

Shuttle mover standard/high load

SM-25 Series

Air-driven three-dimensional P&P system that enables flexible layout



Specifications

Model No.	Standard	High load
Item		
Working fluid	Compressed air	
Max. working pressure MPa	0.6 (≈87 psi, 6 bar)	
Min. working pressure MPa	0.3 (≈44 psi, 3 bar)	
Ambient temperature °C	5 (41°F) to 40 (104°F)	
Bore size mm	ø25	
Port size	Rc3/8	
Magnet holding force N	120	240
Max. load capacity kg	2 (total load weight to be mounted)	4 (total load weight to be mounted)
Max. transporting distance m	20	
Stroke end adjustment length mm	±10	
Cushion	Rubber cushion	
Carrier	Shock absorber	
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)	

Weight

Model	Weight (kg)	
	Standard	High load
Carrier	1	1.7
Rail end	2 x 2 pcs.	3.6 x 2 pcs.
Lateral curve unit 90°	4	Same as left
Lateral curve unit 45°	2.4	
Vertical (in) curve unit 90°	3	Same as left
Vertical (in) curve unit 45°	1.8	
Vertical (out) curve unit 90°	3	
Vertical (out) curve unit 45°	1.8	
Air supply unit (2 or 3 nozzles)	0.3 (end mount) x 2 pcs. 0.2 (carrier mount) x 2 pcs.	0.4 (end mount) x 2 pcs. 0.4 (carrier mount) x 2 pcs.
Air supply unit (4 nozzles)	1.6 (end mount) x 2 pcs. 0.3 (carrier mount) x 1 pcs.	Same as left
Joint	0.3	0.4
Straight unit	0.4 0.8 to 8	Same as left
	* Additional 0.4 per 100 mm of stroke length	

How to order

SM-25- ST-H 100

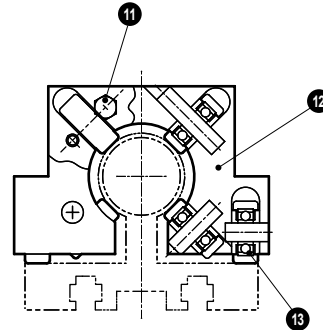
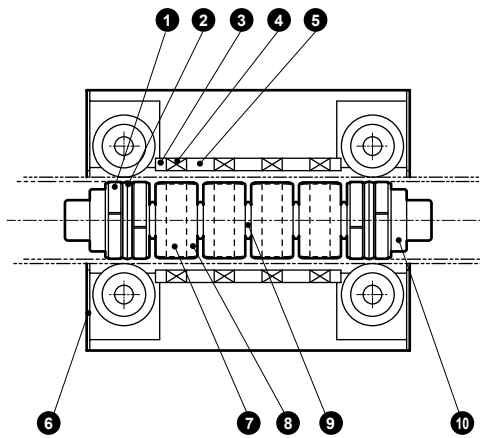
Model No.	Description	
	Standard	High load
CA	CA-H	Carrier
RE *1	RE-H *1	Rail end
ST	ST-H	Straight unit *2
SC90	SC-H90	Lateral curve unit 90°
SC45	SC-H45	Lateral curve unit 45°
VC90-IN	VC-H90-IN	Vertical (in) curve unit 90°
VC45-IN	VC-H45-IN	Vertical (in) curve unit 45°
VC90-OUT	VC-H90-OUT	Vertical (out) curve unit 90°
VC45-OUT	VC-H45-OUT	Vertical (out) curve unit 45°
PP *3	PP-H *4	Air supply unit
PR *5	PR-H *5	Air supply unit
RJ	RJ-H	Fitting

Stroke length (mm) *2
100 to 2000 *6

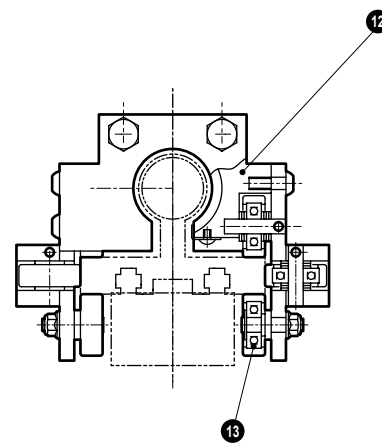
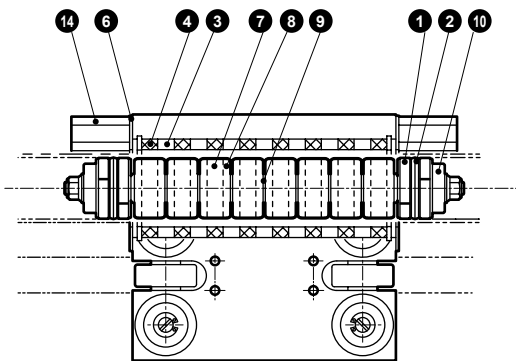
- *1: With 1 set of fittings (2 pcs.) and a shock absorber.
 - *2: It is necessary to provide instructions on the stroke length only with the straight unit.
 - *3: For 2 nozzles.
1 set includes 2 sets for the rail end and 2 sets for the carrier.
 - *4: For 3 nozzles.
1 set includes 2 sets for the rail end and 2 sets for the carrier.
 - *5: For 4 nozzles.
1 set includes 2 sets for the rail end and 1 set for the carrier.
 - *6: The max. stroke length is 2000 mm.
Standard products are available in 10 mm increments between 100 to 190 and 100 mm increments between 200 to 2000.
Available in 1 mm increments, as made to order.
 - *7: Each rail unit comes with 1 fitting.
- The SKH series of shock absorbing valves is recommended for the valves. Refer to "Pneumatic Valves (No. CB-023SA)" for details on the valves.

Internal structure and parts list ø25

● Carrier (CA)



● Carrier/high load (CA-H)



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Wear ring	Acetal resin		8	Interior/yoke	Steel	
2	Piston packing	Nitrile rubber		9	Flexible shaft	Nylon	
3	Exterior/outer yoke	Steel		10	Piston	Aluminum alloy	
4	Exterior/magnet	Rare-earth magnet		11	Stop pin	Steel	
5	Exterior/inner yoke	Steel		12	Housing	Aluminum alloy	
6	Side cover	Stainless steel		13	Roller	Polyurethane rubber	
7	Internal/magnet	Rare-earth magnet		14	Stopper bolt	Steel	

Repair parts list

Part name	Series	Set No.	Repair parts No.
Piston set	Standard	SM-25-CA-PS	1 2 7 8 9 10
	High load	SM-25H-CA-PS	1 2 7 8 9 10
Carrier set	Standard	SM-25-CA-S	3 4 5 6 11 12 13
	High load	SM-25H-CA-S	3 4 6 12 13 14
Packing set (*1)	Standard	SM-25-CA-PK	1 2
	High load		

*1: 4 wear rings and 2-piston packings are included in the set.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

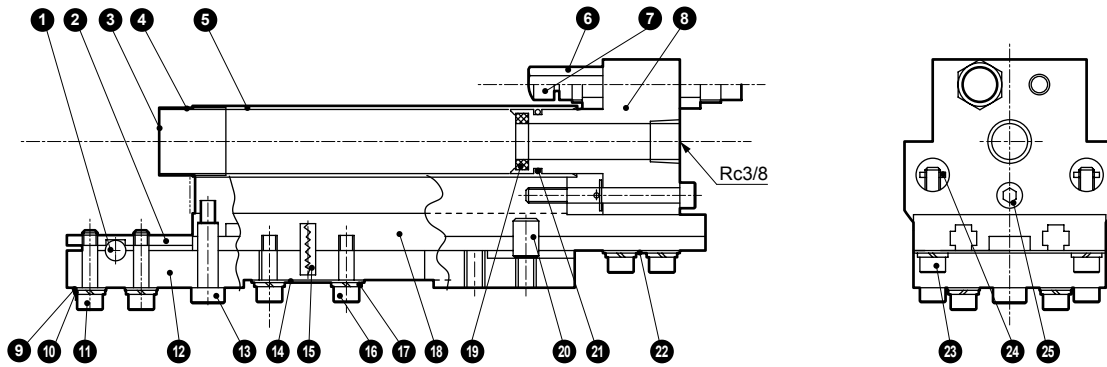
Spd
Contr

Ending

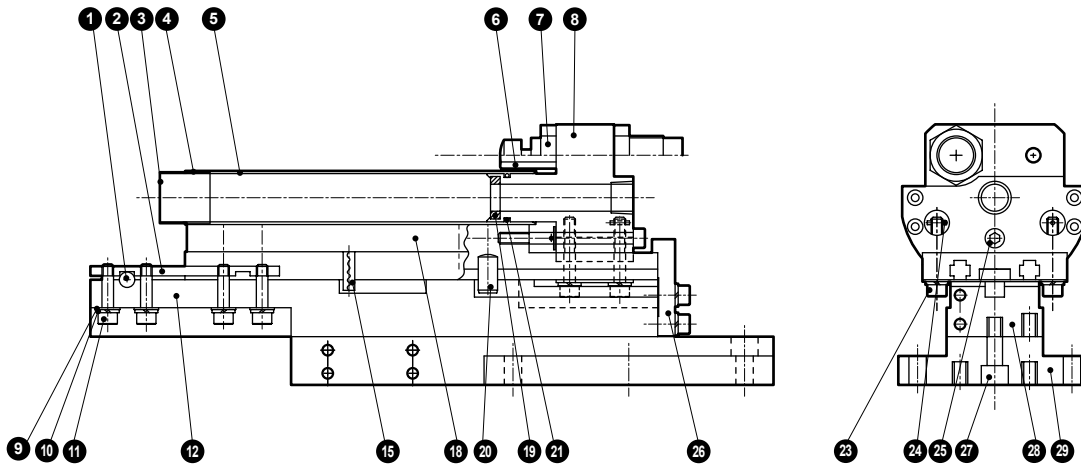
SM-25 Series

Internal structure and parts list

● Rail end (RE)



● Rail end/high load (RE-H)



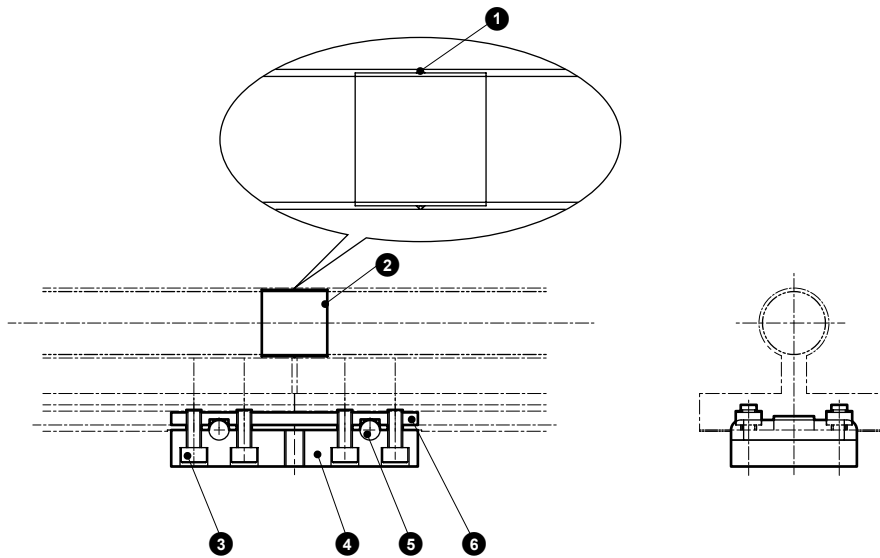
Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Positioning pin	Stainless steel		16	Hexagon socket head cap screw	Steel	
2	Flat nut	Steel		17	Spring washer	Steel	
3	Fitting sleeve	Stainless steel		18	End rail	Aluminum alloy	
4	Tube packing	Nitrile rubber		19	Cushion rubber	Synthetic rubber	
5	End pipe	Stainless steel		20	Pin	Steel	
6	Stopper bolt	Steel		21	O-ring	Nitrile rubber	
7	Shock absorber (Note)			22	Stopper washer	Stainless steel	
8	End block	Aluminum alloy		23	Safety bolt	Steel	
9	Plain washer	Steel		24	Spring pin	Stainless steel	
10	Spring washer	Steel		25	Adjusting bolt	Steel	
11	Hexagon socket head cap screw	Steel		26	Holding bracket	Steel	
12	Fitting plate	Aluminum alloy		27	Hexagon socket head cap screw	Steel	
13	Shoulder bolt	Steel		28	Fitting plate	Aluminum alloy	
14	Fixing washer	Stainless steel		29	End bracket	Aluminum alloy	
15	Spring pin	Stainless steel					

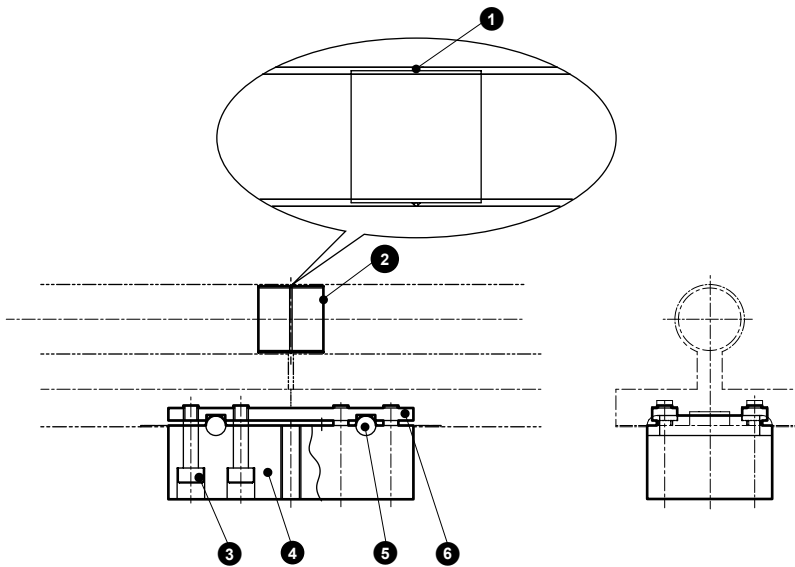
Note: 7 Shock absorber Standard NCK-00-2.6-C
High load NCK-00-7-C

Internal structure and parts list ø25

● Fitting (RJ)



● Fitting/high load (RJ-H)



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Tube packing	Nitrile rubber		4	Fitting plate	Aluminum alloy	
2	Fitting sleeve	Stainless steel		5	Positioning pin	Stainless steel	
3	Hexagon socket head cap screw	Steel		6	Connecting nut	Steel	

Repair parts list

Part name	Set No.	Repair parts No.
Gasket set (Note)	SM-25-RJ-GS	①
Grease	SM-25-GR	- 50g

Note: 10 pcs. are included in 1 set.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

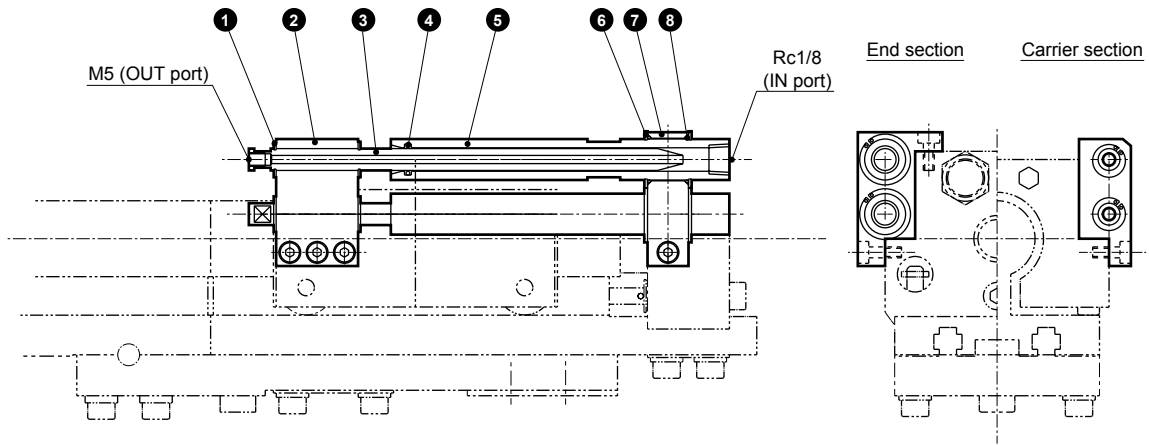
Spd
Contr

Ending

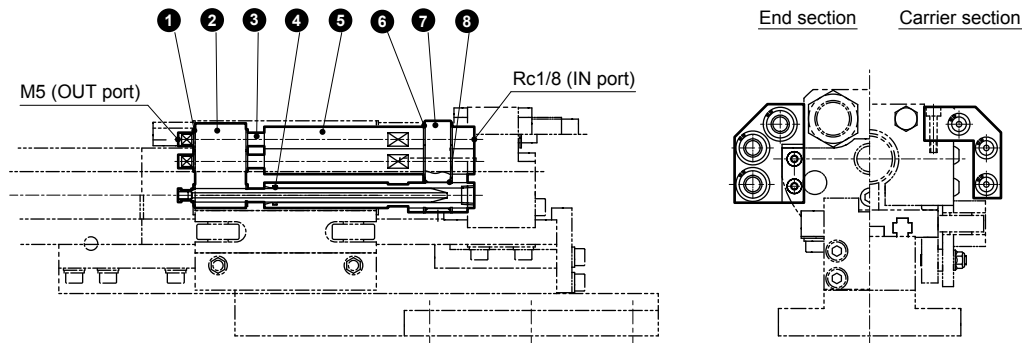
SM-25 Series

Internal structure and parts list ø25

● Air supply unit (PP)



● Air supply unit/high load (PP-H)

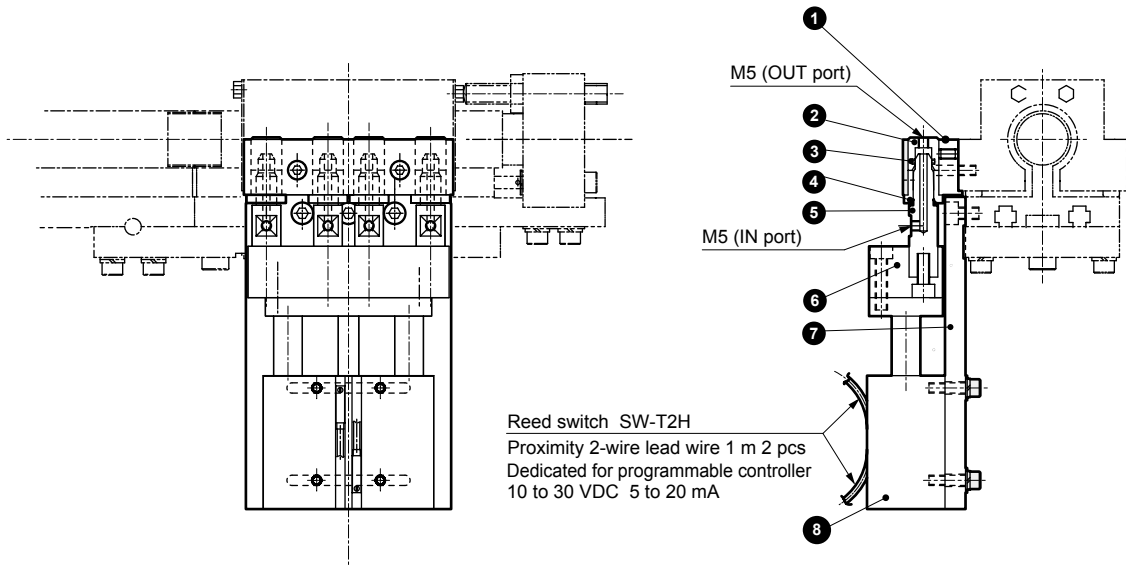


Parts list

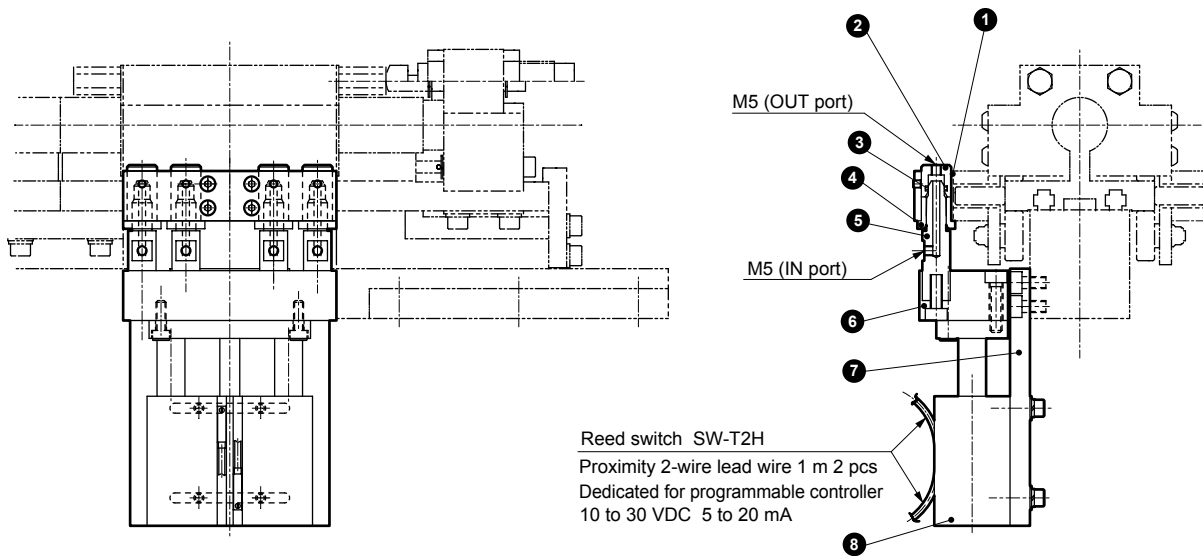
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	C type snap ring	Steel		5	Fixing nozzle	Steel	
2	Nozzle holder	Aluminum alloy		6	C type snap ring	Steel	
3	Nozzle	Steel		7	Fixing holder	Steel	
4	O-ring	Nitrile rubber		8	O-ring	Nitrile rubber	

Internal structure and parts list ø25

● Air supply unit (PR)



● Air supply unit/high load (PR-H)



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Bush holder	Aluminum alloy		6	Pin holder	Aluminum alloy	
2	Bush	Copper alloy		7	Mounting plate	Aluminum alloy	
3	O-ring	Nitrile rubber		8	Air cylinder	STS-M-20-25	
4	Positioning bush	Steel		9	Reed switch	SW-T2H	
5	Pin	Steel					

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

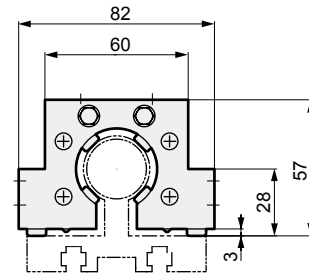
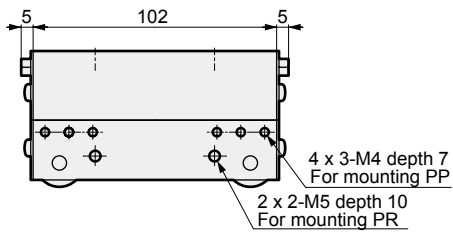
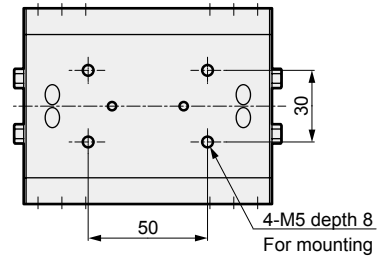
Spd
Contr

Ending

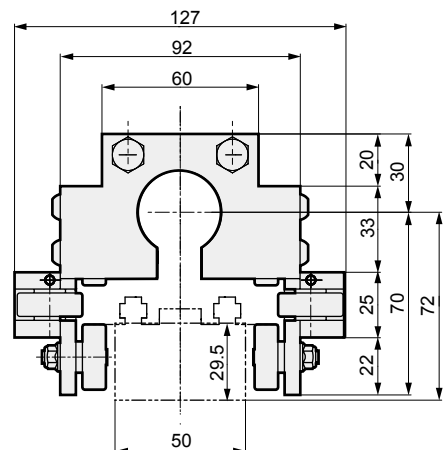
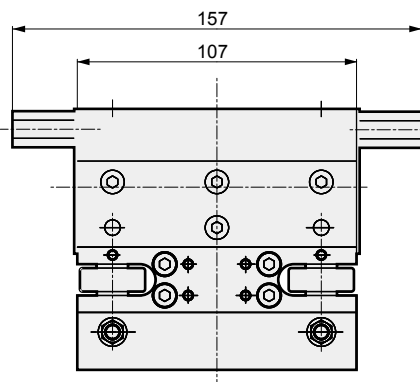
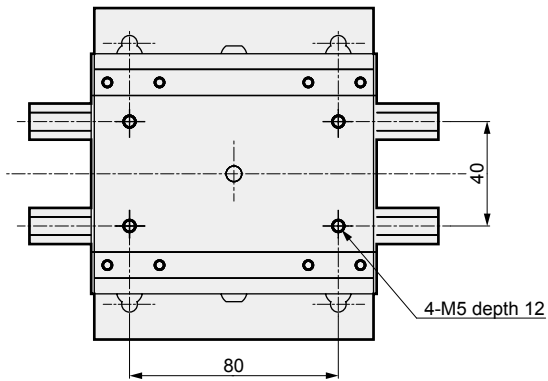
SM-25 Series

Dimensions

● Carrier (CA)



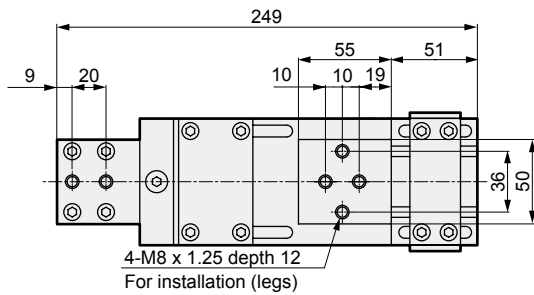
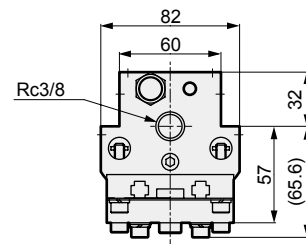
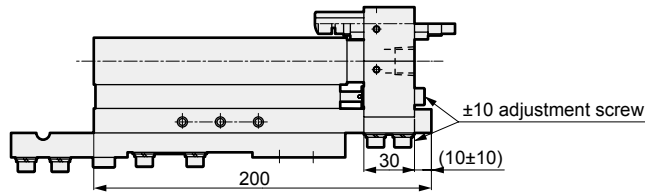
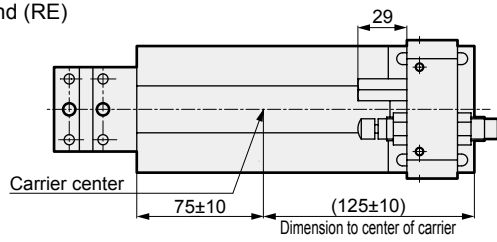
● Carrier/high load (CA-H)



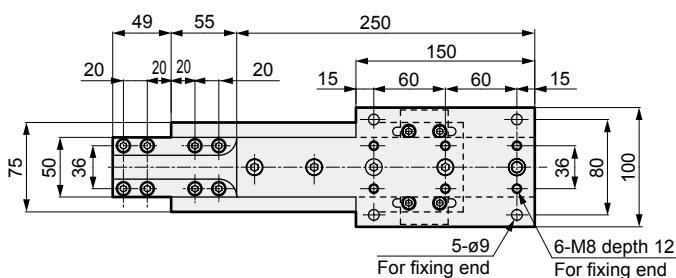
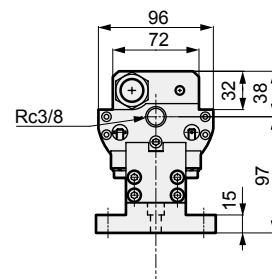
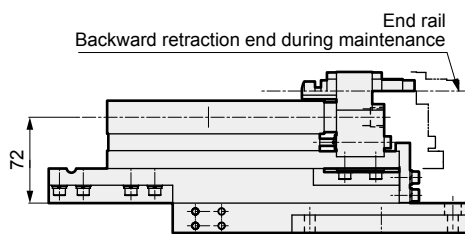
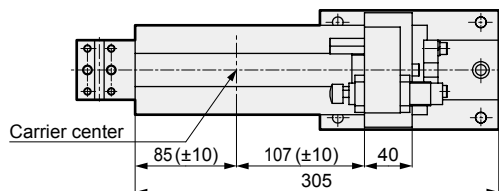
- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/
COVPIN2
- SSD2
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/
MSDG
- FC*
- STK
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25**
- ShkAbs
- FJ
- FK
- Spd
Contr
- Ending

Dimensions

● Rail end (RE)



● Rail end/high load (RE-H)



SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

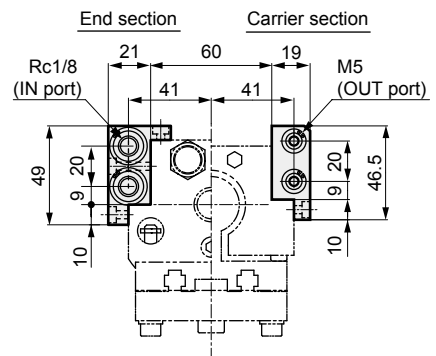
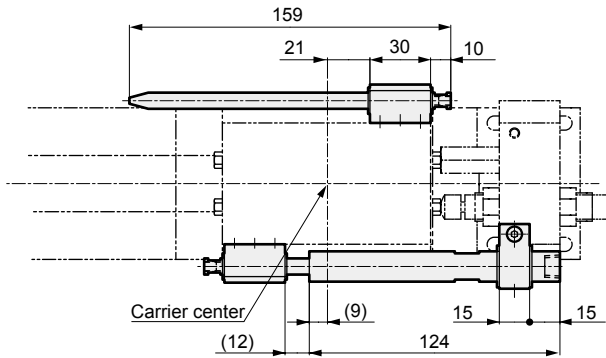
Spd
Contr

Ending

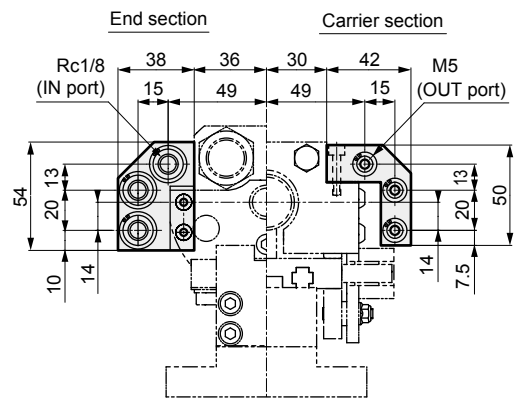
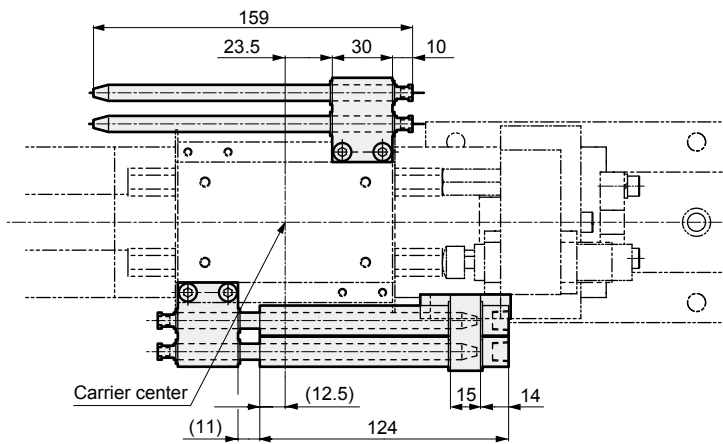
SM-25 Series

Dimensions

● Air supply unit (PP)

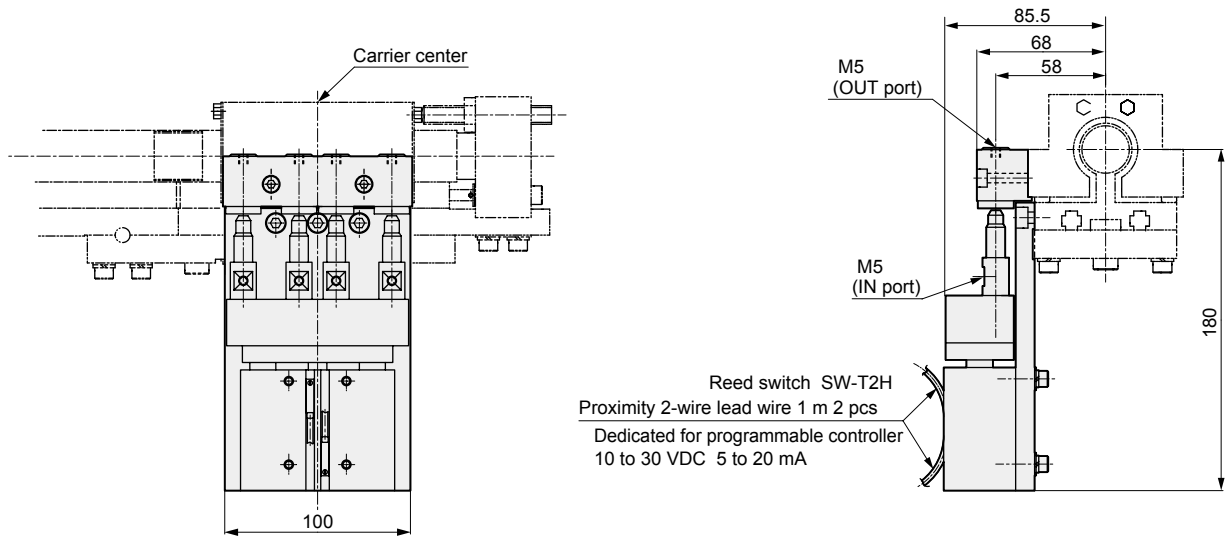


● Air supply unit/high load (PP-H)

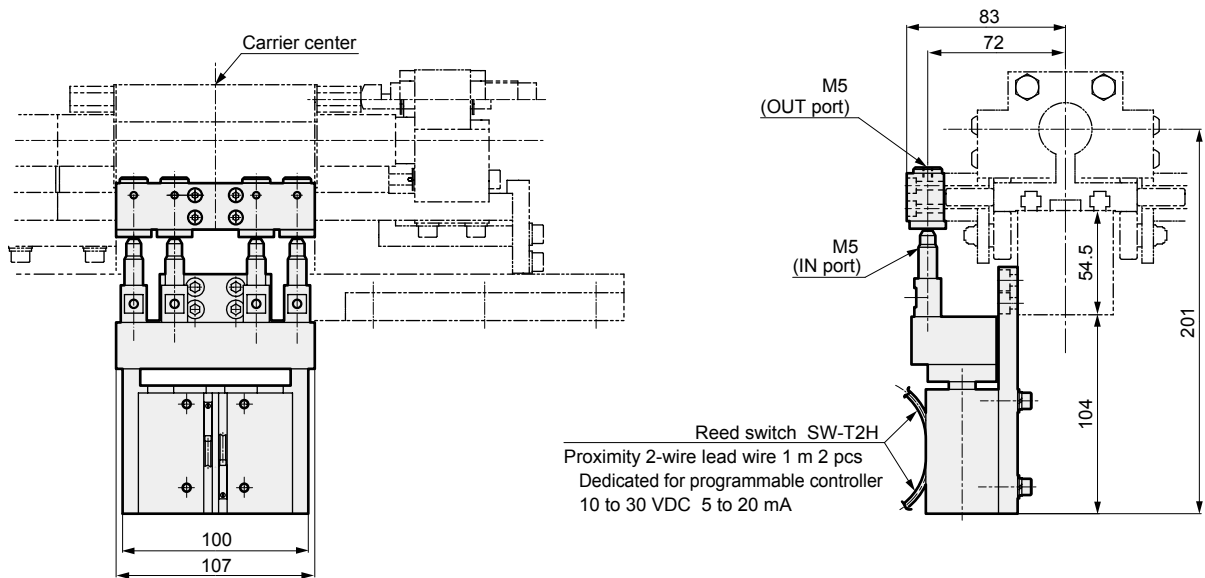


Dimensions

● Air supply unit (PR)



● Air supply unit/high load (PR-H)



SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

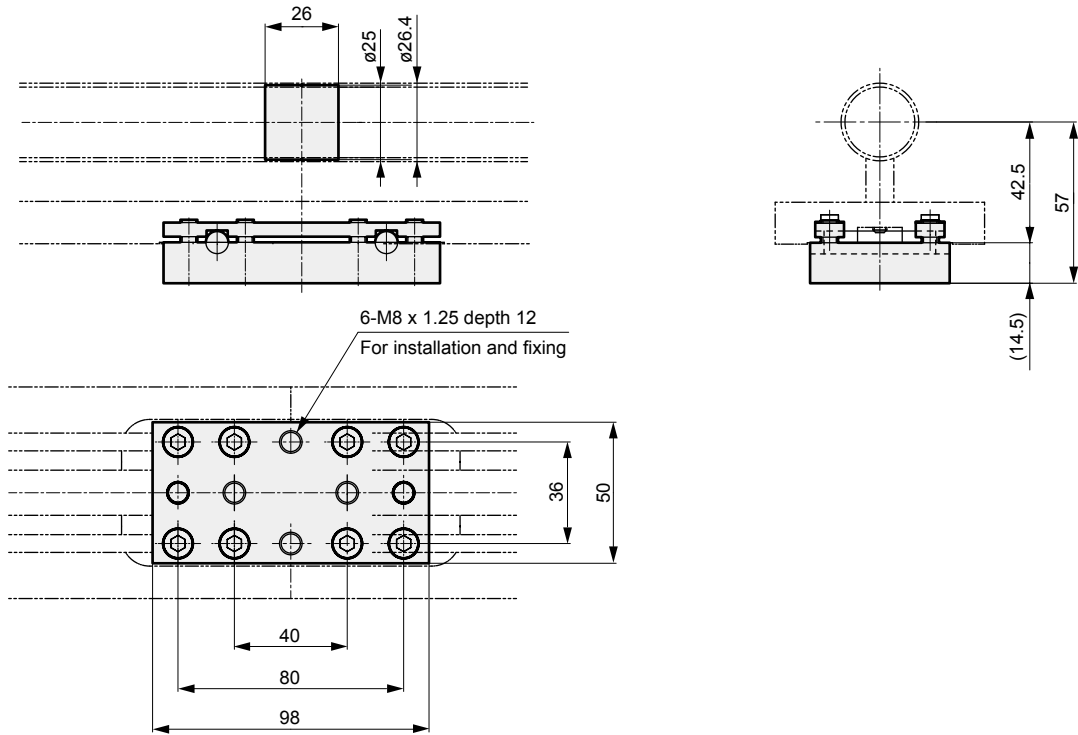
Ending

SM-25 Series

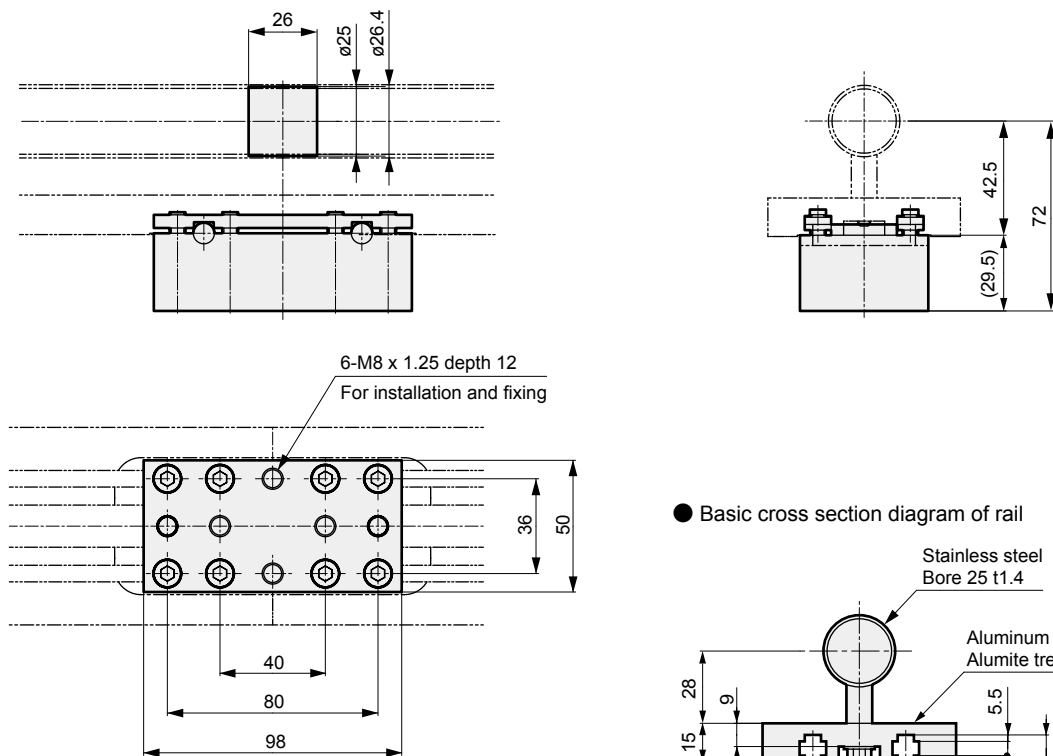
Dimensions

- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/
COVPIN2
- SSD2
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/
MSDG
- FC*
- STK
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25**
- ShkAbs
- FJ
- FK
- Spd
Contr
- Ending

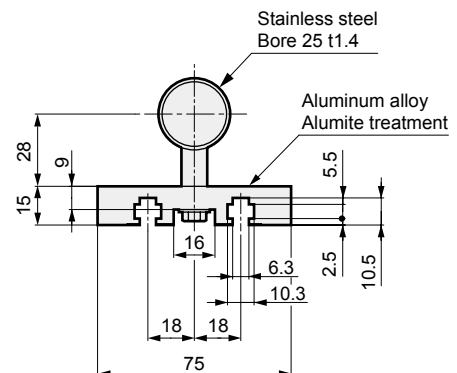
● Fitting (RJ)



● Fitting/high load (RJ-H)



● Basic cross section diagram of rail



MEMO

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

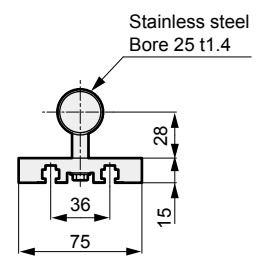
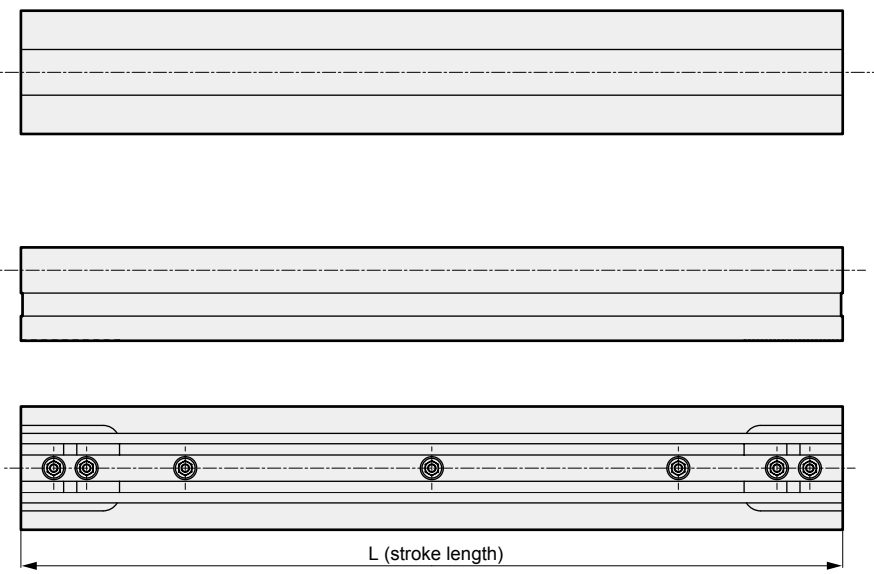
Ending

SM-25 Series

Dimensions Only the fittings change between ST (standard) and ST-H (high load). The dimensions of the body of the unit are identical.

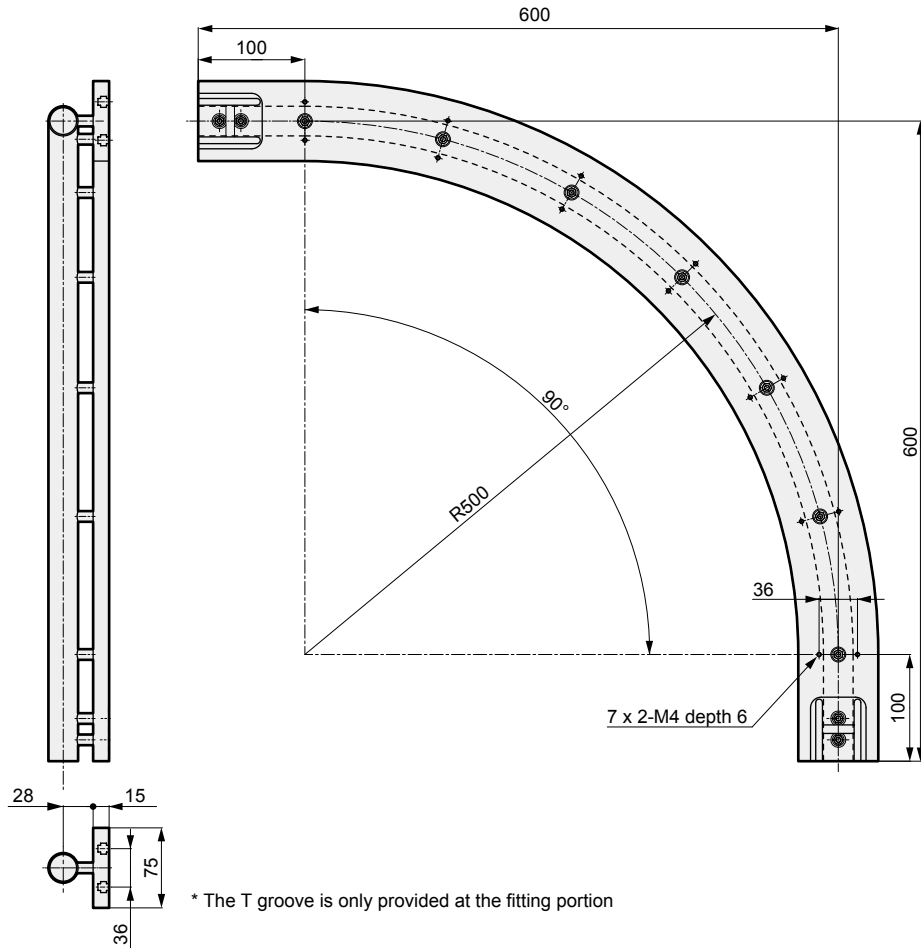
● Straight unit (ST)/high load (ST-H)

- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/
COVPIN2
- SSD2
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/
MSDG
- FC*
- STK
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25**
- ShkAbs
- FJ
- FK
- Spd
Contr
- Ending

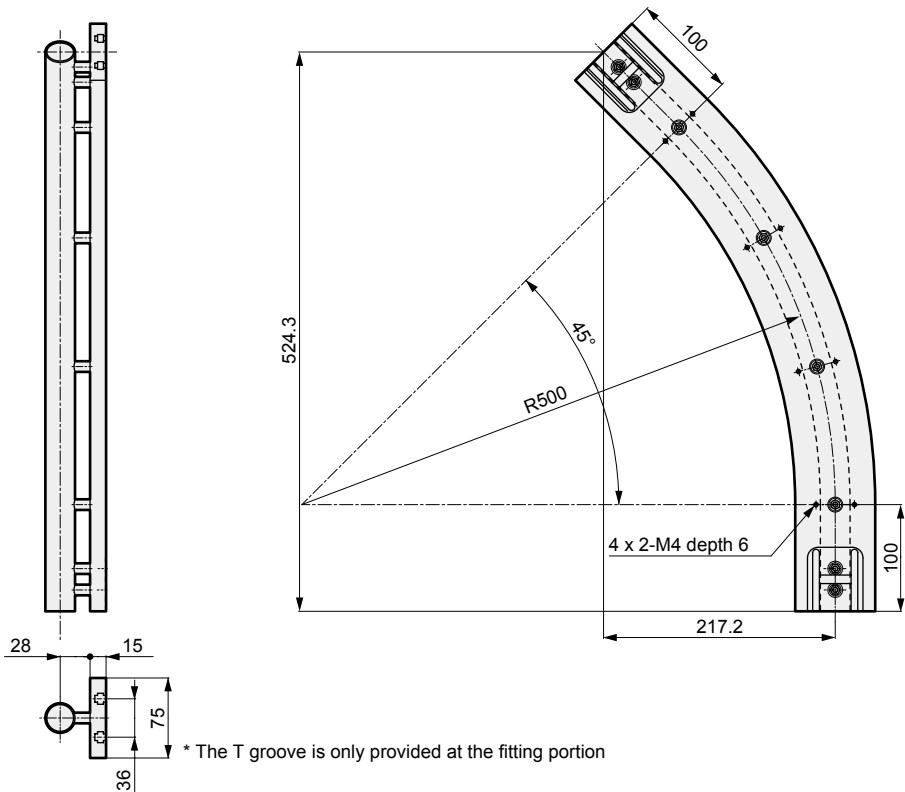


Dimensions Only the fittings change between ST (standard) and ST-H (high load). The dimensions of the body of the unit are identical.

● Lateral curve unit 90° (SC90)/high load (SC-H90)



● Lateral curve unit 45° (SC45)/high load (SC-H45)

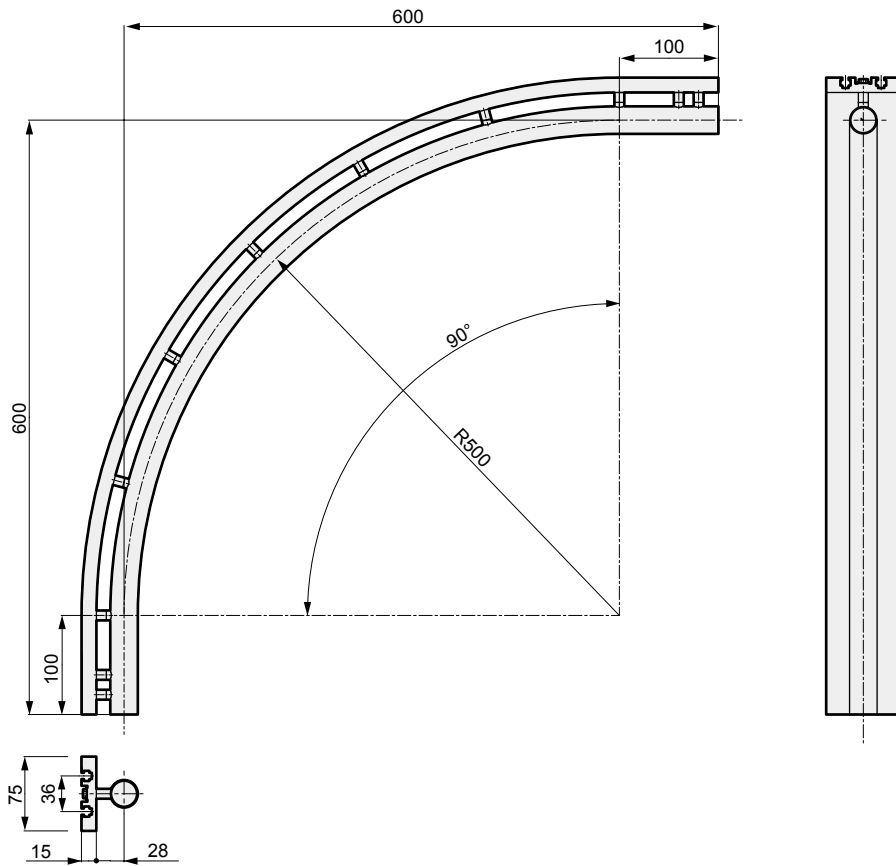


SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

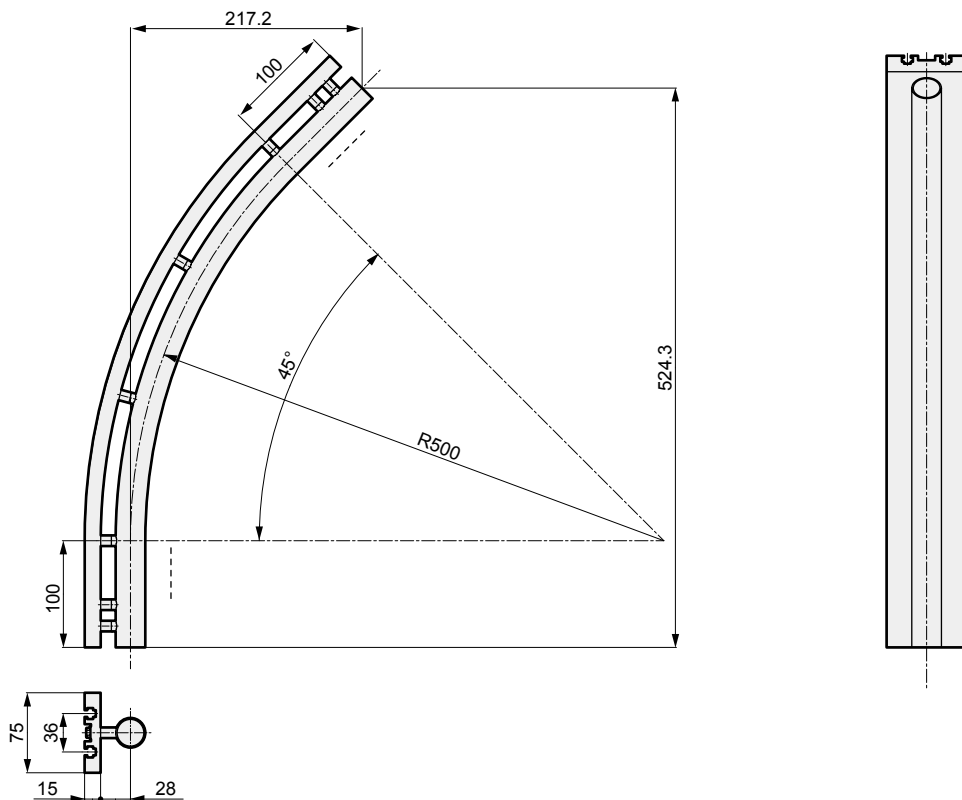
SM-25 Series

Dimensions Only the fittings change between ST (standard) and ST-H (high load). The dimensions of the body of the unit are identical.

● Vertical (in) curve unit 90° (VC-90-IN)/high load (VC-H90-IN)

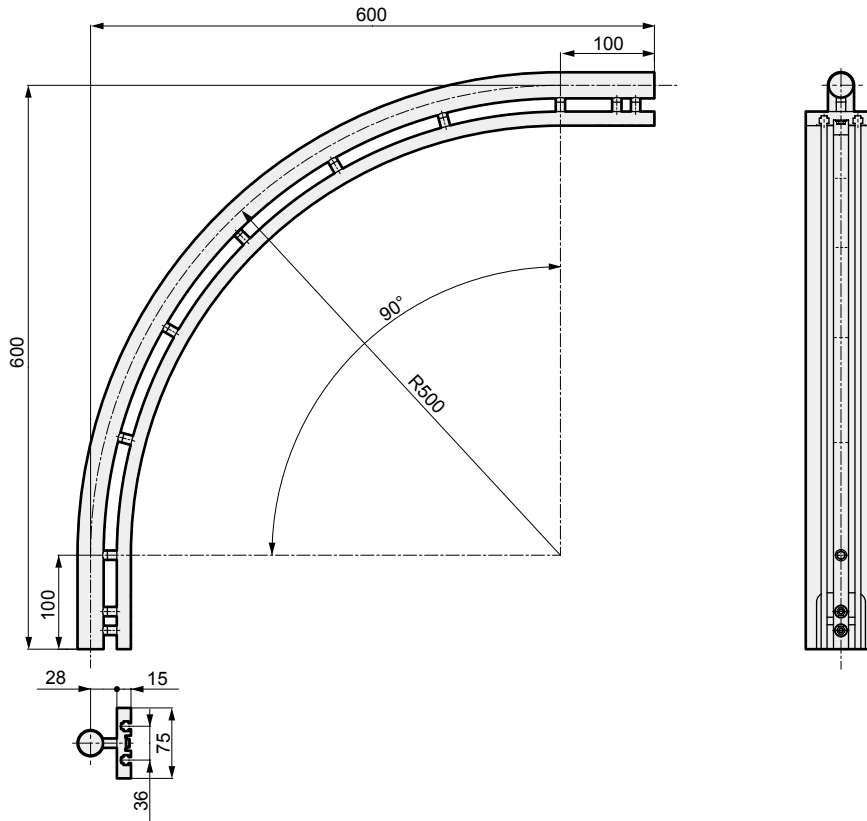


● Vertical (in) curve unit 45° (VC-45-IN)/high load (VC-H45-IN)

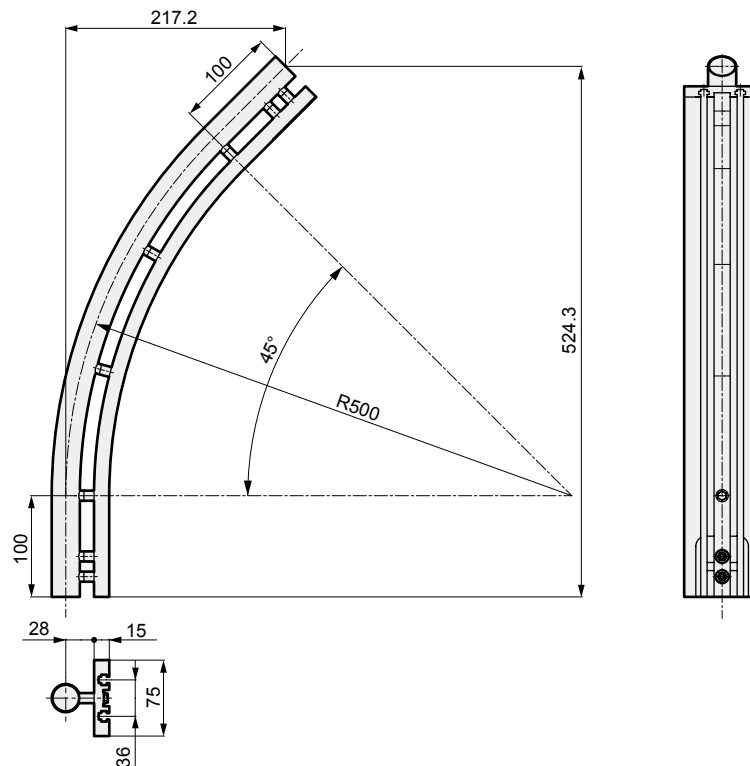


Dimensions Only the fittings change between ST (standard) and ST-H (high load). The dimensions of the body of the unit are identical.

- Vertical (out) curve unit 90° (VC-90-OUT)/high load (VC-H90-OUT)



- Vertical (out) curve unit 45° (VC-45-OUT)/high load (VC-H45-OUT)



SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending