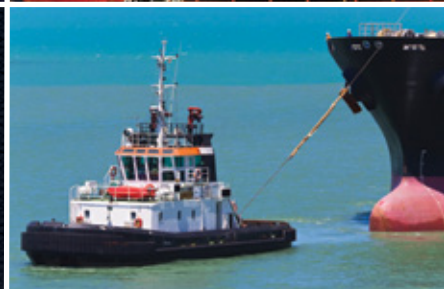


ELASTA-FLEX®

E, VE & EXPANDER TUBES



E, VE & Expander Tubes



ELASTA-FLEX® V, VE & Expander Tube Series

Oil States® offers a complete line of expander tube sizes and replacement components including springs and friction shoe assemblies. Our tubes are designed for the rigors of high-pressure, high-temperature hydraulic applications up to 700psi.

In addition to standard sizes, we offer specialty tubes for unique applications such as vintage aircraft brakes.

Global Distribution and Support

Around the world, our Oil States® distributor network offers the inventory and short lead times you demand to keep your production on track and minimize downtime in the field. We offer full engineering support worldwide to help you quickly and confidently solve your toughest design challenges.

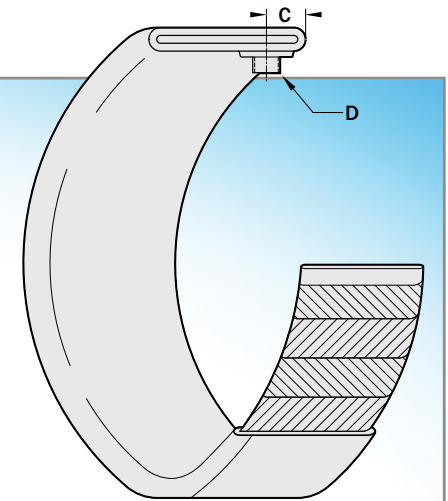


ELASTA-FLEX® Expander Tubes

Our hydraulically-actuated Expander Tubes are ideally suited for heavy-duty braking applications.

Features & Benefits

- High torque in a compact envelope
- Wear resistance and output torque surpassing conventional two-shoe brakes
- Largest size can consistently maintain torque levels in excess of 117,000 ft.-lbs.
- Self-adjusting to compensate for wear of the friction material and drum
- Stainless-steel shields eliminate 'pinch points' on the tube surface



TECHNICAL AND DIMENSIONS: EXPANDER TUBES

PART NUMBER Tube with Shields	PART NUMBER Tube without Shields	SIZE	INLET OPTION	DYNAMIC TORQUE RATING*		CLUTCH WIDTH		CLUTCH OUTSIDE DIAMETER		C		D**		FRICTION SHOE			
				in-lb	N-m	in	mm	in	mm	in	mm	No.	DIAMETER		No.	WIDTH	
													in	mm		in	mm
n/a	LAP150-A	7"x1.5"	90 Degree Stem	----	----	1.64	42	6.94	176	0.82	21	1	.12 (2)	3.0 (2)	7	1.5	38
n/a	LAP150-B	7"x1.5"	33 Degree Stem	----	----	1.64	42	6.94	176	0.82	21	1	.12 (2)	3.0 (2)	7	1.5	38
n/a	LAP150-C	7"x1.5"	45 Degree Stem	----	----	1.64	42	6.94	176	0.82	21	1	.12 (2)	3.0 (2)	7	1.5	38
n/a	LAP150-D	7"x1.5"	Extended Insert	----	----	1.64	42	6.94	176	0.82	21	1	.12 (2)	3.0 (2)	7	1.5	38
LAP23	LAP230	17 1/4"x4"	1ea .5 Insert	22,000	2,484	4.31	109	17.13	435	2.16	55	1	0.5	12.7	12	3.94	100
LAP9	LAP256	17 1/4"x4"	1 ea .75 Insert	22,000	2,484	4.31	109	17.13	435	2.16	55	1	0.75	19.0	12	3.94	100
LAP14	LAP231	20 1/4"x 3"	1ea .5 Insert	22,500	2,540	3.47	88	20.13	511	1.74	44	1	0.5	12.7	12	2.94	75
LAP11	LAP255	20 1/4"x 3"	1 ea .75 Insert	22,500	2,540	3.47	88	20.13	511	1.74	44	1	0.75	19.0	12	2.94	75
LAP5	LAP227	20 1/4"x 5"	1ea .5 Insert	44,000	4,968	5.47	139	20.13	511	2.74	70	1	0.5	12.7	12	4.94	125
LAP18	LAP226	20 1/4"x 7"	1ea .5 Insert	64,000	7,226	7.38	187	20.13	511	2.69	68	1	0.5	12.7	12	6.94	176
LAP6	LAP240	22"x5"	1ea .5 Insert	52,500	5,927	5.62	143	21.88	556	2.81	71	1	0.5	12.7	12	4.94	125
LAP7	LAP248	22"x5"	1 ea .75 Insert	52,500	5,927	5.62	143	21.88	556	2.81	71	1	0.75	19.0	12	4.94	125
LAP16	LAP274	22"x5"	2ea .75 Insert	52,500	5,927	5.62	143	21.88	556	2.81	71	2	0.75	19.0	12	4.94	125
LAP4	LAP229	26"x5"	1ea .5 Insert	82,500	9,314	5.62	143	25.88	657	2.81	71	1	0.5	12.7	12	4.94	125
LAP8	LAP252	26"x5"	1 ea .75 Insert	82,500	9,314	5.62	143	25.88	657	2.81	71	1	0.75	19.0	12	4.94	125
LAP21	LAP265	26"x5"	2ea .75 Insert	82,500	9,314	5.62	143	25.88	657	2.81	71	2	0.75	19.0	12	4.94	125
LAP15	LAP228	26"x7"	1ea .5 Insert	108,000	12,193	7.62	194	25.88	657	2.81	71	1	0.5	12.7	12	6.94	176

NOTES: Recommended Maximum Operating pressure is 650 PSI (44,8 bar).

* Torque rating listed for 600psi/41,4bar, actual varies with actuating pressure. Indicates dynamic torque. Torque results will vary by application conditions, static torque will be up to 25% higher.

** 1/8 Inch soft-drawn copper tubing.

IMPORTANT: Equipment operation must comply with all OSHA and regulatory standards. Operation outside of these specifications or applications will void all Oil States Industries' warranties. New applications must be approved in advance by Oil States to assess warranty coverage.

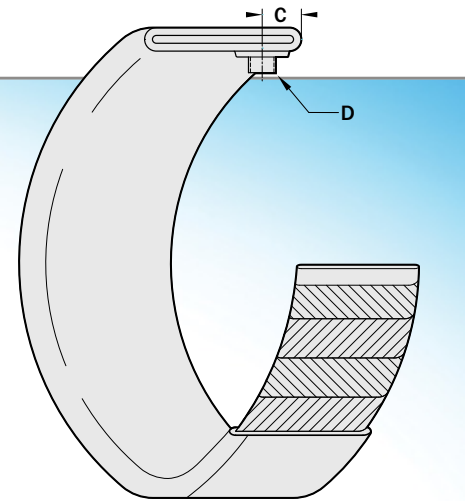
E, VE & Expander Tubes

ELASTA-FLEX® E Series Tubes

A choice of configurations for moderate duty

Features & Benefits

- Expanding configuration with the elastomeric tube on the exterior of the rim
- No cooling passages on friction shoe for light-duty applications
- As friction surfaces wear, the tube constricts further to compensate
Thus normal wear will not reduce torque capacity
- No lubrication required



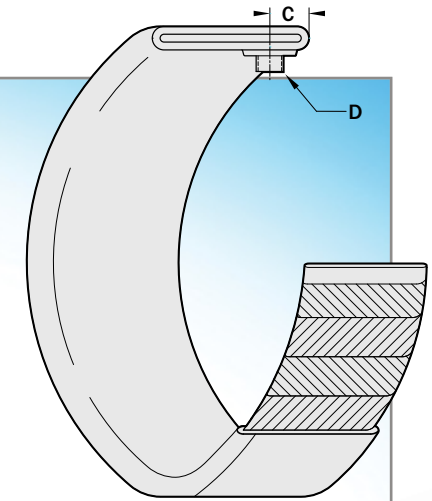
ELASTA-FLEX® VE Series Tubes

For heavy-duty operation requiring rapid heat dissipation

The E element is the base unit for the VE series, in which outward extending side plates and ventilation friction shoe assemblies with larger cooling passages are added.

Features & Benefits

- As friction surfaces wear, the tube constricts further to compensate
Thus normal wear will not reduce torque capacity
- Small integral cooling passages on friction shoe for medium-duty applications
- No lubrication required



TECHNICAL AND DIMENSIONS: E SERIES TUBES***

OIL STATES PART NUMBER		CROSSOVER PART NUMBER		SIZE	DYNAMIC TORQUE RATING*		CLUTCH WIDTH		CLUTCH OUTSIDE DIAMETER		C		D**		FRICTION SHOE	
SPLIT / BUTT END	Continuous	SPLIT / BUTT END	Continuous		in-lb	N-m	in	mm	in	mm	in	mm	size	No.	in	mm
LAP009882	LAP011923	9882	11923	16E475	31,500	3,560	5.5	139,7	18.91	480,3	1.47	37,3	3/8"-18	12	4.75	120,7
LAP010387	LAP011927	10387	11927	21.5E475	52,000	5,880	5.5	139,7	23.91	607,3	1.69	42,9	3/8"-18	16	4.75	120,7
LAP009884	LAP011928	9884	11928	24E475	67,000	7,570	5.5	139,7	26.91	683,5	1.69	42,9	3/8"-18	18	4.75	120,7

NOTES: Recommended Maximum Operating pressure is 125 PSI (8,6 bar) sizes 12E475 through 40E700

*Listed rating at 75psi/5,2bar, actual varies with actuating pressure. Indicates dynamic torque. Torque results will vary by application conditions, static torque will be up to 25% higher.

** All sizes have one inlet valve except the 40E700 which has two (2), connections are National Pipe Thread.

*** The same Oil States Industries' tube is used on both the E and VE Series Clutches

Example: For a Split/Butt End tube for the VE Series 16E475 and E Series 19E475, order LAP009882

IMPORTANT: Equipment operation must comply with all OSHA and regulatory standards. Operation outside of these specifications or applications will void all Oil States Industries' warranties. New applications must be approved in advance by Oil States to assess warranty coverage.

TECHNICAL: VE SERIES TUBES

SIZE	TORQUE RATING*		SPEED MAX	SPEED CORRECTION (SC)		WEIGHT (W)		INERTIA (Wk ²)	
	in-lb	N-m	rpm	psi/rpm ²	bar/rpm ²	lb	kg	lb-ft ²	kg-m ²
19VE475	25,500	2,879	1,100	3.3	0,23	58	26,4	20	0,84
24VE475	45,200	5,103	875	5.6	0,39	77	35,0	61	2,56
27VE475	58,500	6,605	775	5.9	0,41	90	40,1	75	3,15

NOTES: Recommended Maximum Operating pressure is 125 PSI (8,6 bar) sizes 19VE475 through 27VE475

* Listed rating at 75psi/5,2bar, actual varies with actuating pressure. Indicates dynamic torque. Torque results will vary by application conditions, static torque will be up to 25% higher.

IMPORTANT: Equipment operation must comply with all OSHA and regulatory standards. Operation outside of these specifications or applications will void all Oil States Industries' warranties. New applications must be approved in advance by Oil States to assess warranty coverage.

DIMENSIONS: VE SERIES TUBES***

OIL STATES PART NUMBER		CROSSOVER PART NUMBER		SIZE	DYNAMIC TORQUE RATING*		CLUTCH WIDTH		CLUTCH OUTSIDE DIAMETER		C		D**		FRICTION SHOE	
SPLIT / BUTT END	Continuous	SPLIT / BUTT END	Continuous		in-lb	N-m	in	mm	in	mm	in	mm	size	No.	in	mm
LAP009882	LAP011923	9882	11923	19VE475	25,500	2,880	5.69	144,5	18.91	480,3	1.47	37,3	3/8"-18	12	4.69	119,1
LAP010387	LAP011927	10387	11927	24VE475	45,200	5,110	5.69	144,5	23.91	607,3	1.69	42,9	3/8"-18	14	4.69	119,1
LAP009884	LAP011928	9884	11928	27VE475	58,500	6,610	5.69	144,5	26.91	683,5	1.69	42,9	3/8"-18	16	4.75	120,7

NOTES: Recommended Maximum Operating pressure is 125 PSI (8,6 bar) sizes 19VE475 through 27VE475

* Listed rating at 75psi/5,2bar, actual varies with actuating pressure. Indicates dynamic torque. Torque results will vary by application conditions, static torque will be up to 25% higher.

** All sizes have one inlet valve, connections are National Pipe Thread.

*** The same Oil States Industries' tube is used on both the E and VE Series Clutches

Example: For a Split/Butt End tube for the VE Series 16E475 and E Series 19E475, order LAP009882

IMPORTANT: Equipment operation must comply with all OSHA and regulatory standards. Operation outside of these specifications or applications will void all Oil States Industries' warranties. New applications must be approved in advance by Oil States to assess warranty coverage.



About Oil States Clutch & Brake Systems

Oil States is a global supplier of trusted clutch and brake solutions for industrial, oilfield, mining and forestry applications and more. Engineered and tested to the highest standards of performance and reliability, Oil States brake and clutch solutions offer a full range of performance and configurations for virtually any environment.

DRUM STYLE

- Elasta-Flex® VC Series
- Elasta-Flex® HVC Hydraulic Series
- Elasta-Flex® CB Series
- Elasta-Flex® CM Series

DISK STYLE

- CoolForce™ Water Cooled Brakes
- Hydraulic and Pneumatic Callipers

EXPANDING CLUTCH ACTUATORS

- Elasta-Flex® E Series
- Elasta-Flex® VE Series
- Elasta-Flex® Expander Tubes

OIL STATES INDUSTRIES, INC.

Industrial Products Division

Manufacturing, Engineering & Sales
 7701 S. Cooper Street
 Arlington, Texas 76001 USA
 Tel +1 817 548 4200
 Fax +1 817 548 4222
 US Toll Free: 1 (800) 785 2674
 E-mail: IndProd@oilstates.com

Europe & Eurasia

Oil States Industries, Inc.
Representative Office
 36, Bd des Oceans
 13275 Marseille, Cedex 9
 France
 Tel +33 491 956 051
 Fax +33 491 401 482

Oil States Industries, Inc.

Representative Office
 Suite 5, 1F Amirov Street
 Baku, AZ1000 Azerbaijan
 Tel/Fax +994 125 981 125

Middle East & Africa

Oil States Industries, Inc.
Branch Office
 Fairmont Hotel, Ste. 515
 Sheikh Zayed Road
 Dubai, UAE
 Tel +971 50 550 0954

Oil States Industries (Nigeria) Ltd.

Sales Office
 No. 50c Glover Road
 Ikoyi, Lagos, Nigeria
 Tel +234 1 2718363
 Fax +234 1 2718364

South America

Oil States Industries do Brasil Ltda.
Sales Office
 Centro Empresarial Barra Shopping
 Bloco 8B, COB 303
 Av. das Américas 4200
 CEP 22640-907
 Barra da Tijuca, RJ Brazil
 Tel: +55 21 3503 2400

Contact your local Oil States representative to learn more about our full clutch and brake product line.



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