

## Limit Switch Operators

## Finalize Your Limit Switch Installation with Right Operator for the Job

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The Cutler-Hammer® Operators presented here are used with Eaton's E50 Plug-In and 6P+ limit switches, as well as our 10316 rotary type limit switches. A wide variety of styles and sizes are available to provide optimum performance for nearly any application.



**Unless otherwise noted, the products contained in this document are not designed or intended for use in human safety applications.**

### Product Features

- Wide variety of operator types for rotary and wobble style limit switches
- Rollers and rods available in metal and nonmetal contact surfaces

### Model Selection — Roller Type Operators (for Rotary Head Switches: E50 Plug-In, E50 6P+, and 10316)

**NOTE:** Only operators with Nylatron rods or rollers should be used with explosion-proof limit switches.

	Approximate Dimensions in Inches (mm)						Roller Type	Minimum Required Return Torque <sup>②</sup>	Catalog Number	Dimension Drawing
	A — Lever Length <sup>①</sup>	B — Roller Diameter	C — Roller Width	D	E	F				
E50KL200 E50KL355 E50KL377	0.88 (22.2)	0.75 (19.0)	0.32 (8.1)	0.31 (7.9)	0.20 (5.1)	0.24 (6.1)	Metal	0.62 in-oz	E50KL39	
	1.38 (34.9)	0.75 (19.0)	0.32 (8.1)	0.34 (8.6)	0.13 (3.3)	0.17 (4.3)	Metal	0.95 in-oz	E50KL40	
	1.50 (38.1)	0.69 (17.5)	0.25 (6.4)	0.34 (8.6)	0.05 (1.3)	0.11 (2.8)	Ball Bearing	0.77 in-oz	E50KL531	
							Nylatron	0.53 in-oz	E50KL200	
							Metal	1.10 in-oz	E50KL355	
	—	—	0.34 (8.6)	0.34 (8.6)	—	—	Nylatron	0.96 in-oz	E50KL377	
							Without Roller	0.32 in-oz	E50KL32	
							Ball Bearing	1.10 in-oz	E50KL552	
	2.00 (50.8)	0.69 (17.5)	0.25 (6.4)	0.34 (8.6)	0.05 (1.3)	0.11 (2.8)	Nylatron	0.71 in-oz	E50KL546	
							Metal	1.50 in-oz	E50KL549	
Nylatron							1.45 in-oz	E50KL572		

① Length from the operating shaft axis to the roller axis (or to the tip for non-roller operators).

② **Caution:** When selecting lever, the minimum required return torque of lever should not exceed minimum return force available in operating head as given in Operating Head specifications.


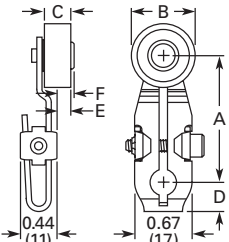

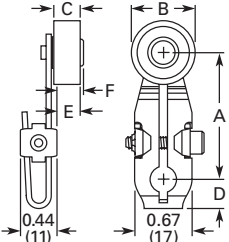
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 For Application Assistance in the U.S. and Canada  
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July 2005

**Model Selection — Roller Type Operators (for Rotary Head Switches: E50 Plug-In, E50 6P+, and 10316) (Continued)**

**NOTE:** Only operators with Nylatron rods or rollers should be used with explosion-proof limit switches.

	Approximate Dimensions in Inches (mm)						Roller Type	Minimum Required Return Torque <sup>②</sup>	Catalog Number	Approximate Dimensions in mm [Inches]
	A — Lever Length <sup>①</sup>	B — Roller Diameter	C — Roller Width	D	E	F				
	2.50 (63.5)	0.69 (17.5)	0.25 (6.4)	0.34 (8.6)	0.05 (1.3)	0.11 (2.8)	Ball Bearing	1.50 in-oz	<b>E50KL553</b>	
		0.75 (19.0)	0.32 (8.1)	0.34 (8.6)	0.13 (3.3)	0.17 (4.3)	Nylatron	1.00 in-oz	<b>E50KL547</b>	
							Metal	2.00 in-oz	<b>E50KL550</b>	
		1.00 (25.4)	0.34 (8.6)	0.83 (21.1)	0.83 (21.1)	Nylatron	1.80 in-oz	<b>E50KL573</b>		
	1.50 (38.1)	0.28 (7.1)	0.34 (8.6)	0.11 (2.8)	0.17 (4.3)	Nylatron	1.40 in-oz	<b>E50KL575</b>		
	3.00 (76.2)	0.69 (17.5)	0.25 (6.4)	0.34 (8.6)	0.05 (1.3)	0.11 (2.8)	Ball Bearing	1.80 in-oz	<b>E50KL554</b>	
		0.75 (19.0)	0.32 (8.1)	0.34 (8.6)	0.13 (3.3)	0.17 (4.3)	Nylatron	1.30 in-oz	<b>E50KL548</b>	
							Metal	2.50 in-oz	<b>E50KL551</b>	
		1.00 (25.4)	0.34 (8.6)	0.83 (21.1)	0.83 (21.1)	Nylatron	2.30 in-oz	<b>E50KL574</b>		
	1.50 (38.1)	0.28 (7.1)	0.34 (8.6)	0.11 (2.8)	0.17 (4.3)	Nylatron	1.80 in-oz	<b>E50KL576</b>		
	1.50 (38.1)	0.69 (17.5)	0.25 (6.4)	0.34 (8.6)	0.18 (4.6)	0.24 (6.1)	Ball Bearing	0.77 in-oz	<b>E50KL580</b>	
		0.75 (19.0)	0.32 (8.1)	0.34 (8.6)	0.27 (6.9)	0.31 (7.9)	Nylatron	0.53 in-oz	<b>E50KL310</b>	
							Metal	1.10 in-oz	<b>E50KL579</b>	
		1.50 (38.1)	0.28 (7.1)	0.34 (8.6)	0.23 (5.8)	0.31 (7.9)	Nylatron	0.96 in-oz	<b>E50KL536</b>	

① Length from the operating shaft axis to the roller axis (or to the tip for non-roller operators).

② **Caution:** When selecting lever, the minimum required return torque of lever should not exceed minimum return force available in operating head as given in Operating Head specifications.

Fast turn product with typical one day lead-time to shipment.

**Model Selection — Roller Type Operators (for Rotary Head Switches: E50 Plug-In, E50 6P+, and 10316) (Continued)**

**NOTE:** Only operators with Nylatron rods or rollers should be used with explosion-proof limit switches.

	Approximate Dimensions in Inches (mm)						Roller Type	Minimum Required Return Torque <sup>②</sup>	Catalog Number	Approximate Dimensions in mm [Inches]
	A — Lever Length <sup>①</sup>	B — Roller Diameter	C — Roller Width	D	E	F				
	1.50 (38.1)	0.75 (19.0)	0.32 (8.1)	0.03 (0.8)	—	—	Nylatron	0.65 in-oz	<b>E50KL24</b>	
		0.69 (17.5)	0.25 (6.4)	0.04 (1.0)	—	—	Ball Bearing	0.90 in-oz	<b>E50KL26</b>	
		0.75 (19.0)	0.32 (8.1)	0.03 (0.8)	—	—	Metal	1.20 in-oz	<b>E50KL25</b>	
	1.50 (38.1)	0.75 (19.0)	0.32 (8.1)	0.03 (0.8)	—	—	Nylatron	0.65 in-oz	<b>E50KL27</b>	
					—	—	Metal	1.20 in-oz	<b>E50KL28</b>	
		0.69 (17.5)	0.25 (6.4)	0.04 (1.0)	—	—	Ball Bearing	0.90 in-oz	<b>E50KL29</b>	
		0.75 (19.0)	1.00 (25.4)	—	—	—	Nylatron	1.10 in-oz	<b>E50KL30</b>	
	0.69 (17.5)	0.85 (22)	0.18 (4.6)	—	—	—	Metal	0.45 in-oz	<b>E50KL532</b>	
	0.69 (17.5) Roller Length: 1.50 (38.1) <sup>③</sup>	0.75 (19.0)	0.32 (8.1)	0.48 (12.2)	0.24 (6.1)	0.28 (7.1)	Nylatron	0.65 in-oz	<b>E50KL340</b>	
							Metal	1.20 in-oz	<b>E50KL465</b>	
		0.69 (17.5)	0.25 (6.4)	0.48 (12.2)	0.16 (4.1)	0.22 (5.6)	Ball Bearing	0.90 in-oz	<b>E50KL535</b>	
 E50KL201 E50KL537	1.0 (25.4) to 3.75 (95.2) <sup>④</sup>	0.69 (17.5)	0.25 (6.4)	0.23 (5.8)	0.30 (7.6)	—	Ball Bearing	2.50 in-oz <sup>⑤</sup>	<b>E50KL539</b>	
		0.75 (19.0)	0.32 (8.1)	0.29 (7.4)	0.33 (8.4)	—	Nylatron	1.90 in-oz <sup>⑤</sup>	<b>E50KL201</b>	
		—	—	—	—	—	Metal	3.40 in-oz <sup>⑤</sup>	<b>E50KL538</b>	
		0.50 (12.7)	0.46 (11.6)	0.48 (12.2)	—	—	Nylatron	1.90 in-oz <sup>⑤</sup>	<b>E50KL599</b>	
	1.00 (25.4)	0.90 (22.9)	0.95 (24.1)	—	—	Nylatron	3.10 in-oz <sup>⑤</sup>	<b>E50KL537</b>		
	0.5 (12.7) to 3.25 (82.6)	4.0 (102)	0.11 (2.8)	0.11 (2.8)	0.19 (4.8)	—	Large Nylatron	4.50 in-oz <sup>⑤</sup>	<b>E50KL598</b>	
	0.5 (12.7) to 3.75 (95.2)	—	—	—	—	—	Without Roller	1.20 in-oz <sup>⑤</sup>	<b>E50KL31</b>	
1.63 (41.3) to 3.75 (95.2) <sup>④</sup>	1.5 (38.1)	0.29 (7.4)	0.26 (6.6)	0.32 (8.1)	—	Nylatron	2.50 in-oz <sup>⑤</sup>	<b>E50KL443</b>		


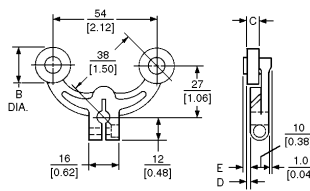

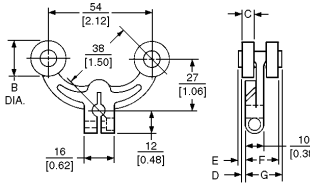
① Length from the operating shaft axis to the roller axis (or to the tip for non-roller operators).  
 ② **Caution:** When selecting lever, the minimum required return torque of lever should not exceed minimum return force available in operating head as given in Operating Head specifications.  
 ③ Maximum length dimension between operating shaft axis to the roller axis for comparison. Precision adjustable to lesser dimensions.  
 ④ By reassembling lever, minimum length can be reduced another 12.7 mm (0.5 inch).  
 ⑤ Applies when lever is extended to the maximum dimension.

Fast turn product with typical one day lead-time to shipment.

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**Model Selection — Roller Type Operators** (for Rotary Head Switches: E50 Plug-In, E50 6P+, and 10316) (Continued)

**NOTE:** Only operators with Nylatron rods or rollers should be used with explosion-proof limit switches.

	Approximate Dimensions in Inches (mm)						Roller Type	Minimum Required Return Torque <sup>②</sup>	Catalog Number	Approximate Dimensions in mm [Inches]
	A — Lever Length <sup>①</sup>	B — Roller Diameter	C — Roller Width	D	E	F				
 <p>Fork Lever — Both Rollers on One Side</p>	1.50 (38.1)	0.69 (17.5)	0.25 (6.4)	0.08 (2.0)	0.14 (3.6)	—	Ball Bearing	—		
		0.75 (19.0)	0.32 (8.1)	0.16 (4.1)	0.20 (5.1)	—	Nylatron	—		E50KL204
		—	—	—	—	—	Metal	—		E50KL544
		1.00 (25.4)	0.84 (21.3)	0.88 (22.4)	—	Nylatron	—	E50KL543		
 <p>Fork Lever — One Roller Outside, One Inside</p>	1.50 (38.1)	0.69 (17.5)	0.25 (6.4)	0.08 (2.0)	0.14 (3.6)	0.64 (16.3) G: 0.70 (17.8)	Ball Bearing	—		
		0.75 (19.0)	0.32 (8.1)	0.16 (4.1)	0.20 (5.1)	0.73 (18.5) G: 0.77 (19.6)	Nylatron	—		E50KL203
		—	—	—	—	—	Metal	—		E50KL541
		—	—	—	—	—	—	—		—


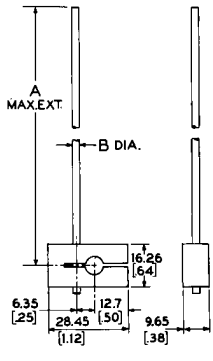
① Length from the operating shaft axis to the roller axis (or to the tip for non-roller operators).

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**Model Selection — Rod Type Operators** (for Rotary Head Switches: E50 Plug-In, E50 6P+, and 10316)

**NOTE:** Only operators with Nylatron rods or rollers should be used with explosion-proof limit switches.

	Approximate Dimensions in Inches (mm)		Rod Type	Minimum Required Return Torque <sup>④</sup>	Catalog Number	Approximate Dimensions in mm [Inches]
	A — Rod Length <sup>③</sup>	B — Rod Diameter				
 <p>Adjustable Rod</p>	5.5 (140) maximum	Rod Diameter: 0.19 (4.8)	Nylon	0.40 in-oz <sup>⑤</sup>	E50KL399	
		Rod Diameter: 0.12 (3.2)	Metal	0.92 in-oz <sup>⑤</sup>	E50KL202	
	8.75 (222) maximum	Rod Size (Square): 0.12 (3.2) x 0.12 (3.2)	Metal	2.20 in-oz <sup>⑤</sup>	E50KL581	
	9.0 (229) maximum	Rod Diameter: 0.19 (4.8)	Stainless Steel	7.00 in-oz <sup>⑤</sup>	E50KL220	
	12.0 (305) maximum	Rod Diameter: 0.12 (3.2)	Bendable Steel	5.00 in-oz <sup>⑤</sup>	E50KL226	
<p>Clamps for Adjustable Rods (Rod not included)</p>	—	Clamp for 0.19 (4.8) diameter rods	—	—	E50KL35	
	—	Clamp for 0.12 (3.2) diameter rods	—	—	E50KL36	
	—	Clamp for 0.25 (6.4) diameter rods	—	—	E50KL41	


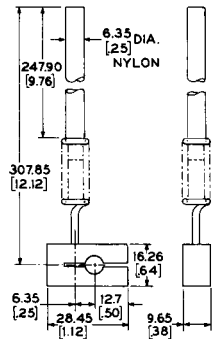
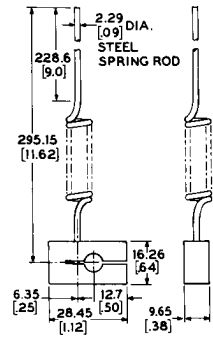

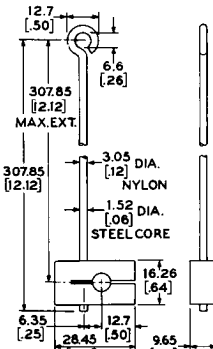

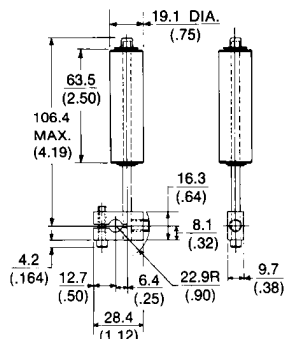
③ Length from the operating shaft axis to tip.

④ **Caution:** When selecting lever, the minimum required return torque of lever should not exceed minimum return force available in operating head as given in Operating Head specifications.

⑤ Applies when lever is extended to the maximum dimension.

Fast turn product with typical one day lead-time to shipment.


## Model Selection — Rod Type Operators (for Rotary Head Switches: E50 Plug-In, E50 6P+, and 10316) (Continued)

	Approximate Dimensions in Inches (mm)		Rod Type	Minimum Required Return Torque <sup>②</sup>	Catalog Number	Approximate Dimensions in mm [Inches]
	A — Rod Length <sup>①</sup>	B — Rod Diameter				
Spring Rod 	12.12 (308)	Rod Diameter: 0.25 (6.4)	Nylon	3.50 in-oz	E50KL556	
	11.62 (295)	Rod Diameter: 0.09 (2.3)	Stainless Steel	2.80 in-oz	E50KL421	
Adjustable Wire 	12.12 (308) maximum	0.50 (12.7) Diameter loop on wire end	Nylon Covered Wire	1.50 in-oz <sup>③</sup>	E50KL533	
Adjustable Wide Roller Lever 	4.19 (106) maximum	Roller Diameter: 0.75 (19.0)	Nylatron	4.50 in-oz <sup>③</sup>	E50KL37	

① Length from the operating shaft axis to tip.


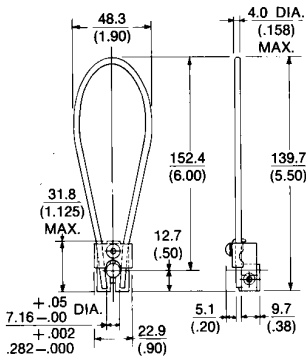
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③ Applies when lever is extended to the maximum dimension.

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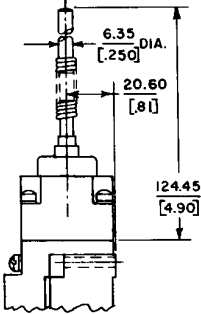

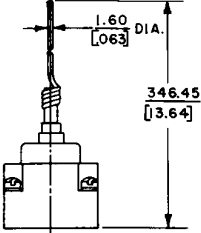

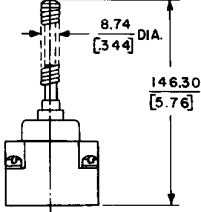
	Approximate Dimensions in Inches (mm)		Rod Type	Minimum Required Return Torque <sup>②</sup>	Catalog Number	Approximate Dimensions in mm [Inches]
	A — Rod Length <sup>①</sup>	B — Rod Diameter				
	6.0 (152)	Rod Diameter: 0.158 (4.0)	Nylatron	0.40 in-oz	<b>E50KL142</b>	

<sup>①</sup> Length from the operating shaft axis to tip.

<sup>②</sup> **Caution:** When selecting lever, the minimum required return torque of lever should not exceed minimum return force available in operating head as given in Operating Head specifications.

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**Model Selection — Wobble Type Operators (for E50DW1 Head on E50 Plug-In and E50 6P+ Switches)**

	Catalog Number	Approximate Dimensions in mm [Inches] (Shown with E50DW1 Wobble Head)
	<b>E50KW2</b>	
	<b>E50KW3</b>	
	<b>E50KW4</b>	

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### Product Features

- Wide variety of operator types for rotary and wobble style limit switches
- Rollers and rods available in metal and nonmetal contact surfaces

### Model Selection — Roller Type Operators (for Rotary Head Switches: E50 Plug-In, E50 6P+, and 10316)

**NOTE:** Only operators with Nylatron rods or rollers should be used with explosion-proof limit switches.

	Approximate Dimensions in Inches (mm)						Roller Type	Minimum Required Return Torque <sup>②</sup>	Catalog Number	Dimension Drawing
	A — Lever Length <sup>①</sup>	B — Roller Diameter	C — Roller Width	D	E	F				
E50KL200 E50KL355 E50KL377	0.88 (22.2)	0.75 (19.0)	0.32 (8.1)	0.31 (7.9)	0.20 (5.1)	0.24 (6.1)	Metal	0.62 in-oz	E50KL39	
	1.38 (34.9)	0.75 (19.0)	0.32 (8.1)	0.34 (8.6)	0.13 (3.3)	0.17 (4.3)	Metal	0.95 in-oz	E50KL40	
	1.50 (38.1)	0.69 (17.5)	0.25 (6.4)	0.34 (8.6)	0.05 (1.3)	0.11 (2.8)	Ball Bearing	0.77 in-oz	E50KL531	
							Nylatron	0.53 in-oz	E50KL200	
	—	—	0.32 (8.1)	0.34 (8.6)	0.13 (3.3)	0.17 (4.3)	Metal	1.10 in-oz	E50KL355	
							Nylatron	0.96 in-oz	E50KL377	
							Without Roller	0.32 in-oz	E50KL32	
	2.00 (50.8)	0.69 (17.5)	0.25 (6.4)	0.34 (8.6)	0.05 (1.3)	0.11 (2.8)	Ball Bearing	1.10 in-oz	E50KL552	
							Nylatron	0.71 in-oz	E50KL546	
							Metal	1.50 in-oz	E50KL549	
—	—	0.32 (8.1)	0.34 (8.6)	0.13 (3.3)	0.17 (4.3)	Nylatron	1.45 in-oz	E50KL572		
						Metal	1.50 in-oz	E50KL549		

<sup>①</sup> Length from the operating shaft axis to the roller axis (or to the tip for non-roller operators).

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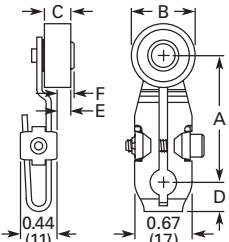

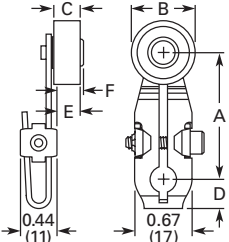
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**Model Selection — Roller Type Operators (for Rotary Head Switches: E50 Plug-In, E50 6P+, and 10316) (Continued)**

**NOTE:** Only operators with Nylatron rods or rollers should be used with explosion-proof limit switches.

	Approximate Dimensions in Inches (mm)						Roller Type	Minimum Required Return Torque <sup>②</sup>	Catalog Number	Approximate Dimensions in mm [Inches]
	A—Lever Length <sup>①</sup>	B—Roller Diameter	C—Roller Width	D	E	F				
	2.50 (63.5)	0.69 (17.5)	0.25 (6.4)	0.34 (8.6)	0.05 (1.3)	0.11 (2.8)	Ball Bearing	1.50 in-oz	<b>E50KL553</b>	
		0.75 (19.0)	0.32 (8.1)	0.34 (8.6)	0.13 (3.3)	0.17 (4.3)	Nylatron	1.00 in-oz	<b>E50KL547</b>	
							Metal	2.00 in-oz	<b>E50KL550</b>	
		1.00 (25.4)	0.34 (8.6)	0.83 (21.1)	0.83 (21.1)	Nylatron	1.80 in-oz	<b>E50KL573</b>		
	1.50 (38.1)	0.28 (7.1)	0.34 (8.6)	0.11 (2.8)	0.17 (4.3)	Nylatron	1.40 in-oz	<b>E50KL575</b>		
	3.00 (76.2)	0.69 (17.5)	0.25 (6.4)	0.34 (8.6)	0.05 (1.3)	0.11 (2.8)	Ball Bearing	1.80 in-oz	<b>E50KL554</b>	
		0.75 (19.0)	0.32 (8.1)	0.34 (8.6)	0.13 (3.3)	0.17 (4.3)	Nylatron	1.30 in-oz	<b>E50KL548</b>	
							Metal	2.50 in-oz	<b>E50KL551</b>	
		1.00 (25.4)	0.34 (8.6)	0.83 (21.1)	0.83 (21.1)	Nylatron	2.30 in-oz	<b>E50KL574</b>		
	1.50 (38.1)	0.28 (7.1)	0.34 (8.6)	0.11 (2.8)	0.17 (4.3)	Nylatron	1.80 in-oz	<b>E50KL576</b>		
	1.50 (38.1)	0.69 (17.5)	0.25 (6.4)	0.34 (8.6)	0.18 (4.6)	0.24 (6.1)	Ball Bearing	0.77 in-oz	<b>E50KL580</b>	
		0.75 (19.0)	0.32 (8.1)	0.34 (8.6)	0.27 (6.9)	0.31 (7.9)	Nylatron	0.53 in-oz	<b>E50KL310</b>	
							Metal	1.10 in-oz	<b>E50KL579</b>	
		1.50 (38.1)	0.28 (7.1)	0.34 (8.6)	0.23 (5.8)	0.31 (7.9)	Nylatron	0.96 in-oz	<b>E50KL536</b>	

① Length from the operating shaft axis to the roller axis (or to the tip for non-roller operators).

② **Caution:** When selecting lever, the minimum required return torque of lever should not exceed minimum return force available in operating head as given in Operating Head specifications.

Fast turn product with typical one day lead-time to shipment.



**Model Selection — Roller Type Operators (for Rotary Head Switches: E50 Plug-In, E50 6P+, and 10316) (Continued)**

NOTE: Only operators with Nylatron rods or rollers should be used with explosion-proof limit switches.

	Approximate Dimensions in Inches (mm)						Roller Type	Minimum Required Return Torque <sup>②</sup>	Catalog Number	Approximate Dimensions in mm [Inches]	
	A — Lever Length <sup>①</sup>	B — Roller Diameter	C — Roller Width	D	E	F					
	1.50 (38.1)	0.75 (19.0)	0.32 (8.1)	0.03 (0.8)	—	—	Nylatron	0.65 in-oz	<b>E50KL24</b>		
		0.69 (17.5)	0.25 (6.4)	0.04 (1.0)	—	—	Ball Bearing	0.90 in-oz	<b>E50KL26</b>		
		0.75 (19.0)	0.32 (8.1)	0.03 (0.8)	—	—	Metal	1.20 in-oz	<b>E50KL25</b>		
	1.50 (38.1)	0.75 (19.0)	0.32 (8.1)	0.03 (0.8)	—	—	Nylatron	0.65 in-oz	<b>E50KL27</b>		
		0.69 (17.5)	0.25 (6.4)	0.04 (1.0)	—	—	Ball Bearing	0.90 in-oz	<b>E50KL29</b>		
		0.75 (19.0)	1.00 (25.4)	—	—	—	Nylatron	1.10 in-oz	<b>E50KL30</b>		
		0.69 (17.5)	0.25 (6.4)	0.48 (12.2)	0.16 (4.1)	0.22 (5.6)	Ball Bearing	0.90 in-oz	<b>E50KL535</b>		
	0.69 (17.5) Roller Length: 1.50 (38.1) <sup>③</sup>	0.75 (19.0)	0.32 (8.1)	0.48 (12.2)	0.24 (6.1)	0.28 (7.1)	Nylatron	0.65 in-oz	<b>E50KL340</b>		
		0.69 (17.5)	0.25 (6.4)	0.48 (12.2)	0.16 (4.1)	0.22 (5.6)	Ball Bearing	0.90 in-oz	<b>E50KL465</b>		
 E50KL201 E50KL537	1.0 (25.4) to 3.75 (95.2) <sup>④</sup>	0.69 (17.5)	0.25 (6.4)	0.23 (5.8)	0.30 (7.6)	—	Ball Bearing	2.50 in-oz <sup>⑤</sup>	<b>E50KL539</b>		
		0.75 (19.0)	0.32 (8.1)	0.29 (7.4)	0.33 (8.4)	—	—	Nylatron	1.90 in-oz <sup>⑤</sup>		<b>E50KL201</b>
		0.50 (12.7)	0.46 (11.6)	0.48 (12.2)	—	—	—	Nylatron	1.90 in-oz <sup>⑤</sup>		<b>E50KL538</b>
		1.00 (25.4)	0.90 (22.9)	0.95 (24.1)	—	—	—	Nylatron	3.10 in-oz <sup>⑤</sup>		<b>E50KL537</b>
	0.5 (12.7) to 3.25 (82.6)	4.0 (102)	0.11 (2.8)	0.11 (2.8)	0.19 (4.8)	—	Large Nylatron	4.50 in-oz <sup>⑤</sup>	<b>E50KL598</b>		
	0.5 (12.7) to 3.75 (95.2)	—	—	—	—	—	Without Roller	1.20 in-oz <sup>⑤</sup>	<b>E50KL31</b>		
	1.63 (41.3) to 3.75 (95.2) <sup>④</sup>	1.5 (38.1)	0.29 (7.4)	0.26 (6.6)	0.32 (8.1)	—	Nylatron	2.50 in-oz <sup>⑤</sup>	<b>E50KL443</b>		

① Length from the operating shaft axis to the roller axis (or to the tip for non-roller operators).

② **Caution:** When selecting lever, the minimum required return torque of lever should not exceed minimum return force available in operating head as given in Operating Head specifications.

③ Maximum length dimension between operating shaft axis to the roller axis for comparison. Precision adjustable to lesser dimensions.

④ By reassembling lever, minimum length can be reduced another 12.7 mm (0.5 inch).


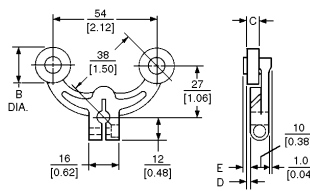

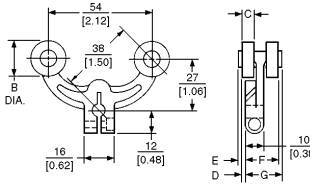
⑤ Applies when lever is extended to the maximum dimension.

 Fast turn product with typical one day lead-time to shipment.

July 2005

**Model Selection — Roller Type Operators** (for Rotary Head Switches: E50 Plug-In, E50 6P+, and 10316) (Continued)

**NOTE:** Only operators with Nylatron rods or rollers should be used with explosion-proof limit switches.

	Approximate Dimensions in Inches (mm)						Roller Type	Minimum Required Return Torque <sup>②</sup>	Catalog Number	Approximate Dimensions in mm [Inches]	
	A — Lever Length <sup>①</sup>	B — Roller Diameter	C — Roller Width	D	E	F					
	1.50 (38.1)	0.69 (17.5)	0.25 (6.4)	0.08 (2.0)	0.14 (3.6)	—	Ball Bearing	—			
		0.75 (19.0)	0.32 (8.1)	0.16 (4.1)	0.20 (5.1)	—	Nylatron	—		E50KL204	
		—	—	—	—	—	—	Metal		—	E50KL544
		1.00 (25.4)	0.84 (21.3)	0.88 (22.4)	—	—	—	Nylatron		—	E50KL543
	1.50 (38.1)	0.69 (17.5)	0.25 (6.4)	0.08 (2.0)	0.14 (3.6)	0.64 (16.3) G: 0.70 (17.8)	Ball Bearing	—			
		0.75 (19.0)	0.32 (8.1)	0.16 (4.1)	0.20 (5.1)	0.73 (18.5) G: 0.77 (19.6)	Nylatron	—		E50KL203	
		—	—	—	—	—	—	Metal		—	E50KL541


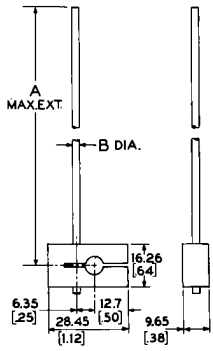
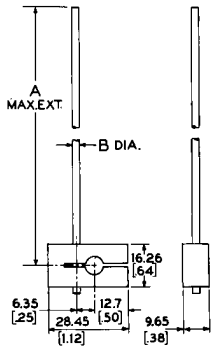
① Length from the operating shaft axis to the roller axis (or to the tip for non-roller operators).

② **Caution:** When selecting lever, the minimum required return torque of lever should not exceed minimum return force available in operating head as given in Operating Head specifications.

Fast turn product with typical one day lead-time to shipment.

**Model Selection — Rod Type Operators** (for Rotary Head Switches: E50 Plug-In, E50 6P+, and 10316)

**NOTE:** Only operators with Nylatron rods or rollers should be used with explosion-proof limit switches.

	Approximate Dimensions in Inches (mm)		Rod Type	Minimum Required Return Torque <sup>④</sup>	Catalog Number	Approximate Dimensions in mm [Inches]
	A — Rod Length <sup>③</sup>	B — Rod Diameter				
	5.5 (140) maximum	Rod Diameter: 0.19 (4.8)	Nylon	0.40 in-oz <sup>⑤</sup>	E50KL399	
		Rod Diameter: 0.12 (3.2)	Metal	0.92 in-oz <sup>⑤</sup>	E50KL202	
	8.75 (222) maximum	Rod Size (Square): 0.12 (3.2) x 0.12 (3.2)	Metal	2.20 in-oz <sup>⑤</sup>	E50KL581	
	9.0 (229) maximum	Rod Diameter: 0.19 (4.8)	Stainless Steel	7.00 in-oz <sup>⑤</sup>	E50KL220	
	12.0 (305) maximum	Rod Diameter: 0.12 (3.2)	Bendable Steel	5.00 in-oz <sup>⑤</sup>	E50KL226	
Clamps for Adjustable Rods (Rod not included)	—	Clamp for 0.19 (4.8) diameter rods	—	—	E50KL35	
	—	Clamp for 0.12 (3.2) diameter rods	—	—	E50KL36	
	—	Clamp for 0.25 (6.4) diameter rods	—	—	E50KL41	


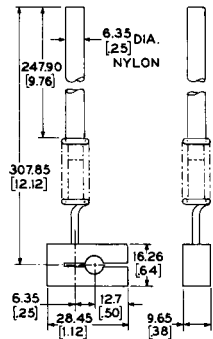

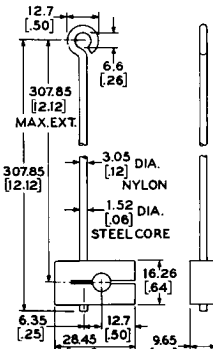

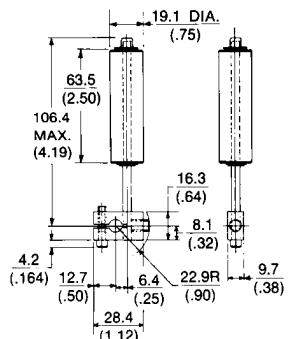
③ Length from the operating shaft axis to tip.

④ **Caution:** When selecting lever, the minimum required return torque of lever should not exceed minimum return force available in operating head as given in Operating Head specifications.

⑤ Applies when lever is extended to the maximum dimension.

Fast turn product with typical one day lead-time to shipment.


## Model Selection — Rod Type Operators (for Rotary Head Switches: E50 Plug-In, E50 6P+, and 10316) (Continued)

	Approximate Dimensions in Inches (mm)		Rod Type	Minimum Required Return Torque <sup>②</sup>	Catalog Number	Approximate Dimensions in mm [Inches]
	A — Rod Length <sup>①</sup>	B — Rod Diameter				
	12.12 (308)	Rod Diameter: 0.25 (6.4)	Nylon	3.50 in-oz	E50KL556	
	11.62 (295)	Rod Diameter: 0.09 (2.3)	Stainless Steel	2.80 in-oz		
	12.12 (308) maximum	0.50 (12.7) Diameter loop on wire end	Nylon Covered Wire	1.50 in-oz <sup>③</sup>	E50KL533	
	4.19 (106) maximum	Roller Diameter: 0.75 (19.0)	Nylatron	4.50 in-oz <sup>③</sup>	E50KL37	

<sup>①</sup> Length from the operating shaft axis to tip.


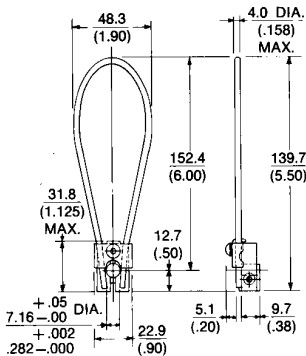
<sup>②</sup> **Caution:** When selecting lever, the minimum required return torque of lever should not exceed minimum return force available in operating head as given in Operating Head specifications.

<sup>③</sup> Applies when lever is extended to the maximum dimension.

 Fast turn product with typical one day lead-time to shipment.

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**Model Selection — Rod Type Operators (for Rotary Head Switches: E50 Plug-In, E50 6P+, and 10316) (Continued)**


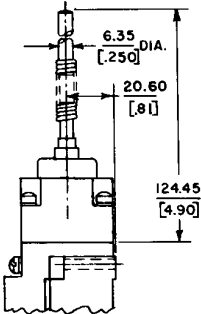

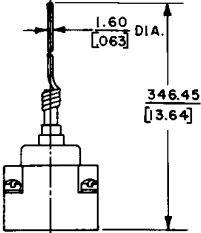

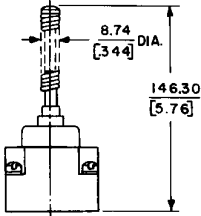
	Approximate Dimensions in Inches (mm)		Rod Type	Minimum Required Return Torque <sup>②</sup>	Catalog Number	Approximate Dimensions in mm [Inches]
	A — Rod Length <sup>①</sup>	B — Rod Diameter				
	6.0 (152)	Rod Diameter: 0.158 (4.0)	Nylatron	0.40 in-oz	<b>E50KL142</b>	

① Length from the operating shaft axis to tip.

② **Caution:** When selecting lever, the minimum required return torque of lever should not exceed minimum return force available in operating head as given in Operating Head specifications.

Fast turn product with typical one day lead-time to shipment.

**Model Selection — Wobble Type Operators (for E50DW1 Head on E50 Plug-In and E50 6P+ Switches)**

	Catalog Number	Approximate Dimensions in mm [Inches] (Shown with E50DW1 Wobble Head)
	<b>E50KW2</b>	
	<b>E50KW3</b>	
	<b>E50KW4</b>	

Fast turn product with typical one day lead-time to shipment.