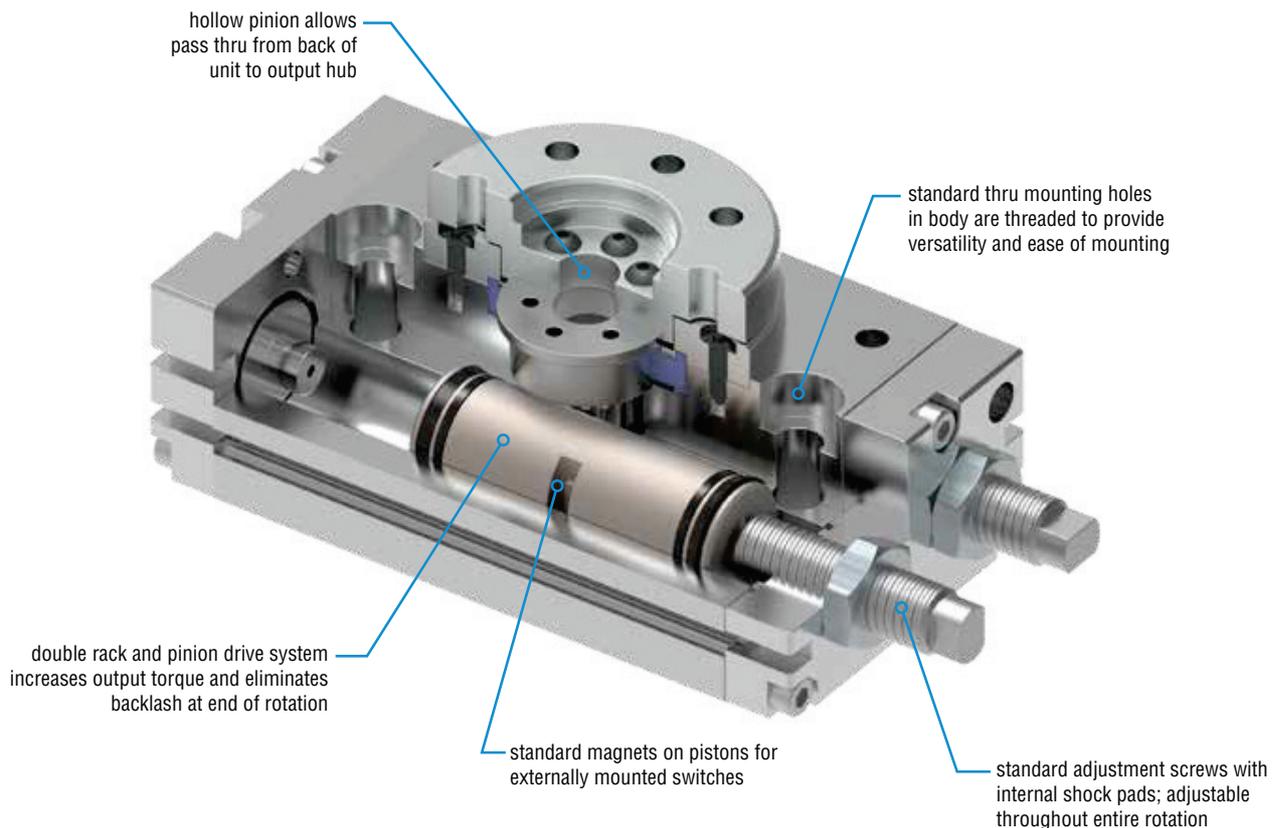


# PNEUMATIC COMPACT ROTARY TABLE

## ORQ

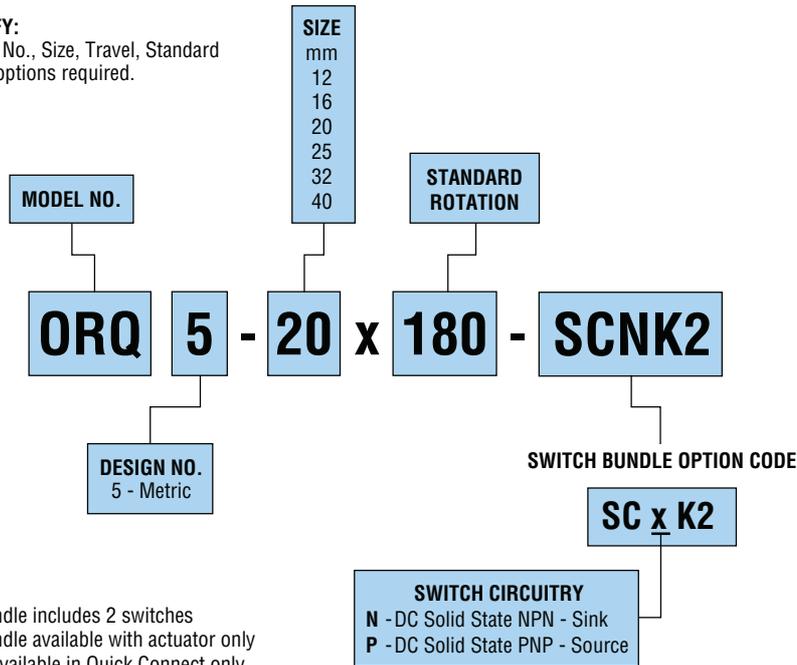
### Major Benefits

- 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



# ORDERING DATA: Series ORQ Rotary Table

**TO ORDER SPECIFY:**  
Model No., Design No., Size, Travel, Standard Rotation, and any options required.



**NOTES:**

- 1) Switch bundle includes 2 switches
- 2) Switch bundle available with actuator only
- 3) Switches available in Quick Connect only
- 4) Magnets standard for switch sensing

### SERIES JC1 SOLID STATE SWITCHES

JC1 SWITCH	DESCRIPTION
JC1SDN-K	NPN DC Solid State, Quick Connect
JC1SDP-K	PNP DC Solid State, Quick Connect

**NOTE:** See Switches and Sensors catalog for additional switch information and complete specification. Switches must be ordered separately.

### CORDSETS FOR SERIES JC1SDx SWITCHES

PART NO.	DESCRIPTION
63549-02	M8, 3 pin, Straight Female Connector, 2 meter cable
63549-05	M8, 3 pin, Straight Female Connector, 5 meter cable

**NOTE:** Cordsets are ordered separately.

## CAD & Sizing Assistance

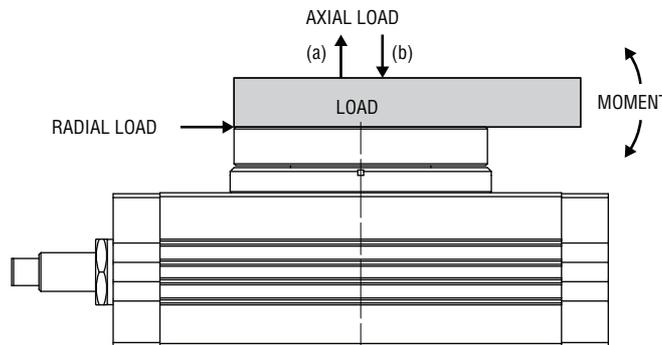
Use PHD's free online Product Sizing and CAD Configurator at [phdinc.com/myphd](http://phdinc.com/myphd)

# ENGINEERING DATA: Series ORQ Rotary Table

SPECIFICATIONS	SERIES ORQ COMPACT ROTARY TABLE					
	12 mm	16 mm	20 mm	25 mm	32 mm	40 mm
OPERATING PRESSURE	1 - 7 bar [14.5 - 101.5 psi]		1 - 10 bar [14.5 - 145 psi]			
OPERATING TEMPERATURE	0° - 60°C [32° - 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 - 1.0				0.2 - 2.0	0.2 - 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	(a)		(b)		Nm	in-lb
12	0.10	0.06	54	12	71	16	71	16	1.5	13
16	0.26	0.16	78	18	74	17	78	18	2.4	21
20	0.50	0.31	197	44	197	44	363	82	5.3	47
25	0.90	0.55	314	71	296	67	451	101	9.7	86
32	1.89	1.15	390	88	493	111	708	159	18	159
40	3.76	2.29	543	122	740	166	1009	227	25	221

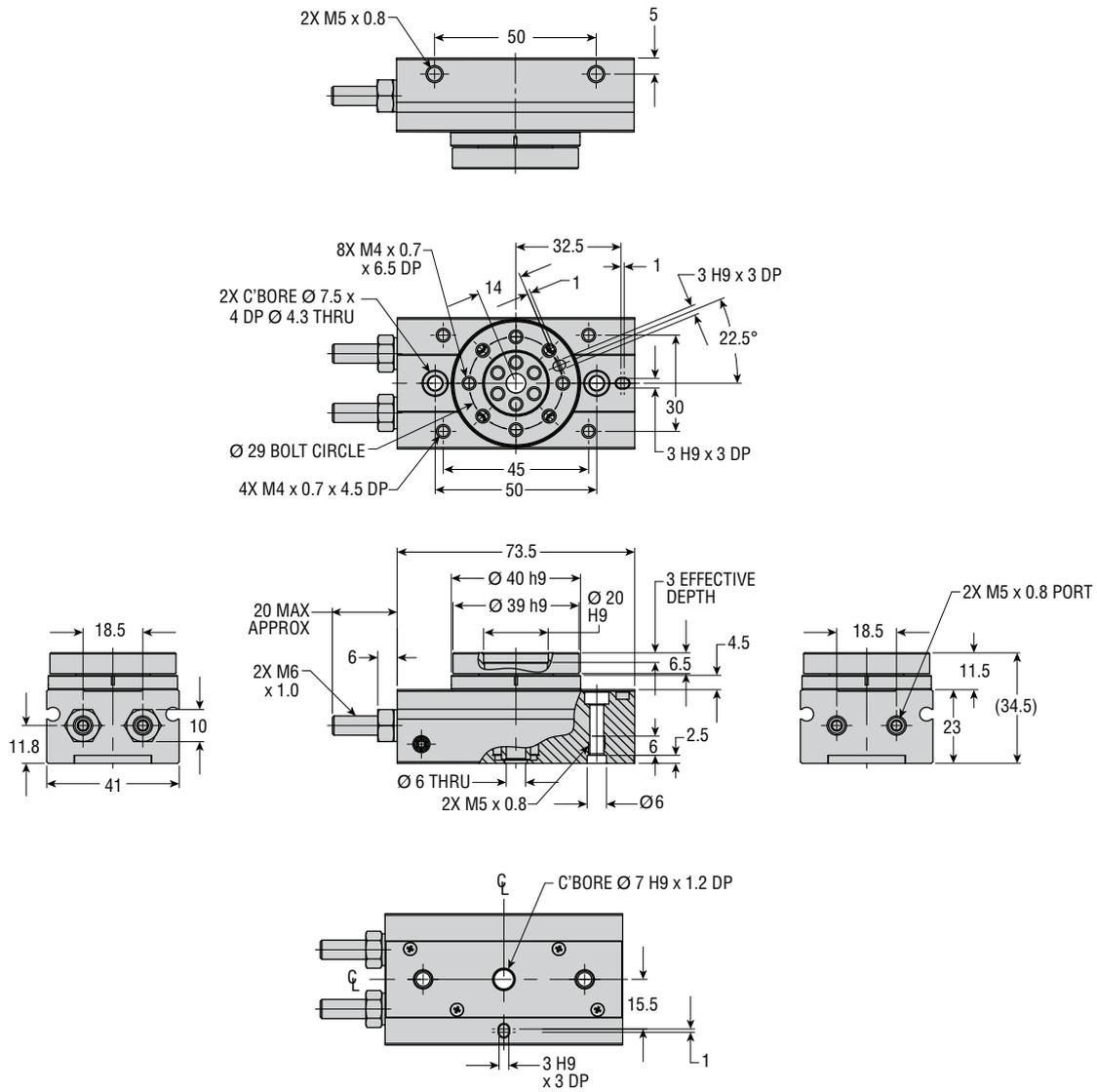
**NOTE:** PHD online sizing software does not provide for the (a) axial loading.

## Application & Sizing Assistance

Use PHD's free online Product Sizing and Application at [www.phdinc.com/apps/sizing](http://www.phdinc.com/apps/sizing)

# DIMENSIONS: Series ORQ Rotary Table

## SIZE 12



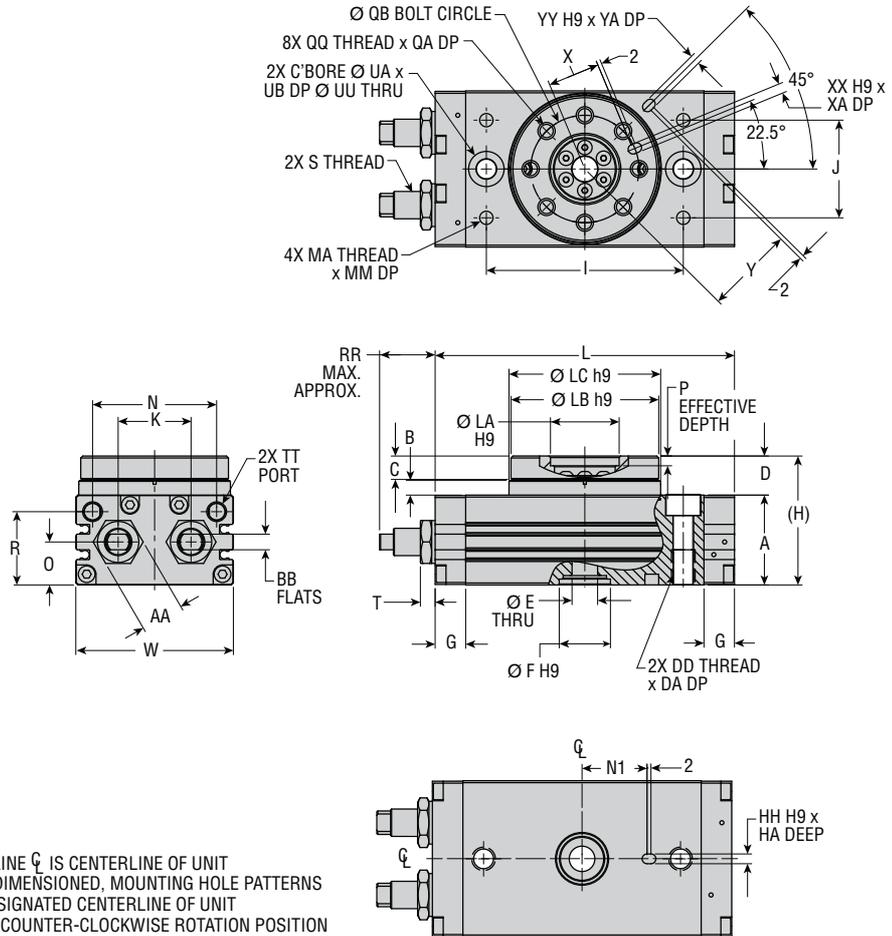
### NOTES:

- 1) DIMENSIONS ARE mm
- 2) DESIGNATED CENTERLINE  $\text{\O}$  IS CENTERLINE OF UNIT
- 3) UNLESS OTHERWISE DIMENSIONED, MOUNTING HOLE PATTERNS ARE CENTERED ON DESIGNATED CENTERLINE OF UNIT
- 4) UNIT SHOWN AT FULL COUNTER-CLOCKWISE ROTATION POSITION

All dimensions are reference only unless specifically toleranced.

# DIMENSIONS: Series ORQ Rotary Table

## SIZE 16, 20 & 25



- NOTES:**
- 1) DIMENSIONS ARE mm
  - 2) DESIGNATED CENTERLINE  $\varnothing$  IS CENTERLINE OF UNIT
  - 3) UNLESS OTHERWISE DIMENSIONED, MOUNTING HOLE PATTERNS ARE CENTERED ON DESIGNATED CENTERLINE OF UNIT
  - 4) UNIT SHOWN AT FULL COUNTER-CLOCKWISE ROTATION POSITION

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

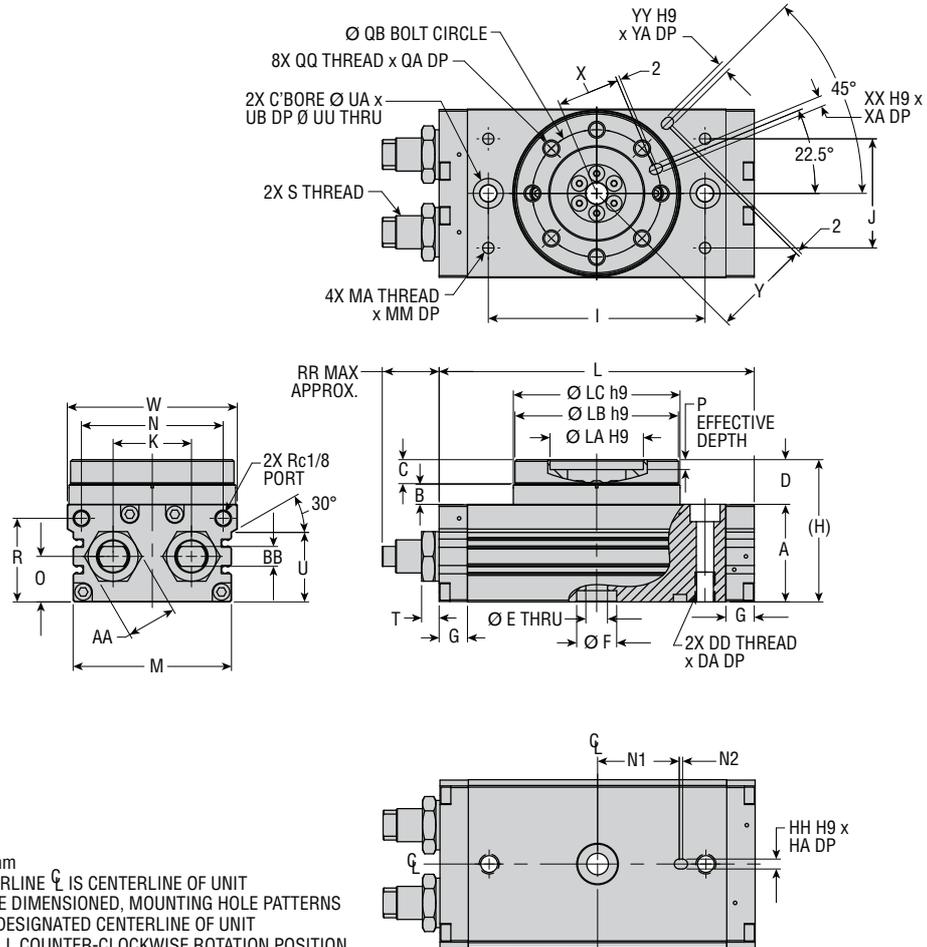
SIZE	J	K	L	$\varnothing$ LA H9	$\varnothing$ LB h9	$\varnothing$ LC h9	MA	MM	N	N1	O	P	QA	$\varnothing$ QB
16	27	26	92	20	45	46	M5 x 0.8	8	37	19	15.5	4	8	32
20	37	32	127	32	65	67	M6 x 1	8	54	28	19.5	4.5	10	48
25	50	37	152	35	75	77	M8 x 1.25	8	63	33	22	5	12	55

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

All dimensions are reference only unless specifically toleranced.

# DIMENSIONS: Series ORQ Rotary Table

## SIZE 32 & 40



- NOTES:**
- 1) DIMENSIONS ARE mm
  - 2) DESIGNATED CENTERLINE  $\varnothing$  IS CENTERLINE OF UNIT
  - 3) UNLESS OTHERWISE DIMENSIONED, MOUNTING HOLE PATTERNS ARE CENTERED ON DESIGNATED CENTERLINE OF UNIT
  - 4) UNIT SHOWN AT FULL COUNTER-CLOCKWISE ROTATION POSITION

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

All dimensions are reference only unless specifically toleranced.