

AGQ Series

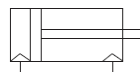
Compact guided cylinder (Square tube)

Bore size : Ø12, Ø16, Ø20, Ø25, Ø32, Ø40, Ø50, Ø63, Ø80, Ø100



- Compact cylinder with guide rod
- Increased resistance to lateral load
- Can be directly attached to load
- Special coating application for guide rod and bush (improves durability)

Symbol Double acting: single rod



How to order

AG **D** **Q** **B** **50** — **30** **D** **C** — **W8H** **S**

1
2
3
4
5
6
7
8

1 Built-in magnet

Blank : None
D : Built-in magnet

2 Mounting

A : Both ends tapped
B : Through hole (standard type)
※ Ø12~Ø25 both ends tapped standard (through-hole common)

3 Bore size

12 : 12mm	40 : 40mm
16 : 16mm	50 : 50mm
20 : 20mm	63 : 63mm
25 : 25mm	80 : 80mm
32 : 32mm	100 : 100mm

4 Stroke length (in mm)

Ø12, Ø16 : 5, 10, 15, 20, 25, 30
Ø20, Ø25 : 5, 10, 15, 20, 25, 30, 35, 40, 45, 50
Ø32, Ø40 : 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
Ø50-Ø100 : 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

5 Action

D : Double acting (standard)

6 Body option

C : Rubber cushion (Standard)

7 Auto switch

* Blank: No auto switch (Cylinder with built-in magnet)
* Reed state switch
A73K : D-A73K(Ø32~Ø100)
W8H : Micro auto switch (Horizontal type), 2 wires
W8V : Micro auto switch (Vertical type), 2 wires
* Solid state switch
W9H : Micro auto switch (Horizontal type), 2 wires
W9V : Micro auto switch (Vertical type), 2 wires
W9HN : Micro auto switch (Vertical type), 3 wires
W9VN : Micro auto switch (Horizontal type), 3 wires
W2P(L) : Grommet auto switch (Ø40~Ø100)
W10V : Micro auto switch (Vertical type), 2 wires
W20H : Micro auto switch (Horizontal type), (Two-color display)
W30H : Micro auto switch (Horizontal type), 2 wires (Waterproof grade: IP69K)

※ For 3M of lead wire, add "L" at the end of the part number Ex) A73KL-D -A73KL

※ Contact us for 5M of lead wire

※ Same as AQ2 Series specification

8 Number of switches

Blank : 2 pieces
S : 1 pc
n : n pcs

• Precautions

※ Manufacture of intermediate strokes

By installing a spacer on the standard stroke cylinder, it is possible to make the intermediate stroke from 3mm to 1mm to the least.

Example 1) AGQA12-27DC inserts a 3mm wide spacer inside the standard cylinder, AGQA12-30DC.

※ For Ø16 only, please contact us.

AGQ Series

Caution

1. Do not use as a stopper.
2. Do not disassemble or modify (no warranty upon disassembly or modification).
3. If the bore size is $\varnothing 32$ or higher, do not use because the tap may remain on the head of the screw.

Type

Bore size (mm)		12	16	20	25	32	40	50	63	80	100
Air pressure type	Mounting	Through hole (Standard type)	○ (two-way)	○ (two-way)	○ (two-way)	○ (two-way)	○	○	○	○	○
		Both ends tapped					○	○	○	○	○
	Built-in magnet		○	○	○	○	○	○	○	○	○
	Piping method	Screw connecting type	M5x0.8				Rc(PT) 1/8 ^(note)	Rc(PT) 1/4	Rc(PT) 3/8		
Rubber cushion (standard)		○	○	○	○	○	○	○	○	○	

Note) In case a cylinder is non-auto type $\varnothing 32 - 5$ (mm) stroke, the piping method (screw connecting type) is M5x0.8.

How to calculate

Ex) AGQA32-30DC

• Reference weight : AGQA32-30.....249g

• Additional weight: both ends tapped.....7g

256g

Specifications

Bore size (mm)	12	16	20	25	32	40	50	63	80	100
Type	Air cylinder (non-lube) type									
Action	Double-acting single rod									
Fluid	Air									
Proof pressure	1.5MPa									
Max. operating pressure	1.0MPa									
Low. operating pressure	0.12MPa	0.1MPa								
Ambient & fluid temperature	Without auto-switch : -10°C~70°C (Anti-freezing)									
	With auto-switch : -10°C~60°C (Anti-freezing)									
Cushion	Rubber cushion at both sides									
Stroke length tolerance	+1.0 / 0 mm ^(note)									
Mounting	Through hole									
Piston speed	50~500m/s					50~300m/s				

Note) The allowable difference in stroke length does not include the amount of damper (rubber cushion) changes

※ For installation of $\varnothing 12 - \varnothing 25$, both ends tapped is standard type (through hole inclusive)

Standard stroke

Bore size (mm)	Standard stroke (mm)
12, 16	5, 10, 15, 20, 25, 30
20, 25	5, 10, 15, 20, 25, 30, 35, 40, 50
32, 40	5, 10, 15, 20, 25, 30, 35, 40, 50, 75, 100
50, 63, 80, 100	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

Weight Table

(Unit g)

No auto-switch

Bore size (mm)	Cylinder stroke (mm)											
	5	10	15	20	25	30	35	40	45	50	75	100
12	43	51	59	66	74	82	-	-	-	-	-	-
16	53	63	73	82	92	101	-	-	-	-	-	-
20	103	118	133	148	163	178	193	208	223	238	-	-
25	134	152	170	187	205	223	241	259	277	295	-	-
32	185	207	228	250	272	294	315	337	359	380	532	640
40	286	313	339	366	393	419	446	473	499	526	713	846
50	-	504	543	581	620	659	697	736	775	813	1084	1278
63	-	732	780	827	874	921	968	1015	1062	1109	1439	1675
80	-	1439	1517	1595	1673	1751	1829	1907	1985	2063	2609	2999
100	-	2350	2451	2553	2654	2755	2856	2958	3059	3160	3869	4376

Auto-switch mounted (Built-in magnet)

Bore size (mm)	Cylinder stroke (mm)											
	5	10	15	20	25	30	35	40	45	50	75	100
12	51	58	66	74	81	89	-	-	-	-	-	-
16	65	74	84	94	103	113	-	-	-	-	-	-
20	131	146	161	176	191	206	221	236	251	266	-	-
25	176	194	212	230	248	266	284	302	320	338	-	-
32	243	265	286	308	330	351	373	395	416	438	546	655
40	361	388	414	441	467	494	521	547	574	601	734	867
50	-	616	654	693	732	770	809	848	886	925	1119	1312
63	-	888	936	983	1030	1077	1124	1171	1218	1265	1501	1736
80	-	1688	1766	1844	1922	2000	2078	2156	2234	2312	2702	3092
100	-	2719	2820	2922	3023	3124	3226	3327	3428	3530	4036	4543

Compact guided cylinder (square tube) AGQ Series

Theoretical Output

(Unit N)

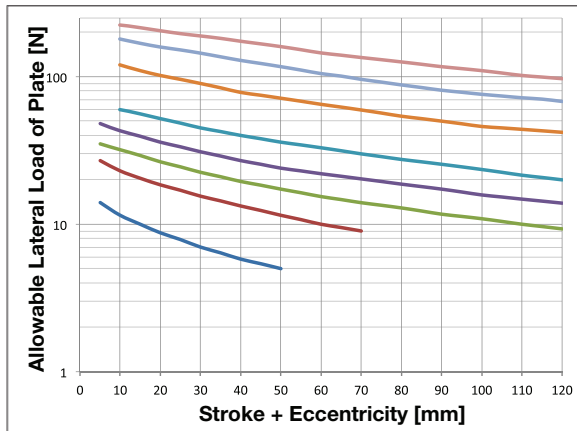
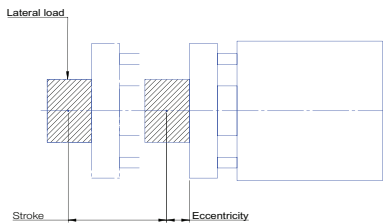


Bore size (mm)	Operating direction	Operating pressure (MPa)							
		0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
12	OUT	34	45	57	68	79	90	102	113
	IN	25	34	42	51	59	68	76	85
16	OUT	60	80	101	121	141	161	181	201
	IN	45	60	75	90	106	121	136	151
20	OUT	94	126	157	188	220	251	283	314
	IN	71	94	118	141	165	188	212	236
25	OUT	147	196	245	295	344	393	442	491
	IN	113	151	189	227	264	302	340	378
32	OUT	241	322	402	483	563	643	724	804
	IN	181	241	302	362	422	483	543	603
40	OUT	377	503	628	754	880	1,005	1,131	1,257
	IN	317	422	528	633	739	844	950	1,056
50	OUT	589	785	982	1,178	1,374	1,571	1,767	1,963
	IN	495	660	825	990	1,155	1,319	1,484	1,649
63	OUT	935	1,247	1,559	1,870	2,182	2,494	2,806	3,117
	IN	841	1,121	1,402	1,682	1,962	2,242	2,523	2,803
80	OUT	1,508	2,011	2,513	3,016	3,519	4,021	4,524	5,027
	IN	1,361	1,814	2,268	2,721	3,175	3,629	4,082	4,536
100	OUT	2,356	3,142	3,927	4,712	5,498	6,283	7,069	7,854
	IN	2,144	2,859	3,574	4,288	5,003	5,718	6,432	7,147

1N \approx 0.102kgf
1MPa \approx 10.2kgf/cm²

Allowable Lateral Load of Plate

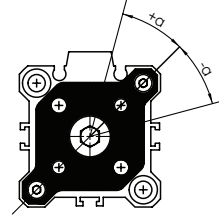
Strictly observe the laws of limiting lateral load on plates. Use beyond the limit may shorten the life of the machine or cause damage.



Non-Rotation Degree of Plate

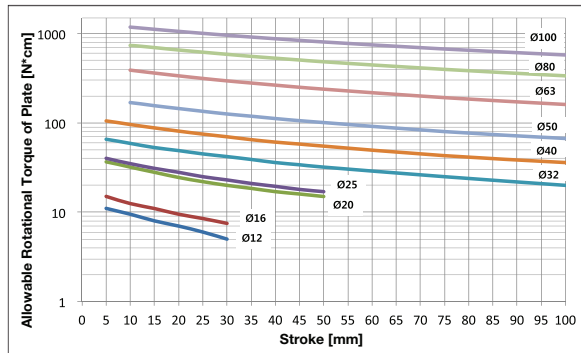
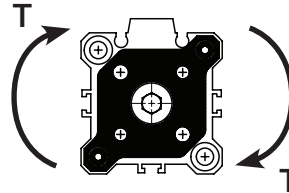
Non-rotation degree with no loaded item should be less than or equal to the values in the table below.

Bore size (mm)	Degree of non-rotation
Ø12, 16	$\pm 0.2'$
Ø20 ~ 100	$\pm 0.1''$



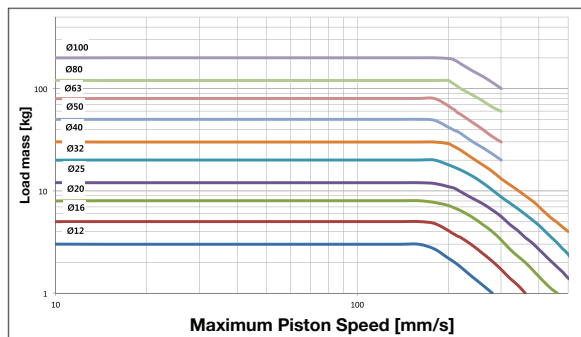
Allowable Rotational Torque of Plate

Observe the limit of the torque applied to the plate. Exceeding the limits may result in reduced life or damage.



Allowable Kinetic Energy of Plate

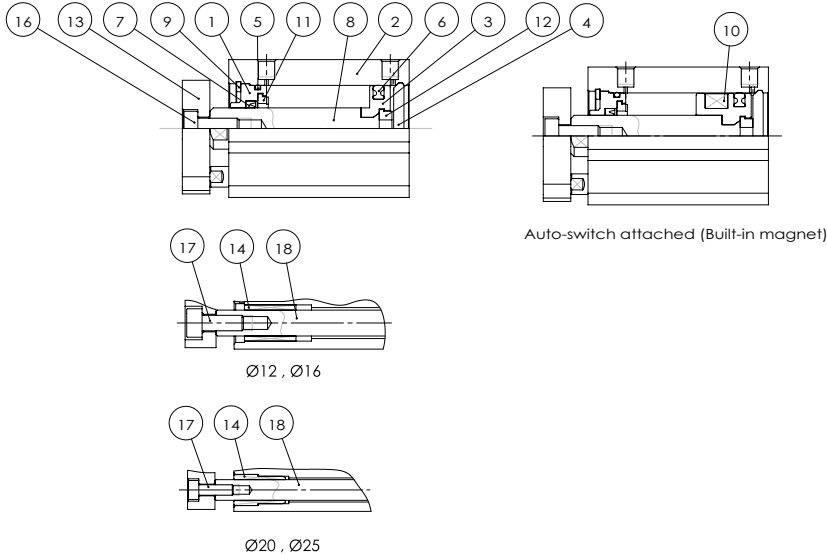
Be sure to observe the limit of the load mass and maximum speed. Exceeding the limit range may cause damage due to excessive impact.



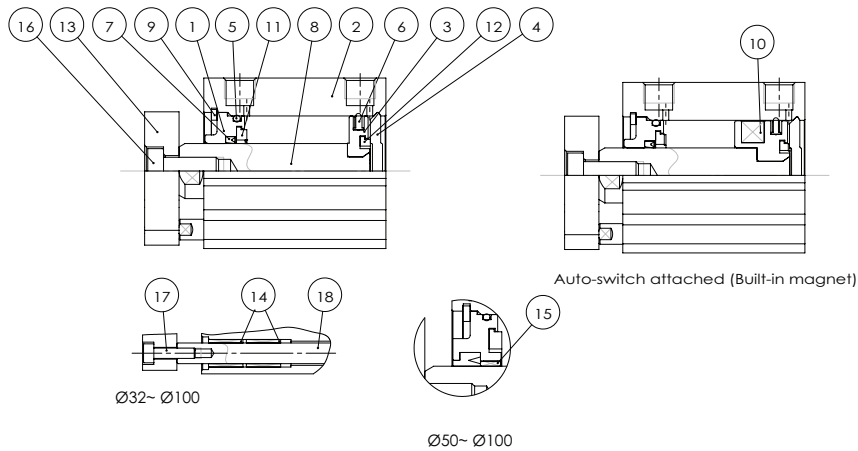
AGQ Series

Structural Drawing/Part LIST

Ø12 ~ Ø25 Drawing



Ø32 ~ Ø100 Drawing



NO.	Product Name	Material	Remarks
1	ROD COVER	Aluminum alloy	Anodizing
2	CYLINDER TUBE	Aluminum alloy	Anodizing
3	PISTON	Aluminum alloy	
4	END PLATE	Aluminum alloy	
5	GASKET	NBR	
6	PISTON PACKING	NBR	
7	ROD PACKING	NBR	
8	PISTON ROD	Stainless steel(note) Carbon steel	Ø12~Ø25 Hard chromium plating Ø32~Ø100 Hard chromium plating
9	SNAP RING	Carbon tool steel	

※ In case the bore size is Ø12 or Ø16, it is separated into piston and magnet seat respectively.

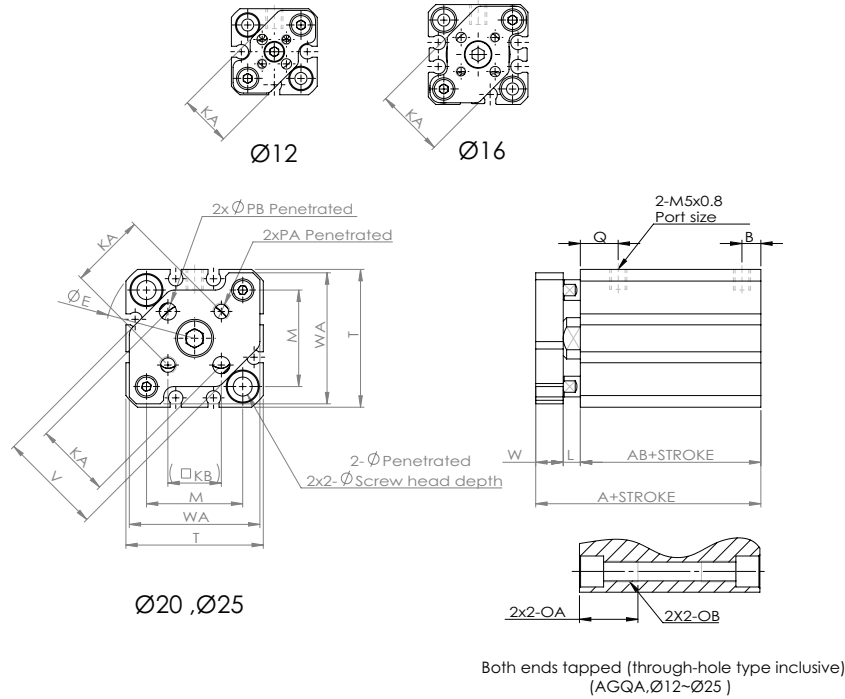
Note) Non-auto type - Carbon steel / Hard chromium plating. However, bore size of Ø16, stainless steel is utilized.

NO.	Product Name	Material	Remarks
10	MAGNET	NBR+Ba Ferrite	
11	BUMPER"A"	POLYURETHANE	Mounting on rod cover
12	BUMPER"B"	POLYURETHANE	Mounting on piston
13	PLATE	Aluminum alloy	Anodizing
14	BUSH	Aluminum alloy Copper alloy	Ø12~Ø25 Ø32 ~ Ø100
15	BUSH	Copper alloy	Ø50~Ø100
16	Hexagonal adhesion bolts	Carbon steel	Ø80, Ø100 Hexagon bolt
17	Hexagonal adhesion bolts	Carbon steel	
18	GUIDE ROD	Stainless steel	Hard chromium plating

Compact guided cylinder (square tube) AGQ Series

Standard Type (Through hole type · Both ends tapped)

AGQ Dimensions Ø12~Ø25



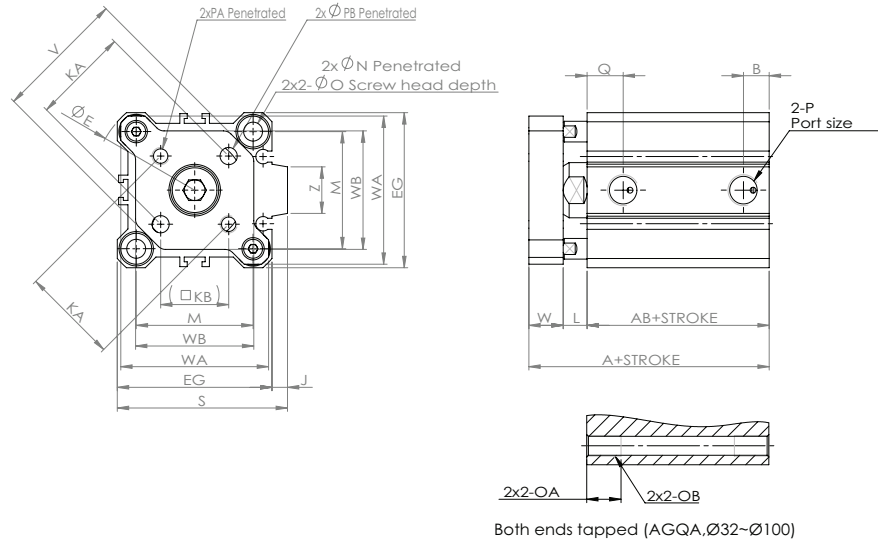
Bore size	Stroke range (mm)	Without auto-switch		With auto-switch		L	T	W	WA	V	Q	B	M	N	E
		A	AB	A	AB										
12	5~30	26.5	17	31.5	22	3.5	25	6	24	15	7.5	5	16	Ø3.5	32
16	5~30	26.5	17	31.5	22	3.5	29	6	28	20	7.5	5	20	Ø3.5	38
20	5~50	32	19.5	42	29.5	4.5	36	8	34	26	11	5.5	26	Ø5.5	47
25	5~50	35.5	22.5	45.5	32.5	5	40	8	38	30	11	5.5	28	Ø5.5	52

Bore size	O	OA	OB	KA	KB	PA	PB
12	Ø6.5 DP 4	11	M4x0.7	10±0.1	7.1	M3x0.5	Ø3 ^{+0.2} ₀
16	Ø6.5 DP 4	11	M4x0.7	14±0.1	9.9	M3x0.5	Ø3 ^{+0.2} ₀
20	Ø9 DP 7	17	M6x1.0	17±0.1	12	M4x0.7	Ø4 ^{+0.2} ₀
25	Ø9 DP 7	17	M6x1.0	22±0.1	16	M5x0.8	Ø5 ^{+0.2} ₀

※ Without auto-switch, Ø12/Ø16-5mm stroke, Ø20/Ø25-5/10mm stroke cylinders are through hole type for taps for mounting bolt of tube.

AGQ Series

AGQ Dimensions Ø32~Ø50



Bore size	Stroke range (mm)	Without auto-switch					With auto-switch					L	EG	J	S	W	WA
		A	AB	P	B	Q	A	AB	P	B	Q						
32	5	40	23	M5x0.8	5.5	12	50	33	Rc(PT) 1/8	7.5	11	7	45	4.5	50	10	43
	10-50			13													
	75,100	50	33	Rc(PT) 1/8	7.5	11											
40	5-50	47	30	Rc(PT) 1/8	8	11	57	40	Rc(PT) 1/8	8	11	7	52	5	57	10	50
	75,100	57	40			14											
50	10-50	51	31	Rc(PT) 1/4	11	11	61	41	Rc(PT) 1/4	11	11	8	64	7	71	12	62
	75,100	61	41			14											

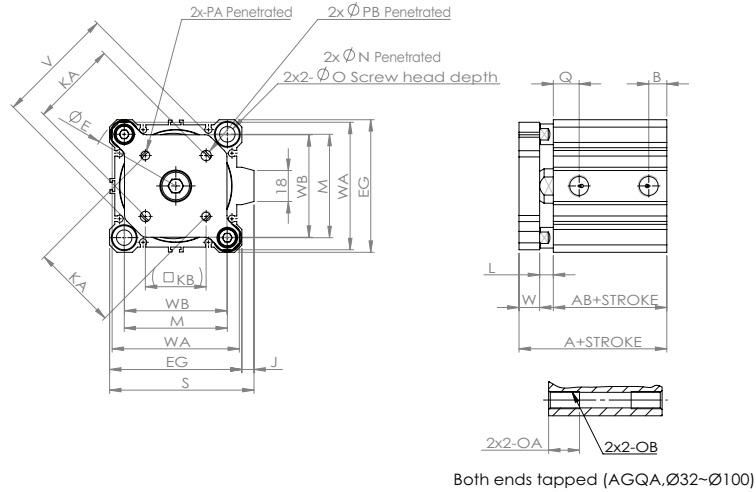
Bore size	WB	V	E	O	N ^(note)	OA	OB	M	Z	KA	KB	PB	PA
32	34.4	38	60	Ø9 DP 7	Ø5.5	10	M6x1.0	34	14	28±0.2	20	Ø5 ^{+0.2} ₀	M5x0.8
40	41.4	46	69	Ø9 DP 7	Ø5.5	10	M6x1.0	40	14	33±0.2	23	Ø5 ^{+0.2} ₀	M5x0.8
50	53.4	58	87	Ø11 DP 8	Ø6.6	14	M8x1.25	50	18	42±0.2	30	Ø6 ^{+0.2} ₀	M6x1.0

Note) For through hole type, avoid using since the tap at part N may remain.

Compact guided cylinder (square tube) AGQ Series

Standard Type (Through hole type · Both ends tapped)

AGQ Dimensions Ø63~Ø100



Bore size	Stroke Range (mm)	Without auto-switch				With auto-switch				P	L	EG	J	S	W	WA	WB	V	M
		A	AB	B	Q	A	AB	B	Q										
63	10-50	56	36	11	15	66	46	11	15	Rc(PT) 1/4	8	77	7	84	12	74	60	69	60
	75,100	66	46		16				16										
80	10-50	68	44	13	16	78	54	13	16	Rc(PT) 3/8	10	98	6	104	14	95	80	89	77
	75,100	78	54		18				18										
100	10-50	79	53	13	23	89	63	13	23	Rc(PT) 3/8	10	117	6.5	123.5	16	114	99	113	94
	75,100	89	63																

Bore size	Z	N ^(note)	E	O	OA	OB	KA	KB	PA	PB
63	18	Ø9	103	Ø14 DP 10.5	18	M10x1.5	50±0.2	35	M6x1.0	Ø6 ^{+0.2} ₀
80	22.2	Ø11	132	Ø17.5 DP 13.5	22	M12x1.75	63±0.2	46	M8x1.25	Ø8 ^{+0.2} ₀
100	22.2	Ø11	156	Ø17.5 DP 13.5	22	M12x1.75	80±0.2	57	M10x1.5	Ø10 ^{+0.2} ₀

Note) For through hole type, avoid using since the tap at part N may remain.

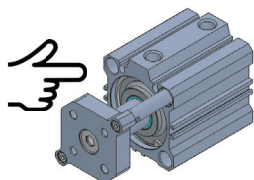
AGQ Series

Individual Product Precautions

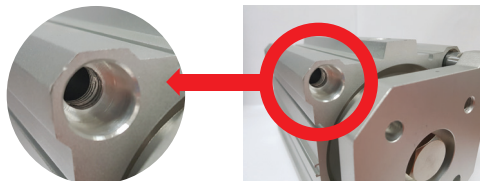
Installation

⚠ Warning

1. Do not allow bodies or objects to enter between the plate and the cylinder body.
 - Do not insert any body or object, as there is a possibility that the body or object may get caught between the plate and the body during operation of the piston rod. If the body or object is caught, the cylinder output will be large, which could cause personal injury, breakage, or malfunction.



2. For through hole type $\varnothing 32$ – $\varnothing 100$, avoid using as a mounting since some taps may remain in the through hole part.
 - Installation stability can not be guaranteed.
 - If you want to use the sub-tap, please use the double-end tap specification.



⚠ Warning

1. Make sure that the piston rod and guide rod do not have any marks or scratches.
 - It may cause air leakage or malfunction due to damage from packing.
2. When mounting work piece
 - When inserting the bolt into the plate side with the screw, work with the guide rod inserted up to the final end (returning end).
 - Also, carefully tighten the torque so that it does not get caught in the guide rod.

Others

⚠ Caution

1. Quality can not be guaranteed if disassembled or modified.
2. Please refrain from using it as a stopper.
3. When using a stopper or the like (when the cylinder thrust is directly applied to the plate), make sure it is caught on the center line of the rod.

