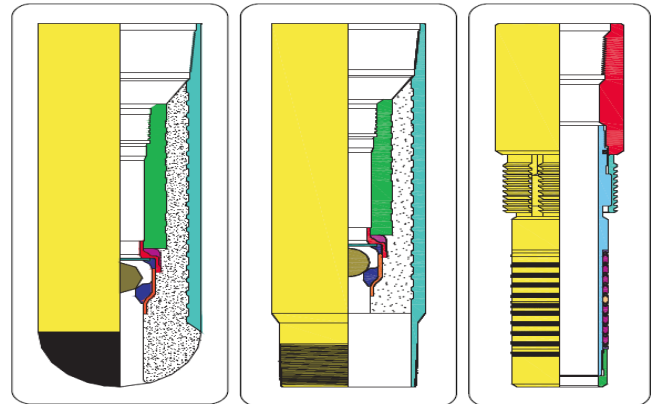
Product No.: BI 250-03

MODEL "B" DUPLEX CEMENT FLOAT COLLAR

Product No.: BI 251-02

Duplex Shoes and Collars sizes 7 5/8" to 30" are furnished with heavy duty duplex connection. These heavy duty connection have 4" O.D. left hand threads and 3 1/4" I.D. seal bores, and are capable of carrying 100,000 lbs. with a minimum safety factor 2. Special accessory products are available for use with this large Duplex Equipment.

The Model "BE" Tubing Seal Nipple Product No. BI 443-13 has field proven Chevron Seals for positive sealing of the nipple in the seal bore.



Duplex Cement
Float Shoe
Product No.:
BI 250-03

Duplex Cement
Float Collar
Product No.:
BI 250-02

Model "BE" Duplex
Tubing Seal Nipple
Product No.:
BI 443-13

The Model "BE" Tubing Seal Nipple features an expandable left hand latch mechanism, allow the nipple to be "stabbed" into the duplex connection, and when up-strain is applied the latch is expanded to provide full engagement in duplex assembly. The nipple is released by rotating to the right unscrewing the latch mechanism of the duplex connection.

MODEL "B" STAB-IN FLOAT SHOE

Product No.: BI 255-05

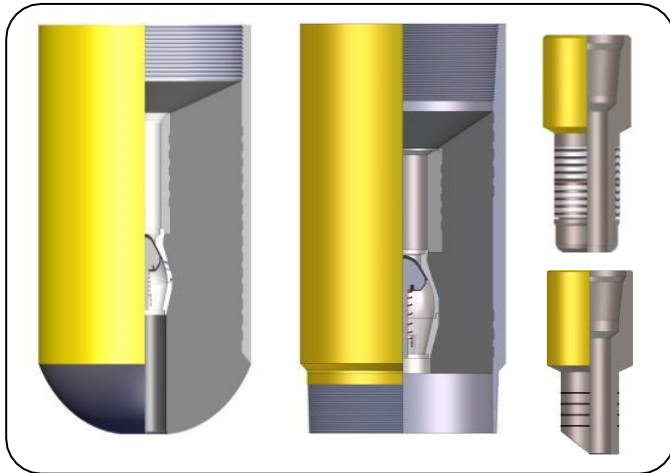
MODEL "B" STAB-IN FLOAT COLLAR

Product No.: BI 254-04

Stab-In cementing is an improved method for cementing large diameter casing. Conventional methods require excessive amounts of cement to ensure cement circulation to 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 returns reach 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.

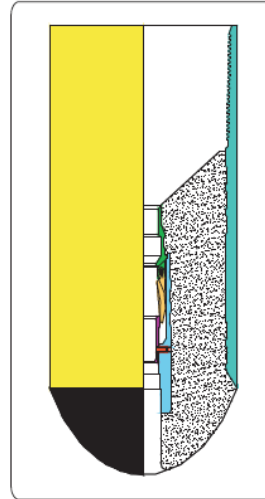
Stab-in Float Shoe and Collars are available in both versions: with Poppet or Ball Valve and with either Phenolic (PDC drillable) or Aluminium housing.



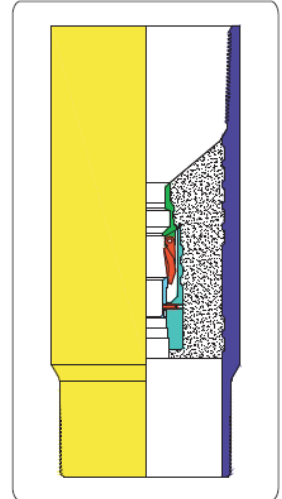
Model "B" Stab-In Float Shoe
Product No.: BI 255-05

Model "B" Stab-In Float Collar
Product No.: BI 254-04

Model "B" Stab-In Seal Sub
Product No.: BI 250-85



Auto Fill Cement Float Shoe
Product No.: BI 100-45



Auto Fill Cement Float Collar
Product No.: BI 101-03

Advantages:

- Improve displacement accuracy — cement mixing and pumping continues until cement returns reach surface.
- Get better cement quality — the reduced cement/mud interface area and high velocity of flow in the Drill Pipe minimize cement contamination while the short pumping time eliminates the need for cement retarders.
- Reduce cement volume — conventional displacement requires calculation of excess cement factor, whereas with stab-in methods excess cement need be no greater than the volume of the drill pipe. No large plugs are needed.
- Reduce net rig time — circulating, pumping, and drill-out times are minimized.
- Protect casing — cementing pressures are confined to the drill pipe as in a squeeze job.

AUTO FILL CEMENT FLOAT SHOE

Product No.: BI 100-45

AUTO FILL CEMENT FLOAT COLLAR

Product No.: BI 101-03

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

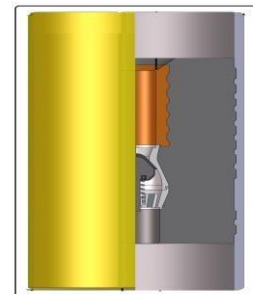
This is especially effective on liner jobs and sensitive hole conditions.

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. From this point on like Differential Fill-up Shoe or Collar, this model Auto Fill Cement Float Shoe or Collar acts as conventional Floating Equipment. All Auto fill Cement Float Shoes and Collar are PDC drillable. When run in tandem, a single ball may be used to activate both the Float Collar & Shoe.

BUTT-WELD CEMENT FLOAT COLLAR

Product No.: BI 255-14

Cement Poppet-type Float equipment offers dependable performance for all classes' oil and gas wells. The valves prevent cement backflow, provide casing buoyancy during run in, and act as internal BOPs during the process of running and cementing the casing.



Butt-Weld Cement Float Collar
Product No.: BI 101-06

Float equipment is manufactured to match customer casing specification. All ball type cement float collars are PDC drillable.

Butt-Weld Casing Collar O.D. matches with the casing O.D. and upper end is only bevelled, not recessed for directly welding to the Casing pipe.

CEMENT BASKET

Product No.: BI 231-03

The Cementing Basket is designed to run on the casing string or liner to support a cement column to prevent contamination of a lower zone or to keep hydrostatic head of a column from breaking down a weak formation.



Cement Basket
Product No.: BI 231-03

The Basket consists of flexible steel springs that support overlapping rubber liners. The Basket is placed on the casing with movement limited by pipe couplings or by welding the ring of the basket directly to the casing. Stop rings may also be used to selectively space the Baskets between Collars without welding.

MODEL "J" STAGE CEMENTING COLLAR

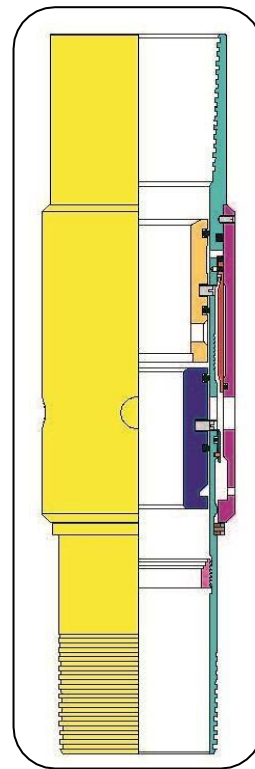
Product No.: BI 200-03

The Model "J" Stage Cementing Collar is used to cement casing in two or more stages and allows operators greater flexibility in controlling flow rheology, cement chemistry, and down hole hydrostatic pressures. Typically, the Model "J" Stage Collar is used where a single stage cement job would result in breakdown of a weak formation causing cement losses and /or contamination of the producing zone.

Operation:

The operation of the Stage Collar requires only the Plugs that come with the Collar and the manipulation of casing pressure. A rubber seal-off plate is also provided to place in the top Float Collar only when the plug bumping surface is flat. The nose of the Model "D" Flexible Wiper Plug is tapered to guide it through the stage collar and needs a bevelled surface on which to seat and seal.

The Model "J" Stage Collar covers casing sizes 4½ in. through 9-5/8 in. Threads and materials specifications vary to meet operators casing program.



Model "J" Stage Cementing Collar
Product No.: BI 200-03

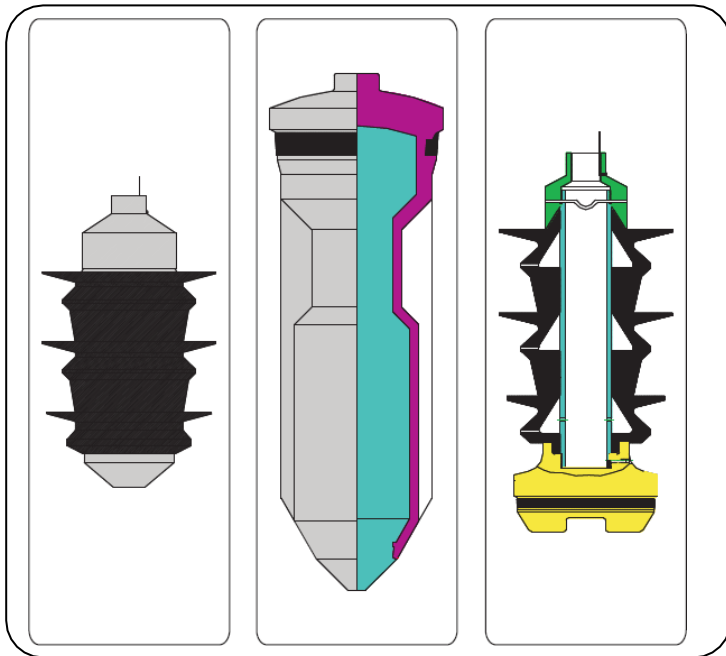
Features:

- Strong one-piece body construction.
- Protected closing sleeve.
- Inner sleeves locked against rotation.
- Full, smooth bore after drill out.

Benefits:

- No internal threaded or welded pieces to leak or fail
- Nothing to snag Packers or Running Tools run subsequently.
- Easily drilled out-sleeves and plugs are rubber and aluminium.
- Simple hydraulic operation.
- Shut-off sleeve cannot be accidentally reopened.

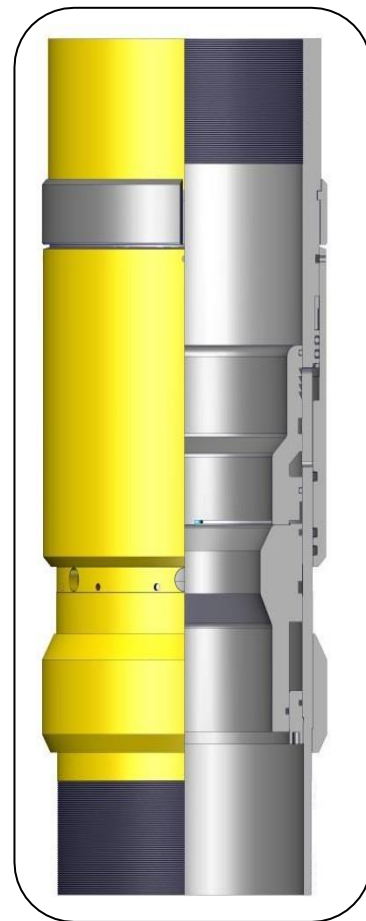
This hydraulic stage-cementing collar can be run with Liner Hanger in conjunction with one or several inflatable packers and used to isolate and selectively cement certain casing intervals. Slotted or pre- drilled liner can be run below a inflatable packers/ hydraulic stage collar assembly, allowing cement to be pumped above the packer and isolated from highly sensitive producing zones.



Model "D"
Flexible Plug
Indicating Type

Model "J"
Cementing Trip
Plug

Model "J"
Shut-Off Plug



Hydraulic Opening
Stage Cementing Collar
Product No.: BI 200-94

HYDRAULIC OPENING STAGE CEMENTING COLLAR
Product No.: BI 200-94

Description & Application:

This stage collar features an opening sleeve with area difference on opposite end that allows it to be manipulated hydraulically. The hydraulic opening feature makes the use of this tool very practical in horizontal wells.

The elimination of the need to use a mechanical opening device has several other merits. Casing run in highly deviated wells can now be two- stage cemented without having to use continuous displacement type plugs.

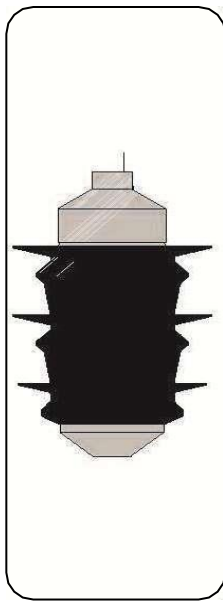
Features:

- Field adjustable shear screws, allowing the opening pressure to be adjusted at the well site to ensure that all inflatable packers or other hydraulic tools present in casing string will be triggered in the correct juncture.
- Effective differential area on the opening sleeve that generates a high opening force while requiring only optimal pressure to do so.
- The ability to open immediately upon the completion of first-stage cement displacement.

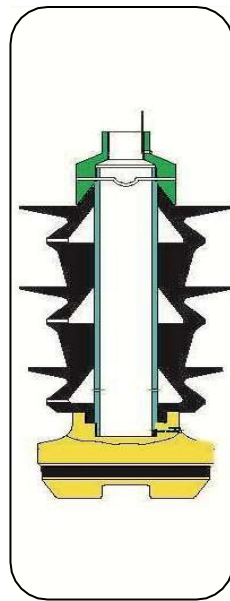
MODEL "JB" THREE STAGE CEMENTING COLLAR

Product No.: BI 200-04

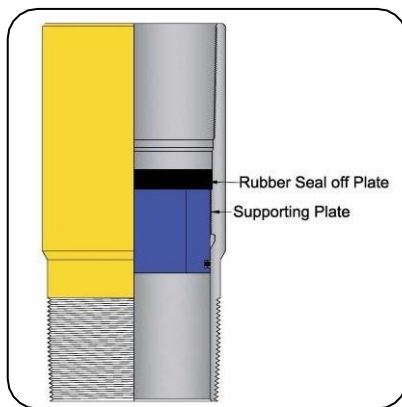
Three Stage Cementing is used to place a long column of cement about a weak zone. The "JB" Stage Collar is located a short distance about the weak zone. The First Stage is cemented by pumping cement up to the "JB" Collar. The "JB" Collar is then opened using the Trip Plug and then the Second and Third Stages are cemented.



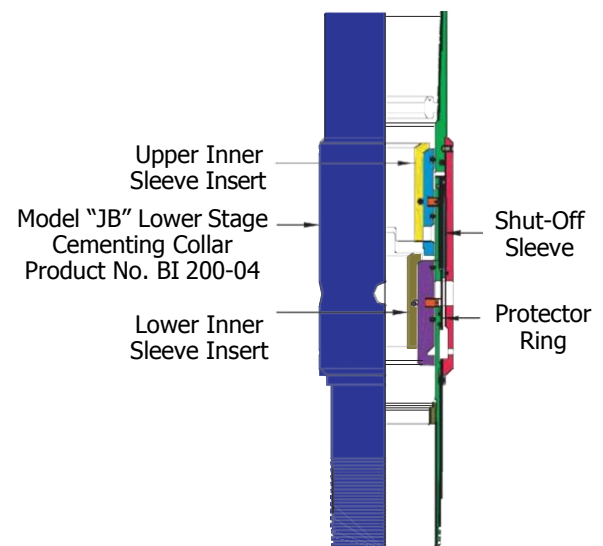
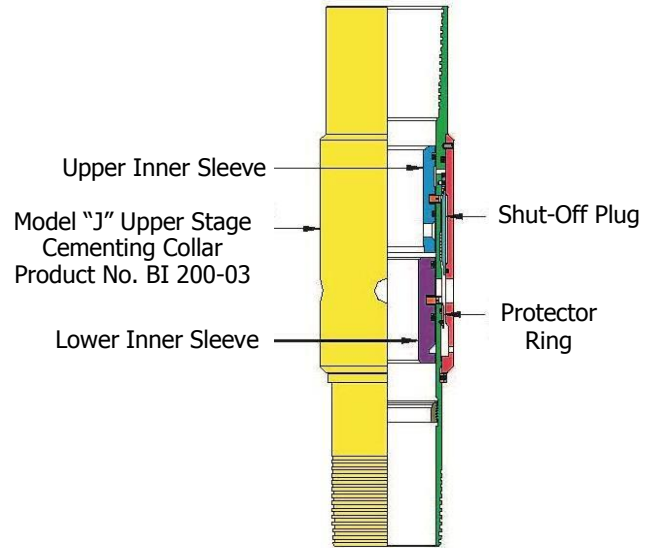
Model "D"
Flexible Plug
Indicating Type

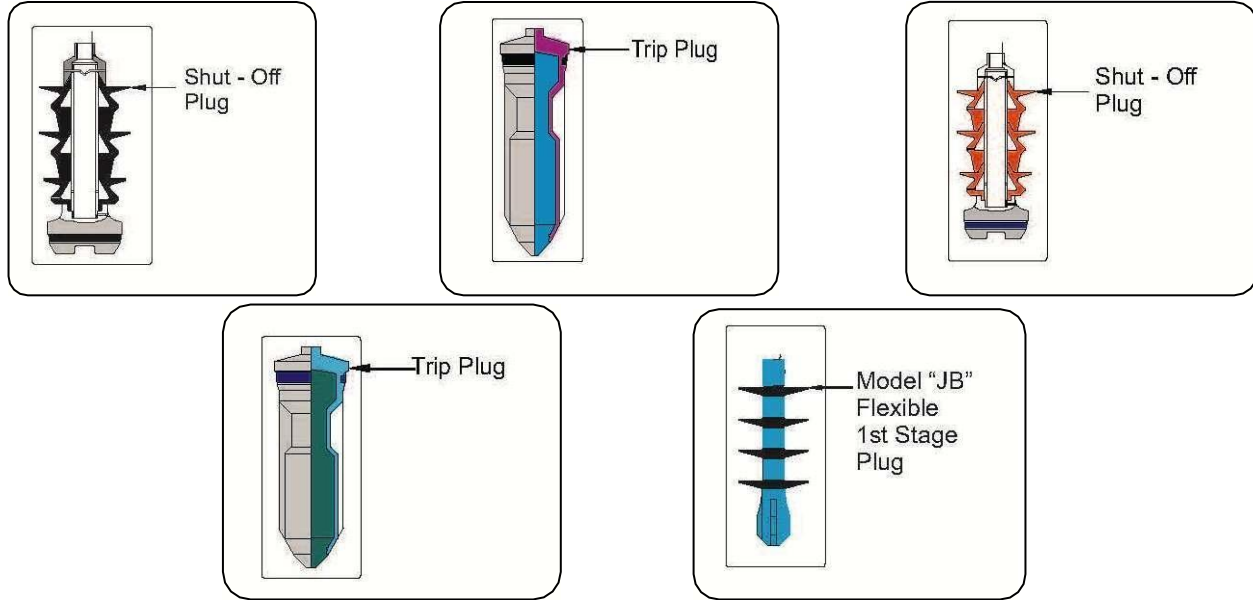


Model "J"
Shut-Off Plug



Baffle Collar





Specification Guide
MODELS "J" & "JB" STAGE CEMENTING COLLARS
 (Product No.: BI 200-03 & BI 200-04)

Casing OD	Weight (lbs.) Threaded & Coupled	Size Stage Collar	Tensile Strength (lbs.)	Drilled- Out ID (Inch.)	Max. OD Of Tool (Inch.)	Model "J" Only				Model D Indicating Plug Nose OD (Inch.)
						Min ID Lower Inner Sleeve (Inch.)	Max OD of Trip Plug (Inch.)	Min ID Upper Inner Sleeve (Inch.)	Max OD Shut-Off Plug Nose (Inch.)	
5-1/2	13.0 14.0 15.5	5-1/2" 13-15.5 J-55	164,000	4.919	6.625	3.620	3.781	3.870	4.281	2.906
	17.0 20.0	5-1/2" 17-20# N-80 & 17 P-110	277,000	4.812						
	20.0 23.0	5-1/2" 20-23# P-110	462,000	4.710						
7	17.0 20.0 23.0	7" 17-23# N-80	264,000	6.415	8.281	4.495	4.687	4.935	5.656	
	26.0 29.0	7" 2 6-29# N-80	457,000	6.200						
	26.0 29.0 32.0 35.0 38.0	7" 32-38# N-80 & 26-29# P-110	622,000	6.200						
	32.0 35.0 38.0	7" 32-38# P-110	918,000	6.020						
	29.3 32.3 36.0 40.0	9-5/8" 29.3-40# J-55	422,000	8.906						
40.0 43.5 47.0	9-5/8" 40-47# N-80 & 43.5# P-110	701,000	8.730							
47.0 53.5	9-5/8" 47-53.5# P-110	1,170,000	8.580							

Other Sizes on Request

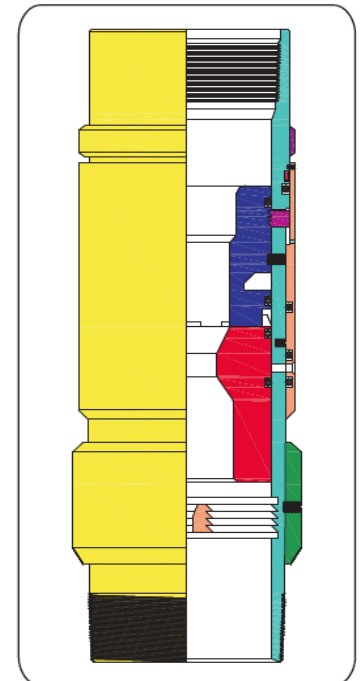
Specification Guide				
PLUGS FOR MODEL "J" & "JB" STAGE CEMENTING COLLARS				
Part name		Sizes and Commodity		
		5-1/2	7	9-5/8
Rubber Seal-off plate		BI 01-36715-00	BI 01-36718-00	BI 07-06222-00
Model D flexible cementing plug, indicating type		BI 01-41894-02	BI 01-41694-02	BI 01-50037-02
Model J trip plug - J2, J3		BI 01-52765-02	BI 02-19259-02	BI 02-19257-02
Model J shut-off plug - J2, J4		BI 01-59329-01	BI 01-82817-02	BI 01-46628-02
Model JB shut-off plug	Plug OD	3-1/2	4-1/4	6-1/4
Model JB-2	Comm. No.			BI 01-46648-01
Model JB-3	Comm. No.			
Model JB-4	Comm. No.	BI 01-58972-01	BI 01-58973-01	
Model JB continuous cementing trip plug	Plug OD	3-3/16	3-3/4	5-7/8
Model JB-2	Comm. No.		BI 01-46656-00	BI 01-46657-00
Model JB-3	Comm. No.	BI 01-52771-01		
Model JB gravity-type trip plug	Plug OD	3-3/4	5-5/8	
Model JB-2	Comm. No.		BI 02-19262-01	
Model JB-3	Comm. No.	BI 01-47281-01		
Model JB flexible cementing plug, bypassing type		BI 01-42723-01	BI 01-42725-18	BI 01-48240-82
Model JB flexible cementing plug, indicating type		BI 01-42842-50	BI 01-42844-38	BI 01-42847-03

MODEL "G" STAGE CEMENTING COLLAR

Product No.: BI 200-02

The Model "G" Stage Cementing Collar covers sizes larger than 9-5/8 inch.

It offers operators all of the benefits of the Model "J" Stage Collar (sizes 9-5/8 in. and smaller), and also features an outer closing sleeve which cannot be accidentally reopened. Non-API threads require the use of special casing sub.



Model "G" Stage
Cementing Collar
Product No.: BI 200-02

Specification Guide				
PLUGS FOR MODEL "G" & GB STAGE CEMENTING COLLARS				
Type of Plug	Collar Model	Plugs used with Model "G" Stage Collar for regular two-stage cementing	Plugs used with Model "G" & "GB" Stage Collar for regular three-stage cementing	Size & Commodity Number
				13-3/8
Model "D" Flexible Cementing Plug Indicating Type	G	1		BI 100253-00
	GB		1	BI 01-67932-02
Model "D" Flexible Cementing Plug Bypassing Type	G			BI 02-00096-02
	GB		1	BI 01-67935-02
Trip Plug	G	1	1	BI 100260-00
	GB		1	BI 01-67930-01
Shut-off Plug	G	1	1	BI 100252-00
	GB		1	BI 01-67933-02
Continuous Cementing Trip Plug	G			BI 02-00094-02
	GB			BI 01-67937-01

Specification Guide												
MODELS "G" & "GB" STAGE CEMENTING COLLARS SPECIFICATION GUIDE												
Casing to be Run				Stage Collar Specifications								
OD	Weight range	Grade	Thread	Tensile Strength (lbs.)	Drilled Out ID	Max Collar OD	Model "G"					Model D Indicating Plug Nose OD
							Min ID Lower Inner Sleeve	Max OD Trip Plug	Min ID Upper Inner Sleeve	Max OD Shut-Off Plug Nose		
13-3/8	48-61	H-40, J-55	8 RD Short	491000	12.687	15.06	8.00	8.625	9.234	11.375	7.00	
			Buttress	661,000								
	48-61	N-80	8 RD Short	659,000								
			Buttress	961,000								
	48-61	S-95, P-110	8 RD Short	887,000								
			Buttress	1,332,000								
	68-77	H-40, J-55	8 RD Short	786,000	12.343	15.094	8.00	8.625	9.234	11.375	7.00	
			Buttress	928,000								
	68-77	N-80	8 RD Short	1,054,000								
			Buttress	1,350,000								
	68-77	S-95, P-110	8 RD Short	1,420,000								
			Buttress	1,856,000								
80.7-86	C-95, S-95	8 RD Short	1,548,000	12.090	15.094	8.00	8.625	9.234	11.375	7.00		
		Buttress	1,938,000									

Other sizes on request

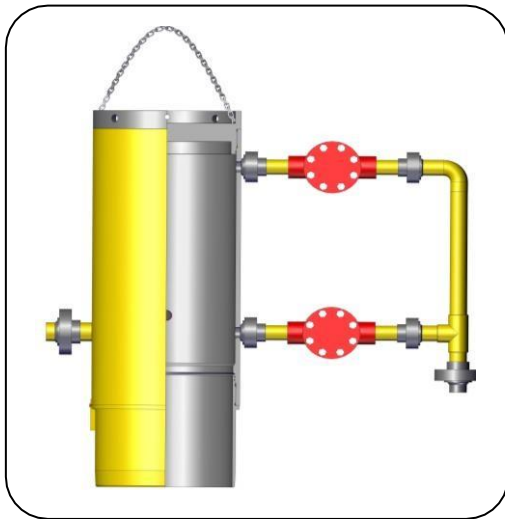
MODEL "BD" SINGLE AND DOUBLE PLUG TYPE CONVENTIONAL CEMENTING HEAD

Product No.: BI 200-91 & BI 200-92

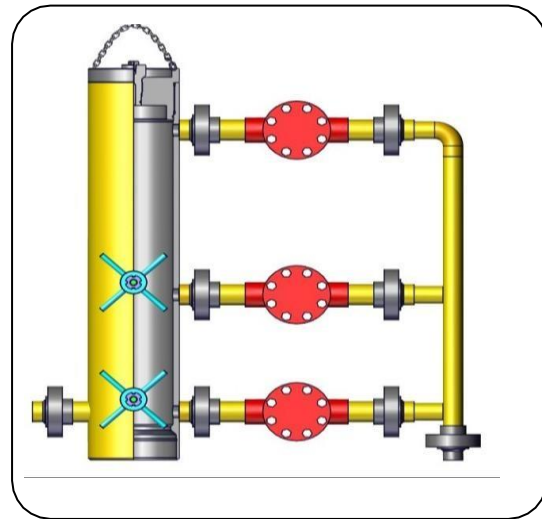
The Model "BD" Conventional Cementing Head is used with Stage Collars to drop flexible Cementing Plugs and Shut off Plugs and with Cement Float Collar, to drop Conventional Top & Bottom Cementing Plug. The Cement Heads are available in either single or double plug configurations.

Features:

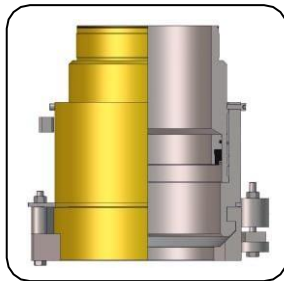
- The Cementing Head is manufactured utilizing API grade steels with connections for API 8 Rd. BTC and premium threads. Cementing Heads are available for working pressure from 3,000 psi to 10,000 psi. The Cementing Heads are hydraulically tested prior to shipment.
- The design of Cementing Head incorporates such features as quick release retainer bar, gland seals for positive sealing of indicating wires, and fully detachable cementing manifold.
- The Cementing Head Manifold is supplied with Plug Valves and other fittings rated to same or higher working pressure than the Cementing Heads.
- These can be provided with two alternate versions of Quick Change Couplings for ease of attachment to or release from, the uppermost coupling on the casing.



Model "BD" Single Plug
Cementing Head
BI- 200-91



Model "BD" Double Plug
Cementing Head
BI 200-92



Quick Latch
Coupling



Quick Change
Coupling