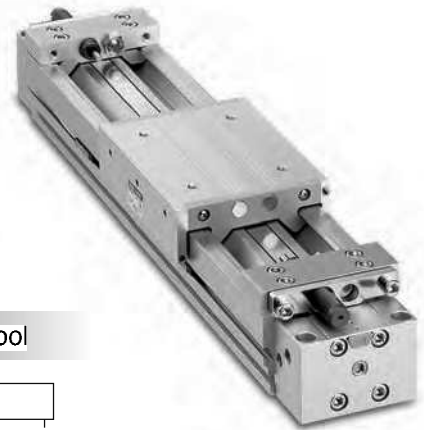


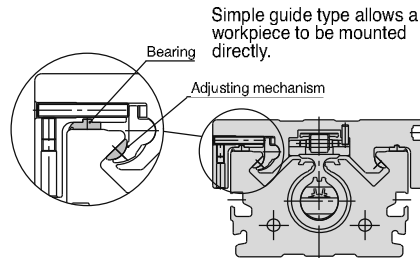
Mechanically Jointed Rodless Cylinder Slide Bearing Guide Type Series MY1M

ø16, ø20, ø25, ø32, ø40, ø50, ø63

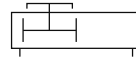


Features

- Integral guide allows use in a wide range of conveyor systems.



Symbol



How to Order

Port thread type

Symbol	Type	Bore size
-	M thread	ø16, ø20
E	G	ø25 to ø63

Slide bearing guide type

Bore size [mm]

16	16 mm
20	20 mm
25	25 mm
32	32 mm
40	40 mm
50	50 mm
63	63 mm

Stroke

Bore size [mm]	Standard stroke [mm] *	Maximum manufacturable stroke [mm]
16	100, 200, 300, 400, 500, 600, 700	3000
20, 25, 32, 40, 50, 63	800, 900, 1000, 1200, 1400, 1600, 1800, 2000	5000

Centralised piping (one end)

E MY1M 25 G - 300

* Strokes are manufacturable in 1 mm increments, up to the maximum stroke. However, when exceeding a 2000 mm stroke, specify "XB11" at the end of the model number.

Product Recommendation

Stocked items for fast delivery

MY1M16G-100	MY1M20G-100	MY1M20G-700	EMY1M25G-300	EMY1M32G-400	EMY1M40G-500
MY1M16G-200	MY1M20G-200	MY1M20G-800	EMY1M25G-400	EMY1M32G-500	EMY1M40G-600
MY1M16G-300	MY1M20G-300	MY1M20G-900	EMY1M25G-500	EMY1M32G-600	EMY1M40G-800
MY1M16G-400	MY1M20G-400	MY1M20G-1000	EMY1M25G-600	EMY1M32G-800	EMY1M40G-1200
MY1M16G-500	MY1M20G-500	EMY1M25G-100	EMY1M25G-800	EMY1M32G-1000	
MY1M16G-600	MY1M20G-600	EMY1M25G-200	EMY1M32G-300	EMY1M40G-400	

Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX

Related Products

- Series ASR/ASQ - Air Saving Valves - www.smc.eu
- Series AS - Speed Controllers - page 1238
- Series RB - Shock Absorber - page 809
- Series SY - Valves - page 65, 101, 417
- Series SV - Valves - page 20
- Series VQC - Valves - page 193, 211
- Series AC - Air Preparation - page 1076
- Series TU - Tubing - page 1223
- Series KQ2 - Fittings - page 1184

Technical Specifications

Bore size [mm]	16	20	25	32	40	50	63
Fluid	Air						
Action	Double acting						
Operating pressure range	0.15 to 0.8 MPa						
Proof pressure	1.2 MPa						
Ambient and fluid temperature	5 to 60°C						
Cushion	Air cushion						
Lubrication	Non-lube						
Stroke length tolerance	1000 or less $^{+1.8}_0$ 1001 to 3000 $^{+2.8}_0$	2700 or less $^{+1.8}_0$, 2701 to 5000 $^{+2.8}_0$					
Piping port size	Front/Side port	M5	1/8	1/4	3/8		
	Bottom port	ø4	ø6	ø6	ø8	ø10	ø10

Stroke Adjusting Unit Specifications

Bore size [mm]	16			20			25			32			40			50			63								
Unit symbol	A			A			H			A			H			A			H								
Configuration Shock absorber model	With adjusting bolt			With adjusting bolt			RB 1007 with adjusting bolt			With adjusting bolt			RB 1412 with adjusting bolt			With adjusting bolt			RB 2015 with adjusting bolt			With adjusting bolt			RB 2725 with adjusting bolt		
Fine stroke adjustment range [mm]	0 to -5.6			0 to -6			0 to -11.5			0 to -12			0 to -16			0 to -20			0 to -25								
Stroke adjustment range	When exceeding the stroke fine adjustment range: Please consult SMC.																										

Bore size [mm]	16			20			25			32			40			50			63		
Unit symbol	L			L			L			L			L			L					
Configuration Shock absorber model	RB 806 with adjusting bolt			RB 0806 with adjusting bolt			RB 1007 with adjusting bolt			RB 1412 with adjusting bolt			RB 1412 with adjusting bolt			RB 2015 with adjusting bolt			RB 2015 with adjusting bolt		

Shock Absorber Specifications

Model	RB 0806	RB 1007	RB 1412	RB 2015	RB 2725	
Max. energy absorption [J]	2.8	5.9	19.6	58.8	147	
Stroke absorption [mm]	6	7	12	15	25	
Max. collision speed [mm/s]	1500					
Max. operating frequency [cycle/min]	80	70	45	25	10	
Spring force [N]	Extended	1.96	4.22	6.86	8.34	8.83
	Retracted	4.22	6.86	15.98	20.50	20.01
Operating temperature range [°C]	5 to 60					

Piston Speed

Bore size [mm]	16 to 63	
Without stroke adjusting unit	100 to 1000 mm/s	
Stroke adjusting unit	A unit	100 to 1000 mm/s ⁽¹⁾
	H unit + L unit	100 to 1500 mm/s ⁽²⁾

Note 1) Be aware that when the stroke adjusting range is increased by manipulating the adjusting bolt, the air cushion capacity decreases. Also, when exceeding the air cushion stroke ranges the piston speed should be 100 to 200 mm per second.

Note 2) The piston speed is 100 to 1000 mm/s for centralized piping.

Note 3) Use at a speed within the absorption capacity range.

Options

Stroke Adjusting Unit Part No.

Bore [mm]	16	20	25	32
A unit	MYM-A16A	MYM-A20A	MYM-A25A	MYM-A32A
L unit	MYM-A16L	MYM-A20L	MYM-A25L	MYM-A32L
H unit	—	MYM-A20H	MYM-A25H	MYM-A32H

Bore [mm]	40	50	63
A unit	MYM-A40A	MYM-A50A	MYM-A63A
L unit	MYM-A40L	MYM-A50L	MYM-A63L
H unit	MYM-A40H	MYM-A50H	MYM-A63H

Side Support Part No.

Bore [mm]	16	20	25	32
Side support A	MY-S16A	MY-S20A	MY-S25A	MY-S32A
Side support B	MY-S16B	MY-S20B	MY-S25B	MY-S32B

Bore [mm]	40	50	63
Side support A	MY-S40A		MY-S63A
Side support B	MY-S40B		MY-S63B

Shock Absorbers for H Units + L Units

Bore size [mm]	16	20	25	32	40	50	63
H unit	—	RB1007	RB1412	RB2015		RB2725	
L unit	RB0806		RB1007	RB1412		RB2015	



Maximum Allowable Moment/Maximum Load Weight

Model	Bore size [mm]	Maximum allowable moment [N·m]			Maximum load weight [kg]		
		M ₁	M ₂	M ₃	m ₁	m ₂	m ₃
MY1M	16	6.0	3.0	1.0	18	7	2.1
	20	10	5.2	1.7	26	10.4	3
	25	15	9.0	2.4	38	15	4.5
	32	30	15	5.0	57	23	6.6
	40	59	24	8.0	84	33	10
	50	115	38	15	120	48	14
	63	140	60	19	180	72	21

Maximum allowable moment

Select the moment from within the range of operating limits shown in the graphs. Note that the maximum allowable load value may sometimes be exceeded even within the operating limits shown in the graphs. Therefore, also check the allowable load for the selected conditions.

Maximum allowable load

Select the load from within the range of limits shown in the graphs. Note that the maximum allowable moment value may sometimes be exceeded even within the operating limits shown in the graphs. Therefore, also check the allowable moment for the selected conditions.

Sizing of MY1 Cylinders

The figures above are given as an indication mainly as a comparison between different models and bore sizes of MY1.

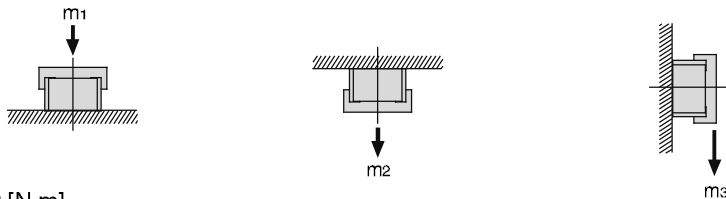
The static moments, dynamic moments and applied loads are combined together as a series of factors, the total of which must not exceed a defined value.

Formal sizing depends upon the use of graphs and equations which are not present in this catalogue to calculate these factors. Alternatively a software program, is available to perform the calculation.

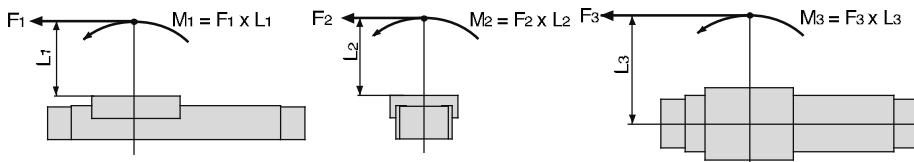
If seeing and MY1 cylinder for a new application, please contact SMC for assistance with sizing.

Actuators

Load weight [kg]



Moment [N·m]



Calculation of absorbed energy for stroke adjusting unit with built-in shock absorber

Unit: N·m

Type of impact	Horizontal	Vertical (downward)	Vertical (upward)
Kinetic energy E ₁	$\frac{1}{2} m \cdot v^2$		
Kinetic energy E ₂	F · s	F · s + m · g · s	F · s - m · g · s
Absorbed energy E	E ₁ + E ₂		

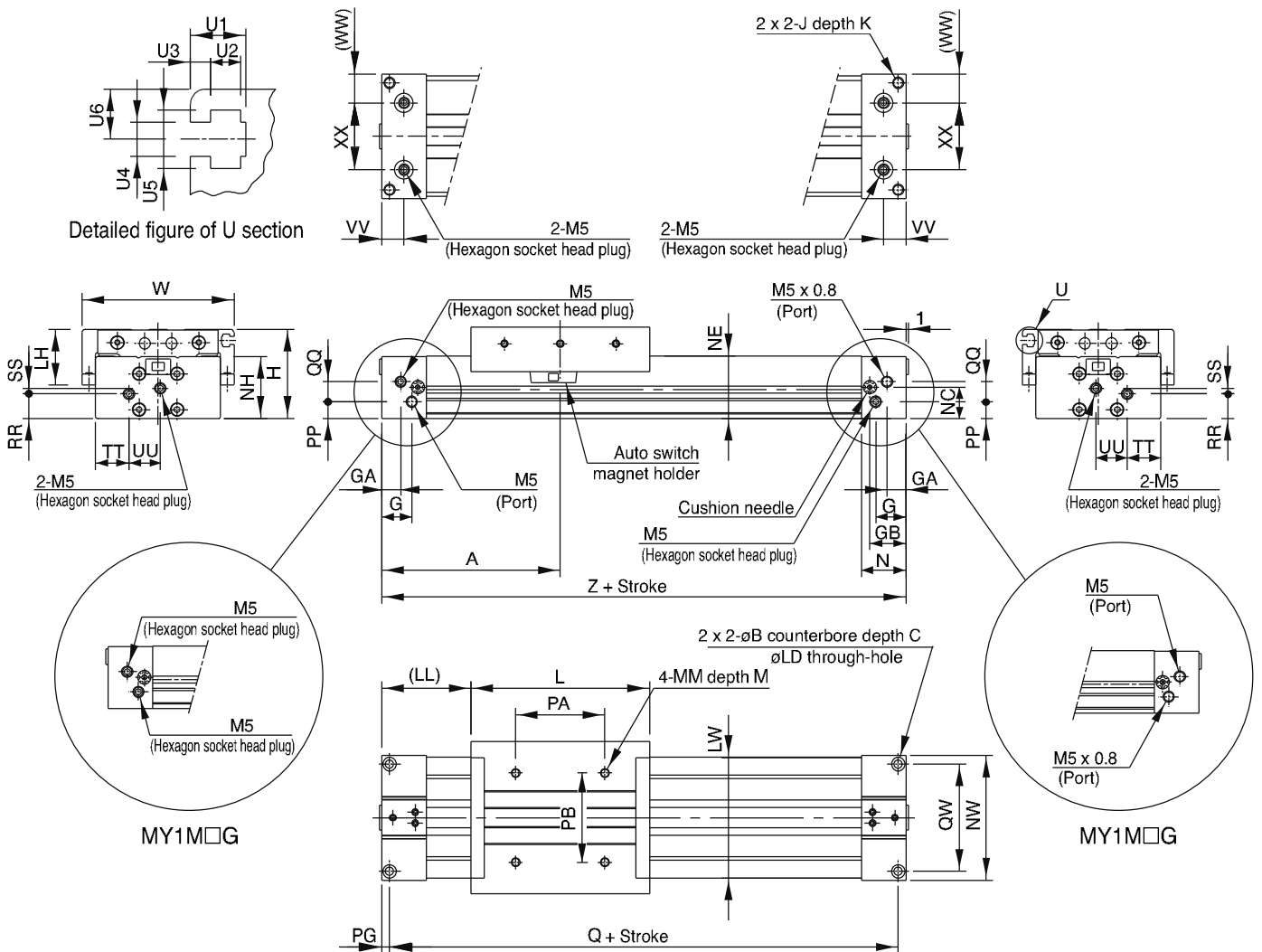
- Symbols
- v: Speed of impacting object [m/s]
 - m: Weight of impacting object [kg]
 - F: Cylinder thrust [N]
 - g: Gravitational acceleration [9.8m/s²]
 - s: Shock absorber stroke [m]

Note) The speed of the impacting object is measured at the time of impact with the shock absorber.

Dimensions

Centralized Piping Type $\phi 16, \phi 20$

MY1M16G/20G — Stroke

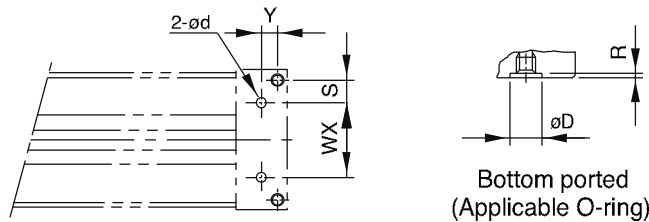


Model	A	B	C	G	GA	GB	H	J	L	LH	LL	LW	M	MM	N	NC	NE	NH	NW	PA	
MY1M16G	80	6	3.5	13.5	8.5	16.2	40	M5	10	80	22.5	40	54	6	M4	20	14	28	27.7	56	40
MY1M20G	100	7.5	4.5	12.5	12.5	20	46	M6	12	100	23	50	58	7.5	M5	25	17	34	33.7	60	50

Model	PB	PG	PP	QQ	RR	SS	TT	UU	VV	W	WW	XX	Z
MY1M16G	40	3.5	7.5	9	11	2.5	15	14	10	68	13	30	160
MY1M20G	40	4.5	11.5	10	14.5	5	18	12	12.5	72	14	32	200

Detailed Dimensions of U Section

Model	U1	U2	U3	U4	U5	U6
MY1M16G	5.5	3	2	3.4	5.8	5
MY1M20G	5.5	3	2	3.4	5.8	5.5



Hole Size for Centralized Piping on the Bottom

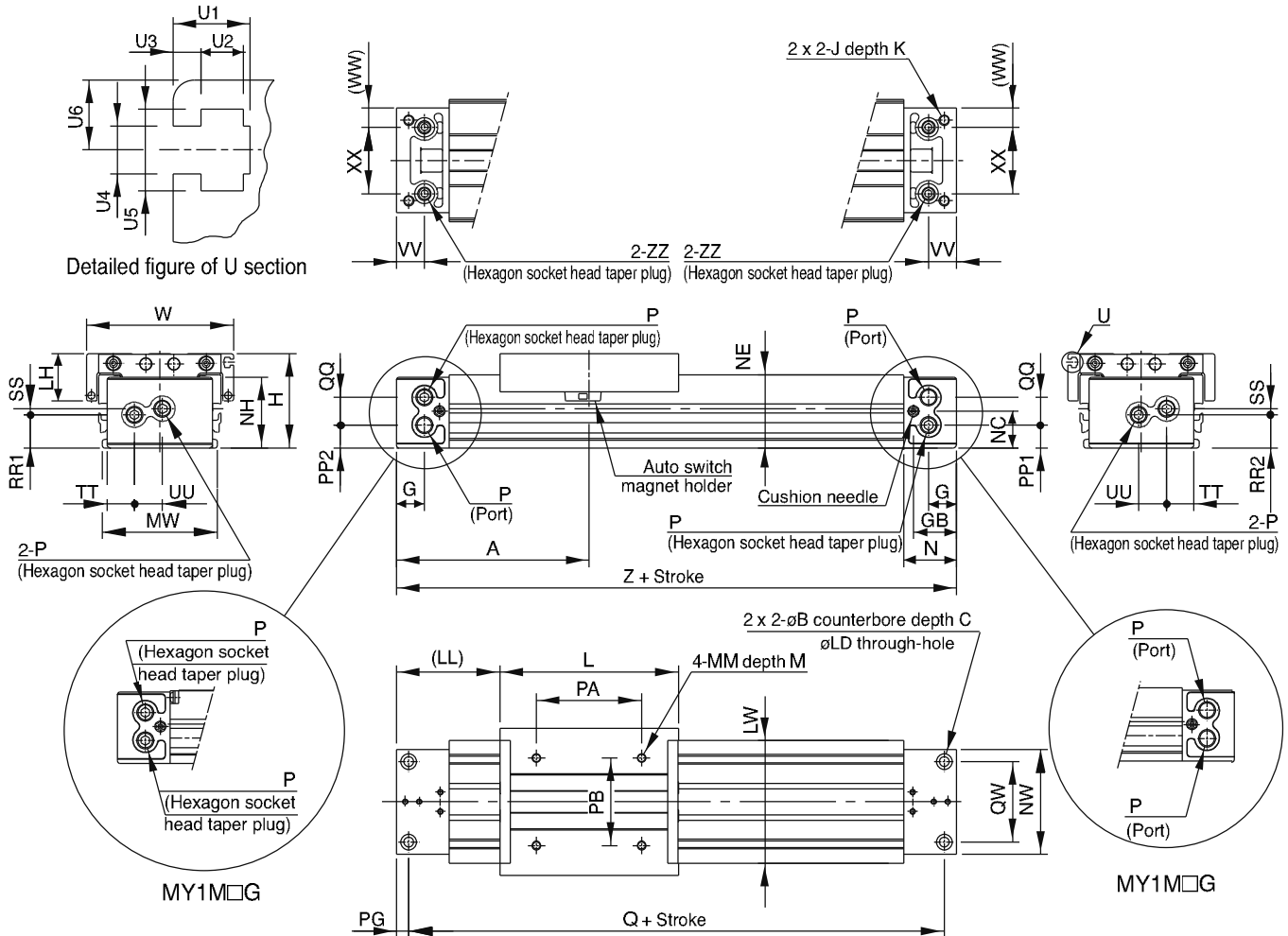
Model	WX	Y	S	d	D	R	Applicable O-ring
MY1M16G	30	6.5	9	4	8.4	1.1	C6
MY1M20G	32	8	6.5	4	8.4	1.1	

(Machine the mounting side to the dimensions below.)

Dimensions

Centralized Piping Type $\phi 25, \phi 32, \phi 40$

MY1M25G/32G/40G — Stroke

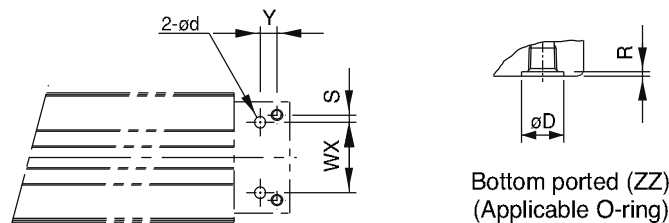


Model	A	B	C	G	GB	H	J	L	LH	LL	LW	M	MM	MW	N	NC	NE	NH	NW	P	PA	
MY1M25G	110	9	5.5	17	24.5	54	M6	9.5	102	27	59	70	10	M5	66	30	21	41.8	40.5	60	1/8	60
MY1M32G	140	11	6.5	19	30	68	M8	16	132	35	74	88	13	M6	80	37	26	52.3	50	74	1/8	80
MY1M40G	170	14	8.5	23	36.5	84	M10	15	162	38	89	104	13	M6	96	45	32	65.3	63.5	94	1/4	100

"P" indicates cylinder supply ports.

Detailed Dimensions of U Section

Model	PB	PG	PP1	PP2	QQ	RR1	RR2	SS	TT	UU	VV	W	WW	XX	Z	ZZ	[mm]						
																	Model	U1	U2	U3	U4	U5	U6
MY1M25G	50	7	12.7	17.2	16	18.9	17.9	4.1	15.5	16	16	84	11	38	220	Rc 1/16	MY1M25G	5.5	3	2	3.4	5.8	5
MY1M32G	60	8	15.5	18.5	16	22	24	4	21	16	19	102	13	48	280	Rc 1/16	MY1M32G	5.5	3	2	3.4	5.8	7
MY1M40G	80	9	17.5	20	322	25.5	29	9	26	21	23	54	54	54	340	Rc 1/8	MY1M40G	6.5	3.8	2	4.5	7.3	8



Bottom ported (ZZ)
(Applicable O-ring)

Hole Size for Centralized Piping on the Bottom

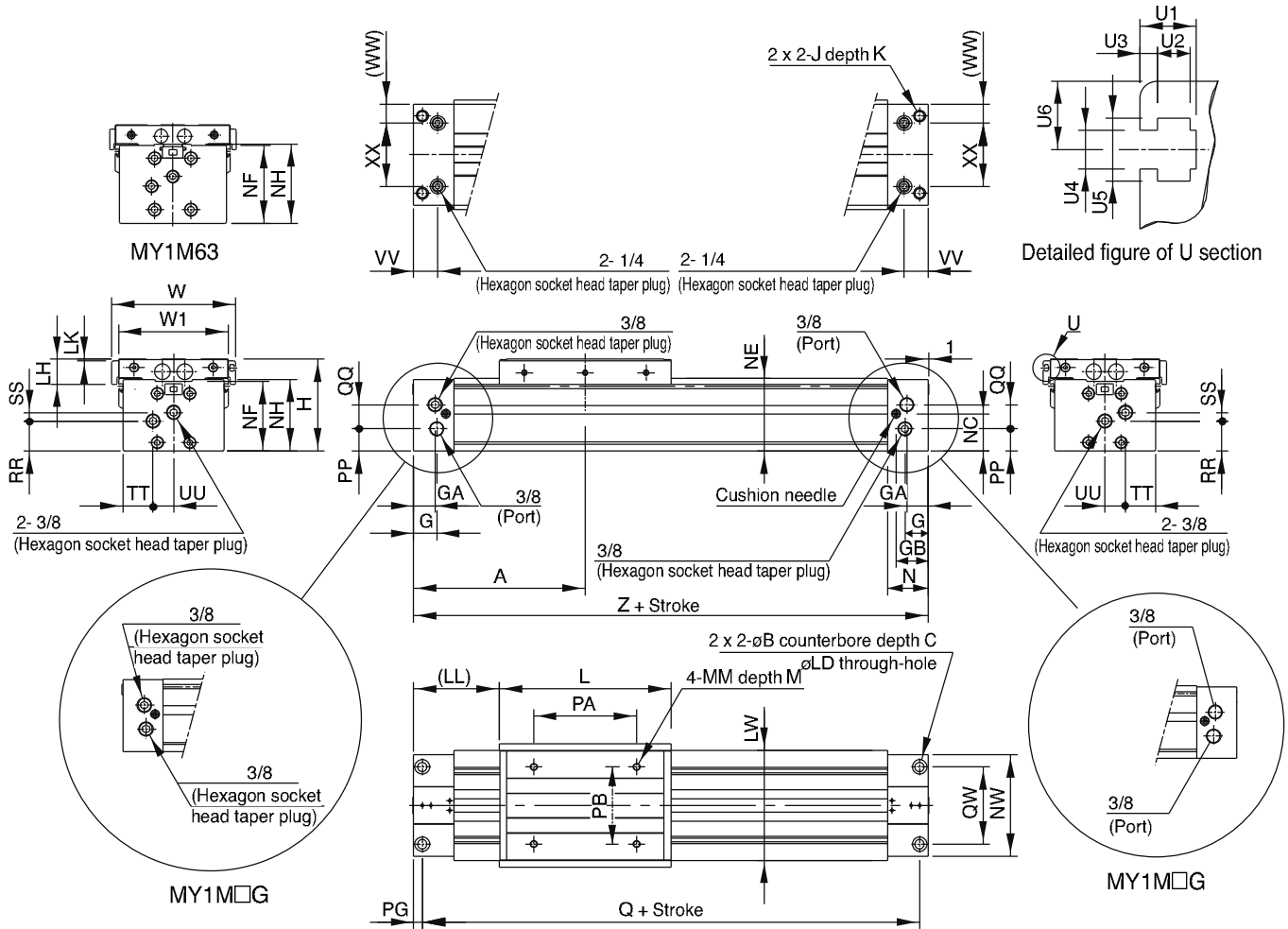
Model	WX	Y	S	d	D	R	Applicable O-ring
MY1M25G	38	9	4	6	11.4	1.1	C9
MY1M32G	48	11	6	6	11.4	1.1	
MY1M40G	54	14	9	8	13.4	1.1	C11.2

(Machine the mounting side to the dimensions below.)

Dimensions

Centralized Piping Type $\phi 50, \phi 63$

MY1M50G/60G — Stroke

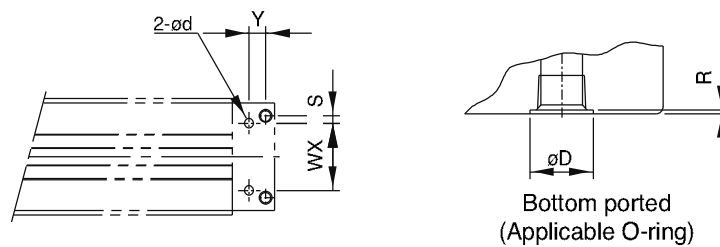


Model	A	B	C	G	GA	GB	H	J	L	LH	LK	LL	LW	M	MM	N	NC	NE	NF	NH	NW	PA	
MY1M50G	200	17	10.5	27	25	37.5	107	M14	28	200	29	2	100	128	15	M8	47	43.5	84.5	81	83.5	118	120
MY1M63G	230	19	12.5	29.5	27.5	39.5	130	M16	230	32.5	5.5	115	152	16	M10	50	56	104	103	105	142	140	

Model	PB	PG	PP	QQ	RR	SS	TT	UU	VV	W	W1	WW	XX	Z
MY1M50G	90	10	26	28	35	10	35	24	28	144	128	22	74	400
MY1M63G	110	12	42	30	49	13	43	28	30	168	152	25	92	460

Detailed Dimensions of U Section

Model	U1	U2	U3	U4	U5	U6
MY1M50G	6.5	3.8	2	4.5	7.3	8
MY1M63G	8.5	5	2.5	5.5	8.4	8



Hole Size for Centralized Piping on the Bottom

Model	WX	Y	S	d	D	R	Applicable O-ring
MY1M50G	74	18	8	10	17.5	1.1	C15
MY1M63G	92	18	9	10	17.5	1.1	

(Machine the mounting side to the dimensions below.)

