

Davis Manual-Fill Float Collars

Float Collar Type 700-PVTS (Fig. 1)

This Davis collar comes equipped with a flat concrete surface and load distributor plate for landing and sealing cement plugs. It normally is offered with pin and box thread connections, but it is also available with double-box connections. Both of these designs embody the positive-seal, PDC drillable Davis PVTS spring-operated plunger-type valve molded in place with high strength concrete. When a back-pressure valve is not desired or required in a float collar, Davis has available the Type 701 Baffle Collar (not shown). This collar allows fluid flow in either direction and provides a strong concrete surface to land and seal cement plugs. It is often run in tandem with the Davis Type 501 DV-PVTS double-valve, down-jet float shoe.

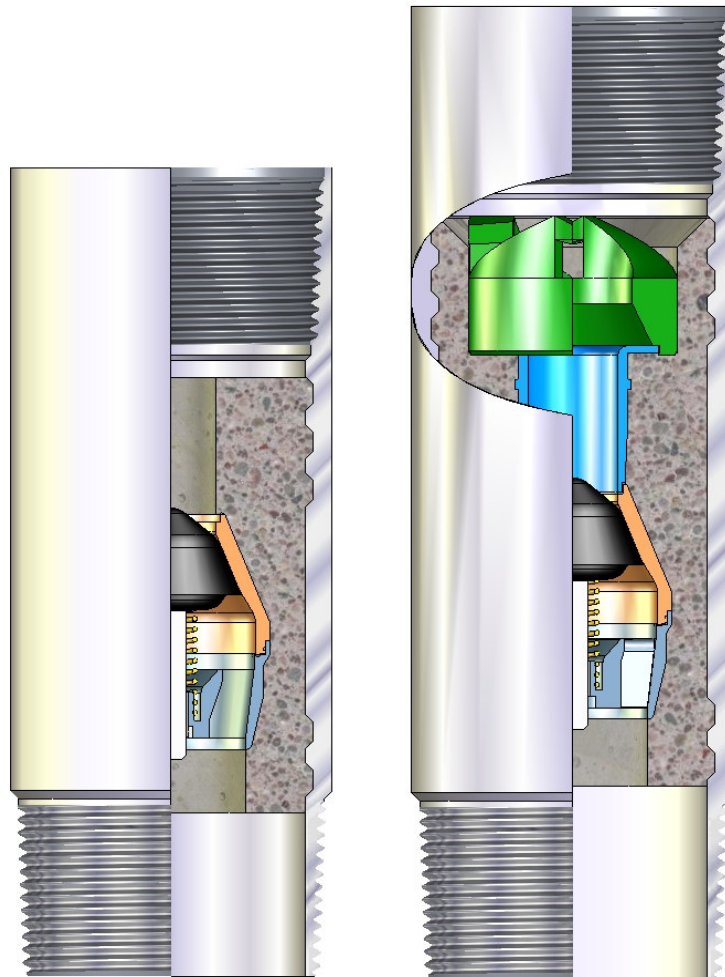


Fig 1
Type 700-PVTS

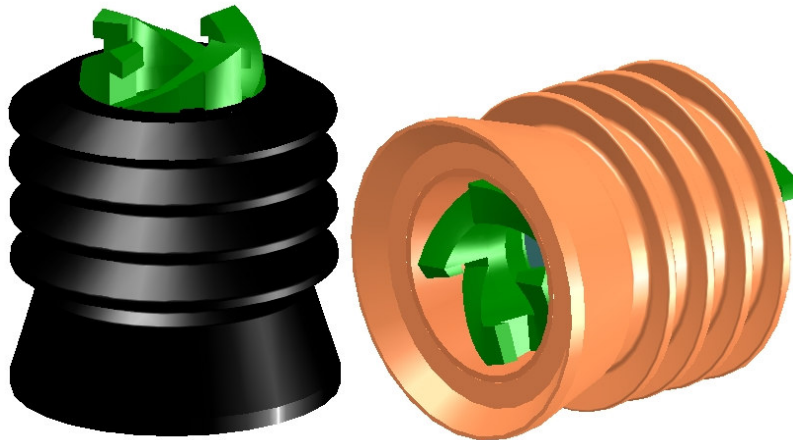
Fig 2
Type 700-LAP Float
Collar With Lock-Down
Anti Rotation Receiver

Lock-Down Anti-Rotation Plug System Type LAP (Surface launch and sub sea launch)*

Available for both surface launch and sub sea launch applications, Davis offers the Type LAP plug system. The Type LAP system incorporates our first generation of mechanism to prevent plug rotation while drilling out. This system is still used on some surface launch applications involving specialty float equipment (such as auto-fill types), and is available through a joint venture with BJ Services Co. for sub sea applications. BJ Services Co. has incorporated the Davis Type LAP mechanism into their respective sub sea launch plugs, so the BJ plugs can be run with Davis Type LAP float collars (Fig. 2, above), and provide an effective means to prevent rotation while drilling out. The system features a float collar that incorporates a threaded type receiver to receive a collet type insert. A bottom plug with collet insert on bottom, and threaded type receiver on top of plug. The top plug features a collet type insert on the bottom end. The collet feature allows for the bottom plug to latch into the float collar, as well as for the top plug to latch-in to the bottom plug. Once latched in, right hand rotation during drill out tightens up the engagement of the plugs and collar, with the threaded profiles on the collet and receiver.

Some notable features/benefits are:

- Once engaged the latch-in design Lock-Down/Anti-Rotation Top and Bottom Cementing Plugs prevents plugs from becoming disengaged by pressure acting on the plugs from below, or being mechanically disengaged during the drill-out process. A significant improvement over other designs that only mesh against rotation, this lockdown feature is unique to Davis.
- Five-wiper premium quality plugs provide for most efficient casing wiping.
- Type LAP collars and plugs are field proven for easy drill out with PDC bits.
- System allows for use of multiple bottom plugs or no bottom plugs if desired.
- Davis float shoes are also available with the Type LAP insert upon request.



Lock-Down Anti-Rotation Plugs Type LAP/N (Surface Launch)

Lock-Down Anti-Rotation Plug System Type LAP/N (Surface launch)*

Available for surface launch applications, Davis offers the Type LAP/N plug system. This system incorporates our latest generation of mechanism to prevent plug rotation while drilling out. The system features a float collar (Fig. 3, above) with a heavy duty "tooth like" insert incorporated, a bottom cementing plug with heavy duty inserts incorporated on top and bottom, as well as a top plug with a heavy duty insert incorporated on bottom. The unique angled tooth design of the system allows for easy engagement between plug and collar, as well as between plugs.

Notable features/benefits are:

- Once engaged the angled tooth design prevents plugs from becoming disengaged by pressure acting on the plugs from below, or being disengaged during the drill-out process. A significant improvement over other designs that only mesh against rotation, this lock-down feature is unique to Davis.
- Five-wiper premium quality plugs provide for most efficient casing wiping.
- Type LAP/N collars and plugs are field proven for easy drill out with PDC bits.
- System allows for use of multiple bottom plugs or no bottom plugs if desired.
- Davis float shoes are also available with the Type LAP/N insert upon request.

Data for Davis Standard Stock Float Equipment manufactured from K-55 grade material and threaded with API Round-8 or Buttress Connections

Nominal Casing Size (In.)	Wt. range (Lbs/Ft)	O.D (In.)	I.D(In.)	Burst (PSI)	Collapse (PSI)
4 -1/2	9.5-13.5	5.000	4.031	9300	9600
5	11.5-21.0	5.563	4.439	9720	9950
5 -1/2	14.0-23.0	6.050	4.950	8750	9050
7	23.0-38.0	7.656	6.276	8650	9000
7 -5/8	20.0-39.0	8.500	6.969	8650	9000
8 -5/8	24.0-44.0	9.625	8.017	8000	8400
9 -5/8	32.3-53.5	10.625	8.921	7700	8100
10 -3/4	32.7-55.5	11.750	10.050	6950	7350
11 -3/4	38.0-65.0	12.750	11.000	6600	7000
13 -3/8	48.0-72.0	14.375	12.615	5850	5850
16	65.0-109.0	17.000	15.250	4950	4250
18 -5/8	87.5-117.5	20.000	17.755	5400	5050
20	94.0-133.0	21.000	19.125	4250	3150

Standard stock Davis Float Equipment meets or exceeds the burst and collapse ratings of N-80 Grade casing for most weights within the range shown for each size.

Note: All burst and collapse pressure ratings are calculated in accordance with API bulletin 5C3, Sixth edition, October 1, 1994.