





Slide table cylinder——STW Series

Product series

Series name	Acting type	Bore size	Collocation of sensor switch	
			CS1-G	DS1-G
STWA 	Double acting	10	●	●
STWB 		16	●	●
		20	●	●
		25	●	●
		32	●	●
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Installation and application

- When load changes in the work, the cylinder with abundant output capacity shall be selected.
- Relative cylinder with high temperature resistance or corrosion resistance shall be chosen under the condition of high temperature or corrosion;
- Necessary protection measure shall be taken in the environment with higher humidity, much dust or water drops, oil dust and welding dregs.
- Dirty substances in the pipe must be eliminated before cylinder is connected with pipeline to prevent the entrance of contaminants into the cylinder.
- The medium used by cylinder shall be filtered to 40 μm or below.
- The cylinder shall avoid the influence of side load in operation to maintain the normal work of cylinder and extend service life.
- Anti-freezing measure shall be adopted under low temperature environment to prevent moisture freezing.
- If the cylinder is dismantled and stored for a long time, please conduct anti-rust treatment to the surface.
Anti-dust cap shall be inserted into the inlet and outlet ports. As the precision of the manufacture and guide is high, dismantle the fixed block or cylinder cover.



Criteria for selection: Cylinder thrust

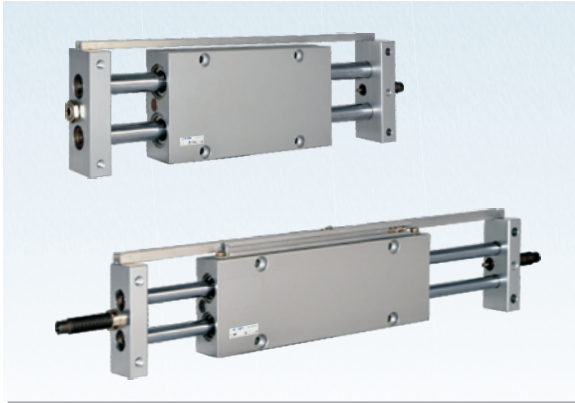
Unit: Newton(N)

Bore size (mm)	Rod size (mm)	Acting type	Pressure area (mm ²)	Operating pressure(MPa)						
				0.1	0.2	0.3	0.4	0.5	0.6	0.7
10	6	Double acting	100.5	10.1	20.1	30.2	40.2	50.3	60.3	70.4
16	10	Double acting	245.0	24.5	49.0	73.5	98.0	122.5	147.0	171.5
20	12	Double acting	402.1	40.2	80.4	120.6	160.8	201.1	241.3	281.5
25	16	Double acting	579.6	58.0	115.9	173.9	231.8	289.8	347.8	405.7
32	20	Double acting	980.2	98.0	196.0	294.1	392.1	490.1	588.1	686.1

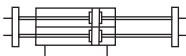


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Symbol



Product feature

- Both body and fixing plates can be installed.
- Three sets of air inlet and outlet are available for customer to choose and convenient for piping.
- The structure of double-piston rod provides the good performance of anti-bending and anti-torsion and can bear relatively stronger movement radial and load.
- Buffer device such as the integrated shock absorber can effectively slowdown impact velocity and extend life.



Specification

Bore size(mm)	10	16	20	25	32
Acting type	Double acting				
Fluid	Air(to be filtered by 40 μm filter element)				
Operating pressure	0.1~1.0MPa(15~145psi)(1.0~10bar)				
Proof pressure	1.5MPa(215psi)(15bar)				
Temperature °C	-20~70				
Speed range mm/s	30~500				
Stroke tolerance	+1.0 0				
Cushion type	Shock absorber				
Non-rotating tolerance ①	± 0.1°	± 0.05°		± 0.03°	
Port size ②	M5 × 0.8			1/8"	

① Retract position.

② PT thread, NPT thread and G thread are available. Add) Refer to P419~442 for detail of sensor switch.

Stroke

Bore size (mm)	Standard stroke (mm)						Max. std stroke	
10	25	50	75	100			100	
16, 20, 25, 32	25	50	75	100	125	150	175	200

Note) Consult us for non-standard stroke.

Ordering code

STW B 25 × 50 S □

- Model**
STW: Slide table cylinder(Double acting type)
- Mounting type**
 - A: Fixing plate mounted
 - Sensor switch mounting rail
 - Magnet
 - Plug
 - Port
 - B: Body mounted
 - Magnet mounting rail
 - Sensor switch mounting rail
 - Magnet
 - Port
- Thread type** ①
 - Blank: PT
 - T: NPT
 - G: G
- Magnet**
 - S: With magnet
- Stroke**
Refer to stroke table for details
- Bore size**
10 16 20 25 32

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

Inner structure and material of major parts

NO.	Item	Material
1	Hexagon nut	Carbon steel
2	Fixing plate	Aluminum alloy
3	Washer	NBR
4	Magnet	Sintered metal (Neodymium-iron-boron)
5	Body	Aluminum alloy
6	Piston rod	Carbon steel
7	Sensor switch mounting rail	Aluminum alloy
8	Piston	Aluminum alloy
9	O-ring	NBR
10	O-ring	NBR
11	C clip	Spring steel
12	Pin	Carbon steel
13	Plug screw	Carbon steel
14	Shock absorber	Combination
15	O-ring	NBR
16	Bumper	Carbon steel
17	O-ring	NBR
18	Front cover	Aluminum alloy
19	Piston seal	NBR
20	Screw	Carbon steel
21	Countersink screw	Carbon steel

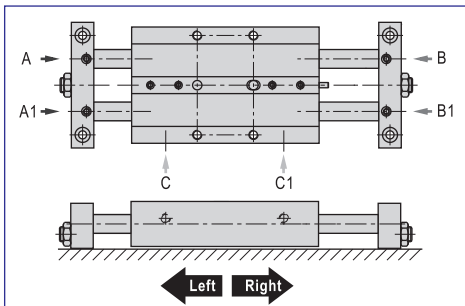


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Installation and application

1. There are 3 sets of air inlet and outlet ports on body and fixing plates, which are available for pipe connection from three directions.



2. When air inlets and outlets are connected, the movement direction of cylinder is different. For example, when fixing plate is mounted on the machine, its corresponding movement is indicated as the table below:

Pressure port	A	A1	B	B1	C	C1
Movement direction	Right	Left	Right	Left	Left	Right

3. Loading of piston rod—reference value for deflection

The fixing plates are fixed, the loading is acting on the center of body

Allowable deflection value (mm)

Model	Load(N)\Stroke	100	200
STW10	9.81	0.07	—
STW16	39.2	0.05	0.20
STW20	49	0.04	0.15
STW25	58.8	0.02	0.08
STW32	98.1	0.02	0.07

The body is fixed, the loading is acting on the fixing plates

Deflection value (mm)

Model	Load(N)\Stroke	50	100	100	200
STW10	2.94	0.06	0.30	—	—
STW16	4.84	0.03	0.10	0.25	0.45
STW20	7.48	0.03	0.09	0.18	0.35
STW25	9.81	0.03	0.09	0.16	0.25
STW32	29.42	0.02	0.05	0.10	0.15

4. Reference value of allowable moment (M1, M2 and M3)

Bore size	Allowable bending moment(M2)
10	0.11
16	0.55
20	0.81
25	1.03
32	2.70

5. About shock absorber

- 5.1) Shock absorbers are consumable parts. When a decrease in energy absorption capacity is noticed, it must be replaced. Refer to the table below for shock absorber type.
- 5.2) Never loosen the bottom screw of the shock absorber. (It is not an adjustment screw.) That may cause oil leakage.
- 5.3) Refer to the table below for tightening torques of the shock absorber setting nut.

Never loosen the bottom screw of the shock absorber That may cause oil leakage.

Cylinder	Shock absorber	Tightening torques(Nm)
STW10	ACA0806-1N	1.67
STW16	ACA0806-1N	1.67
STW20	ACA1007-1N	3.14
STW25	ACA1007-1N	3.14
STW32	ACA1412-1N	10.8

6. About sensor switch

- 6.1) STW series are all with magnet, the relevant sensor switches are CS1-G, DS1-G. Please refer to page 419-442 for details.
- 6.2) The magnet locations of STWA & STWB are different, so sensor switch's position is different, please refer to below for details.

STWA

① Please refer below to secure sensor switch in sensor switch mounting rail.

② Adjusting sensor switch position, tightening screw to secure sensor switch.

STWB

① Please refer below to secure sensor switch in sensor switch mounting rail.

② Adjusting sensor switch position, tightening screw to secure sensor switch.

Mounting type

Body mounted(B)

Fixing plate mounted(A)



Slide table cylinder

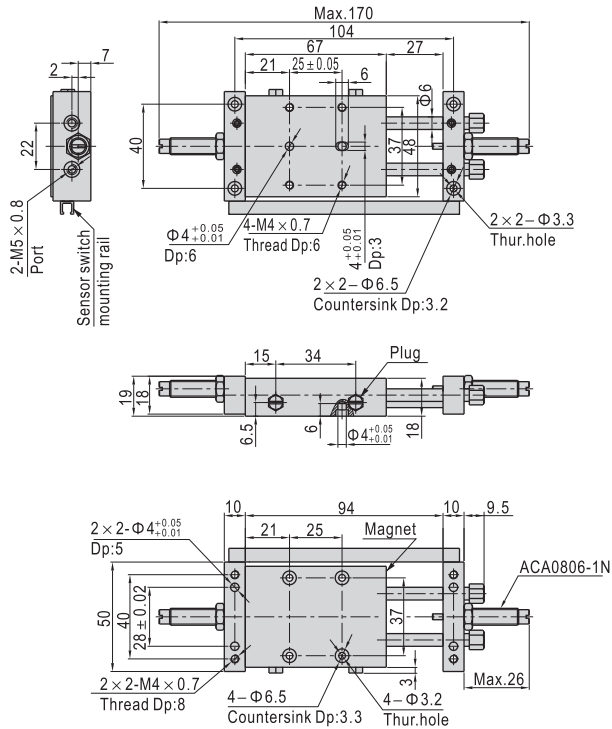


STW Series

Dimensions

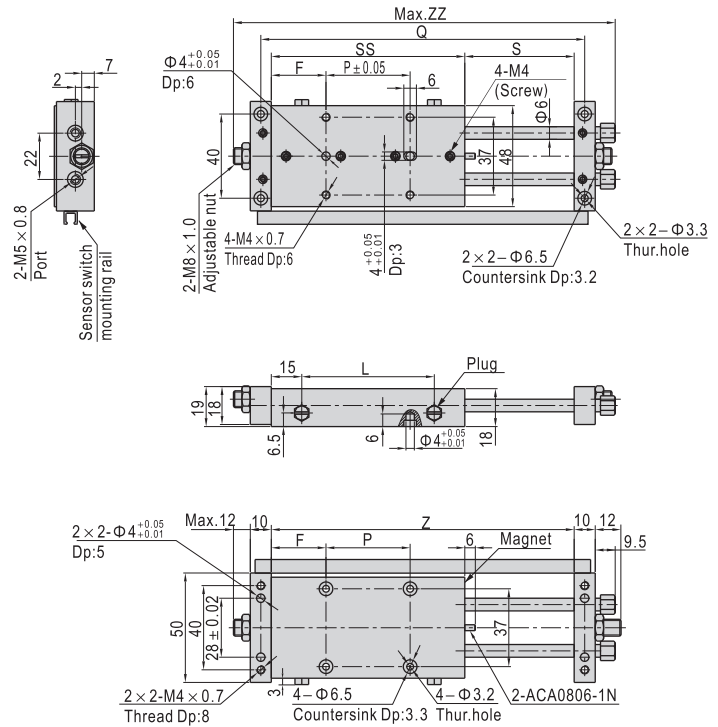
STW10 Stroke=25mm

A Type(Fixing plate mounted)

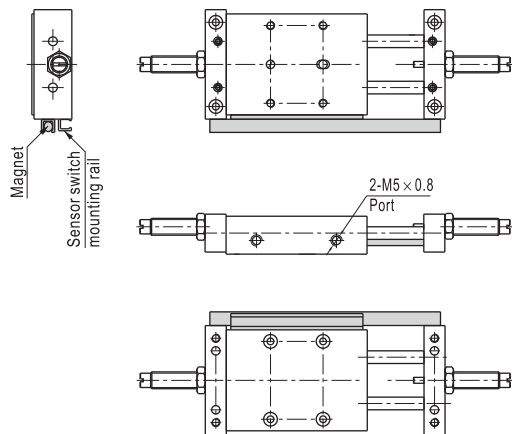


STW10 Stroke=50 75 100mm

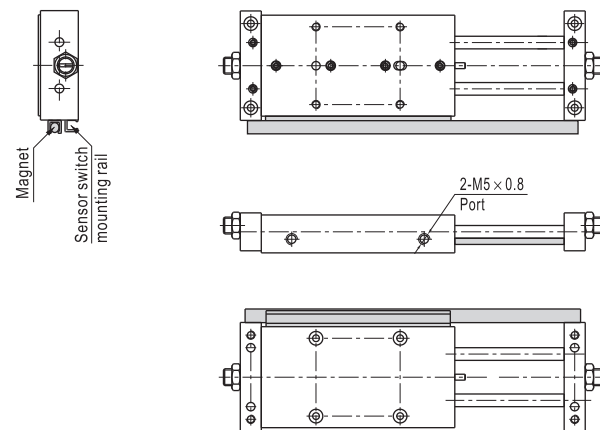
A Type(Fixing plate mounted)



B Type(Body mounted)



B Type(Body mounted)



Stroke\Item	F	L	P	Q	S	SS	Z	ZZ
50	26	62	40	154	52	92	144	188
75	26	87	65	204	77	117	194	238
100	26	112	90	254	102	142	244	288



STW

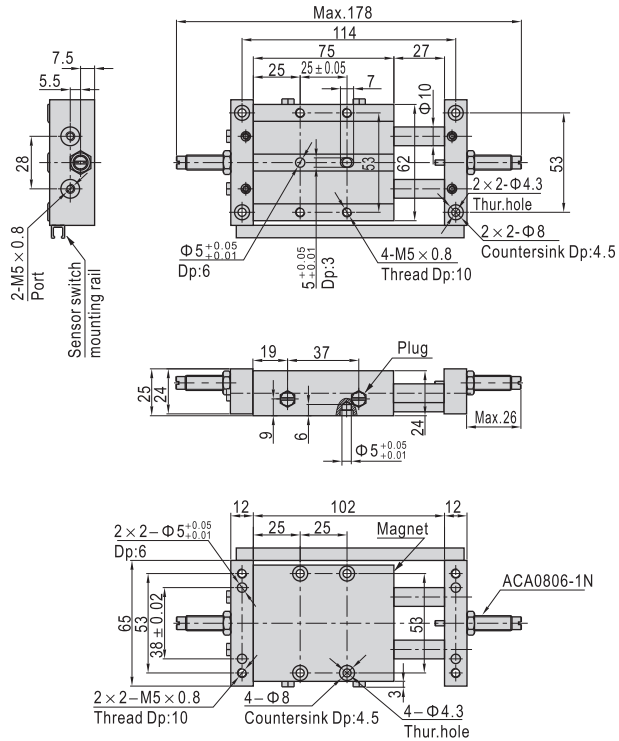


Slide table cylinder

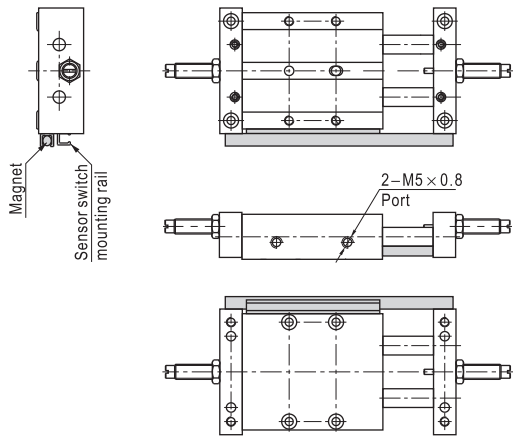
STW Series

STW16 Stroke=25mm

A Type(Fixing plate mounted)

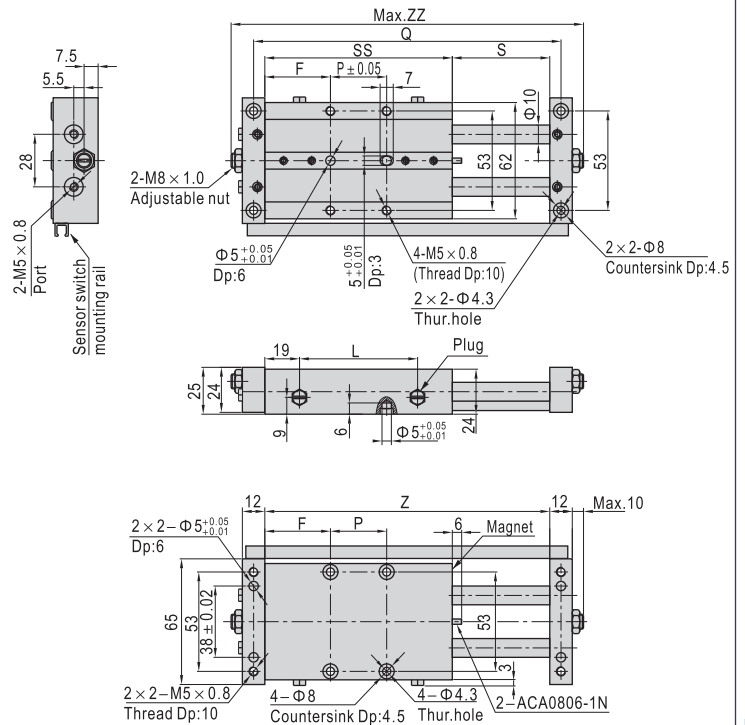


B Type(Body mounted)

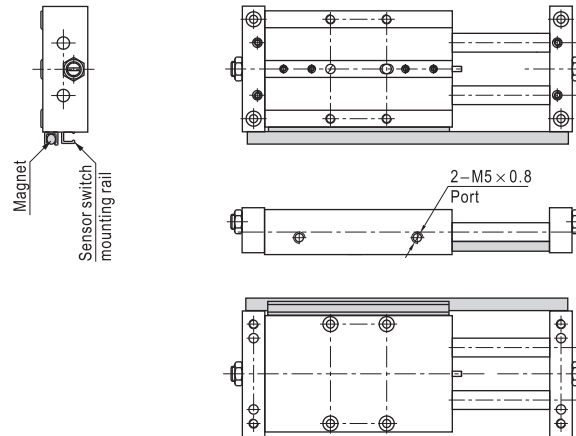


STW16 Stroke=50 75 100 125 150 175 200mm

A Type(Fixing plate mounted)



B Type(Body mounted)



Stroke\Item	F	L	P	Q	S	SS	Z	ZZ
50	35	62	30	164	52	100	152	196
75	32.5	87	60	214	77	125	202	246
100	37.5	112	75	264	102	150	252	296
125	42.5	137	90	314	127	175	302	346
150	55	162	90	364	152	200	352	396
175	67.5	187	90	414	177	225	402	446
200	80	212	90	464	202	250	452	496



STW

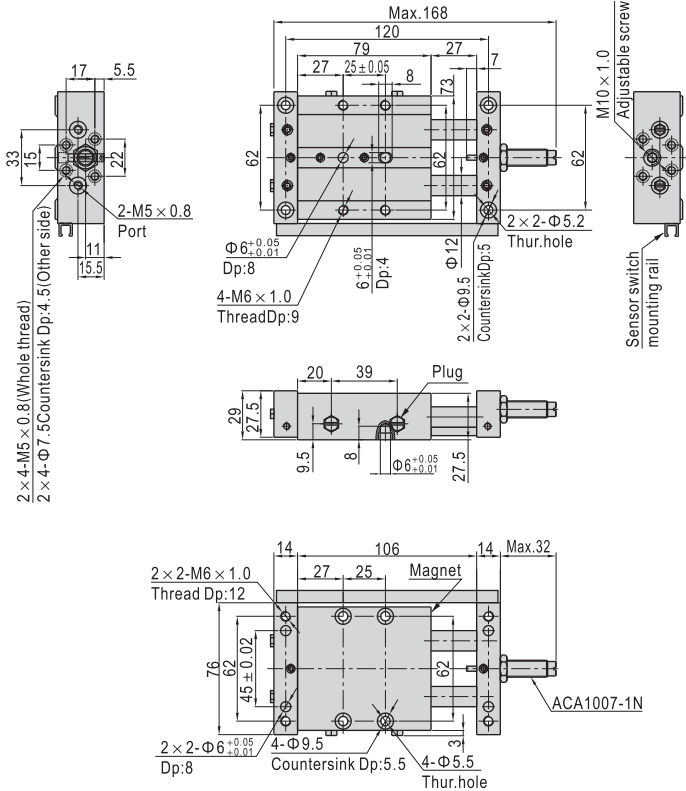
Slide table cylinder



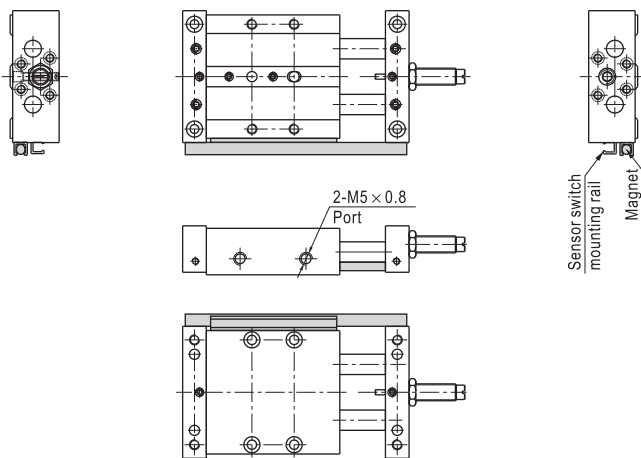
STW Series

STW20 Stroke=25mm

A Type(Fixing plate mounted)

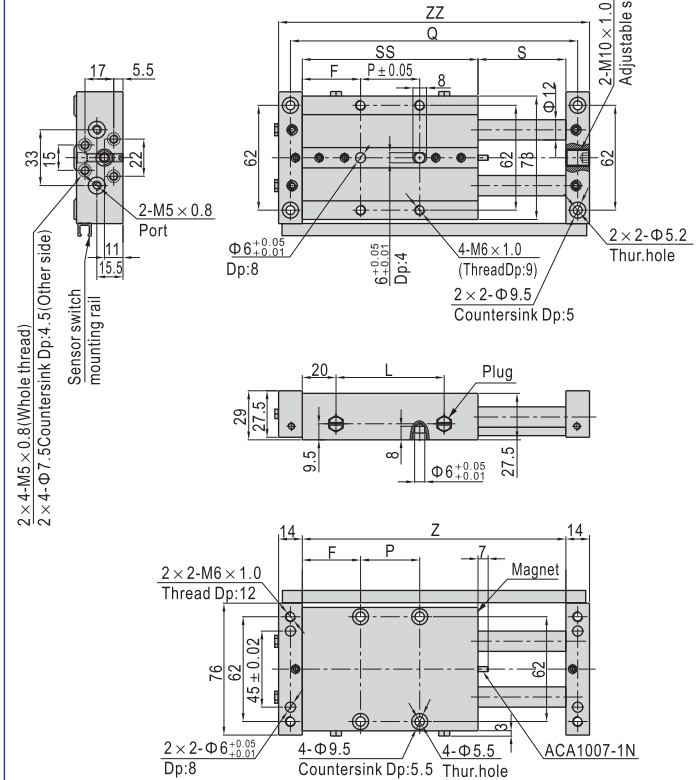


B Type(Body mounted)

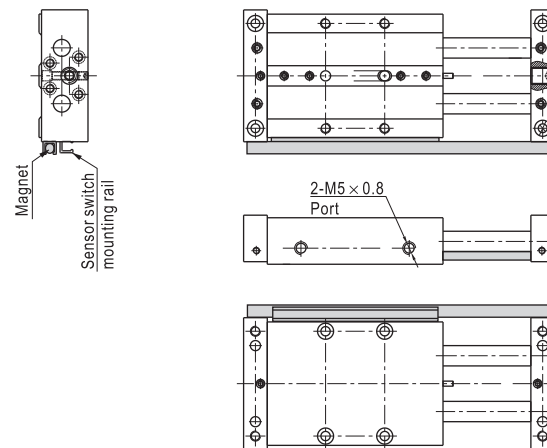


STW20 Stroke=50 75 100 125 150 175 200mm

A Type(Fixing plate mounted)



B Type(Body mounted)



Stroke\Item	F	L	P	Q	S	SS	Z	ZZ
50	34.5	64	35	170	52	104	156	184
75	34.5	89	60	220	77	129	206	234
100	39.5	114	75	270	102	154	256	284
125	44.5	139	90	320	127	179	306	334
150	57	164	90	370	152	204	356	384
175	69.5	189	90	420	177	229	406	434
200	82	214	90	470	202	254	456	484



STW

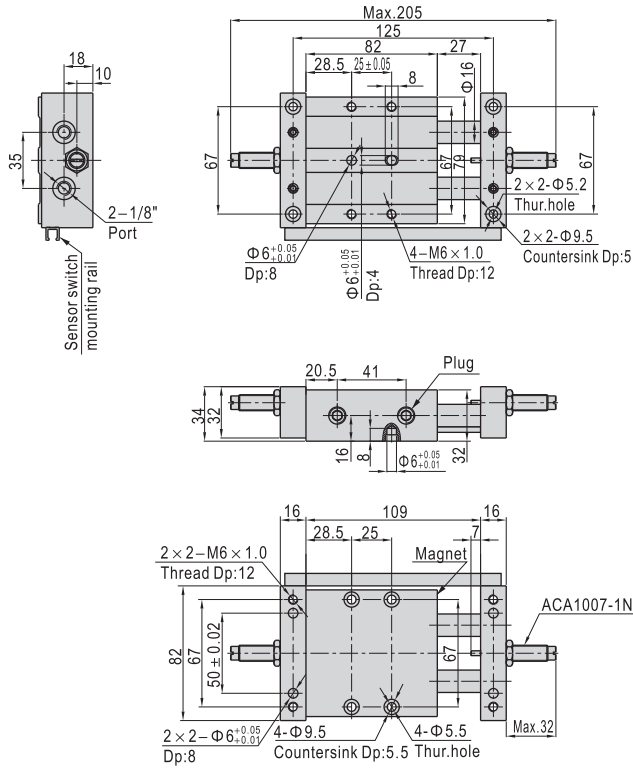


Slide table cylinder

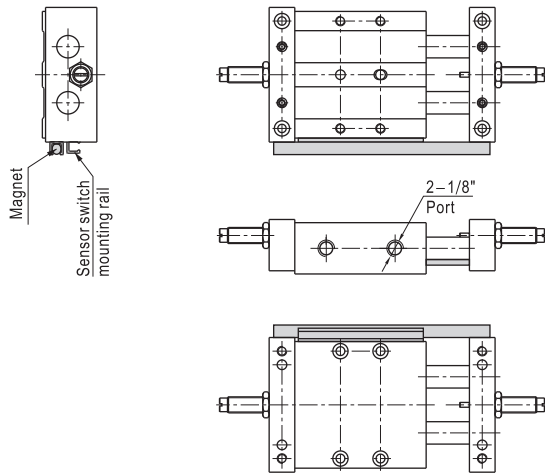
STW Series

STW25 Stroke=25mm

A Type(Fixing plate mounted)

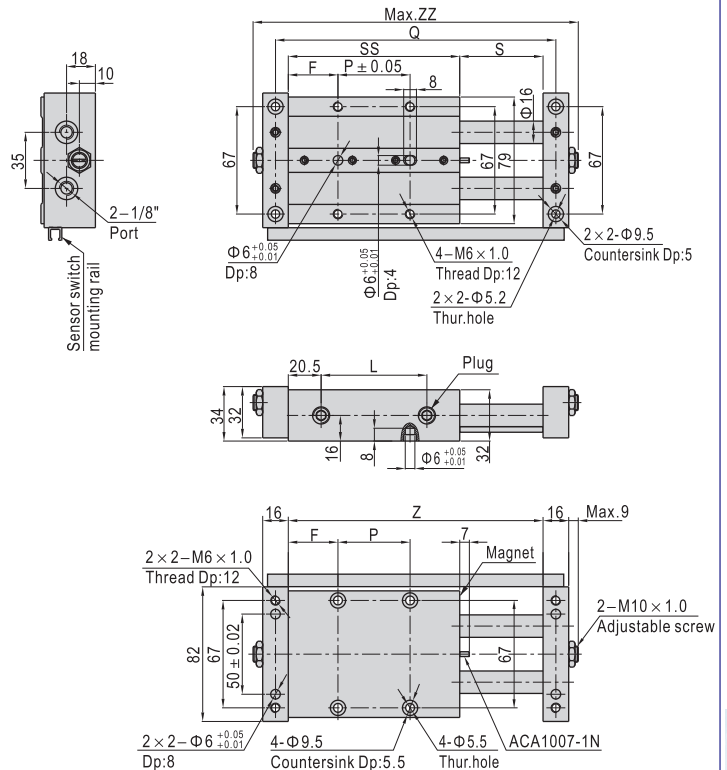


B Type(Body mounted)

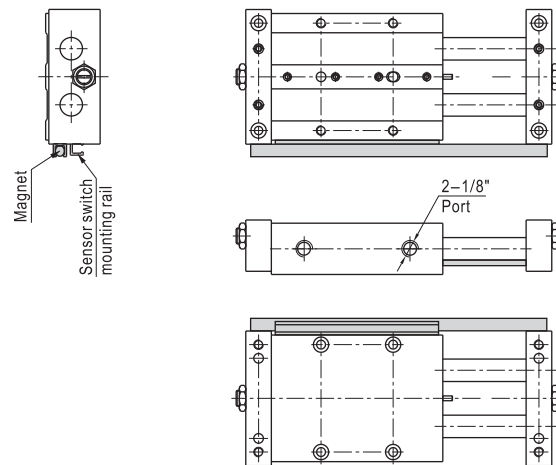


STW25 Stroke=50 75 100 125 150 175 200mm

A Type(Fixing plate mounted)



B Type(Body mounted)



Stroke\Item	F	L	P	Q	S	SS	Z	ZZ
50	31	66	45	175	52	107	159	209
75	33.5	91	65	225	77	132	209	259
100	33.5	116	90	275	102	157	259	309
125	46	141	90	325	127	182	309	359
150	58.5	166	90	375	152	207	359	409
175	71	191	90	425	177	232	409	459
200	83.5	216	90	475	202	257	459	509



STW

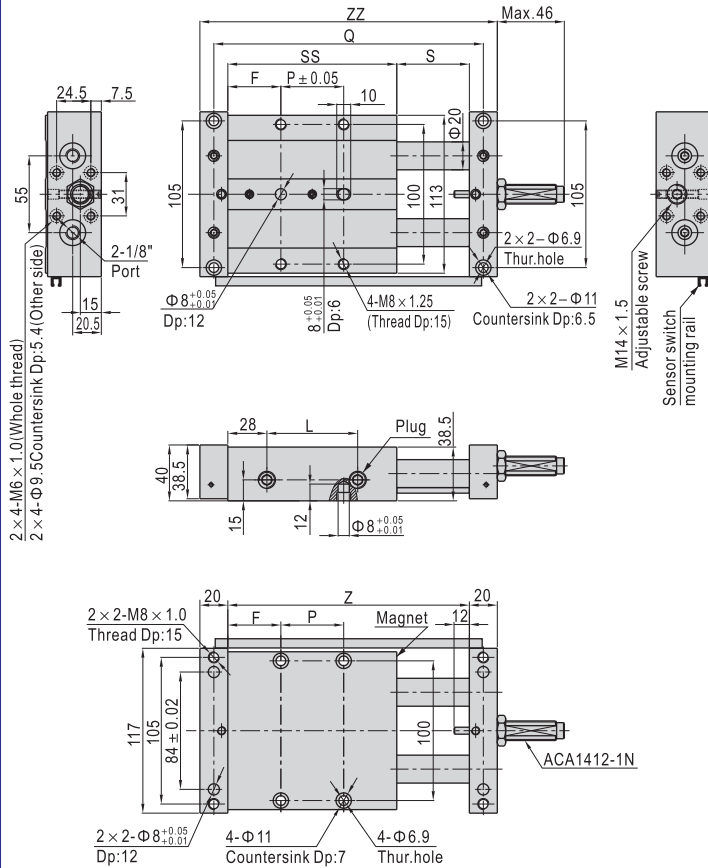
Slide table cylinder



STW Series

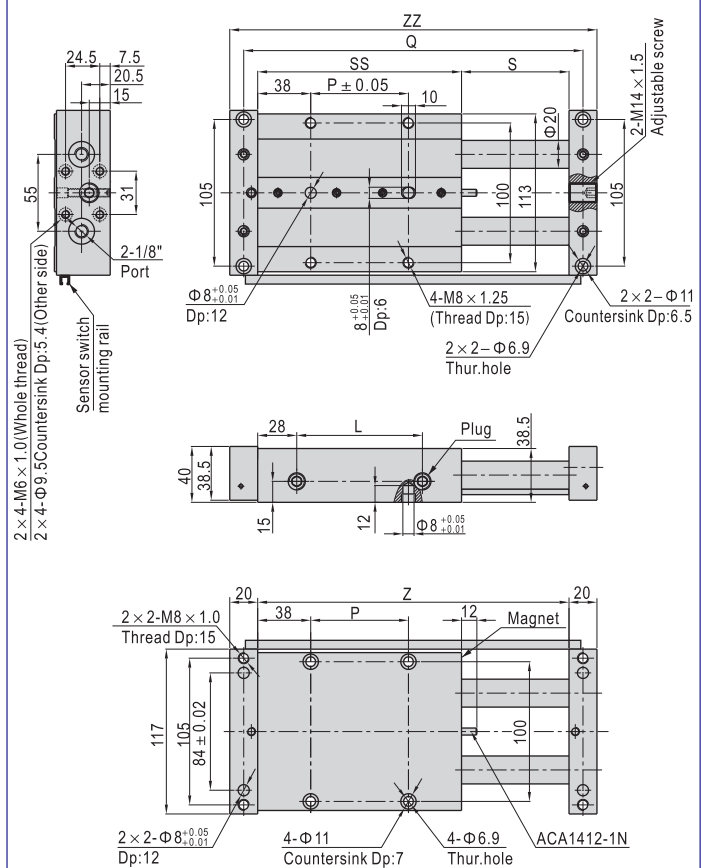
STW32 Stroke=25 50mm

A Type(Fixing plate mounted)



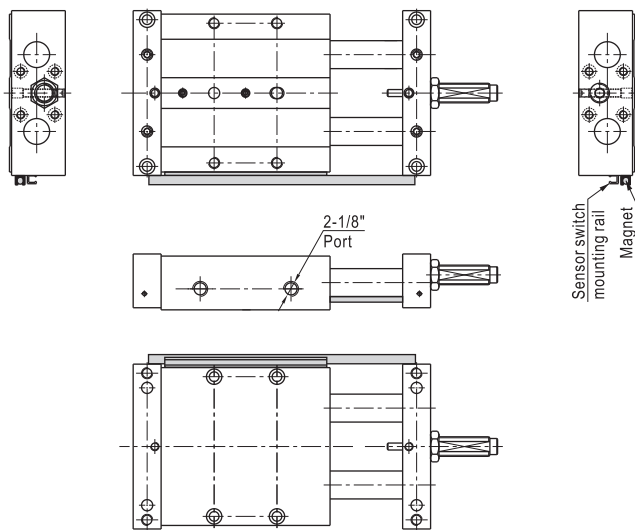
STW32 Stroke=75 100 125 150 175 200mm

A Type(Fixing plate mounted)



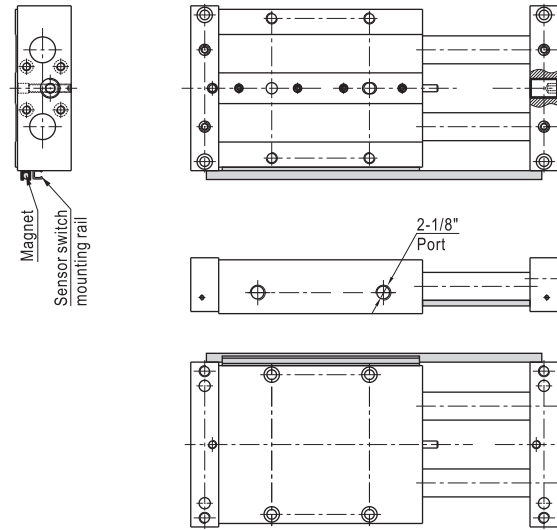
STW

B Type(Body mounted)



Stroke\Item	F	L	P	Q	S	SS	Z	ZZ
25	37	40	22	143	27	96	123	163
50	38	65	45	193	52	121	173	213

B Type(Body mounted)



Stroke\Item	L	P	Q	S	SS	Z	ZZ
75	90	70	243	77	146	223	263
100	115	95	293	102	171	273	313
125	140	120	343	127	196	323	363
150	165	145	393	152	221	373	413
175	190	170	443	177	246	423	463
200	215	195	493	202	271	473	513

