

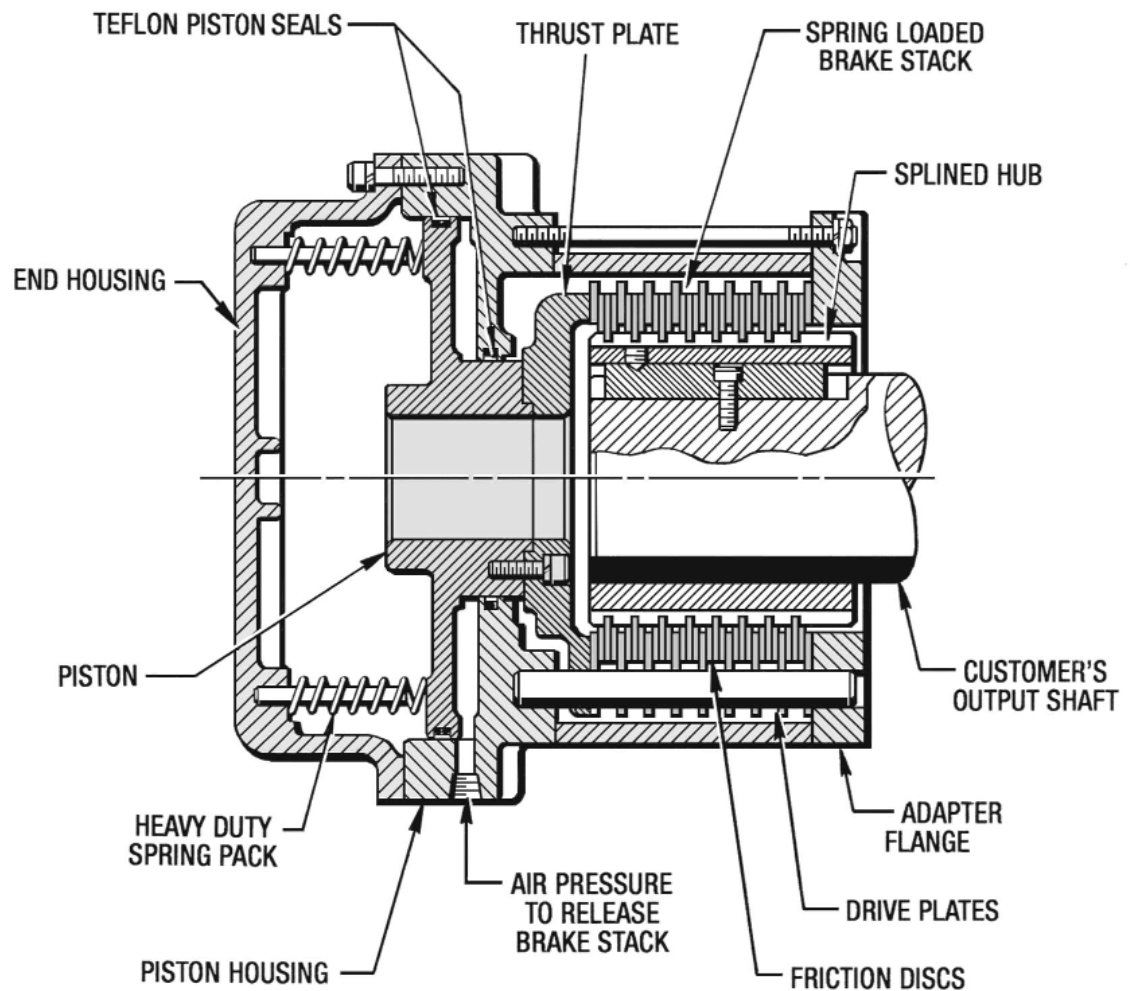
## Section 8 Dry Friction E-Stop Brakes

### Dry Friction Brakes for Emergency Stop



The **E-Stop Brake** is a dry-friction brake designed to be directly mounted to your machine or drive to provide an extremely fast and positive braking action in response to an E-Stop Event. These brakes are highly compact and space efficient.

They come in three basic frame sizes, 30 models with a range of 3,125 Lb.In. up to 312,700 Lb.In. of Static Torque.



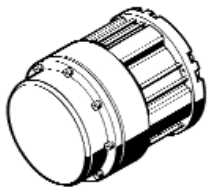
#### Features...

- Fast acting response.
- Compact and efficient design.
- Multiple Spring Set Brake with Multiple Friction Surfaces.
- High braking torque and low cyclic inertia.
- Totally enclosed.

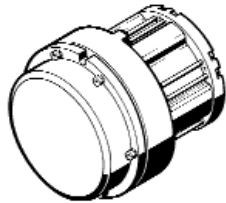
#### Benefits...

- Increased operator safety.
- Ease of installation.
- Space and cost savings.
- Long service life.
- Low maintenance.
- Energy efficient.

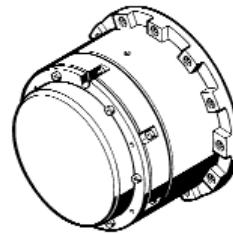
30 Models and Sizes to choose from...



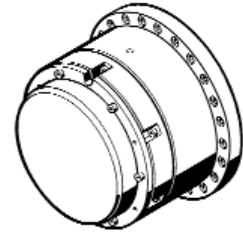
ES-C and ES-D Series



ES-S and ES-L Series



ES-T Series

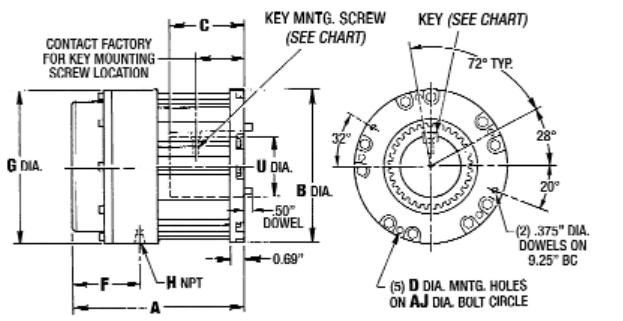


ES-M & ES-X Series

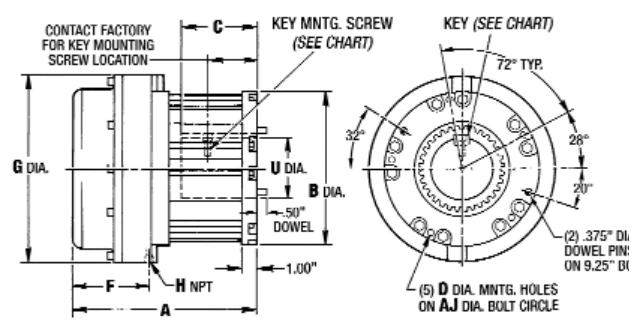
E-Stop Brake Dimensions (Inches)

BRAKE SERIES	A	B	C		D	F	G	H	U BORE		AJ
			MIN	MAX					MIN	MAX	
ES-C	8.87	10.00	2.25	2.69	.41	4.37	10.00	1/4" NPT	1.250	4.000	9.25
ES-D	10.35		3.06	3.81					2.500	4.000	
ES-S	10.50	10.00	4.00	5.12	.41	5.00	12.20	1/4" NPT	2.000	4.000	9.25
ES-L	12.00		4.00	5.12					2.000	4.000	
ES-T	13.05	21.50	4.18	6.20	.69	5.00	17.88	3/4" NPT	3.750	6.250	20.00

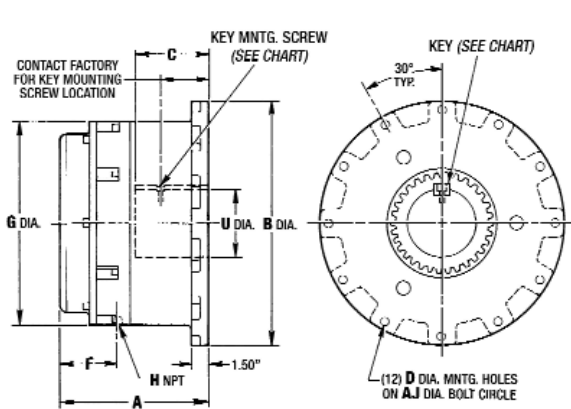
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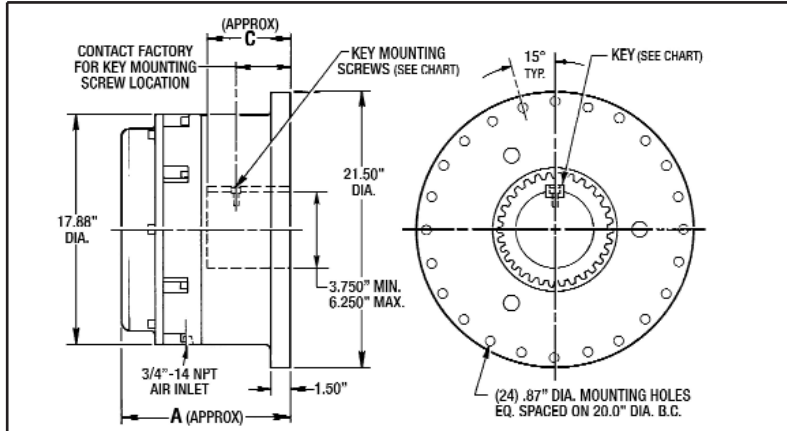
ES-C and ES-D Series



ES-S and ES-L Series



ES-T Series



BRAKE SERIES	A	C	
		MIN.	MAX.
ES-M	13.05	4.18	6.20
ES-X	15.07	6.75	8.34

ES-M and ES-X Series

E-Stop Brake Key Size (Inches)

HUB BORE (Inches)	KEY SIZE (Inches)	KEY SCREW SIZE (Inches)
1.250 to 1.375	5/16 x 5/16	Call Factory
1.375 to 1.750	3/8 x 3/8	Call Factory
1.750 to 2.250	1/2 x 1/2	1/4-20
2.250 to 2.750	5/8 x 5/8	5/16-18
2.750 to 3.250	3/4 x 3/4	3/8-16
3.250 to 3.750	7/8 x 7/8	3/8-16
3.750 to 4.500	1 x 1	3/8-16
4.500 to 5.500	1-1/4 x 1-1/4	3/8-16
5.500 to 6.500	1-1/2 x 1-1/2	3/8-16

E-Stop Brake Hub Bore Tolerance (Inches)

U Bore	Bore Tolerance
1.250" thru 3.150"	+.0005" to +.0017"
3.151" thru 4.730"	+.0005" to +.0019"
4.731" thru 6.250"	+ .0005" to + .0021"

**NOTES:**

1. Dimensions are subject to change without notice. Certified Installation Drawings are available upon request.
2. Hub Key is supplied with brake.
3. Consult factory for interference fit hubs on high speed applications over 400 RPM.

## E-Stop Brake Specifications

Brake Size	Nominal Static Torque (Lb. In.)	No. of Friction Discs	No. of Springs	Pressure to Release (PSI)	Minimum Shaft Dia. (Inches)	Max. Shaft Dia. (Inches)		Piston Volume (Cu. In.)	Cyclic Inertia (Lb. Ft. <sup>2</sup> )	Weight (Lbs.)
						Stub Shaft	Thru Shaft			
ES-C-003	3,125	3	2	14	1.39	4.00	3.25	14.6	0.35	105
ES-C-006	6,250	3	4	28	1.39					
ES-C-009	9,375	3	6	42	1.39					
ES-C-013	12,500	3	8	56	1.39					
ES-D-019	18,750	6	4	28	1.76	4.00	3.25	14.6	0.66	128
ES-D-025	25,000	6	8	56	2.06					
ES-S-010	10,400	5	3	13	1.39	4.00	3.25	37.5	0.78	134
ES-S-014	13,900	5	4	17	1.63					
ES-S-021	20,900	5	6	26	1.86					
ES-S-028	27,900	5	8	35	2.26					
ES-S-031	31,400	5	9	39	2.26					
ES-S-035	34,900	5	10	44	2.50					
ES-S-042	41,900	5	12	52	2.76					
ES-L-034	33,500	8	6	26	1.99	4.00	3.25	37.5	0.55	160
ES-L-045	44,700	8	8	35	2.26					
ES-L-050	50,200	8	9	39	2.39					
ES-L-056	55,800	8	10	44	2.67					
ES-L-067	66,700	8	12	52	2.76					
ES-T-059	59,400	5	8	33	3.26	6.25	5.25	73	3.50	463
ES-T-074	74,200	5	10	41	3.75					
ES-T-089	89,000	5	12	49	4.00					
ES-T-104	103,900	5	14	57	4.51					
ES-M-119	118,800	9	12	35	3.61	6.25	5.25	73	6.00	463
ES-M-138	137,600	9	14	41	3.76					
ES-M-157	157,300	9	16	47	4.19					
ES-M-177	177,000	9	18	52	4.51					
ES-M-197	196,600	9	20	58	4.51					
ES-M-216	216,300	9	22	64	4.61					
ES-M-236	236,000	9	24	70	5.03					
ES-X-313	312,700	13	24	70	4.75	6.25	5.25	73	9.3	528

**NOTE:** Multiply Static Torque by .77 to convert to Dynamic Torque.

# How to Order Your E-Stop Brake

## Ordering System Chart

Example: ES-L-050-S-400



**E-Stop (1, 2)**

**Size (3)**

- C** = Compact Brake - Short Stack
- D** = Compact Brake - Long Stack
- L** = Small Brake - Long Stack
- S** = Small Brake - Short Stack
- M** = Large Brake - Long Stack
- T** = Large Brake - Short Stack
- X** = Large Brake - Extra-Long Stack

**Type Shaft (7)**

- S** = Stub Shaft
- T** = Thru Shaft

**Bore Dia. Range (8, 9, 10)**

Compact Brake

- 1 2 5** = 1.250" Min.
- 4 0 0** = 4.000" Max.

Small Brake

- 2 0 0** = 2.000" Min.
- 4 0 0** = 4.000" Max.

Large Brake

- 3 7 5** = 3.750" Min.
- 6 2 5** = 6.250" Max.

**NOTE:** This just indicates the Minimum and Maximum Bore Diameter for each size brake.

You must specify the Required Bore Diameter with (3) digits as shown in the following examples.

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>175 = 1.750" Dia.</li> <li>200 = 2.000" Dia.</li> <li>225 = 2.250" Dia.</li> <li>250 = 2.500" Dia.</li> <li>275 = 2.750" Dia.</li> <li>300 = 3.000" Dia.</li> <li>325 = 3.250" Dia.</li> <li>350 = 3.500" Dia.</li> <li>375 = 3.750" Dia.</li> <li>400 = 4.000" Dia.</li> </ul> | <ul style="list-style-type: none"> <li>425 = 4.250" Dia.</li> <li>450 = 4.500" Dia.</li> <li>475 = 4.750" Dia.</li> <li>500 = 5.000" Dia.</li> <li>525 = 5.250" Dia.</li> <li>550 = 5.500" Dia.</li> <li>575 = 5.750" Dia.</li> <li>600 = 6.000" Dia.</li> <li>625 = 6.250" Dia.</li> </ul> |
|--|---|

**Torque (4, 5, 6)**

Compact Brake

- |             |              |                 |
|-------------|--------------|-----------------|
| Short Stack | <b>0 0 3</b> | = 3,125 Lb.In.  |
|             | <b>0 0 6</b> | = 6,250 Lb.In.  |
|             | <b>0 1 3</b> | = 12,500 Lb.In. |
| Long Stack  | <b>0 1 9</b> | = 18,750 Lb.In. |
|             | <b>0 2 5</b> | = 25,000 Lb.In. |

Small Brake

- |             |              |                 |
|-------------|--------------|-----------------|
| Short Stack | <b>0 1 0</b> | = 10,400 Lb.In. |
|             | <b>0 1 4</b> | = 13,900 Lb.In. |
|             | <b>0 2 1</b> | = 20,900 Lb.In. |
|             | <b>0 2 8</b> | = 27,900 Lb.In. |
| Long Stack  | <b>0 3 1</b> | = 31,400 Lb.In. |
|             | <b>0 3 5</b> | = 34,900 Lb.In. |
|             | <b>0 4 2</b> | = 41,900 Lb.In. |
| Long Stack  | <b>0 3 4</b> | = 33,500 Lb.In. |
|             | <b>0 4 5</b> | = 44,700 Lb.In. |
|             | <b>0 5 0</b> | = 50,200 Lb.In. |
|             | <b>0 5 6</b> | = 55,800 Lb.In. |
|             | <b>0 6 7</b> | = 66,700 Lb.In. |

Large Brake

- |             |              |                  |
|-------------|--------------|------------------|
| Short Stack | <b>0 5 9</b> | = 59,400 Lb.In.  |
|             | <b>0 7 4</b> | = 74,200 Lb.In.  |
|             | <b>0 8 9</b> | = 89,000 Lb.In.  |
|             | <b>1 0 4</b> | = 103,900 Lb.In. |
| Long Stack  | <b>1 1 9</b> | = 118,800 Lb.In. |
|             | <b>1 3 7</b> | = 137,600 Lb.In. |
|             | <b>1 5 7</b> | = 157,300 Lb.In. |
|             | <b>1 7 7</b> | = 177,000 Lb.In. |
|             | <b>1 9 7</b> | = 196,600 Lb.In. |
|             | <b>2 1 6</b> | = 216,300 Lb.In. |
|             | <b>2 3 6</b> | = 236,000 Lb.In. |
|             | <b>3 1 3</b> | = 312,700 Lb.In. |

Extended Brake