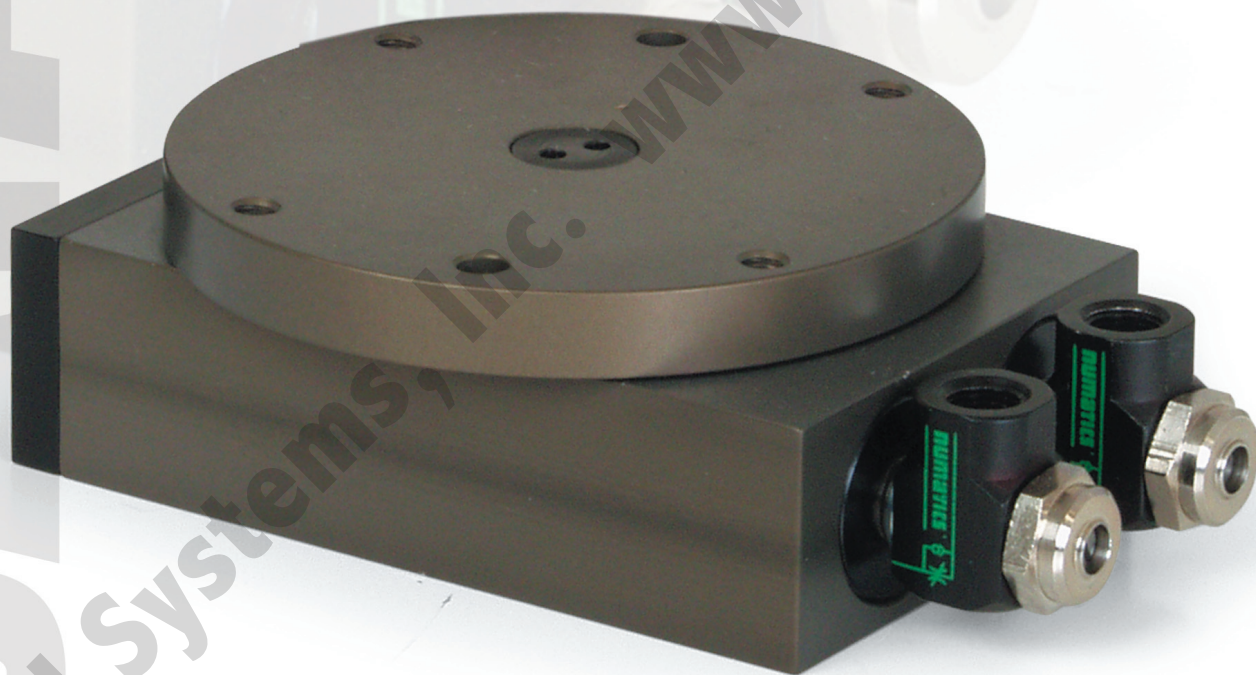


actuators

LR Series
Low Profile Rotary Actuator



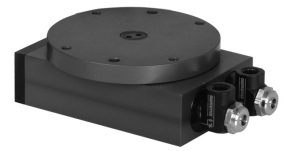
NUMATICS

Table of Contents

NUMATICS®

LR Series	3-6
Features and Benefits	3
How To Order	3
Dimensional and Technical Specifications LR06, LR20	4
Dimensional and Technical Specifications LR60,LR125	5
Switch Information	6

Air-Oil Systems, Inc. www.airoil.com



The LR series rotary actuator is a low profile rack and pinion design. Two independent pistons drive their corresponding racks against the pinion thereby rotating the platform.

A. Body

Hardcoated anodized aluminum Teflon impregnated, lightweight, high strength to weight ratio.

B. Rotary Platform

Hardcoated anodized aluminum durable. Supported by two bearings. One on each side of the pinion shaft providing superior dynamic load capacity

C. Stroke Adjustment

Built in rotary hard stops, protects rotary platform from over travel. External stroke adjust screws with locking set screws provide fine tuned rotary position.

D. Flow Controls

Built in design easily adjustable, provide precise deceleration speed control in both directions.

E. Position Sensing

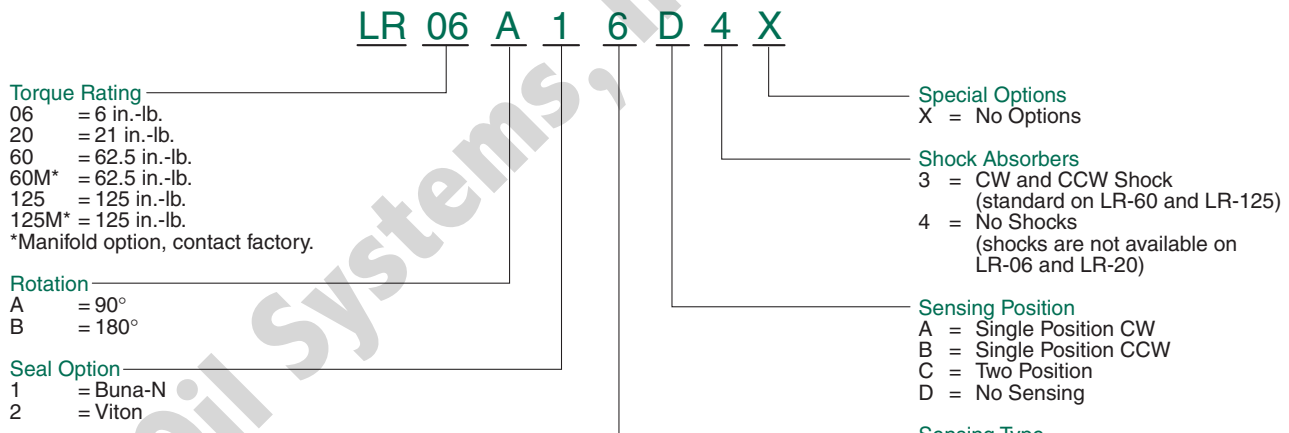
Proximity switch sensors available for rotary position sensing.

F. Shocks

LR60 & LR125 come standard with internal shock absorbers.

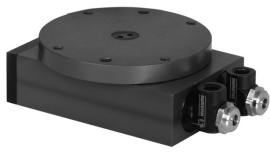


How to Order



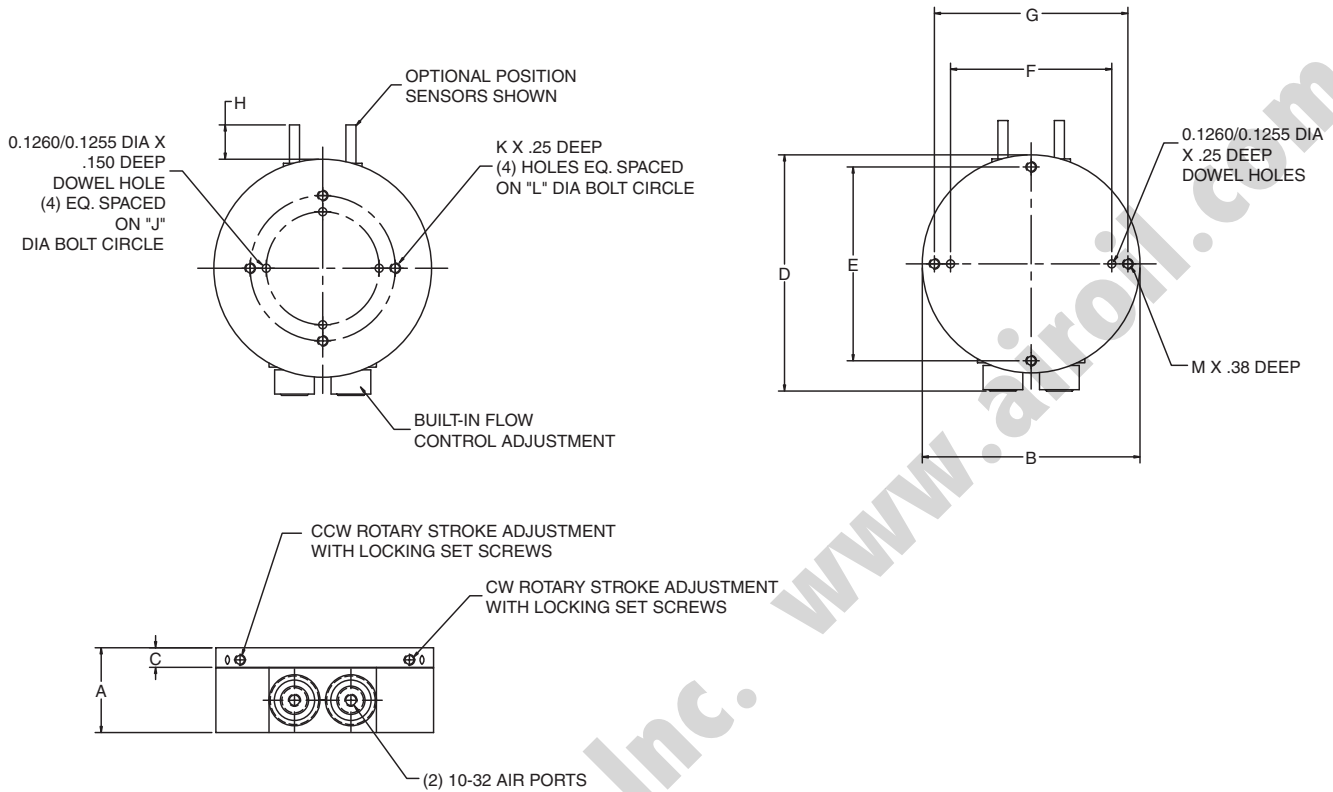
When ordering additional switches

SWITCH DESCRIPTION	STANDARD PART NO.	QUICK DISCONNECT PART NO.
Prox Switch-PNP (Sourcing)	PX05PS	PX05PQ
Prox Switch-NPN (Sinking)	PX05NS	PX05NQ
Quick Disconnect Cable	-	PXCST
90° 5 meter cable	-	PXC90
Bronze switch housing for LR & RM Rotaries	-	RSH05



LR Series

LR06 & LR20 Series

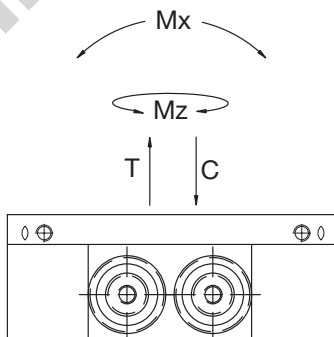


Dimensions

	LR06	LR20
A	0.969	1.313
B	2.250	3.375
C	0.281	0.303
D	2.625	3.656
E	N/A	3.000
F	1.624/1.626	2.499/2.501
G	2.000	3.000
H	0.600	0.600
J	0.750	1.750
K	#6-32	#8-32
L	1.250	2.250
M	#6-32	#8-32

Specifications

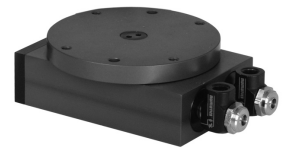
	LR06	LR20
Max. Payload	1.0 lb	3.0 lbs
Max. Air Pressure	120 psi	120 psi
Torque Output @ 100 psi	6.5 in.-lbs.	21.2 in.-lbs.
Max. Payload Inertia	0.012 lb.-in ²	0.012 lb.-in ²
Cylinder Bore Dia.	2 @ 0.5 in.	2 @ 0.75 in.
Displacement	0.3 cu.in.	0.72 cu.in.
Repeatability	0.015 degrees	0.015 degrees
Max. Rotation	180 degrees	180 degrees
Degrees Adjustment	+/- 5 degrees	+/- 5 degrees
Max. Speed for 180 degrees	0.3 sec.	0.4 sec.
Unit Weight	7 oz.	1.2 lbs



Load Capacity*

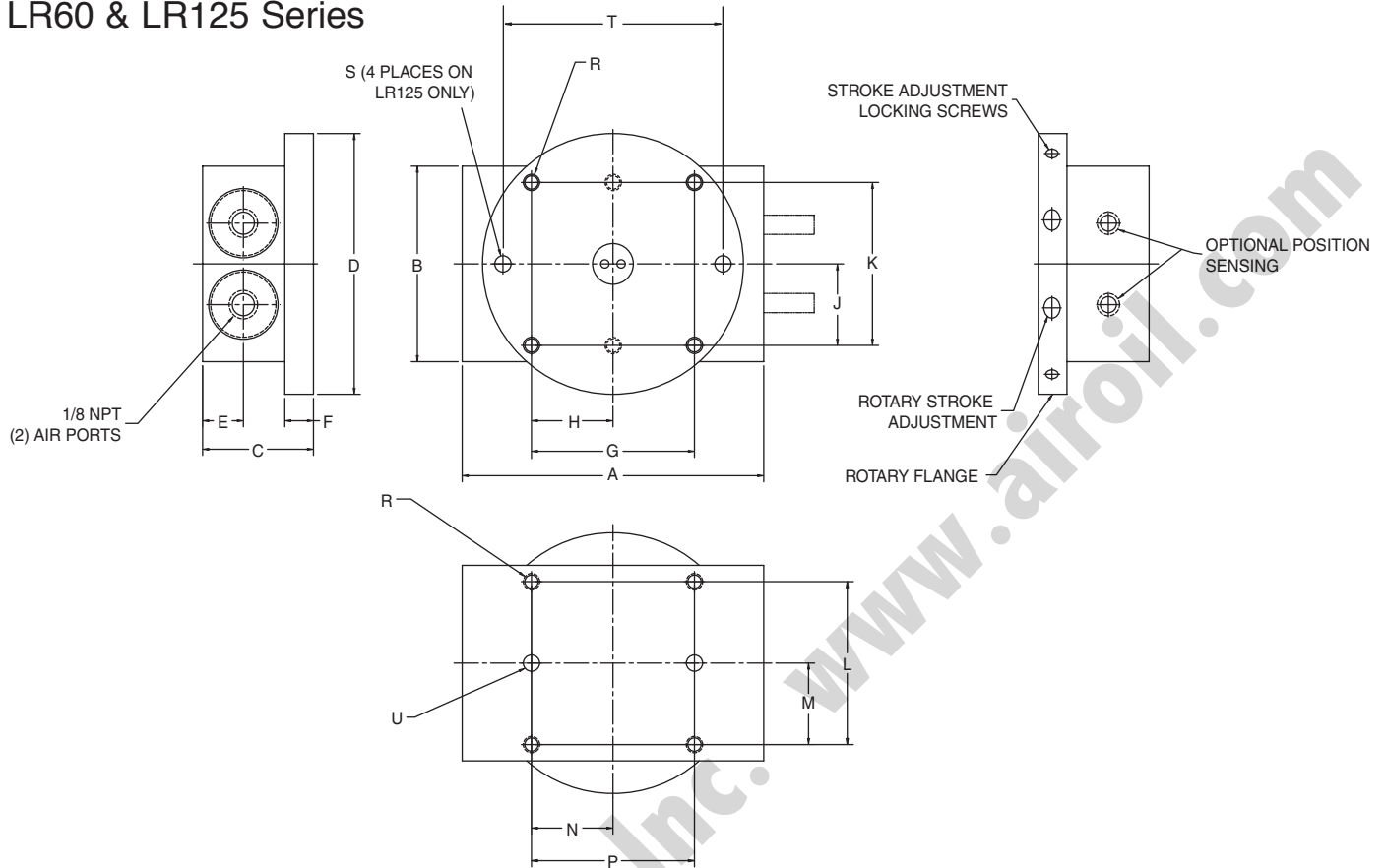
	STATIC CONDITION		DYNAMIC CONDITION	
	LR06	LR20	LR06	LR20
C-Compression	250 lbs	350 lbs	50 lbs	75 lbs
T-Tension	50 lbs	75 lbs	12 lbs	20 lbs
Mx	100 in.-lbs.	200 in.-lbs.	25 in.-lbs.	50 in.-lbs.
Mz	100 in.-lbs.	200 in.-lbs.	25 in.-lbs.	50 in.-lbs.

* Dynamic rating applicable with external shocks or stops.



LR Series

LR60 & LR125 Series

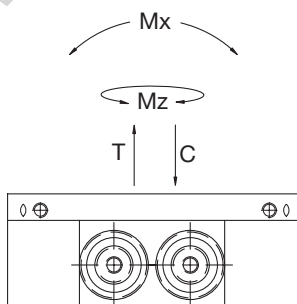


Dimensions

	LR60	LR125
A	4.625	5.500
B	3.000	3.500
C	1.700	2.125
D	4.000	4.470
E	0.625	0.750
F	0.440	0.609
G	2.500	2.750
H	1.250	1.375
J	2.500	1.375
K	1.250	2.750
L	2.500	3.000
M	1.250	1.500
N	1.250	1.500
P	2.500	3.000
R	1/4-20 X .43 DP	5/16-18 X .43 DP
S	0.2505/0.2510 X 0.38 DP	0.2505/0.2510 X 0.38 DP
T	3.38	2.75
U	0.2505/0.2510 X 0.38 DP	0.3130/0.3135 X 0.37 DP

Specifications

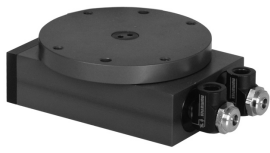
	LR60	LR125
Max. Payload	8.0 lb	15.0 lbs
Max. Air Pressure	120 psi	120 psi
Torque Output @ 100 psi	61 in.-lbs.	126 in.-lbs.
Max. Payload Inertia	0.041 lb.-in. ²	0.1 lb.-in. ²
Cylinder Bore Dia.	2 @ 1 in.	2 @ 1.25 in.
Displacement	2.06 cu.in.	3.855 cu.in.
Repeatability	0.018 degrees	0.018 degrees
Max. Rotation	180 degrees	180 degrees
Degrees Adjustment	+/- 5 degrees	+/- 5 degrees
Max. Speed for 180 degrees	0.35 sec.	0.4 sec.
Unit Weight	2.9 lbs	5 lbs



Load Capacity*

	STATIC CONDITION		DYNAMIC CONDITION	
	LR60	LR125	LR60	LR125
C-Compression	500 lbs	1000 lbs	100 lbs	200 lbs
T-Tension	100 lbs	200 lbs	20 lbs	40 lbs
Mx	300 in.-lbs.	500 in.-lbs.	75 in.-lbs.	100 in.-lbs.
Mz	300 in.-lbs.	500 in.-lbs.	75 in.-lbs.	100 in.-lbs.

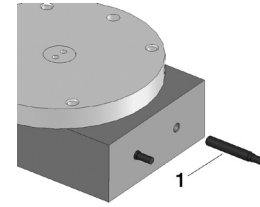
* Dynamic rating applicable with external shocks or stops.



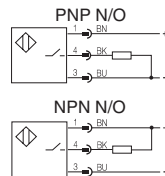
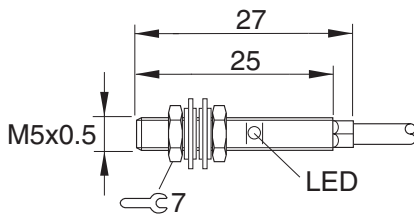
LR Series

LR Series Switch Information

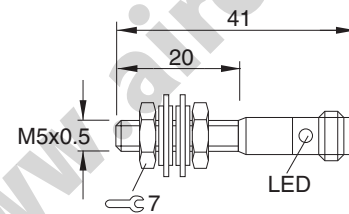
SWITCH OR BRACKET DESCRIPTION	STANDARD PART NO.	QUICK DISCONNECT PART NO.
1 Prox Switch PNP	PX05PS	PX05PQ
1 Prox Switch NPN	PX05NS	PX05NQ



Prox Switch (NPN NO) Flying Lead - PX05NS
(PNP NO) Flying Lead - PX05PS



Prox Switch (NPN NO) 8 mm connector - PX05NQ
(PNP NO) 8 mm connector - PX05PQ



Sensing Data

Repeat accuracy R		≤5%
Ambient temperature range t_d	(°C)	-25...+70°C
Operating frequency f	(Hz)	500
Utilization categories	(DC)	13
Function indication		YES

Electrical Data

Rated operational voltage U_e	(V)	24 DC
Supply voltage U_B	(V)	10...30 DC
Voltage drop U_d at I_e Stat./dyn.	(V)	≤1.5
Rated insulation voltage U_i	(V)	75 VDC
Load current capacity	(mA)	150
Current consumption	(mA)	≤12 / ≤5
Off-State Current I_f	(uA)	≤50
Protected against polarity reversal		YES
Short circuit protected		YES
Load Capacitance	(uF)	≤0.10

Mechanical Data

Degree of protection per IEC 529	IP 67
Housing material	stainless steel
Material of sensing face	POM
Connection	cable
No. of wires x gauge	3 x 26 AWG

Female Connectors for Reed Switches and Hall Effect Sensors

Dimensions (mm)

TYPE	ORDER CODE
Straight, 5 m Cable	PXCST
Elbow, 5 m Calbe	PXC90

