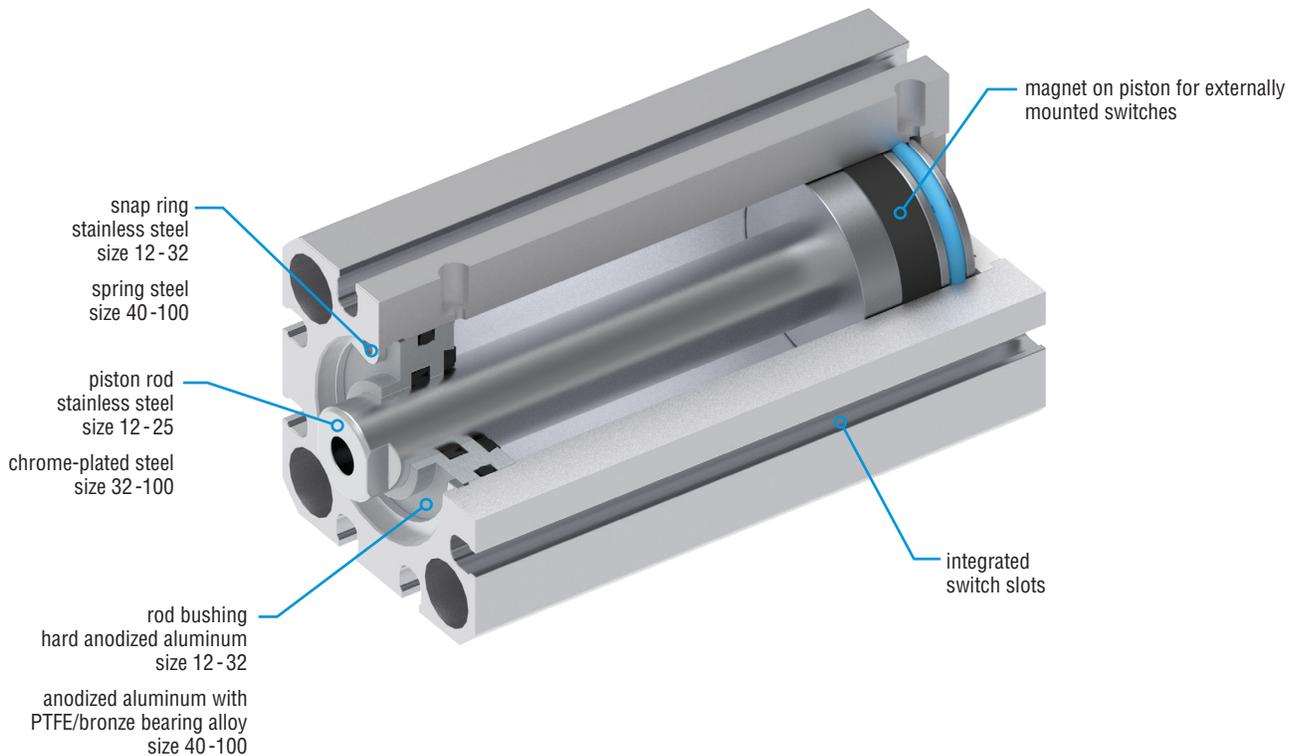


PNEUMATIC COMPACT CYLINDER



Major Benefits

- Standard shock pads reduce end of travel impact
- 10 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



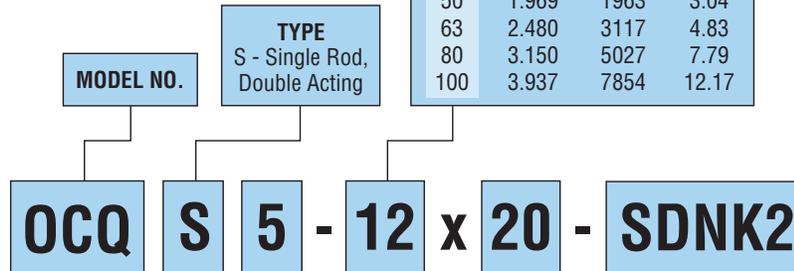
COMPONENT	MATERIALS
BODY	Anodized Aluminum Alloy
BORE PLUG	
SNAP RING	See Figure
PISTON ROD	
ROD BUSHING	
ROD SEAL	NBR
SHOCK PADS	
PISTON SEAL	
O-RINGS	
PISTON WEAR RING*	PTFE

*Size 32 through 100 only

ORDERING DATA: Series OCQ Cylinders

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

SIZE			
SIZE	BORE	AREA	AREA
mm	in	sq mm	sq in
12	0.472	113	0.18
16	0.630	201	0.31
20	0.787	314	0.49
25	0.984	491	0.76
32	1.260	804	1.25
40	1.575	1257	1.95
50	1.969	1963	3.04
63	2.480	3117	4.83
80	3.150	5027	7.79
100	3.937	7854	12.17



SIZE	STANDARD TRAVEL LENGTHS										
	mm										
12	5	10	15	20	25	30	—	—	—	—	—
16	5	10	15	20	25	30	—	—	—	—	—
20	5	10	15	20	25	30	35	40	45	50	—
25	5	10	15	20	25	30	35	40	45	50	—
32	5	10	15	20	25	30	35	40	45	50	75
40	5	10	15	20	25	30	35	40	45	50	75
50	—	10	15	20	25	30	35	40	45	50	75
63	—	10	15	20	25	30	35	40	45	50	75
80	—	10	15	20	25	30	35	40	45	50	75
100	—	10	15	20	25	30	35	40	45	50	75

SWITCH BUNDLE OPTION CODE
(see Notes 3-4)

SD x K2

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

SWITCH CIRCUITRY	
D - DC Reed	
N - DC Solid State NPN - Sink	
P - DC Solid State PNP - Source	

CABLE TYPE
K - Quick Connect

SWITCHES

PART NO.	DESCRIPTION
86725-0	Reed DC 5-30 V, 50 mA, Quick Connect
86726-0	Sink Type (NPN), DC 5-30 V, 50 mA, Quick Connect
86727-0	Source Type (PNP), DC 5-30 V, 50 mA, Quick Connect

Includes one switch.

CORDSETS

MODEL NO.	CABLE LENGTH
63549-02	78.74 in [2 m]
63549-05	196.85 in [5 m]

Includes one cordset.

CAD & Sizing Assistance

Use PHD's free online Product Sizing and CAD Configurator at phdinc.com/myphd

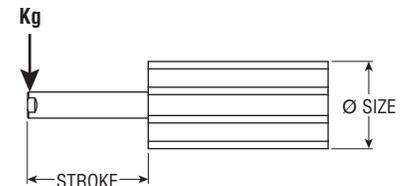
ENGINEERING DATA: Series OCQ Cylinders

SPECIFICATIONS	SERIES OCQ CYLINDER			
	12-16 mm	20-50 mm	63-80 mm	100 mm
OPERATING AIR PRESSURE	0.7-10 bar [10.2-145 psi]	0.5-10 bar [7.3-145 psi]		
OPERATING TEMPERATURE	5°-60°C [41°-140°F]			
VELOCITY	50-500 mm/s [2-20 in/s]		50-300 mm/s [2-13 in/s]	50-200 mm/s [2-8 in/s]
RATED LIFE	3 million cycles			
LUBRICATION	Factory lubricated for rated life			

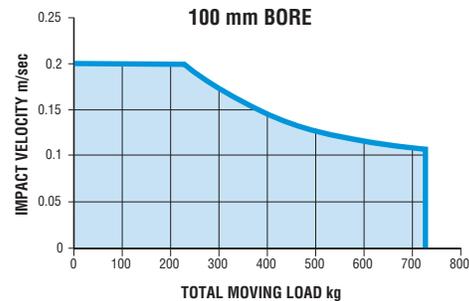
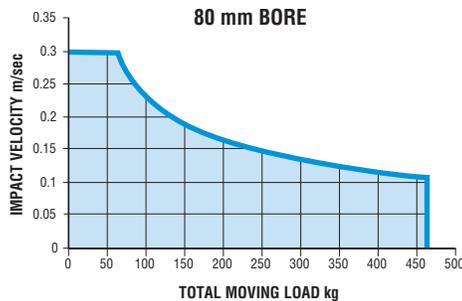
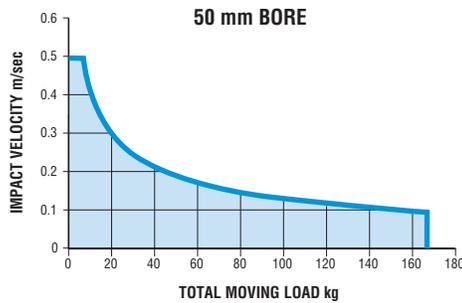
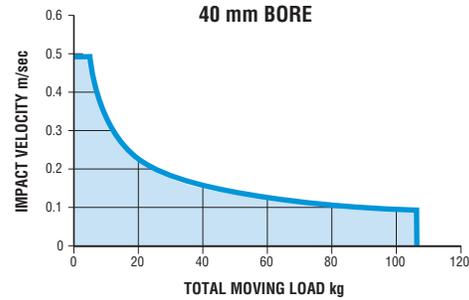
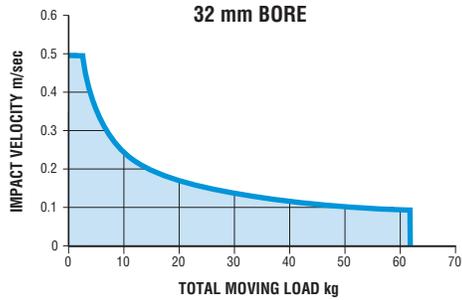
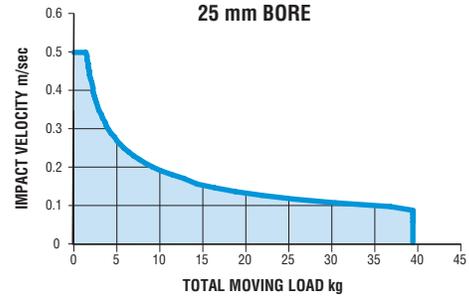
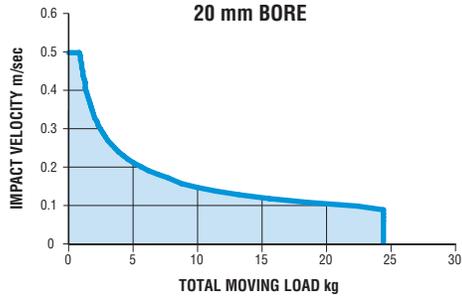
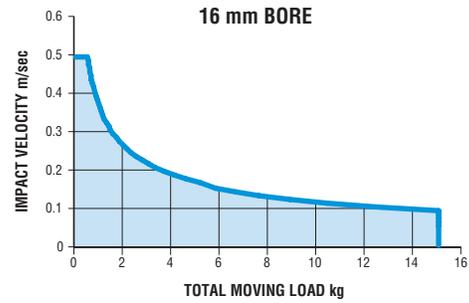
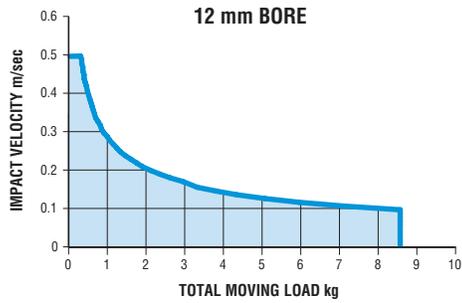
SIZE	ROD DIAMETER mm	EFFECTIVE AREA			UNIT WEIGHT (g) BY STROKE											
		DIRECTION	mm ²	in ²	5 mm	10 mm	15 mm	20 mm	25 mm	30 mm	35 mm	40 mm	45 mm	50 mm	75 mm	100 mm
12	6	Extend	113	0.18	32	39	46	52	60	67	—	—	—	—	—	—
		Retract	85	0.13												
16	8	Extend	201	0.31	43	51	60	69	78	86	—	—	—	—	—	—
		Retract	151	0.23												
20	10	Extend	314	0.49	67	80	95	109	123	138	152	165	180	194	—	—
		Retract	236	0.37												
25	12	Extend	491	0.76	104	121	140	157	176	194	212	230	249	266	—	—
		Retract	378	0.59												
32	16	Extend	804	1.25	130	152	173	193	215	236	257	278	299	320	475	581
		Retract	603	0.93												
40	16	Extend	1257	1.95	194	217	240	263	287	309	332	356	378	402	587	708
		Retract	1056	1.64												
50	20	Extend	1963	3.04	—	343	378	412	446	480	515	549	583	617	897	1074
		Retract	1649	2.56												
63	20	Extend	3117	4.83	—	493	534	574	615	655	696	737	776	818	1168	1377
		Retract	2803	4.34												
80	25	Extend	5027	7.79	—	925	987	1050	1114	1177	1239	1302	1366	1428	1971	2282
		Retract	4536	7.03												
100	30	Extend	7854	12.17	—	1720	1809	1898	1988	2076	2166	2255	2343	2433	3244	3697
		Retract	7147	11.08												

SIZE	WEIGHT (g) OF MOVING COMPONENTS BY STROKE											
	5 mm	10 mm	15 mm	20 mm	25 mm	30 mm	35 mm	40 mm	45 mm	50 mm	75 mm	100 mm
12	8	9	10	11	12	13	—	—	—	—	—	—
16	16	18	20	22	24	26	—	—	—	—	—	—
20	25	28	30	33	36	40	43	46	49	51.4	—	—
25	39	43	48	52	57	60	65	69	74	77.6	—	—
32	73	80	87	95	103	110	118	126	133	140	178	217
40	101	109	117	125	132	140	148	156	164	172	210	249
50	—	176	188	200	211	224	236	248	260	273	333	393
63	—	244	257	269	282	295	307	320	332	346	409	472
80	—	405	426	445	464	483	503	522	541	561	657	753
100	—	710	738	767	795	824	853	881	910	939	1081	1223

SIZE	MAXIMUM LATERAL LOAD (kg) BY STROKE											
	5 mm	10 mm	15 mm	20 mm	25 mm	30 mm	35 mm	40 mm	45 mm	50 mm	75 mm	100 mm
12	0.22	0.19	0.16	0.14	0.12	0.11	—	—	—	—	—	—
16	0.44	0.37	0.32	0.29	0.25	0.22	—	—	—	—	—	—
20	0.76	0.64	0.56	0.50	0.45	0.41	0.38	0.35	0.32	0.30	—	—
25	1.1	0.98	0.87	0.77	0.69	0.62	0.57	0.52	0.49	0.46	—	—
32	1.8	1.5	1.4	1.2	1.1	1.0	0.92	0.84	0.76	0.71	0.56	0.45
40	2.1	1.9	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.99	0.76	0.61
50	—	3.0	2.7	2.4	2.2	2.0	1.8	1.7	1.6	1.5	1.2	0.94
63	—	4.8	4.4	4.0	3.7	3.4	3.1	2.8	2.6	2.4	2.0	1.6
80	—	8.2	7.5	6.9	6.4	5.9	5.5	5.1	4.8	4.6	3.6	2.9
100	—	12.4	11.5	10.7	10.0	9.4	8.9	8.4	7.9	7.5	6.1	5.1

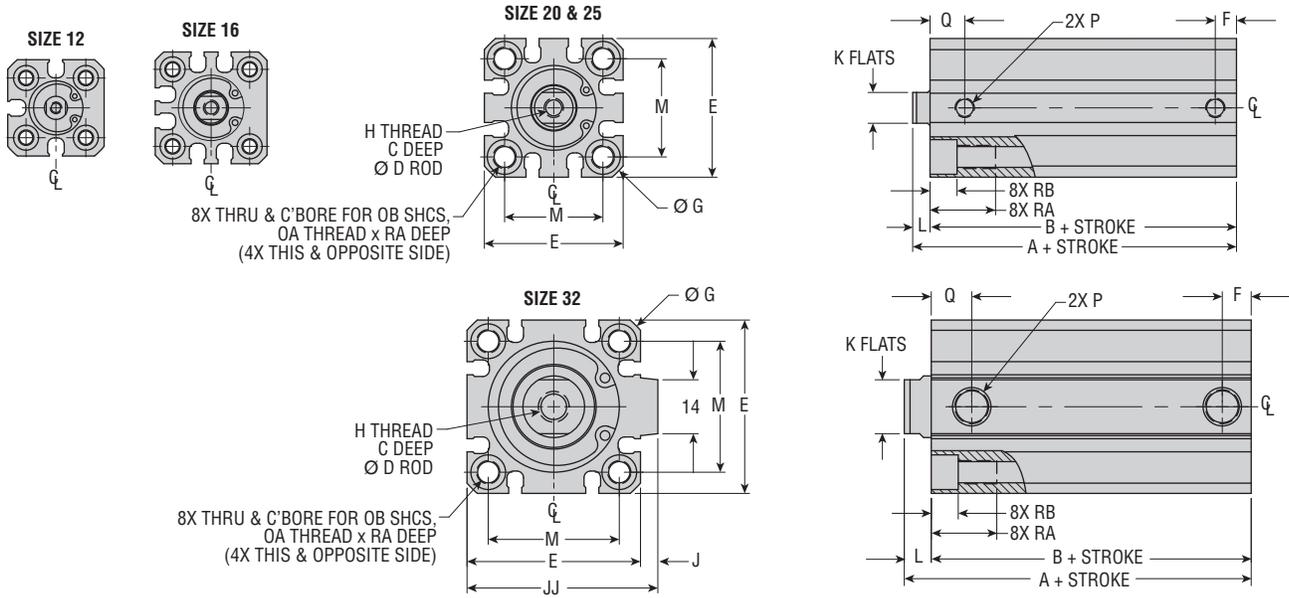


MAXIMUM ALLOWABLE KINETIC ENERGY



DIMENSIONS: Series OCQ Cylinders

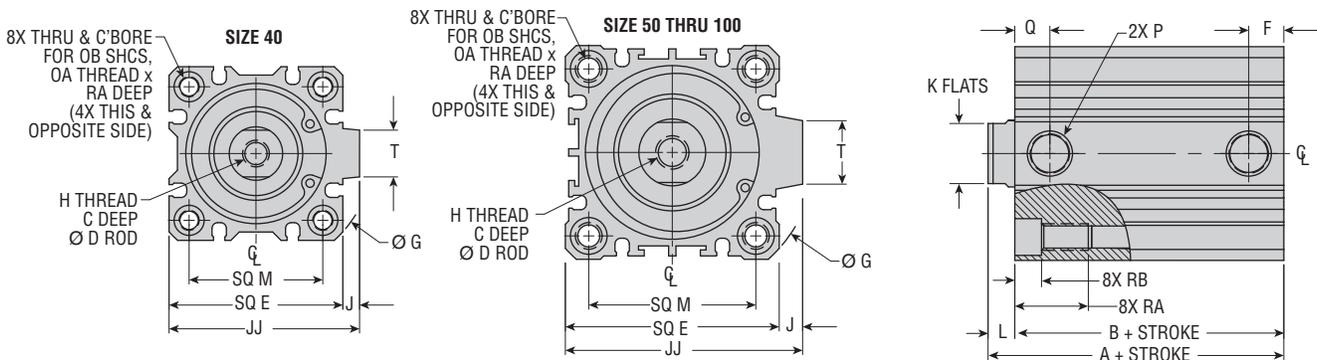
SIZES 12 THRU 32



- NOTES:**
- 1) DESIGNATED CENTERLINE IS CENTERLINE OF CYLINDER
 - 2) UNLESS OTHERWISE DIMENSIONED, MOUNTING HOLE PATTERNS ARE CENTERED ON DESIGNATED CENTERLINE OF CYLINDER

BORE SIZE	A	B	C	Ø D	E	F	Ø G	H	J	JJ	K	L	M	P	OA	OB	Q	RA	RB
12	25.5	22	6	6	25	5	32	M3 x 0.5	—	—	5	3.5	15.5	M5 x 0.8	M4 x 0.7	M3	7.5	11	4
16	25.5	22	8	8	29	5	38	M4 x 0.7	—	—	6	3.5	20	M5 x 0.8	M4 x 0.7	M3	7.5	11	4
20	34	29.5	7	10	36	5.5	47	M5 x 0.8	—	—	8	4.5	25.5	M5 x 0.8	M6 x 1	M5	9	17	7
25	37.5	32.5	12	12	40	5.5	52	M6 x 1	—	—	10	5	28	M5 x 0.8	M6 x 1	M5	11	17	7
32	40	33	13	16	45	7.5	60	M8 x 1.25	4.5	49.5	14	7	34	G 1/8	M6 x 1	M5	10.5	17	7

SIZES 40 THRU 100



- NOTES:**
- 1) DESIGNATED CENTERLINE IS CENTERLINE OF CYLINDER
 - 2) UNLESS OTHERWISE DIMENSIONED, MOUNTING HOLE PATTERNS ARE CENTERED ON DESIGNATED CENTERLINE OF CYLINDER

BORE SIZE	A	B	C	Ø D	E	F	Ø G	H	J	JJ	K	L	M	P	OA	OB	Q	RA	RB	T
40	46.5	39.5	13	16	52	8	70	M8 x 1.25	5	57	14	7	40	G 1/8	M6 x 1	M5	11	17	7	14
50	48.5	40.5	15	20	64	10.5	86	M10 x 1.5	7	71	17	8	50	G 1/4	M8 x 1.25	M6	10.5	22	8	19
63	54	46	15	20	77	10.5	103	M10 x 1.5	7	84	17	8	60	G 1/4	M10 x 1.5	M8	15	28.5	10.5	19
80	63.5	53.5	21	25	98	12.5	132	M16 x 2	6	104	22	10	77	G 3/8	M12 x 1.75	M10	16	35.5	13.5	26
100	75	63	27	30	117	13	156	M20 x 2.5	6.5	123.5	27	12	94	G 3/8	M12 x 1.75	M10	23	35.5	13.5	26

All dimensions are reference only unless specifically toleranced.

MOUNTING KITS: Series OCQ Cylinders

FLANGE MOUNTING KITS

87785 - 016

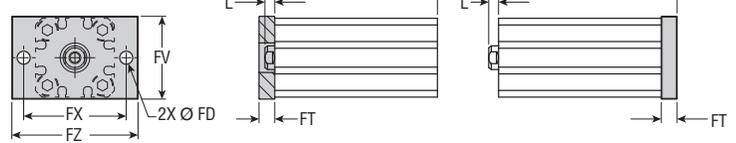
IT BASE PART NUMBER

CYLINDER BORE SIZE

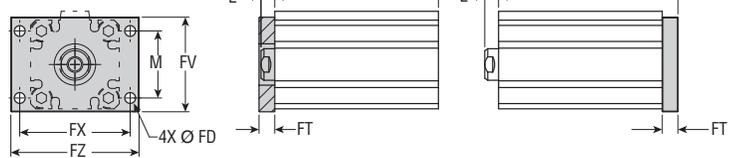
012 = 12 mm 040 = 40 mm
 016 = 16 mm 050 = 50 mm
 020 = 20 mm 063 = 60 mm
 025 = 25 mm 080 = 80 mm
 032 = 32 mm 100 = 100 mm

SIZE	FLANGE MOUNT DIMENSIONS								
	A1	A2	FD	FT	FV	FX	FZ	L	M
12	25.5	31	4.5	5.5	25	45	55	3.5	—
16	25.5	31	4.5	5.5	30	45	55	3.5	—
20	34	42	6.6	8	39	48	60	4.5	—
25	37.5	45.5	6.6	8	42	52	64	5	—
32	40	48	5.5	8	48	56	65	7	34
40	46.5	54.5	5.5	8	54	62	72	7	40
50	48.5	57.5	6.6	9	67	76	89	8	50
63	54	63	9	9	80	92	108	8	60
80	63.5	74.5	11	11	99	116	134	10	77
100	75	86	11	11	117	136	154	12	94

SIZE 12 THRU 25



SIZE 32 THRU 100



NOTES:

- 1) KIT MAY BE ATTACHED TO EITHER END OF CYLINDER. EACH KIT CONTAINS SINGLE FLANGE MOUNTING PLATE AND NECESSARY FASTENERS FOR MOUNTING TO CYLINDER.
- 2) CYLINDER SHOWN FOR REFERENCE ONLY.

FOOT MOUNTING KITS

37784 - 016

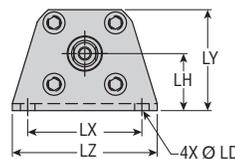
BASE PART NUMBER

CYLINDER BORE SIZE

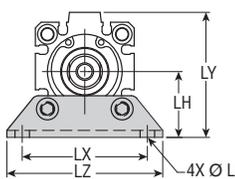
012 = 12 mm 040 = 40 mm
 016 = 16 mm 050 = 50 mm
 020 = 20 mm 063 = 60 mm
 025 = 25 mm 080 = 80 mm
 032 = 32 mm 100 = 100 mm

SIZE	FOOT MOUNT DIMENSIONS											
	A	LS	L	LD	LG	LH	LT	LX	LY	LZ	X	Y
12	30.3	10	3.5	4.5	2.8	17	2	34	29.5	44	8	4.5
16	30.3	10	3.5	4.5	2.8	19	2	38	33.5	48	8	5
20	41.2	17.5	4.5	6.6	4	24	3.2	48	42	62	9.2	5.8
25	44.7	17.5	5	6.6	4	26	3.2	52	46	66	10.7	5.8
32	47.2	17	7	6.6	4	30	3.2	57	57	71	11.2	5.8
40	53.7	23.5	7	6.6	4	33	3.2	64	64	78	11.2	7
50	56.7	17.5	8	9	5	39	3.2	79	78	95	14.7	8
63	62.2	20	8	11	5	46	3.2	95	91.5	113	16.2	9
80	75	23.5	10	13	7	59	4.5	118	114	140	19.5	11
100	88	29	12	13	7	71	6	137	136	162	23	12.5

SIZE 12 THRU 25



SIZE 32 THRU 100



NOTES:

- 1) EACH KIT CONTAINS BRACKET AND MOUNTING HARDWARE FOR ONE END ONLY.
- 2) CYLINDER SHOWN FOR REFERENCE ONLY.

REAR FORK MOUNTING KITS

87788 - 016

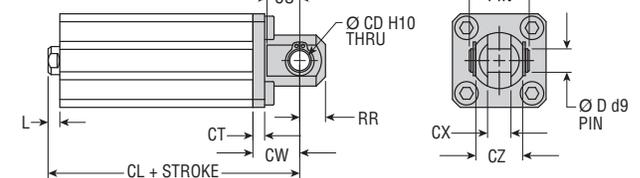
KIT BASE PART NUMBER

CYLINDER BORE SIZE

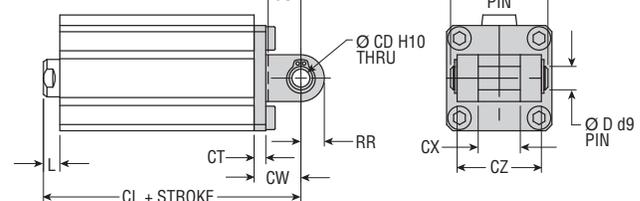
012 = 12 mm 040 = 40 mm
 016 = 16 mm 050 = 50 mm
 020 = 20 mm 063 = 60 mm
 025 = 25 mm 080 = 80 mm
 032 = 32 mm 100 = 100 mm

SIZE	REAR FORK MOUNT DIMENSIONS										
	A	CL	Ø CD	Ø D	CT	CU	CW	CX	CZ	L	RR
12	14.6	39.5	5	5	4	7	14	5	10	3.5	6
16	16.6	40.5	5	5	4	10	15	6.5	12	3.5	6
20	21	52	8	8	5	12	18	8	16	4.5	9
25	25.6	57.5	10	10	5	14	20	10	20	5	10
32	41.6	60	10	10	5	14	20	18	36	7	10
40	41.6	68.5	10	10	6	14	22	18	36	7	10
50	50.6	76.5	14	14	7	20	28	22	44	8	14
63	50.6	84	14	14	8	20	30	22	44	8	14
80	64	101.5	18	18	10	27	38	28	56	10	18
100	72	120	22	22	13	31	45	32	64	12	22

SIZE 12 THRU 25



SIZE 32 THRU 100



NOTES:

- 1) EACH KIT CONTAINS: REAR FORK, FASTENERS FOR MOUNTING TO CYLINDER, PIN, AND RETAINING RINGS
- 2) CYLINDER SHOWN FOR REFERENCE ONLY.

All dimensions are reference only unless specifically tolerated.