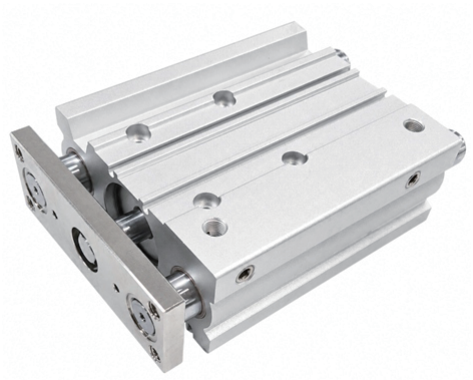
NGQ2 Series

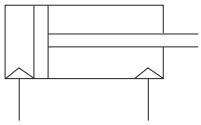
Guide Attachment Compact Cylinder (Renewal)

Bore Size(mm) : Ø12, Ø16, Ø20, Ø25, Ø32, Ø40, Ø50, Ø63



- High Load Capacity & High-Precision Anti-Rotation Cylinder
- Extended Service Life with Special Seals & Grease
- Excellent Operating Performance & Enhanced Precision
- Various Auto Switch Option
- Two-Way Piping (Top or Side)
- Easy Customer Installation

Symbol



How to order

NGQ2M **20** – **50** – ○ – ○ ○ ○ – **POS**

1 2 3 4 5 6 7

1 NGQ2M

New Guide Compact Cylinder 2

M : Slide bearing

※ Built-in Magnet & Rubber Cushion(Standard)

2 Bore Size

12 : Ø12
16 : Ø16
20 : Ø20
25 : Ø25
32 : Ø32
40 : Ø40
50 : Ø50
63 : Ø63

3 Standard Stroke

Bore Size	Standard Stroke(mm)
Ø12, Ø16	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250
Ø20, Ø25	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400
Ø32, Ø40, Ø50, Ø63	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400

4 Port Type

Type	Blank		
Ø12, Ø16	M5x0.8		
Type	Blank	G(European)	U(American)
Ø20~Ø63	RC	G	NPT

5 Auto Switch

Blank : No AUTO S/W
W8V : Ultra-Compact AUTO S/W Reed Switch – Vertical Type
W8H : Ultra-Compact AUTO S/W Reed Switch – Horizontal Type
W9V : Ultra-Compact AUTO S/W Solid-State Switch – Vertical Type
W9H : Ultra-Compact AUTO S/W Solid-State Switch – Horizontal Type
W20H : Ultra-Compact AUTO S/W Solid-State Switch – Horizontal Type
W2C : High Magnetic Resistance AUTO S/W Solid-State Switch – Horizontal Type (Ultra-Compact Switch – Direct Rail Mounting Type)
MZC1D : 2-Wire Solid-State Switch (UL Certified)
MZC1N : 3-Wire Solid-State Switch(NPN) (UL Certified)
MZC1P : 3-Wire Solid-State Switch(PNP) (UL Certified)
MZCSD : 2-Wire Solid-State Switch(UL Certified) (C-Slot)
MZCSN : 3-Wire Solid-State Switch(NPN) (UL Certified) (C-Slot)
MZCSP : 3-Wire Solid-State Switch(PNP) (UL Certified) (C-Slot)

※ Note) Refer to the switch specifications for details.
※ All of the above switches are applicable to all models.

6 Auto Switch Lead Wire Length

Blank : 0.5m
L : 3m

7 Number of Auto Switch

Blank : 2 pcs
S : 1 pc
N : N pcs

*** POS - Smooth Piston Operation**

Standard Specification

Item		Specification	
Fluid		Compressed Air	
How to Operate		Double Acting	
Proof Pressure		1.5 MPa (15kgf/cm²)	
Pressure Range Applied	Max. Pressure	1.0 MPa (9.9kgf/cm²)	
	Min. Pressure	Ø12, Ø16	0.12 MPa (1.2kgf/cm²)
		Ø20 ~ Ø63	0.1 MPa (1.0kgf/cm²)
Surrounding and Used Fluid Temperature		-10℃ ~ 60℃ (No Freezing)	
Lubrication		Lubrication	
Cushion		Both Side Rubber Cushion (Basic)	
Piping		2 Direction Piping (Top / Side)	
Cylinder Attachment Type		Through-Hole Mounting (Bottom / Top)	
		T-Slot Mounting, Rear Mounting	
AUTO S/W		AUTO S/W(W8*,W9*), W20H	
		Magnetic Field Resistant, W2C Mountable UL-Certified Switch Mounting Available	
Cylinder Attachment Type		50 ~ 500 mm/s	
Stroke Tolerance		0 ~ +1.5mm	

Theory Output Table

(Unit : kgf)



Bore Size (mm)	ROD Diameter (mm)	Operation Direction	Piston Effective Area (cm²)	Pressure Applied (kgf/cm²)								
				2	3	4	5	6	7	8	9	10
12	6	OUT	1.1	2.3	3.4	4.5	5.7	6.8	7.9	9	10.2	11.3
		IN	0.9	1.7	2.5	3.4	4.2	5.1	5.9	6.8	7.6	8.5
16	8	OUT	2	4	6	8	10.1	12.1	14.1	16.1	18.1	20.1
		IN	1.5	3	4.5	6	7.5	9	10.6	12.1	13.6	15.1
20	10	OUT	3.1	6.3	9.4	12.6	15.7	18.8	22	25.1	28.3	31.4
		IN	2.4	4.7	7.1	9.4	11.8	14.1	16.5	18.8	21.2	23.6
25	10	OUT	4.9	9.8	14.7	19.6	24.5	29.5	34.4	39.3	44.2	49.1
		IN	4.1	8.2	12.4	16.5	20.6	24.8	28.9	33	37.1	41.2
32	14	OUT	8	16.1	24.1	32.2	40.2	48.3	56.3	64.3	72.4	80.4
		IN	6.5	13	19.5	26	32.5	39	45.5	52	58.5	65
40	14	OUT	12.6	25.1	37.7	50.3	62.8	75.4	88	100.5	113.1	125.7
		IN	11	22.1	33.1	44.1	55.1	66.2	77.2	88.2	99.2	110.3
50	18	OUT	19.6	39.3	58.9	78.5	98.2	117.8	137.4	157.1	176.7	196.3
		IN	17.1	34.2	51.3	68.4	85.5	102.5	119.6	136.7	153.8	170.9
63	18	OUT	31.2	62.3	93.5	124.7	155.9	187	218.2	249.4	280.6	311.7
		IN	28.6	57.3	85.9	114.5	143.1	171.8	200.4	229	257.6	286.3

Note) Theoretical Output Force (kgf) = Pressure (kgf/cm²) × Piston Effective Area (cm²)

Weight Table (product weight)

(Unit : kgf)

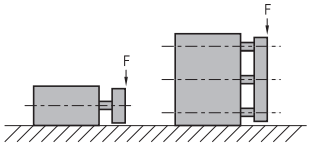
Bore Size	Type	Cylinder Stroke (mm)															
		10	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400
Ø12	M TYPE	0.22	0.25	-	0.29	0.33	0.36	0.46	0.55	0.66	0.75	0.84	0.93	1.11			
Ø16		0.32	0.37	-	0.42	0.46	0.51	0.66	0.78	0.94	1.06	1.18	1.31	1.55			
Ø20		-	0.59	-	0.67	0.74	0.82	1.06	1.24	1.43	1.61	1.8	1.99	2.42	2.79	3.16	3.53
Ø25		-	0.84	-	0.94	1.04	1.14	1.5	1.75	2	2.25	2.5	2.75	3.35	3.85	4.34	4.84
Ø32		-	-	1.41	-	-	1.77	2.22	2.57	2.93	3.29	3.65	4	4.9	52.61	6.33	7.04
Ø40		-	-	1.64	-	-	2.04	2.52	2.92	3.32	3.71	4.11	4.5	5.47	6.26	7.06	7.85
Ø50		-	-	2.79	-	-	3.38	4.13	4.71	5.3	5.89	6.47	7.06	8.55	9.73	10.9	12.1
Ø63		-	-	3.48	-	-	4.15	4.99	5.67	6.34	7.02	7.69	8.37	10	11.4	12.7	14.1

Allowed Load

(Unit : N)

Bore Size	Type	Cylinder Stroke (mm)															
		10	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400
Ø12	M TYPE	20	16	-	13	15	13	19	16	14	12	11	10	8			
Ø16		32	26	-	22	22	19	29	24	21	19	18	16	14			
Ø20		-	52	-	44	43	38	67	58	51	45	40	36	28	19	13	8
Ø25		-	69	-	58	57	50	90	77	67	60	60	55	55	47	39	30
Ø32		-	-	146	-	-	160	143	122	115	102	117	107	92	80	72	61
Ø40		-	-	148	-	-	162	145	124	116	103	119	109	93	81	74	62
Ø50		-	-	238	-	-	236	221	192	179	160	176	161	138	121	104	93
Ø63		-	-	237	-	-	235	220	190	177	158	174	159	136	118	102	89

Note) 1kgf ≒ 9.8N, 1kgf/cm² ≒ 0.098MPa



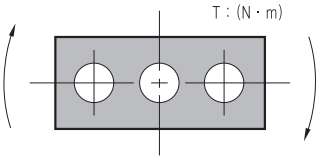
Standard

Bore Size	Type	Cylinder Stroke (mm)															
		10	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400
Ø12	M TYPE	●	●	-	●	●	●	●	●	●	●	●	●	●			
Ø16		●	●	-	●	●	●	●	●	●	●	●	●	●			
Ø20		-	●	-	●	●	●	●	●	●	●	●	●	●	●	●	●
Ø25		-	●	-	●	●	●	●	●	●	●	●	●	●	●	●	●
Ø32		-	-	●	-	-	●	●	●	●	●	●	●	●	●	●	●
Ø40		-	-	●	-	-	●	●	●	●	●	●	●	●	●	●	●
Ø50		-	-	●	-	-	●	●	●	●	●	●	●	●	●	●	●
Ø63		-	-	●	-	-	●	●	●	●	●	●	●	●	●	●	●

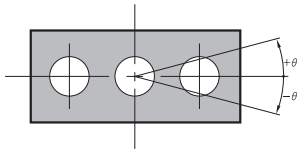
Allowed Rotation Torque (T)

(Unit:N·m)

Bore Size	Type	Cylinder Stroke (mm)															
		10	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400
Ø12	M TYPE	0.39	0.32	-	0.27	0.24	0.21	0.43	0.36	0.31	0.27	0.24	0.22	0.19			
Ø16		0.69	0.58	-	0.49	0.43	0.38	0.69	0.58	0.5	0.44	0.4	0.36	0.3			
Ø20		-	1.05	-	0.93	0.83	0.75	1.88	1.63	1.44	1.28	1.16	1.06	0.9	0.78	0.69	0.62
Ø25		-	1.76	-	1.55	1.38	1.25	2.96	2.57	2.26	2.02	1.83	1.67	1.42	1.24	1.09	0.98
Ø32		-	-	6.35	-	-	5.13	5.69	4.97	4.42	3.98	3.61	3.31	2.84	2.48	2.2	1.98
Ø40		-	-	7	-	-	5.66	6.27	5.48	4.387	4.38	3.98	3.65	3.13	2.74	2.43	2.19
Ø50		-	-	13	-	-	10.8	12	10.6	9.5	8.6	7.86	7.24	6.24	5.49	4.9	4.43
Ø63		-	-	14.7	-	-	12.1	13.5	11.9	10.7	9.69	8.86	8.16	7.04	6.19	5.52	4.99



No Load : Theoretical rotation angle caused by the clearance between the guide rod and bearing when fully retracted.



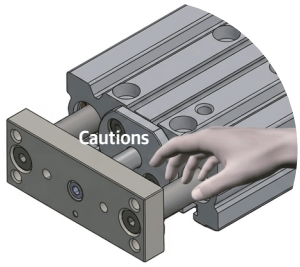
Maximum Rotation Angle

Bore Size	Maximum Rotation Angle (°)
	NGQM
Ø12, Ø16	±0.10 °
Ø20, Ø25	±0.09 °
Ø32, Ø40	±0.08 °
Ø50, Ø63	±0.06 °

Cautions

Please do not insert your hands or fingers between plate and body.

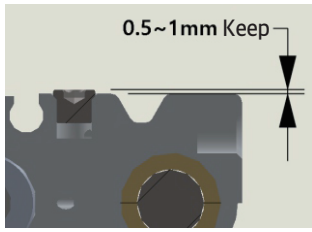
- Please be careful that your hands or fingers are not stuck between cylinder body and plate in air pressure.

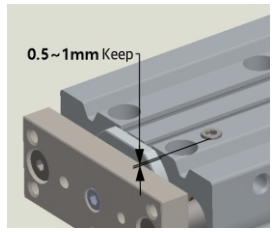


In using side port

- When using the side port by plugging the top port hole, for cylinder bore sizes Ø12 and Ø16, assemble the plug as shown below, maintaining a 0.5-1 mm clearance from the top surface.

※ A reduced air orifice diameter may cause problems with cylinder operation.





Attachment

As shown in the figure, there are four mounting options: rear mounting, top through-hole mounting, bottom through-hole mounting, and T-slot mounting.

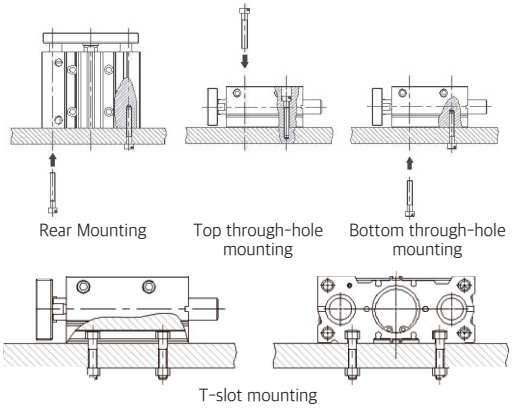


Table 1. T-SLOT Bolts

Bore Size	Applied Bolt	Bore Size	Applied Bolt
Ø12	M4	Ø32	M6
Ø16	M4	Ø40	M6
Ø20	M5	Ø50	M8
Ø25	M5	Ø63	M10

Note) Bolt dimensions are based on hex head (square head) bolts.

① Rear Mountincg Precautions
When rear mounting the cylinder, machine an entry hole in the mounting surface (bracket) to prevent interference with the end of the guide rod. For rear mounting, a bolt engagement depth of 1.5d is recommended.
(Refer to Table 2 for the rear mounting dimensions and bolt specifications.)

② Take care to prevent damage to the piston rod and guide rod from impact or foreign matter.
-Damage may cause air leakage and improper cylinder operation.

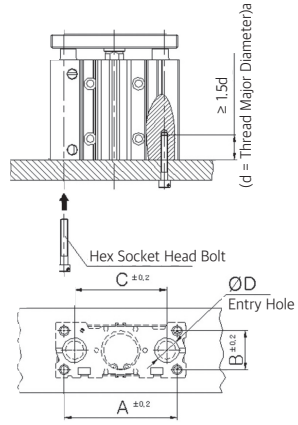
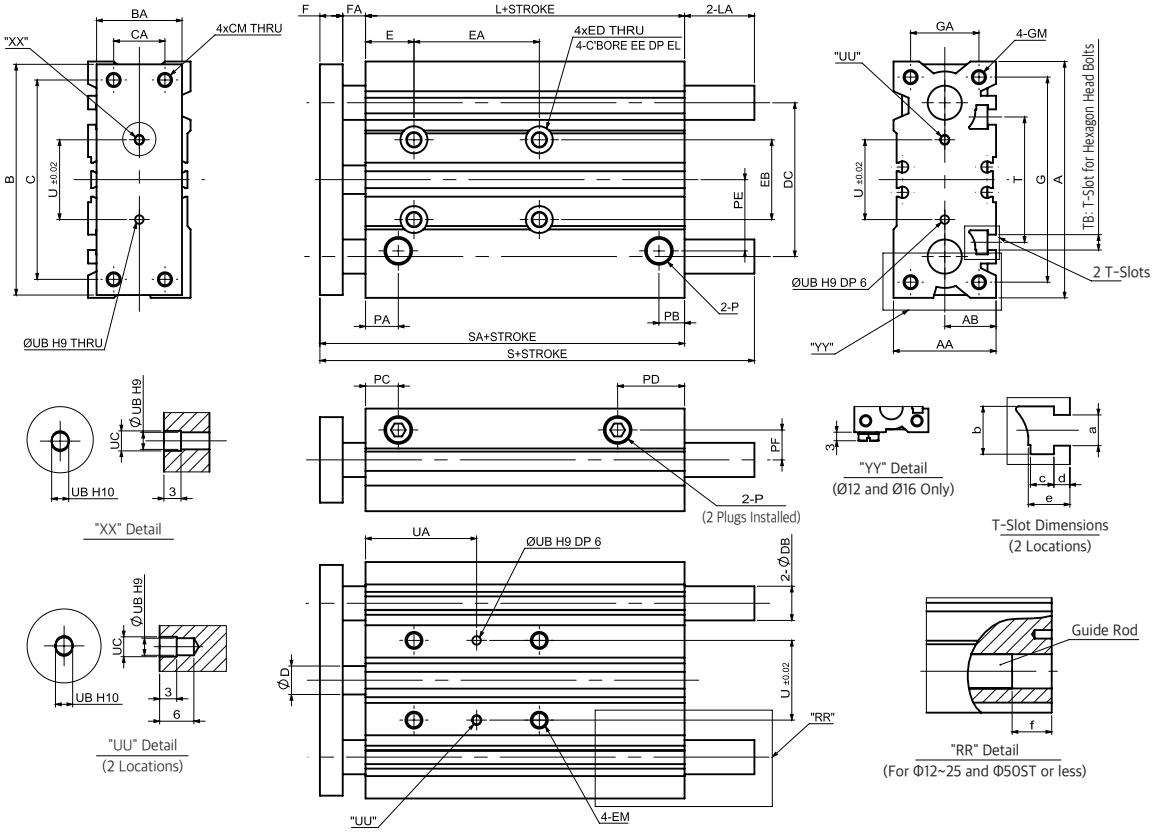


Table 2. Rear Mounting Dimensions and Bolt Dimensions

Bore Size	A (mm)	B (mm)	C (mm)	ØD (mm)	Mounting Hex Socket Head Bolt
Ø12	50	18	41	10	M4 X 0.7
Ø16	56	22	46	12	M5 X 0.8
Ø20	72	24	54	14	M5 X 0.8
Ø25	82	30	64	18	M6 X 1.0
Ø32	98	34	78	22	M8 X 1.25
Ø40	106	40	86	22	M8 X 1.25
Ø50	130	46	110	27	M10 X 1.5
Ø63	142	58	124	27	M10 X 1.5

Size Drawing NGQ2M Ø12~25

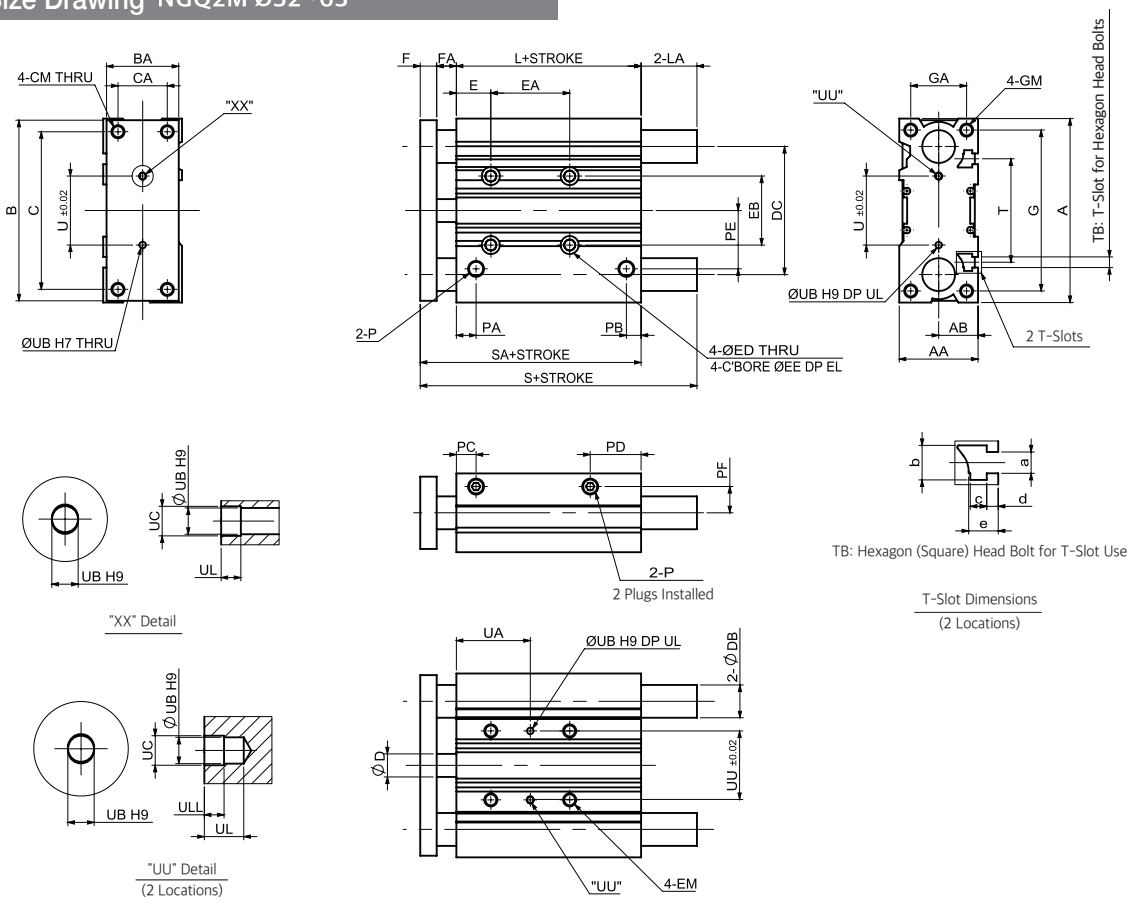


Bore Size	A	AA	AB	B	BA	C	CA	CM	D	DB	DC	F	FA	G	GA	GM	P	PA	PB	PC	PD	PE	PF
12	58	26	13	56	22	48	14	M4X0.7	6	8	41	7	6	50	18	M4X0.7 DP10	M5X0.8	10	7	10	16	18	8
16	64	30	15	62	25	54	16	M5X0.8	8	10	46	7	6	56	22	M5X0.8 DP12	M5X0.8	10.5	7.5	10.5	18.5	19	10
20	83	36	18	81	30	70	18	M5X0.8	10	12	54	8	8	72	24	M5X0.8 DP13	RC 1/8	11.5	9	11.5	23.5	25	10.5
25	93	42	21	91	38	78	26	M6X1.0	12	16	64	9	7	82	30	M6X1.0 DP15	RC 1/8	11.5	10	11.5	25	30	13.5

Bore Size	S				SA	T	TB	a	b	c	d	e	E	EA					EB	ED	EE	EL	EM
	ST50 or less	Over ST50 and ST100 or less	Over ST100 and ST200 or less	Over ST200										ST30 or less	Over ST30 and ST100 or less	Over ST100 and ST200 or less	Over ST200 and ST300 or less	Over ST300					
12	42	60.5	82.5	82.5	42	37	M4	4.4	7.4	3.7	2	6.2	5	20	40	110	200	-	23	4.2	8	4.5	M5X0.8 DP10
16	46	64.5	92.5	92.5	46	38	M4	4.4	7.4	3.7	2.5	6.7	5	24	44	110	200	-	24	4.2	8	4.5	M5X0.8 DP12
20	53	77.5	77.5	110	53	44	M5	5.4	8.4	4.5	2.8	7.8	17	24	44	120	200	300	28	5.2	9.5	5.5	M6X1.0 DP12
25	53.5	77.5	77.5	109.5	53.5	50	M5	5.4	8.4	4.5	3	8.2	17	24	44	120	200	300	34	5.2	9.5	5.5	M6X1.0 DP12

Bore Size	LA				U	UA					UB	UD	L	f
	ST50 or less	Over ST50 and ST100 or less	Over ST100 and ST200 or less	Over ST200		ST30 or less	Over ST30 and ST100 or less	Over ST100 and ST200 or less	Over ST200 and ST300 or less	Over ST300				
12	0	18.5	40.5	40.5	23	15	25	60	105	-	3	3.5	29	4.5
16	0	18.5	46.5	46.5	24	17	27	60	105	-	3	3.5	33	4.5
20	0	24.5	24.5	57	28	29	39	77	117	167	3	3.5	37	8.5
25	0	24	24	56	34	29	39	77	117	167	4	4.5	37.5	8.0

Size Drawing NGQ2M Ø32~63

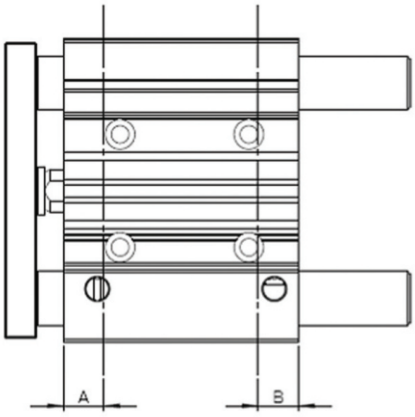


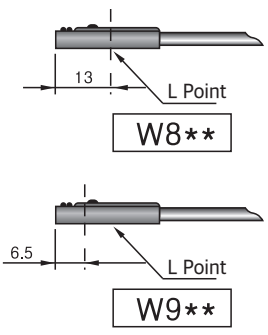
Bore Size	A	AA	AB	B	BA	C	CA	CM	D	DB	DC	F	FA	G	GA	GM	P	PA	PB	PC	PD	PE	PF
32	112	48	24	110	44	96	30	M8X1.25	14	20	78	10	12	98	34	M8X1.25 DP20	RC 1/8	12	9	12	31	35.5	16
40	120	54	27	118	44	104	30	M8X1.25	14	20	86	10	12	106	40	M8X1.25 DP20	RC 1/8	15	12	15	31	39.5	18
50	148	64	32	146	60	130	40	M10X1.5	18	25	110	12	16	130	46	M10X1.5 DP22	RC 1/4	15	12	15	35	47	21.5
63	162	78	39	158	70	130	50	M10X1.5	18	25	124	12	16	142	58	M10X1.5 DP22	RC 1/4	15.5	13.5	15.5	36	58	28

Bore Size	S			SA	T	TB	a	b	c	d	e	E	EA					EB	ED	EE	EL	EM	L
	ST50 or less	Over ST50 and ST200 or less	Over ST200										ST30 or less	Over ST30 and ST100 or less	Over ST100 and ST200 or less	Over ST200 and ST300 or less	Over ST30						
32	75	93.5	129.5	59.5	63	M6	6.5	10.5	5.5	3.5	9.5	21	24	48	124	200	300	42	6.7	11	7.5	M8X1.25 DP16	37.5
40	75	93.5	129.5	66	72	M6	6.5	10.5	5.5	4	11	22	24	48	124	200	300	50	6.7	11	7.5	M8X1.25 DP16	44
50	88.5	109.5	150.5	72	92	M8	8.5	13.5	7.5	4.5	13.5	24	24	48	124	200	300	66	8.4	14	9	M10X1.5 DP20	44
63	88.5	109.5	150.5	77	110	M10	11	17.8	10	7	18.5	24	28	52	128	200	300	80	8.4	14	9	M10X1.5 DP20	49

Bore Size	LA			U	UA					UB	UC	UL	ULL
	ST50 or less	Over ST50 and ST200 or less	Over ST200		ST30 or less	Over ST30 and ST100 or less	Over ST100 and ST200 or less	Over ST200 and ST300 or less	Over ST30				
32	15.5	34	70	42	33	45	83	121	171	4	4.5	6	3
40	9	27.5	63.5	50	34	46	84	122	172	4	4.5	6	3
50	16.5	37.5	78.5	66	36	48	86	124	174	5	6	8	4
63	11.5	32.5	73.5	80	38	50	88	124	174	5	6	8	4

Recommended Auto Switch Mounting Position (When Using Full Forward and Reverse Stroke)





(Unit : mm)

Tube I.D	A Point Position	B Point Position
Ø12	14	15
Ø16	16.5	16.5
Ø20	16.5	21
Ø25	17.5	20
Ø32	18	20
Ø40	22.5	22
Ø50	20	24
Ø63	23	26.5

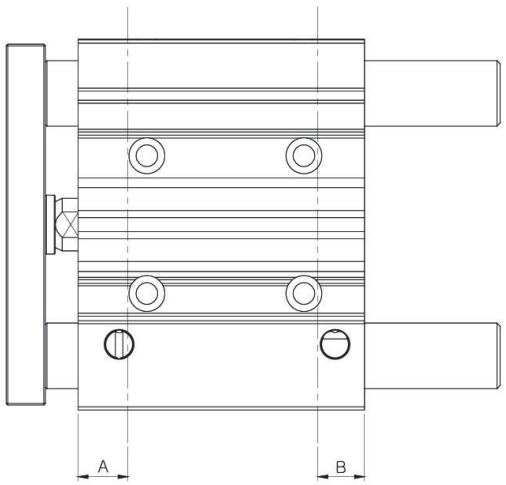
※ Please adjust the auto switch position after confirming its operation at the actual setting position.

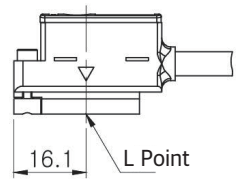
(Unit : mm)

Switch Type	L Point Position (Detection Position)	Remark
W8**	13	Compatible with all NGQ models
W9**	6.5	

※ When installing the switch, align the L point of the switch with point A or B of the cylinder.

Auto Switch's Proper Attachment Position (Under Condition that Forward and Backward Full Stroke is Used) - W2C





(Unit : mm)

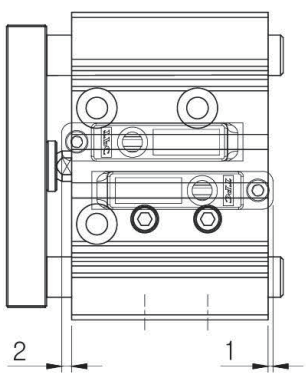
Tube I.D	A Point Position	B Point Position
Ø12	14	15
Ø16	16.4	16.6
Ø20	16.2	20.8
Ø25	17.2	20.2
Ø32	17.5	20
Ø40	22	22
Ø50	20	24
Ø63	22.5	26.5

★ When mounting the switch, align the switch L point with the cylinder's A or B point.

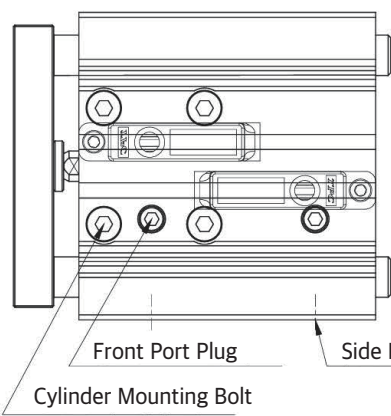
※ After confirming the operating status of the auto switch, adjust it to the actual setting po

Precautions for Switch Installation - W2C

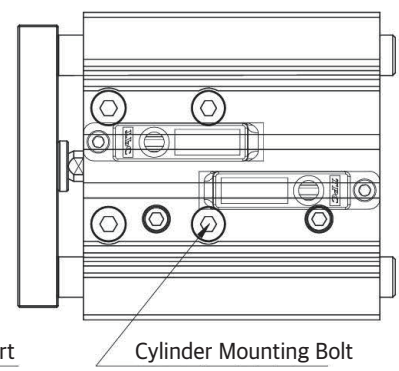
Ø12



Ø12, Ø16

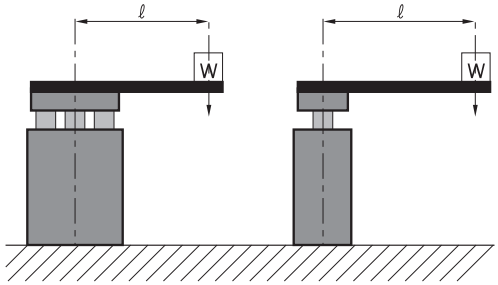


Ø12, Ø16, Ø20



※ For Ø12 models operated with full forward and reverse stroke, the switch may protrude 2 mm on the rod side and 1 mm on the head side when installed.
※ For Ø12 and Ø16 models with the switch installed, the front port is fitted with a plug; therefore, only the side air port is available.
※ For Ø12, Ø16, and Ø20 models with the switch installed, secure the cylinder first, then install and adjust the switch.

For Vertical Mounting - NGQ2M / Sliding Bearing



※ Operating Conditions

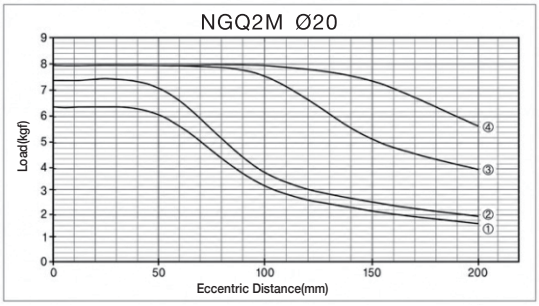
Operating Pressure: P = 5 - 7 kgf/cm²
Cylinder Speed: V ≒ 250 mm/s (50 - 300 mm/s)
Eccentric Distance: = ℓ (mm)
Applied Load: = W (kgf)

Note 1) Operating pressure of 5 - 7 kgf/cm² is recommended.
Note 2) When cylinder speed exceeds 300 mm/s,
refer to Table 3. Applied Load Ratio.

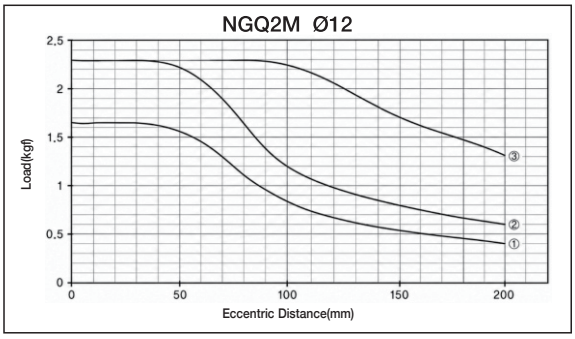
<Selection Example>

1. Mounting Method : Vertical mounting
2. Applied Bearing : Ball bearing
3. Max Cylinder Speed : 200 mm/s
4. Applied Load : 7 kgf
5. Applied Stroke : 50 STROKE
6. Eccentric Distance : 50 mm

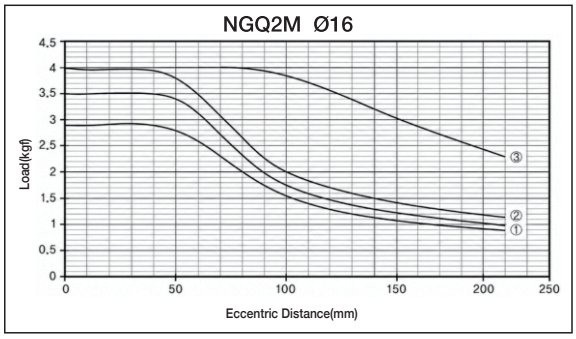
Selection Steps ☞
1. From the vertical mounting graph, select the graph for the plain bearing.
2. Select a graph that can withstand a load of 7 kgf or more.
   -> NGQ2M Ø20 ~ Ø32
3. Select the appropriate graph for 50 stroke and 50 mm eccentric distance, and choose a point below the graph line.
   -> Select NGQ2M Ø20 (No. 2) and apply an eccentric distance of 50 mm.
4. Based on the selection criteria, the selected model is NGQ2M Ø20 - 50ST



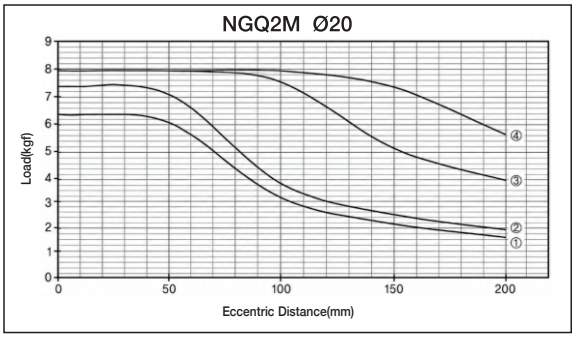
① 30ST or less ② Over 30ST and 50ST or less
③ Over 50ST and 200ST or less ④ Over 200ST and 400ST or less



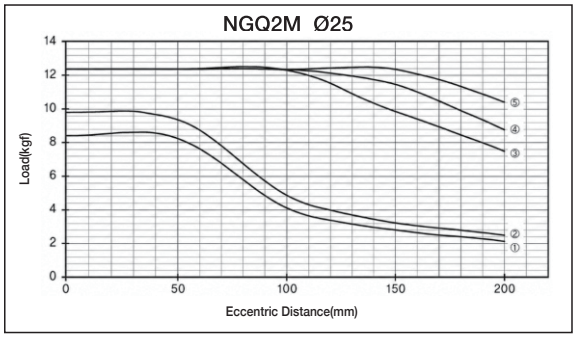
① 30ST or less ② Over 30ST and 50ST or less
③ Over 50ST and 200ST or less



① 30ST or less ② Over 30ST and 50ST or less
③ Over 50ST and 200ST or less

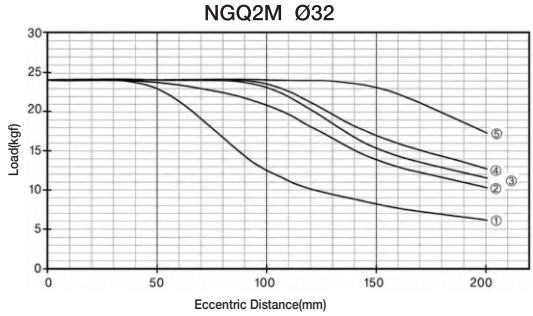


① 30ST or less ② Over 30ST and 50ST or less
③ Over 50ST and 200ST or less ④ Over 200ST and 400ST or less



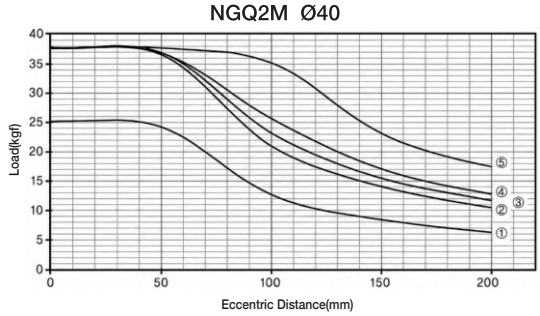
① 30ST or less ② Over 30ST and 50ST or less
③ Over 50ST and 150ST or less ④ Over 150ST and 200ST or less
⑤ Over 200ST and 400ST or less

NGQ2M Ø32



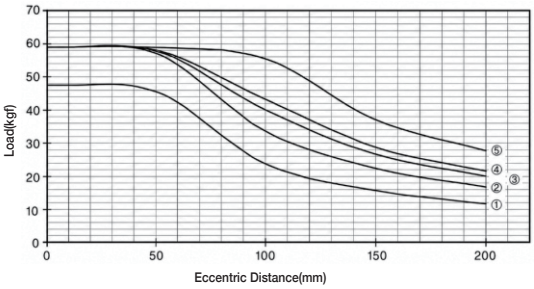
① 25ST or less ② Over 25ST and 50ST or less
③ Over 50ST and 100ST or less ④ Over 100ST and 150ST or less
⑤ Over 150ST and 400ST or less

NGQ2M Ø40



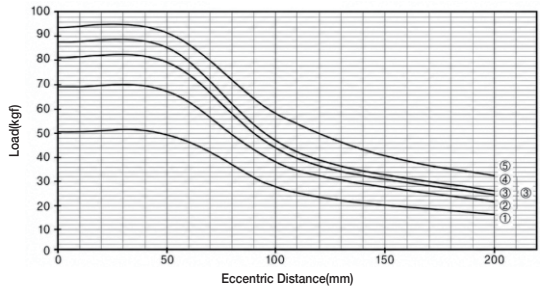
① 25ST or less ② Over 25ST and 50ST or less
③ Over 50ST and 100ST or less ④ Over 100ST and 150ST or less
⑤ Over 150ST and 400ST or less

NGQ2M Ø50



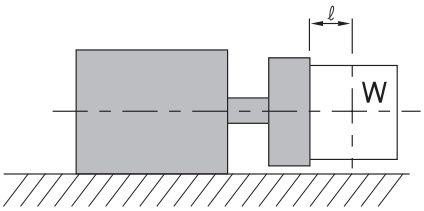
① 25ST or less ② Over 25ST and 50ST or less
③ Over 50ST and 100ST or less ④ Over 100ST and 150ST or less
⑤ Over 150ST and 400ST or less

NGQ2M Ø63



① 25ST or less ② Over 25ST and 50ST or less
③ Over 50ST and 100ST or less ④ Over 100ST and 150ST or less
⑤ Over 150ST and 400ST or less

For horizontal Mounting - NGQ2M / Slide Bearing



※ Operating Conditions

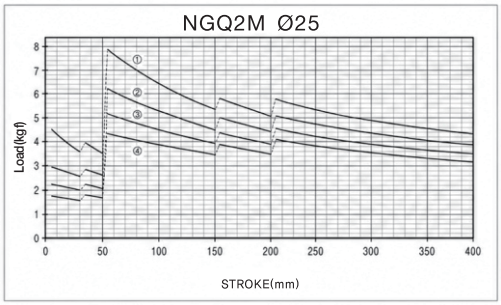
Operating Pressure: P = 5 - 7 kgf/cm²
Cylinder Speed: V ≒ 250 mm/s (50 - 300 mm/s)
Eccentric Distance: = ℓ (mm)
Applied Load: = W (kgf)

Note 1) Operating pressure of 5 - 7 kgf/cm² is recommended.
Note 2) When cylinder speed exceeds 300 mm/s,
refer to Table 3. Applied Load Ratio.

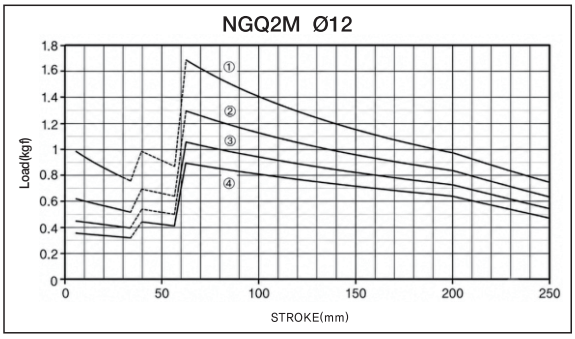
<Selection Example>

1. Mounting Method : Horizontal maounting
2. Applied Bearing : Slide bearing
3. Max Cylinder Speed : 250 mm/s
4. Applied Load : 5 kgf
5. Applied Stroke : 75 STROKE
6. Eccentric Distance : 100 mm

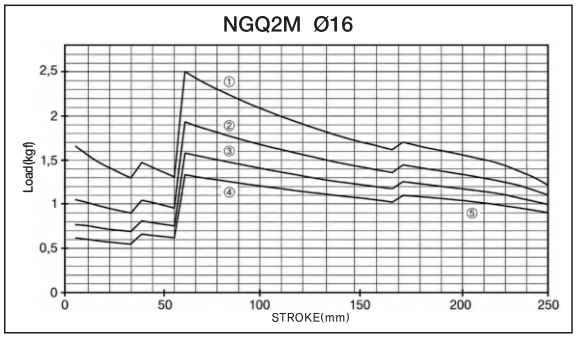
Selection Steps ☞
1. Select the slide bearing graph among the horizontal mounting graphs.
2. Select a graph that can withstand a load of 5 kgf or more.
   -> NGQ2M Ø20 - Ø100
3. Select the appropriate graph for 75 STROKE and an eccentric distance of 100 mm, then choose a model located below the graph line.
   -> Select line ② on the NGQ2M Ø25 graph, then apply 75 STROKE.
4. Selected Model: NGQ2M Ø25-75ST selected.



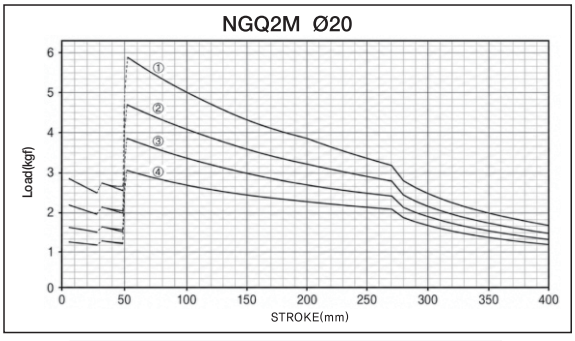
①Eccentric Distance (ℓ)=50mm ②Eccentric Distance (ℓ)=100mm
③Eccentric Distance (ℓ)=150mm ④Eccentric Distance (ℓ)=200mm



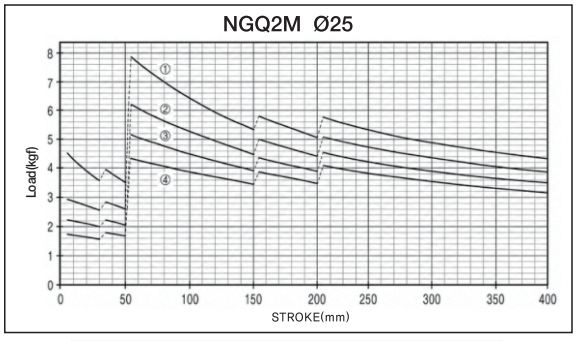
①Eccentric Distance (ℓ)=50mm ②Eccentric Distance (ℓ)=100mm
③Eccentric Distance (ℓ)=150mm ④Eccentric Distance (ℓ)=200mm



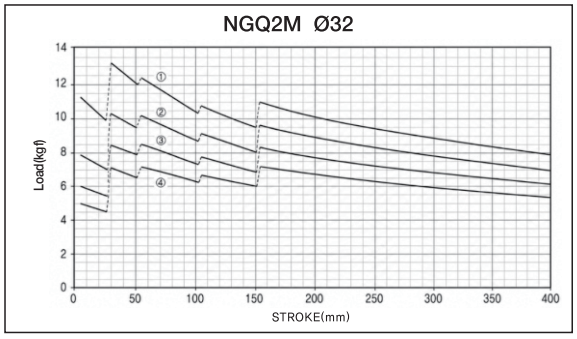
①Eccentric Distance (ℓ)=50mm ②Eccentric Distance (ℓ)=100mm
③Eccentric Distance (ℓ)=150mm ④Eccentric Distance (ℓ)=200mm



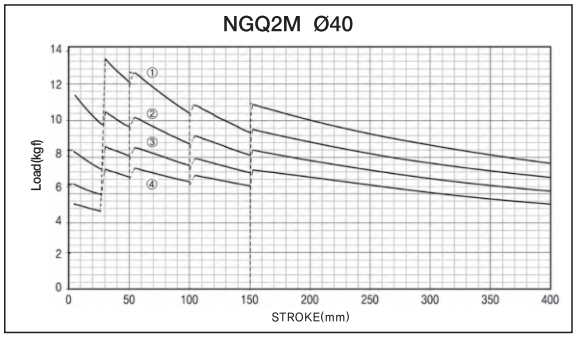
①Eccentric Distance (ℓ)=50mm ②Eccentric Distance (ℓ)=100mm
③Eccentric Distance (ℓ)=150mm ④Eccentric Distance (ℓ)=200mm



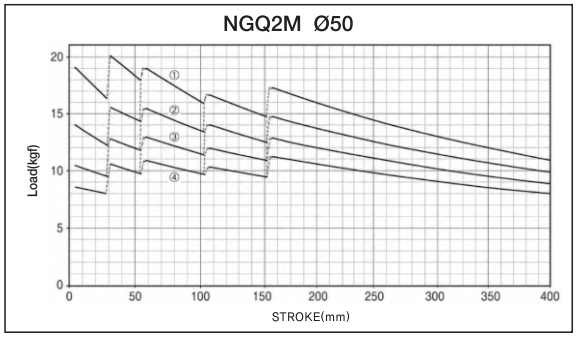
①Eccentric Distance (ℓ)=50mm ②Eccentric Distance (ℓ)=100mm
③Eccentric Distance (ℓ)=150mm ④Eccentric Distance (ℓ)=200mm



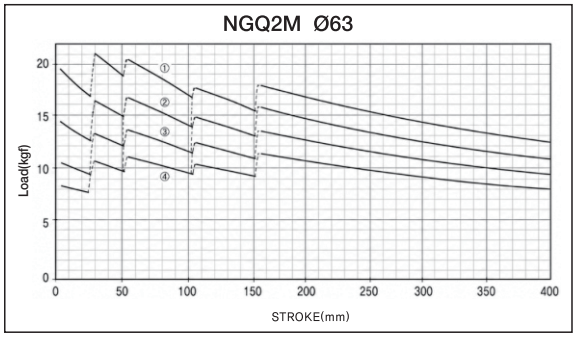
①Eccentric Distance (ℓ)=50mm ②Eccentric Distance (ℓ)=100mm
③Eccentric Distance (ℓ)=150mm ④Eccentric Distance (ℓ)=200mm



①Eccentric Distance (ℓ)=50mm ②Eccentric Distance (ℓ)=100mm
③Eccentric Distance (ℓ)=150mm ④Eccentric Distance (ℓ)=200mm



①Eccentric Distance (ℓ)=50mm ②Eccentric Distance (ℓ)=100mm
③Eccentric Distance (ℓ)=150mm ④Eccentric Distance (ℓ)=200mm



①Eccentric Distance (ℓ)=50mm ②Eccentric Distance (ℓ)=100mm
③Eccentric Distance (ℓ)=150mm ④Eccentric Distance (ℓ)=200mm

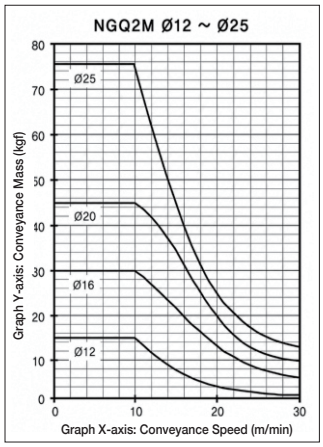
Applied Load Ratio

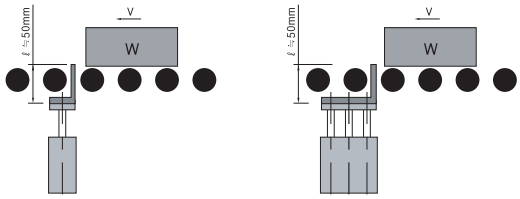
Table 3. Applied Load Ratio when Cylinder Speed Exceeds 300 mm/s

Tube I.D.	Applied Load Ratio	
	Vertical Mounting	Horizontal Mounting
Ø12	15% or less	25% or less
Ø16	30% or less	40% or less
Ø20	20% or less	25% or less
Ø25	25% or less	30% or less
Ø32	20% or less	30% or less
Ø40	25% or less	60% or less
Ø50	30% or less	65% or less
Ø63	35% or less	70% or less

Load Range When Used as a Stopper

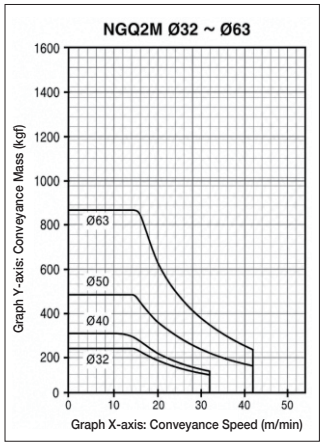
Tube I.D. Ø12 ~ Ø25 / NGQ2M12 ~ 25 (Slide Bearing)

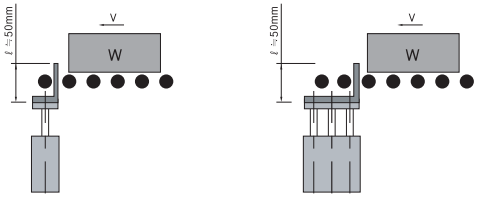




※ Note : If the ℓ dimension becomes longer, please select a model with a sufficient tube inner diameter.
Note 1) When used as a stopper, select 30 STROKE or less.

Tube I.D. Ø32 ~ Ø63 / NGQ2M32 ~ 63 (Slide Bearing)





※ Note : If the ℓ dimension becomes longer, please select a model with a sufficient tube inner diameter.
Note 1) When used as a stopper, select 30 STROKE or less.