

More precision



We have added advanced positioning precision and high rigidity to the pneumatic actuator.

The Koganei Alpha Series further enhances the drive module concept, supporting superior applications and labor savings in FA line design and manufacturing with higher performance.

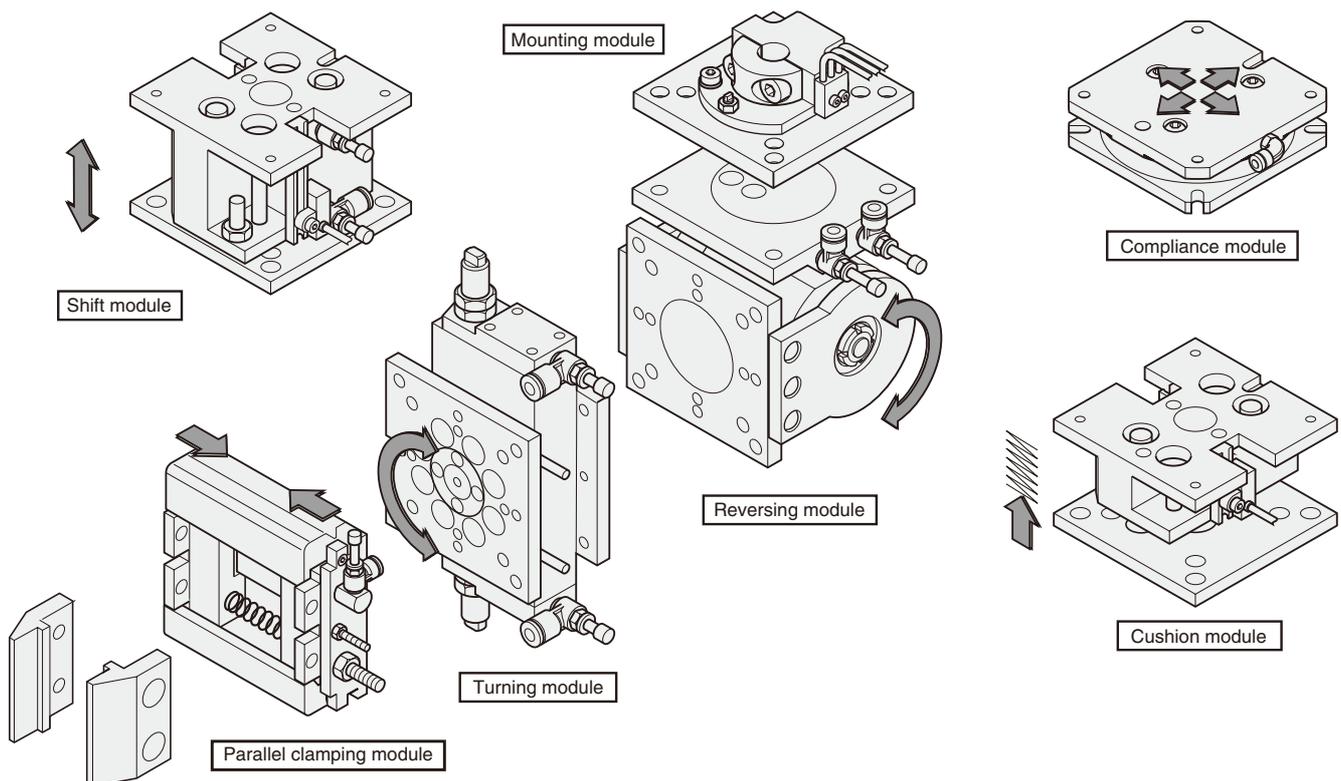
Systematic Handling Module

The handling module has mounting, turning, linear motion, positioning error correction, and gripping functions, which serve to shorten the design time regarding the material handling process, to reduce costs, and to deliver performance for the early set-up of automated lines.

Standardized modules

The handling operation is classified, standardized, and modularized into 7 functions.

As a result, designers can immediately complete the handling unit by combining modules organized by functions.

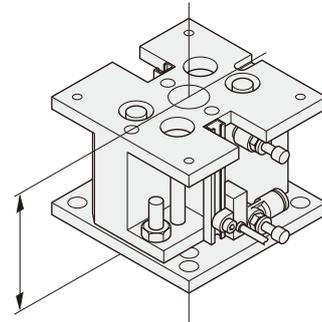


Assure high accuracy

High machining and assembly precision of the module ensure high accuracy in single-unit use or combination use.

Repeatability in each module	
Turning module	$\pm 0.03^\circ$
Reversing module	$\pm 0.03^\circ$
Shift module	$\pm 0.05\text{mm}$ [$\pm 0.0020\text{in.}$]
Cushion module	$\pm 0.05\text{mm}$ [$\pm 0.0020\text{in.}$]
Compliance module	$\pm 0.02\text{mm}$ [$\pm 0.0008\text{in.}$]
Parallel clamping module	$\pm 0.01\text{mm}$ [$\pm 0.0004\text{in.}$]

● Tolerance of the contact surface parallelism between mounting surface and mounted surface
= S : 0.04, M : 0.05, L : 0.06



● Tolerance of the coaxiality with the hypothetical center, as restricted by the locating pin = S : $\phi 0.04$, M : $\phi 0.05$, L : $\phi 0.06$

Commonality of mounting pitch

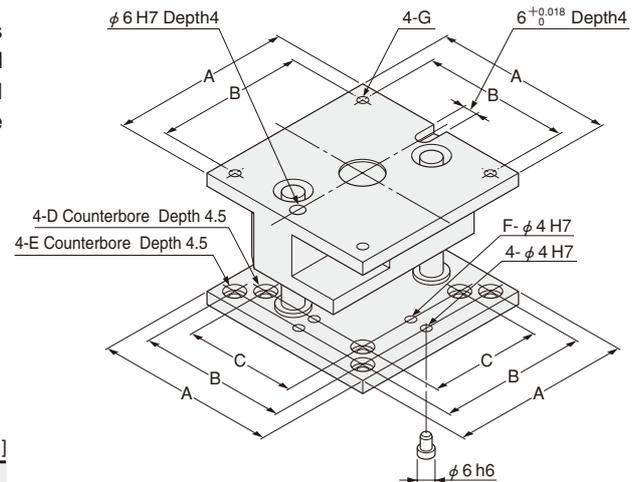
● Full choice mounting method

The Systematic Handling Module is a standard module that provides handling operations in the precision assembly field by 7 classified functions, for a complete series. Moreover, the module uses the full choice mounting method that makes any combinations possible while keeping the excellent positioning accuracy.

Features

- ① Common mounting dimensions for each size
- ② Bottom surfaces can be used to mount the same size or one smaller sized module.
- ③ To ensure accurate positioning of the handling modules, there are dowel pin holes on contacted surface of each modules, and locating pins are available (2 locating pins supplied with each module, with the exception of the parallel clamping module).

	mm [in.]						
	A	B	C	D	E	F	G
S size	60 [2.362]	50 [1.969]	—	—	—	—	—
M size	80 [3.150]	65 [2.559]	50 [1.969]	—	M4	—	M4
L size	100 [3.937]	85 [3.346]	65 [2.559]	M4	M5	4 [0.157]	M5



Optimum load mass

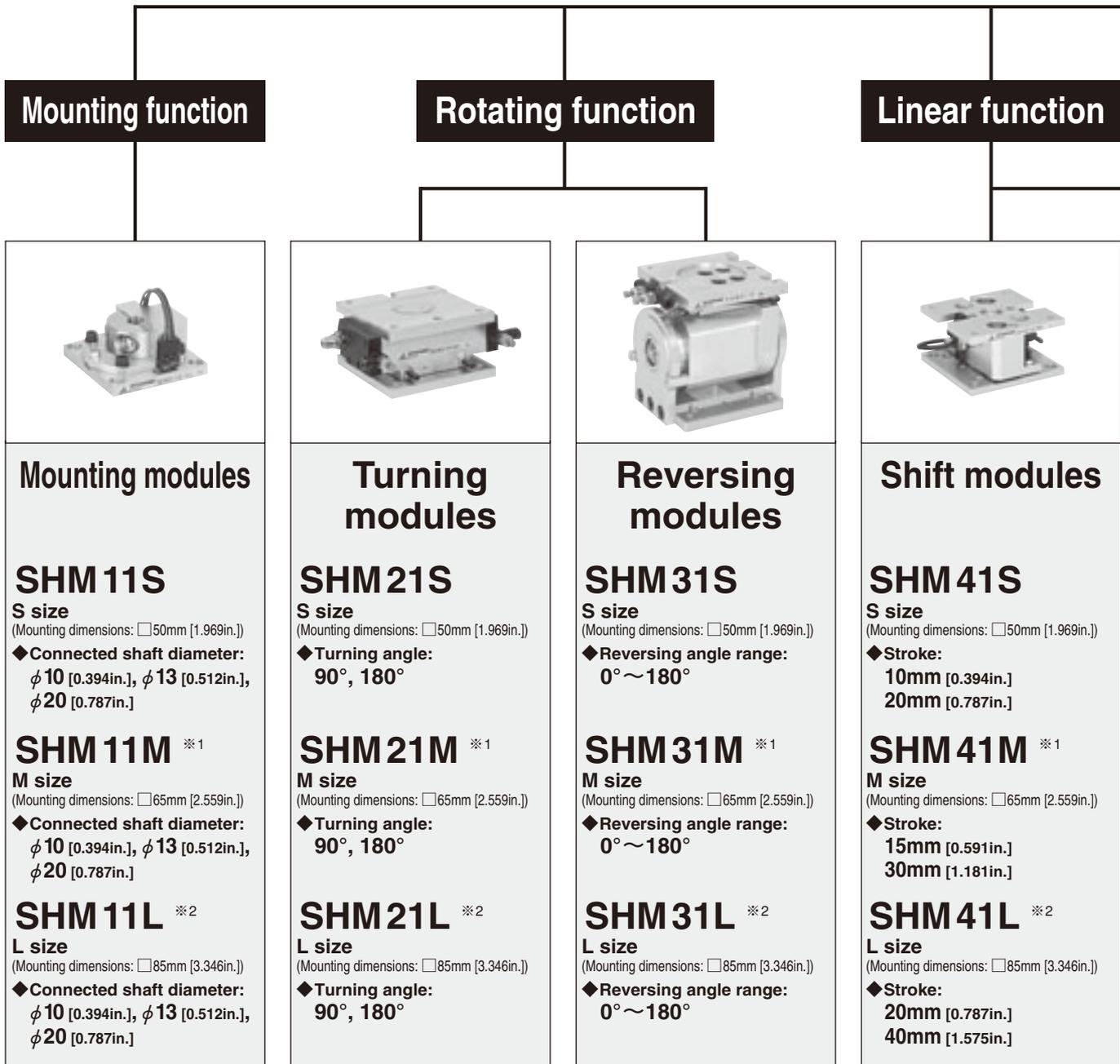
For the Systematic Handling Module, use the load masses shown below as a guide.

- S size 250g [8.82oz.]
- M size 500g [17.64oz.]
- L size 1000g [35.27oz.]

● To calculate the maximum load mass, use the formula below.

Robot load capacity	—	Hypothetical mass with all connected modules	—	Load ratio	=	Load mass
S size : 3kg [6.6lb.] M size : 6kg [13.2lb.] L size : 9kg [19.8lb.]		S size : 1.5kg [3.3lb.] M size : 3kg [6.6lb.] L size : 5kg [11.0lb.]				S size : 250g [8.82oz.] M size : 500g [17.64oz.] L size : 1000g [35.27oz.]

The leading runner on the automated line, the Handling Module
This will be the STANDARD from now on.

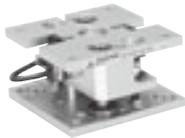


※1 : In addition to M size, S size mountings are also possible.
 ※2 : In addition to L size, M size mountings are also possible.

Systematic HandlingModule

Positioning error correction function

Gripping function



Cushion modules

SHM 51S

S size
(Mounting dimensions: □50mm [1.969in.])

◆Stroke:
5mm [0.197in.]
10mm [0.394in.]

SHM 51M ※1

M size
(Mounting dimensions: □65mm [2.559in.])

◆Stroke:
8mm [0.315in.]
15mm [0.591in.]

SHM 51L ※2

L size
(Mounting dimensions: □85mm [3.346in.])

◆Stroke:
10mm [0.394in.]
20mm [0.787in.]



Compliance modules

SHM 61S, 62S

S size
(Mounting dimensions: □50mm [1.969in.])

SHM 61M, 62M

M size
(Mounting dimensions: □65mm [2.559in.])

SHM 61L, 62L

L size
(Mounting dimensions: □85mm [3.346in.])



Parallel clamping modules

SHM 71S

S size
(Mounting dimensions: □50mm [1.969in.])

◆Gripping width:
42mm [1.65in.]

SHM 71M

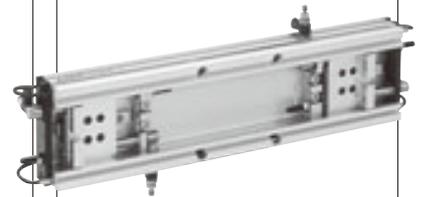
M size
(Mounting dimensions: □65mm [2.559in.])

◆Gripping width:
57mm [2.24in.]

SHM 71L

L size
(Mounting dimensions: □85mm [3.346in.])

◆Gripping width:
73mm [2.87in.]



Parallel clamping long modules

SHM 72S

S size
(Mounting dimensions: □50mm [1.969in.])

◆Gripping width:
140, 240, 340mm
[5.51, 9.45, 13.39in.]

SHM 72M

M size
(Mounting dimensions: □65mm [2.559in.])

◆Gripping width:
176, 276, 376mm
[6.93, 10.87, 14.80in.]

SHM 72L

L size
(Mounting dimensions: □85mm [3.346in.])

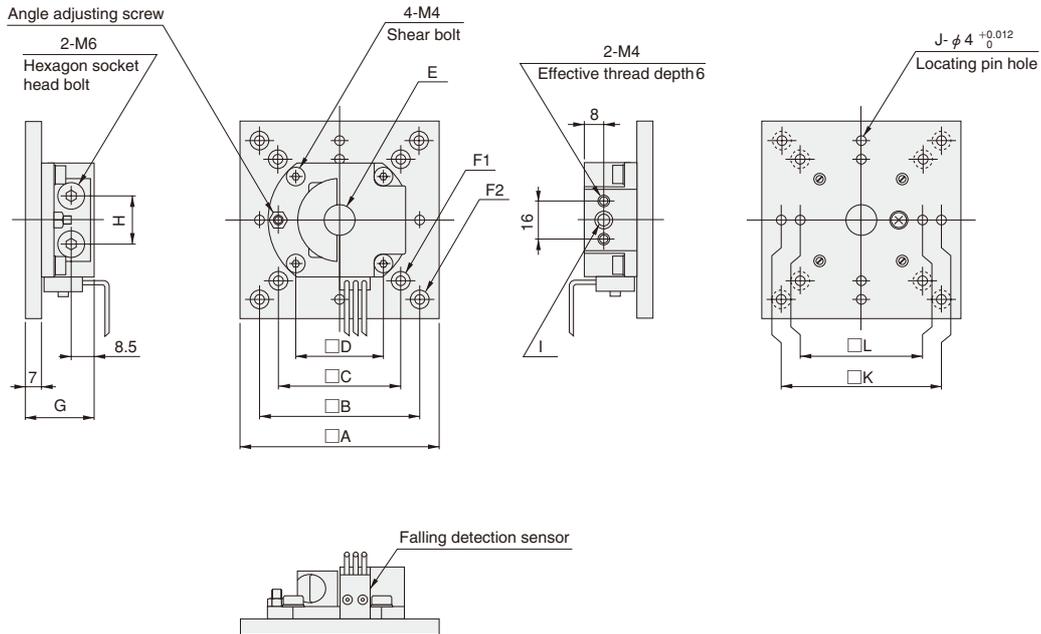
◆Gripping width:
318, 418, 518mm
[12.52, 16.46, 20.39in.]

● SHM62 is NZ specification.
For details, see p.1521.

Dimensions of SHM11S, M, L (mm)



SHM11 Mounting specification Connected shaft diameter

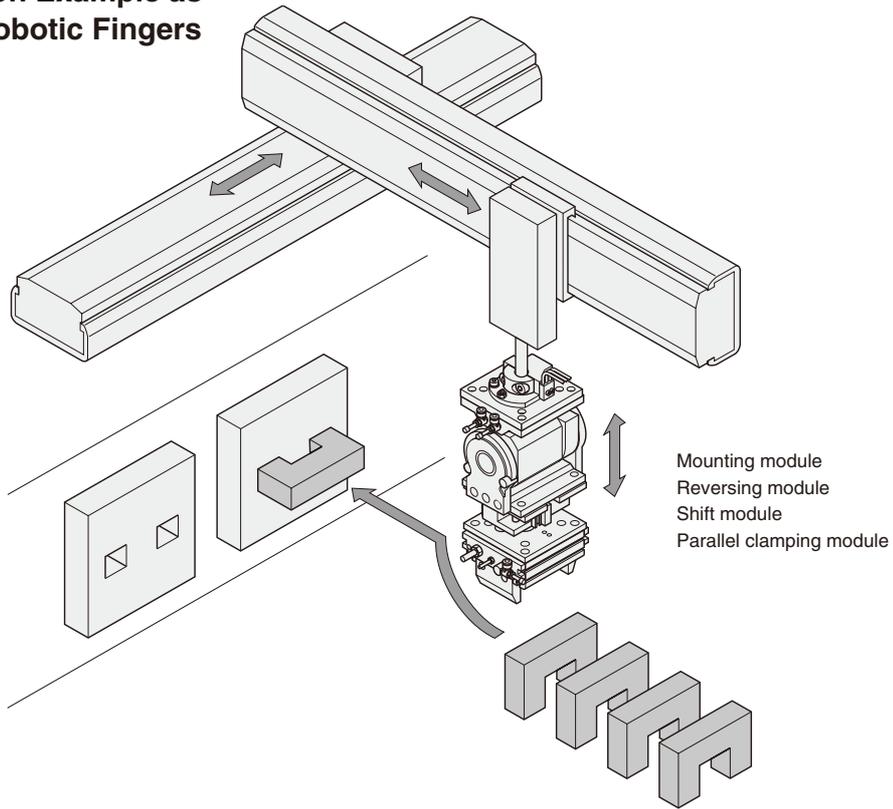


Remarks: 1. Perpendicularity tolerance between the connected shaft center and mounted surface is 0.05.
 2. Coaxiality tolerance between the hypothetical center and the mounted shaft center, as restricted by the locating pin = S : ϕ 0.04, M : ϕ 0.05, L : ϕ 0.06

Code Model	A	B	C	D	E	F1	F2	G	H	I	J	K	L
SHM11S-10	60	50	—	36	ϕ 10 ^{+0.015/0}	—	4- ϕ 4.5 4- ϕ 8 Counterbore Depth 4.4	28	20	ϕ 4 ^{+0.012/0} (Opening ϕ 6 Depth 10)	4	50 \pm 0.03	—
SHM11S-13					ϕ 13 ^{+0.018/0}					ϕ 5 ^{+0.012/0} (Opening ϕ 6 Depth 10)			
SHM11S-20					ϕ 20 ^{+0.021/0}					ϕ 6 ^{+0.012/0}			
SHM11M-10	80	65	50	36	ϕ 10 ^{+0.015/0}	4- ϕ 4.5 4- ϕ 8 Counterbore Depth 4.4	4- ϕ 5.5 4- ϕ 9.5 Counterbore Depth 3.5	28	20	ϕ 4 ^{+0.012/0} (Opening ϕ 6 Depth 10)	8	65 \pm 0.03	50 \pm 0.03
SHM11M-13					ϕ 13 ^{+0.018/0}					ϕ 5 ^{+0.012/0} (Opening ϕ 6 Depth 10)			
SHM11M-20					ϕ 20 ^{+0.021/0}					ϕ 6 ^{+0.012/0}			
SHM11L-10	100	85	65	36	ϕ 10 ^{+0.015/0}	4- ϕ 4.5 4- ϕ 8 Counterbore Depth 4.4	4- ϕ 5.5 4- ϕ 9.5 Counterbore Depth 3.5	28	20	ϕ 4 ^{+0.012/0} (Opening ϕ 6 Depth 10)	8	85 \pm 0.05	65 \pm 0.03
SHM11L-13					ϕ 13 ^{+0.018/0}					ϕ 5 ^{+0.012/0} (Opening ϕ 6 Depth 10)			
SHM11L-20					ϕ 20 ^{+0.021/0}					ϕ 6 ^{+0.012/0}			

Either single use or various combinations are possible.

● **Application Example as Robotic Fingers**



● **Application Example for Conveyor Line**

