

Compact cylinder

ACQ Series—With guider type



Specification

Bore size(mm)	12	16	20	25	32	40	50	63	80	100
Acting type	Double acting									
Fluid	Air(to be filtered by 40μm filter element)									
Operating pressure	0.15~1.0MPa(22~145psi)									
Proof pressure	1.5MPa(215psi)									
Temperature °C	-20~70									
Speed range mm/s	30~500									
Stroke tolerance	+1.0 0									
Cushion type	Bumper									
Port size [Note1]	M5×0.8					1/8"		1/4"		3/8"
Non-rotating tolerance [Note2]	±0.2°					±0.1°				

[Note1] G thread is available.

[Note2] Retract position.

Add) Refer to P519 for detail of sensor switch.

Symbol



Product feature

1. JIS standard is implemented and with guider.
2. C clip is adopted to connect the cylinder body and back cover or front cover to make it compact and reliable.
3. The internal diameter of the body is treated with rolling followed by the treatment of hard anodizing, forming an excellent abrasion resistance and durability.
4. The seal of piston adopts heterogeneous two-way seal structure. It has compact dimension and the function of greasel reservation.
5. Compact structure can effectively save installation space.
6. There are magnetic switch slots around the cylinder body, which is convenient to install inducting switch.
7. Double rod non-rotating structure enables to bear large working load and lateral load.

Stroke

Bore size(mm)	Standard stroke (mm)										Max.std stroke (mm)	Middle stroke range(mm)			
	5	10	15	20	25	30	35	40	45	50			75	100	
12 16	●	●	●	●	●	●	●	×	×	×	×	×	×	30	1~29
20 25	●	●	●	●	●	●	●	●	●	●	×	×	×	50	1~49
32 40	●	●	●	●	●	●	●	●	●	●	●	●	●	100	1~99
50 63 80 100	×	●	●	●	●	●	●	●	●	●	●	●	●	100	5~99

[Note] The dimensions of non-std stroke cylinder has the same dimensions as the next longer stroke std. stroke cylinder. e.g. 23mm stroke cylinder has the same dimensions of 25 std. stroke cylinder.

Please contact the company for other special strokes.

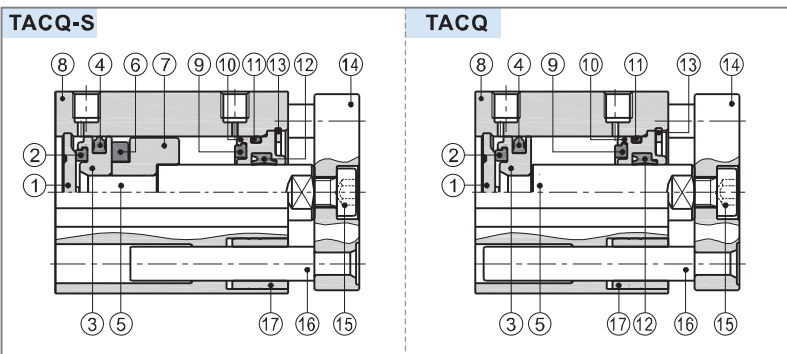
Ordering code

TACQ 50 × 100 S G



① Model	② Bore size	③ Stroke	④ Magnet	⑤ Thread type
TACQ: Compact cylinder (Double acting with guider)	12 16 20 25 32 40 50 63 80 100	Refer to stroke table for details	Blank: Without magnet S: With magnet	G: G

Inner structure and material of major parts



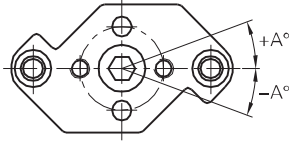
NO.	Item	Material	NO.	Item	Material
1	Back cover	Aluminum alloy	10	Front cover	Aluminum alloy
2	Bumper	NBR	11	O-ring	NBR
3	Piston	Aluminum alloy	12	Front cover packing	NBR
4	Piston seal	NBR			
5	Piston rod	Carbon steel with 20μm chrome plated	13	C clip	Spring steel
			14	Fixing plate	Aluminum alloy
6	Magnet	Sintered metal (Neodymium-iron-boron)	15	Screw	Carbon steel
			16	Leader	Stainless steel
7	Magnet holder	Aluminum alloy	17	Bushing	Brass
8	Body	Aluminum alloy			
9	Wear ring	NBR			

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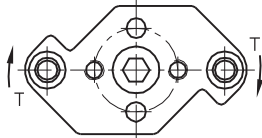
Installation and application

1. TACQ series cylinder is designed with double guide rod which is non-rotating. Make sure the non-rotating accuracy of the fixing plate is in the allowable range.



Bore size	12,16	20,25,32,40,50,63,80,100
Non-rotating tolerance	±0.2°	±0.1°

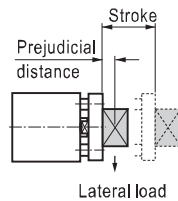
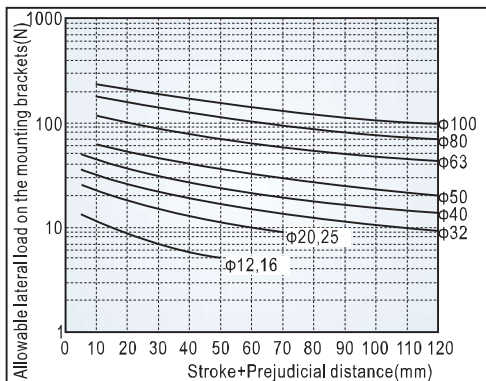
2. Do not apply reverse torque to the piston rods. The torque beyond the limits may cause malfunction or reduction of the service life.



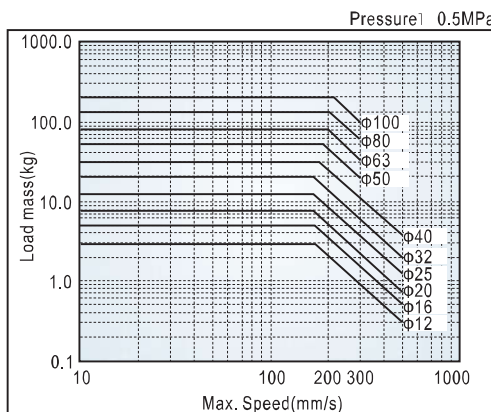
Unit: N·m

Bore size\Stroke	5	10	15	20	25	30	35	40	45	50	75	100
12	0.11	0.10	0.08	0.07	0.07	0.06	-	-	-	-	-	-
16	0.15	0.12	0.11	0.10	0.09	0.08	-	-	-	-	-	-
20	0.37	0.32	0.28	0.25	0.23	0.21	0.19	0.18	0.17	0.16	-	-
25	0.40	0.35	0.31	0.28	0.25	0.23	0.21	0.20	0.18	0.17	-	-
32	0.66	0.59	0.53	0.49	0.45	0.42	0.39	0.36	0.34	0.32	0.25	0.20
40	1.06	0.96	0.88	0.81	0.75	0.70	0.65	0.61	0.58	0.55	0.43	0.36
50	-	1.70	1.56	1.45	1.35	1.26	1.19	1.12	1.06	1.01	0.80	0.67
63	-	3.90	3.62	3.37	3.15	2.96	2.80	2.65	2.51	2.39	1.92	1.61
80	-	7.44	6.98	6.56	6.20	5.87	5.57	5.31	5.07	4.84	3.98	3.37
100	-	11.85	11.19	10.61	10.08	9.60	9.17	8.77	8.41	8.07	6.73	5.77

3. Make sure the lateral load on the mounting bracket is within the limits. Any exceeding may cause malfunction or reduction of the service life.

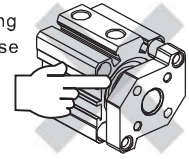


4. Make sure the load quality and the maximum speed are within the limits. Any exceeding may cause malfunction or reduction of the service life.

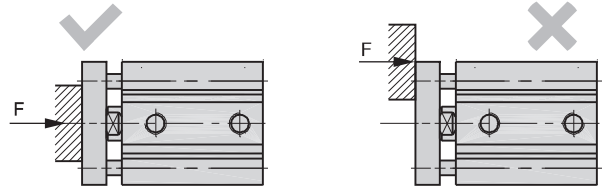


5. Caution before mounting:

- 5.1) Do not put hands between the mounting bracket and cylinder, which may cause damage to a human body when the piston rod retracts.



- 5.2) Make sure the external force against the mounting bracket is concentric with the piston rod. Any extra torque may cause damage to the cylinder.



- 5.3) Install the fixture onto the mounting bracket only when the piston rod is in the retraction state.

Do not apply the installation torque on the guide rod.

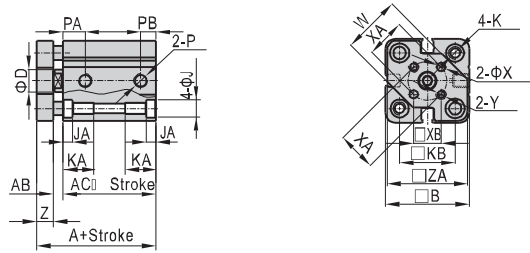
- 5.4) Avoid any damage on piston rod and guide rod, which may cause damage on seals and air leakage or malfunction.

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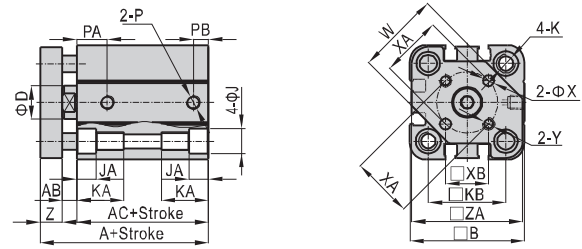
ACQ Series—With guider type

Dimensions

Φ12/Φ16



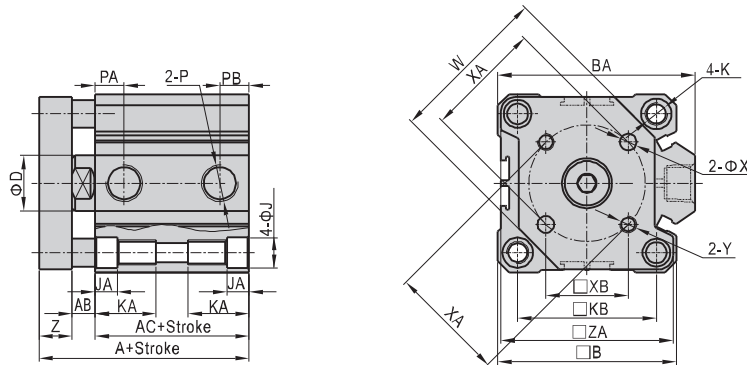
Φ20/Φ25



Bore size\Item	A		AC		AB	B	D	J	JA	K					
	Without magnet	With magnet	Without magnet	With magnet						M4×0.7 Thru.hole:Φ3.4	M4×0.7 Thru.hole:Φ3.4	M6×1.0 Thru.hole:Φ5.2	M6×1.0 Thru.hole:Φ5.2		
12	26.5	37.5	17.3	28.3	3	26	6	6	3.5						
16	28	40	19	31	3	30	8	6	3.5						
20	32	44	20.5	32.5	3.5	36	10	9	5.5						
25	35.5	45.5	23	33	4.5	41	12	9	5.5						

Bore size\Item	KA	KB	P	PA		PB		W	X	XA	XB	Y	Z	ZA
				Without magnet	With magnet	Without magnet	With magnet							
12	11.5	15.5	M5×0.8	7.5	9	5	7	15	3	10	7.1	M3×0.5	6	25
16	11.5	20	M5×0.8	8.5	10	5.5	5.5	21	3	14	9.9	M3×0.5	6	29
20	18	25.5	M5×0.8	10	10.5	5.5	5.5	26	4	17	12	M4×0.7	8	35
25	17.5	28	M5×0.8	11.5	11.5	5.5	5.5	30	5	22	15.6	M5×0.8	8	40

Φ32~Φ100



Bore size\Item	A(Without magnet)		A (With magnet)	AB	AC(Without magnet)		AC (With magnet)	B	BA	D	J	JA	K			
	St≤50	St≥75			St≤50	St≥75							M6×1.0 Thru.hole:Φ5.2	M6×1.0 Thru.hole:Φ5.2	M8×1.25 Thru.hole:Φ6.7	M10×1.5 Thru.hole:Φ8.5
32	40	50	50	6.5	23.5	33.5	33.5	45	49.5	16	9	5.5				
40	46.5	56.5	56.5	6.6	30	40	40	53	57	16	9	5.5				
50	50.5	60.5	60.5	7.5	31	41	41	64	71	20	10.5	6.5				
63	56	66	66	8	36	46	46	77	84	20	14	9				
80	67.5	77.5	77.5	10	43.5	53.5	53.5	98	104	25	17	11				
100	81	91	91	12	53	63	63	117	123.5	32	17	11				

Bore size\Item	KA	KB	P	PA	PA	PB	PB	W	X	XA	XB	Y	Z	ZA
				(Without magnet)	(With magnet)	(Without magnet)	(With magnet)							
32	17.5	34	1/8"	8	10.5	6.5	7.5	37	5	28	19.8	M5×0.8	10	43
				11		7.5								
40	17.5	40	1/8"	11	11	8	8	46	5	33	23.3	M5×0.8	10	51
50	22.5	50	1/4"	10.5	11	11	10.5	58	6	42	29.7	M6×1.0	12	62
63	28.5	60	1/4"	15	15	10.5	10.5	69	6	50	35.4	M6×1.0	12	75
80	35.5	77	3/8"	16	16	14	14	90	8	65	46	M8×1.25	14	95
100	35.5	94	3/8"	20	20	17.5	17.5	113.5	10	80	56.6	M10×1.5	16	114.5