

# Long Stroke Slide Table Series **MXW**



## How to Order

**MXW** **16** - **100** **B** - **F9N** **S**

**Bore-Stroke(mm)**

<b>ø8</b>	25, 50, 75, 100, 125, 150
<b>ø12</b>	50, 75, 100, 125, 150
<b>ø16</b>	75, 100, 125, 150, 175, 200
<b>ø20</b>	100, 125, 150, 175, 200, 225, 250
<b>ø25</b>	100, 125, 150, 175, 200, 225, 250, 275, 300

**Number of auto switches**

—	2
<b>S</b>	1
<b>n</b>	n

**Option**

—	Standard(With urethane bumper)
<b>B</b>	With shock absorbers 2 pcs.

**Auto switch**

—	Without auto switch
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\*Refer to the table below for auto switches.

**Applicable auto switches/Refer to p.5.3-2 for further information on auto switch.**

Style	Special function	Electrical entry	Indicator	Wiring(output)	Load voltage			Auto switch model		Lead wire (m)*		Applicable load	
					DC		AC	Electrical entry		—	3 (L)	IC	PLC
					24V	5V, 12V	≤100V	Perpendicular	In-line				
Reed switch	—	Grommet	No	2 wire	24V	5V, 12V	≤100V	<b>A90V</b>	<b>A90</b>	●	●	IC	PLC
			Yes	3 wire(Equiv. to NPN)	—	5V	—	<b>A93V</b>	<b>A93</b>	●	●	—	—
			Yes	3 wire(NPN)	—	—	—	<b>A96V</b>	<b>A96</b>	●	●	IC	—
Solid state switch	Diagnosis indication (2 color)	Grommet	Yes	3 wire(NPN)	24V	12V	—	<b>F9NV</b>	<b>F9N</b>	●	●	—	PLC
				3 wire(PNP)				<b>F9PV</b>	<b>F9P</b>	●	●		
				2 wire				<b>F9BV</b>	<b>F9B</b>	●	●		
				3 wire(NPN)				<b>F9NWV</b>	<b>F9NW</b>	●	●		
				3 wire(PNP)				<b>F9PWV</b>	<b>F9PW</b>	●	●		
				2 wire				<b>F9BWW</b>	<b>F9BW</b>	●	●		



\*Lead wire length 0.5m....."—"(Example) A93  
3m....."L" A93L

PLC: Programmable Logic Controller

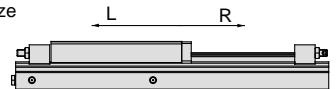
# Long Stroke Slide Table Series *MXW*

## Specifications



Model	MXW8	MXW12	MXW16	MXW20	MXW25
Bore size(mm)	ø8 X 2 (ø 11 or its equivalent)	ø12 X 2 (ø 17 or its equivalent)	ø16 X 2 (ø 23 or its equivalent)	ø20 X 2 (ø 28 or its equivalent)	ø25 X 2 (ø 35 or its equivalent)
Port size	M5 X 0.8			Rc(PT)1/8	
Fluid	Air				
Action	Double acting				
Operating pressure	0.15 to 0.7MPa				
Proof pressure	1.05MPa				
Ambient and fluid temperature	-10 to +60°C				
Operating speed range	50 to 500mm/s				
Cushion	Both ends urethane bumper (standard) Both ends shock absorber (option)				
Lubrication	Non-lube				
Auto switch (Option)	Reed switch Solid state switch (2 wire, 3 wire) 2 color indication solid state switch (2 wire, 3 wire)				
Stroke tolerance	+1 0 mm				
Stroke adjustment range	One side: 5mm (Both sides: 10mm)				

<Direction of operation>  
When viewed from size  
with lateral ports.  
E: Cylinder extend  
R: Cylinder retract



## Theoretical Force(Unit: N)

Dual rod cylinder produces double the thrust of standard cylinder.

Cylinder I.D. (mm)	Rod dia. (mm)	Operating direction	Piston area (mm <sup>2</sup> )	Operating pressure(MPa)					
				0.2	0.3	0.4	0.5	0.6	0.7
8	4	R	101	20	30	40	51	61	71
		L	75	15	23	30	38	45	53
12	6	R	226	45	68	90	113	136	158
		L	170	34	51	68	85	102	119
16	8	R	402	80	121	161	201	241	281
		L	302	60	91	121	151	181	211
20	10	R	628	126	188	251	314	377	440
		L	471	94	141	188	236	283	330
25	12	R	982	196	295	393	491	589	687
		L	756	151	227	302	378	454	529

Note) Theoretical force (N)=Pressure(MPa) X Piston area(mm<sup>2</sup>)

## Standard Stroke(mm)/Weight(g)

Model	Standard stroke(mm)											
	25	50	75	100	125	150	175	200	225	250	275	300
MXW 8	550	610	700	790	880	980	—	—	—	—	—	—
MXW12	—	930	1010	1140	1270	1400	—	—	—	—	—	—
MXW16	—	—	1850	1970	2150	2350	2540	2740	—	—	—	—
MXW20	—	—	—	4440	4640	5000	5360	5710	6070	6430	—	—
MXW25	—	—	—	9300	9620	9970	10500	11100	11700	12200	12800	13400

CL

MLGC

CNA

CB

CV/MVG

CXW

CXS

CXT

MX

MXU

MXS

MXQ

MXF

MXW

MXP

MG

MGP

MGQ

MGG

MGC

MGF

CY1

MY1

# Series MXW

## Optional Specification

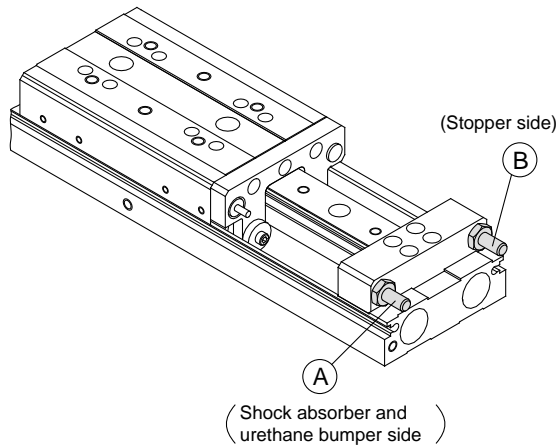
### Stroke Adjuster Assembly

Adjuster assembly can be changed in the following manner.

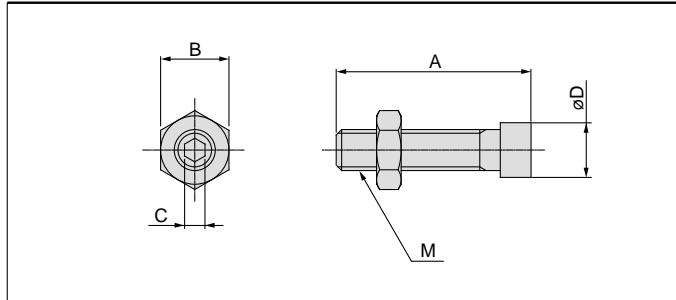
Change of adjuster assembly	Qty needed		Parts Changed	
	Standard	Option (-X11)		
Change stroke adjustment range from 5mm to 15mm for one side	W/o shock absorber	—	2	Change (A)
	W/ shock absorber	—	4	Change (A) + (B)
Change to be with shock absorber	2	—	—	Add (B)
Change to be with shock absorber and stroke adjustment range from 5mm to 15mm	—	—	4	Change (A) + Add (B)

Note 1) When only one side of stroke is changed, the quantity needed is the half of the above.

Note 2) Shock absorber must be ordered separately.



### Dimensions(mm)



Applicable size	Model	Adjustment range (mm)	A	B	C	D	M
MXW 8	MXW-A812	5	21	8	2.5	6	M5 X 0.5
	MXW-A812-X11	15	31				
MXW12	MXW-A1212	5	23.5	8	2.5	6	M5 X 0.8
	MXW-A1212-X11	15	33.5				
MXW16	MXW-A1612	5	28.5	10	3	8	M6 X 1
	MXW-A1612-X11	15	38.5				
MXW20	MXW-A2012	5	34.5	13	4	10	M8 X 1.25
	MXW-A2012-X11	15	44.5				
MXW25	MXW-A2512	5	40	17	5	14	M10 X 1.5
	MXW-A2512-X11	15	50				

### How to Order

MXW - A 16 12 - X11

Applicable bore size

8	ø8
12	ø12
16	ø16
20	ø20
25	ø25

Adjustment range

—	5mm	Standard
X11	15mm	Option

Note 1) The above model number is one adjuster bolt assembly only.

Note 2) The air slide table already assembled with -X11 adjuster bolt assembly is not available.

## ⚠ Precautions

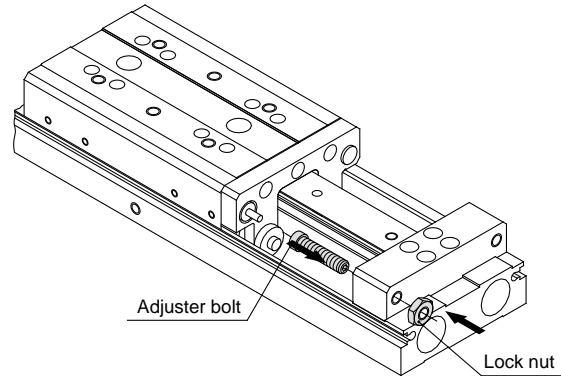
### Mounting/Adjusting

## ⚠ Caution

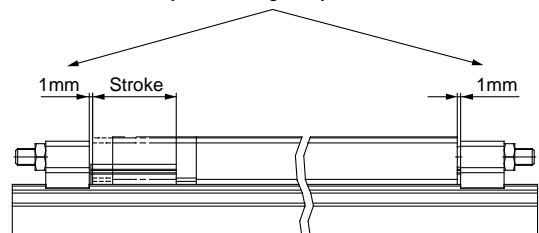
- Do not operate below 1mm, because the effectiveness of the shock absorber a urethane damper will not be brought into full play, and could be adversely affected.

### Mounting

- Thread in the adjuster bolt from the direction of the arrow.
- Fasten the lock nut from the direction of the arrow.



Avoid use with adjustment less than 1mm. Shock absorber or urethane bumper may not operate effectively and damage may result.



# Long Stroke Slide Table *Series MXW*

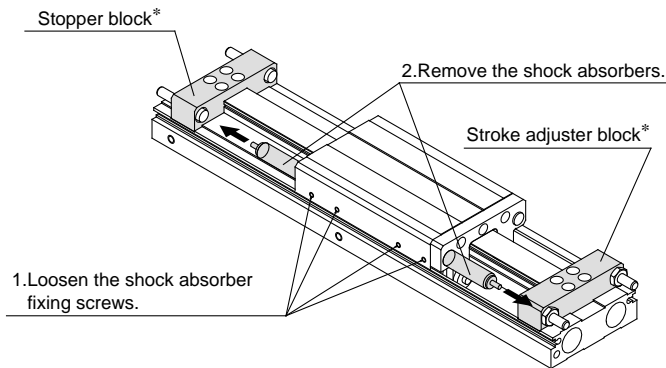
## Shock Absorber

### Specifications

Shock absorber model	RB0805-X552	RB0806-X552	RB1007-X552	RB1412-X552	RB2015-X552	
Suitable slide table	MXW8	MXW12	MXW16	MXW20	MXW25	
Max. absorbing energy J	0.98	2.94	5.88	19.6	58.8	
Absorbing stroke(mm)	5	6	7	12	15	
Max. collision speed(m/sec)	0.05 to 5					
Max. operating freq(cycle/min)	80	80	70	45	25	
Max. allowable thrust N	245	245	422	814	1961	
Ambient temperature range(°C)	-10 to 80					
Spring force N	Expanded	1.96	1.96	4.22	6.86	8.34
	Compressed	3.83	4.22	6.86	15.98	20.50
Weight (g)	15	15	25	65	150	

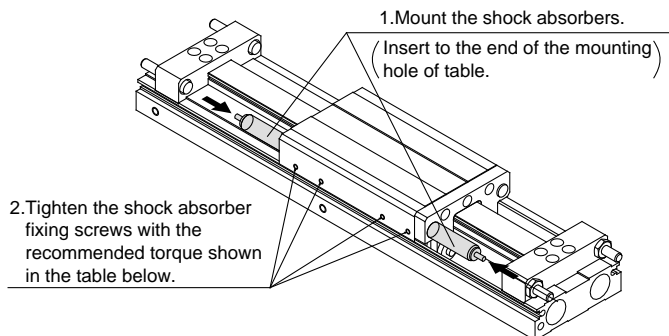
### How to Change Shock Absorber

#### ① Removable



\*In case of MXW8-25, first take out the adjuster block, and then the shock absorber. Tighten the mounting bolt with the torque 0.3Nm when assembling the adjuster block.

#### ② Mounting



### Torque

Model	Fixing thread size	Torque (Nm)	Width across flats
MXW 8	M3 X 4	0.6	1.5
MXW12	M3 X 4	0.6	1.5
MXW16	M3 X 4	0.6	1.5
MXW20	M4 X 5	0.8	2
MXW25	M5 X 6	1	2.5

## ⚠ Precautions

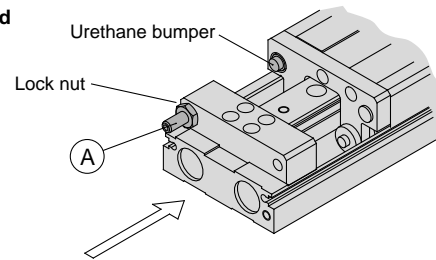
### Adjusting

### ⚠ Caution

- ① Do not operate with the stopper blocks and the stopper bolts on both sides removed. Doing so could create shocks, which could loosen and cause damage.

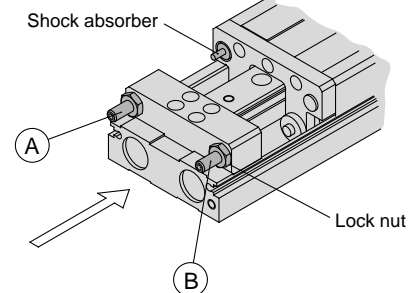
### Stroke adjustment

#### 1. Standard



Loosen the adjuster bolt lock nut on side (A), insert a wrench in the direction of the arrow to adjust the stroke, and then tighten the lock nut.

#### 2. With shock absorber(option)



#### Stroke adjustment

- Loosen the adjuster bolt lock nut on side (B), insert a wrench in the direction of the arrow to adjust the stroke, and then tighten the lock nut.

#### Absorption stroke adjustment for shock absorber

- Loosen the adjuster bolt lock nut on side (A), insert a wrench in the direction of the arrow to adjust the stroke, and then tighten the lock nut.

CL

MLGC

CNA

CB

CV/MVG

CXW

CXS

CXT

MX

MXU

MXS

MXQ

MXF

MXW

MP

MG

MGP

MGQ

MGG

MGC

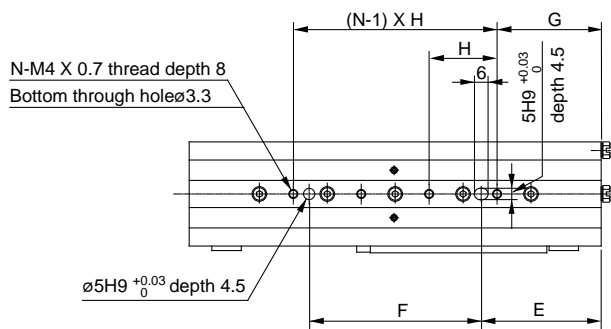
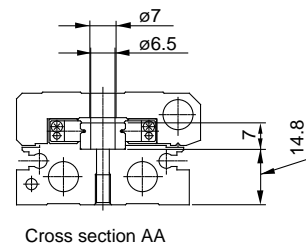
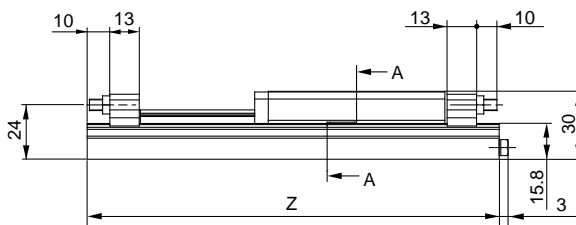
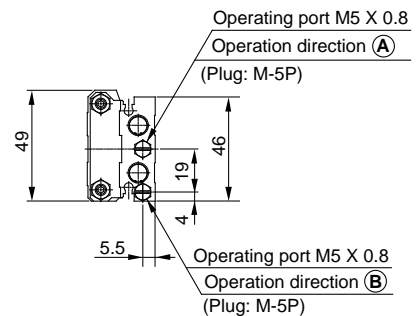
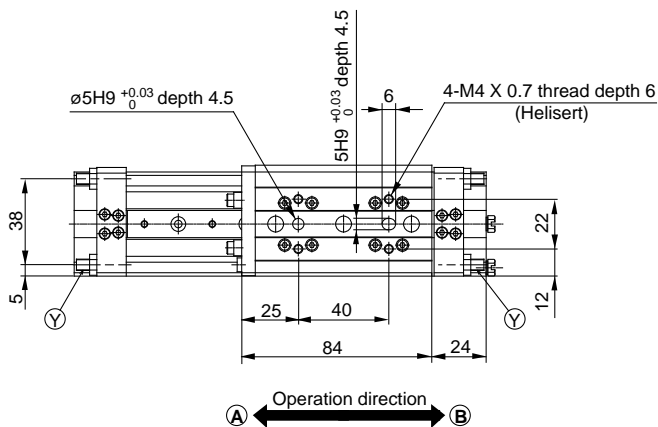
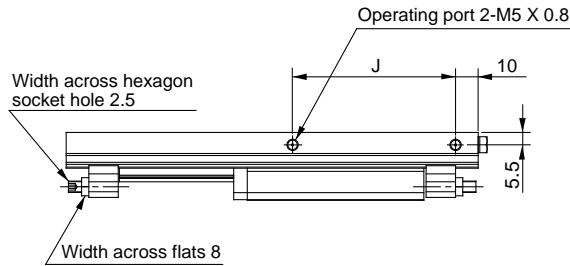
MGF

CY1

MY1

# Series MXW

**MXW 8/**Stroke: 25, 50mm




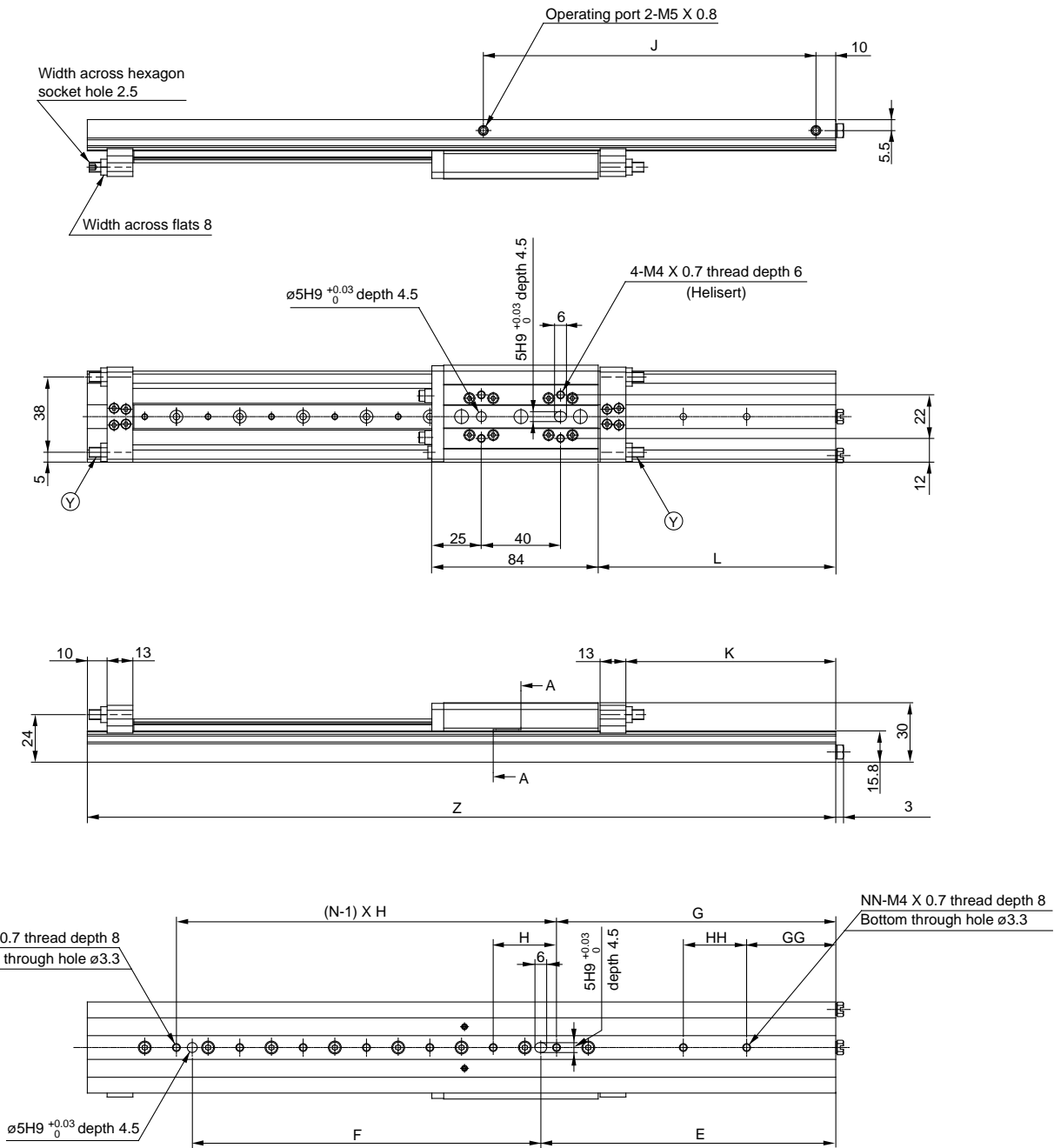
Model	E	F	G	H	J	N	Z
<b>MXW8-25</b>	55	48	47	32	64	3	157
<b>MXW8-50</b>	53	76	46	30	71	4	182

With auto switch  
 MXW8-25.....SMXW8A, #1(#1+#7)  
 MXW8-50.....SMXW8A, #2(#2+#8)

Note) Adjuster bolt (Y) shown in the section above is attached only on B type (with shock absorber).

# Long Stroke Slide Table *Series MXW*

**MXW 8**/Stroke : 75, 100, 125, 150mm 



- CL
- MLGC
- CNA
- CB
- CV/MVG
- CXW
- CXS
- CXT
- MX
- MXU
- MXS
- MXQ
- MXF
- MXW**
- MXP
- MG
- MGP
- MGQ
- MGG
- MGC
- MGF
- CY1
- MY1



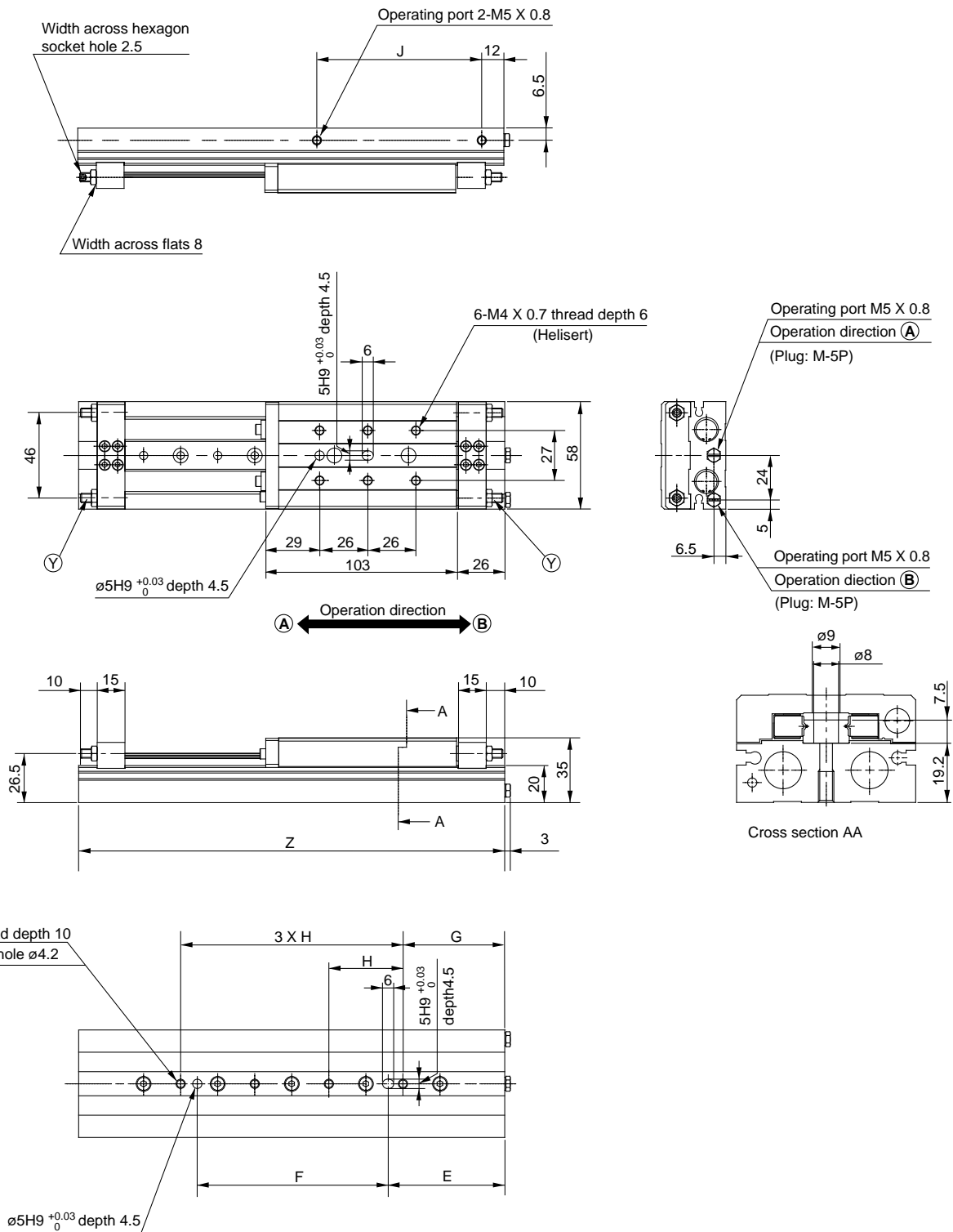
With auto switch

- MXW8-75.....SMXW8A, #3 (#3+#9)
- MXW8-100.....SMXW8B, #1 (#1+#7)
- MXW8-125.....SMXW8B, #2 (#2+#8)
- MXW8-150.....SMXW8B, #3 (#3+#9)

Model	E	F	G	GG	H	HH	J	K	L	N	NN	Z
<b>MXW8- 75</b>	71	106	64	19	30	—	92	31	45	5	1	228
<b>MXW8-100</b>	106	112	98	34	32	—	115	56	70	5	1	278
<b>MXW8-125</b>	129	144	121	25	32	32	138	81	95	6	2	328
<b>MXW8-150</b>	149	176	141	45	32	32	168	106	120	7	2	378

# Series MXW

MXW12/Stroke: 50, 75mm



4-M5 X 0.8 thread depth 10  
Bottom through hole ø4.2

Model	E	F	G	H	J	Z
<b>MXW12-50</b>	58	88	50	35	84	205
<b>MXW12-75</b>	63	103	55	40	89	230

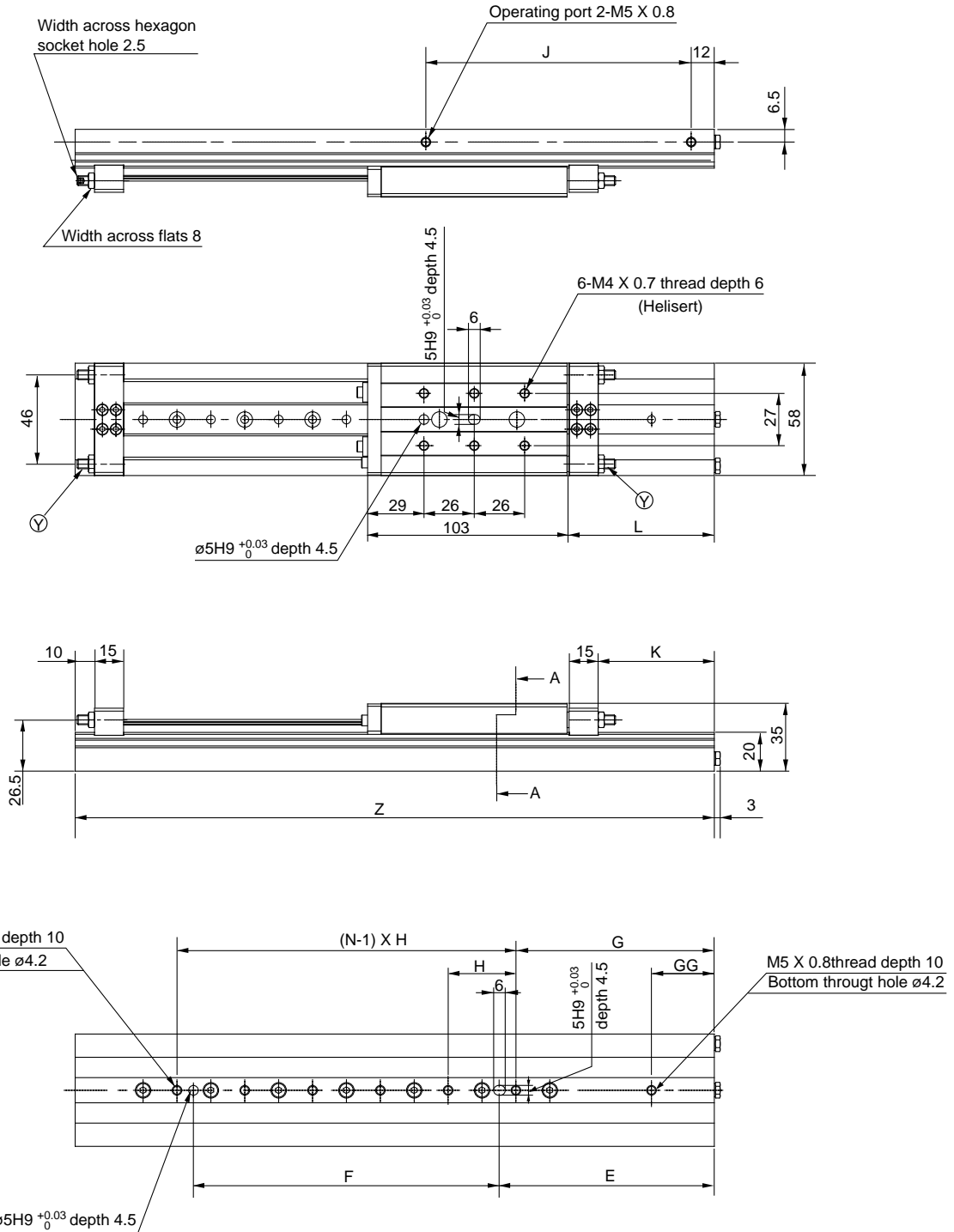


With auto Switch  
 MXW12-50.....SMXW12A, #1(#1+#5)  
 MXW12-75.....SMXW12A, #2(#2+#6)

Note) Adjuster bolt (Y) shown the section above is attached only on B type (with shock absorber).

# Long Stroke Slide Table *Series MXW*

**MXW 12/Stroke: 100, 125, 150mm**



- CL
- MLGC
- CNA
- CB
- CV/MVG
- CXW
- CXS
- CXT
- MX
- MXU
- MXS
- MXQ
- MXF
- MXW**
- MXP
- MG
- MGP
- MGQ
- MGG
- MGC
- MGF
- CY1
- MY1

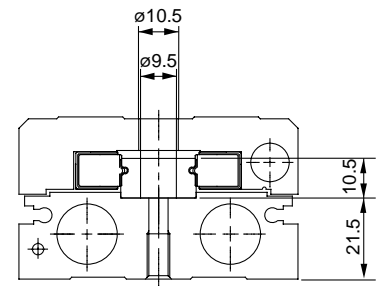
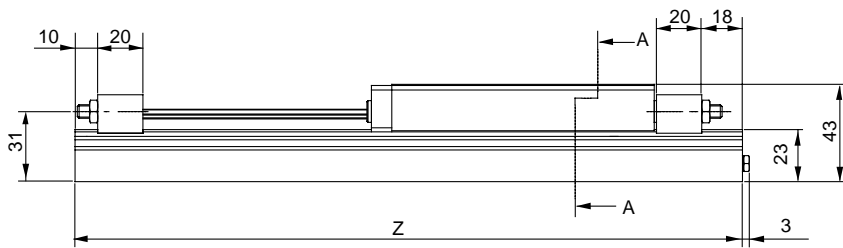
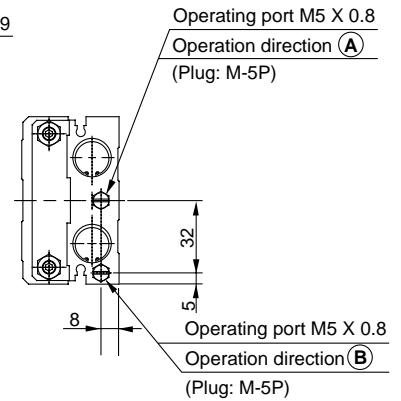
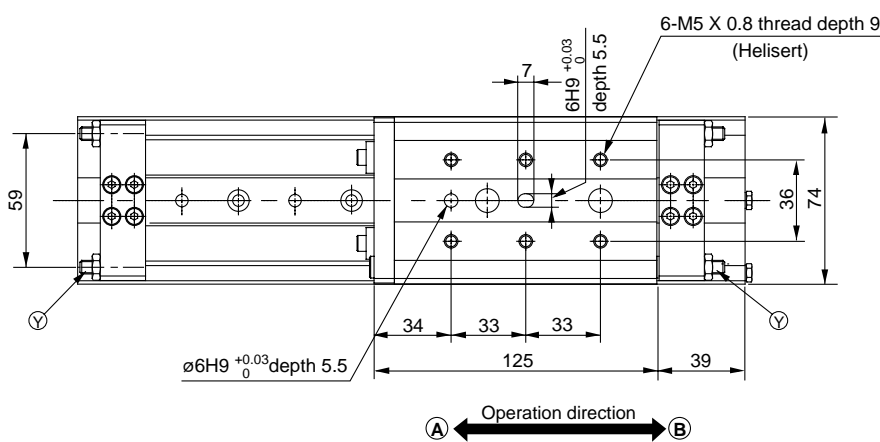
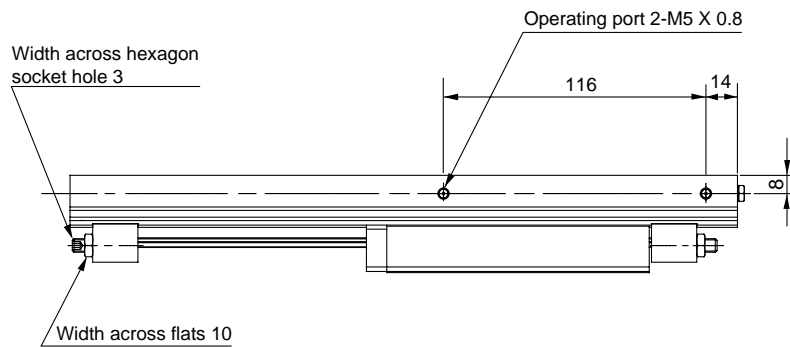
Model	E	F	G	GG	H	J	K	L	N	Z
<b>MXW12-100</b>	91	123	82.5	30	35	114	35	51	5	280
<b>MXW12-125</b>	111	158	102.5	32.5	35	137	60	76	6	330
<b>MXW12-150</b>	136	182	127.5	47.5	40	164	85	101	6	380

MXW12-100.....SMXW12B, #1(#1+#7)  
 MXW12-125.....SMXW12B, #2(#2+#8)  
 MXW12-150.....SMXW12B, #3(#3+#9)

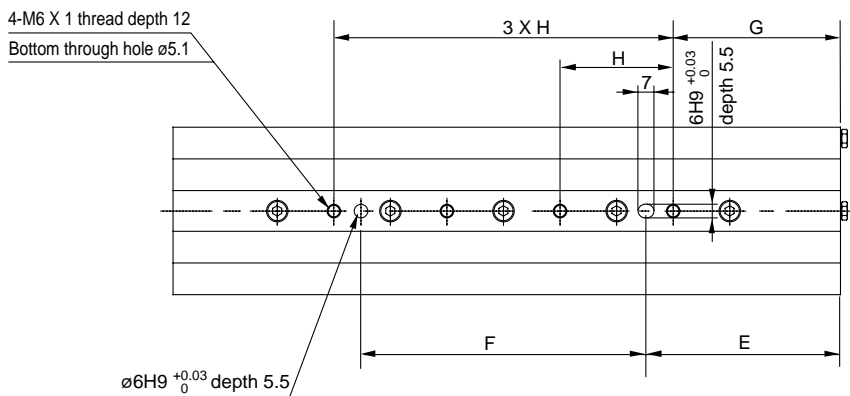


# Series MXW

MXW 16/Stroke: 75, 100mm



Cross section AA (scale 50%)



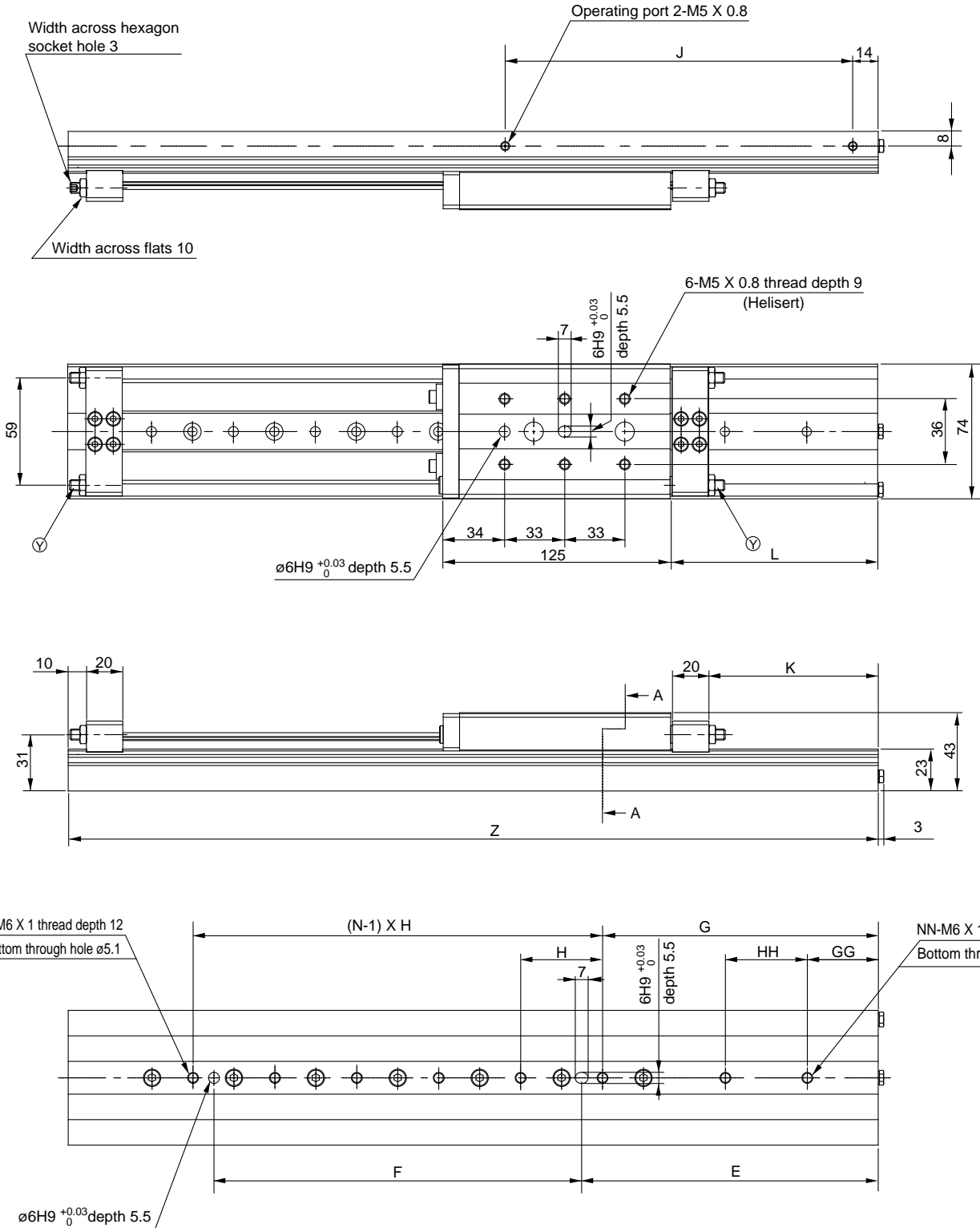
Model	E	F	G	H	Z
MXW16- 75	83	112	71.5	45	270
MXW16-100	86	126	74	50	295

With auto switch  
 MXW16-75.....SMXW16A, #1(#1+#7)  
 MXW16-100.....SMXW16A, #2(#2+#8)

Note) Adjuster bolt (Y) shown in the section above is attached only on B type (with shock absorber).

# Long Stroke Slide Table *Series MXW*

**MXW16**/Stroke: 125, 150, 175, 200mm



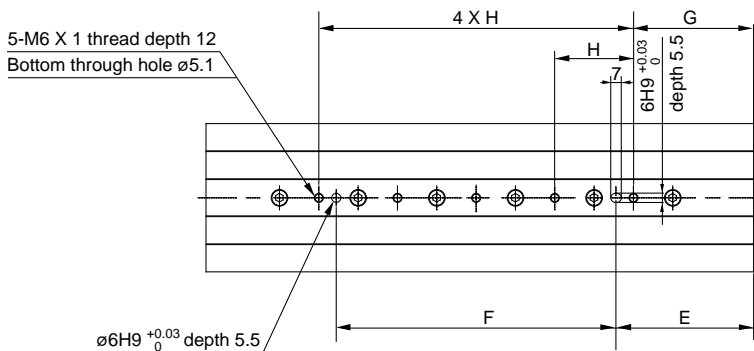
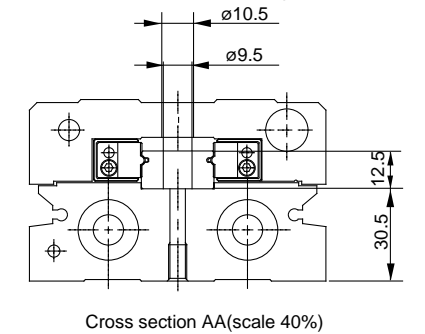
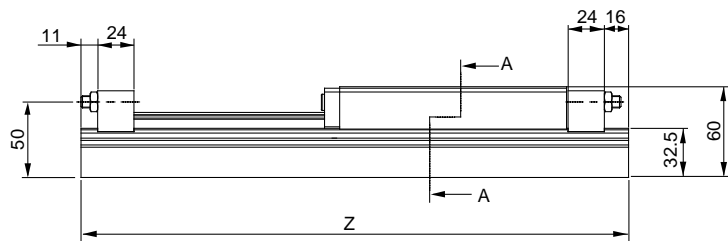
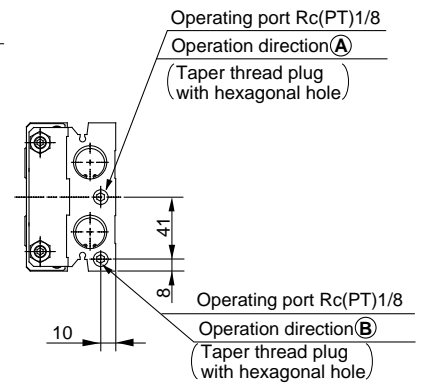
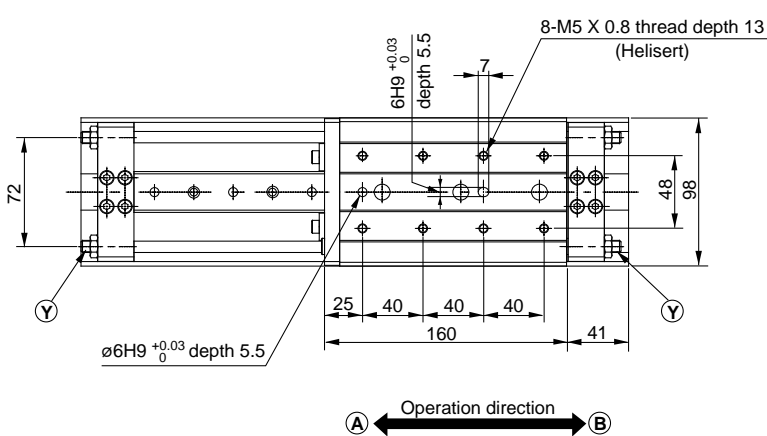
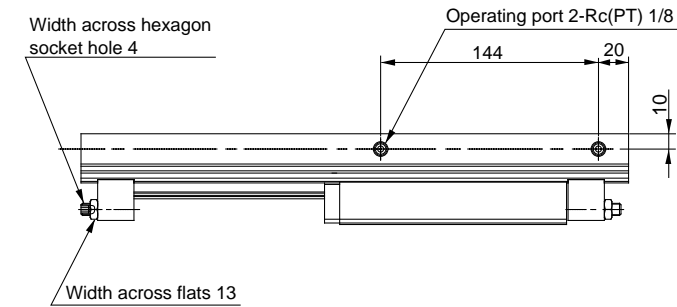
- CL
- MLGC
- CNA
- CB
- CV/MVG
- CXW
- CXS
- CXT
- MX
- MXU
- MXS
- MXQ
- MXF
- MXW**
- MXP
- MG
- MGP
- MGQ
- MGG
- MGC
- MGF
- CY1
- MY1

Model	E	F	G	GG	H	HH	J	K	L	N	NN	Z
<b>MXW16-125</b>	110	157	99	31.5	45	—	141	43	64	5	1	345
<b>MXW16-150</b>	136	176	124	24	50	—	166	68	89	5	1	395
<b>MXW16-175</b>	163	202	151.5	39	45	45	191	93	114	6	2	445
<b>MXW16-200</b>	186	226	174	24	50	50	216	118	139	6	2	495

With auto switch  
MXW16-125.....SMXW16A, #3(#3+#9)

# Series MXW

MXW 20/stroke: 100, 125mm



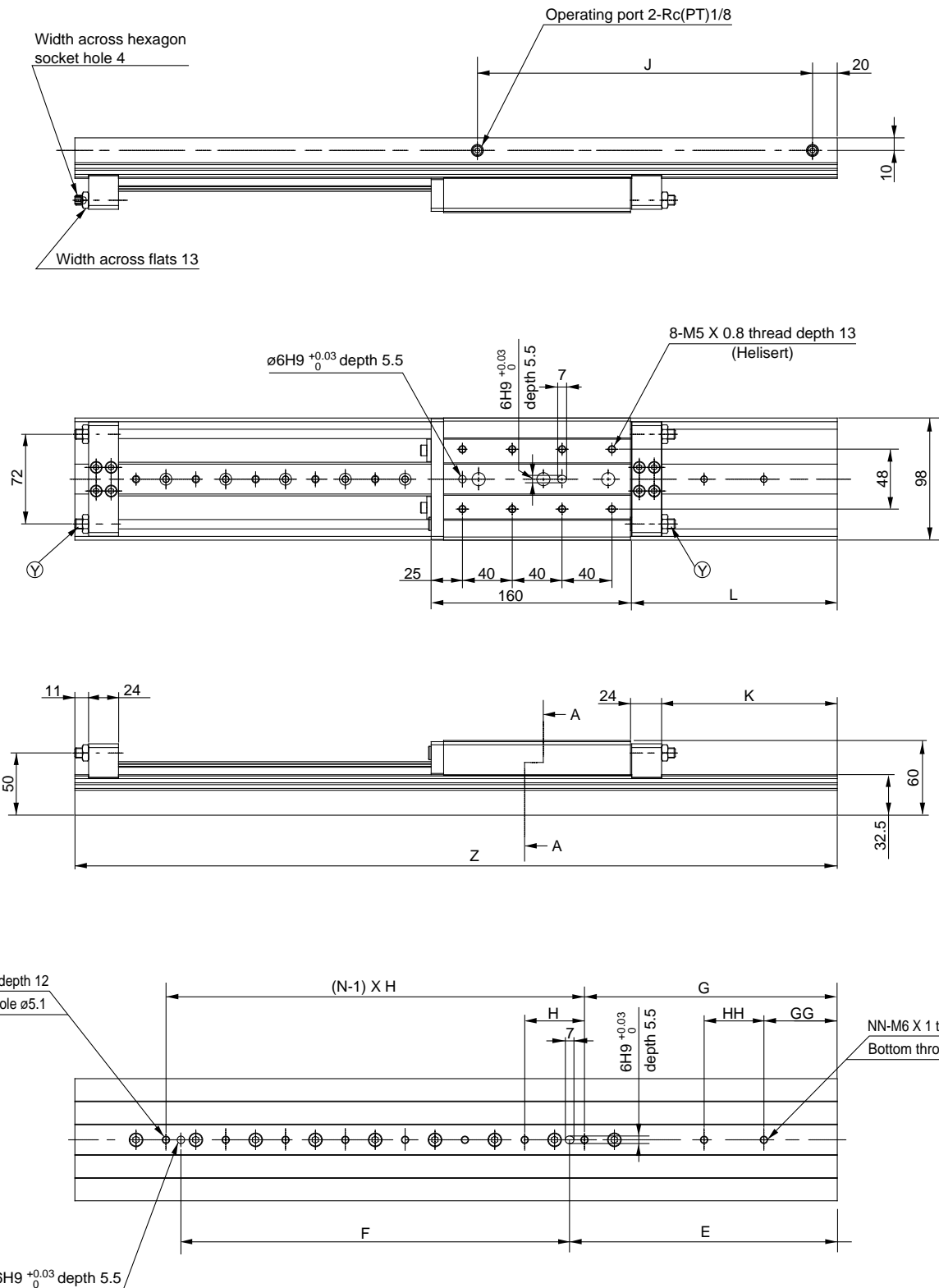
Mdel	E	F	G	H	Z
<b>MXW20-100</b>	87	168	75	48	337
<b>MXW20-125</b>	91	185	79.5	52	362

With auto switch  
 MXW20-100.....SMXW20A, #1(#1+#5)  
 MXW20-125.....SMXW20A, #2(#2+#6)

Note) Adjuster bolt (Y) shown in the section above is attached only on B type (with shock absorber).

# Long Stroke Slide Table *Series MXW*

**MXW 20/**Stroke: 150, 175, 200, 225, 250mm



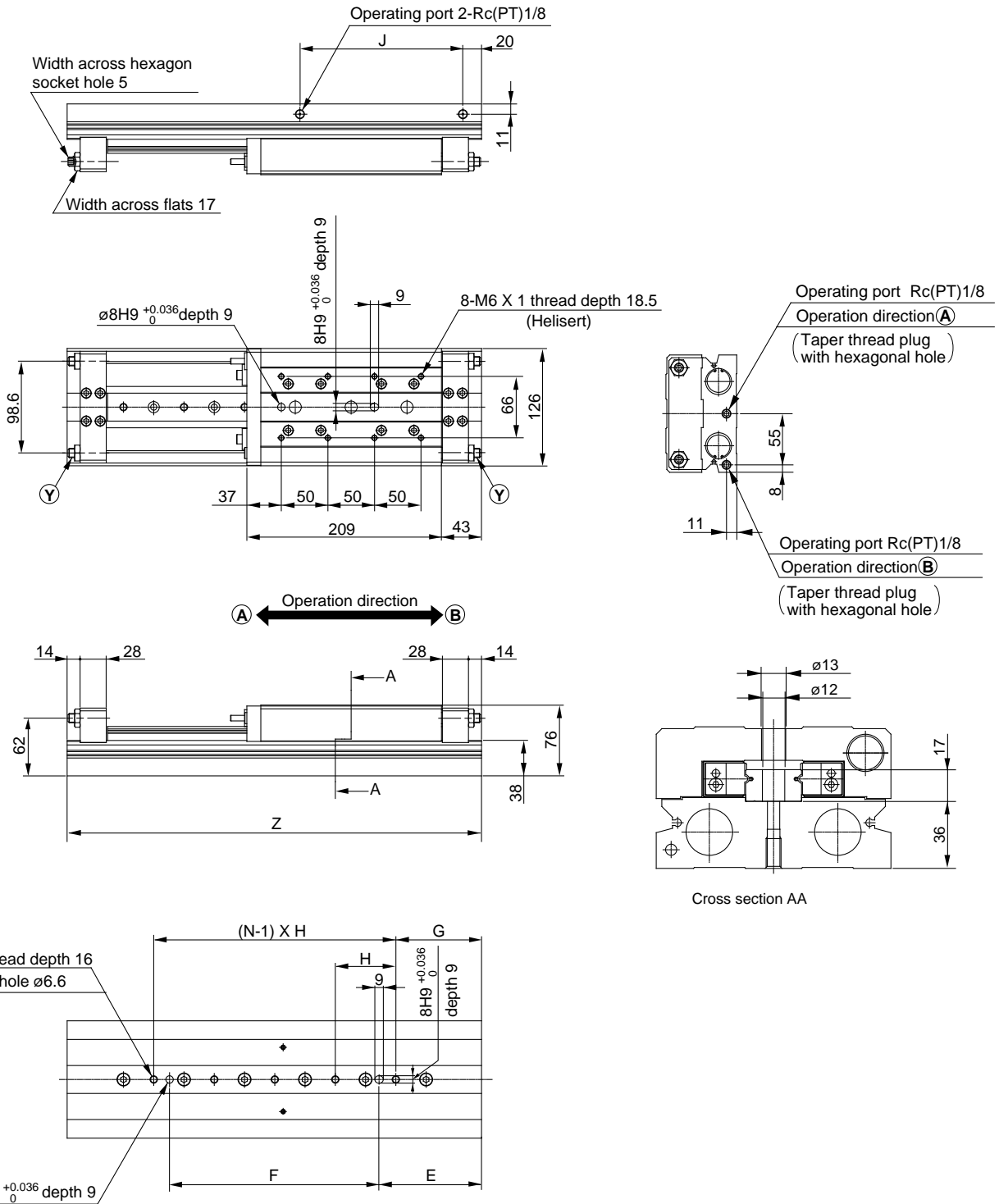
- CL
- MLGC
- CNA
- CB
- CV/MVG
- CXW
- CXS
- CXT
- MX
- MXU
- MXS
- MXQ
- MXF
- MXW**
- MXP
- MG
- MGP
- MGQ
- MGG
- MGC
- MGF
- CY1
- MY1

Model	E	F	G	GG	H	HH	J	K	L	N	NN	Z
<b>MXW20-150</b>	113	216	101	29	48	—	169	41	66	6	1	412
<b>MXW20-175</b>	140	237	128.5	50.5	52	—	194	66	91	6	1	462
<b>MXW20-200</b>	164	264	152	56	48	—	219	91	116	7	1	512
<b>MXW20-225</b>	189	288	177.5	73.5	52	—	244	116	141	7	1	562
<b>MXW20-250</b>	215	312	203	59	48	48	269	141	166	8	2	612

With auto switch  
 MXW20-150.....SMXW20B, #1(#1+#5)  
 MXW20-175.....SMXW20B, #2(#2+#6)

# Series MXW

**MXW 25/**Stroke: 100, 125, 150mm

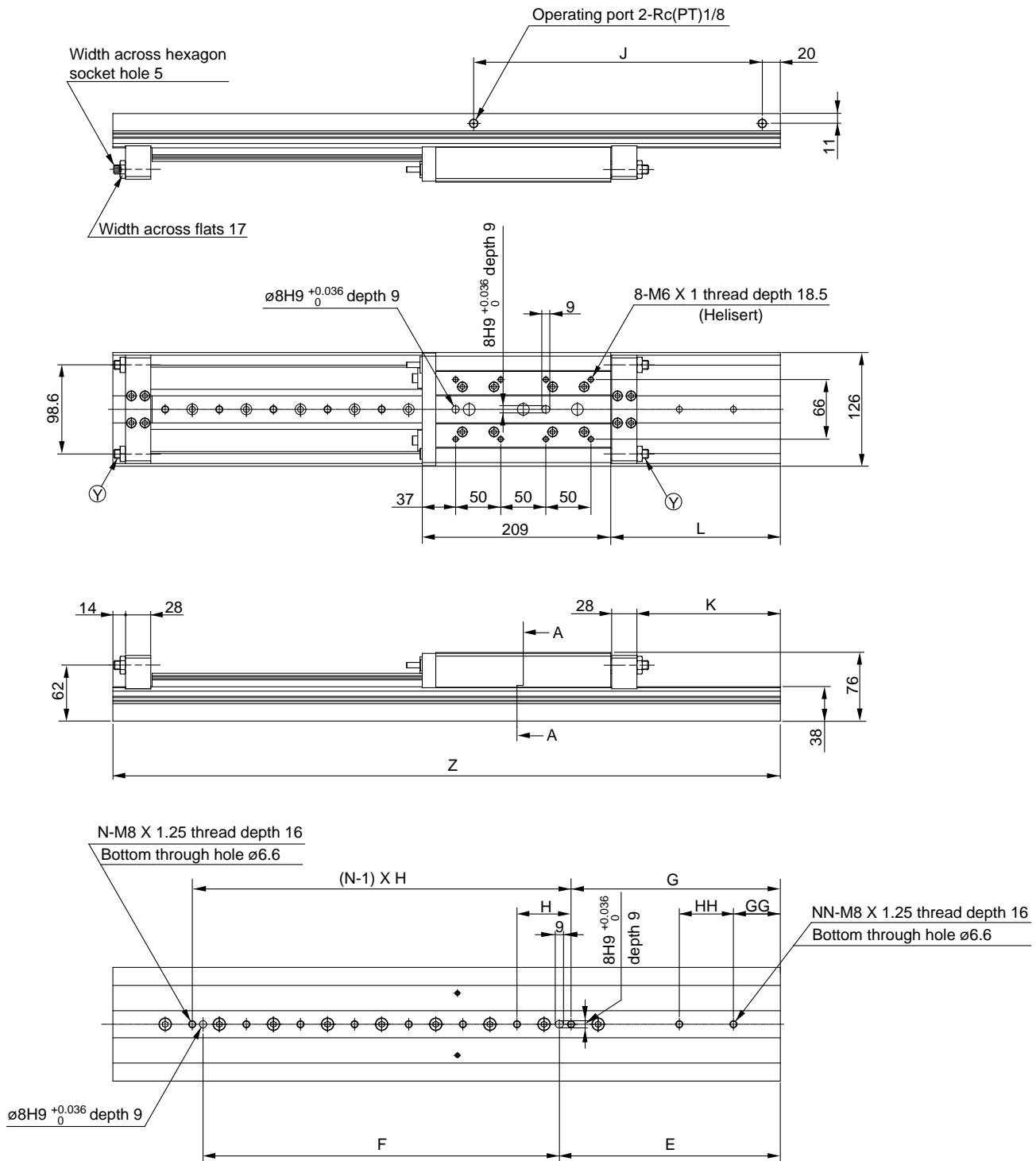


Model	E	F	G	H	J	N	Z
<b>MXW25-100</b>	115	165	100	65	165	4	395
<b>MXW25-125</b>	105	210	90	60	180	5	420
<b>MXW25-150</b>	110	225	92	65	180	5	445

Note) Adjuster bolt (Y) shown in the section above is attached only on B type (with shock absorber).

# Long Stroke Slide Table *Series MXW*

**MXW 25/**Stroke: 175, 200, 225, 250, 275, 300mm

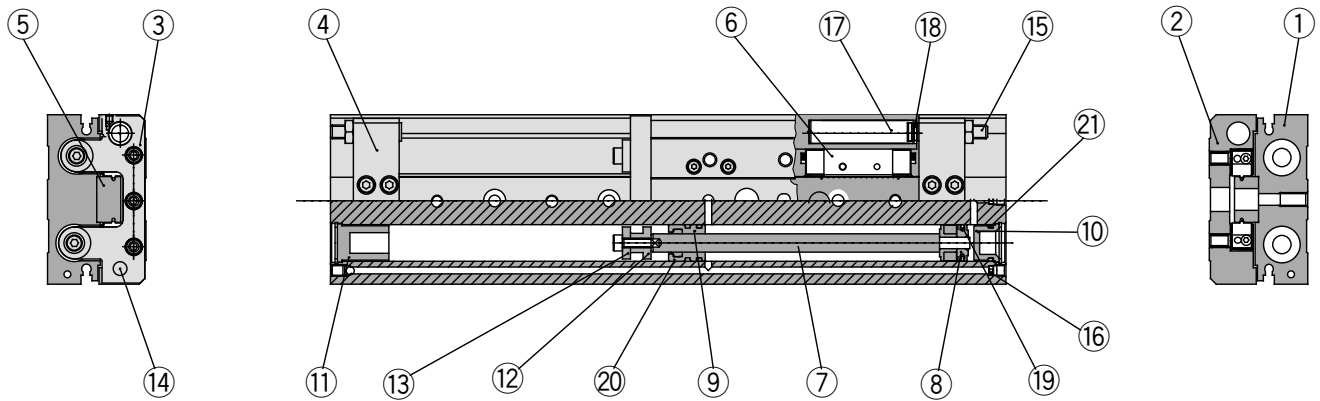


- CL
- MLGC
- CNA
- CB
- CV/MVG
- CXW
- CXS
- CXT
- MX
- MXU
- MXS
- MXQ
- MXF
- MXW**
- MXP
- MG
- MGP
- MGQ
- MGG
- MGC
- MGF
- CY1
- MY1

Model	E	F	G	GG	H	HH	J	K	L	N	NN	Z
<b>MXW25-175</b>	120	270	105	—	60	—	195	34	63	6	—	490
<b>MXW25-200</b>	155	275	142	—	60	—	225	59	88	6	—	540
<b>MXW25-225</b>	175	305	165	55	55	—	245	84	113	7	1	590
<b>MXW25-250</b>	200	335	187	67	60	—	275	109	138	7	1	640
<b>MXW25-275</b>	225	360	210	80	65	—	300	134	163	7	1	690
<b>MXW25-300</b>	245	395	232	52	60	60	320	159	188	8	2	740

# Series MXW

## Construction



### Component Parts

No.	Description	Material	Note
①	Body	Aluminum alloy	Hard anodized
②	Table	Aluminum alloy	Hard anodized
③	End plate	Aluminum alloy	Hard anodized
④	Stroke adjuster block	Aluminum alloy	Hard anodized
⑤	Rail	High carbon chrom bearing steel	Heat treatment
⑥	Guide block	High carbon chrom bearing steel	Heat treatment
⑦	Rod	Stainless steel	
⑧	Piston Assembly	—	With magnet
⑨	Rod cover	Aluminum alloy	
⑩	Head cap	Resin	
⑪	End cap	Resin	
⑫	Floating bushing A	Stainless steel	
⑬	Floating bushing B	Stainless steel	
⑭	Stopper	Stainless steel	Heat treatment
⑮	Stroke adjuster bolt	Carbon steel	Electroless nickel plated, Heat treatment
⑯	Orifice	Brass	Electroless nickel plated
⑰	Absorber shaft	Aluminum alloy	Chromated
⑱	Adjust bumper	Polyurethane	
⑲	Piston seal	NBR	
⑳	Rod seal	NBR	
㉑	O ring	NBR	

### Replacement Parts: Seal kits

Bore size	Kit No.	Contents
8	MXW8-PS	Set of above ⑲, ⑳ and ㉑
12	MXW12-PS	
16	MXW16-PS	
20	MXW20-PS	
25	MXW25-PS	

\*The seal kit includes ⑲ piston seal, ⑳ rod seal and ㉑ O ring.  
Order a seal set according to applicable bore size.

## Solid-state Auto Switches for Direct Mounting Series D-M9N(V)/D-M9P(V)/D-M9B(V)



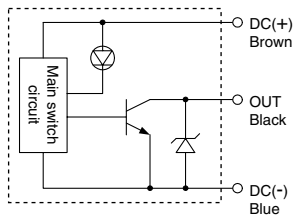
### Grommet

- Reduced load currents for two-wire model (2.5 to 40 mA)
- Compliance with lead-free requirements
- Use of UL-approved lead wires (style 2844)

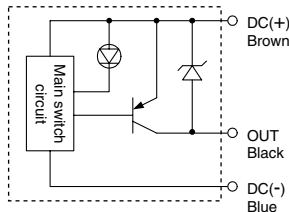


### Internal circuits

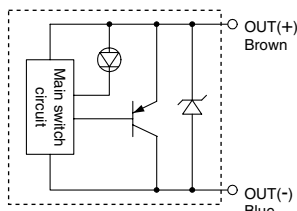
#### D-M9N/M9NV



#### D-M9P/M9PV



#### D-M9B/M9BV



### Auto Switch Specifications

PLC: Programmable Logic Controller

D-M9□/D-M9□V (with Indicator light)						
Model number	D-M9N	D-M9NV	D-M9P	D-M9PV	D-M9B	D-M9BV
Electrical entry	In-line	Perpendicular	In-line	Perpendicular	In-line	Perpendicular
Wiring	Three-wire			Two-wire		
Output	NPN		PNP		—	
Applicable load	Integrated circuit, relay and PLC				24 V DC relay and PLC	
Power voltage	5, 12, or 24 V DC (4.5 to 28 V DC)				—	
Current consumption	10 mA or less				—	
Load voltage	28 V DC or less		—		24 V DC (10 to 28 V DC)	
Load current	40 mA or less				2.5 to 40 mA	
Internal voltage drop	0.8 V or less				4 V or less	
Leakage current	100 μA max. at 24 V DC				0.8 mA or less	
Indicator light	Red LED lights when ON.					

- Lead wire: oil-proof heavy-duty vinyl cable  
2.7 x 3.2 with elliptic cross-section, 0.15 mm<sup>2</sup>, two cores (D-M9B),  
or three cores (D-M9N and D-M9P)

### Solid state switch specifications

Leakage current	3-wire: 100 μA or less; 2-wire: 0.8 mA max.
Operating time	1 ms or less
Impact resistance	1000 m/s <sup>2</sup>
Insulation resistance	50 MΩ or more at 500 V DC (between lead wire and case)
Withstand voltage	1000 V AC for 1 min. (between lead wire and case)
Ambient temperature	-10°C to 60°C
Enclosure	IEC529 standard IP67, JIS C 0920 watertight construction

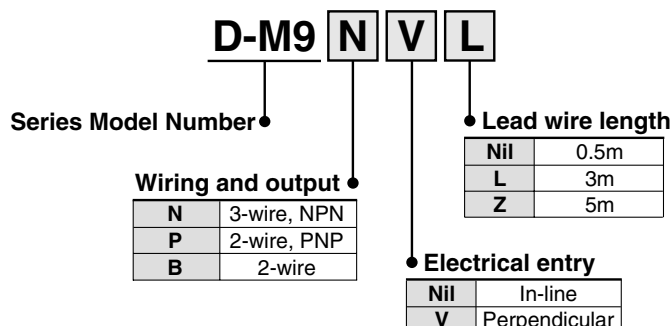
### Weight

Unit: g

Model	D-M9N(V)	D-M9P(V)	D-M9B(V)
Lead wire length (m)	0.5	8	7
	3	41	38
	5	68	63

### How to Order

#### Standard Model Number

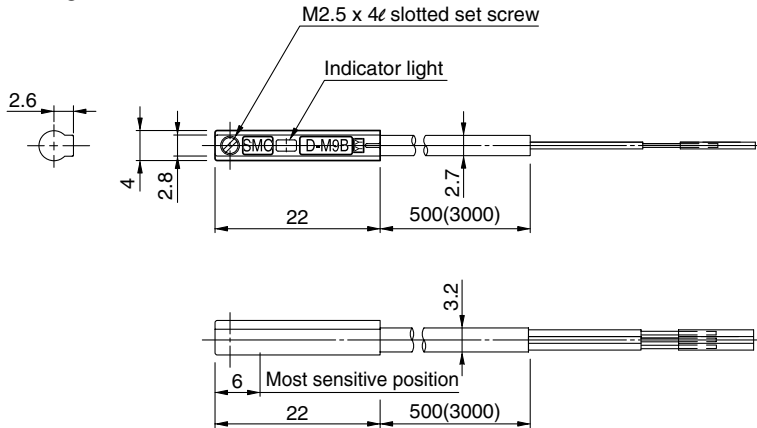




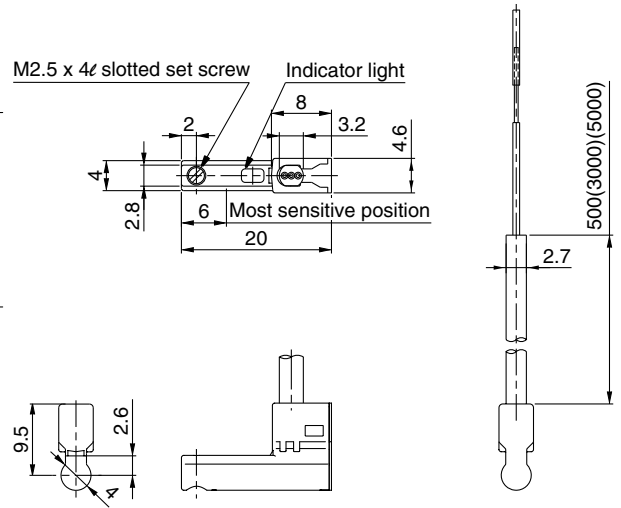
# Series D-M9

## Auto Switch Dimensions

### D-M9□



### D-M9□V



## ⚠ Specific Product Precautions

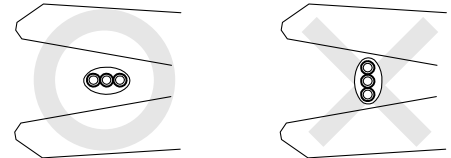
Be sure to read before handling. Contact SMC when the required specification is out of range.

### Handling

## ⚠ Caution

Observe the following precautions when handling the product.

- The D-M9 series of auto switches is not overcurrent-protected. Faulty wiring or short circuit may result in breakage or burning-out of the switch.
- When stripping the cable clad, be careful about the orientation of the cable being stripped. The insulator may be accidentally torn or damaged depending on the orientation, as shown on the right.



- We recommend the following tools

Manufacturer	Product name	Product number
VESSEL	Wire stripper	No 3000G
Tokyo Ideal	Strip master	45-089

\* The stripper for the round shape cords (ø2.0) is for a 2-wire style.

- Please do not attach the switch with any other screws than those already attached to the auto switch body.

## The operation range is shorter than that of the conventional models.

If the auto switch replaces the conventional model, it may not function depending on its application because the operation range is shorter. Refer to the examples below.

- In an application where at the end, the stopping position shifting range is larger than the operation range.**  
For example, pushing a work against something, or pressing a work into a hole, or clamping a work.
- In an application where the auto switch is used to detect an intermediate stopping position. (Detecting time is shortened.)**

Note) Please contact SMC for the operation range details for each actuator.

The switch is damaged instantly when a load is shortened since short circuit protection is not built-in. Pay special attention to avoid reversing the connection of the brown lead of the power supply line and the black output line connection.