

**The Price Alternative**



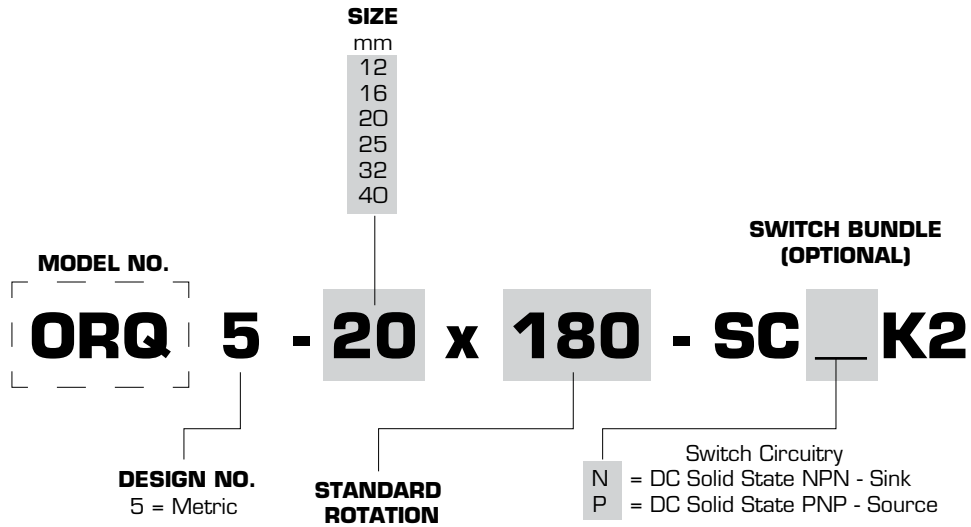
## Series ORQ Compact Rotary Table

- Available in 6 sizes
- Standard adjustment screws with integral shock pads
- Standard thru mounting holes in body are threaded to provide versatility and ease of mounting
- Double rack and pinion drive system increases output torque and eliminates backlash at end of rotation
- Hollow pinion allows pass thru from back of unit to output hub



[www.phdinc.com](http://www.phdinc.com)  
(800) 624-8511

ORQ01



- NOTES:**
- 1) Switch bundle option includes 2 switches
  - 2) Switch bundle available with actuator only
  - 3) Switches available in quick connect only
  - 4) Magnets standard for switch sensing

**Cordsets**

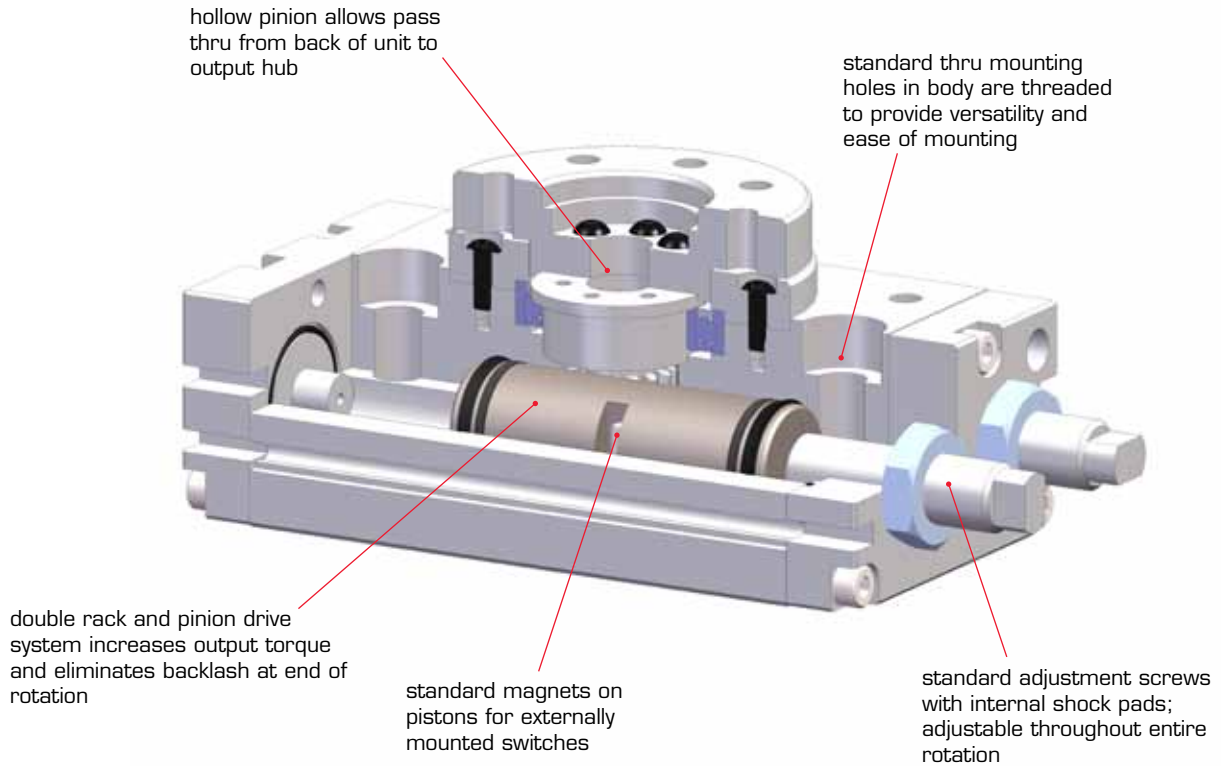
Model Number	Cable Length
63549-02	78.74 in [2 m]
63549-05	196.85 in [5 m]

Includes one cordset.

**Switches**

Part Number	Description
88195	Sink Type (NPN), DC 4.5-28 V, 50 mA, Quick Connect
88196	Source Type (PNP), DC 4.5-28 V, 50 mA, Quick Connect

Includes one switch.



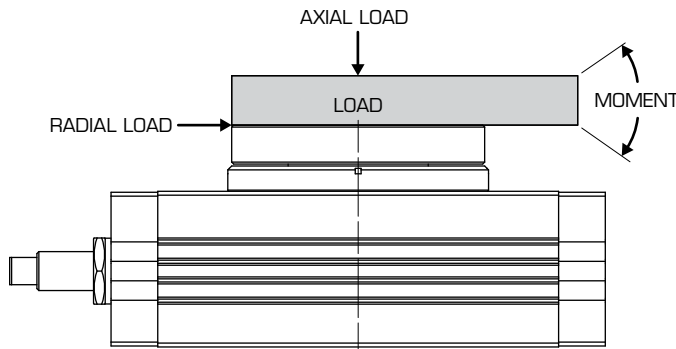
- Available in 6 sizes
- Standard adjustment screws with integral shock pads
- Standard thru mounting holes in body are threaded to provide versatility and ease of mounting
- Double rack and pinion drive system increases output torque and eliminates backlash at end of rotation
- Hollow pinion allows pass thru from back of unit to output hub
- Standard magnets on pistons for externally mounted switches
- Drop-in replacement for other manufacturers

Component	Materials
Body	Anodized Aluminum Alloy
Bearing Retainer	
Output Hub	
Pinion	High strength steel
Ball Bearing	Bearing steel
Piston Adjustment Screw	Stainless Steel
Adjustment Nut Fasteners	Carbon Steel
O-Ring & Piston Seal	NBR

Specifications	Series ORQ Compact Rotary Table					
	12 mm	16 mm	20 mm	25 mm	32 mm	40 mm
Operating Pressure	1 to 7 bar [14.5 to 101.5 psi]		1 to 10 bar [14.5 to 145 psi]			
Operating Temperature	0° to 60°C [32° to 140°F]					
Rated Life	3 Million cycles					
Angle Adjustment Range	0° - 190°					
Backlash*	0° at end of rotation					
Lubrication	Factory lubricated for rated life					
Rotation Time Adjustment for Stable Operation (s/90°)	0.2 to 1.0				0.2 to 2.0	0.2 to 2.5
Allowable Kinetic Energy (J)	0.006	0.007	0.048	0.081	0.32	0.56
Unit Weight (kg)	0.25	0.60	1.31	2.10	4.18	7.67

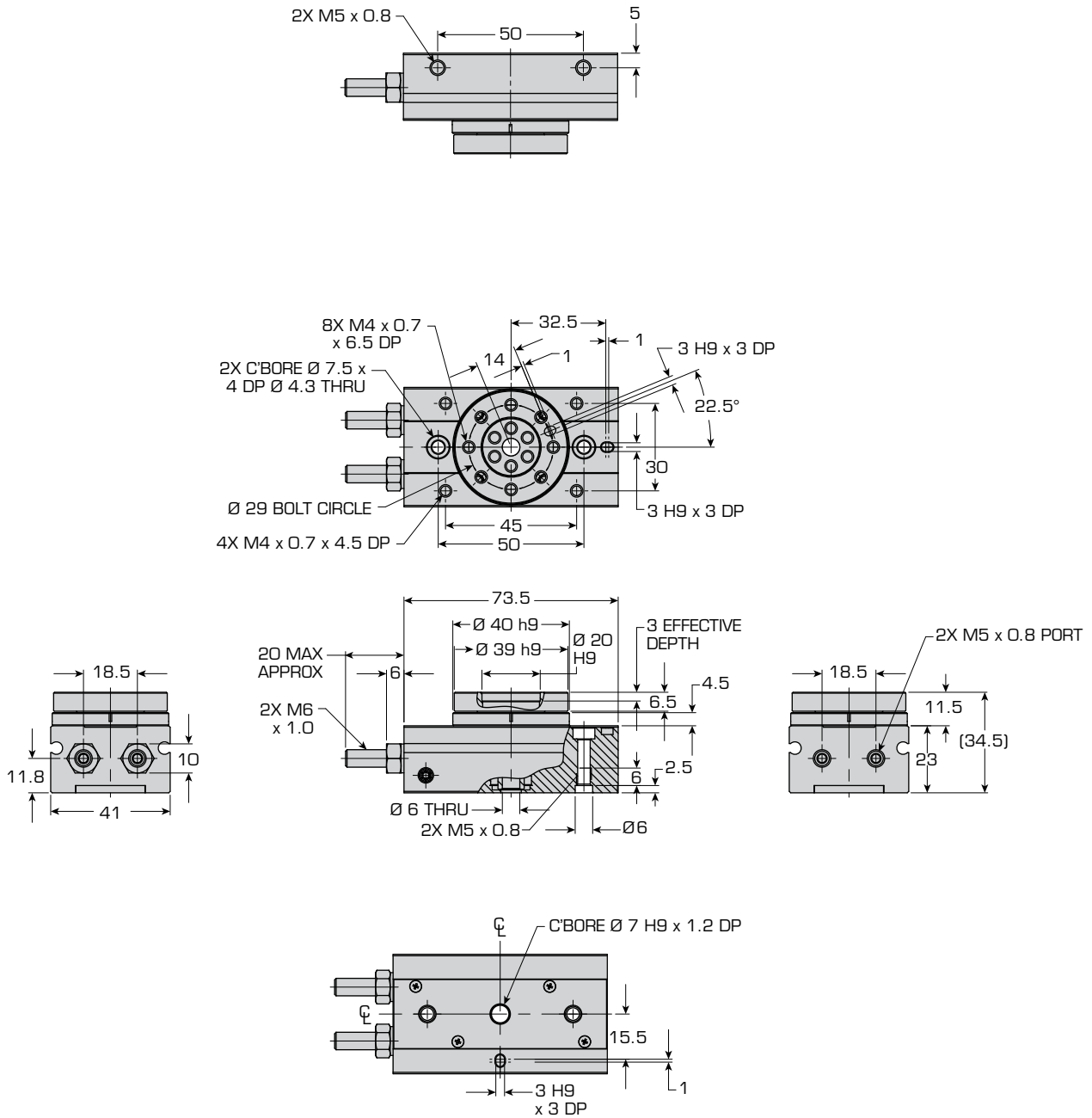
**NOTE:** \*ANGLE ADJUSTMENT SCREWS MUST BE ENGAGED OR ADJUSTED TO ACHIEVE 0° BACKLASH

Size	Recommended Mounting Torques							
	Body Thru and Counterbore		Bottom Body Threads		Top Body Threads		Table Threads	
	Nm	in-lb	Nm	in-lb	Nm	in-lb	Nm	in-lb
12	2.8	25	4.5	40	2.8	25	2.8	25
16	9	80	20	175	4.5	40	4.5	40
20	20	175	39	345	9	80	9	80
25	39	345	51	450	20	175	20	175
32	39	345	51	450	20	175	39	345
40	51	450	110	975	51	450	51	450



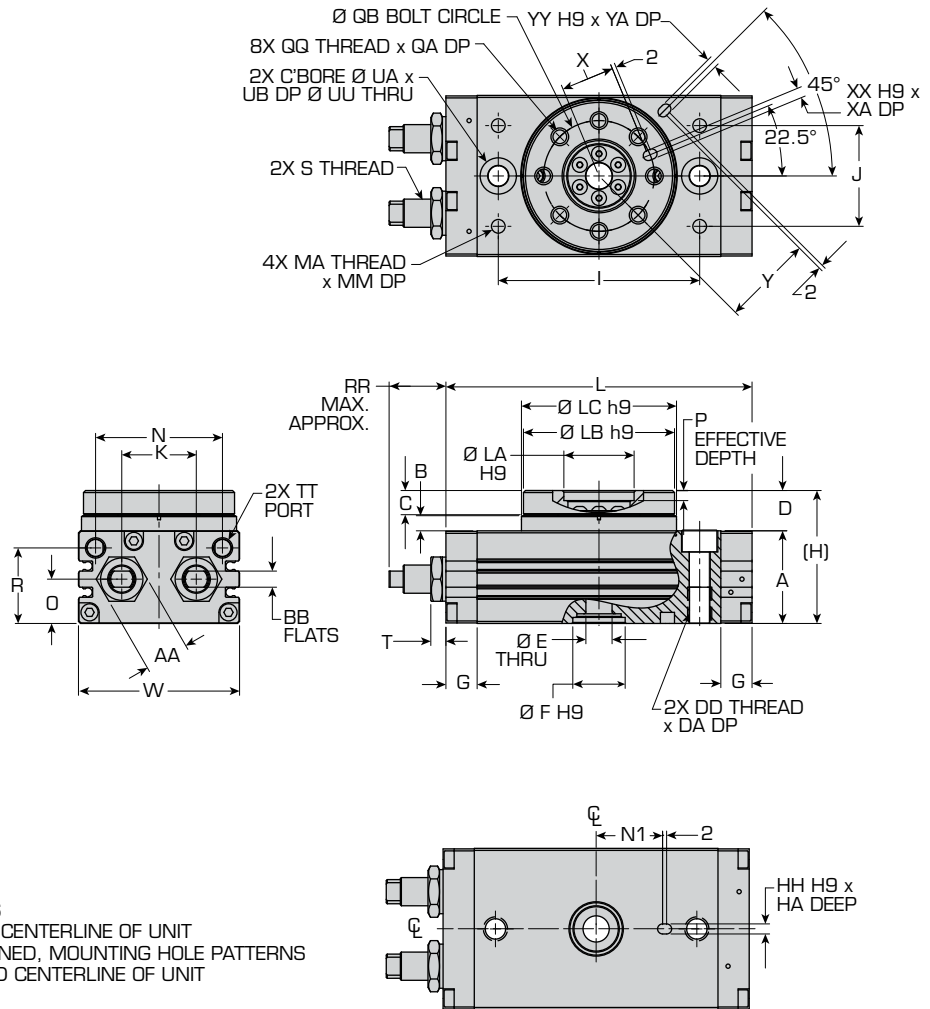
Size	Theoretical Torque Output		Max Radial Bearing Load		Max Axial Bearing Load		Maximum Applied Moment	
	Nm/bar	in-lb/psi	N	lb	N	lb	Nm	in-lb
12	0.10	0.06	54	12	71	16	1.5	13
16	0.26	0.16	78	18	78	18	2.4	21
20	0.50	0.31	197	44	196	44	5.3	47
25	0.90	0.55	314	71	296	67	9.7	86
32	1.89	1.15	390	88	493	111	18	159
40	3.76	2.29	543	122	740	166	25	221

**SIZE 12**



- NOTES:**
- 1) DIMENSIONS ARE MILLIMETERS
  - 2) DESIGNATED CENTERLINE  $\phi$  IS CENTERLINE OF UNIT
  - 3) UNLESS OTHERWISE DIMENSIONED, MOUNTING HOLE PATTERNS ARE CENTERED ON DESIGNATED CENTERLINE OF UNIT

**SIZE 16, 20 & 25**



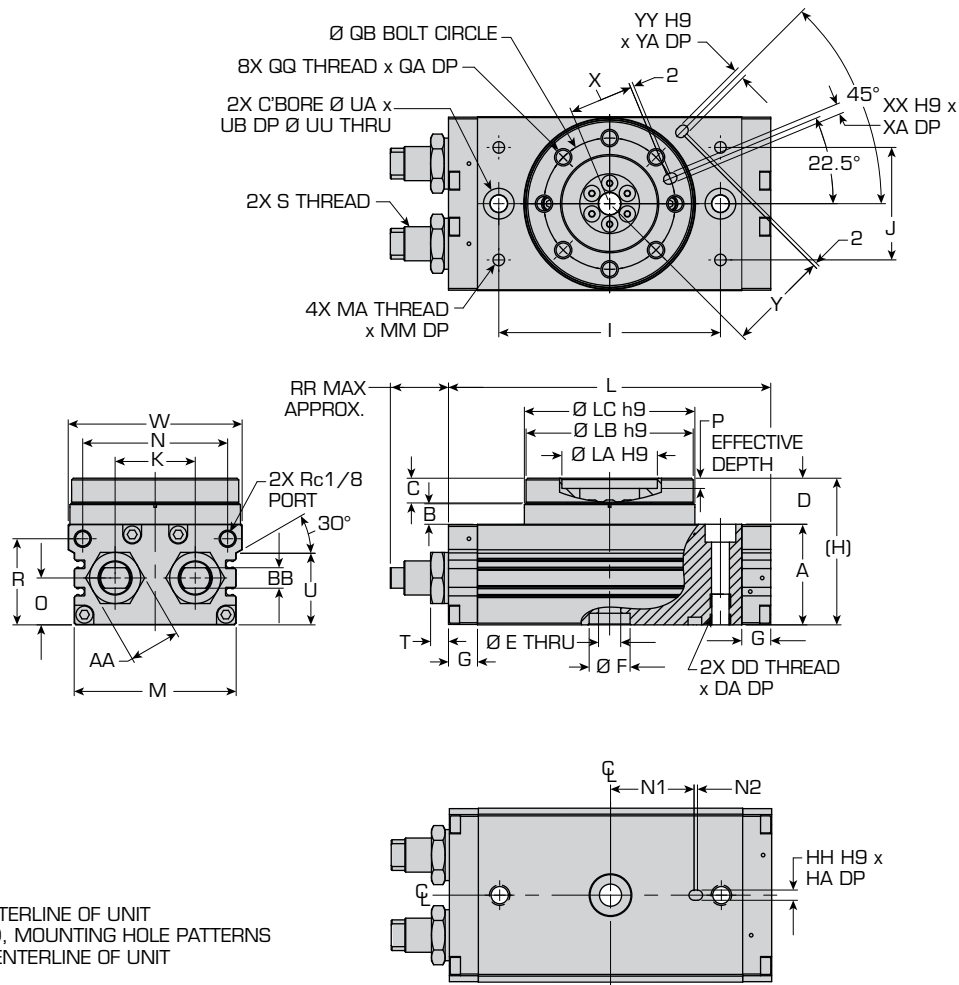
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Size	A	AA	B	BB	C	D	DA	DD	$\varnothing E$	$\varnothing F H9$	G	H	HA	$\varnothing HH H9$	I
16	34	14	4.5	7	8	13	12	M8 x 1.25	6	15	9.5	47	3.5	3	60
20	40	17	6.5	8	10	17	15	M10 x 1.5	10	22	12	57	4.5	4	84
25	46	22	7.5	8	12	20	18	M12 x 1.75	13	26	15.5	66	5.5	5	100

Size	J	K	L	$\varnothing LA H9$	$\varnothing LB h9$	$\varnothing LC h9$	MA	MM	N	N1	O	P	QA	QB
16	27	26	92	20	45	46	M5 x 0.8	8	37	19	15.5	4	8	32
20	37	32	127	32	65	67	M6 x 1	8	54	28	19.5	4.5	10	48
25	50	37	152	35	75	77	M8 x 1.25	8	63	33	22	5	12	55

Size	QQ	R	RR	S	T	TT	$\varnothing UA$	UB	$\varnothing UU$	W	X	XA	XX H9	Y	YA	YY H9
16	M5 x 0.8	29	31	M10 x 1	5.5	M5 x 0.8	11	6.5	6.8	50	15	3.5	3	27	3.5	3
20	M6 x 1	33	23	M10 x 1	4.5	Rc 1/8	14	8.5	8.6	70	23	4.5	4	39	4.5	4
25	M8 x 1.25	37.5	28	M14 x 1.5	7.5	Rc 1/8	18	10.5	10.5	80	26.5	5.5	5	45	5.5	5

**SIZE 32 & 40**



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Size	A	AA	B	BB	C	D	DA	DD	$\varnothing$ E	$\varnothing$ F H9	G	H	HA	HH H9	I	J
32	59	30	12	12	14.5	27	18	M12 x 1.75	13	24	17	86	4.5	6	130	66
40	74	36	15	21	16.5	32	25	M16 x 2	24	32	24	106	6.5	8	150	80

Size	K	L	$\varnothing$ LA H9	$\varnothing$ LB h9	$\varnothing$ LC h9	M	MA	MM	N	N1	N2	O	P	QA	$\varnothing$ QB
32	47	189	56	98	100	95	M8 x 1.25	10	85	49	2	27.5	6	14.5	77
40	60	240	64	116	118	113	M12 x 1.75	13	100	54	2	37	9	16.5	90

Size	QQ	R	RR	S	T	U	$\varnothing$ UA	UB	$\varnothing$ UU	W	X	XA	XX H9	Y	YA	YY H9
32	M10 x 1.5	50.5	34	M20 x 1.5	10.5	42	18	10.5	10.5	102	37.5	6.5	6	59	4.5	6
40	M12 x 1.75	65.5	45	M27 x 1.5	7	57	20	12.5	14.2	120	44	8.5	8	69	4.5	8



PHD, Inc. is setting a new standard in pneumatic actuators. PHD Optimax® products are designed and tested to meet the demands of the industrial market for optimum price savings. These economical, efficient and reliable actuators complement PHD's option-rich product lines.



**Series OSD Pneumatic Thruster Slide**

3 bore sizes with 4 travel lengths available to fit variety of applications

The price alternative to the PHD Series SD Slide  
Oversized guide shafts

Travel adjustment collars in extend direction are standard



**Series OCQ Pneumatic Compact Cylinder**

Standard shock pads reduce end of travel impact

Ten bore sizes available in incremental stroke lengths

Standard magnets for switch sensing capability

Drop-in metric mounting matching global standard

Proven Optimax® performance at a competitive price



**Series OCG Pneumatic Round Body Cylinder**

Imperial and metric models to match machine builders' specifications

Magnets standard for switch sensing capability

Standard cushions to reduce end of travel impact

6 bore sizes with 10 stroke lengths available to fit a variety of applications

Drop-in mounting to match global standard



**Series OSW Dual Bore Pneumatic Slide Table**

Dual piston bores provide high power in compact spaces

Standard shock pads reduce end of travel impact

Magnets standard for switch sensing capability

6 bore sizes available in incremental travel lengths to fit a variety of applications

Drop-in metric mounting matching global standard

Stroke adjustments and shock absorbers available as kits



**Series OSP Compact Pneumatic Thruster Slide**

Port locations on top and side

Standard shock pads reduce end of travel impact

Magnets standard for switch sensing capability

8 bore sizes available in incremental travel lengths to fit a variety of applications

Drop-in metric mounting matches global standard



**Series OSX Light Duty Pneumatic Thruster Slide**

Standard shock pads reduce end of travel impact

5 bore sizes with up to 7 travel lengths available to fit variety of applications

Travel adjustment on retract

Magnets standard for switch sensing capability

Smooth linear motion at twice the thrust of a single bore size

Drop-in metric mounting to match global standard

Sizes 12 and 16 are drop-in compatible for competition sizes 10 and 15.



**Series OCV Pneumatic Round ISO Cylinder**

Series OCV Cylinders are ISO 6431

The price alternative to the PHD Series CV Pneumatic Cylinder

32, 40 & 50 mm bores

25, 50, 100 & 200 mm stroke lengths



**Series OSH Compact Pneumatic Slide Table**

Multiple port locations for application flexibility

Four bore sizes available in incremental travel lengths to fit a variety of applications

Drop-in metric mounting matching global standard

Standard shock pads reduce end of travel impact

Standard magnets for switch sensing capability

Proven Optimax® performance at a competitive price



**For more information, request an Optimax® catalog**