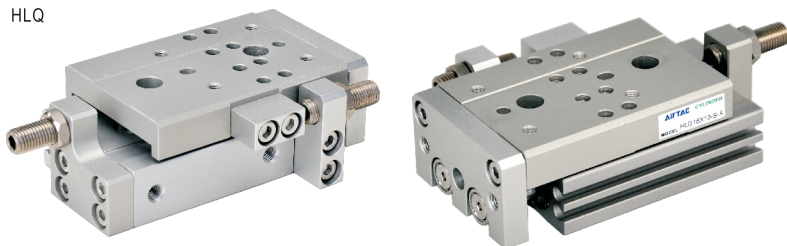




Compact slide cylinder(Recirculating linear ball bearing)——HLQ Series

Product series

Series name		Acting type	Bore size	Collocation of sensor switch	
				DS1-H	
HLQ			Double acting		
				6	
				8	
				12	
				16	
				20	
25					
Page	322			403	

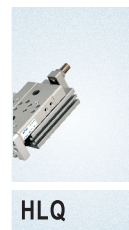
Installation and application

1. Dirty substances in the pipe must be cleared away before cylinder is connected with pipeline to prevent the entrance of sundries into the cylinder.
2. The medium used by cylinder should be filtered by the filter element of 40 μm or better.
3. Anti-freezing measure shall be adopted under low temperature environment to prevent moisture freezing.
4. If the cylinder is dismantled and stored for a long time, pay attention to conduct anti-rust treatment to the surface. Anti-dust jam cap shall be added in air intake and outlet orifices.

Criteria for selection: Cylinder thrust

Unit: Newton(N)

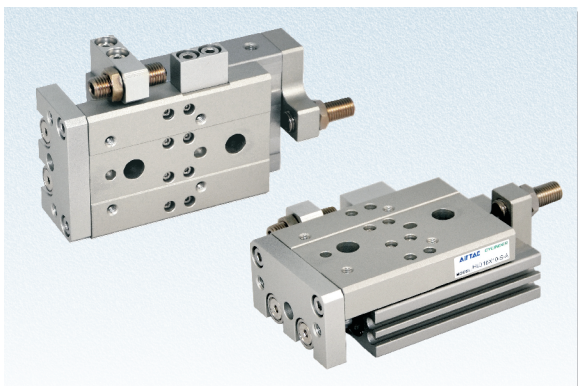
Bore size (mm)	Rod size (mm)	Acting type		Pressure area (mm ²)	Operating pressure(MPa)					
					0.2	0.3	0.4	0.5	0.6	0.7
6	3	Double acting	Push side	42	8	13	17	21	25	29
			Pull side	57	11	17	23	29	34	40
8	4	Double acting	Push side	75	15	23	30	38	45	53
			Pull side	101	20	30	40	51	61	71
12	6	Double acting	Push side	170	34	51	68	85	102	119
			Pull side	226	45	68	90	113	136	158
16	8	Double acting	Push side	302	60	91	121	151	181	211
			Pull side	402	80	121	161	201	241	281
20	10	Double acting	Push side	471	94	141	188	236	283	330
			Pull side	628	126	188	251	314	377	440
25	12	Double acting	Push side	756	151	227	302	378	454	529
			Pull side	982	186	295	393	491	589	687



Compact slide cylinder(Recirculating linear ball bearing)

AirTAC

HLQ Series

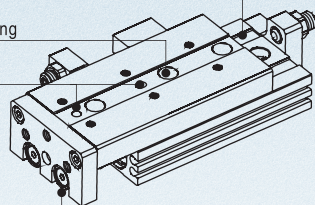


Symbol



Product feature

1. Recirculating linear ball bearing, it has high precision, high rigidity, and antirust, dustproof
2. Through hole for body mounting
3. Pin holes for positioning
Improved repeatability of work mounting

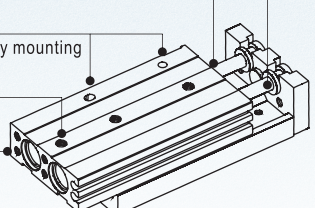


4. Floating jointer design
Piston rod needn't endure additional torque
5. Dual rod, Double the output thrust



HLQ

6. Pin holes for positioning
Improved repeatability of body mounting
7. Body mounting tap
Mounting from 3 direction available



Ordering code

Model can to be changed Ordering code. Example:

Production type: HLQ
Bore size: 16mm
Stroke: 50mm
Magnet: With magnet
Adjuster option: Extention robber stopper

Model: HLQ16 × 50-S-AS

Ordering code: HLQ 16 S 0050 AS

Model	Adjuster option
● Bore size	Blank: Without adjuster
06: Φ6mm	A: Robber stopper(Both ends)
08: Φ8mm	AS: Robber stopper(Extention)
12: Φ12mm	AF: Robber stopper(Retracton)
16: Φ16mm	B: Shock absorber(Both ends)
20: Φ20mm	BS: Shock absorber(Extention)
25: Φ25mm	BF: Shock absorber(Retracton)
● Magnet	● Stroke
S: With magnet	不足四碼前面補0

Specification

Bore size(mm)	6	8	12	16	20	25
Guide rail width (mm)	10	10	7	9	9	12
Number of guide rail	Single guide rail		Double guide rail			
Acting type	Double acting					
Fluid	Air(to be filtered by 40 μ m filter element)					
Operating pressure	0.15~0.7MPa(22~100psi)(1.5~7.0bar)					
Proof pressure	1.05MPa(150psi)(10.5bar)					
Temperature °C	-20~70					
Speed range mm/s	50~500					
Stroke tolerance	+1.0 0					
Cushion type	Bumper(Both ends), Shock absorber					
Sensor switches ①	DS1-H□N、DS1-H□P					
Port size	M5×0.8				1/8"	

① Sensor switch should be ordered additionally, please refer to P403~426 for detail of sensor switch.

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)
6	10 20 30 40 50	50
8	10 20 30 40 50 75	75
12	10 20 30 40 50 75 100	100
16	10 20 30 40 50 75 100 125	125
20	10 20 30 40 50 75 100 125 150	150
25	10 20 30 40 50 75 100 125 150	150

Note) Consult us for non-standard stroke.

Explain of model

HLQ 20 × 30-S-AS-P

Model
HLQ: Compact slide cylinder (Double acting type)
(Recirculating linear ball bearing)

Bore size
6, 8, 12, 16, 20, 25

Stroke
Refer to stroke table for details

Magnet
S: With magnet

① Thread type
P: PT
T: NPT
G: G

② Adjuster option
Blank: Without adjuster(Basic type)

A: Robber stopper(Both ends)
Extention
Retraction
Robber stopper

B: Shock absorber(Both ends)
Extention
Retraction
Shock absorber

AS: Robber stopper(Extention)
Extention
Retraction
Robber stopper

BS: Shock absorber(Extention)
Extention
Retraction
Shock absorber

AF: Robber stopper(Retracton)
Extention
Retraction
Robber stopper

BF: Shock absorber(Retracton)
Extention
Retraction
Shock absorber

① When the thread is standard, the code is blank.

② B type, BS type, BF type are unavailable for bore size of Φ6.



Compact slide cylinder(Recirculating linear ball bearing)

AirTAC

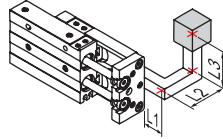
HLQ Series

Model Selection Method

Please select compact cylinder's type according to below procedure, and check age is necessary.

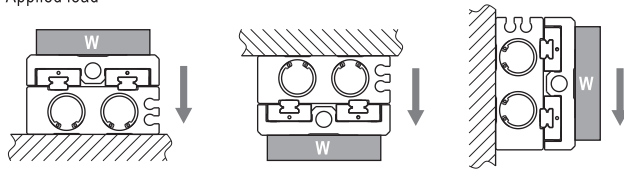
1) Operating conditions(According to mounting position and work form)

1. Model used(Bore size, Stroke)
2. Type of cushion(Bumper, Shock absorber)
3. Mounting position of work(Top, front)
4. Mounting direction(Axial, Vertical)
5. Average speed V_a (mm/s)
6. Applied load W (N)
7. Overhang L_1, L_2, L_3 (mm)



Explain: L_1 is the distance of load's center beyond the end plank's plane. If load's center not beyond the end plank's plane, L_1 is negative.

Fig. 1: Applied load



2) Kinetic energy check

Steps

1. Calculate kinetic energy of load E (J)

$$E = \frac{1}{2} \times \frac{W}{g} \times \left(\frac{1.4 \times V_a}{1000} \right)^2$$

2. Calculate allowable kinetic energy E_a (J)

$$E_a = K \times E_{max}$$

K : Mounting work coefficient (Fig 2)

E_{max} : Maximum allowable kinetic energy (Table 1)

3. Check that kinetic energy of load doesn't exceed allowable kinetic energy:

$$E \leq E_a$$

3) Load check

Steps

1. Calculate allowable applied load W_a (N)

$$W_a = K \times \beta \times W_{max}$$

K : Mounting work coefficient (Fig 2)

W_{max} : Maximum allowable applied load (Table 1)

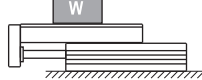
β : Applied load coefficient (Fig 3)

2. Check that load(W) doesn't exceed allowable applied load(W_a):

$$W \leq W_a$$

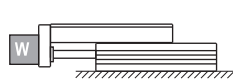
Fig 2: Mounting work coefficient (K)

Top



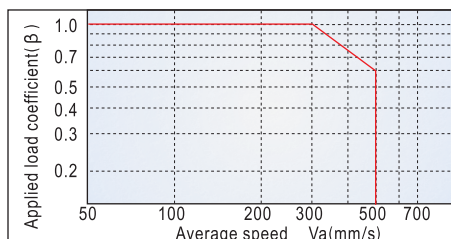
Mounting work coefficient $K=1$

Front



Mounting work coefficient $K=0.6$

Fig 3: Applied load coefficient (β)

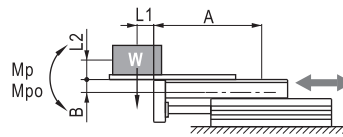


4) Moment check

Steps

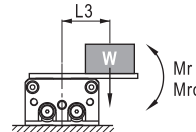
Horizontal

1. Calculate actual moment: $M_p, M_{po}, M_y, M_{yo}, M_r, M_{ro}$ (Nm)



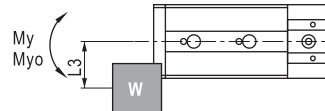
Dynamic moment:
 $M_p = W \times (L_1 + A) / 1000$

Static moment:
 $M_{po} = \frac{W \times (L_1 + A)}{1000} + \frac{W \times a \times (L_2 + B)}{1000 \times g}$



Dynamic moment:
 $M_r = W \times L_3 / 1000$

Static moment:
 $M_{ro} = (W \times a \times L_3) / 1000g$



Dynamic moment:
 $M_y = 0$

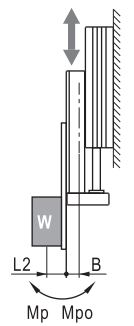
Static moment:
 $M_{yo} = (W \times a \times L_3) / 1000g$

2. Check

Dynamic moment:	$\frac{M_p}{M_{p_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_r}{M_{r_{max}}} \leq 1$
Static moment:	$\frac{M_{po}}{M_{po_{max}}} + \frac{M_{yo}}{M_{yo_{max}}} + \frac{M_{ro}}{M_{ro_{max}}} \leq 1$

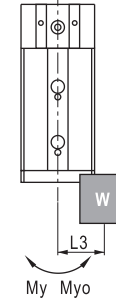
Vertical

1. Calculate actual moment: M_p, M_{po}, M_y, M_{yo} (Nm)



Dynamic moment:
 $M_p = W \times (L_2 + B) / 1000$

Static moment:
 $M_{po} = \frac{W \times (L_2 + B)}{1000} + \frac{W \times a \times (L_2 + B)}{1000 \times g}$



Dynamic moment:
 $M_y = W \times L_3 / 1000$

Static moment:
 $M_{yo} = \frac{W \times a \times L_3}{1000g} + \frac{W \times L_3}{1000}$

2. Check

Dynamic moment:	$\frac{M_p}{M_{p_{max}}} + \frac{M_y}{M_{y_{max}}} \leq 1$
Static moment:	$\frac{M_{po}}{M_{po_{max}}} + \frac{M_{yo}}{M_{yo_{max}}} \leq 1$

Explain:

L_1, L_2, L_3 : The distance of load center to mount plane (Determined by actual).

A, B : Correction value for center position distance of moment (Refer to table 2).

$M_{p_{max}}, M_{y_{max}}, M_{r_{max}}, M_{po_{max}}, M_{yo_{max}}, M_{ro_{max}}$: Maximum allowable moment (Refer to table 2).

g : Acceleration of gravity ($g=9.81m/s^2$).

a : Acceleration of inertia

(Bumper: $a=1600 \times (V_a/1000)^2$, Shock absorber: $a=400 \times (V_a/1000)^2$)

W : Load weight (Determined by actual).



HLQ



Compact slide cylinder(Recirculating linear ball bearing)

AirTAC

HLQ Series

Note: Symbol and unit

Symbol	Item	Unit
A, B	Correction value for center position distance of moment	mm
a	Acceleration of inertia	—
E	Kinetic energy	J
Ea	Allowable kinetic energy	J
E _{max}	Maximum allowable kinetic energy	J
g	Acceleration of gravity g=9.81	m/s ²
K	Mounting work coefficient	—
L1, L2, L3	Overhang	mm
Mp, My, Mr	Dynamic moment(Pitch、Yaw、Roll)	Nm
M _{pmax} , M _{ymax} , M _{rmax}	Maximum allowable dynamic moment(Pitch、Yaw、Roll)	Nm
Mpo, Myo, Mro	Static moment(Pitch、Yaw、Roll)	Nm
M _{po} _{max} , M _{yo} _{max} , M _{ro} _{max}	Maximum allowable static moment(Pitch、Yaw、Roll)	Nm
Va	Average speed	mm/s
W	Applied load	N
W _{max}	Maximum allowable applied load	N
β	Applied load coefficient	—

Table 1: Maximum allowable kinetic energy(E_{max}), Maximum allowable applied load(W_{max})

Model	Max. allowable kinetic energy		E _{max} (J)	Max. allowable applied load W _{max} (N)
	Basic type	Robber stopper type	Shock absorber type	
HLQ6	0.01	0.01	—	4
HLQ8	0.024	0.024	0.048	8
HLQ12	0.05	0.05	0.1	15
HLQ16	0.1	0.1	0.2	30
HLQ20	0.13	0.13	0.26	40
HLQ25	0.22	0.22	0.44	70

Table 2: Maximum allowable moment(Nm), Correction value for center position distance of moment(mm)

Bore size	Stroke	Static moment			Dynamic moment			Correction value	
		M _{po} _{max}	M _{yo} _{max}	M _{ro} _{max}	M _p _{max}	M _y _{max}	M _r _{max}	A	B
6	10	3.4	3.4	5.4	0.7	0.7	1.2	30	7
	20	3.4	3.4	5.4	0.7	0.7	1.2	40	
	30	3.4	3.4	5.4	0.7	0.7	1.2	50	
	40	3.4	3.4	5.4	0.7	0.7	1.2	60	
	50	3.4	3.4	5.4	0.7	0.7	1.2	70	
8	10	3.4	3.4	5.4	0.7	0.7	1.2	30	7
	20	3.4	3.4	5.4	0.7	0.7	1.2	40	
	30	3.4	3.4	5.4	0.7	0.7	1.2	50	
	40	3.4	3.4	5.4	0.7	0.7	1.2	60	
	50	3.4	3.4	5.4	0.7	0.7	1.2	70	
12	10	5.5	5.5	8.5	1.5	1.5	2.5	32	11
	20	5.5	5.5	8.5	1.5	1.5	2.5	44	
	30	5.5	5.5	8.5	1.5	1.5	2.5	54	
	40	5.5	5.5	8.5	1.5	1.5	2.5	62	
	50	5.5	5.5	8.5	1.5	1.5	2.5	72	
16	10	36	36	58	13	13	21	115	12
	20	37	37	58	13	13	21	142	
	30	15	15	23	3	3	5.4	49	
	40	15	15	23	3	3	5.4	59	
	50	15	15	23	3	3	5.4	69	
20	10	15	15	23	3	3	5.4	79	12
	20	62	62	103	21	21	38	120	
	30	74	74	103	29	29	38	150	
	40	65	65	103	29	29	38	175	
	50	15	15	23	3	3	5.4	83	
25	10	15	15	23	3	3	5.4	53	14
	20	15	15	23	3	3	5.4	53	
	30	15	15	23	3	3	5.4	63	
	40	15	15	23	3	3	5.4	73	
	50	15	15	23	3	3	5.4	83	
25	75	62	62	103	21	21	38	123	17
	100	74	74	103	29	29	38	157	
	125	65	65	103	29	29	38	178	
	150	99	99	103	37	37	38	210	
	10	25	25	36	6.3	6.3	10.7	60	
25	20	25	25	36	6.3	6.3	10.7	60	17
	30	25	25	36	6.3	6.3	10.7	70	
	40	25	25	36	6.3	6.3	10.7	80	
	50	25	25	36	6.3	6.3	10.7	90	
	75	110	110	190	36	36	70	130	
25	100	165	165	190	68	68	70	168	17
	125	195	195	190	77	77	70	205	
	150	200	200	190	77	77	70	230	



Compact slide cylinder(Recirculating linear ball bearing)

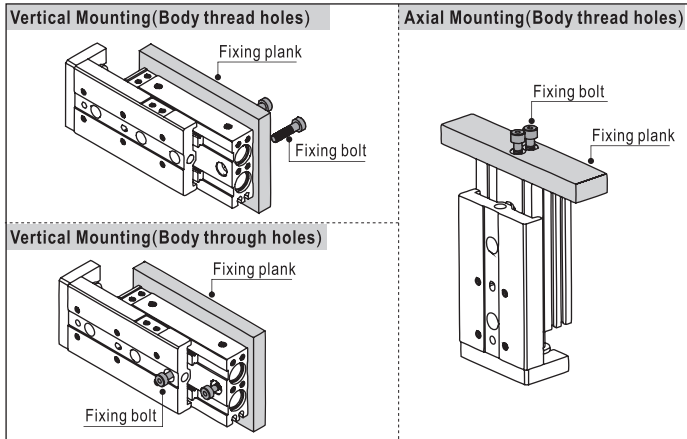
AirTAC

HLQ Series

■ Installation and application

1. How to mount cylinder:

1.1) Cylinder can be mounted from 3 directions



1.2) When mounting an compact slide cylinder, screws of appropriate length should be used and tightened properly within the maximum tightening torque. If screws are tightened beyond designed limits, malfunction may occur. If they are tightened insufficiently, it may result in sliding of falling off from its position.

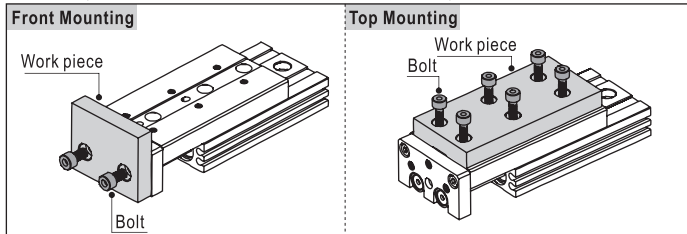
Vertical Mounting(Body thread holes)				
Model	Bolt used	Max. tightening torque (Nm)	Max. screw-in depth(mm)	
HLQ6	M4 × 0.7	2.1	8	
HLQ8	M4 × 0.7	2.1	8	
HLQ12	M5 × 0.8	4.4	10	
HLQ16	M6 × 1.0	4.4	10	
HLQ20	M6 × 1.0	7.4	12	
HLQ25	M8 × 1.25	18.0	16	

Vertical Mounting(Body through holes)				
Model	Bolt used	Max. tightening torque (Nm)	Max. screw-in depth(mm)	
HLQ6	M3 × 0.5	1.2	8.0	
HLQ8	M3 × 0.5	1.2	9.6	
HLQ12	M4 × 0.7	2.8	13.4	
HLQ16	M5 × 0.8	5.7	16.7	
HLQ20	M5 × 0.8	5.7	22.0	
HLQ25	M6 × 1.0	10.0	27.0	

Axial Mounting(Body thread holes)				
Model	Bolt used	Max. tightening torque (Nm)	Max. screw-in depth(mm)	
HLQ6	M2.5 × 0.45	0.5	3.5	
HLQ8	M3 × 0.5	0.9	4.0	
HLQ12	M4 × 0.7	2.1	6.0	
HLQ16	M5 × 0.8	4.4	7.0	
HLQ20	M5 × 0.8	4.4	8.0	
HLQ25	M6 × 1.0	7.4	10.0	

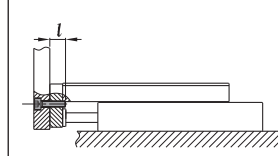
2. Work Piece Mounting:

2.1) Work pieces can be mounted on 2 surfaces of the compact slide.



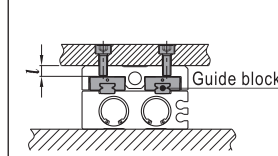
2.2) When mounting a work piece, tighten the bolts properly at a torque value within the limiting range. Use bolts at least 0.5mm shorter than maximum thread depth to prevent bolts from contacting the guide block. If the bolts are too long, they hit the guide block and cause damage.

Front Mounting



Model	Bolt used	Max. tightening torque (Nm)	Max. screw-in depth(mm)
HLQ6	M3 × 0.4	0.9	5
HLQ8	M4 × 0.7	2.1	6
HLQ12	M5 × 0.8	4.4	8
HLQ16	M6 × 1.0	7.4	10
HLQ20	M6 × 1.0	7.4	13
HLQ25	M8 × 1.25	18.0	15

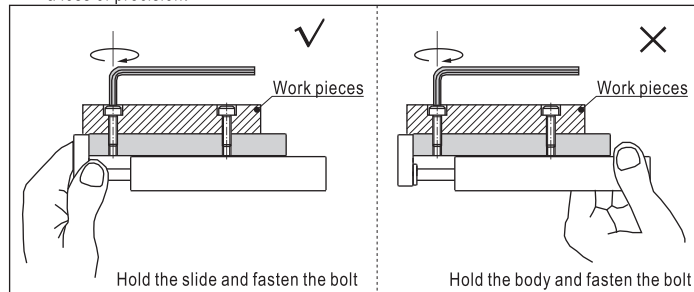
Top Mounting



Model	Bolt used	Max. tightening torque (Nm)	Max. screw-in depth(mm)
HLQ6	M3 × 0.5	0.9	4.7
HLQ8	M3 × 0.5	0.9	4.7
HLQ12	M4 × 0.7	2.1	5.0
HLQ16	M5 × 0.8	4.4	5.0
HLQ20	M5 × 0.8	4.4	8.0
HLQ25	M6 × 1.0	7.4	9.0

2.3) Since the table is supported by the linear guide, take care not to apply strong impact or large moment to the guide section.

2.4) Hold the slide when fastening work pieces to it with bolts. If the body is held while tightening bolts, the guide section will be subjected to large moment, and there may be a loss of precision.



3. About shock absorber:

3.1) Shock absorbers are expendable parts. It may be necessary to change them when energy absorbing capacity decreases.

3.2) Never turn or adjust the screws on bottom of the shock absorber body. The screws are not for adjusting. It will cause oil leakage.

3.3) Follow the table for tightening torque of shock absorber lock nuts.

Model	Shock absorber	Tightening torque
HLQ6	Without shock absorber	
HLQ8	ACA0806-1N	1.67(Nm)
HLQ12	ACA0806-1N	1.67(Nm)
HLQ16	ACA1007-1N	3.14(Nm)
HLQ20	ACA1210-1N	3.14(Nm)
HLQ25	ACA1412-1N	10.8(Nm)

The screws are not for adjusting. It will cause oil leakage.

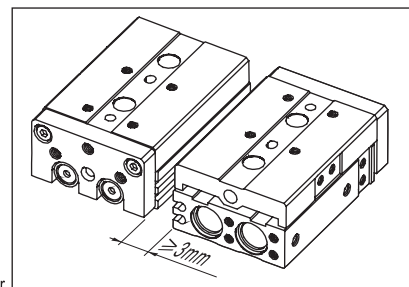
4. How to mount sensor switch:

4.1) HLQ Series are all with magnet.

The matching sensor switch is DS1-H, DS1-HL series.

Please refer to page 401~424 for details.

4.2) Maintain a minimum spacing of at least 3mm if two compact cylinders are used side by side. It malfunctions if two compact cylinders are used close together.



5. Make sure to connect the compact cylinder to speed controller at the meter-out side, and the speed of compact cylinder must below 500mm/s.

6. Don't apply a load beyond the range of the operation limits. Different load or torque will cause different deflection to table, please see below for details.

HLQ



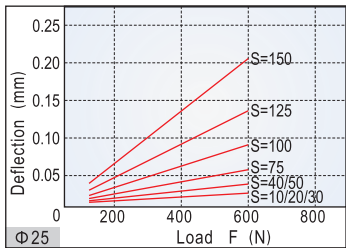
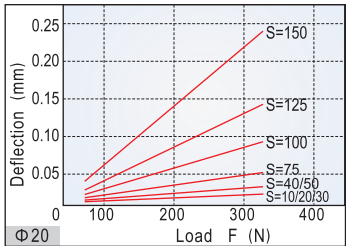
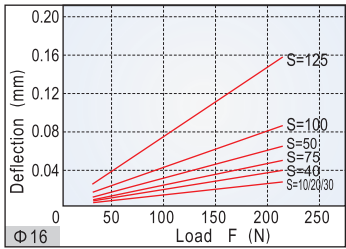
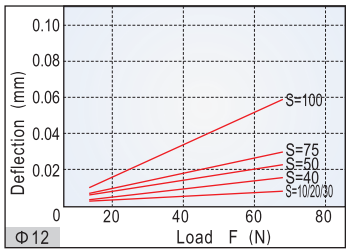
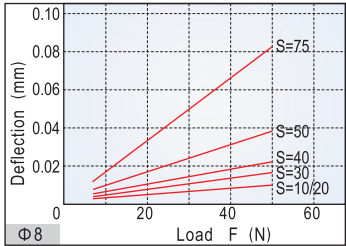
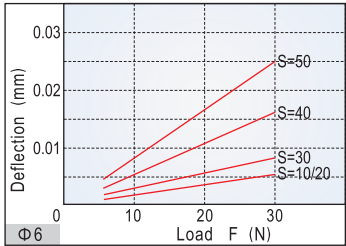
Compact slide cylinder(Recirculating linear ball bearing)

AirTAC

HLQ Series

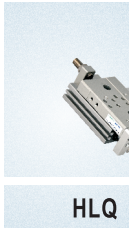
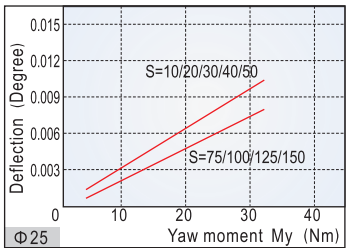
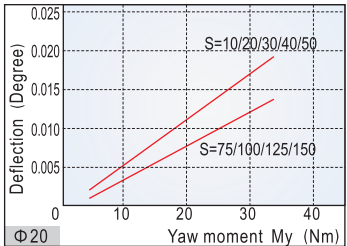
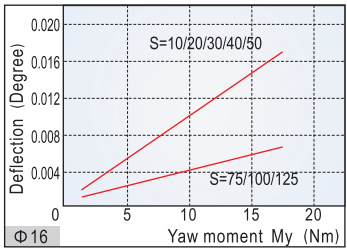
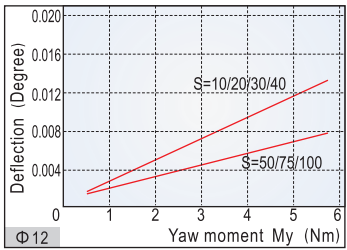
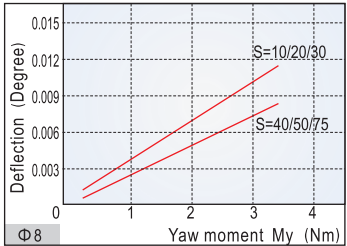
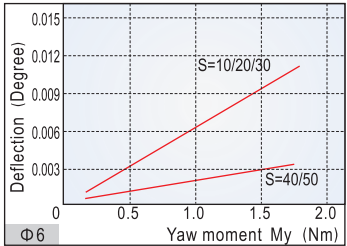
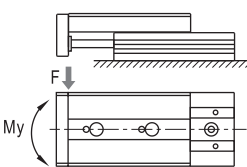
6.1) Table deflection due to pitch moment:

Table deflection (arrow) when a load acts upon the section marked with the arrow at the full stroke of the compact slide.



6.2) Table deflection due to yaw moment:

Table deflection (arrow) when a load acts upon the section marked with the arrow at the full stroke of the compact slide.



HLQ



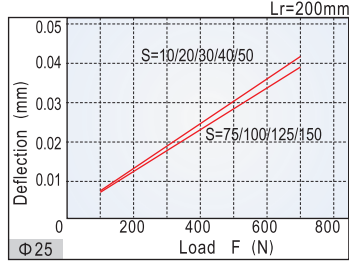
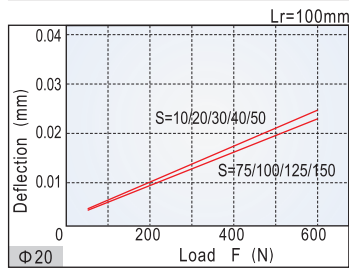
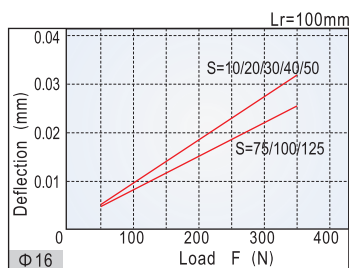
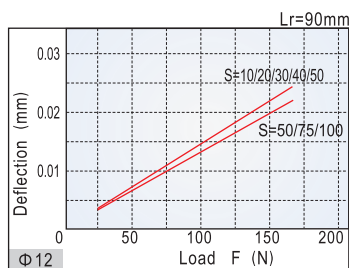
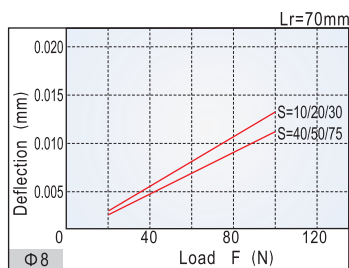
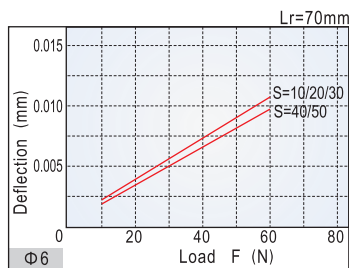
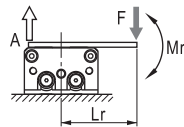
Compact slide cylinder(Recirculating linear ball bearing)

AirTAC

HLQ Series

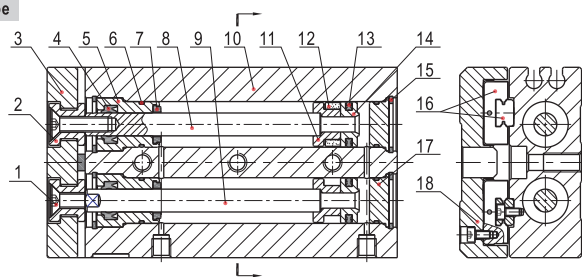
6.3) Table deflection due to roll moment:

Table deflection(at A) when a load acts upon section F at the full stroke of the compact slide.



Inner structure

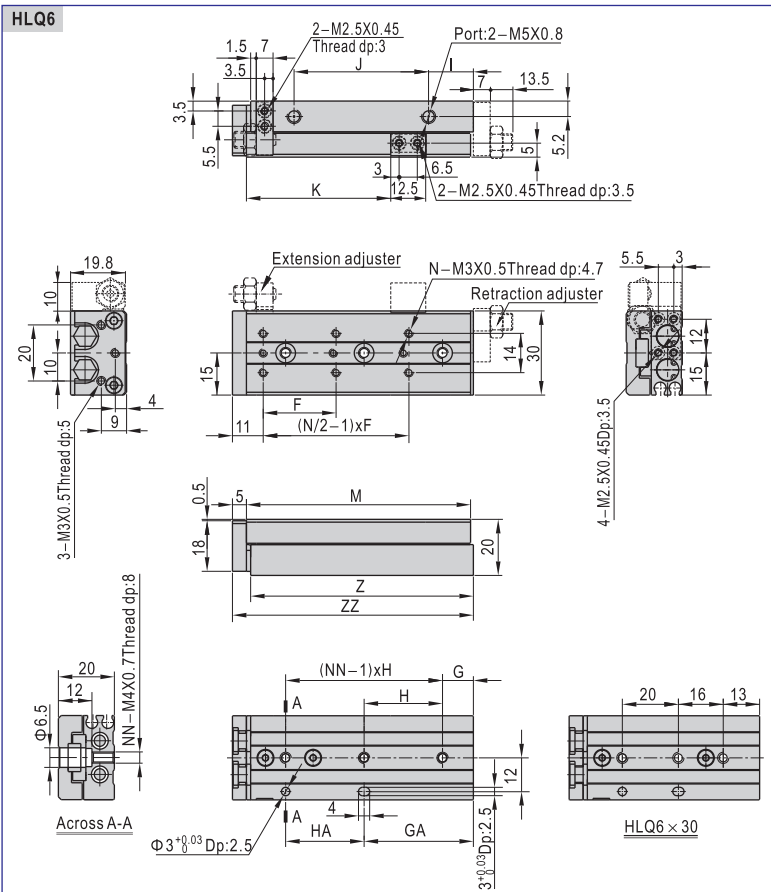
Basic type



NO.	Item	Material	NO.	Item	Material
1	Screw	Carbon steel	10	Body	Aluminum alloy
2	Floating jointer	Carbon steel	11	Magnet holder	Brass
3	Fixing plate	Aluminum alloy	12	Magnet	Sintered metal(Neodymium-iron-boron)
4	Rod seal	NBR	13	Piston O-ring	NBR
5	Front cover	Aluminum alloy	14	Piston	Brass
6	O-ring	NBR	15	C clip	Spring steel
7	Bumper	TPU	16	Linear guide combination	
8	Piston rod A	Stainless steel	17	Back cover	Brass
9	Piston rod B	Carbon steel	18	Slide table	Aluminum alloy

Dimensions

HLQ6



Stroke\Item	F	G	GA	H	HA	I	J	K	M	N	NN	Z	ZZ
10	22	6	13	23	16	9	16.3	21.5	42	4	2	41.5	48
20	25	13	13	26	26	9	26.3	31.5	52	4	2	51.5	58
30	21	29	—	20	9	36.3	41.5	62	6	3	3	61.5	68
40	26	11	39	28	16	47.3	51.5	80	6	3	3	79.5	86
50	27	21	49	28	28	9	64.3	61.5	90	6	3	89.5	96



HLQ

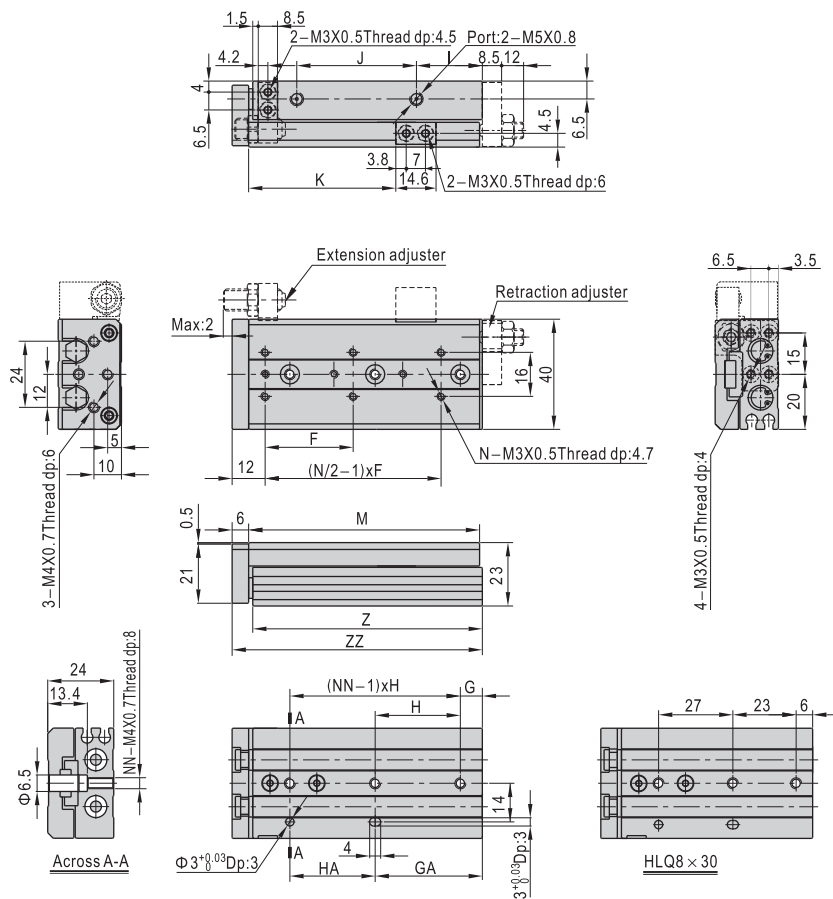


Compact slide cylinder(Recirculating linear ball bearing)



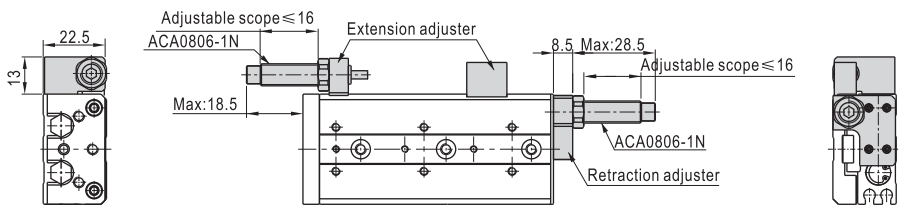
HLQ Series

HLQ8



Stroke\Item	F	G	GA	H	HA	I	J	K	M	N	NN	Z	ZZ
10	25	7	13	25	19	10	18	23.5	46	4	2	45.5	53
20	25	14	14	28	28	10	28	33.5	56	4	2	55.5	63
30	26	-	29	-	27	10	42	43.5	70	6	3	69.5	77
40	32	8	39	31	31	12	54	53.5	84	6	3	83.5	91
50	46	8	37	29	58	12	79	63.5	109	6	4	108.5	116
75	50	31	61	30	60	10	107	88.5	135	6	4	134.5	142

HLQ8(With shock absorber)



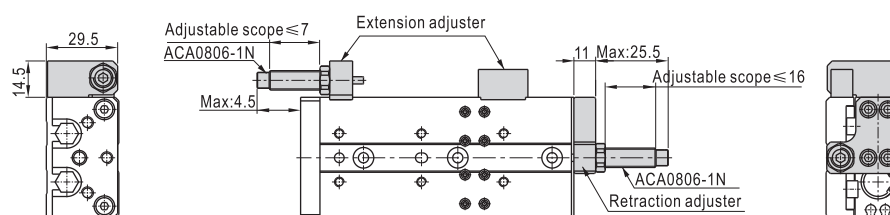
AirTAC

HLQ12



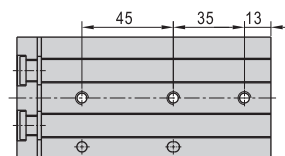
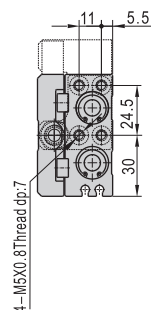
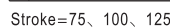
HLQ

Stroke\Item	F	G	GA	H	HA	I	J	K	M	N	NN	Z	ZZ
10	28	18	18	32	32	13	33	35	67	4	2	66	76
20	28	18	18	32	32	13	33	45	67	4	2	66	76
30	38	20	20	40	40	13	43	55	77	4	2	76	86
40	34	—	38	—	39	13	60	65	94	6	3	93	103
50	34	9	48	39	39	13	70	75	104	6	3	103	113
75	36	23	59	36	72	13	114	99	148	8	4	147	157
100	36	12	84	36	72	17	135	124	173	10	5	172	182



AirTAC

HLQ16



HLQ16 × 50

Stroke\Item	F	G	GA	H	HA	I	J	K	M	N	NN	Z	ZZ
10	38	18	18	39	39	12	41	28.5	78	4	2	77	89
20	38	18	18	39	39	12	41	38.5	78	4	2	77	89
30	48	19	19	48	48	12	51	48.5	88	4	2	87	99
40	58	19	19	58	58	12	61	58.5	98	4	2	97	109
50	40	—	48	—	45	18	71	68.5	114	6	3	113	125
75	46	21	73	52	52	12	109	93.5	146	6	3	145	157
100	44	36	80	44	88	12	152	118.5	189	8	4	188	200
125	44	17	105	44	88	12	177	143.5	214	10	5	213	225

Technical drawing of the ACA1007-1N cable gland. The drawing includes a side view and an end view. Key dimensions and labels are as follows:

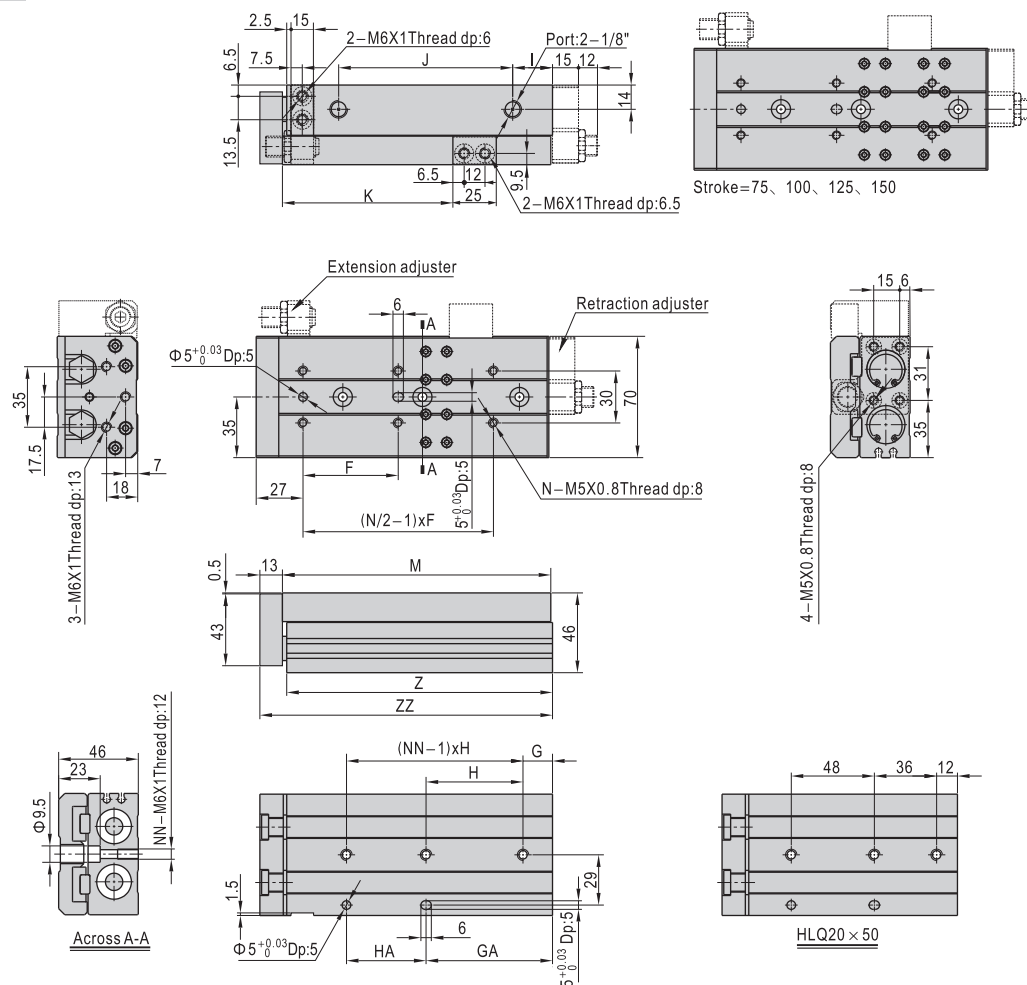
- Side View Dimensions:**
 - Overall length: 36.2
 - Threaded section length: Adjustable scope ≤ 22
 - Max. length of threaded section: Max: 19.5
 - Extension adjuster: Indicated by an arrow pointing to the top adjustment mechanism.
 - Retraction adjuster: Indicated by an arrow pointing to the bottom adjustment mechanism.
 - ACA1007-1N: Label for the main body of the gland.
- End View Dimensions:**
 - Max. length of threaded section: Max: 35
 - Adjustable scope: Adjustable scope ≤ 22

Compact slide cylinder(Recirculating linear ball bearing)

AirTAC

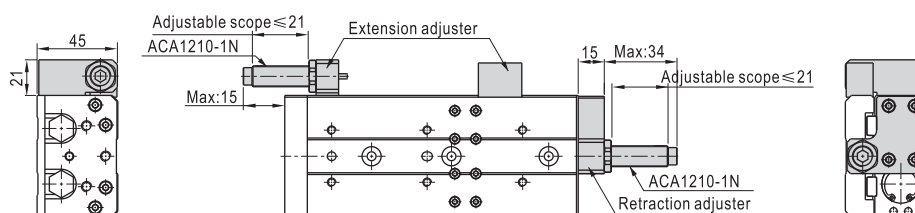
HLQ Series

HLQ20



Stroke\Item	F	G	GA	H	HA	I	J	K	M	N	NN	Z	ZZ
10	45	22	18	46	50	16	46.5	32.5	94	4	2	92.5	108
20	40	22	18	46	50	16	46.5	42.5	94	4	2	92.5	108
30	48	22	18	46	50	16	46.5	52.5	94	4	2	92.5	108
40	58	22	22	56	56	16	56.5	62.5	104	4	2	102.5	118
50	42	-	48	-	48	18	72.5	72.5	122	6	3	120.5	136
75	55	17	73	56	56	25	98.5	97.5	155	6	3	153.5	169
100	50	18	74	56	112	25	155.5	122.5	212	8	4	210.5	226
125	55	37	96	59	118	25	183.5	147.5	240	8	4	238.5	254
150	62	56	118	62	124	25	211.5	172.5	268	8	4	266.5	282

HLQ20(With shock absorber)



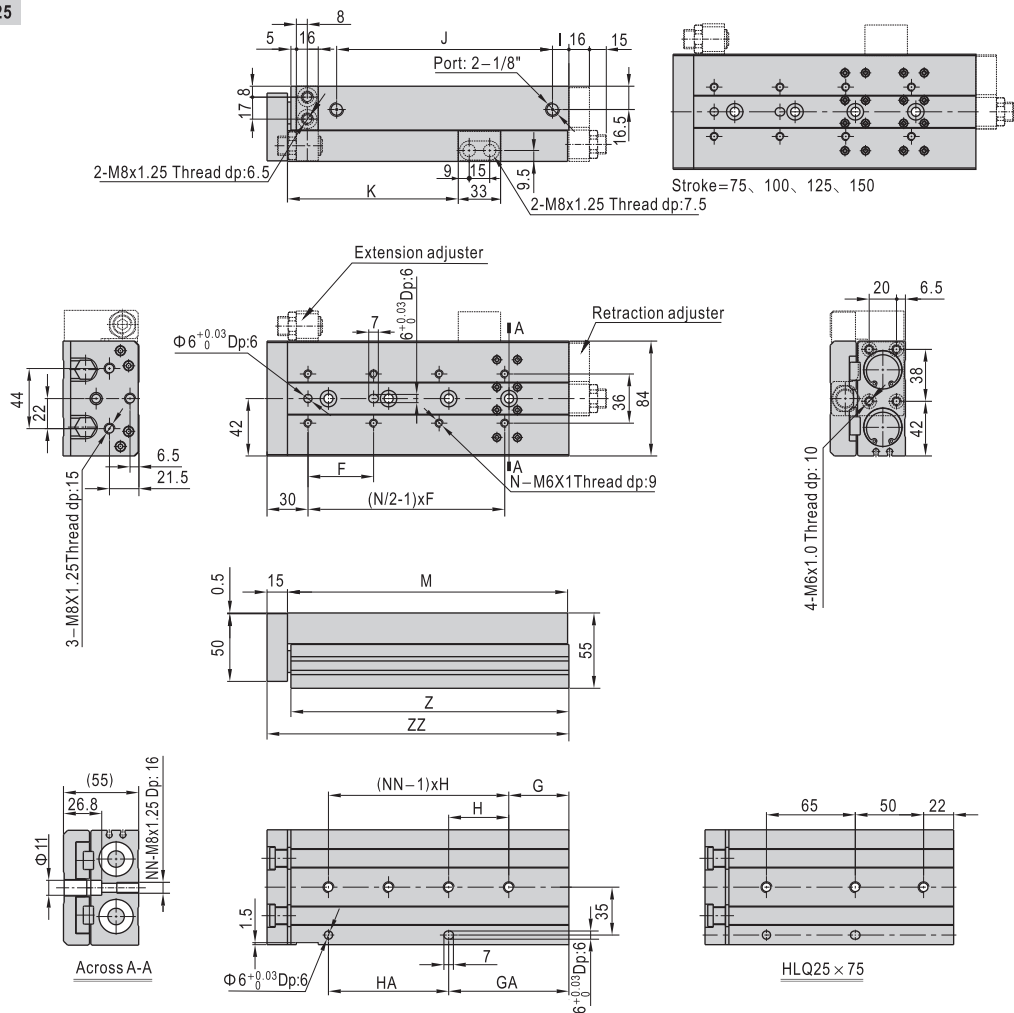
HLQ

Compact slide cylinder(Recirculating linear ball bearing)

AirTAC

HLQ Series

HLQ25



Stroke\Item	F	G	GA	H	HA	I	J	K	M	N	NN	Z	ZZ
10	55	23	23	55	55	12	58	35	107	4	2	105.5	123
20	46	23	23	55	55	12	58	45	107	4	2	105.5	123
30	55	23	23	55	55	12	58	55	107	4	2	105.5	123
40	65	23	23	65	65	12	68	65	117	4	2	115.5	133
50	75	32	32	80	80	14	92	75	141	4	2	139.5	157
75	60	—	72	—	65	12	117	100	166	6	3	164.5	182
100	48	44	88	44	88	12	156	125	205	8	4	203.5	221
125	60	31	97	66	132	12	209	150	258	8	4	256.5	274
150	65	56	122	66	132	12	234	175	283	8	4	281.5	299

HLQ25(With shock absorber)

