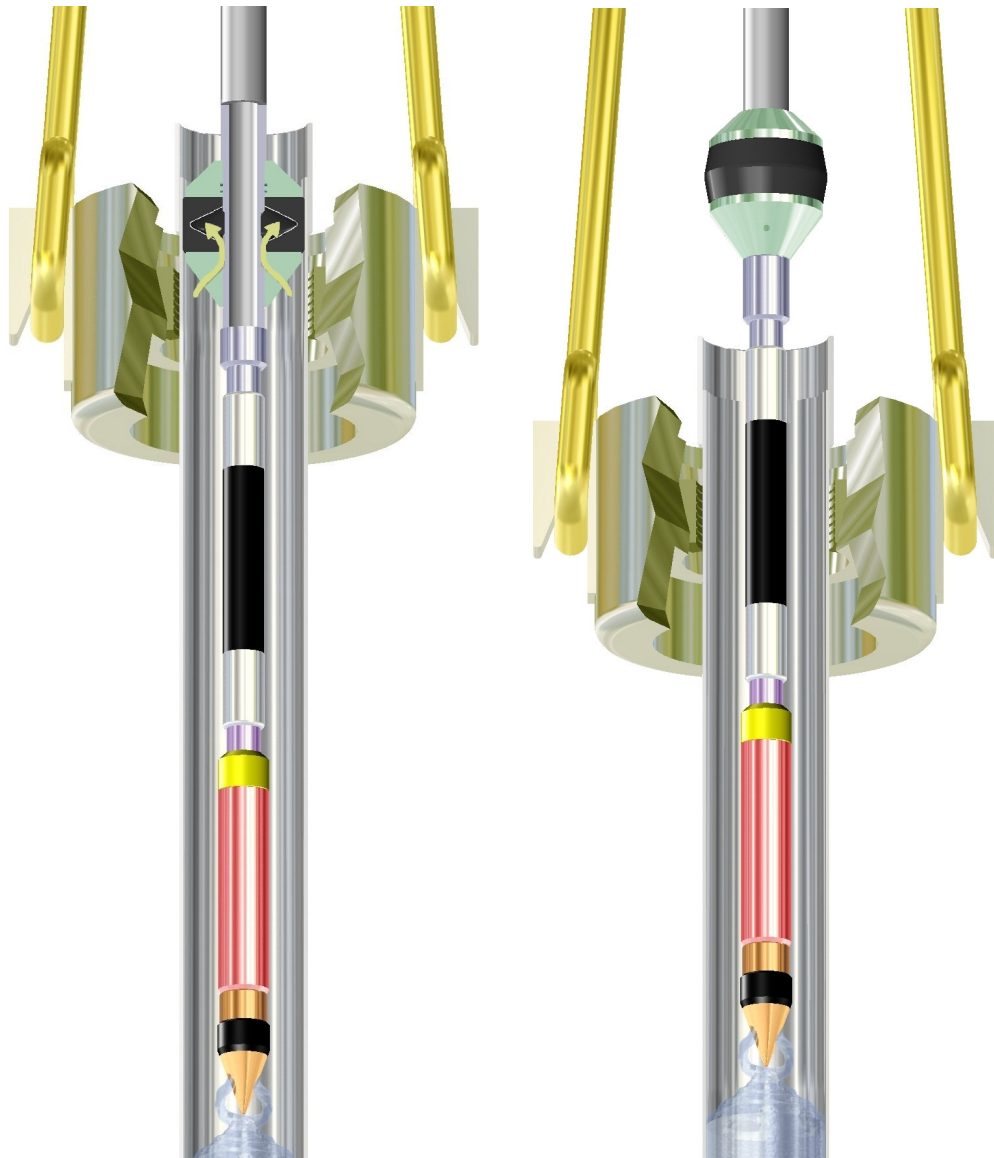


Davis Fill and Circulate Tool*

The Davis Fill and Circulate (FAC) Tool offers operators the safest and most efficient means to fill or circulate casing strings at desired rates as they are being run. In the fill position, fluid is pumped through the mandrel and the mud saver valve as the casing is being lowered into the well. In the circulate position, the sealing element, slightly larger than the ID of the casing, is lowered into the casing and forms a seal between the FAC Tool and the casing. Pressure applied to the casing for fluid circulation causes the fluid to enter an area behind the sealing element, energizing it to seal against fluid bypass.



Circulate Position

Fill Position

Features of the Davis FAC Tool are:

- Fluid pressure-energized sealing element that is easily inserted into casing, and seals more firmly as pressure increases.
- Tapered aluminum gauge ring below the sealing element protects against thread damage and acts to centralize the tool in the casing.
- Mud-saver valve that retains the static head of the mud and prevents mud from dripping onto the rig floor as tool is being raised into the derrick.
- Flexible steel-reinforced rubber hose with brass guide cone gives added flexibility for inserting the FAC Tool into the casing. Rubber insert on guide cone absorbs impact blows to casing during stabbing, filling, and circulating.
- Reverse flow through the check valve allows any pressure trapped below the FAC Tool to be released prior to removal from casing.
- Available with optional push-plate feature to aid in running casing to bottom.
- No "hands-on" manipulation of the FAC Tool is required to change from the fill to the circulate mode, or vice versa.
- The sealing element is easily changed by a single break.
- The same basic tool body can be adapted for use with several sizes of casing strings by changing the seal retainer ring, sealing element, and gauge ring.

*Patented

Fill and Circulate (FAC) tools available sizes

Casing Size (In.)	casing Weights (Lbs/Ft)	Casing Size (In.)	casing Weights (Lbs/Ft)
4 -1/2	11.60, 12.60, 15.1	10- 3/4	40.5, 45.5, 51, 55.5, 65.7
5	15, 18, 20.3	11 -3/4	47, 54 ,60, 65, 66.7 ,71
5- 1/2	17 ,20 ,23, 26	11 -7/8	71.8
7	17, 20, 23 ,26 ,29, 32, 35, 41	13 -3/8	54.5, 61 ,68, 72 ,77
7 -5/8	24, 26.4, 29.7, 33.7, 39, 42.8	13 -5/8	88.2
7 -3/4	46.1	16	65, 75 ,84, 94, 109
8- 5/8	24, 28, 32, 36	18- 5/8	87.5, 94.5, 97.7, 106, 117.5
9 -5/8	32.3, 40, 43.5 ,47, 53.5	20	106.5, 131, 133, 163
9- 7/8	62.8		

Other sizes not listed above available on request.