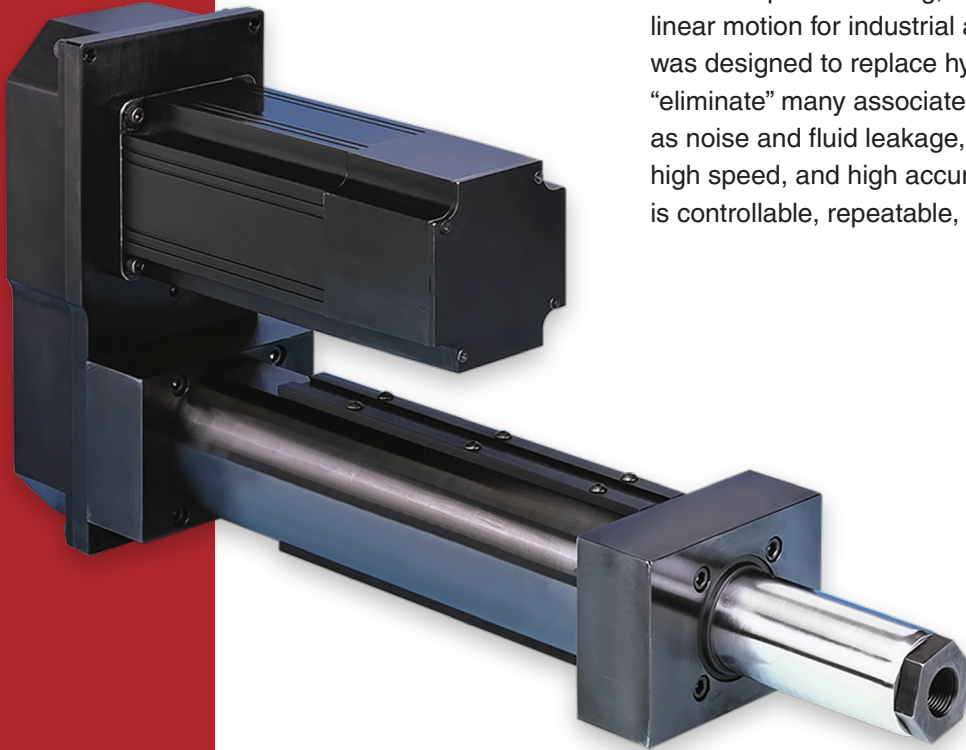


# Eliminator HD™ Actuator

## HEAVY DUTY, HIGH SPEED, HIGH FORCE, HIGH PRECISION

The Eliminator HD and HDL series Heavy Duty linear actuators provide strong, durable, and precise linear motion for industrial automation. The HD was designed to replace hydraulic actuators and thus “eliminate” many associated concerns, such as noise and fluid leakage, while providing high load, high speed, and high accuracy linear motion that is controllable, repeatable, and easy to adjust.



### *Ideal for a Variety of Applications Including:*

- Pressing / Punching
- Material Handling
- Metal Forming
- Parts Clamping
- Assembly
- Heat Staking
- Hydraulic Replacement
- And More

### Key Features:

- Rugged steel construction with durable anti-rotation feature
- Rated thrust up to 40,000 lbf
- High velocity up to 20 in/sec, stroke up to 48 inches
- Integrated load cell option provides continuous bi-directional measurement of applied loads (HDL model)
- 0.002 in/ft standard lead accuracy, 0.0005 in/ft optional lead accuracy
- Standard backlash is 0.003 in maximum; optional zero backlash is also available

# SPECIFICATION CHART FOR THE ELIMINATOR HD ACTUATOR

Model Number	Thrust Load Rated	Linear Velocity Max. <sup>1</sup>	Travel Length Max. <sup>2</sup>	Frame Size	Lead	Ball Screw Diameter	Ball Screw Max. <sup>1</sup>	Torque @ Ball Screw Max.	Dynamic Capacity Per Million Revs	Dynamic Capacity Per Million Inches	Motor Gearhead Frame Supported Max. <sup>2</sup>
	lb <sup>r</sup>	in/s	in	in	mm	mm	RPM	in-lb	lb <sup>r</sup>	lb <sup>r</sup>	in
HD201	1,000	8.0	12	2.00	4	16	3,048	28	1,529	825	2.75
HD302	2,000	20.0	36	3.00	10	25	3,048	139	6,490	4,760	4.25
HD304	4,000	20.0	36	3.00	10	25	3,048	278	6,490	4,760	4.25
HD404	4,000	18.0	42	4.00	10	32	2,743	278	14,580	10,690	5.75
HD406	6,000	18.0	42	4.00	10	32	2,743	418	14,580	10,690	5.75
HD508	8,000	14.0	48	5.00	12	50	1,778	668	31,250	24,340	8.00
HD516	16,000	14.0	48	5.00	12	50	1,778	1,337	31,250	24,340	8.00
HD618	18,000	9.8	48	6.00	12	63	1,245	1,504	35,750	27,840	8.00
HD625	25,000	14.4	48	6.00	20	80	1,097	3,481	52,150	48,160	8.00
HD740	40,000	14.1	48	7.00	20	80	1,097	5,575	52,150	48,160	10.88

Model Number	Inertia 1:1 Zero Stroke <sup>3</sup>	Inertia 1:1 Per Inch of Stroke <sup>3</sup>	Inertia 2:1 Zero Stroke <sup>3</sup>	Inertia 2:1 Per Inch of Stroke <sup>3</sup>	Inertia Inline Zero Stroke <sup>3</sup>	Inertia Inline Per Inch of Stroke <sup>3</sup>	Unit Weight "U" Motor Mount <sup>4</sup>	Unit Weight "L" Motor Mount <sup>4</sup>	Weight Per Inch of Stroke <sup>4</sup>
	lb-in <sup>2</sup>	lb-in <sup>2</sup>	lb-in <sup>2</sup>	lb-in <sup>2</sup>	lb-in <sup>2</sup>	lb-in <sup>2</sup>	lb	lb	lb
HD201	0.51	0.0031	0.27	0.0008	0.04	0.0031	8	6	0.87
HD302	4.31	0.0212	1.64	0.0053	0.34	0.0212	29	22	1.33
HD304	4.87	0.0212	1.46	0.0053	0.38	0.0212	29	22	1.33
HD404	23.24	0.0457	4.11	0.0114	1.99	0.0457	63	49	2.25
HD406	23.24	0.0457	4.11	0.0114	1.99	0.0457	63	49	2.25
HD508	139.27	0.2688	22.66	0.0672	5.92	0.2688	155	105	3.40
HD516	139.36	0.2688	22.68	0.0672	6.00	0.2688	155	105	3.40
HD618	281.96	0.7361	43.91	0.1840	12.31	0.7361	207	152	5.50
HD625	295.02	1.8713	47.17	0.4678	25.37	1.8713	214	158	5.50
HD740	401.85	1.8707	64.87	0.4677	96.29	1.8707	373	318	7.41

<sup>1</sup> Maximum velocity and maximum screw speed may not be achievable at maximum stroke.

<sup>2</sup> Larger Motor or Gearhead Frames and longer stroke lengths are available upon request.

<sup>3</sup> All inertia values are at the input shaft and are representative of typical pulleys, bushings, couplers, etc. Actual values may vary due to motor selection.

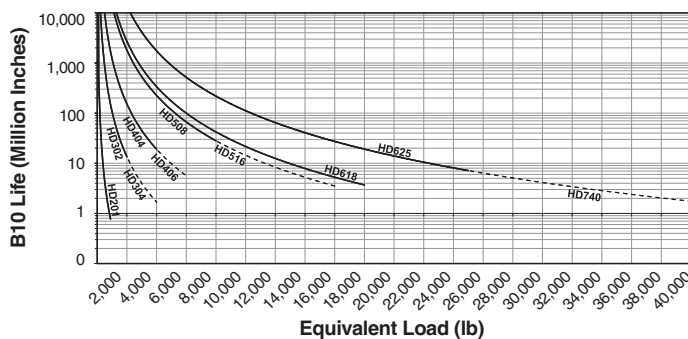
<sup>4</sup> Weight values are for reference only and vary depending on configuration.

"U" Parallel offset configuration

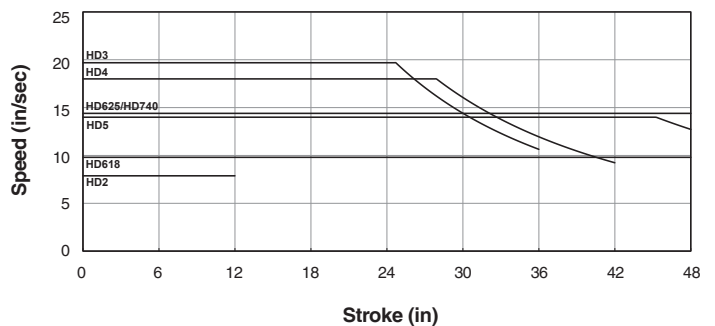
"L" Inline configuration

## DATA CURVES FOR THE ELIMINATOR HD ACTUATOR

### Dynamic Capacity: Life Vs. Load



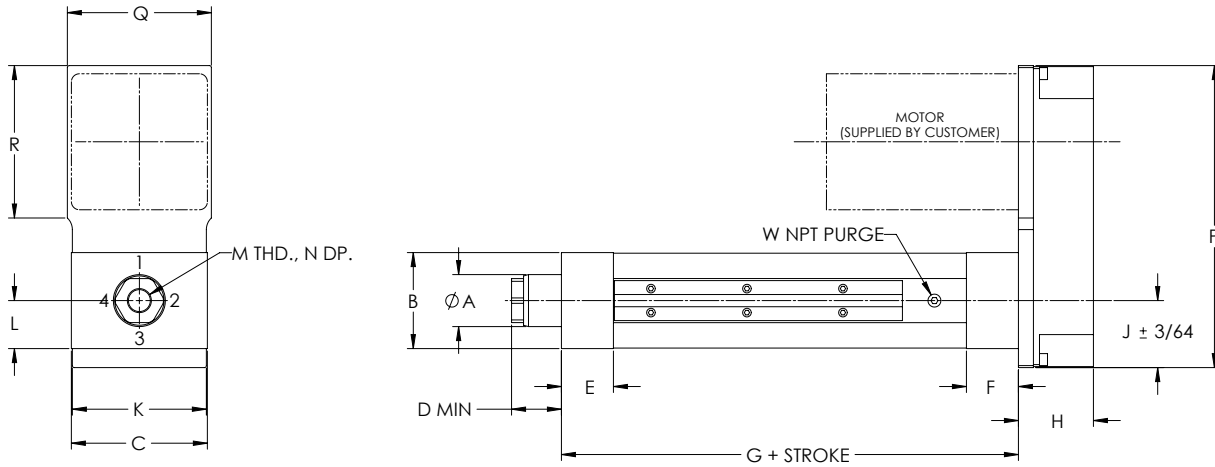
### Speed Vs. Stroke



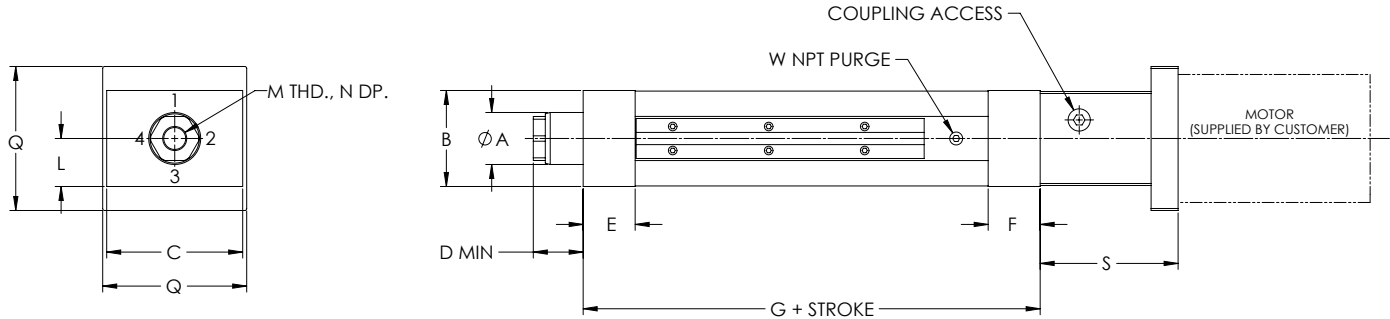
# DIMENSIONED DRAWINGS FOR THE ELIMINATOR HD ACTUATOR

Dimensions are in inches and are subject to change without notice.

## U-Parallel Offset Motor Configuration



## L-Inline Motor Configuration



"S" length may vary depending on motor or gearbox.

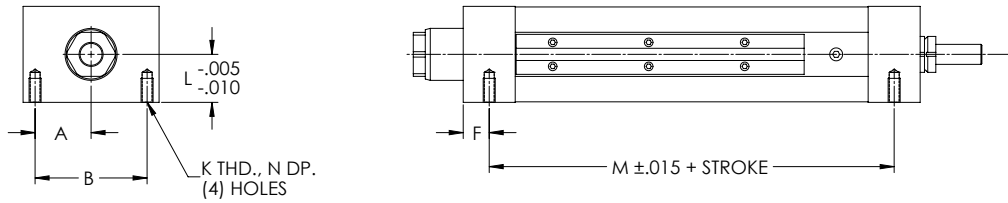
## HD U-Parallel Offset and L-Inline Motor Configuration

Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	W
HD201	1.13	2.00	3.00	1.04	1.00	1.00	5.59	1.63	1.48	2.97	1.00	1/2-20	1.00	6.30	2.97	N/A	2.66	1/8
HD302	1.63	3.00	4.25	1.41	1.63	1.63	8.28	2.34	2.09	4.19	1.50	3/4-16	1.00	9.44	4.50	4.75	4.31	1/8
HD304	1.63	3.00	4.25	1.56	1.63	1.63	8.28	2.34	2.09	4.19	1.50	3/4-16	1.00	9.44	4.50	4.75	4.31	1/8
HD404	2.25	4.00	5.50	1.88	2.00	2.00	9.59	2.63	2.69	5.38	2.00	3/4-16	1.00	13.00	6.00	6.94	5.00	1/4
HD406	2.25	4.00	5.50	1.79	2.00	2.00	9.59	2.63	2.69	5.38	2.00	3/4-16	1.00	13.00	6.00	6.94	5.00	1/4
HD508	3.00	5.00	7.75	2.56	2.50	3.00	13.38	4.03	3.81	7.63	2.50	1 1/4-12	1.63	17.19	8.38	9.19	6.75	3/8
HD516	3.00	5.00	7.75	2.56	2.50	3.00	13.38	4.03	3.81	7.63	2.50	1 1/4-12	1.63	17.19	8.38	9.19	6.75	3/8
HD618	3.50	6.00	8.50	2.75	3.00	3.00	14.00	4.13	4.13	8.38	3.00	1 1/4-12	1.63	17.88	9.00	9.19	7.25	1/2
HD625	4.00	6.00	8.50	2.75	3.00	3.00	16.75	4.13	4.13	8.38	3.00	1 1/4-12	1.63	17.88	9.00	9.19	7.25	1/2
HD625	4.25	7.00	10.00	3.77	3.50	4.50	18.96	5.44	4.94	9.88	3.50	2-12	3.00	19.88	10.94	10.05	10.17	1/2

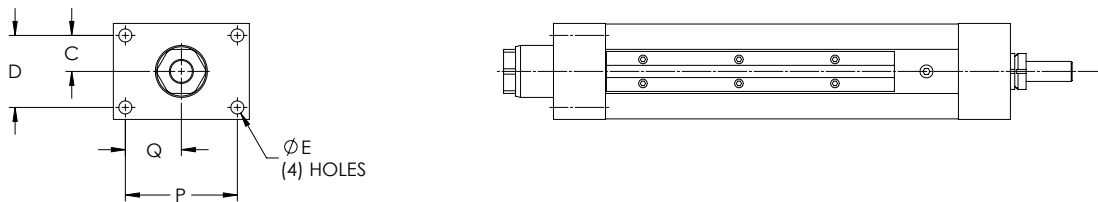
# DIMENSIONED DRAWINGS FOR THE ELIMINATOR HD ACTUATOR

Dimensions are in inches and are subject to change without notice.

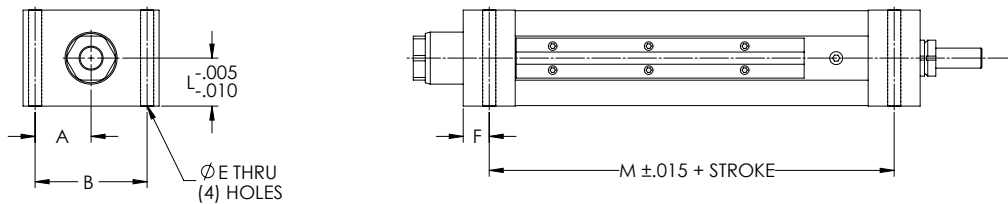
## Bottom Mount Dimensions



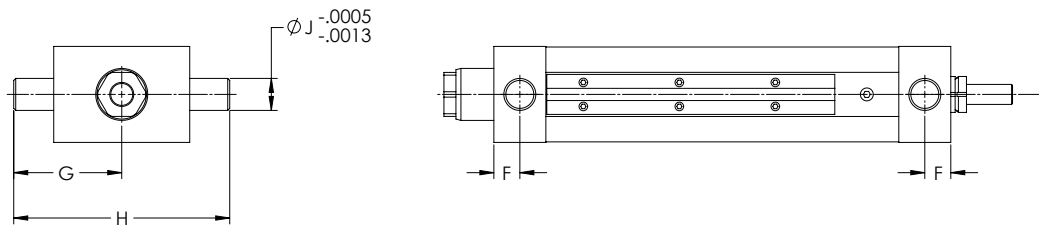
## Front Flange Dimensions



## Foot Mount Dimensions



## Trunnion Mount Dimensions



## HD Mounting Dimensions (Bottom Mount, Front Flange, Foot Mount, Trunnion Mount)

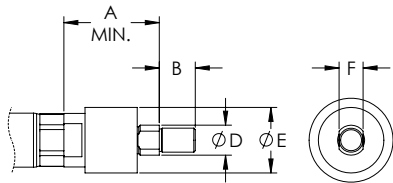
Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
HD201	1.13	2.25	0.69	1.38	0.34	0.49	2.24	4.48	0.50	5/16-18	0.99	4.63	0.63	2.38	1.19
HD302	1.75	3.50	1.13	2.25	0.41	0.81	3.38	6.75	1.00	3/8-16	1.50	6.66	0.75	3.50	1.75
HD304	1.75	3.50	1.13	2.25	0.41	0.81	3.38	6.75	1.00	3/8-16	1.50	6.66	0.75	3.50	1.75
HD404	2.19	4.38	1.44	2.88	0.69	1.00	4.50	9.00	1.25	5/8-11	2.00	7.59	1.00	4.38	2.19
HD406	2.19	4.38	1.44	2.88	0.69	1.00	4.50	9.00	1.25	5/8-11	2.00	7.59	1.00	4.38	2.19
HD508	3.13	6.25	1.75	3.50	0.81	1.25	6.25	12.50	1.50	3/4-10	2.50	10.63	1.25	6.25	3.13
HD516	3.13	6.25	1.75	3.50	0.81	1.25	6.25	12.50	1.50	3/4-10	2.50	10.63	1.25	6.25	3.13
HD618	3.31	6.63	2.00	4.00	1.06	1.50	7.13	14.25	2.00	1-8	3.00	11.00	1.63	6.63	3.31
HD625	3.31	6.63	2.00	4.00	1.06	1.50	7.13	14.25	2.00	1-8	3.00	13.75	1.63	6.63	3.31
HD740	4.00	8.00	2.50	5.00	1.06	1.75	7.88	15.75	2.00	1-8	3.50	14.96	2.00	8.00	4.00

# DIMENSIONED DRAWINGS FOR THE ELIMINATOR HD ACTUATOR

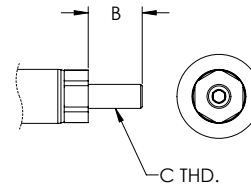
Dimensions are in inches and are subject to change without notice.

## Rod End Options

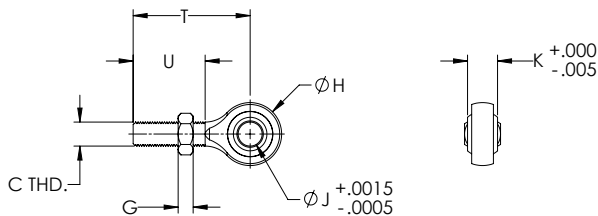
### Self-Aligning Coupler



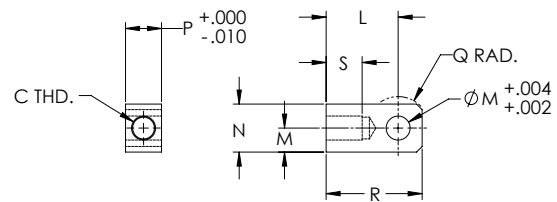
### Male Thread



### Spherical Rod Eye



### Female Eye

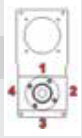


## HD Rod End Dimensions

Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U
HD201	2.00	0.75	1/2-20	0.63	1.37	0.50	0.31	1.31	0.50	0.63	1.50	0.50	1.00	0.75	0.50	2.00	0.75	2.44	1.50
HD302	2.31	1.13	3/4-16	0.97	2.00	0.75	0.42	1.75	0.75	0.88	2.06	0.75	1.50	1.25	0.75	2.81	1.13	2.88	1.75
HD304	2.31	1.13	3/4-16	0.97	2.00	0.75	0.42	1.75	0.75	0.88	2.06	0.75	1.50	1.25	0.75	2.81	1.13	2.88	1.75
HD404	2.31	1.13	3/4-16	0.97	2.00	0.75	0.42	1.75	0.75	0.88	2.06	0.75	1.50	1.25	0.75	2.81	1.13	2.88	1.75
HD406	2.31	1.13	3/4-16	0.97	2.00	0.75	0.42	1.75	0.75	0.88	2.06	0.75	1.50	1.25	0.75	2.81	1.13	2.88	1.75
HD508	2.94	1.63	1 1/4-12	1.45	3.13	1.25	0.72	2.75	1.00	1.38	3.44	1.38	2.75	2.00	1.38	4.81	2.00	4.13	2.13
HD516	2.94	1.63	1 1/4-12	1.45	3.13	1.25	0.72	2.75	1.00	1.38	3.44	1.38	2.75	2.00	1.38	4.81	2.00	4.13	2.13
HD618	2.94	1.63	1 1/4-12	1.45	3.13	1.25	0.72	2.75	1.00	1.38	3.44	1.38	2.75	2.00	1.38	4.81	2.00	4.13	2.13
HD625	2.94	1.63	1 1/4-12	1.45	3.13	1.25	0.72	2.75	1.00	1.38	3.44	1.38	2.75	2.00	1.38	4.81	2.00	4.13	2.13
HD740	5.63	3.00	2-12	2.25	5.00	2.00	1.09	5.00	2.00	1.75	5.00	4	2.00	2.50	2.50	7.00	3.00	8.00	4.5

# ORDERING GUIDE FOR THE ELIMINATOR HD ACTUATOR

## Ordering Information

<b>H</b>	<b>D</b>				-			-			-			-					-	
<b>Base No. (Capacity)</b>					<b>Unit Mounting Option</b>					<b>Motor Position</b>					<b>Precision/Lead Accuracy**</b>					
<b>HD201</b> (1,000 lbf) <b>HD302</b> (2,000 lbf) <b>HD304</b> (4,000 lbf) <b>HD404</b> (4,000 lbf) <b>HD406</b> (6,000 lbf) <b>HD508</b> (8,000 lbf) <b>HD516</b> (16,000 lbf) <b>HD618</b> (18,000 lbf) <b>HD625</b> (25,000 lbf) <b>HD740</b> (40,000 lbf)					<b>MB:</b> Bottom Mount <b>FF:</b> Front Flange <b>MF:</b> Foot Mount <b>TF:</b> Front Trunnion <b>TR:</b> Rear Trunnion					<b>1, 2, 3, 4</b> <b>0 = In-Line</b> 					<b>A:</b> .002 in/ft Zero Backlash <b>B:</b> .0005 in/ft Zero Backlash <b>X:</b> Standard					
<b>Std. Stroke Length*</b>					<b>Rod End Option</b>					<b>Gearbelt Reduction</b>					<b>N.C. Switch Qty</b>					
<b>06:</b> 6 in. <b>12:</b> 12 in. <b>18:</b> 18 in. <b>24:</b> 24 in. <b>30:</b> 30 in. <b>36:</b> 36 in. <b>42:</b> 42 in. <b>48:</b> 48 in.					<b>E:</b> Female Eye <b>F:</b> Female Thread <b>A:</b> Self-Aligning Coupler <b>M:</b> Male Thread <b>S:</b> Spherical Rod Eye					<b>00:</b> In-Line/Direct Coupled <b>10:</b> 1:1 <b>20:</b> 2:1					<b>0, 1, 2, 3, etc.</b>					
					<b>Configuration</b>					<b>Switch Type</b>					<b>N.O. Switch Qty</b>					
					<b>L:</b> In-Line <b>U:</b> Parallel Offset					<b>A:</b> Hall Sourcing PNP <b>B:</b> Hall Sinking NPN <b>C:</b> Reed <b>D:</b> Switch Track / No Switches <b>X:</b> Solid Cover / No Switches					<b>0, 1, 2, 3, etc.</b>					

For custom stroke lengths, contact Joyce/Dayton.

\* HD201 is available with stroke lengths up to 12 in.  
 HD302 – HD304 are available with stroke lengths up to 36 in.  
 HD404 – HD406 are available with stroke lengths up to 42 in.  
 HD508 – HD740 are available with stroke lengths up to 48 in.  
 \*\* HD201 – Std. Precision/Lead Accuracy is 0.0005 in/ft, Zero Backlash  
 \*\* HD302, HD404 – Zero Backlash not available  
 \*\*\* HD618, HD625 – Contact Joyce/Dayton for Front Trunnion