

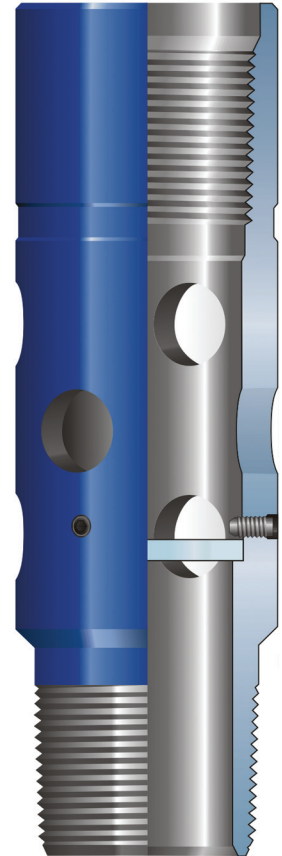
Purpose

The **Brico Fill / Flow sub** allows fluid into the tubing string while running in the hole as well as prevents tubing scale and other debris from settling on top of the firing head or other downhole accessories. The Fill / Flow sub has a thin glass disc which redirects debris into the annulus from inside the tubing. This sub does not hold pressure or act as a separation device. The tool is intended only as a debris catch and a means of allowing well bore fluids from the reservoir into the tubing string.

Operation

The Brico Fill / Flow sub should be installed no less than 10 meters or 1 full tubing joint above a firing head or mechanical gun release depending on the application. The drop bar will shatter the glass disc as it passes through the fill / flow sub enroute to activate the firing head. The sub is simple in design and easy to redress in the field.

Note: A Fill / Flow sub with an integrated "No-Go" is also offered as an option should one be required in the tubing / drill pipe work string. Brico also offers a retrievable "No-Go" Fill / Flow sub with the internal sleeve being retrievable by slickline or eline with standard pulling tools.



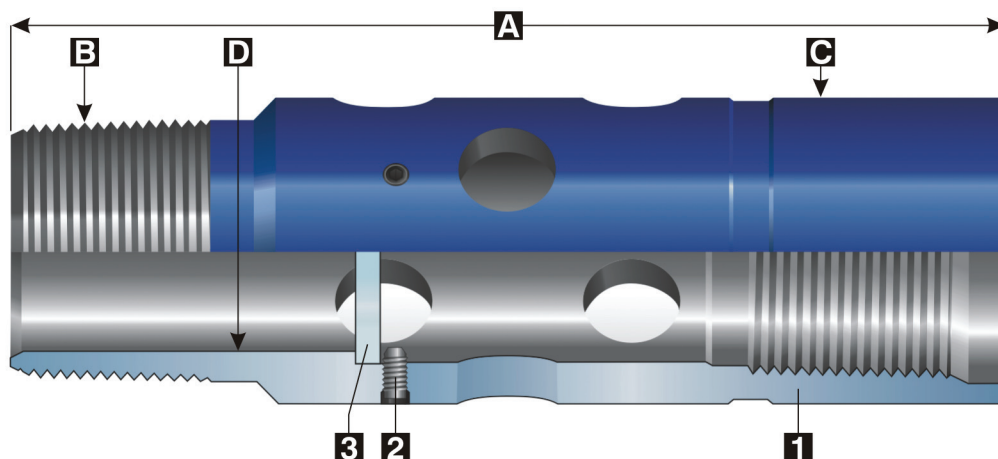
Specifications

Fill / Flow Sub (Product N° 31-11)				
Thread Size and Type	2 3/8" EUE Pin (60.33 mm)	2 7/8" EUE Pin (73.0 mm)	3 1/2" EUE Pin (88.9 mm)	4 1/2" EUE Pin (114.3 mm)
Assembly Number	31-1106001-00	31-1107301-00	31-1108901-00	31-1111401-00
Tensile Strength	Manufactured from P-110 / L-80 for H2S applications / API Material			
Minimum ID	1.99" (50.54 mm)	2.44" (61.97 mm)	2.995" (76 mm)	4.00" (101.6 mm)
Maximum OD	3.05" (77.47 mm)	3.67" (93.22 mm)	4.50" (114.30 mm)	5.563" (141.3 mm)
Flow Area	Flow area is equal to Minimum ID of particular product			
Length	10" (254 mm)	10.5" (266.7 mm)	11" (279.4 mm)	14" (355.5 mm)
Shipping Weight	7 lbs (3.2 kg)	10 lbs (4.4 kg)	20 lbs (9.07 kg)	31 lbs (14.06 kg)
Redress Kit Number	31-1106001-99	31-1107301-99	31-1108901-99	31-1111401-99

*NOTE: Also available in 3 1/2" IF Drill Pipe.

31-11 Fill / Flow Sub, Dimentional Data

Dim	31-1106001-00		31-1107301-00		31-1108901-00		31-1111401-00	
	In	mm	In	mm	In	mm	In	mm
A	10.00	254	10.5	266.7	11	279.4	14	355.5
B	2 ³ / ₈ " EUE	60.33 EUE	2 ⁷ / ₈ " EUE	73.0 EUE	3 ¹ / ₂ " EUE	89.9 EUE	4 ¹ / ₂ " EUE	114.3 EUE
C	3.050	77.4	3.670	93.2	4.500	114.3	5.563	141.3
D	1.995	50.6	2.441	62.0	2.992	75.9	4.000	101.6



31-11 Fill / Flow Sub, Parts List

Item	Description	31-1106001-00	31-1107301-00	31-1108901-00	31-1111401-00
		Part Number			
1	Body	31-1106001-01	31-1107301-01	31-1108901-01	31-1111401-01
2	1/4" - 20 UNC x 0.5" Set Screw	82-2255020-01	82-2255020-01	82-2255020-01	82-2255020-01
3	Glass Disc	31-1106001-02	31-1107301-02	31-1108901-02	31-1111401-02

31-12 Fill / Flow Sub with No-Go, Parts List

Item	Description	31-1206001-00	31-1207301-00		
		Part Number			
1	Body	31-1206001-01	31-1207301-01		
2	1/4" - 20 UNC x 0.5" Set Screw	82-2255020-01	82-2255020-01		
3	Glass Disc	31-1106001-02	31-1107301-02		