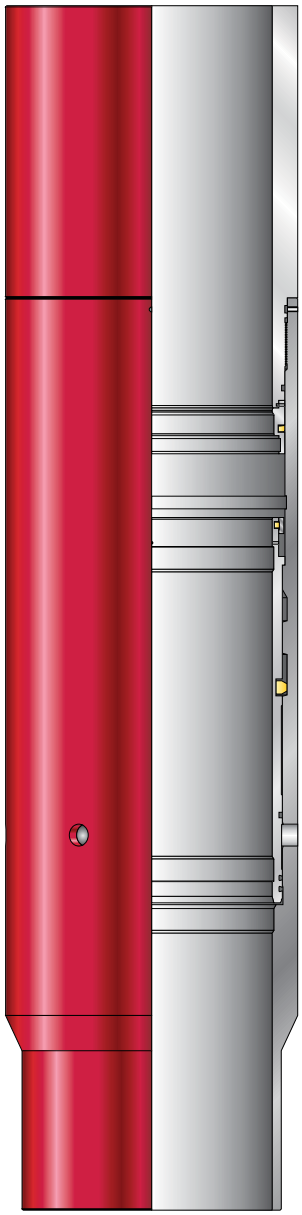
Mechanical Cementing Port Collar Model 761

Fullbore, Work-String-Actuated Cementing Valve

Weatherford's mechanical cementing port collar, model 761, is made up and run in the well on either the casing or liner. The collar is a fullbore cementing valve that is opened and closed with axial work-string movement and requires no drillout after use. The model 761 mechanical cementing port collar requires no plugs or seats, and leaves the ID clean of excess cement after closure.

An internal sleeve is opened and closed by engaging a collet-shifting tool made up on the work string. The collet is usually placed between opposed cups on a service tool. When the shifting tool is lowered into the well and the collets engage the sleeve, the sleeve can shift to the open position.

With the sleeve open, a full primary cement job can be performed by pumping down the work string, out the service tool, through the open port collar, and into the annulus behind the casing or liner. On completion of the cement job, axial movement in the opposite direction closes the sleeve and seals the port collar closed. The service tool is then retrieved from the well, leaving the ID of the port collar full bore to the casing or liner ID and free of cement or other debris.



Applications

- Stage-cementing jobs with an ACP™ packer
- Cementing above screens or slotted pipe
- Single-trip liner systems with screens or slotted pipe
- Wash-down liner systems requiring cement above screens or slotted pipe
- Surface and intermediate two-stage cementing jobs in which lengthy drillout times of conventional stage equipment can occur

Features, Advantages and Benefits

- Multiple large-diameter ports enable the cement slurry to displace the drilling fluid, promoting quicker and more efficient operation.
- The internal sliding sleeve is pressure-balanced, providing a reliable opening and closing operation.

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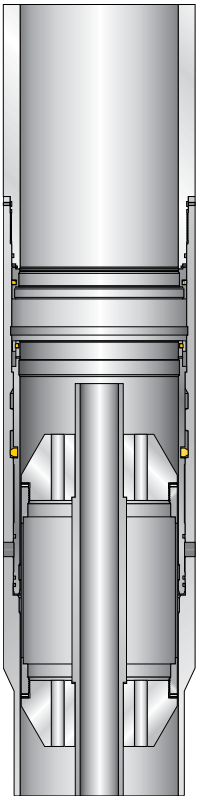
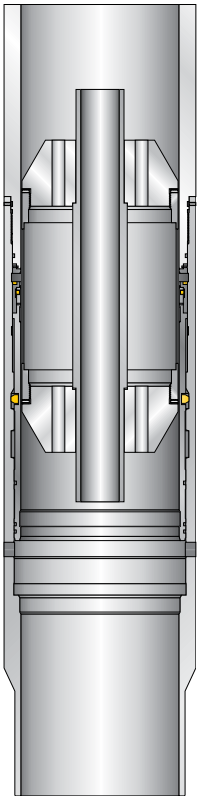
Features, Advantages and Benefits (continued)

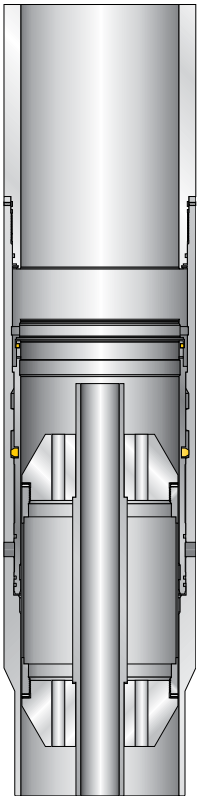
- High-strength, outer steel shell matches or exceeds casing burst and collapse specifications, providing tool reliability.
- Viton® fluoroelastomer seal assemblies are compatible with sour service, providing application flexibility.
- The port collar does not require rotation to locate or operate the tool, helping to provide easy functionality and making the tool suitable for deviated and horizontal wellbores.
- Pin × pin design enables the tool to be oriented to open and close, or vice versa, offering operational flexibility.



Run in the hole with the shifting collet



Retained open



Locked closed

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Specifications

This table can be used with the illustration on page 4 to determine all the measurements of the port collar for each size.

Collar size (in./*mm*)	**4-1/2** ***114.30***	**5-1/2** ***139.70***	**7** ***177.80***	**8-5/8** ***219.20***	**10-3/4** ***273.00***	**13-3/8** ***339.70***	**18-5/8** ***473.10***
A (in./*mm*)	3.92 *99.57*	4.89 *124.20*	6.34 *161.06*	7.98 *202.70*	9.90 *251.50*	12.38 *314.33*	17.69 *449.33*
B (in./*mm*)	4.17 *105.92*	5.10 *129.50*	6.50 *165.10*	6.50 *165.10*	10.06 *255.52*	12.54 *318.52*	18.05 *458.47*
C (in./*mm*)	31.44 *798.58*	30.55 *775.97*	31.47 *799.34*	31.06 *788.92*	30.03 *762.76*	36.11 *917.19*	31.41 *797.81*
D (in./*mm*)	44.61 *1,133.09*	43.43 *1,103.12*	44.61 *1,133.09*	44.61 *1,133.09*	44.61 *1,133.09*	57.34 *1,456.44*	45.81 *1,163.60*
E (in./*mm*)	3.92 *99.57*	4.98 *126.54*	6.34 *161.06*	7.98 *202.70*	9.90 *251.50*	12.38 *314.33*	17.69 *449.33*
F (in./*mm*)	4.17 *105.92*	5.10 *129.50*	6.50 *165.10*	8.18 *207.78*	10.06 *255.52*	12.54 *318.59*	18.05 *458.47*
G (in./*mm*)	5.56 *141.22*	6.63 *168.40*	8.00 *203.20*	10.00 *254.00*	12.00 *304.80*	15.00 *381.00*	20.50 *520.70*
H (in./*mm*)	3.92 *99.57*	4.89 *124.20*	6.34 *161.06*	7.98 *202.70*	9.90 *251.50*	12.38 *314.33*	17.69 *449.33*
Single port diameter (in./*mm*)	0.75 *19.05*					0.88 *22.35*	1.13 *28.70*
Number of ports	6						
Total port flow area (in.²/*mm*²)	2.65 *1,709.67*					3.07 *1,980.64*	5.96 *3,845.15*
Casing weight range (lb/ft, *kg/m*)	11.60 to 13.60 *17.30 to 20.20*	15.50 to 17.00 *7.00 to 7.70*	20.00 to 26.00 *29.80 to 38.70*	24.00 to 32.00 *10.80 to 14.50*	40.50 to 50.00 *18.30 to 22.60*	68.00 to 72.00 *101.20 to 107.10*	78.00 to 94.50 *116.10 to 140.60*
Burst pressure rating[1] (psi/*kPa*)	5,000 *34,473*		6,655 *45,885*	5,740 *39,575*	4,350 *29,992*	3,750 *25,855*	3,250 *22,408*
Collapse pressure rating[1] (psi/*kPa*)			5,410 *37,300*	5,360 *36,956*	4,065 *28,027*	2,250 *15,513*	1,000 *6,895*
Tensile ration[1] (lb/*kg*)	307,000 *139,253*	421,000 *190,962*	604,000 *273,969*	759,000 *344,276*	945,000 *428,644*	1,400,000 *635,029*	2,416,000 *1,095,879*
Standard box uphole buttress thread (in./*mm*)	4-12 *114.30*	5-1/2 *139.70*	7.00 *177.80*	8-5/8 *219.20*	10-3/4 *273.00*	13-3/8 *339.70*	18-5/8 *473.10*
Standard pin downhole buttress thread (in./*mm*)							

[1]Based on 80,000-psi (552-MPa) minimum yield-strength material

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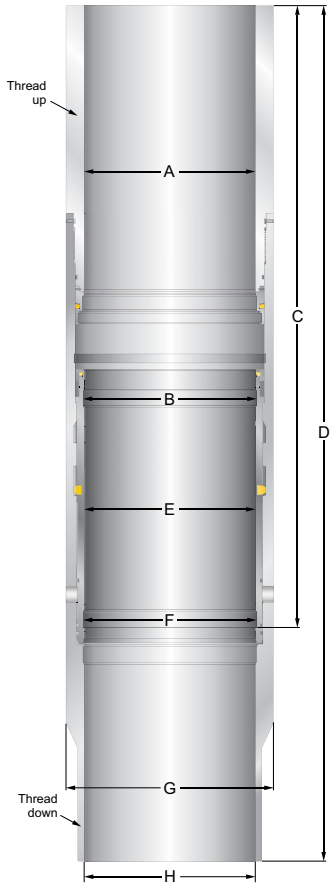

Mechanical cementing port collar

Options

- Standard connections are 8rd or buttress.
- Premium connections are available through special order.
- A locking ring is available if required.