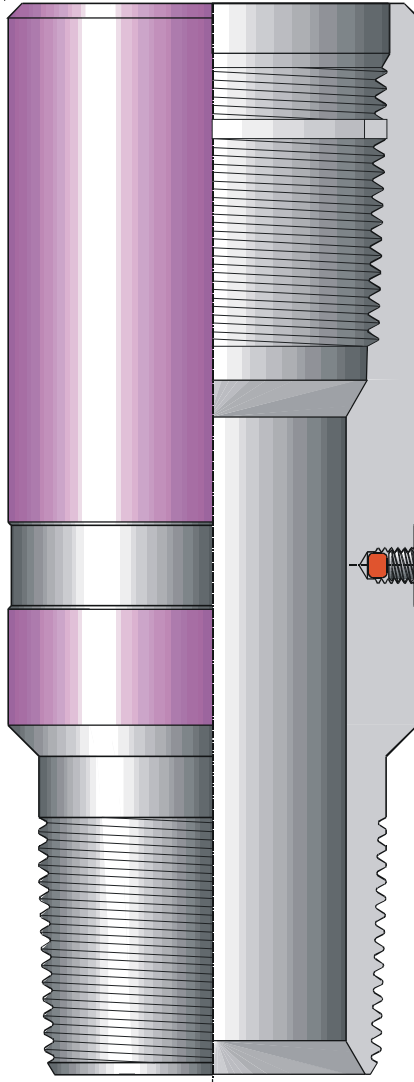


Description

The Radioactive (RA) Marker Sub is run in a TCP string above the Firing Head or Packer, and is used for accurate depth control.

A small radioactive pellet is inserted into the cavity of the sub and can be readily detected by wireline gamma ray logging tools. The gamma ray log done inside the tubing can be compared to the open hole logs with the location of the RA Marker superimposed. This gives the exact location of the Marker with respect to the formation of interest, so gun placement may be done extremely accurately as a comparison to pipe tally calculations.



Features and Benefits

- Radioactive (RA) Marker Sub is highly visible on gamma/neutron logs and allows comparison to open hole logs for accurate gun placement across zone
- Radioactive source is contained in a chamber and held in place by a setscrew, ensuring recovery

Note: this part does not include the Radioactive Source

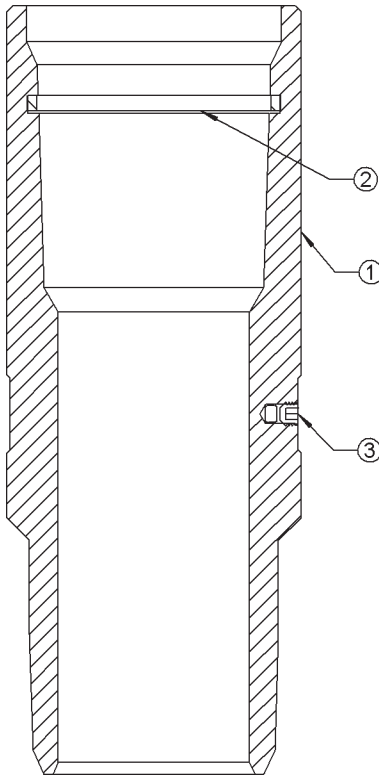
Specifications

	2-3/8 in (60.3 mm)		2-7/8 in (73.0 mm)		3-1/2 in (88.9 mm)		4-1/2 in (114.3 mm)	
Maximum OD	3.062 in	77.8 mm	3.688 in	93.6 mm	4.50 in	114.3 mm	5.563 in	141.3 mm
Minimum ID	1.995 in	50.6 mm	2.441 in	62.0 mm	2.992 in	76.0 mm	3.958 in	100.5 mm
Overall Length	8.0 in	203 mm	8.0 in	203 mm	8.0 in	203 mm	9.0 in	229 mm
Maximum Pressure	10,000 psi	68.9 MPa	10,000 psi	68.9 MPa	10,000 psi	68.9 MPa	10,000 psi	68.9 MPa
Connection	2-3/8 in (60.3 mm) EU Box X Pin		2-7/8 in (73.0 mm) EU Box X Pin		3-1/2 in (88.9 mm) EU Box X Pin		4-1/2 in (114.3 mm) EU Box X Pin	
Product Number	TC-120-2375-080		TC-120-2875-080		TC-120-3500-080		TC-120-4500-080	

Note: Premium connections are available upon request

Radioactive Marker Sub
 TC-120-2375-080
 TC-120-2875-080
 TC-120-3500-080
 TC-120-4500-080

Owen Oil Tools



Item	Part Number	Qty	Description
--	TC-120-1900-000	--	Radioactive Marker Sub 1.900 NU
1	TC-120-0000-000	1	Body RA Marker 1.900 NU
2	MI-305-1900-000	1	Seal Ring 1.900" EU
3	PF-001-025C-018SS	1	Set Screw SO 1/4"-20 UNC x 3/16 Stainless

Item	Part Number	Qty	Description
--	TC-120-2375-080	--	Radioactive Marker Sub 2-3/8" EU
1	TC-120-0001-080	1	RA Marker Sub Body 2-3/8" EU L80
2	MI-305-2375-000	1	Seal Ring 2-3/8" EU
3	PF-001-025C-018SS	1	Set Screw SO 1/4"-20 UNC x 3/16 Stainless

Item	Part Number	Qty	Description
--	TC-120-2875-080	--	Radioactive Marker Sub 2-7/8" EU
1	TC-120-0002-080	1	RA Marker Sub Body 2-7/8" EU L80
2	MI-305-2875-000	1	Seal Ring 2-7/8" EU
3	PF-001-025C-018SS	1	Set Screw SO 1/4"-20 UNC x 3/16 Stainless

Item	Part Number	Qty	Description
--	TC-120-3500-080	--	Radioactive Marker Sub 3-1/2" EU
1	TC-120-0003-080	1	RA Marker Sub Body 3-1/2" EU L80
2	MI-305-3500-000	1	Seal Ring 3-1/2" EU
3	PF-001-025C-018SS	1	Set Screw SO 1/4"-20 UNC x 3/16 Stainless

Item	Part Number	Qty	Description
--	TC-120-4500-080	--	Radioactive Marker Sub 4-1/2" EU
1	TC-120-0009-080	1	RA Marker Sub Body 4-1/2" EU L80
2	MI-305-4500-000	1	Seal Ring 4-1/2" EU
3	PF-001-025C-018SS	1	Set Screw SO 1/4"-20 UNC x 3/16 Stainless

Item	Part Number	Qty	Description
--	TC-120-5500-000	--	Radioactive Marker Collar 5-1/2" Casing
1	TC-120-0007-000	1	RA Collar, 5-1/2" Casing
2	MI-305-5500-000	1	Seal Ring 5-1/2" EU
3	PF-001-025C-018SS	1	Set Screw SO 1/4"-20 UNC x 3/16 Stainless

These Subs are also available in a P-110 version