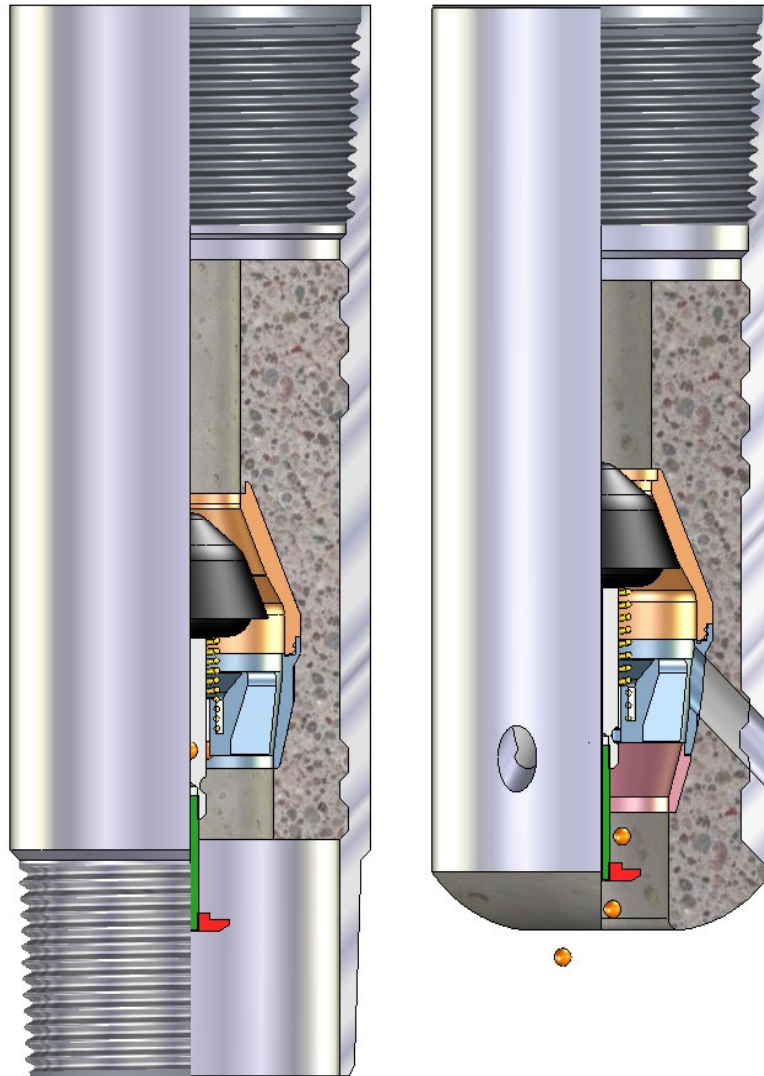




## Davis Self-Filling Float Shoes & Float Collars

Davis offers three types of self-filling equipment: the pump converted, PVTS valve equipped automatic-fill, the drop ball converted automatic-fill, and the drop ball converted differential fill. All three types are simple in design to give top-quality performance.



**Running in Type  
705 A-PVTS**

**Valve Actuated Type  
505 AD-PVTS**

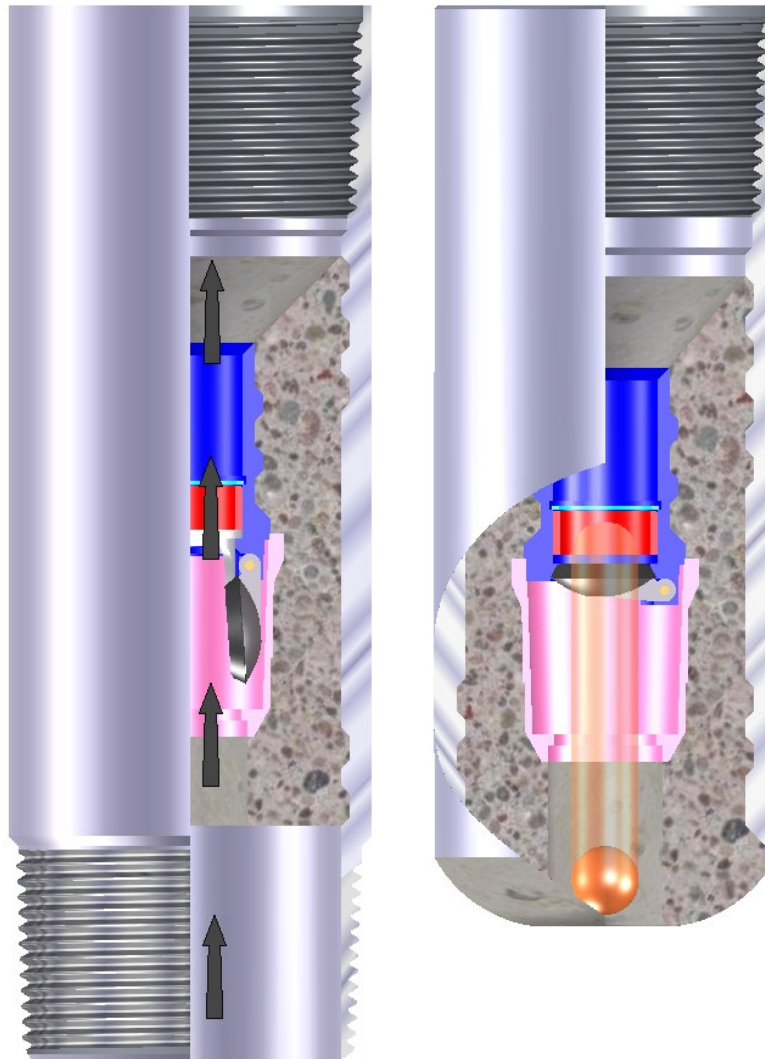
### **Pump Convert PVTS Automatic Fill-Up Shoes and Collars**

The Davis Type 505 AD-PVTS automatic fill-up shoe and the Davis Type 705 A-PVTS automatic fill-up collar utilize the proven Davis PVTS valve in self-filling equipment. The shoe and collar offer a

fixed radial area that allows fluid to enter the casing and seek its own height. This action lowers surge pressures on formations to a minimum, reduces casing running time and, the chances of it sticking are lessened. Casing can be circulated at any time, with low rates, without converting the valve from the fill-up to the back-pressure mode. Conversion from the fill-up to the back pressure mode can be accomplished at any time while casing is being run by introducing a predetermined flow rate to the equipment. Furthermore, if at casing running time it is determined that self-filling equipment is not desirable, the valve can be converted by manually forcing the plunger to its fully open position and removing the three retaining balls. Doing this requires filling the casing from the top as it is run. Once conversion is carried out, all the benefits of the proven Davis PVTS valve are realized, including PDC bit drill-ability and high pressure and temperature ratings.

**Drop Ball Convert Automatic Fill-Up Shoes and Collars**

The Davis Type 505 AF automatic fill-up shoe and the Davis Type 705 AF automatic fill-up collar allow maximum filling of the casing while it is being run in the hole, with the fluid entering the casing free to seek its own level. The filling action reduces casing running time and lowers surge pressures on formations to a minimum. Provided the conversion ball has not been dropped, casing can be circulated at any time without affecting the fill-up operation.

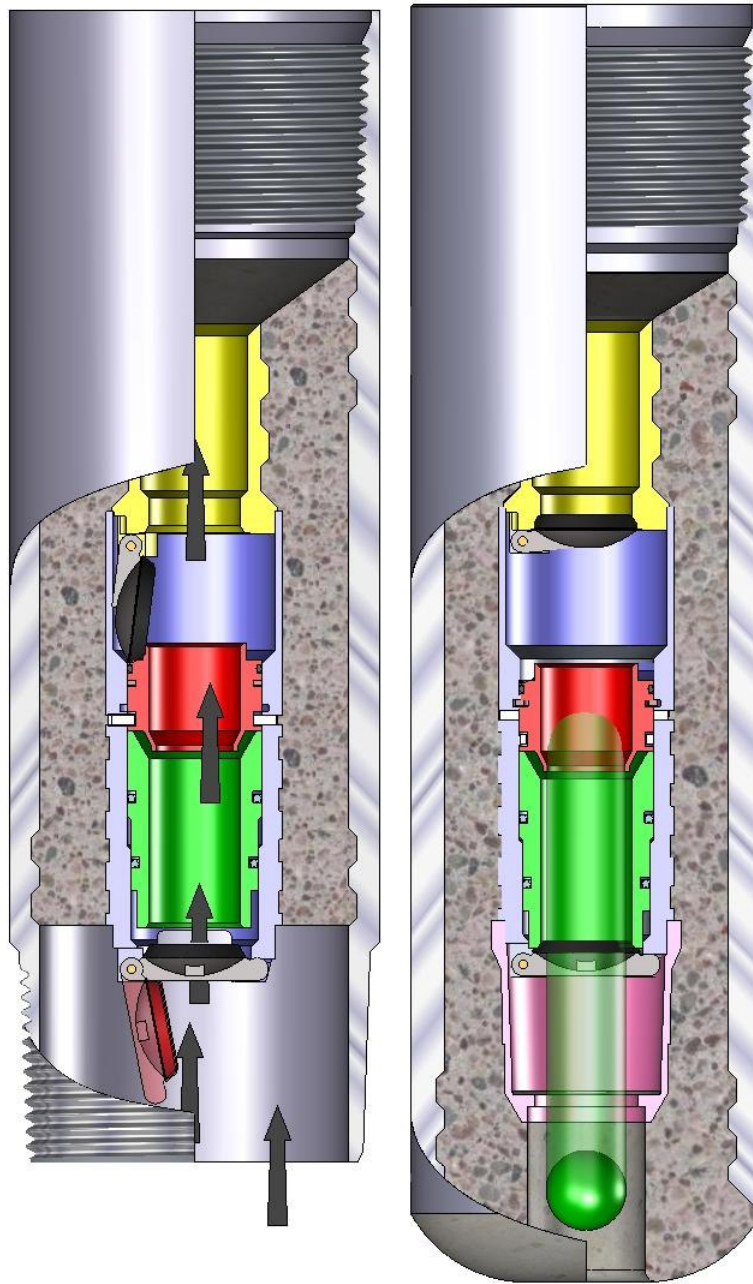


**Running in Type  
705 AF**

**Valve Actuated  
505 AF**

### Drop Ball Convert Differential Fill-Up Shoes and Collars

The Davis Type 506 differential fill-up shoe and the Davis Type 706 differential fill-up collar allow optimum, metered filling of the casing, while it is being run in the hole. This filling action reduces casing running time, lowers surge pressures on formations, and minimizes the possibility of sticking. Providing the conversion ball has not been dropped, casing can be circulated at any time without affecting the fill-up operation.



**Running in Type  
706**

**Valve Actuated  
Type 506**

Both the differential and the automatic fill-up equipment can be converted from the fill-up to the back- pressure mode at anytime during the casing run by dropping the weighted ball furnished with each piece. After allowing sufficient time for the ball to reach the equipment, conversion can be achieved by applying approximately 500 psi of pump pressure. If both a shoe and collar are present in the casing string, the same ball will convert both pieces in two "like-but-separate" actions.