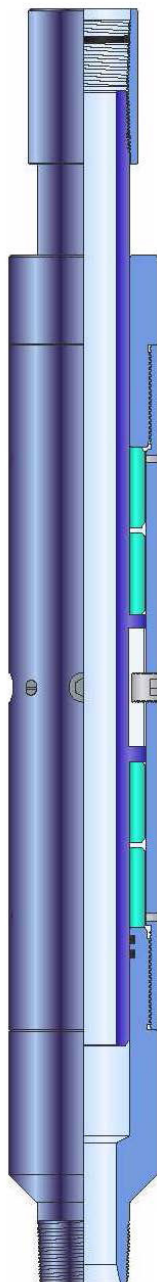


### TECHNICAL INFORMATION:



The 5" Vertical Shock Absorber is designed to run between the Packer and TCP guns. The purpose of the VSA is to protect delicate electronic gauges and mechanical tools from the severe shocks associated with the detonation of the TCP guns.

#### ADVANTAGES:

- Protects Electronic Pressure Gauge
- Protects Mechanical Pressure Gauge
- Tool is rigid until guns fire
- Anti-rotational and sealed design

#### SPECIFICATIONS:

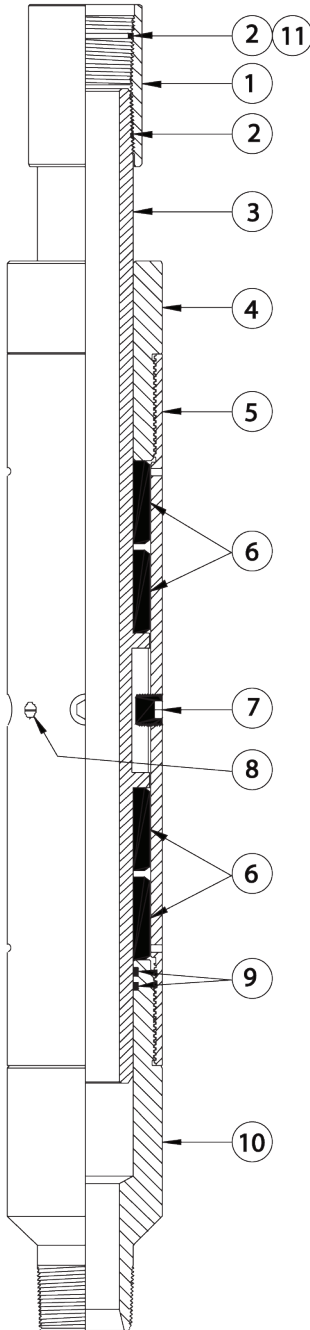
THREAD CONN.	TC-300-5000-288: 2-7/8" EUE	
O.D.	5"	127 mm
I.D.	2.25"	57.2 mm
Make-up Length	41.00"	1041.4 mm
Max. Hydrostatic	20,000 psi	137.9 MPa
Max. Differential	15,000 psi	103.4 MPa
Tensile	250,000 lbf	111 205 daN
Temperature	250°F	120°C

THREAD CONN.	TC-300-5000-350: 3-1/2" EUE	
O.D.	5"	127 mm
I.D.	2.25"	57.2 mm
Make-up Length	47.25"	1200.2 mm
Max. Hydrostatic	20,000 psi	137.9 MPa
Max. Differential	15,000 psi	103.4 MPa
Tensile	250,000 lbf	111 205 daN
Temperature	250°F	120°C

THREAD CONN.	TC-300-5000-400: 3-1/2" I.F.	
O.D.	5"	127 mm
I.D.	2.25"	57.2 mm
Make-up Length	50.25"	1276.4 mm
Max. Hydrostatic	20,000 psi	137.9 MPa
Max. Differential	15,000 psi	103.4 MPa
Tensile	250,000 lbf	111 205 daN
Temperature	250°F	120°C

### TECHNICAL INFORMATION:

#### BOM:



ITEM	PART NO.	QTY	DESCRIPTION
--	TC-300-5000-288	--	5" Vertical Shock Absorber Assembly. with 2-7/8 EUE connections.
1	CC-001-2875-100	1	Top Sub, 2-7/8 EUE X 2-7/8 EUE
2*	MI-305-2875-000	2	API Seal, 2-7/8 EUE
3	TC-300-0008-000	1	Mandrel
4	TC-300-0009-000	1	Retainer
5	TC-300-0010-000	1	Housing
6*	TC-300-0011-000	4	Rubber Elements
7*	PF-002-100F-088	4	Lock Screws
8*	SET-3500-022	4	Shear Screws
9*	OOO-N569-338	2	O-Ring N-90
10	TC-300-0012-000	1	Bottom Sub 2-7/8 EUE
--	TC-300-5000-099	--	Re-dress Kit, 2-7/8 EUE VSA
--	MAN-TC-300-5000	--	Assembly Manual

--	TC-300-5000-350	--	5" Vertical Shock Absorber Assembly. with 3-1/2 EUE connections.
1	TC-300-0015-000	1	Top Sub, 3-1/2 EUE X 2-7/8 EUE
2*	MI-305-2875-000	1	API Seal, 2-7/8 EUE
3	TC-300-0008-000	1	Mandrel
4	TC-300-0009-000	1	Retainer
5	TC-300-0010-000	1	Housing
6*	TC-300-0011-000	4	Rubber Elements
7*	PF-002-100F-088	4	Lock Screws
8*	SET-3500-022	4	Shear Screws
9*	OOO-N569-338	2	O-Ring N-90
10	TC-300-0016-000	1	Bottom Sub, 3-1/2 EUE
11*	MI-305-3500-000	1	API seal, 3-1/2 EUE
--	TC-300-5000-399	--	Redress kit, 3-1/2 EUE VSA
--	MAN-TC-300-5000	--	Assembly Manual

--	TC-300-5000-400	--	5" Vertical Shock Absorber Assembly. with 3-1/2 IF connections.
1	TC-300-0013-000	1	Top Sub, 3-1/2 IF X 2-7/8 EUE
2*	MI-305-2875-000	1	API Seal, 2-7/8 EUE
3	TC-300-0008-000	1	Mandrel
4	TC-300-0009-000	1	Retainer
5	TC-300-0010-000	1	Housing
6*	TC-300-0011-000	4	Rubber Elements
7*	PF-002-100F-088	4	Lock Screws
8*	SET-3500-022	4	Shear Screws
9*	OOO-N569-338	2	O-Ring N-90
10	TC-300-0014-000	1	Bottom Sub, 3-1/2 IF
--	TC-300-5000-499	--	Redress kit, 3-1/2 IF VSA
--	MAN-TC-300-5000	--	Assembly Manual

\*Indicates items in the Redress Kit, same quantities