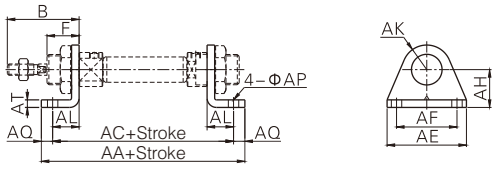
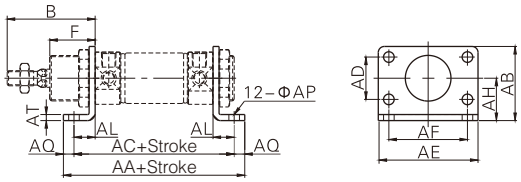
Dimensions

LB

Φ8~Φ25



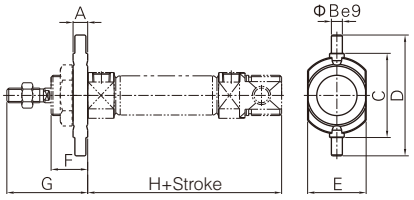
Φ32、Φ40



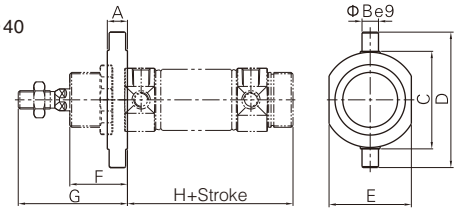
Bore size\Item	AA	AB	AC	AD	AE	AF	AH	AK	AL	AP	AQ	AT	B	F
8	78	-	68	-	35	25	16	10	11	4.5	5	2	28	12
10	78	-	68	-	35	25	16	10	11	4.5	5	2	28	12
12	90	-	78	-	42	32	20	13	14	5.5	6	2.5	38	17
16	96	-	84	-	42	32	20	13	14	5.5	6	2.5	38	17
20	112	-	96	-	54	40	25	20	17	7	8	3	44	20
25	115	-	99	-	54	40	25	20	17	7	8	3	50	22
32	110	49	96	28	66	52	28	-	14	7	7	3.5	58	30
40	149	58	129	30	80	60	33	-	20	9	10	3.5	69	35

TC

Φ8~Φ25



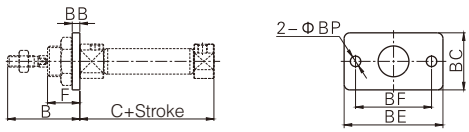
Φ32、Φ40



Bore size\Item	A	B	C	D	E	F	G	H
8	6	4	26	38	20	12	28	58
10	6	4	26	38	20	12	28	58
12	8	6	38	58	25	17	38	67
16	8	6	38	58	25	17	38	73
20	8	6	46	66	32	20	44	82
25	8	6	46	66	32	22	50	87
32	11	9	54	74	45	30	58	82
40	12	10	64	84	55	35	69	101

FA

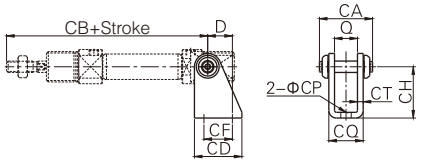
Φ8~Φ25



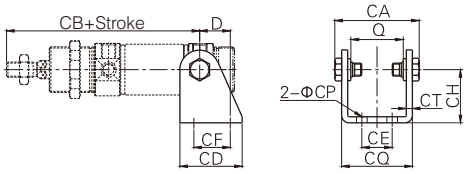
Bore size\Item	B	C	BB	BC	BE	BF	BP	F
8	28	46	2	22	40	30	4.5	12
10	28	46	2	22	40	30	4.5	12
12	38	50	3	26	52	40	5.5	17
16	38	56	3	26	52	40	5.5	17
20	44	62	3.5	38	64	50	7	20
25	50	65	3.5	38	64	50	7	22

SDB

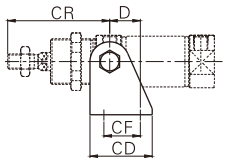
Φ8~Φ25



Φ32、Φ40



Φ32、Φ40



Bore size\Item	D	Q	CA	CB	CD	CE	CF	CH	CP	CQ	CT	CR
8	11	8.1	18.4	76	20	-	12.5	24	4.5	13.1	2	-
10	11	8.1	18.4	76	20	-	12.5	24	4.5	13.1	2	-
12	13	12.1	28	91	25	-	15	27	5.5	18.1	2	-
16	13	12.1	28	98	25	-	15	27	5.5	18.1	2	-
20	16	16.1	38	115	32	-	20	30	7	24.1	2.5	-
25	16	16.1	38	126	32	-	20	30	7	24.1	2.5	-
32	20	34.6	55.5	117	41	20	24	35	7	46.6	3	67
40	27	42.6	69.6	146	52	28	30	40	9	58.6	3	81

[Note] SDB is attached with relevant PIN.



Ordering code

Integral type single Earring type: **DSNU 10 – 40 □**

Built-in magnetic ring type: **DSNU 16 – 100 C – B**

Bore size **Stroke**

Buffer

Blank	Rubber Buffer
C	Gas buffer

[Note] Air cushion is suitable forcylinders over 16mm

Installation form of magnetic switch

A	Track installation
B	Girdle installation

Specifications

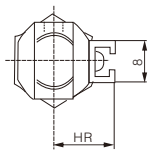
Bore size(mm)	8	10	12	16	20	25
Use fluid	Air					
Action pattern	Double action					
Proof pressure	1.5(1.53)					
Maximum operating pressure	1.0(10.2)					
Minimum working pressure	0.1{1}			0.05{0.5}		
Environment and fluid temperature	-10~60℃					
Piston speed	Rubber buffer (Standard)			Air cushion (optional)		
Buffer	50~750mm/s					
Give oil	No need					
Permissible kinetic energy (J)	0.02	0.03	0.04	0.09	0.27	0.4
Pipe size	M5×0.8				G1/8	

Stroke

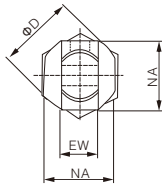
Bore size (mm)	Standard stroke	Maximum range of travel	Track installation	Magnetic switch fittings	
			Magnetic Switch	Magnetic Switch	Girdle installation
8	10,25,40,50,80,10	400	D-A72L D-A80L D-A73L D-F79L D-A76L D-H7BL	D-C73L D-C76L D-C80L D-HA71L D-H7BL	BJ2-008
10					BJ2-010
12	10,25,40,50,80 100,125,160,200				BJ2-012
16					BJ2-016
20	10,25,40,50,80,100 125,150,160,175, 200,250,300	1000			BM2-020
25					BM2-025

Dimensions

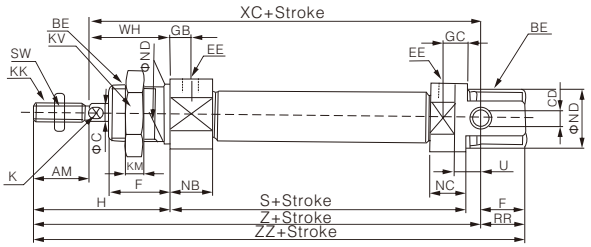
Rubber buffer without built-in magnetic ring and with built-in magnetic ring



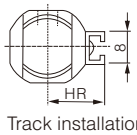
Track installation



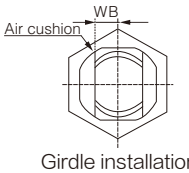
Girdle installation



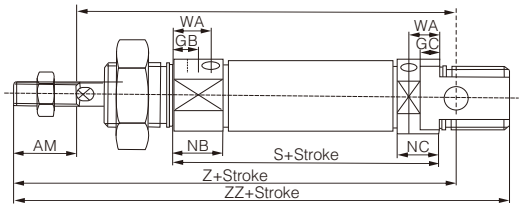
No built-in magnetic ring and built-in magnetic ring air buffer



Track installation



Girdle installation



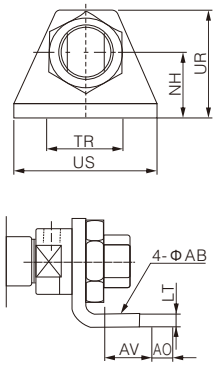
Note: For DSNU 32, 40 and 50, please call our company for information.

Dimension table

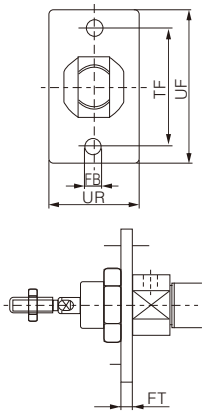
Bore size\Item	AM	BE	ΦC	ΦCD	ΦD	EE	EW	F	GB	GC	WA	WB	H	HR	K	KK
8	12	M12×1.25	4	4	17	M5×0.8	8	12	7	5	-	-	28	10	-	M4×0.7
10	12	M12×1.25	4	4	17	M5×0.8	8	12	7(5.5)	5(5.5)	10.5	4.5	28	10.5	-	M4×0.7
12	16	M16×1.5	6	6	20	M5×0.8	12	17	8(5.5)	6(5.5)	9.5	5.5	38	14	5	M6×1
16	16	M16×1.5	6	6	20	M5×0.8	12	17	8(5.5)	6(5.5)	9.5	5.5	38	14	5	M6×1
20	20	M22×1.5	8	10	28	G1/8	16	20	8	8	11.5	8.5	44	17	6	M8×1.25
25	22	M22×1.5	10	10	33.5	G1/8	16	22	8	8	11.5	10	50	20	8	M10×1.25

Bore size\Item	KV	KW	NB	NC	NA	ΦND	RR	S	SW	U	WH	XC	Z	ZZ
8	19	6	11.5	9.5	15	12	10	46	7	6	16	64	76	86
10	19	6	11.5(13.5)	9.5(13.5)	15	12	10	46(53)	7	6	16	64(71)	76(83)	86(93)
12	24	8	11.5(13.5)	10.5(12.5)	18	16	14	50(54)	10	9	22	75(79)	91(95)	105(109)
16	24	8	12.5	10.5(12.5)	18	16	13	56	10	9	22	82	98	111
20	32	11	15	15	24	22	11	62	13	12	24	95	115	126
25	32	11	15	15	30	22	11	65	17	12	28	104	126	137

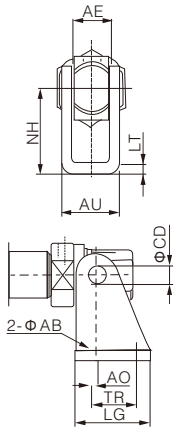
Foot type



Fflange type

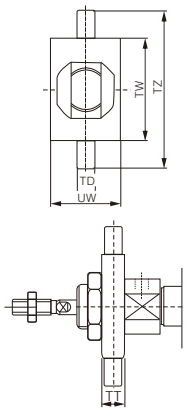


Single earring pedestal

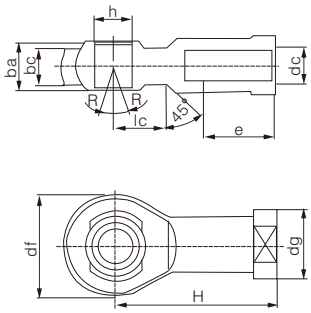


Bore size (mm)	flange type						Foot type								Single earring pedestal								
	Part No.	FT	FB	UR	TF	UF	Part number	ΦAB	AO	AV	LT	TR	US	NH	UR	Part number	ΦAB	AO	TR	LG	ΦCD	AE	AU	NH	LT
8\10	85F10	3.2	4.5	22	30	40	C85L10A	4.5	5	11	3.2	25	35	16	26	C85C10	4.5	1.5	125	20	4	8.1	13.1	24	2.5
12\16	C85F16	4	5.5	30	40	52	C85L16A	5.5	6	14	4	32	42	20	33	C85C16	5.5	2	15	25	6	12.1	18.5	27	3.2
20\25	C85F25	5	6.5	40	50	66	C85L25A	6.6	8	17	5	40	54	25	42	C85C25	6.6	4	20	32	8	16.1	24.1	30	4

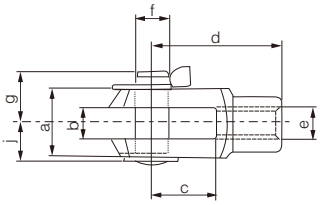
Trunnion



I Type single elbow joint



Y Type double elbow joint



Bore size (mm)	Trunnion						I Type single elbow joint/DIN648										Y Type double elbow joint/DIN71751								
	Part No.	TT	TD	UW	TM	TZ	Part number	dc	Φd	h	df	bc	ba	δ	dg	R°	lc	Part number	e	b	d	f	g	c	j	a
8\10	C85T10	6	4	20	26	38	KJ4D	M4	5	27	18	6	8	10	11	7.5	10	GKM4-8	M4	4	16	4	8	8	6	8
12\16	C85T16	8	6	25	38	58	KJ6D	M6	6	30	20	6.75	9	12	13	6.5	10	GKM6-12	M6	6	24	6	10	12	8	12
20	C85T20	8	6	32	46	66	KJ8D	M8	8	36	24	9	12	16	16	13	12	GKM8-16	M8	8	32	8	12	16	10	16
25	C85T25	8	6	32	46	66	KJ10D	M10×1.25	10	43	28	10.5	14	20	19	13	14	GKM10-20	M10×1.25	10	40	10	18	20	12	20

NCM2 Series
Stainless Steel Mini Cylinder (Double Acting)



Specifications

Bore size(mm)	20	25	32	40
Fluid	Air			
Ction	Double acting, Single rod			
Maximum operating pressure	1.0MPa			
Minimum operating pressure	0.05MPa			
Ambient and fluid temperature	Without auto switch: -10°C to 70°C, With auto switch: -10°C to 60°C			
Piston speed	50~750mm/s			
Buffer	Rubber bumper, Air cushion			
Stroke length tolerance	$^{+1.4}_{0}$			
Lubrication [Note]	Not required (Non-lube)			
Pipe Size (Rc)	1/8			1/4

[Note] For oil supply, please use Turbine No.1 Oil ISOVG32.

Ordering code

N C D M 2 — L — 40 — F — 150 — A — J — M9B □

Built in magnetic ring

Blank	No built-in magnetic ring
D	Built in magnetic ring

Installation form

B	Basic(Double-side bossed)
L	Axial foot
F	Rod flange
G	Head flange
C	Single clevis
D	Double clevis
U	Rod trunnion
T	Head trunnion
E	Integrated clevis
BZ	Boss-cut/Basic
FZ	Boss-cut/Rod flange
UZ	Boss-cut/Rod trunnion

Bore size

20	20mm
25	25mm
32	32mm
40	40mm

Stroke

Piping mode

Blank	Thread piping
F	Built-in quick-change connector

*Gas-liquid hybrid formula only thread piping

Buffer

Blank	Rubber cushion
A	Air cushion

*Gas-liquid hybrid formula only rubber cushion

Protective sleeve

Blank	Unprotected sleeve
J	Nylon Canvas
K	Heat resistant canvas

Magnetic switch type

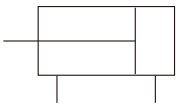
Blank	Without magnetic switch

*Refer to tour/magnetic switch model list for magnetic switch model
*No built-in magnetic ring cylinder no such item

Number of magnetic switches

Blank	2 pcs.
S	1 pc.
3	3 pcs.
n	"n" pcs.

Symbol



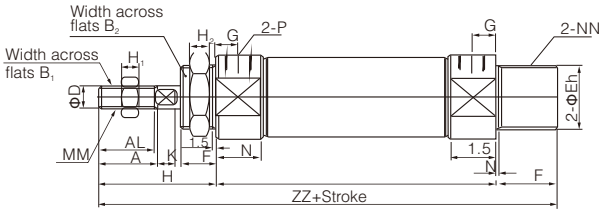
Stroke/magnetic switch model table

Bore size (mm)	Standard stroke (mm) Note 1	Magnetic switch type Note 2	Installation parts type Note 3	Ring belt type
20	25,50,75,100, 125,150,200, 250,300	M9B M9P M9N	BJ3-1	BM2-020
25				BM2-025
32				BM2-032
40				BM2-040

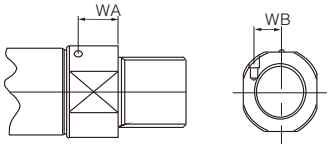
Note: 1. There are non-standard itineraries to choose from.
2. The specifications and characteristics of magnetic switches can be referred to the series of magnetic switches. Wire Length Representation Mark: Unmarked-0.5m, L-3m, Z-5m example: M9N, M9NL.
3. Installation type and ring type must be combined for ordering.

Dimensions

Basic

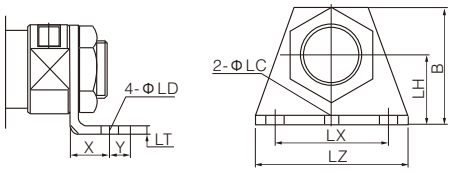


Air cushion

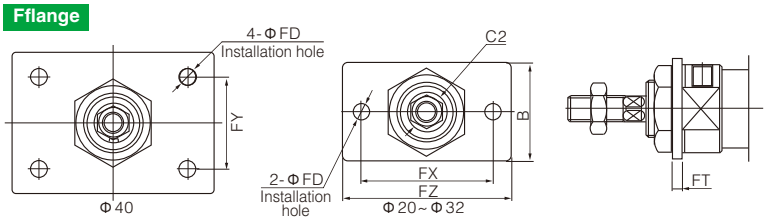


Bore size	Stroke range	A	AL	B1	B2	D	E	F	G	H	H1	H2	I	K	MM	N	NA	NN	P	S	ZZ	WA	WB
20	~300	18	15.5	13	26	8	$20_{-0.033}^{0}$	13	8	41	5	8	28	5	M8×1.25	15	24	M20×1.5	1/8	62	116	13	8.5
25	~300	22	19.5	17	32	10	$26_{-0.033}^{0}$	13	8	45	6	8	33.5	5.5	M10×1.25	15	30	M26×1.5	1/8	62	120	13	10.5
32	~300	22	19.5	17	32	12	$26_{-0.033}^{0}$	13	8	45	6	8	37.5	5.5	M10×1.25	15	34.5	M26×1.5	1/8	64	122	13	11.5
40	~300	24	21	22	41	14	$32_{-0.039}^{0}$	16	11	50	6	10	46.5	7	M14×1.5	21.5	42.5	M32×2	1/4	88	154	16	15

Foot seat

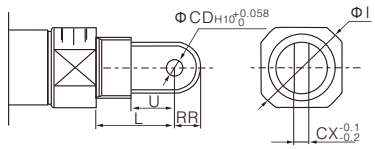


Fflange

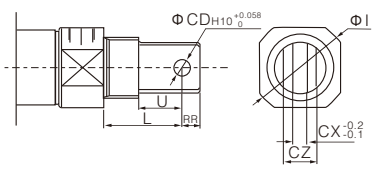


Bore size (mm)	Foot seat										Fflange							
	Part No.	X	Y	ΦLD	ΦLC	LX	LZ	LH	LT	B	Part No.	FD	FY	FX	FZ	C2	B	FT
20	CM-L020B	20	8	6.8	4	40	55	25	3.2	40	CM-F020B	7	-	60	75	30	34	4
25	CM-L025B	20	8	6.8	4	40	55	28	3.2	47	CM-F025B	7	-	60	75	37	40	4
32	CM-L032B	20	8	6.8	4	40	55	28	3.2	47	CM-F032B	7	-	60	75	37	40	4
40	CM-L040B	23	10	7	4	55	75	30	3.2	54	CM-F040B	7	36	66	82	47.3	52	5

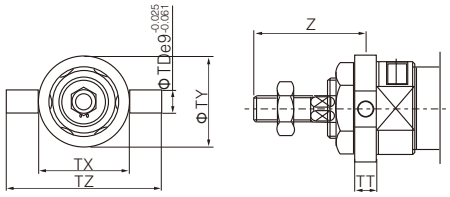
Single earrings



Single earrings



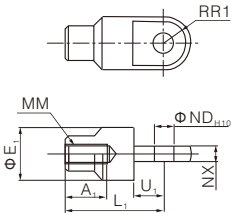
Trunnion



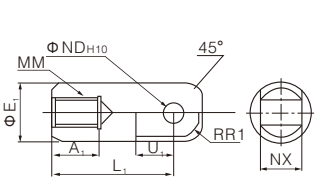
Bore size (mm)	Single Earrings							Single Earrings							Trunnion						
	Part No.	L	U	RR	ΦI	ΦCD	CX	Part No.	L	U	RR	ΦCD	CX	CZ	ΦI	Part No.	TX	TZ	TD	TY	Z	TT
20	CM-C020B	30	14	9	28	9	10	CM-D020B	30	14	9	9	10	19	28	CM-T020B	32	52	8	32	36	10
25	CM-C025B	30	14	9	33.5	9	10	CM-D025B	30	14	9	9	10	19	33.5	CM-T025B	40	60	9	40	40	10
32	CM-C032B	30	14	9	37.5	9	10	CM-D032B	30	14	9	9	10	19	37.5	CM-T032B	40	60	9	40	40	10
40	CM-C040B	39	18	11	46.5	10	15	CM-D040B	39	18	11	10	15	30	46.5	CM-T040B	53	77	10	53	44.5	11

I Type single elbow joint

I-020B,032B

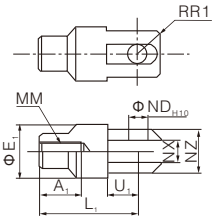


I-040B

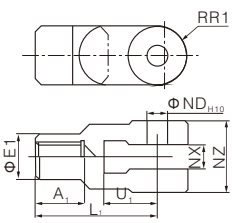


Y Type double elbow joint

Y-020B,032B

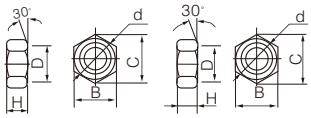


Y-040B



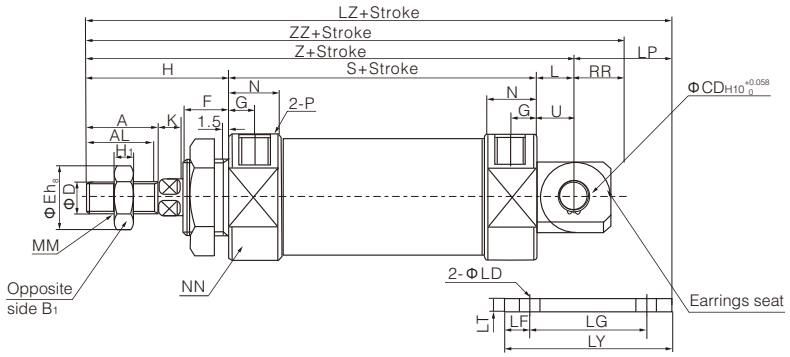
Rod end nut

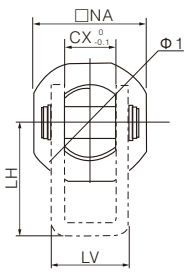
Mounting nut

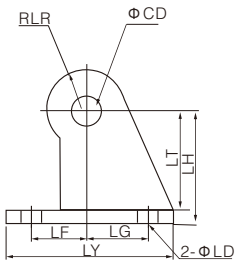


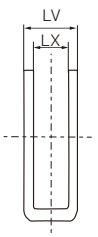
Bore size (mm)	I Type single elbow joint									Y Type double elbow joint										Rod End Nut					Mounting Nut					
	Part No.	A1	E1	L1	MM	ΦNDH10	NX	R1	U1	Part No.	A1	E1	L1	MM	ΦND	NX	NZ	R1	U1	Part No.	B	C	d	H	Part No.	B	C	d	H	D
20	I-020B	16	20	36	M8×1.25	9 +0.058 0	9 -0.1 -0.2	10	14	Y-020B	16	20	36	M8×1.25	9	9 -0.1 -0.2	18	12	14	NT-02	13	15	M8×1.25	5	SN-020B	26	30	M20×1.5	8	25.5
25-30	I-032B	18	20	38	M10×1.25	9 +0.058 0	9 -0.1 -0.2	10	14	Y-032B	18	20	38	M10×1.25	9	9 -0.1 -0.2	18	12	14	NT-03	17	19.6	M10×1.25	6	SN-032B	32	37	M26×1.5	8	31.5
40	I-040B	22	24	55	M14×1.5	12 +0.070 0	16 -0.1 -0.3	15.5	20	Y-040B	22	24	55	M14×1.25	12	16 -0.1 -0.3	38	13	25	NT-04	22	25.4	M14×1.5	8	SN-040B	41	47.3	M32×2.0	10	40.5

Basic type





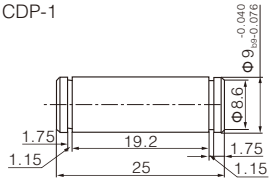




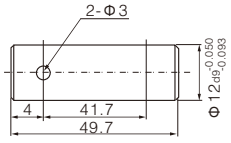
Bore size(mm)	Stroke range	A	AL	B1	CD	CX	D	E	F	G	H	H1	I	K	L	MM	N	NA	NN	P	RR	S	U	Z	ZZ
20	~300	18	15.5	13	8	12	8	20 0 -0.033	13	8	41	5	28	5	12	M8×1.25	15	24	M20×1.5	1/8	9	62	11.5	115	124
25	~300	22	19.5	17	8	12	10	26 0 -0.033	13	8	45	6	33.5	5.5	12	M10×1.25	15	30	M26×1.5	1/8	9	62	11.5	119	128
32	~300	22	19.5	17	10	20	12	26 0 -0.033	13	8	45	6	37.5	5.5	15	M10×1.25	15	34.5	M26×1.5	1/8	12	64	14.5	124	136
40	~300	24	21	22	10	20	14	32 0 -0.039	16	11	50	8	46.5	7	15	M14×1.5	21.5	42.5	M32×2	1/4	12	88	14.5	153	165

Pin for elbow joint

Applicable bore size
Φ20, Φ25, Φ32
CDP-1



Applicable bore size
Φ40
CDP-3



Earrings seat

Bore size(mm)	Part No.	LD	LF	LG	LH	LP	LT	LV	LY	LZ
20	CM-E020B	6.8	15	30	30	37	3.2	18.4	59	152
25		6.8	15	30	30	37	3.2	18.4	59	156
32	CM-E032B	9	15	40	40	50	4	28	75	174
40		9	15	40	40	50	4	28	75	203

NCM2 Series
Stainless Steel Mini Cylinder (Single Acting)



Specifications

Bore size(mm)	20	25	32	40
Fluid	Air			
Ction	Single action			
Maximum operating pressure	1.0MPa			
Minimum operating pressure	0.18MPa(Spring return)0.23MPa(Spring rxtend)			
Ambient and fluid temperature	Without auto switch: -10°C to 70°C, With auto switch: -10°C to 60°C			
Piston speed	50~750mm/s			
Buffer	Rubber bumper, Air cushion			
Stroke length tolerance	$^{+1.4}_{0}$			
Lubrication [Note]	Not required (Non-lube)			
Pipe Size (Rc)	1/8			1/4

[Note] For oil supply, please use Turbine No.1 Oil ISOVG32.

Ordering code

N C D M 2 — B — 32 — F - 150 — T — - M9B — □

Built in magnetic ring

Blank	No built-in magnetic ring
D	Built in magnetic ring

Installation form

B	Basic(Double-side bossed)
L	Axial foot
F	Rod flange
G	Head flange
C	Single clevis
D	Double clevis
U	Rod trunnion
T	Head trunnion
E	Integrated clevis
BZ	Boss-cut/Basic
FZ	Boss-cut/Rod flange
UZ	Boss-cut/Rod trunnion

Bore size

20	20mm
25	25mm
32	32mm
40	40mm

Stroke

Piping mode

Blank	Thread piping
F	Built-in quick-change connector

Action mode

S	Spring return
T	Spring rxtend

Magnetic switch type

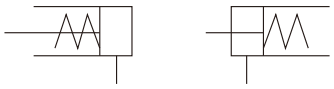
Blank	Without magnetic switch

*Refer to tour/magnetic switch model list for magnetic switch model
*No built-in magnetic ring cylinder no such item

Number of magnetic switches

Blank	2 pcs.
S	1 pc.
3	3 pcs.
n	"n" pcs.

Symbol



Spring return　　Spring rxtend

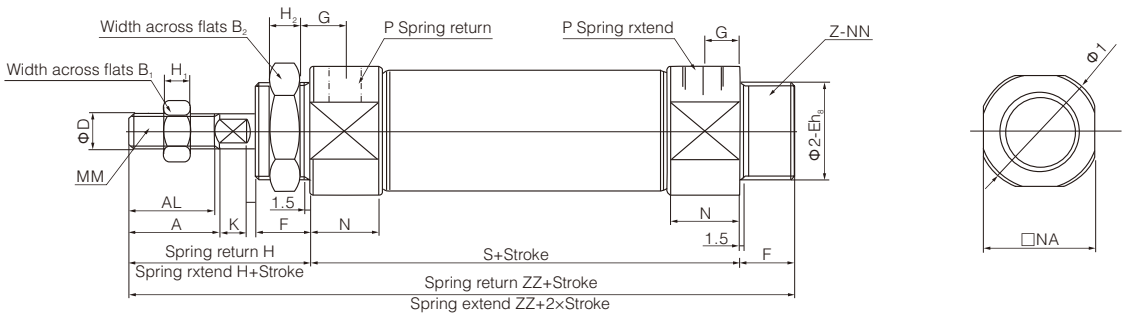
Stroke/magnetic switch model table

Bore size (mm)	Standard stroke (mm)	Magnetic switch type Note 1	Installation parts type Note 2	Ring belt type
20	25,50,75,100,125,150	M9B M9P M9N	BJ3-1	BM2-020
25				BM2-025
32	25,50,75,100,125,150,200			BM2-032
40	25,50,75,100,125,150,200,250			BM2-040

Note: 1. The specifications and characteristics of magnetic switches can be referred to the series of magnetic switches. Wire Length Representation Mark: Unmarked-0.5m, L-3m, Z-5m example: M9N, M9NL.
2. Installation type and ring type must be combined for ordering.

Dimensions

Basic type



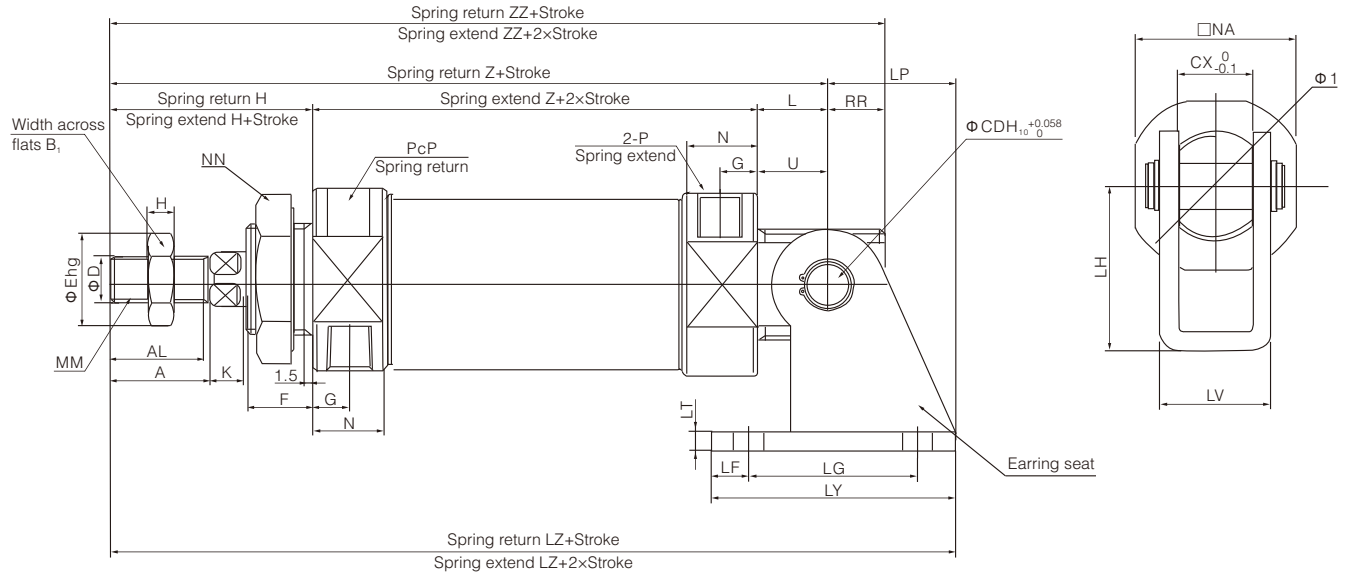
*This figure is a single-acting spring return.

Bore size(mm)	A	AL	B1	B2	D	E	F	G	H	H1	H2	I	K	MM	N	NA	NN	P
20	18	15.5	13	26	8	$20^{0}_{-0.033}$	13	8	41	5	8	28	5	M8×1.25	15	24	M20×1.5	1/8
25	22	19.5	17	32	10	$26^{0}_{-0.033}$	13	8	45	6	8	33.5	5.5	M10×1.25	15	30	M26×1.5	1/8
32	22	19.5	17	32	12	$26^{0}_{-0.033}$	13	8	45	6	8	37.5	5.5	M10×1.25	15	34.5	M26×1.5	1/8
40	24	21	22	41	14	$32^{0}_{-0.039}$	16	11	50	8	10	46.5	7	M14×1.5	21.5	42.5	M32×2	1/4

Bore size \ Stroke / Symbol	1~50		51~100		101~150		151~200		201~250	
	S	ZZ	S	ZZ	S	ZZ	S	ZZ	S	ZZ
20	87	141	112	166	137	191	-	-	-	-
25	87	145	112	170	137	195	-	-	-	-
32	89	147	114	172	139	197	164	222	-	-
40	113	179	138	204	163	229	188	254	213	279

Single earring one body type

NCM2E · NCDM2E



*This figure is a single-acting spring return.

Bore size(mm)	A	AL	B1	CD	CX	D	E	F	G	H	H1	I	K	L	MM	N	NA	NN	P	PR	U
20	18	15.5	13	8	12	8	$20^{0}_{-0.033}$	13	8	41	5	28	5	12	M8×1.25	15	24	M20×1.5	1/8	9	11.5
25	22	19.5	17	8	12	10	$26^{0}_{-0.033}$	13	8	45	6	33.5	5.5	12	M10×1.25	15	30	M26×1.5	1/8	9	11.5
32	22	19.5	17	10	20	12	$26^{0}_{-0.033}$	13	8	45	6	37.5	5.5	15	M10×1.25	15	34.5	M26×1.5	1/8	12	14.5
40	24	21	22	10	20	14	$32^{0}_{-0.039}$	16	11	50	8	46.5	7	15	M14×1.5	21.5	42.5	M32×2	1/4	12	14.5

Stroke / Bore size / Symbol	1~50			51~100			101~150			151~200			201~250		
	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ
20	87	140	149	112	165	174	137	190	199	-	-	-	-	-	-
25	87	144	153	112	169	178	137	194	203	-	-	-	-	-	-
32	89	149	161	114	174	186	139	199	211	164	224	236	-	-	-
40	113	178	190	138	203	215	163	228	240	188	253	265	213	278	290

Part No.	Bore size(mm)	LD	LF	LG	LH	LP	LT	LV	LY	1~50	51~100	101~150	151~200	201~250
										LZ	LZ	LZ	LZ	LZ
CM-E020B	20	6.8	15	30	30	37	3.2	18.4	59	177	202	227	-	-
	25	6.8	15	30	30	37	3.2	18.4	59	181	206	231	-	-
CM-E032B	32	9	15	40	40	50	4	28	75	199	224	249	274	-
	40	9	15	40	40	50	4	28	75	228	253	278	303	328

NCJ2 Series
Stainless Steel Mini Cylinder (Double Acting)



Specifications

Bore size(mm)	6	10	16
Fluid	Air		
Ction	Double acting, Single rod		
Maximum operating pressure	1.0MPa		
Minimum operating pressure	0.12MPa	0.06MPa	
Ambient and fluid temperature	Without auto switch: -10°C to 70°C, With auto switch: -10°C to 60°C		
Piston speed	50~750mm/s		
Buffer	Rubber bumper, Air cushion		
Stroke length tolerance	$^{+1.0}_{0}$		
Lubrication [Note]	Not required (Non-lube)		
Pipe Size (Rc)	M5×0.8		

[Note] For oil supply, please use Turbine No.1 Oil ISOVG32.

Ordering code

N C D J 2 — B 6 - 15 — A — R - M9B □

Built in magnetic ring

Blank	No built-in magnetic ring
D	Built in magnetic ring

Installation form

B	Basic(Double-side bossed)
L	Axial foot
F	Rod flange
D	Double clevis

Bore size

6	6mm
10	10mm
16	16mm

Stroke

Buffer

Blank	Rubber cushion
A	Air cushion

*Gas-liquid hybrid formula only rubber cushion

Head cover port location

Bore size / Symbol	Φ6	Φ10, Φ16
Blank	-	Perpendicular to axis
R	Axial	Axial

*Double earrings have only radial shape

Number of magnetic switches

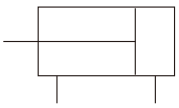
Blank	2 pcs.
S	1 pc.
n	"n" pcs.

Magnetic switch type

Blank	Without magnetic switch

*Refer to tour/magnetic switch model list for magnetic switch model
*No built-in magnetic ring cylinder no such item

Symbol



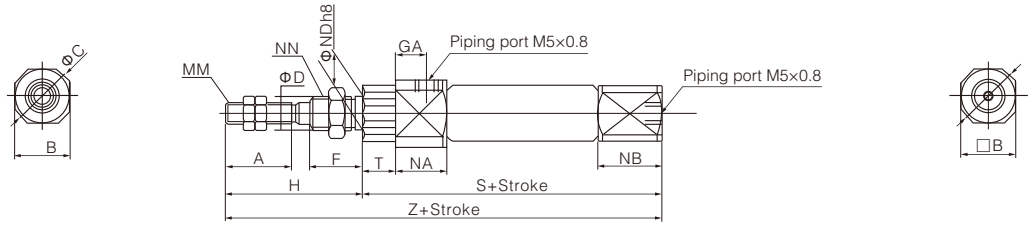
Stroke/magnetic switch model table

Bore size (mm)	Standard stroke	Magnetic switch type	Installation parts type	Ring belt type
6	15,30,45,60	M9B M9P M9N	BJ3-1	BJ2-006
10	15,30,45,60,75, 100,125,150			BJ2-010
16	15,30,45,60,75,100, 125,150,175,200			BJ2-016

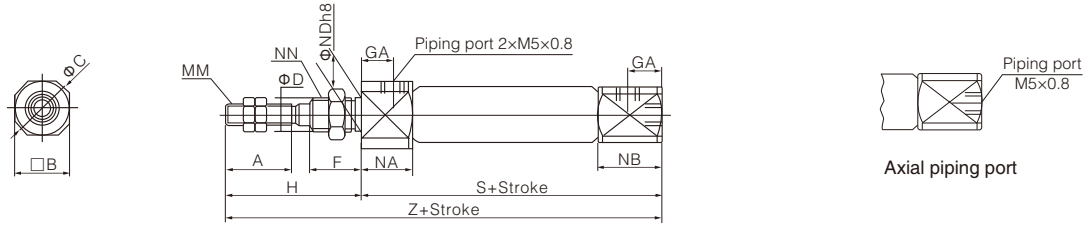
1. The specifications and characteristics of magnetic switches an be referred to the series of magnetic switches.
2. The length of conductor is denoted as mark : No mark -0.5m, L-3m. Example: M9N, M9NL.
3. No installation is required for track installation.
4. Installation type and ring type must be combined for ordering.

Dimensions

Basic type NCJ2B6



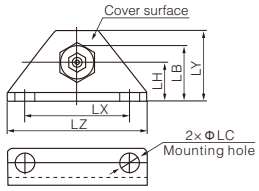
NCJ2B10,16



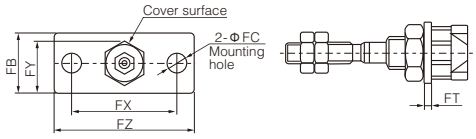
Bore size(mm)	A	B	C	D	F	GA	GB	H	MM	NA	NB	ND h8	NN	S	T	Z
6	15	12	14	3	8	14.5	-	28	M3×0.5	16	7	6	M6×1.0	49	3	77
10	15	12	14	4	8	8	5	28	M4×0.7	12.5	9.5	8	M8×1.0	46	-	74
16	15	18.3	20	5	8	8	5	28	M5×0.8	12.5	9.5	10	M10×1.0	47	-	75

Dimensions

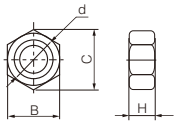
Foot type



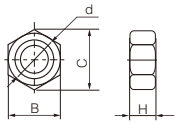
Fflange type



Mounting nut



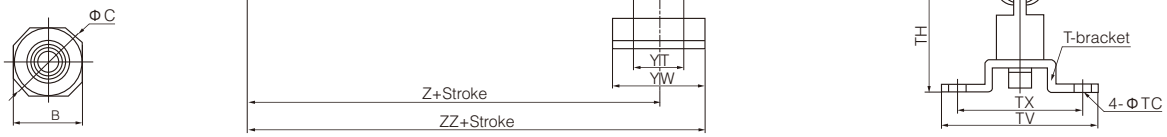
Rod end nut



Bore size (mm)	Foot type							Fflange type							Mounting nut					Rod end nut				
	Part No.	LB	ΦLC	LH	LX	LY	LZ	Part No.	FB	ΦFC	FX	FY	FZ	FT	Part No.	B	C	D	H	Part No.	B	C	D	H
6	CJ-L006B	13	4.5	9	24	16.5	32	CJ-F006B	11	4.5	24	14	32	1.6	SNJ-006B	8	9.2	M6×1	4	NTJ-006A	5.5	6.4	M3×0.5	2.4
10	CJ-L010B	15	4.5	9	24	16.5	32	CJ-F010B	13	4.5	24	14	32	1.6	SNJ-010B	11	12.7	M8×1	4	NTJ-010A	7	8.1	M4×0.7	3.2
16	CJ-L016B	23	5.5	14	33	25	40	CJ-F016B	19	5.5	33	20	42	2.3	SNJ-016B	14	16.2	M10×1	4	NTJ-016A	8	9.2	M5×0.8	4

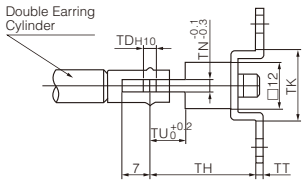
Double earrings

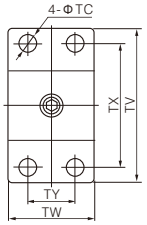
NCJ2D10,16
NCDJ2D10,16



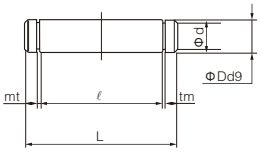
Bore size (mm)	A	B	C	CD(cd)	CX	CZ	D	GA	GB	H	MM	NA	NB	R	S	U	Z	ZZ
10	15	12	14	3.3	3.2	12	4	8	18	28	M4×0.7	12.5	22.5	5	46	8	82	93
16	15	18	20	5	6.5	18	5	8	23	28	M5×0.8	12.5	27.5	8	47	10	85	99

T-bracket



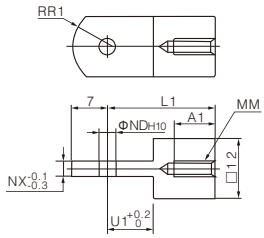


Clevis pin

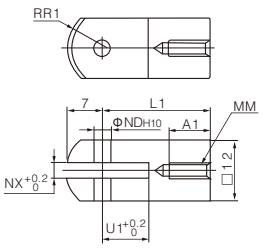


Bore size (mm)	T-bracket												Clevis pin						
	Part No.	TC	TCH10	TH	TK	TN	TT	TU	TV	TW	TX	TY	Part No.	ΦDd9	Φd	L	ℓ	m	t
10	CJ-T010B	4.5	3.3 +0.048 0	29	18	3.1	2	9	40	22	32	12	CD-J010	5 -0.03 -0.06	3	15.2	12.2	1.2	0.3
16	CJ-T016B	5.5	5 +0.048 0	35	20	6.4	2.3	14	48	28	38	16	CD-Z015	3.3 -0.03 -0.06	4.8	22.7	18.3	1.5	0.7

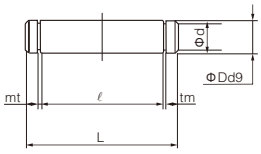
I Type single knuckle joint



Y Type souble knuckle joint



Knuckle pin



Bore size (mm)	I Type single knuckle joint								Y Type souble knuckle joint								Knuckle pin						
	Part No.	A1	ΦNDH10	L1	MM	U1	NX	R1	Part No.	A1	ΦNDH10	L1	MM	U1	NX	R1	Part No.	ΦDd9	L	Φd	ℓ	m	t
10	I-J010B	8	3.3 +0.048 0	21	M4×0.7	9	3.1	8	Y-J010B	8	3.3 +0.048 0	21	M4×0.7	10	3.2	8	CD-J010	3.3 -0.03 -0.06	3	15.2	12.2	1.2	0.3
16	I-J016B	8	5 +0.048 0	25	M5×0.8	14	6.4	12	Y-J016B	11	5 +0.048 0	21	M5×0.8	10	6.5	12	IY-J015	5 -0.03 -0.06	16.6	4.8	12.2	1.5	0.7

NCJ2 Series
Stainless Steel Mini Cylinder (Single Acting)



Specifications

Bore size(mm)	6	10	16
Fluid	Air		
Ction	Single action: spring return/spring rxtend		
Maximum operating pressure	0.7MPa		
Minimum operating pressure	0.25MPa	0.15MPa	
Ambient and fluid temperature	Without auto switch: -10°C to 70°C, With auto switch: -10°C to 60°C		
Piston speed	50~750mm/s		
Buffer	Rubber bumper		
Stroke length tolerance	$^{+1.0}_{0}$		
Lubrication [Note]	Not required (Non-lube)		
Pipe Size	M5×0.8		

[Note] For oil supply, please use Turbine No.1 Oil ISOVG32.

Ordering code

N C D J 2 — B — 16 — 45 — S — R — M9B — □

Built in magnetic ring

Blank	No built-in magnetic ring
D	Built in magnetic ring

Installation form

B	Basic(Double-side bossed)
F	Rod flange
L	Axial foot
D	Double clevis (Except Φ6)

Bore size

6	6mm
10	10mm
16	16mm

Stroke

Action mode

S	Spring return
T	Spring rxtend

Head cover port location

Bore size / Symbol	Φ6	Φ10, Φ16
Blank	-	Perpendicular to axis
R	Axial	Axial

*Double earrings have only radial shape

Magnetic switch type

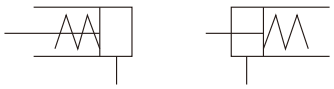
Blank	Without magnetic switch

*Refer to tour/magnetic switch model list for magnetic switch model
*No built-in magnetic ring cylinder no such item

Number of magnetic switches

Blank	2 pcs.
S	1 pc.
n	"n" pcs.

Symbol



Spring return　　Spring rxtend

Stroke/magnetic switch model table

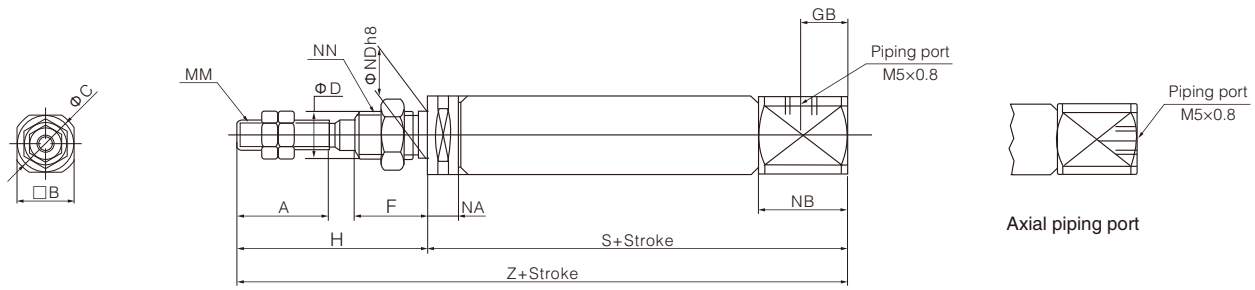
Bore size (mm)	Standard stroke	Magnetic switch type	Installation parts type	Ring belt type
6	15,30,45,60	M9B M9P M9N	BJ3-1	BJ2-006
10	15,30,45,60,75, 100,125,150			BJ2-010
16	15,30,45,60,75,100, 125,150,175,200			BJ2-016

1. The specifications and characteristics of magnetic switches an be referred to the series of magnetic switches.
2. The length of conductor is denoted as mark : No mark -0.5m, L-3m. Example: M9N, M9NL.
3. No installation is required for track installation.
4. Installation type and ring type must be combined for ordering.

Dimensions

Basic type: Spring return

NCJ2B · NCDJ2B

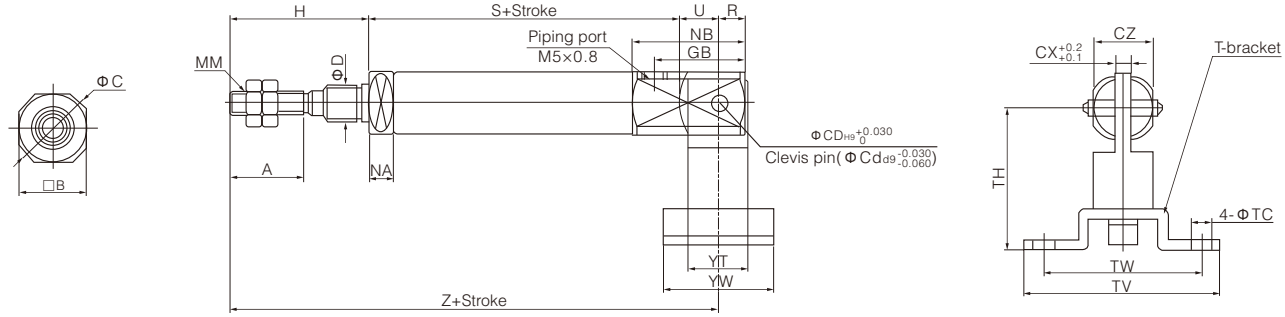


Bore size (mm)	A	B	C	D	F	GB	H	MM	NA	NB	NDh8	NN	*S								*Z							
													5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150
6	15	8	19	3	8	-	28	M3×0.5	3	7	$6^{0}_{-0.018}$	M6×1	34.5 (39.5)	43.5 (48.5)	47.5 (52.5)	61.5 (66.5)	-	-	-	-	62.5 (67.5)	71.5 (76.5)	75.5 (80.5)	89.5 (94.5)	-	-	-	-
10	15	12	14	4	8	5	28	M4×0.7	5.5	9.5	$8^{0}_{-0.022}$	M8×1	45.5	53	65	77	-	-	-	-	73.5	81	93	105	-	-	-	-
16	15	18.3	20	5	8	5	28	M5×0.8	5.5	9.5	$10^{0}_{-0.022}$	M10×1	45.5	54	66	78	84	108	126	138	73.5	82	94	106	112	136	154	166

* ( )Size of built-in magnetic ring.

Double earrings: Spring return

NCJ2D · NCDJ2D

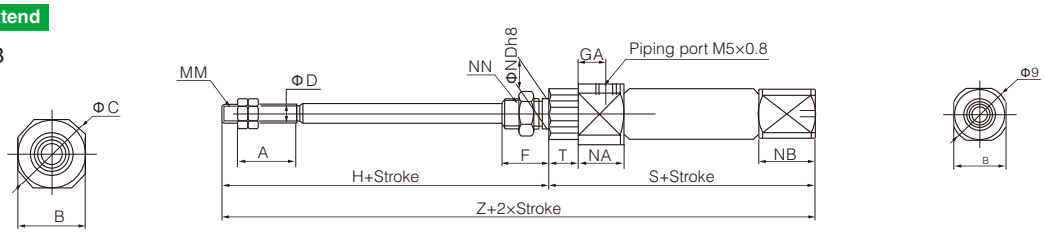


Bore size (mm)	A	B	C	CD (Cd)	CX	CZ	D	GB	H	MM	NA	NB	R	U	*S								*Z							
															5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150
10	15	12	14	3.3	3.2	12	4	18	20	M4×0.7	5.5	22.5	5	8	45.5	53	65	77	-	-	-	-	73.5	81	93	105	-	-	-	-
16	15	18.3	20	5	6.5	18.3	5	23	20	M5×0.8	5.5	27.5	8	10	45.5	54	66	78	84	108	126	138	75.5	84	96	108	114	138	156	168

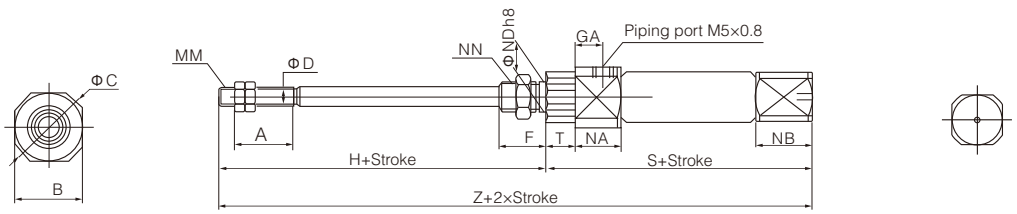
Basic type: Spring rxtend

NCJ2B · NCDJ2B

NCJ2B6



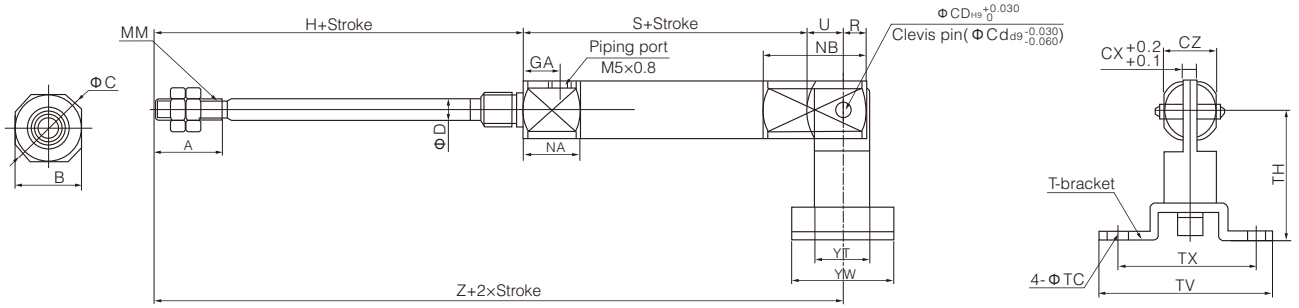
NCJ2B10,16



Bore size (mm)	A	B	C	D	F	GA	H	MM	NN	NA	NB	NDh8	T	*S								*Z							
														5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150
6	15	8	14	3	8	14.5	28	M3×0.5	M6×1	16	3	$6^{0}_{-0.018}$	3	46.5 (51.5)	55.5 (60.5)	59.5 (64.5)	73.5 (78.5)	-	-	-	-	74.5 (79.5)	83.5 (88.5)	87.5 (92.5)	101.5 (106.5)	-	-	-	-
10	15	12	14	4	8	8	28	M4×0.7	M8×1	12.5	5.5	$8^{0}_{-0.022}$	-	48.5	56	68	80	-	-	-	-	76.5	84	96	108	-	-	-	-
16	15	18.3	20	5	8	8	28	M5×0.8	M10×1	12.5	5.5	$10^{0}_{-0.022}$	-	48.5	57	69	81	87	111	129	141	76.5	85	97	109	115	139	157	169

Double earrings: Spring rxtend

NCJ2B · NCDJ2B



Bore size (mm)	A	B	C	CD (Cd)	CX	CZ	D	GA	H	MM	NA	NB	R	U	S								Z							
															5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150
10	15	12	14	3.3	3.2	12	4	8	28	M4×0.7	12.5	18.5	5	8	48.5	56	68	80	-	-	-	-	84.5	92	104	116	-	-	-	-
16	15	18.3	20	5	6.5	18.3	5	8	28	M5×0.8	12.5	23.5	8	10	48.5	57	69	81	87	111	129	141	86.5	95	107	119	125	149	167	179



Specifications

Bore size(mm)	20	25	32	40	50	63	80	100
Fluid	Air							
Ction	Double acting							
Maximum operating pressure	1.0MPa							
Minimum operating pressure	0.05MPa							
Ambient and fluid temperature	Without auto switch: -10°C to 60°C, With auto switch: -10°C to 70°C							
Piston speed	50~1000mm/s						50~700mm/s	
Buffer	Rubber bumper, Air cushion							
Stroke length tolerance	~1000: $^{+1.4}_{0}$ ~1200: $^{+1.8}_{0}$						~1000: $^{+1.4}_{0}$ ~1500: $^{+1.8}_{0}$	
Lubrication [Note]	Not required (Non-lube)							
Pipe Size (Rc)	1/8				1/4		3/8	1/2

[Note] For oil supply, please use Turbine No.1 Oil ISOVG32.

Ordering code

N C D G 1 — L N — 25 - 100 □ - B54 □

Built in magnetic ring

Blank	No built-in magnetic ring
D	Built in magnetic ring

Installation form

B	Basic
L	Axial foot
F	Rod flange
G	Head flange
*U	Rod trunnion
*T	Head trunnion
D	Double clevis

* Not available for Φ80 and Φ100.

Buffer

N	Rubber bumper
A	Air cushion

Bore size

20	20mm
25	25mm
32	32mm
40	40mm
50	50mm
63	63mm
80	80mm
100	100mm

Stroke

Protective sheath (one side)

Blank	Without rod boot
J	Nylon tarpaulin
K	Heat resistant tarpaulin

Magnetic switch type

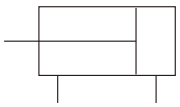
Blank	Without magnetic switch

*Refer to tour/magnetic switch model list for magnetic switch model
*No built-in magnetic ring cylinder no such item

Number of magnetic switches

Blank	2 pcs.
S	1 pc.
n	"n" pcs.

Symbol



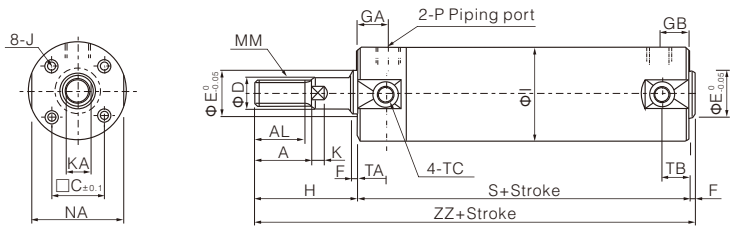
Stroke/magnetic switch model table

Bore size (mm)	Standard stroke	Long stroke	Magnetic switch type	
			Model	Installation
20	25, 50, 75, 100, 125, 150, 175, 200	201~350	B54	BA-01
25	25, 50, 75, 100, 125, 150, 175, 200, 250, 300	301~400		BA-02
32		301~450		BA-32
40		301~800		BA-04
50		301~1200		BA-05
63		301~1200		BA-06
80		301~1400		BA-08
100		301~1500		BA-10

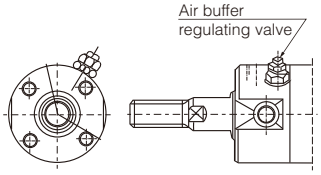
1. The specifications and characteristics of magnetic switches an be referred to the series of magnetic switches.
2. The length of conductor is denoted as mark : No mark -0.5m, L-3m, Z-5m. Example: B54, B54L.

Dimensions

Basic type Rubber bumper



Air cushion

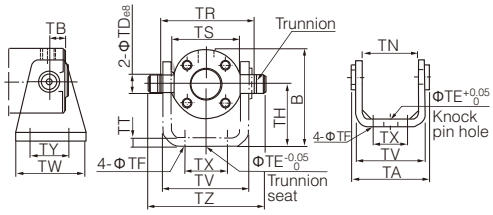


* In the case of air cushioning, the nozzle caliber P=M5×0.8 with cylinder diameters of 20mm and 25mm.

Bore size (mm)	Stroke range	A	AL	□C	ΦD	ΦE	F	GA	GB	ΦI	J	K	KA	MM	NA	P	S	TA	TB	TC	H	ZZ
20	~200	18	15.5	14	8	12	2	12	10	26	M4×0.7 depth 7	4	6	M8×1.25	24	1/8	69	11	11	M5×0.8	35	106
25	~300	22	19.5	16.5	10	14	2	12	10	31	M5×0.8 depth 7.5	5.5	8	M10×1.25	29	1/8	69	11	11	M6×0.75	40	111
32	~300	22	19.5	20	12	18	2	12	10	38	M5×0.8 depth 8	5.5	10	M10×1.25	35.5	1/8	71	11	10	M8×1.0	40	113
40	~300	30	27	26	16	25	2	13	10	47	M6×1 depth 12	6	14	M14×1.5	44	1/8	78	12	10	M10×1.25	50	130
50	~300	35	32	32	20	30	2	14	12	58	M8×1.25 depth 16	7	18	M18×1.5	55	1/4	90	13	12	M12×1.25	58	150
63	~300	35	32	38	20	32	2	14	12	72	M10×1.5 depth 16	7	18	M18×1.5	69	1/4	90	13	12	M14×1.5	58	150
80	~300	40	37	50	25	40	3	20	16	89	M10×1.5 depth 22	10	22	M22×1.5	80	3/8	108	-	-	-	71	182
100	~300	40	37	60	30	50	3	20	16	110	M12×1.75 depth 22	10	26	M26×1.5	100	1/2	108	-	-	-	71	182

Trunnion and trunnion seat

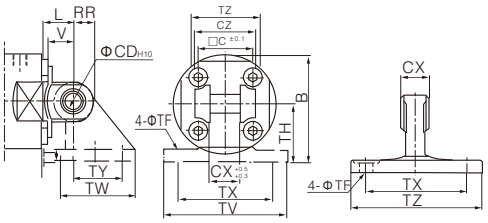
Φ20~Φ63



Bore size (mm)	Trunnion		Trunnion seat													
	Part No.	ΦTDeB	Part No.	B	TB	ΦTE	ΦTF	TH	TR	TS	TT	TV	TW	TX	TY	TZ
20	CG-T020	$8^{-0.025}_{-0.047}$	CG-020-24A	38	11	10	5.5	25	39	28	3.2	35.8	42	16	28	47.6
25	CG-T025	$10^{-0.025}_{-0.047}$	CG-025-24A	45.5	11	10	5.5	30	43	33	3.2	39.8	42	20	28	53
32	CG-T032	$12^{-0.032}_{-0.059}$	CG-032-24A	54	10	10	6.6	35	54.5	40	4.5	49.4	48	22	28	67.7
40	CG-T040	$14^{-0.032}_{-0.059}$	CG-040-24A	63.5	10	10	6.6	40	65.5	49	4.5	58.4	56	30	30	78.7
50	CG-T050	$16^{-0.032}_{-0.059}$	CG-050-24A	79	12	20	9	50	80	60	6	72.4	64	36	36	98.6
63	CG-T063	$18^{-0.032}_{-0.059}$	CG-063-24A	96	12	20	11	60	98	74	8	90.4	74	46	46	119.2

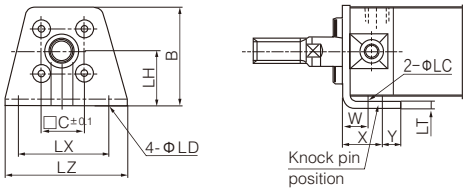
Double earrings and earrings seat

Φ80~Φ100

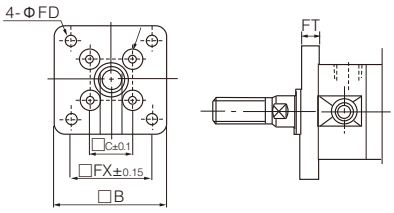


Bore size (mm)	Double earrings							Earrings seat								
	Part No.	ΦCD_{H10}	CX	CZ	L	RR	V	Part No.	ΦTF	TH	TT	TV	TW	TX	TY	TZ
80	CG-D080	$18^{+0.070}_{0}$	28	56	35	18	25	CG-080-24A	11	55	11	110	72	85	45	64
100	CG-D100	$22^{+0.084}_{0}$	32	64	43	20	31	CG-100-24A	13.5	65	12	130	93	100	60	72

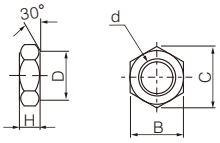
Axial foot



Flange



Rod end nut

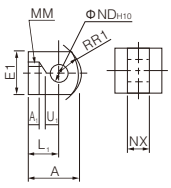


Bore size (mm)	Axial foot										Flange				
	Part No.	ΦLC	ΦLD	LH	LT	LX	LZ	B	W	X	Y	Part No.	□B	□FX	ΦFD	FT
20	CG-L020	4	5.5	20	3	32	44	34	10	15	7	CG-F020	40	28	5.5	6
25	CG-L025	4	5.5	22	3	36	49	38.5	10	15	7	CG-F025	44	32	5.5	7
32	CG-L032	4	6.6	25	3	44	58	45	10	16	8	CG-F032	53	38	6.6	7
40	CG-L040	4	6.6	30	3	54	71	54.5	10	16.5	9	CG-F040	61	46	6.6	8
50	CG-L050	5	9	40	4.5	66	86	70.5	17.5	22	11	CG-F050	76	58	9	9
63	CG-L063	5	11	45	4.5	82	106	82.5	17.5	22	13	CG-F063	92	70	11	9
80	CG-L080	6	11	55	4.5	100	125	101	20	28.5	14	CG-F080	104	82	11	11
100	CG-L100	6	14	65	6	120	150	121	20	30	16	CG-F100	128	100	14	14

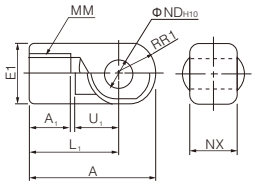
Bore size (mm)	Rod end nut					
	Part No.	d	H	B	C	D
20	NT-02	M8×1.25	5	13	15	12.5
25,32	NT-03	M10×1.25	6	17	19.6	16.5
40	NT-G04	M14×1.5	8	19	(21.9)	18
50,63	NT-G05	M18×1.5	11	24	(27.7)	23
80	NT-08	M22×1.5	13	32	(37.0)	31
100	NT-10	M26×1.5	16	41	(47.3)	39

Single knuckle joint

I-G02,G03

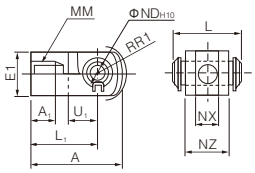


I-G04,G05,G08,G10

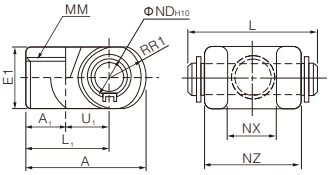


Double knuckle joint

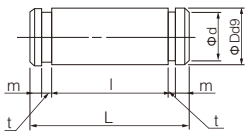
Y-G02,G03



Y-G04,G05,G08,G10



Clevis pin



Bore size (mm)	Single knuckle joint										Double knuckle joint												Clevis pin						
	Part No.	A	A1	E1	L1	MM	RR1	U1	ND_{H10}	NX	Part No.	A	A1	E1	L1	MM	RR1	U1	ND_{H10}	NX	NL	L	Part No.	$\Phi Dd9$	L	Φd	l	m	t
20	I-G02	34	8.5	□16	25	M8×1.25	10.3	11.5	$8^{+0.058}_{0}$	$8^{-0.2}_{-0.4}$	Y-G02	34	8.5	□16	25	M8×1.25	10.3	11.5	$8^{+0.058}_{0}$	$8^{+0.4}_{+0.2}$	16	21	IY-G02	$8^{+0.040}_{+0.076}$	21	7.6	16.2	1.5	0.9
25,32	I-G03	41	10.5	□20	30	M10×1.25	12.8	14	$10^{+0.058}_{0}$	$10^{-0.2}_{-0.4}$	Y-G03	41	10.5	□20	30	M10×1.25	12.8	14	$10^{+0.058}_{0}$	$10^{+0.4}_{+0.2}$	20	25.6	IY-G03	$10^{+0.040}_{+0.076}$	25.6	9.6	20.2	1.55	1.15
40	I-G04	42	14	Φ20	30	M14×1.5	12	14	$10^{+0.058}_{0}$	$18^{-0.3}_{-0.5}$	Y-G04	42	16	Φ20	30	M14×1.5	12	14	$10^{+0.058}_{0}$	$18^{+0.5}_{+0.3}$	36	41.6	IY-G04	$10^{+0.040}_{+0.076}$	41.6	9.6	36.2	1.55	1.15
50,53	I-G05	56	18	Φ28	40	M18×1.5	16	20	$14^{+0.070}_{0}$	$22^{-0.3}_{-0.5}$	Y-G05	56	20	Φ28	40	M18×1.5	16	20	$14^{+0.070}_{0}$	$22^{+0.5}_{+0.3}$	44	50.6	IY-G05	$14^{+0.050}_{+0.093}$	50.6	13.4	44.2	2.05	1.15
80	I-G08	71	21	Φ38	50	M22×1.5	21	27	$18^{+0.070}_{0}$	$28^{-0.3}_{-0.5}$	Y-G08	71	23	Φ38	50	M22×1.5	21	27	$18^{+0.070}_{0}$	$28^{+0.5}_{+0.3}$	56	64	IY-G08	$18^{+0.050}_{+0.093}$	64	17	56.2	2.55	1.35
100	I-G10	79	21	Φ44	55	M26×1.5	24	31	$22^{+0.084}_{0}$	$32^{-0.3}_{-0.5}$	Y-G10	79	24	Φ44	55	M26×1.5	24	31	$22^{+0.084}_{0}$	$32^{+0.5}_{+0.3}$	64	72	IY-G10	$22^{+0.055}_{+0.177}$	72	21	64.2	2.55	1.35

* Pins for elbow joints of Φ80 and Φ100 cylinders are the same as pins for double earrings.



Specifications

Bore size(mm)	6	10	15
Fluid	Air		
Ction	Double acting, Spring return		
Guarantee pressure resistance	1.05MPa		
Maximum operating pressure	0.7MPa		
Minimum operating pressure	0.2	0.15	
Ambient and fluid temperature	50~60°C		
Buffer	Not required (Non-lube)		
Stroke length tolerance	$^{+1.0}_{0}$		
Lubrication [Note]	Not required		
Pipe size (Rc)	M5×0.8(Panel mounting type)		

[Note] For oil supply, please use Turbine No.1 Oil ISOVG32.

Ordering code

NCJP B 10 - 15 H4 - B

Installation form

B	Panel mount type
S	Embedded type

Bore size

6	6mm
10	10mm
15	15mm

Stroke

Hose nipple

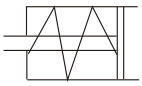
Blank	Without hose nipple*
H4	For Φ4/Φ2.5 tubing
H6	For Φ6/Φ4 tubing

*mbedded type without this joint

Rod end thread

Blank	With thread
B	Without thread

Symbol

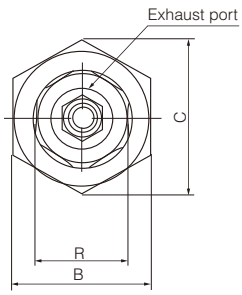


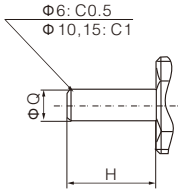
Stroke/Spring Force

Bore size(mm)	Standard stroke	Retracted position	Extended position
6	5,10,15	150	400
10	5,10,15	250	610
15	5,10,15	450	1100

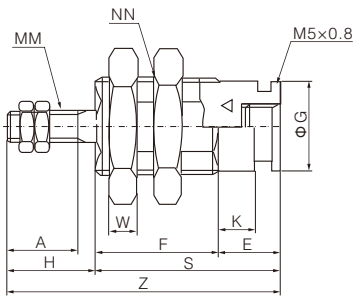
Dimensions

Panel mounting type CJPB



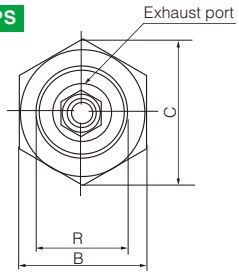


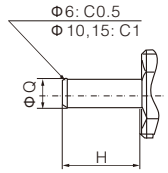
Without rod end thread



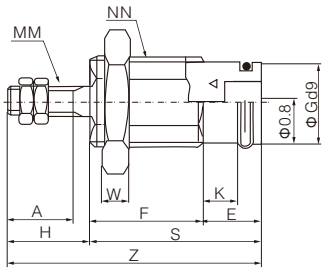
Bore size (mm)	A	B	C	E	F			ΦG	H	K	MM	NN	R	S			W	Z			Q
					5st	10st	15st							5st	10st	15st		5st	10st	15st	
6	7	12	13.9	6	12.5	19.5	26.5	8.5	9	3.5	M3×0.5	M10×1.0	9	18.5	22.5	32.5	3	27.5	34.5	41.5	3
10	10	19	22	6	14.5	21	28	12	12	3.5	M4×0.7	M15×1.5	13	20.5	27	34	4	32.5	39	46	5
15	12	27	31	7	16.5	22.5	29	19	14	4.2	M5×0.8	M22×1.5	20	23.5	29.5	36	5	37.5	43.5	50	6

Embedded Type CJPS





Without rod end thread



Bore size (mm)	A	B	C	E	F			ΦG	H	K	MM	NN	R	S			W	Z			Q
					5st	10st	15st							5st	10st	15st		5st	10st	15st	
6	7	12	13.9	6	12.5	19.5	26.5	8.5	9	3.5	M3×0.5	M10×1.0	9	18.5	22.5	32.5	3	27.5	34.5	41.5	3
10	10	19	22	6	14.5	21	28	12	12	3.5	M4×0.7	M15×1.5	13	20.5	27	34	4	32.5	39	46	5
15	12	27	31	7	16.5	22.5	29	19	14	4.2	M5×0.8	M22×1.5	20	23.5	29.5	36	5	37.5	43.5	50	6



Specifications

Bore size(mm)	6	10	15
Fluid	Air		
Ction	Double acting, Single rod		
Guarantee pressure resistance	1.0MPa		
Maximum operating pressure	0.7MPa		
Minimum operating pressure	0.12MPa	0.06MPa	
Ambient and fluid temperature	Without auto switch: -10°C With auto switch: -10 to 60°C		
Buffer	Rubber bumper		
Use piston speed	50~500mm/s		
Stroke length tolerance	$^{+1.0}_{0}$		
Lubrication [Note]	Not required (Non-lube)		
Pipe size (Rc)	M5×0.8		

[Note] For oil supply, please use Turbine No.1 Oil ISOVG32.

Ordering code

N C D J P — B — 15 — 20 — D-B — 97 — S

Built in magnetic ring

Blank	No built-in magnetic ring
D	Built in magnetic ring

Bore size

6	6mm
10	10mm
15	15mm

Installation form

Symbol	Standard	Mounting	Built-in magnet
B	Basic	●	●
F	Flange	●	●
L	Foot	●	●
D	Clevis	●	-
T	Trunnion	●	-

Stroke

Double acting

Magnetic switch type

Blank	Without magnetic switch

*Refer to tour/magnetic switch model list for magnetic switch model
*No built-in magnetic ring cylinder no such item

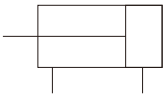
Number of magnetic switches

Blank	2 pcs.
S	1 pc.

Rod end thread

Blank	With thread
B	Without thread

Symbol



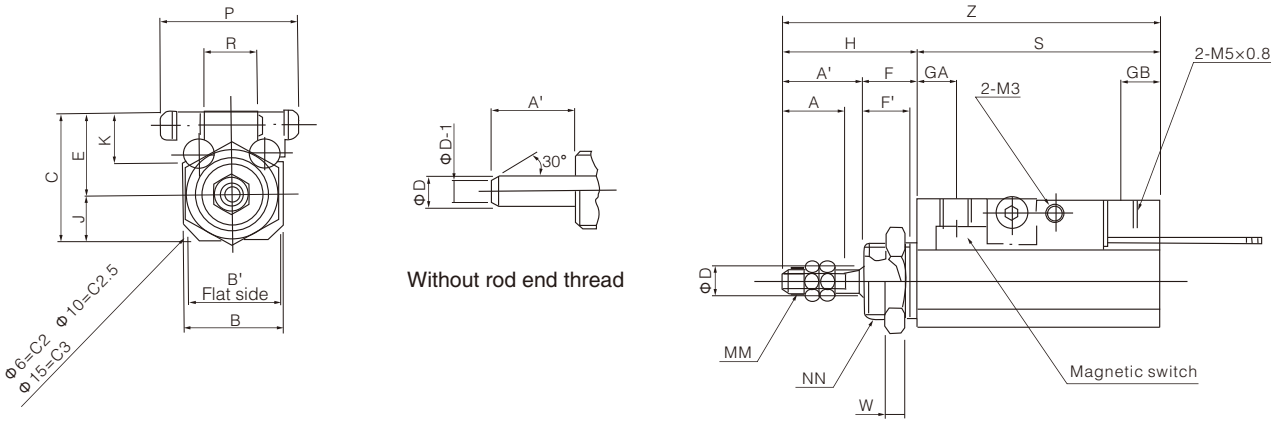
Stroke/magnetic switch model table

Bore size (mm)	Standard stroke	Magnetic switch model	Magnetic switch Installation
6	5,10,15,20	97	BP-1
10	5,10,15,20,25,30		
15	5,10,15,20,25,30		

* The specifications and characteristics of magnetic switches can be referred to the series of magnetic switches.
The length of the conductor is denoted as mark: no mark-0.5m, L-3m, Z-5m, Example: 97A, 97AL.

Dimensions

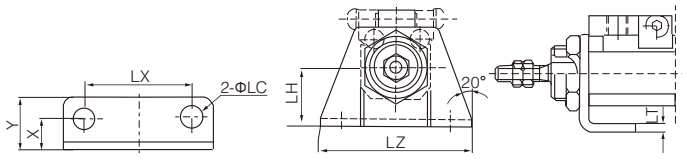
NCJPB • NCDJPB



St: Cylinder stroke (mm)

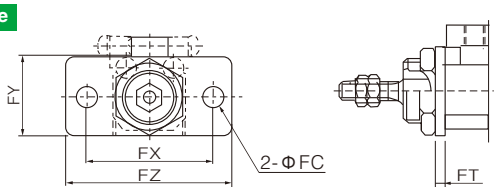
Bore size (mm)	A	A'	B	B'	ΦD	F	F'	GA	GB	H	J	K	MM	NN	R	S					W	Z							
																5st	10st	15st	20st	30st		5st	10st	15st	20st	30st	C	E	P
6	7	9	14	14	3	8	6.5	6	6	17	6	8	M3×0.5	M10×1.0	7	30.5	35.5	40.5	45.5	-	3	47.5	52.5	57.5	62.5	-	16.5	10.5	20
10	10	12	15	17	5	8	6.5	6	7	20	7	8	M4×0.7	M12×1.0	8	30.5	35.5	40.5	45.5	55.5	4	50.5	55.5	60.5	65.5	75.5	20	13	21
15	12	14	20	19	6	10	8.5	6	7	24	9	8	M5×0.8	M14×1.0	10	30.5	35.5	40.5	45.5	55.5	5	54.5	59.5	64.5	69.5	79.5	24.5	15.5	23

Foot



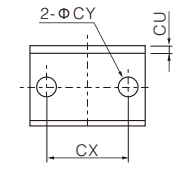
Bore size (mm)	Foot							
	Part No.	LH	LT	LZ	LX	X	Y	ΦLC
6	CP-L006	11	1.6	28	20	6.5	10.5	3.4
10	CP-L010	13	1.6	33	24	7	12	4.5
15	CP-L015	18	2.3	43	30	10	16.5	4.5

Flange

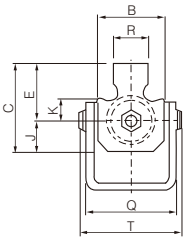


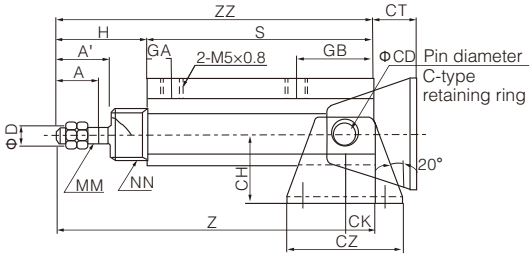
Bore size (mm)	Flange					
	Part No.	FT	FX	FY	FZ	ΦFC
6	CP-L006	1.6	24	16	32	3.4
10	CP-L010	1.6	28	18	37	4.5
15	CP-L015	2.3	36	22	49	5.5

Trunnion: CJPT/Without magnetic Switch



Trunnion Installation



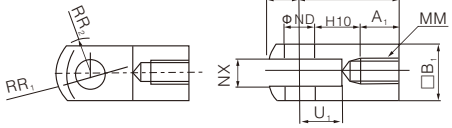


St: Cylinder stroke (mm)

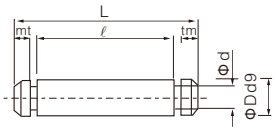
Bore size (mm)	Trunnion seat Part No.	S					Z					ZZ					R
		5st	10st	15st	20st	30st	5st	10st	15st	20st	30st	5st	10st	15st	20st	30st	
6	CP-T006	35.3	40.5	45.5	50.5	-	48.5	53.5	58.5	63.5	-	52.5	57.5	62.5	67.5	-	7
10	CP-T010	40.5	45.5	50.5	55.5	65.5	54	59	64	69	79	60.5	65.5	70.5	75.5	85.5	8
15	CP-T015	42	47	52	57	67	58	63	68	73	83	66	71	76	81	91	10

Bore size(mm)	A	A'	B	C	ΦD	E	GA	GB	H	J	K	MM	NN	Q	T	ΦCD	CH	CK	CT	CU	CX	ΦCY	CZ
6	7	9	14	16.5	3	10.5	6	11	17	6	8	M3×0.5	M10×1.0	18.5	20.4	3	16	4	12	1.6	18	3.4	26
10	10	12	15	20	5	13	6	17	20	7	8	M4×0.7	M12×1.0	20.5	23.9	5	20	6.5	13.5	1.6	24	4.5	33
15	12	14	20	24.5	6	15.5	6	18.5	24	9	8	M5×0.8	M14×1.0	28	31.7	6	25	8	17	2.9	29	5.5	42

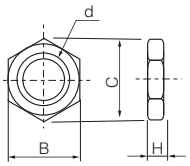
Y type double knuckle joint



Knuckle pin

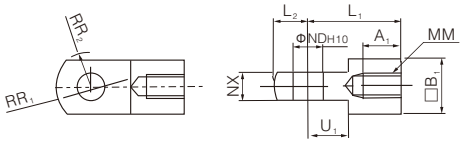


Mounting nut

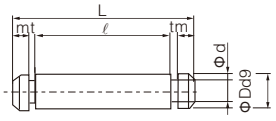


Bore size (mm)	Y type double knuckle joint											Knuckle pin							Mounting nut				
	Part No.	A1	B1	ΦND$_{H10}$	L1	L2	MM	U1	NX	R1	R2	Part No.	ΦDd9	L	Φd	ℓ	M	t	Part No.	d	H	B	C
6	Y-P006	5	6	$3^{+0.04}_{0}$	12	3.5	M3×0.5	5	3	5	4	IY-P006	$3^{-0.020}_{-0.045}$	9	2.85	6.2	0.75	0.65	SNP-006	M10×1	3	14	16.2
10	Y-P010	6.5	10	$5^{+0.048}_{0}$	16	5.5	M4×0.7	7	5	8	6.3	IY-P010	$5^{-0.030}_{-0.060}$	13.6	4.8	10.2	1	0.7	SNP-010	M12×1	3	17	19.6
15	Y-P015	7	12	$6^{+0.048}_{0}$	19	7	M5×0.8	9	6	10	7.8	IY-P015	$6^{-0.030}_{-0.060}$	15.8	5.7	12.2	1	0.8	SNP-015	M14×1	4	19	21.9

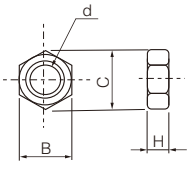
I type single knuckle joint



Trunnion pin



Mounting nut



Bore size (mm)	I type single knuckle joint											Trunnion pin							Mounting nut				
	Part No.	A1	B1	ΦND$_{H10}$	L1	L2	MM	U1	NX	R1	R2	Part No.	ΦDd9	L	Φd	ℓ	m	t	Part No.	d	H	B	C
6	I-P006	5	6	$3^{+0.04}_{0}$	12	3.5	M3×0.5	5	3	5	4	CT-P006	$3^{-0.020}_{-0.045}$	9	2.85	6.2	0.75	0.65	SNP-006	M3×0.5	1.8	5.5	6.4
10	I-P010	6.5	10	$5^{+0.048}_{0}$	16	5.5	M4×0.7	7	5	8	6.3	CT-P010	$5^{-0.030}_{-0.060}$	13.6	4.8	10.2	1	0.7	SNP-010	M4×0.7	2.4	7	8.1
15	I-P015	7	12	$6^{+0.048}_{0}$	19	7	M5×0.8	9	6	10	7.8	CT-P015	$6^{-0.030}_{-0.060}$	15.8	5.7	12.2	1	0.8	SNP-015	M5×0.8	3.2	8	9.2



Specifications

Bore size(mm)	6	10	16	20	25	32	40
Operation	Double acting						
Fluid	Air						
Pressure range kgf/cm² (kpa)	1~8.5(100~850)						
Max. service pressure kgf/cm² (kpa)	9(900)						
Operating ambient temperature range ℃	0~60						
Range of service speed mm/sec	50~700						
Stroke adjusting range	-5~0						
Port size	M3×0.5p	M5×0.8p				Rc1/8"	
Sensor device	With magnet						

Standard stroke

Bore size (mm)	Stroke	Adjusting range
6	10, 20, 30, 40, 50	
10	10, 20, 25, 30, 40, 50, 75, 100	
16	10, 20, 25, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250	
20	10, 20, 25, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250	-5~0
25	10, 20, 25, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250	
32	10, 20, 25, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250	
40	10, 20, 30, 40, 50, 75, 100, 125, 150	

Ordering code

TD 10 × 50 – SD 2

Model

TD	Dual Rod Cylinder

Bore size

6	6mm
10	10mm
16	16mm
20	20mm
25	25mm
32	32mm
40	40mm

Stroke

6	10~50 mm
10	10~100 mm
16	10~250 mm
20	10~250 mm
25	10~250 mm
32	10~250 mm
40	10~150 mm

Sensor switch

Blank	Without sensor switch
SE	Sensor switch code(CS-30E)
SD	Sensor switch code (CS-9D)
SB	Sensor switch code (CS-9B)

Note: Φ6, Φ40 are not suitable.

Number of sensor switch

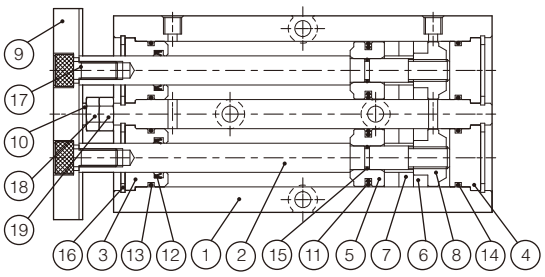
1	1 pcs
2	2 pcs

Theoretical force

Bore size(mm)	Piston rod dia(mm)	Action	Piston area (cm²)	Air pressure (kgf/cm²)						
				1	2	3	4	5	6	7
6	4	Push	0.5	-	1.0	1.5	2.0	2.5	3.0	3.5
		Pull	0.3	-	0.6	0.9	1.2	1.5	1.8	2.1
10	6	Push	1.5	-	3.1	4.7	6.2	7.8	9.3	10.9
		Pull	1.0	-	2.0	3.0	4.0	5.0	6.0	7.0
16	8	Push	4.0	4.0	8.0	12.0	16.0	20.1	24.1	28.1
		Pull	3.0	3.0	6.0	9.0	12.0	15.0	18.0	21.0
20	10	Push	6.2	6.2	12.5	18.8	25.1	31.4	37.6	43.9
		Pull	4.7	4.7	9.4	14.1	18.8	23 5	28.2	32.9
25	12	Push	9.8	9.8	19.6	29.4	39.2	49.1	58.8	68.5
		Pull	7.5	7.5	15.1	22.6	30.2	37.7	45.3	52.8
32	16	Push	16.0	16.0	32.1	48.2	64 3	80.4	96.4	112.5
		Pull	12.0	12.1	24.1	36.2	48.2	60.3	72.4	84.4
40	20	Push	25.1	25.1	50.3	76.5	100.5	125.7	150.8	175.9
		Pull	18.8	18.8	37.7	26.5	75.4	94.2	131.1	131.9

Note : Above are theoretical date ; please take into consideration the frictional resistance and the mechanical efficiency of value should be added calculation before using. (About 70%~80%)

Inner structure and material of major parts



No.	Item	Material	No.	Item	Material
01	Body	Aluminum alloy	11	Piston packing	NBR
02	Rod	Medium carbon steel	12	Rod packing	NBR
03	Front cover	Aluminum alloy	13	Front cover O-Ring	NBR
04	End cover	Aluminum alloy	14	End cover O-Ring	NBR
05	Piston	Copper	15	Piston O-Ring	NBR
06	Wear ring	Teflon	16	Snap	Spring steel
07	Magnet	Rare earth metals/Plastic magnet	17	Screw	Alloy steel
08	Magnet	Copper	18	Screw	Alloy steel
09	Sliding block	Iron / Aluminum alloy	19	Nut	Medium carbon steel
10	Stopper	Rubber / Bearing steel			

Note : TDΦ6, Φ10, Φ16, Φ20 Plate Material is Iron ; TD Φ25, Φ32, Φ40 Plate Material is Aluminum alloy.

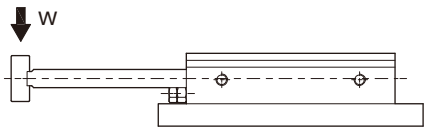
Packing and O-Ring list

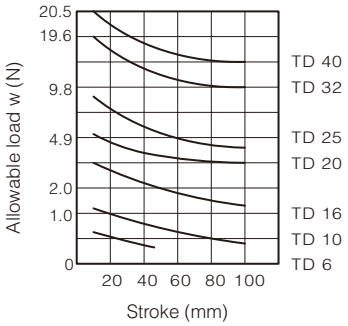
Item / Bore size \ No.	Piston packin	Rod packing	End cover O-ring	Front cover O-ring	Piston O-ring
	2	2	2	2	2
6	MYA-3(4 PCS)	EM0407	5×1.0	5×1.0	-
10	DYP-10(4 PCS)	EM0609	8×1.0	8×1.0	2.9×1.0
16	PSD-16	EM0811	13.2×1.5	13.2×1.5	8×1.0
20	COP-20	EM1014	17.5×1.5	17.5×1.5	10×1.0
25	COP-25	EM1214	20.8×2.0	20.8×2.0	12×1.0
32	COP-32	EM1620	28.5×2.0	28.5×2.0	16×1.5
40	COP-40	Em2025	36×2.0	36×2.0	20×1.5

Weight

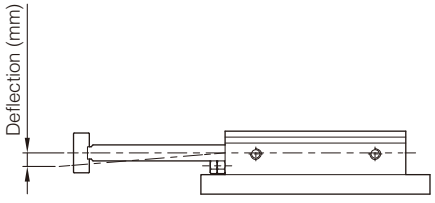
Bore size(mm)	Weight (kg)										
	Stroke (mm)										
	10	20	30	40	50	75	100	125	150	175	200
6	0.1	0.1	0.1	0.1	0.1	–	–	–	–	–	–
10	0.10	0.11	0.13	0.14	0.15	0.19	0.22	–	–	–	–
16	0.31	0.34	0.36	0.39	0.42	0.49	0.56	0.62	0.69	0.76	0.83
20	0.46	0.49	0.53	0.56	0.60	0.69	0.78	0.87	0.96	1.04	1.13
25	0.77	0.81	0.87	0.92	0.97	1.09	1.15	1.34	1.46	1.61	1.76
32	1.51	1.56	1.68	1.78	1.87	2.08	2.32	2.55	2.77	3.00	3.25
40	2	2.2	2.4	2.7	2.9	3.1	3.4	3.6	3.8	–	–

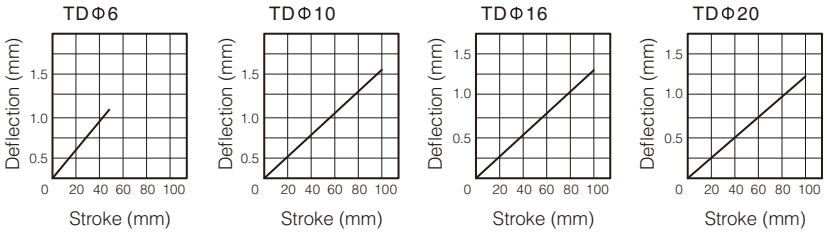
Allowable load

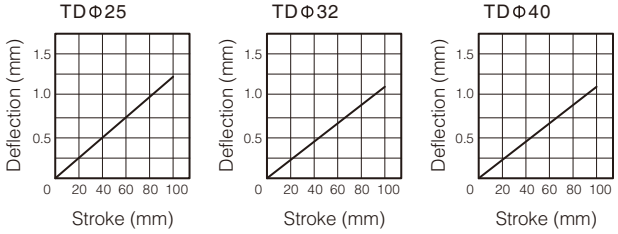




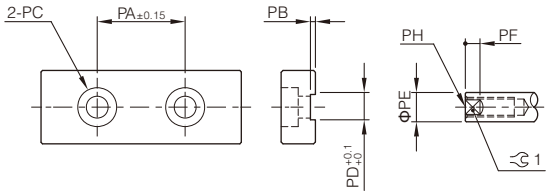
Allowable deflection







Dimension for end rod

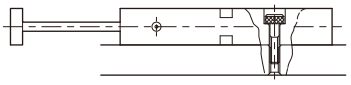


Symbol / Bore size	PA	PB	PC	PD	PE	PF	1	PH
6	13	1	Thru-hole Φ2.8 , Hole Φ5 dp 2.7	3.5	4	2	3.5	M2.5×0.4 dp 5
10	18	1	Thru-hole Φ4.5 , Hole Φ8 dp 4.3	5.2	6	3	5.2	M4×0.7 dp 10
16	24.2	1	Thru-hole Φ5.5 , Hole Φ9 dp 5.5	6.2	8	3	6.2	M5×0.8 dp 12
20	28.2	1	Thru-hole Φ6.5 , Hole Φ11 dp 6.8	8.2	10	3	8.2	M6×1.0 dp 15
25	34.2	1	Thru-hole Φ8.5 , Hole Φ14 dp 8.5	10.2	12	3	10.2	M8×1.25 dp 15
32	44	1	Thru-hole Φ8.5 , Hole Φ17 dp 11	14	16	3	14	M10×1.5 dp 20
40	55	2.5	Thru-hole Φ10.5 , Hole Φ17 dp 11	18	20	4	18	M10×1.5 dp 15

Mounting type

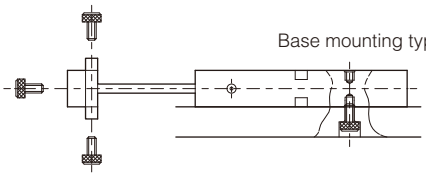
Two types of mounting for body

Upper mounting type



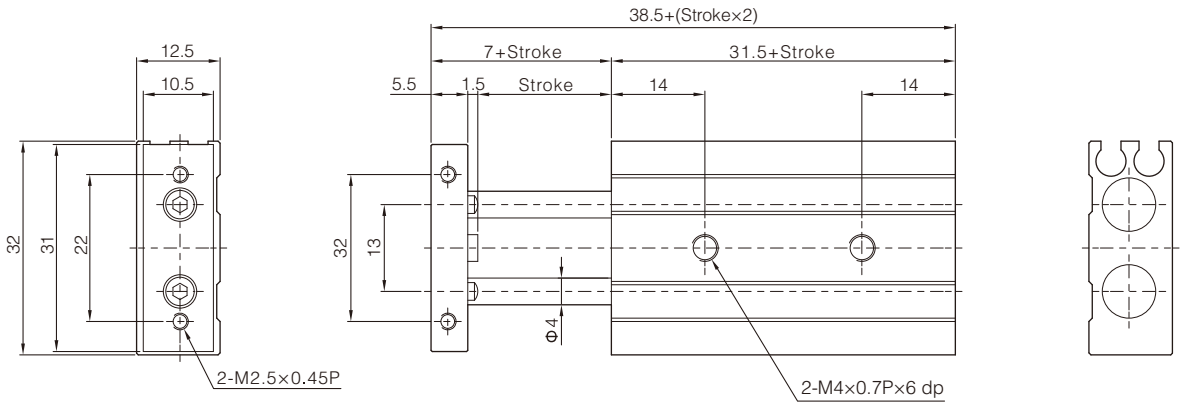
Mounting housing from three directions

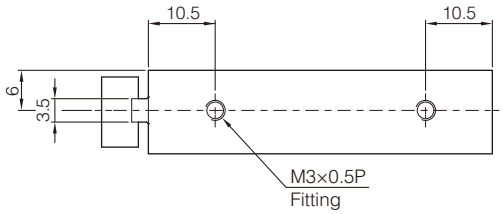
Base mounting type

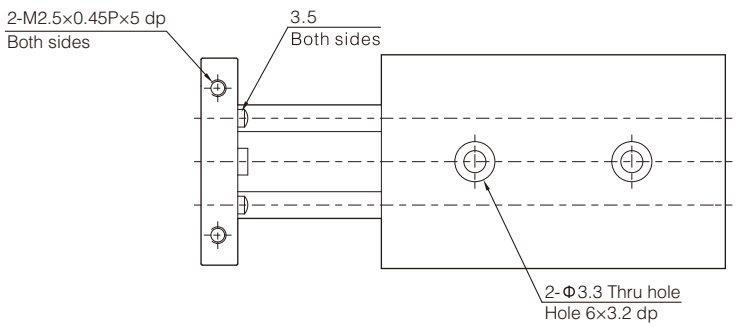


Dimensions

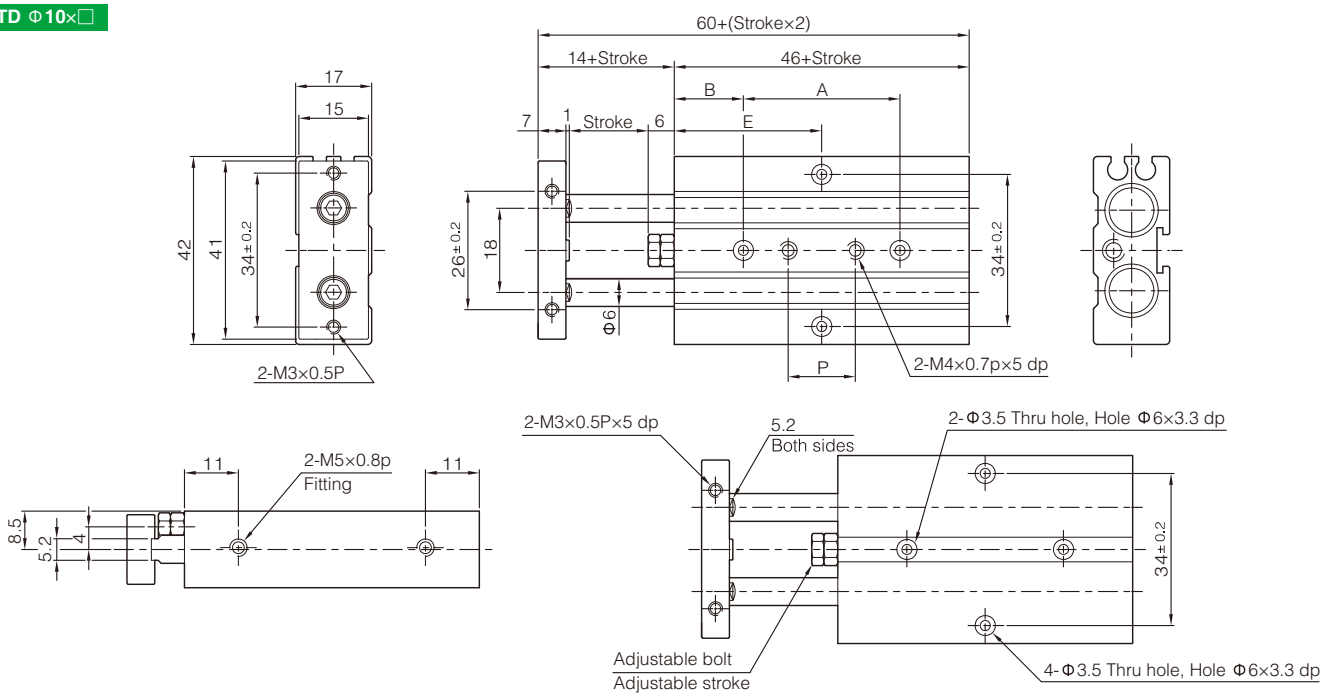
TD Φ6 × □





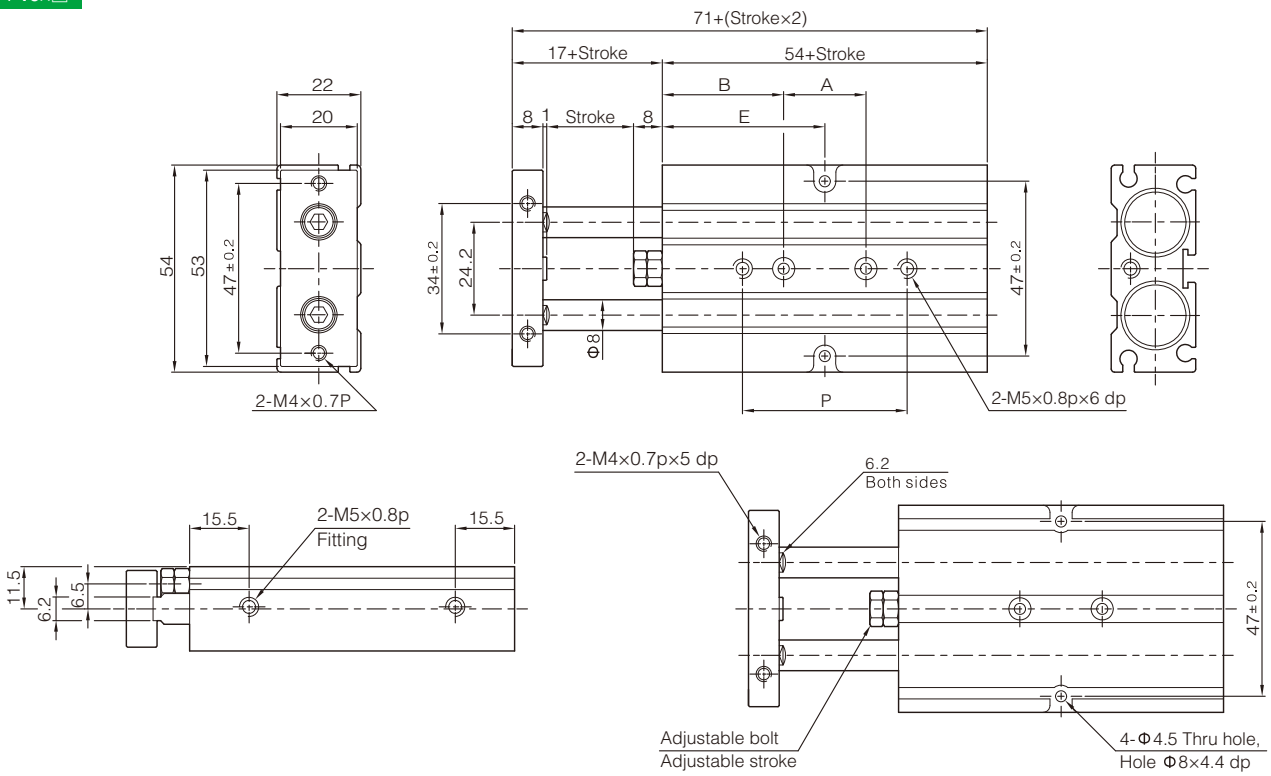


TD Φ10×□



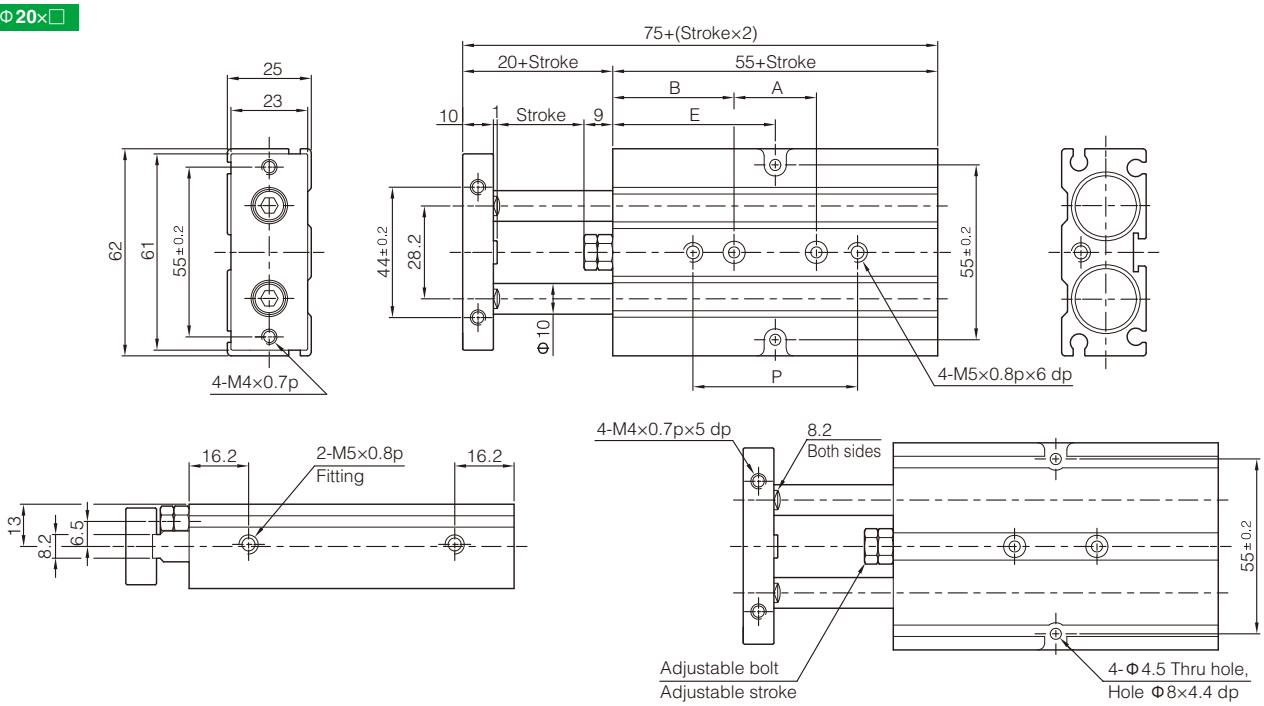
Code \ Stroke	10	20	25	30	40	50	75	100
A	20	30	35	40	50	60	85	110
B	18	18	18	18	18	18	18	18
C	28	33	35.5	38	43	43	60.5	73
P	-	-	15	20	30	30	65	90

TD Φ16×□



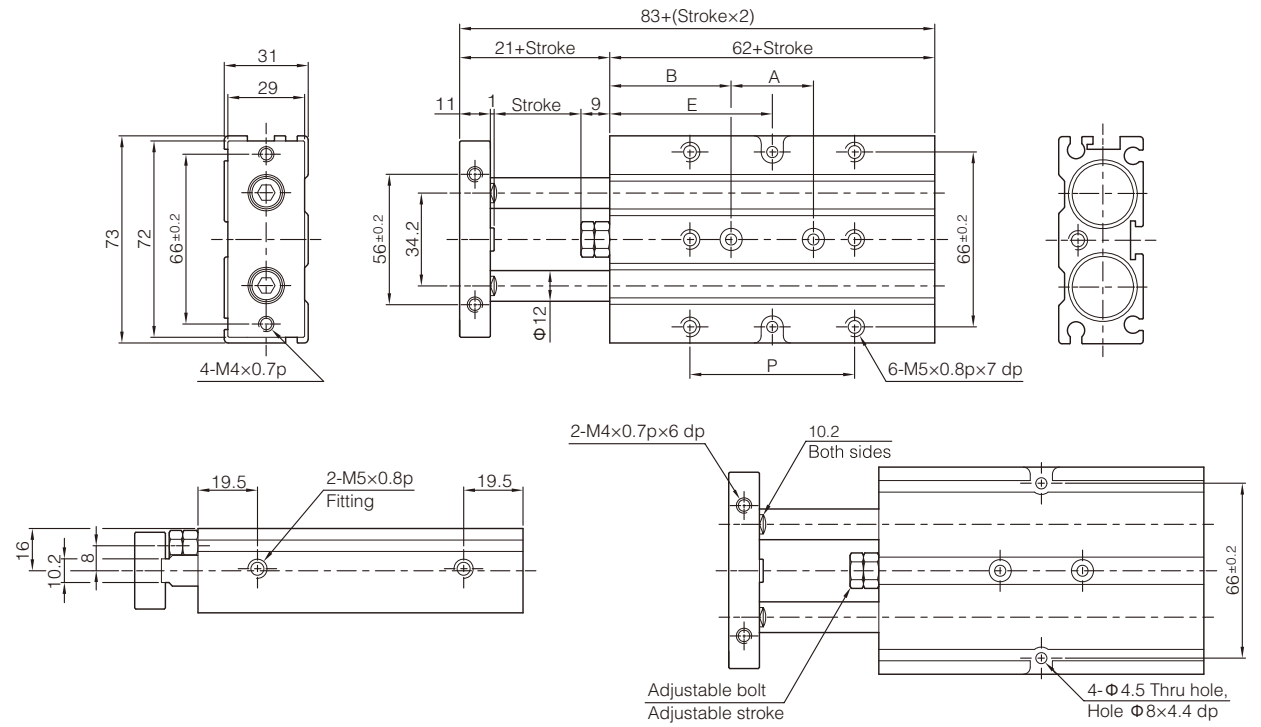
Code \ Stroke	10	20	25	30	40	50	75	100	125	150	175	200	250
A	20	20	20	20	30	40	60	80	100	100	100	100	120
B	22	27	29.5	32	32	32	34.5	37	39.5	52	64.5	77	92
C	32	37	39.5	42	47	52	64.5	77	89.5	102	114.5	127	152
P	-	-	40	40	50	60	80	100	120	120	120	120	150

TD Φ20×□



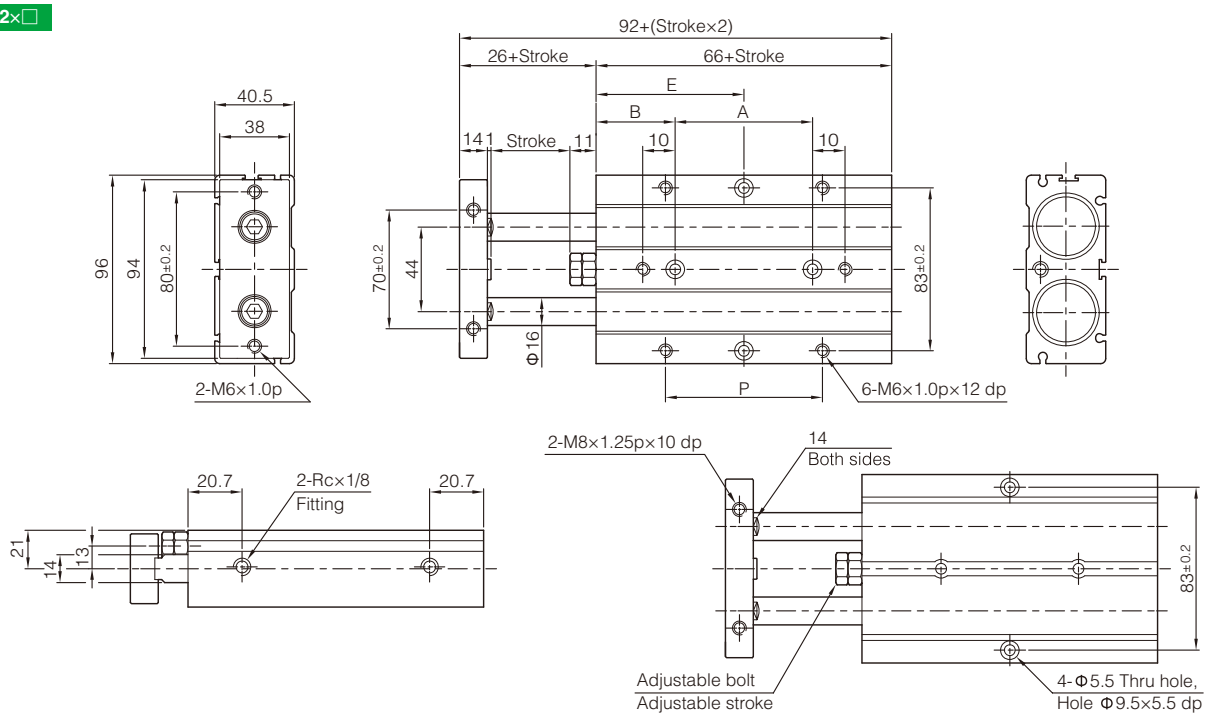
Code \ Stroke	10	20	25	30	40	50	75	100	125	150	175	200	250
A	20	20	20	20	30	40	60	80	100	100	100	100	120
B	22.5	27.5	30	32.5	32.5	32.5	35	37.5	40	52.5	65	77.5	92.5
C	32.5	37.5	40	42.5	47.5	52.5	65	77.5	90	102.5	115	127.5	152.5
P	-	-	40	40	50	60	80	100	120	120	120	120	150

TD Φ25×□



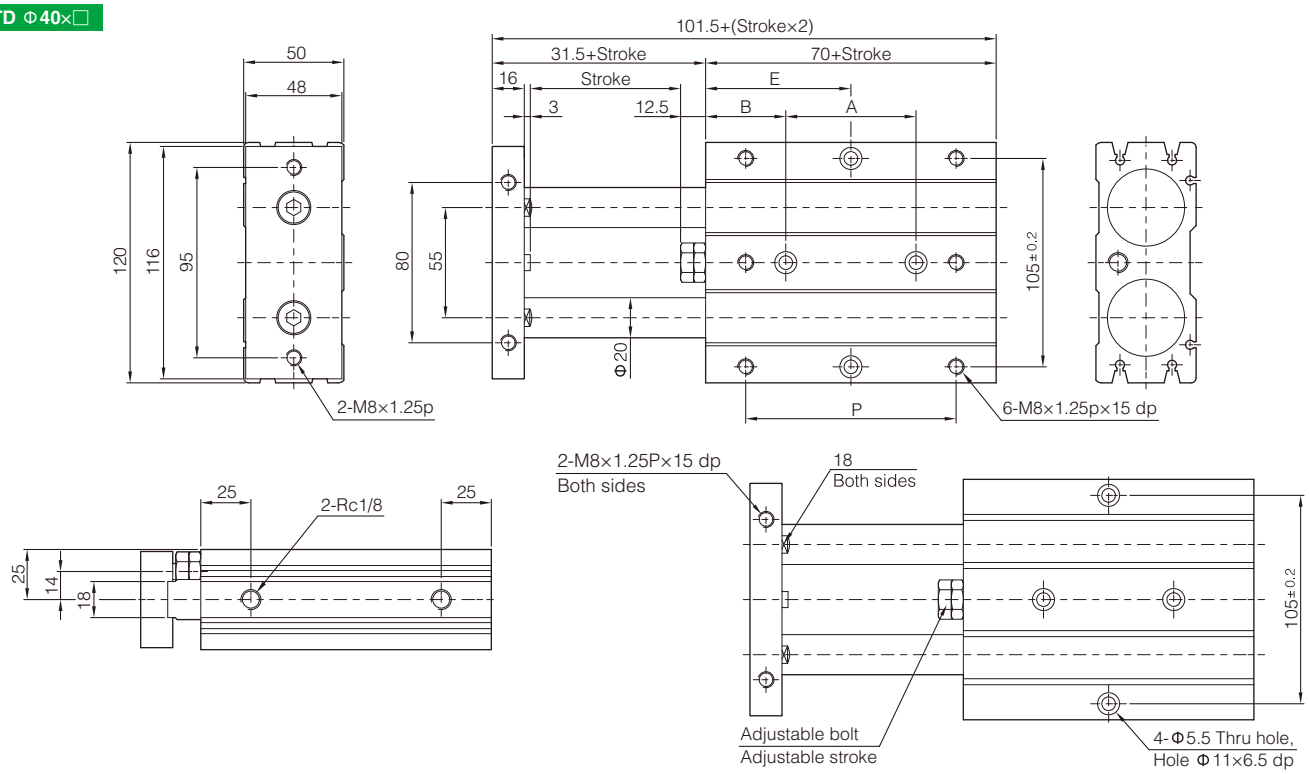
Code \ Stroke	10	20	25	30	40	50	75	100	125	150	175	200	250
A	20	20	20	20	30	40	60	80	100	100	100	100	120
B	26	31	33.5	36	36	36	38.5	41	43.5	56	68.5	81	96
C	36	41	43.5	46	51	56	68.5	81	93.5	106	118.5	131	156
P	-	-	40	40	50	60	80	100	120	120	120	120	150

TD Φ32×□



Code \ Stroke	10	20	25	30	40	50	75	100	125	150	175	200	250
A	20	20	20	20	30	40	60	80	100	100	100	100	150
B	28	33	35.5	38	38	38	40.5	43	45.5	58	70.5	83	83
C	38	43	45.5	48	53	58	70.5	83	95.5	108	120.5	133	158
P	-	-	30	30	40	50	80	100	120	120	120	120	150

TD Φ40×□



Code \ Stroke	10	20	30	40	50	75	100	125	150
A	45	55	35	40	40	65	65	90	110
B	17.5	17.5	32.5	35	40	40	52.5	52.5	55
C	40	45	50	55	60	72.5	85	97.5	110
P	-	-	65	70	80	105	105	130	150

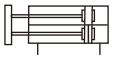


Specifications

Bore size(mm)	10	16	20	25	32
Acting type	Double acting				
Fluid	Air(to be filtered by 40μm filter element)				
Operating pressure	0.15~1.0MPa(22~145psi)				
Proof pressure	1.5MPa(215psi)				
Temperature ℃	-20~70				
Speed range mm/s	30~500				
Adjustable stroke mm	-10~0				
Stroke tolerance	$\leqslant 100^{+1.0}_{0}$		$>100^{+1.5}_{0}$		
Cushion type	Bumper				
Non-rotating tolerance [Note 1]	±0.4°	±0.3°			
Port size [Note 2]	M5×0.8				1/8"

[Note 1] Retract position.
[Note 2] PT thread, G thread and NPT thread are available.

Symbol



Standard stroke

Bore size (mm)	Standard stroke (mm)	Max.std strole
10	10 20 30 40 50 60 70 80 90 100	100
16	10 20 30 40 50 60 70 80 90 100 125 150 175 200	200
20	10 20 30 40 50 60 70 80 90 100 125 150 175 200	200
25	10 20 30 40 50 60 70 80 90 100 125 150 175 200	200
32	10 20 30 40 50 60 70 80 90 100 125 150 175 200	200

[Note] When the stroke less then or equal to 100mm, The dimensions of non-std stroke cylinder has the same dimensions as the next longer stroke std. stroke cylinder. e.g. 35mm stroke cylinder has the same dimensions of 40 std. stroke cylinder.

Product feature

1. Enterprises standard is implemented.
2. Embeded installation and fixation mode saves the installation space.
3. It is good resistance to bending and twisting moments.
4. Mounting holes on three sides facilitates multi-position mounting.
5. Bumper in front of the barrel can adjust the stroke of cylinder and relieve impact.
6. Standard configuration of this series has magnet and the type without magnet is not available.

Ordering code

TN — **20** × **50** — **S** — □

Model

TN	Twin-rod cylinder (Double acting type)

Bore size

10	10mm
16	16mm
20	20mm
25	25mm
32	32mm

Stroke

Refer to stroke table for details

Magnet [Note 1]

S	With magnet

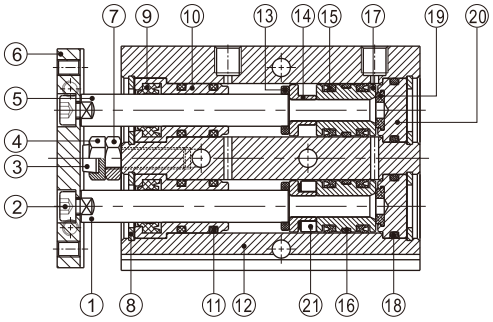
Thread type [Note 2]

Blank	PT
G	G
T	NPT

Note: 1. TN Series are all with magnet.
2. When the thread is standard, the code is blank.

Inner structure and material of major parts

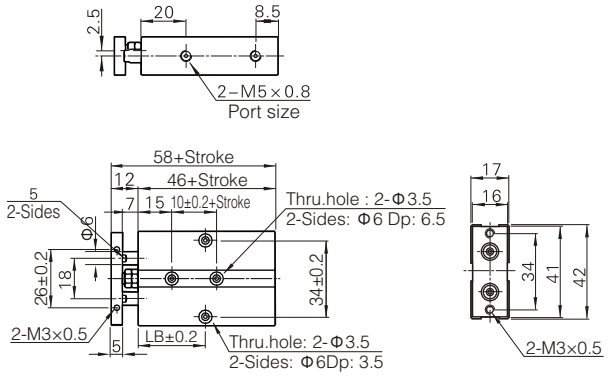
TN



NO.	Item		Material	NO.	Item		Material
1	Piston rod B	Φ32	S45C	12	Body		Aluminum alloy
		Other	SUS304	13	Bumper		TPU
2	Screw		Carbon steel	14	Magnet holder	Φ10	SUS303
3	Bumper		POM			Other	Aluminum alloy
4	Adjustable nut		Carbon steel	15	Piston seal		NBR
5	Piston rod A		S45C	16	Wear ring		Wear resistant material
6	Fixing plate		Free cutting steel	17	Piston	Φ10	SUS303
7	Screw		Carbon steel			Other	Aluminum alloy
8	C clip		Spring steel	18	Seal ring		NBR
9	Wiper seal		NBR	19	Bumper		TPU
10	Front cover		Aluminum alloy	20	Back cover		Aluminum alloy
11	O-ring		NBR	21	Magnet		Sintered metal(Neodymium-iron-boron)

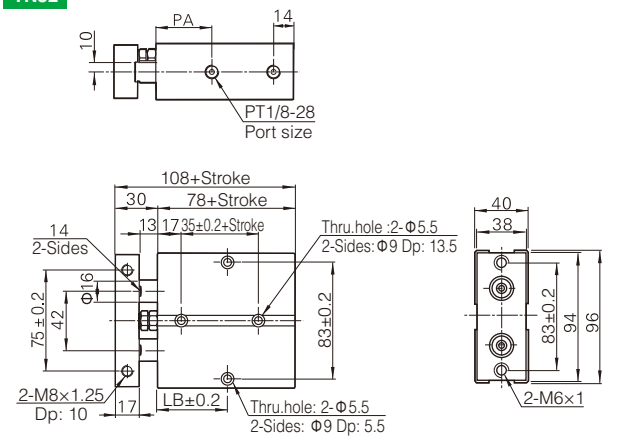
Dimensions

TN10



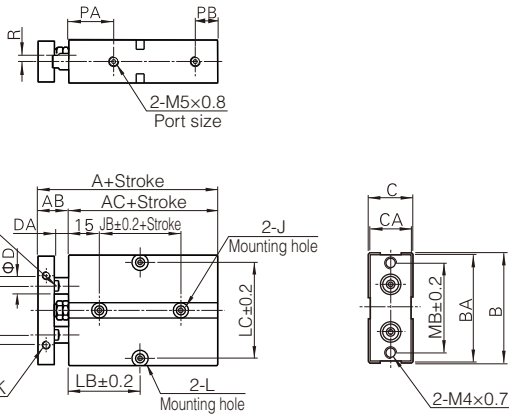
Item\Stroke	10	20	30	40	50	60	70	80	90	100
LB	30	30	35	40	45	50	55	60	65	70

TN32



Item\Stroke	10	20	30	40	50	60	70	80	90	100	125	150	175	200
LB	45	50	55	60	65	70	75	80	85	90	102.5	115	127.5	140
PA	35	40												

TN16~25



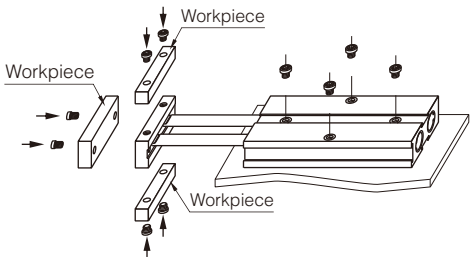
Bore size\Item	A	AB	AC	B	BA	C	CA	D	DA	G	H	J
16	68	15	53	54	53	21	20	8	7	24	6	Both sides:Φ7.5Dp:7.5Thru.hole:Φ4.5
20	78	20	58	62	61	25	24	10	10	28	8	Both sides:Φ7.5Dp:7.5Thru.hole:Φ4.5
25	81	19	62	73	72	30	29	12	9	34	10	Both sides:Φ7.5Dp:7.5Thru.hole:Φ4.5

Bore size\Item	JB	K	KB	PA	PB	L	LC	MB	R
16	20	M4×0.7Dp:5	34	22	11	Both sides:Φ8Dp:4.5Thru.hole:Φ4.5	47	47	3
20	20	M4×0.7Dp:5	44	25	12	Both sides:Φ8Dp:4.5Thru.hole:Φ4.5	55	55	3.5
25	30	M4×0.7Dp:6	56	27	12	Both sides:Φ8Dp:4.5Thru.hole:Φ4.5	66	66	6

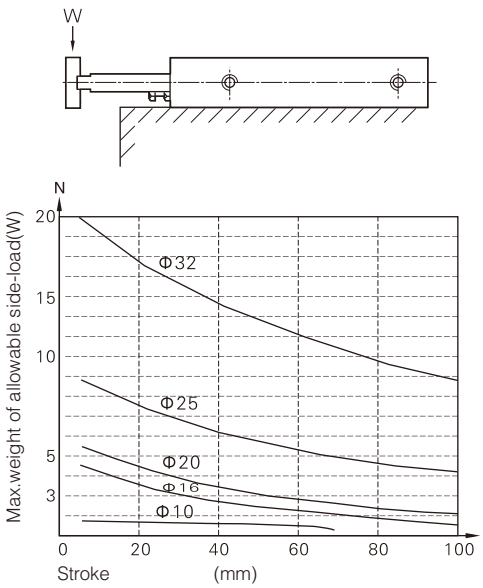
Bore size\Item	LB													
Stroke≤	10	20	30	40	50	60	70	80	90	100	125	150	175	200
16	30	35	40	45	50	55	60	65	70	75	87.5	100	112.5	125
20	35	35	40	45	50	55	60	65	70	75	87.5	100	112.5	125
25	40	40	45	50	55	60	65	70	75	80	92.5	105	117.5	130

Installation and application

1. How to mount workpiece



2. Max. weight of allowable side-load

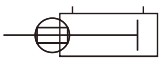




Specifications

Bore size(mm)	10	16	20	25	32
Acting type	Double acting				
Fluid	Air				
Installation form	Unilateral bracket				
Use pressure range (Mpa)	0.15~0.7	0.1~0.7			
Guarantee pressure range (Mpa)	1.05				
Temperature range	0~60				
Speed range (mm/s)	100~500				
buffer	Rubber buffer mode				
lubrication	Unwanted				
Non-rotating accuracy	±0.4°	±0.3°			
Travel adjustment range (mm)	-5~0				
Pipe size	M5×0.8				1/8"

Symbol



Standard stroke

Bore size (mm)	Standard stroke (mm)	Max. strole	Stroke range
10	10, 20, 30, 40, 50, 60, 70	140	-5~0
16	10, 20, 30, 40, 50, 60, 70, 80, 90, 100	200	
20	10, 20, 30, 40, 50, 60, 70, 80, 90, 100	200	
25	10, 20, 30, 40, 50, 60, 70, 80, 90, 100	200	
32	10, 20, 30, 40, 50, 60, 70, 80, 90, 100	200	

[Note] Copper-free ionic type is also subject to the above table.

Ordering code

TBDA 16 × 30 □ □ □ □

Model [Note]
B series double-acting Double piston rod cylinder

Bore size

10	10mm
16	16mm
20	20mm
25	25mm
32	32mm

Stroke
Refer to stroke table for details

Copper-free type

Blank	Φ10, Φ16, Φ20 Copper-free ionic type
NCU	Φ25, Φ32 Copper-free ionic type (custom-made)

Magnetic switch type

Blank	Without magnetic switch

Wire length

A	1000mm
B	3000mm

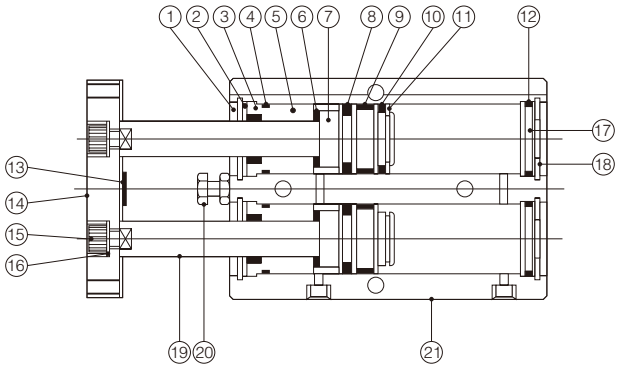
Number of magnetic switches

1	1 pcs.
2	2 pcs.

Note: Magnets for built-in magnetic switches in standard cylinders.

Inner structure and material of major parts

TN

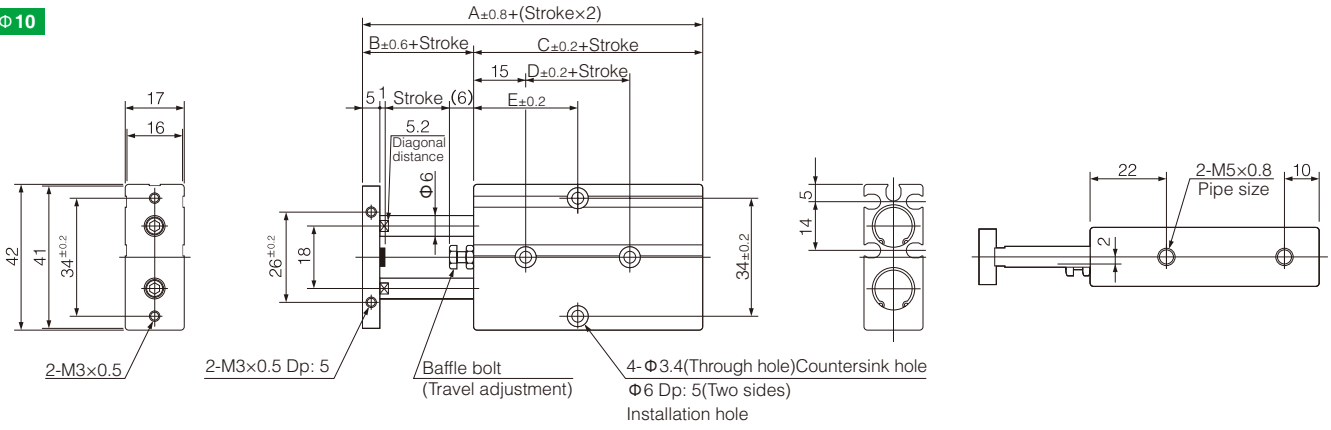


NO.	Item	Material	NO.	Item	Material
1	Inner clasp	Hard steel (nickel plated)	12	End metal plate seal ring	NBR
2	Sealing rack	Soft steel (nickel plated)	13	Cushion pad	NBR
3	Piston rod seal	NBR	14	Top plate	Soft steel (fluorine coating, black galvanizing only 32)
4	Shell seal ring	NBR	15	Inner hexagonal bolt	Soft steel (galvanized)
5	Shell	Aluminum alloy (special wear treatment)	16	Washer	Hard steel (black galvanized)
6	Cushion pad	NBR	17	End metal plate	Plastics (only 32 aluminium alloys(anodic oxidation treatment)
7	piston	Aluminum alloy (chromate oxide film treatment)	18	Inner clasp	Hard steel (nickel plated)
8	Piston seal	NBR	19	Piston rod	Hard steel (chromium plating)
9	Collar	Plastics (non-Teflon plastics) [Note]	20	Baffle bolt	Soft steel (galvanized)
10	Magnet	Plastic magnet	21	Cylinder body	Aluminum alloy (anodic oxidation treatment)
11	E-ring	Stainless steel			

[Note]: This is Φ25, Φ32 copper-free type.
Note: Standard type can be used as copper-free type in Φ10, Φ16 and Φ20; Φ25 and Φ32 are made to order without copper ion.

Dimensions

Φ10



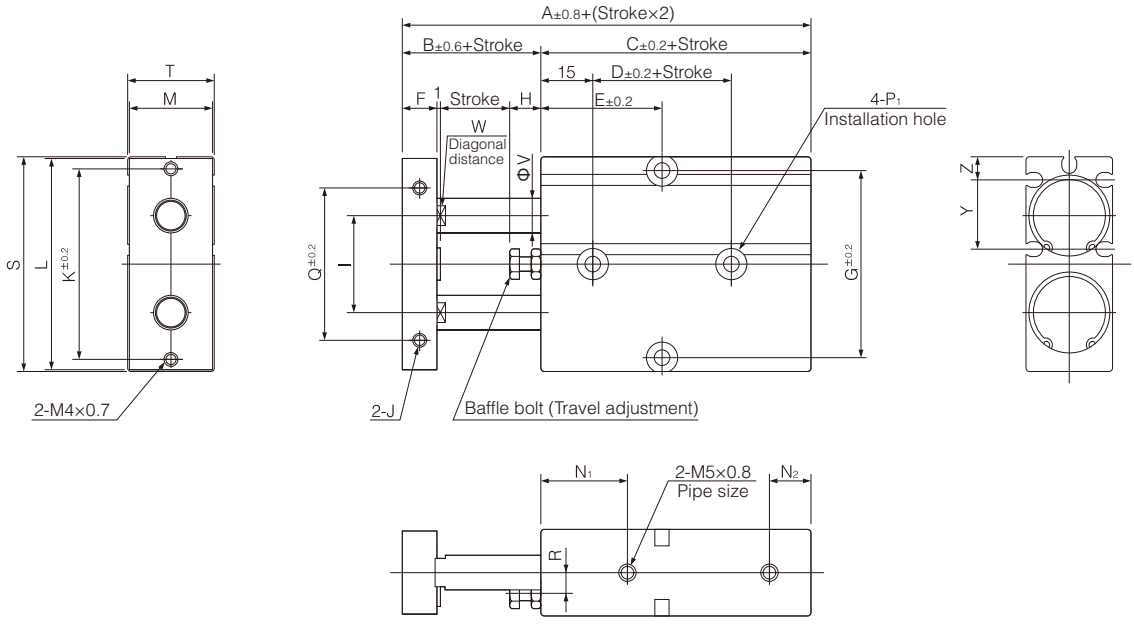
Bore size \ Item / Stroke	A	B	C	D	E						
					10	20	30	40	50	60	70
10	58	12	46	10	30	30	35	40	45	50	55

Note: Countersink hole depth is the value above the body.

Piston rod end front dimension drawing



Φ16~Φ25

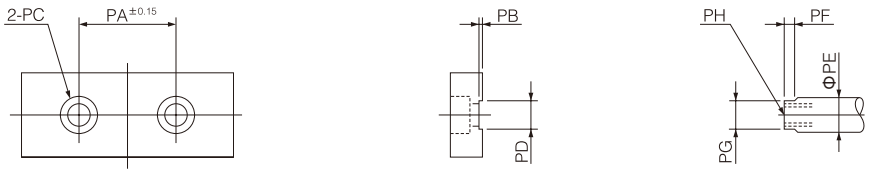


Bore size \ Item / Stroke	A	B	C	D	E														J	K	L	M
					10	20	30	40	50	60	70	80	90	100	F	G	H	I				
16	68	15	53	20	30	35	40	45	50	55	60	65	70	75	8	47	6	24	M4×0.7 Dp: 5	47	53	20
20	78	20	58	20	35	35	40	45	50	55	60	65	70	75	10	55	9	28	M4×0.7 Dp: 5	55	61	24
25	81	19	62	30	40	40	45	50	55	60	65	70	75	80	10	66	8	34	M5×0.8 Dp: 6	66	72	29

Bore size\Item	N1	N2	P1 [Note]	Q	R	S	T	V	W	Y	Z
16	22	10	Φ4.5 (Through hole) Countersink hole Φ8 Dp: 5.5 (Two sides)	34	4	54	21	8	6.2	18.5	5.7
20	25	12	Φ4.5 (Through hole) Countersink hole Φ8 Dp: 5.5 (Two sides)	44	6	62	25	10	8.2	20	6.8
25	30	12	Φ4.5 (Through hole) Countersink hole Φ9 Dp: 6 (Two sides)	56	7	73	30	12	10.2	22.5	8.3

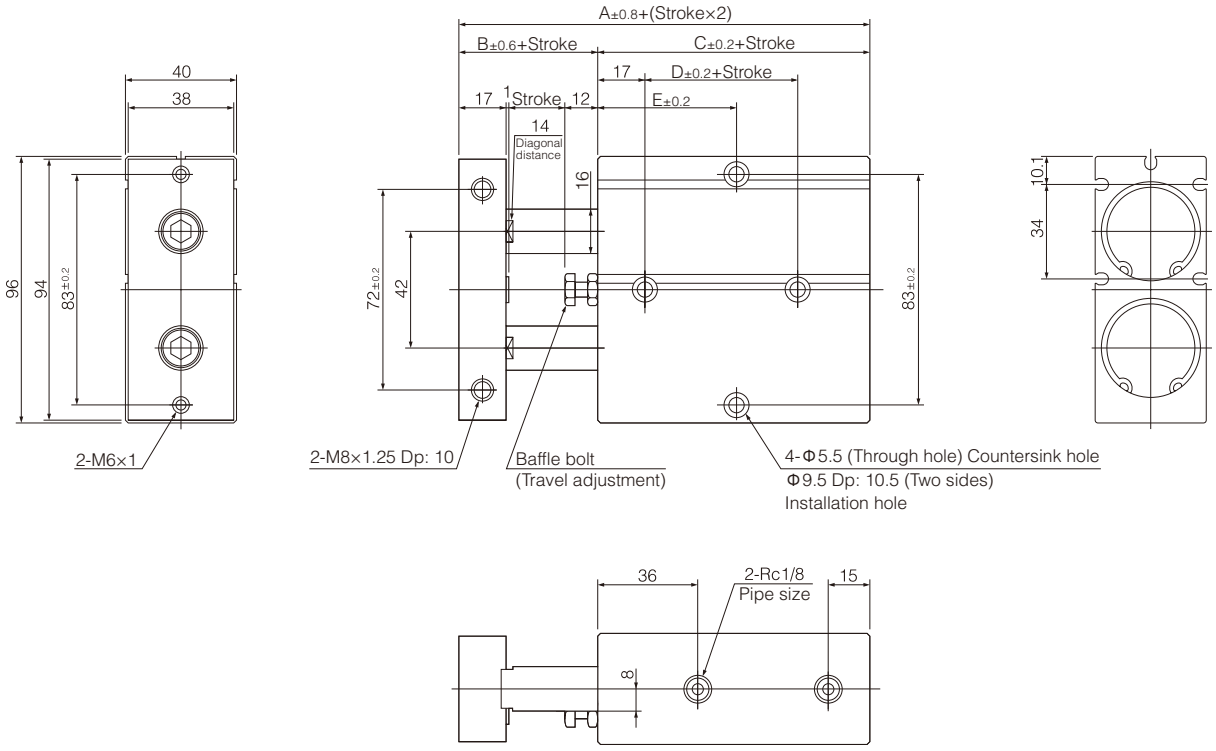
Note: Countersink hole depth is the value above the body.

Piston rod end front dimension drawing



Bore size\Item	PA	PB	PC	PD	PE	PF	PG	PH
16	24	1	Φ4.3 Countersink hole Φ7.8 Dp: 4.6	$6.2^{+0.1}_{0}$	8	3	$6.2^{-0.05}_{-0.15}$	M4×0.7 Dp: 6
20	28	1	Φ6.5 Countersink hole Φ11 Dp: 6.8	$8.2^{+0.1}_{0}$	10	3	$8.2^{-0.05}_{-0.15}$	M6×1 Dp: 8
25	34	1	Φ6.5 Countersink hole Φ11 Dp: 6.8	$10.2^{+0.1}_{0}$	12	3	$10.2^{-0.05}_{-0.15}$	M6×1 Dp: 8

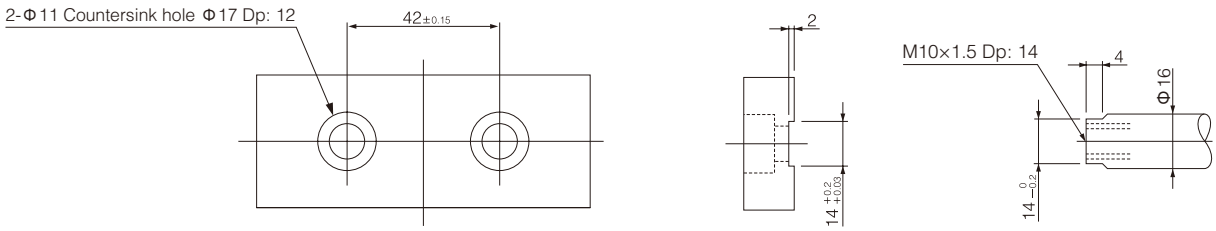
Φ32



Item / Stroke / Bore size	A	B	C	D	E									
					10	20	30	40	50	60	70	80	90	100
32	108	30	78	35	45	50	55	60	65	70	75	80	85	90

Note: Countersink hole depth is the value above the body.

Piston rod end front dimension drawing





Thin double cylinder structure, high non-rotating accuracy and Double output force, strong resistance to side load.

Specifications

Bore size(mm)		6	10	15	20	25	32
Fluid		Air					
Action		Double acting					
Maximum operating pressure		0.7MPa					
Minimum operating pressure		0.15MPa	0.1MPa		0.05MPa		
Ambient and fluid temperature		-10 to 60℃ (No freezing)					
Cushion		Rubber bumper					
Piston speed mm/s		30~300	30~800	30~700		30~600	
Structure		Double cylinder (Double output force)					
Lubrication [Note]		Non-lube					
Stroke adjustable range		Retraction stroke 0-5mm					
Bearing type		Slide bearing/Ball bushing bearin					
Accuracy of piston rod non rotation	Slide bearing	±0.1°					
	Ball bushing bearing	±0.1°					
Port size		M5×0.8				1/8	

[Note] If lubrication is required, please use turbine No.1 oil ISOVG32.

Ordering code

N C X S M — 20 — 100 — Z73 — □

Bearing type

M	Slide bearing
L	Ball bushing bearing

Bore size

6	6mm
10	10mm
15	15mm
20	20mm
25	25mm
32	32mm

Stroke

Refer to stroke table for details

Magnetic switch type

Blank	Without magnetic switch

* Magnetic switch type refer stroke /Magnetic switch model table

Number of magnetic switches

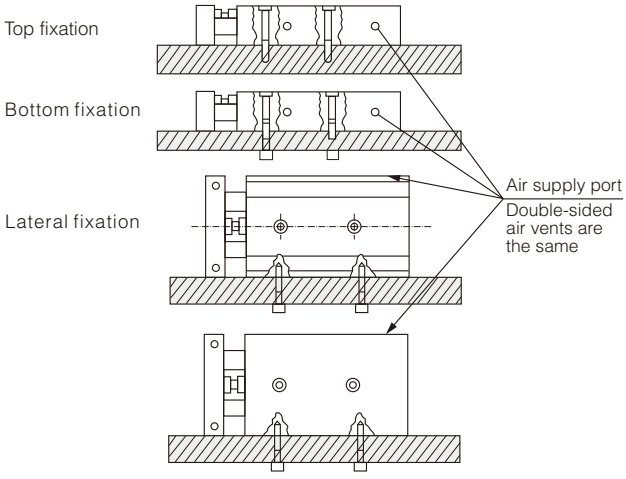
Blank	2 pcs.
S	1 pc.
n	"n" pcs.

Stroke/magnetic switch model table

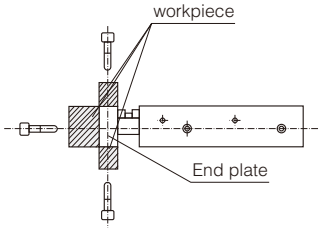
Bore size (mm)	Standard stroke	Magnetic switch model (Rail installation)
6	10, 20, 30, 40, 50	Z73
10	10, 15, 20, 25, 30, 35 40, 45, 50, 60, 70, 75	
15	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 75, 80, 90, 100	
20		
25		
32		

* The specifications and characteristics of magnetic switches can be referred to the series of magnetic switches. Wire length representation mark: no mark-0.5m, L-3m, Z-5m, Example: Z73, Z73L.

Cylinder body can be fixed in four directions by screw and the position of air supply port can be selected.

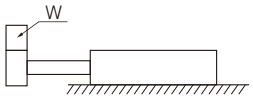


Workpiece can be installed on three planes of end plate



Maximum allowable load

The maximum allowable load on the cylinder in the installation form shown in the figure below is lower than that listed in the figure above.

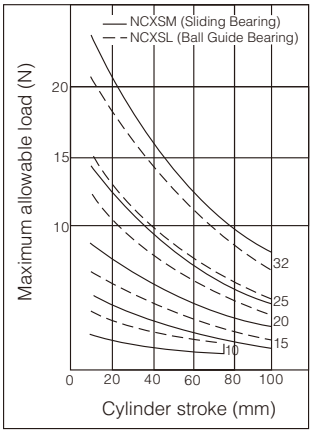


Suitable for Bore size Φ6

(N)

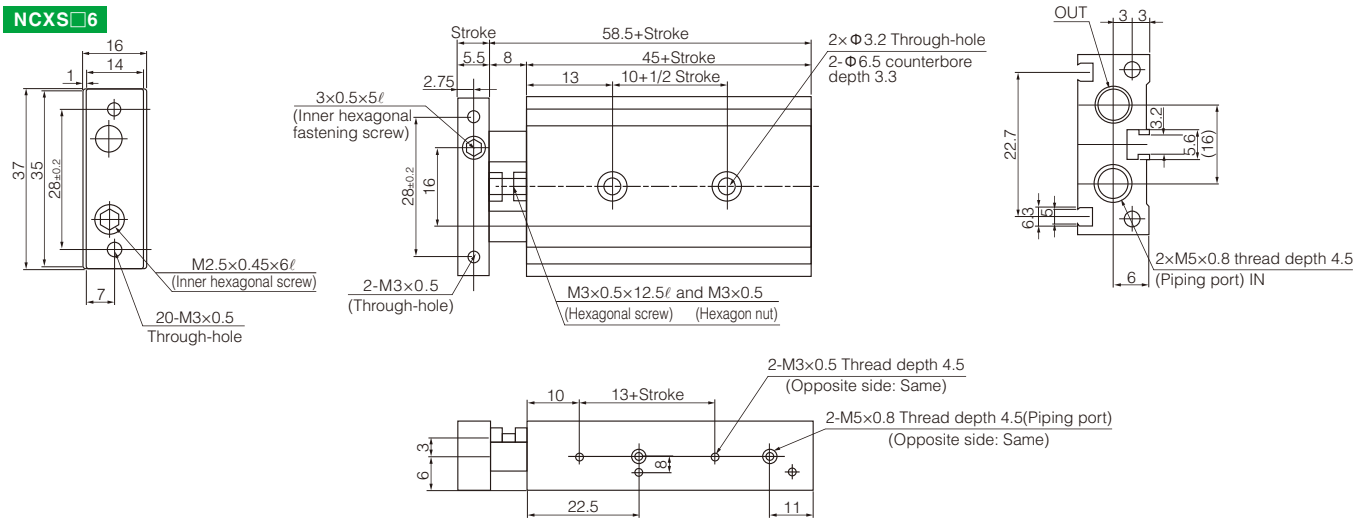
Model	Stroke (mm)				
	10	20	30	40	50
NCXSM6	0.80	0.66	0.54	0.46	0.40
NCXSL6	1.08	0.88	0.69	0.59	0.49

Suitable for Bore size Φ10~32



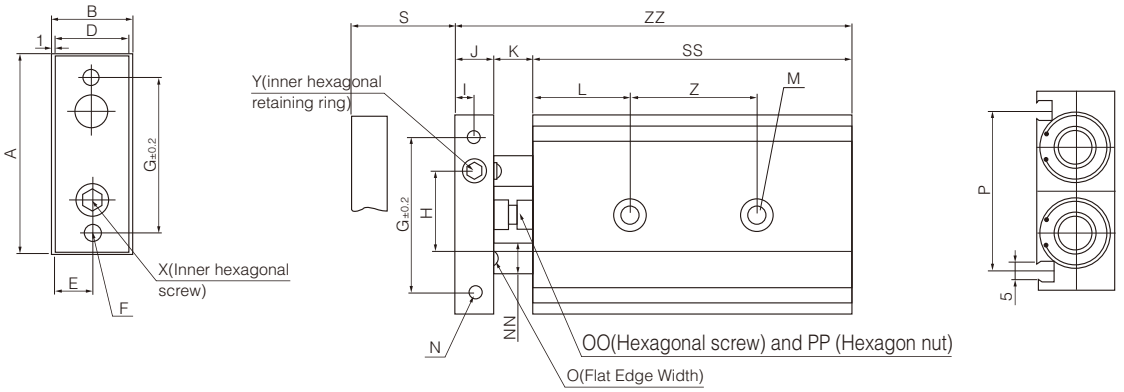
Dimensions

NCXS□6

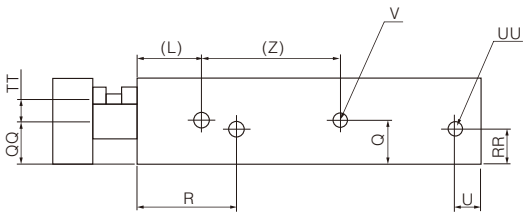


Model	Stroke	10+1/2 Stroke	13+Stroke	45+Stroke	58.5+Stroke
NCXS□6-10	10	15	23	55	68.5
NCXS□6-20	20	20	33	65	78.5
NCXS□6-30	30	25	43	75	88.5
NCXS□6-40	40	30	53	85	98.5
NCXS□6-50	50	35	63	95	108.5

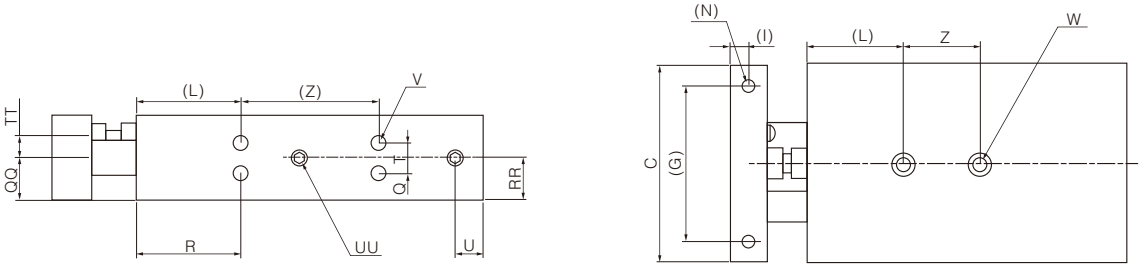
NCXS□10 · 15 · 20 · 25 · 32



Φ10-15



Φ20-32



Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	NN	O	OO
NCXS□10-10	46	17	44	15	7.5	2-M4×0.7 (Through-hole)	35	20	4	8	9	20	2-Φ3.4 Through-hole 2-Φ6.5 Counterbore depth 3.3	2-M3×0.5 Thread depth 5	Φ6	5	M4×0.7 ×14.5 L
NCXS□10-20																	
NCXS□10-30																	
NCXS□10-40																	
NCXS□10-50																	
NCXS□15-10	58	20	56	18	9	2-M5×0.8 (Through-hole)	45	25	5	10	9	30	2-Φ4.3 Through-hole 2-Φ8 Counterbore depth 4.4	2-M4×0.7 Thread depth 6	Φ8	6	M4×0.7 ×14.5 L
NCXS□15-20																	
NCXS□15-30																	
NCXS□15-40																	
NCXS□15-50																	
NCXS□20-10	64	25	62	23	11.5	2-M5×0.8 (Through-hole)	50	28	6	12	12	30	2-Φ5.5 Through-hole 2-Φ9.5 Counterbore depth 5.3	2-M4×0.7 Thread depth 6	Φ10	8	M6×1.0 ×18.5 L
NCXS□20-20																	
NCXS□20-30																	
NCXS□20-40																	
NCXS□20-50																	
NCXS□20-75																	
NCXS□20-100																	
NCXS□25-10	80	30	78	28	14	2-M6×1.0 (Through-hole)	60	35	6	12	12	30	2-Φ6.9 Through-hole 2-Φ11 Counterbore depth 6.3	2-M5×0.8 Thread depth 7.5	Φ12	10	M6×1.0 ×18.5 L
NCXS□25-20																	
NCXS□25-30																	
NCXS□25-40																	
NCXS□25-50																	
NCXS□25-75																	
NCXS□25-100																	
NCXS□32-10	98	38	96	36	18	2-M6×1.0 (Through-hole)	75	44	8	16	14	30	2-Φ6.9 Through-hole 2-Φ11 Counterbore depth 6.3	2-M5×0.8 Thread depth 8	Φ16	13	M8 ×1.25 ×23 L
NCXS□32-20																	
NCXS□32-30																	
NCXS□32-40																	
NCXS□32-50																	
NCXS□32-75																	
NCXS□32-100																	

Model	P	PP	Q	QQ	R	RR	S	SS	T	TT	U	UU	V	W	X	Y	Z	ZZ
NCXS□10-10	33.6	M4 × 0.7	8.5	7	30	7	10	65	-	5	8	2-M5×0.5 Thread depth 4.5 (Piping port) (Opposite side same)	4-M3×0.5 Thread depth 4.5 (Opposite side same)	2-M4×0.7 Thread depth 7	M3×0.5 ×10 L	M3×0.5 ×5 L	30	82
NCXS□10-20							20	75										92
NCXS□10-30							30	85									40	102
NCXS□10-40							40	95										112
NCXS□10-50							50	105										122
NCXS□15-10	48	M4 × 0.7	10	10	38.5	10	10	70	-	5	8	2-M5×0.8 Thread depth 4.5 (Piping port) (Opposite side same)	4-M4×0.7 Thread depth 5 (Opposite side same)	2-M5×0.8 Thread depth 8	M5×0.8 ×10 L	M4×0.7 ×4 L	25	89
NCXS□15-20							20	80										99
NCXS□15-30							30	90									35	109
NCXS□15-40							40	100										119
NCXS□15-50							50	110										129
NCXS□20-10	53	M6 × 1.0	7.75	12.5	45	7.75	10	80	9.5	6.5	8	2-M5×0.8 Thread depth 4.5 (Piping port) (Opposite side same)	8-M4×0.7 Thread depth 6 (Opposite side same)	2-M6×1.0 Thread depth 10	M6×1.0 ×12 L	M5×0.8 ×5 L	30	104
NCXS□20-20							20	90										114
NCXS□20-30							30	100									40	124
NCXS□20-40							40	110										134
NCXS□20-50							50	120										144
NCXS□20-75							75	145									60	169
NCXS□20-100							100	170										194
NCXS□25-10	64	M6 × 1.0	8.5	15	46	15	10	82	13	9	9	4-1/8×0.8 Thread depth 6.5 (Piping port) (Opposite side same)	8-M8×0.8 Thread depth 7.5 (Opposite side same)	2-M8×1.25 Thread depth 12	M6×1.0 ×14 L	M6×1.0 ×5 L	30	106
NCXS□25-20							20	92										116
NCXS□25-30							30	102									40	126
NCXS□25-40							40	112										136
NCXS□25-50							50	122										146
NCXS□25-75							75	147									60	171
NCXS□25-100							100	172										196
NCXS□32-10	76	M8 × 1.25	9	19	56	19	10	92	20	11.5	10	4-1/8×0.8 Thread depth 6.5 (Piping port) (Opposite side same)	8-M5×0.8 Thread depth 7.5 (Opposite side same)	2-M8×1.25 Thread depth 12	M8 ×1.25 ×16 L	M8 ×1.25 ×8 L	40	122
NCXS□32-20							20	102										132
NCXS□32-30							30	112									50	142
NCXS□32-40							40	122										152
NCXS□32-50							50	132										162
NCXS□32-75							75	157									70	187
NCXS□32-100							100	182										212



Specifications

Bore size(mm)	20	25	32
Fluid	Air (Non-lube)		
Proof pressure	1.05Pa		
Maximum operating pressure	0.7MPa		
Minimum operating pressure	0.1MPa		
Ambient and fluid temperature	-10 to 60°C (No freezing)		
Piston speed	50 to 1000 mm/s		
Port size	M5×0.8	Rc 1/8 (NPT 1/8, G 1/8)	
Bearing type	Slide bearing, Ball bushing bearing (Same dimensions for both)		
Cushion	Air cushion (Both ends)		

Ordering code

N C X S M — 20 — □ — 100 — A — Z73 — □

Bearing type

M	Slide bearing
L	Ball bushing bearing

Bore size

20	20mm
25	25mm
32	32mm

Thread type

Symbol	Type	Bore size
Blank	M thread	Φ20
	Rc	Φ25, Φ32
TN	NPT	
TF	G	

Stroke

Bore size	Stroke
Φ20	20, 25, 30, 35, 40, 45, 50, 60, 70, 75, 80, 90, 100
Φ25,Φ32	25, 30, 35, 40, 45, 50, 60, 70, 75, 80, 90, 100

Bilateral air cushion

Magnetic switch type

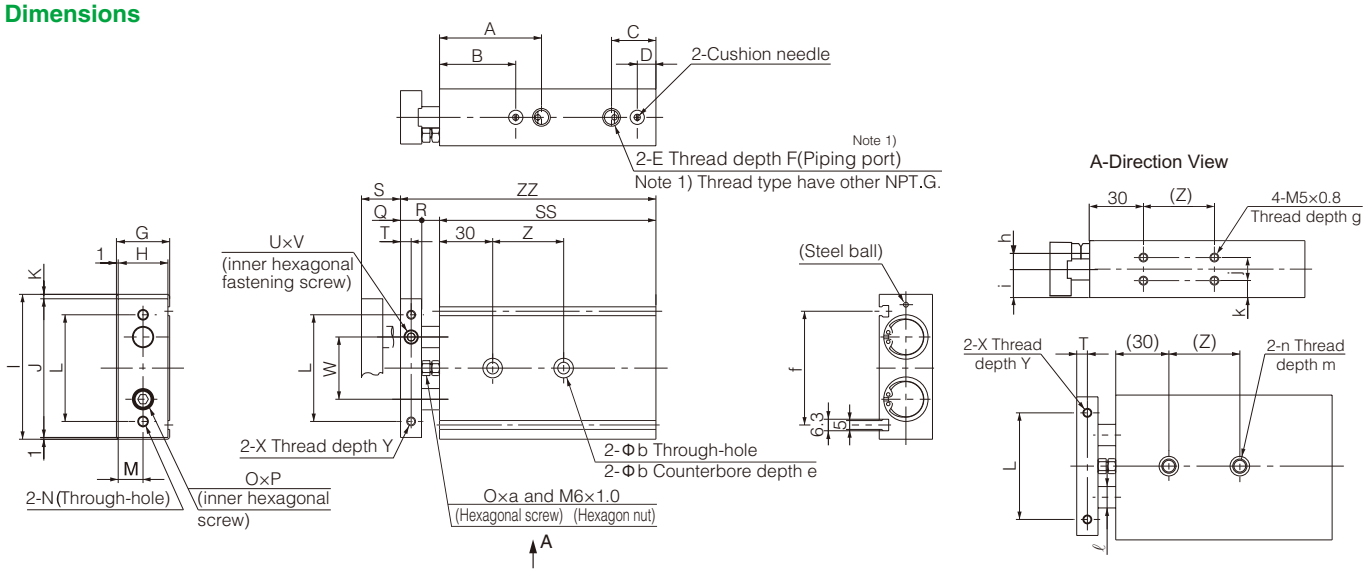
Blank	Without magnetic switch
Z73	With magnetic switch

* Behind the magnetic switch type, Wire length representation mark: no mark-0.5m, L-3m, Z-5m.

Number of magnetic switches

Blank	2 pcs.
S	1 pc.
n	"n" pcs.

Dimensions



Bore size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	T	U	V	W	X	Y	a	b	d	e	f	g	h	i	j
20	53.5	43	19	9	M5×0.8	4.5	25	23	37.5	62	(4.5)	50±0.2	11.5	M5×0.8	M6×1	12ℓ	12	12	6	M8×1.25	6ℓ	28	M4×0.7	6	18.5ℓ	5.5	9.5	5.3	53	5.5	6.5	12.5	9.5
25	57.5	45.5	22	10	Rc1/8	6.5	30	28	81.5	78	(2.5)	60±0.2	14	M6×1	M6×1	14ℓ	12	12	6	M8×1.25	6ℓ	35	M5×0.8	7.5	18.5ℓ	6.9	11	6.3	64	7.5	9	15	13
32	67.5	54	23.5	10	Rc1/8	6.5	38	36	102	96	(5)	75±0.2	18	M6×1	M8×1.25	16ℓ	16	14	8	M10×1.25	8ℓ	44	M5×0.8	8	23ℓ	6.9	11	6.6	76	7.5	11.5	19	20

Bore size	k	ℓ	m	n
20	7.75	10	10	M6×1
25	8.5	12	12	M8×1.25
32	9	16	12	M8×1.25

Part No.	S	SS	ZZ	Z
NCXS□20-20A	20	92	116	30
NCXS□20-25A	25	97	121	
NCXS□20-30A	30	102	126	40
NCXS□20-35A	35	107	131	
NCXS□20-40A	40	112	136	
NCXS□20-45A	45	117	141	
NCXS□20-50A	50	122	146	
NCXS□20-60A	60	132	156	60
NCXS□20-70A	70	142	166	
NCXS□20-75A	75	147	171	
NCXS□20-80A	80	152	176	
NCXS□20-90A	90	162	186	
NCXS□20-100A	100	172	196	

Part No.	S	SS	ZZ	Z
NCXS□25-25A	25	100	124	30
NCXS□25-30A	30	105	129	40
NCXS□25-35A	35	110	134	
NCXS□25-40A	40	115	139	
NCXS□25-45A	45	120	144	
NCXS□25-50A	50	125	149	
NCXS□25-60A	60	135	159	
NCXS□25-70A	70	145	169	60
NCXS□25-75A	75	150	174	
NCXS□25-80A	80	155	179	
NCXS□25-90A	90	165	189	
NCXS□25-100A	100	175	199	

Part No.	S	SS	ZZ	Z
NCXS□32-25A	25	112	142	40
NCXS□32-30A	30	117	147	50
NCXS□32-35A	35	122	152	
NCXS□32-40A	40	127	157	
NCXS□32-45A	45	132	162	
NCXS□32-50A	50	137	167	
NCXS□32-60A	60	147	177	70
NCXS□32-70A	70	157	187	
NCXS□32-75A	75	162	192	
NCXS□32-80A	80	167	197	
NCXS□32-90A	90	177	207	
NCXS□32-100A	100	187	217	

NCXSW Series
Dual Rod Cylinder(Double Rod Type)



* Maximum allowable load is 2-3 times larger than NCXS series.
* Double cylinder design, double output force
* High accuracy without rotation
* Side load resistance
* Standard belt travel adjustment device: 0-10mm

Specifications

Bore size(mm)	6	10	15	20	25	32
Fluid	Air					
Action	Double acting					
Maximum operating pressure	0.7MPa					
Minimum operating pressure	0.15MPa			0.1MPa		
Ambient and fluid temperature	-10 to 60℃ (No freezing)					
Cushion	Rubber bumper					
Piston speed mm/s	50~500					
Structure	Double cylinder (Double output force)					
Lubrication [Note]	Non-lube					
Stroke adjustable range	0~-10mm					
Bearing type	Slide bearing/Ball bushing bearin					
Port size	M5×0.8			Rc1/8		

[Note] If lubrication is required, please use turbine No.1 oil ISOVG32.

Ordering code

N C X S W M 20 – 100 – Z73 □

Double rod type

Bearing type

M	Slide bearing
L	Ball bushing bearing

Bore size

6	6mm
10	10mm
15	15mm
20	20mm
25	25mm
32	32mm

Stroke

Refer to stroke table for details

Number of magnetic switches

Blank	2 pcs.
S	1 pc.
n	"n" pcs.

Magnetic switch type

Blank	Without magnetic switch

* Magnetic switch type refer stroke /Magnetic switch model table

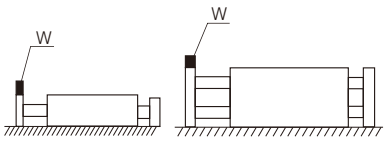
Stroke/magnetic switch model table

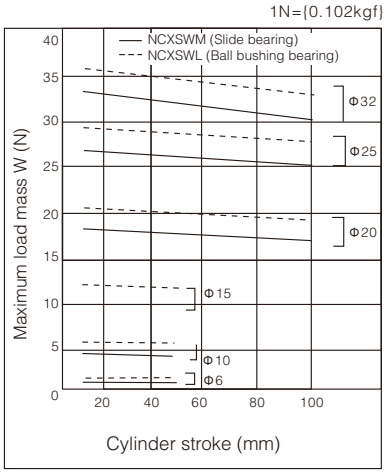
Bore size (mm)	Standard stroke**	Long stroke	*Magnetic switch model Rail installation
6	10, 20, 30, 40, 50		Z73
10	10, 20, 30, 40, 50	75,100,125, 50	
15			
20	10, 20, 30, 40, 50 75, 100	125,150,175, 200	
25			
32			

** In case of excess of standard travel, mark -XB11 at the end of the model, Please make a reservation.

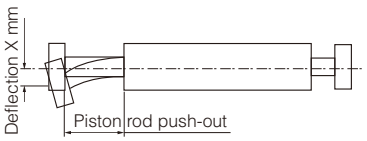
* The specifications and characteristics of magnetic switches can be referred to the series of magnetic switches. Wire length representation mark: no mark-0.5m, L-3m, Z-5m, Example: Z73, Z73L.

Maximum load mass



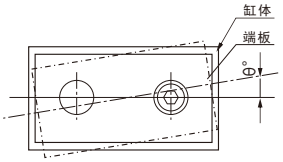


Deflection at the plate end



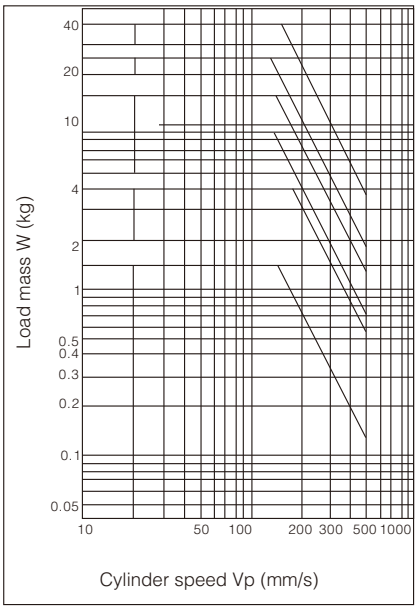
Bore size (mm)	6~32
NCXSWM (Slide bearing)	±0.03mm
NCXSWL (Ball bushing bearing)	

Non-rotating accuracy



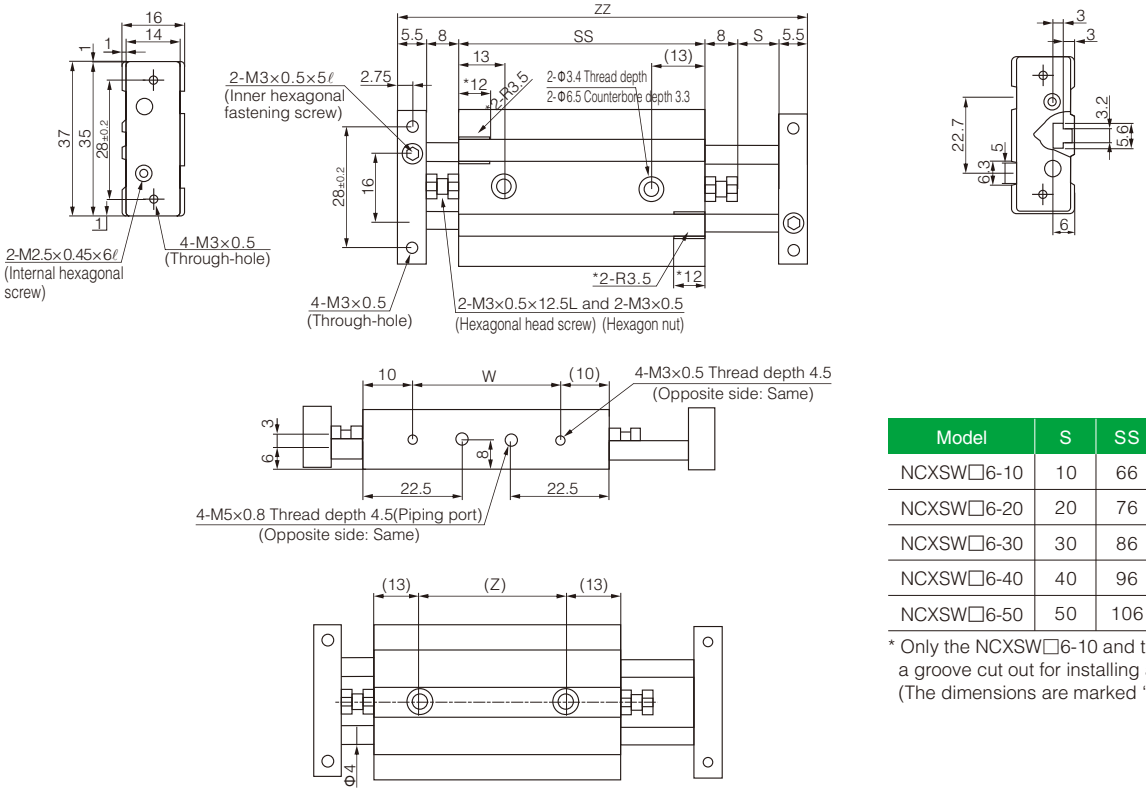
Bore size (mm)	6~32
NCXSWM (Slide bearing)	±0.01°
NCXSWL (Ball bushing bearing)	

Allowable kinetic energy



Dimensions

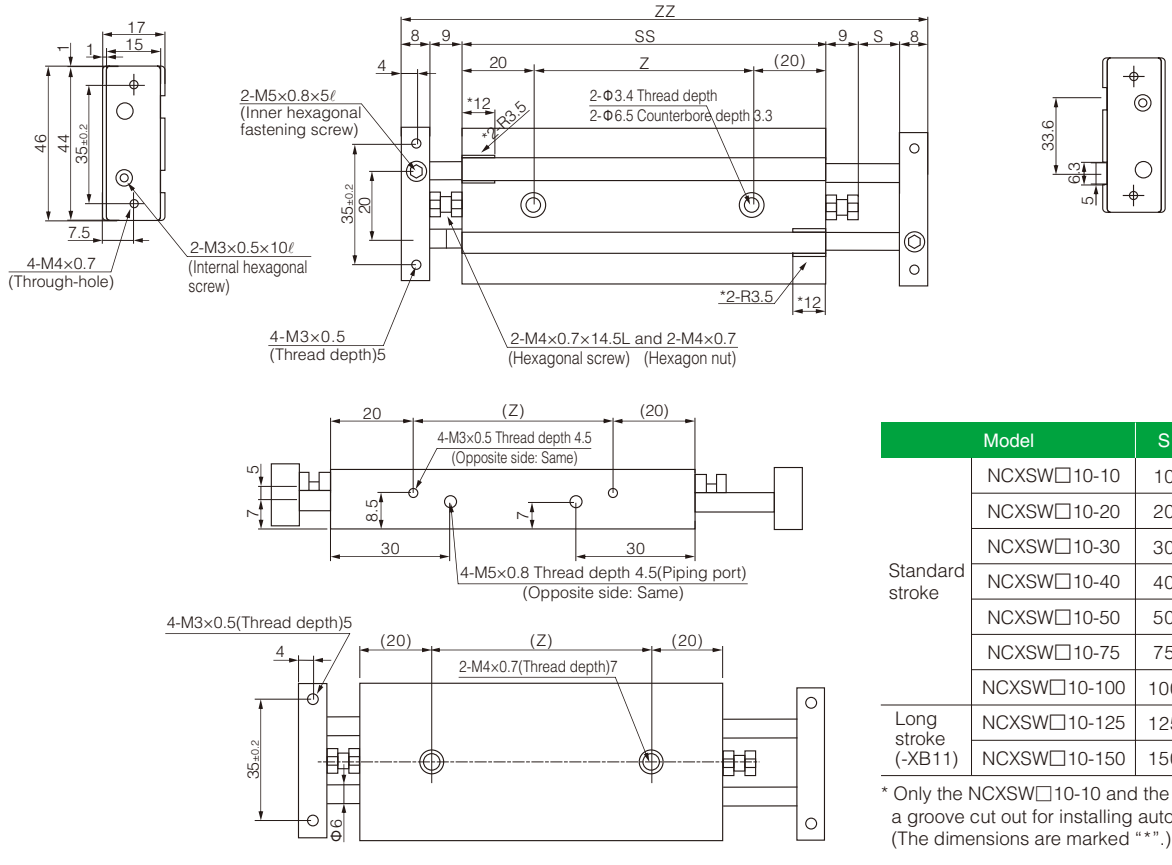
NCXSW□6



Model	S	SS	ZZ	Z	W
NCXSW□6-10	10	66	103	40	46
NCXSW□6-20	20	76	123	50	56
NCXSW□6-30	30	86	143	60	66
NCXSW□6-40	40	96	163	70	76
NCXSW□6-50	50	106	183	80	86

* Only the NCXSW□6-10 and the NCXSW□6-20 have a groove cut out for installing auto switches. (The dimensions are marked "*".)

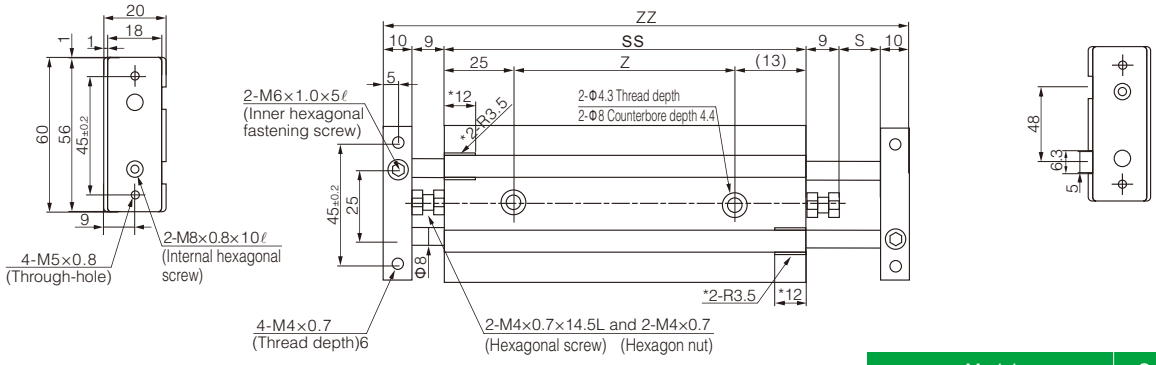
NCXSW□10

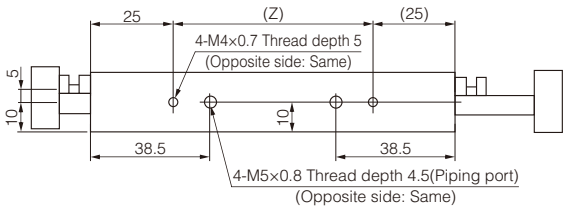


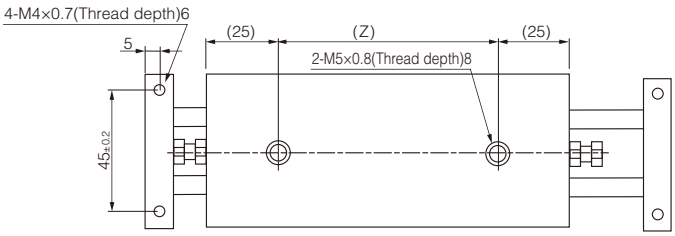
Model		S	SS	ZZ	Z
Standard stroke	NCXSW□10-10	10	92	136	52
	NCXSW□10-20	20	102	156	62
	NCXSW□10-30	30	112	176	72
	NCXSW□10-40	40	122	196	82
	NCXSW□10-50	50	132	216	92
	NCXSW□10-75	75	157	266	117
	NCXSW□10-100	100	182	316	142
Long stroke (-XB11)	NCXSW□10-125	125	207	366	167
	NCXSW□10-150	150	232	416	192

* Only the NCXSW□10-10 and the NCXSW□10-20 have a groove cut out for installing auto switches. (The dimensions are marked "*".)

NCXSW□15



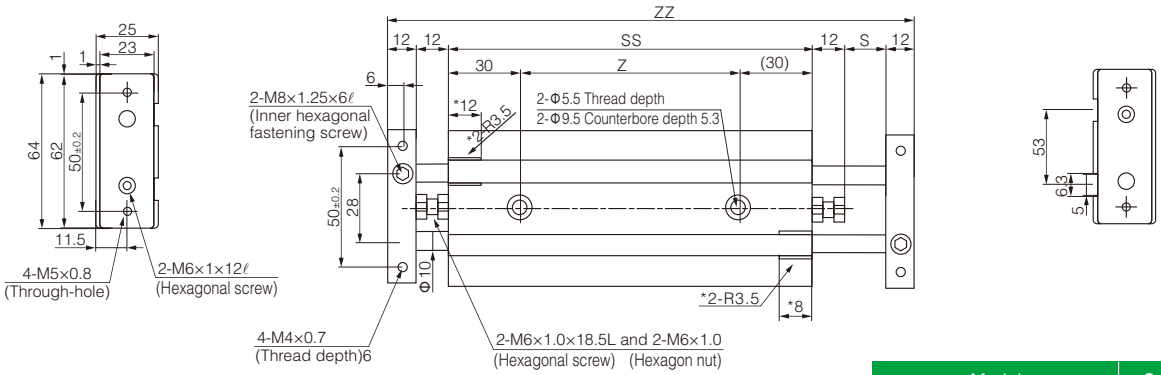


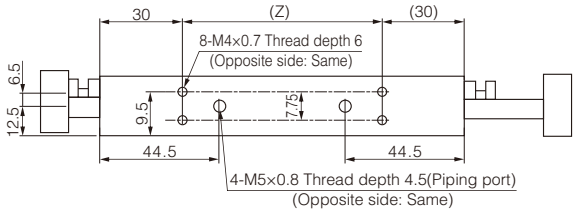


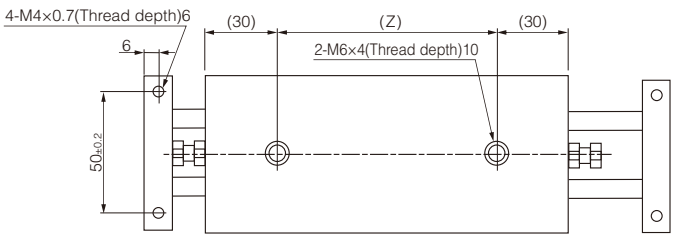
Model		S	SS	ZZ	Z
Standard stroke	NCXSW□15-10	10	105	153	55
	NCXSW□15-20	20	115	173	65
	NCXSW□15-30	30	125	193	75
	NCXSW□15-40	40	135	213	85
	NCXSW□15-50	50	145	233	95
Long stroke (-XB11)	NCXSW□15-75	75	170	283	120
	NCXSW□15-100	100	195	333	145
	NCXSW□15-125	125	220	383	170
	NCXSW□15-150	150	245	433	195

* Only the NCXSW□15-10 and the NCXSW□15-20 have a groove cut out for installing auto switches.
(The dimensions are marked "*".)

NCXSW□20



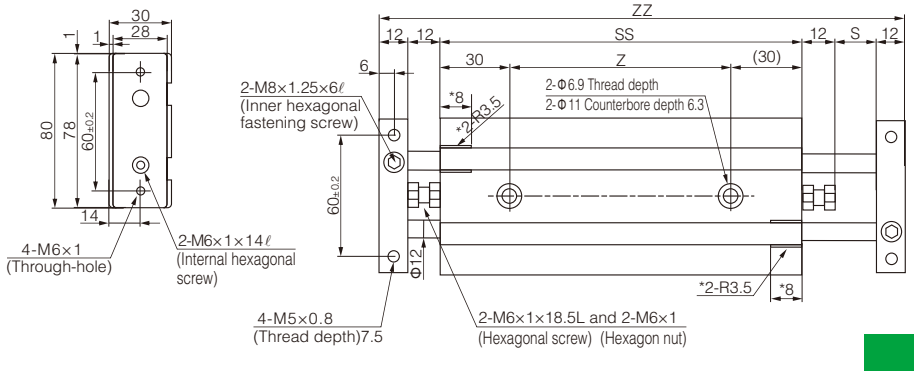


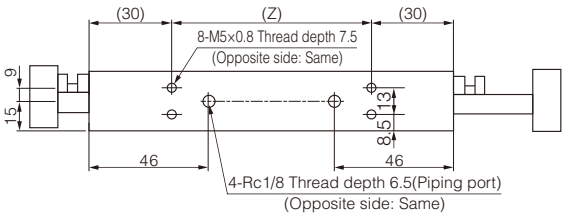


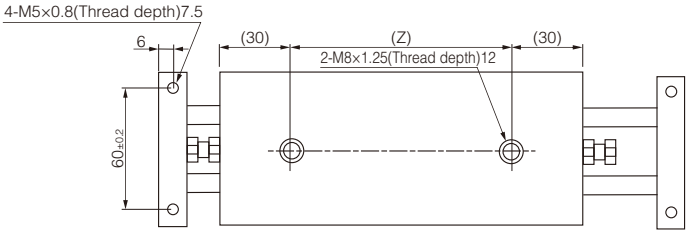
Model		S	SS	ZZ	Z
Standard stroke	NCXSW□-20-10	10	120	178	60
	NCXSW□-20-20	20	130	198	70
	NCXSW□20-30	30	140	218	80
	NCXSW□20-40	40	150	238	90
	NCXSW□20-50	50	160	258	100
	NCXSW□20-75	75	165	308	125
	NCXSW□20-100	100	210	358	150
Long stroke (-XB11)	NCXSW□20-125	125	235	408	175
	NCXSW□20-150	150	260	458	200
	NCXSW□20-175	175	285	508	225
	NCXSW□20-200	200	310	558	250

* Only the NCXSW□20-10 has a groove cut out for installing auto switches.
(The dimensions are marked "*".)

NCXSW□25



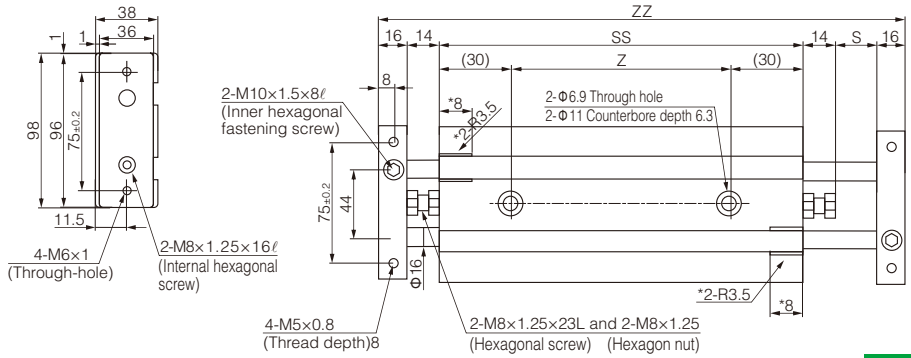


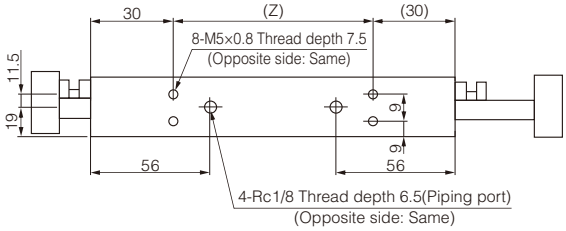


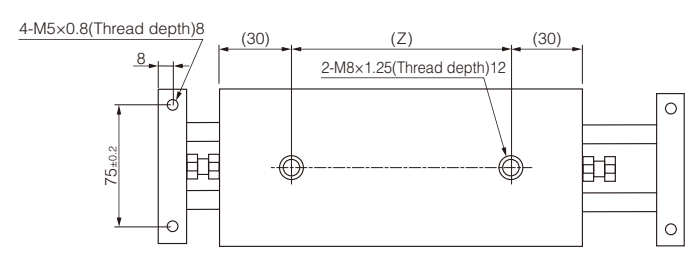
Model		S	SS	ZZ	Z
Standard stroke	NCXSW□25-10	10	122	180	62
	NCXSW□25-20	20	132	200	72
	NCXSW□25-30	30	142	220	82
	NCXSW□25-40	40	152	240	92
	NCXSW□25-50	50	162	260	102
	NCXSW□25-75	75	187	310	127
	NCXSW□25-100	100	212	360	152
Long stroke (-XB11)	NCXSW□25-125	125	237	410	177
	NCXSW□25-150	150	262	460	202
	NCXSW□25-175	175	287	510	227
	NCXSW□25-200	200	321	560	252

* Only the NCXSW□25-10 has a groove cut out for installing auto switches.
(The dimensions are marked "*".)

NCXSW□32







Model		S	SS	ZZ	Z
Standard stroke	NCXSW□32-10	10	143	213	83
	NCXSW□32-20	20	153	233	93
	NCXSW□32-30	30	163	253	103
	NCXSW□32-40	40	173	273	113
	NCXSW□32-50	50	183	293	123
	NCXSW□32-75	75	208	343	148
	NCXSW□32-100	100	233	393	173
Long stroke (-XB11)	NCXSW□32-125	125	258	443	198
	NCXSW□32-150	150	283	493	223
	NCXSW□32-175	175	308	543	248
	NCXSW□32-200	200	333	593	273

* Only the NCXSW□32-10 has a groove cut out for installing auto switches.
(The dimensions are marked "*".)

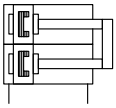


Specifications

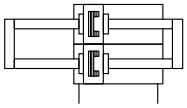
Bore size(mm)	10	16	20	25	32
Pneumatic connection	M5				G1/8
Operating medium	Compressed air in accordance with ISO 85731:2010 [7:4:4]				
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)				
Operating pressure [bar]	2.5…10	1…10			
Constructional design	Parallel piston rods with yoke				
	Through parallel piston rods with yoke				
Cushioning	Flexible cushioning rings/plates at both ends				
Position sensing	For proximity sensing				
Type of mounting	Via through-holes				
	With female thread				
	With mounting plate				
Mounting position	Any				
Protection against torsion/guide	Parallel piston rods/with plain-bearing guide or ball bearing guide				

Symbol

DPZ



DPZJ



Ambient conditions

Variant	Plain-bearing guide GF	Recirculating ball bearing guide KF
Ambient temperature 1) ℃	-20…+80	
Corrosion resistance class CRC 2)	2	-

1) Note operating range of proximity sensors.
2) Corrosion resistance class CRC 2 to FN 940070 standard, Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Ordering code

DPZ – 10 – 40 – P – A – KF – S2

Model

Double-acting	
DPZ	Twin cylinder with one yoke plate
DPZJ	Twin cylinder with through piston rods and two yoke plates

Bore size

10	10mm
16	16mm
20	20mm
25	25mm
32	32mm

Stroke

Bore size	Stroke
10	10, 25, 40, 50
16, 20, 25, 32	10, 25, 40, 50, 80, 100

Cushioning

P	Flexible cushioning rings/plates at both ends

Position sensing

A	For proximity sensing

Guide

GF	Plain bearing guide
KF	Recirculating ball bearing guide

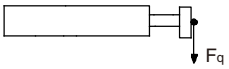
Variant

S2	Through piston rod

Forces [N] and impact energy [J]

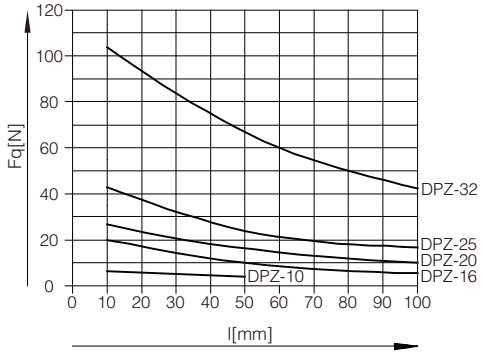
Bore size(mm)		10	16	20	25	32
Theoretical force at 6 bar, advancing	S2, DPZJ	94	242	376	590	966
		60	180	282	452	724
Theoretical force at 6 bar, retracting	S2, DPZJ	60	180	282	452	724
		60	180	282	452	724
Max. impact energy at end positions		0.08	0.15	0.2	0.3	0.5

Permissible lateral force F_q as a function of stroke l

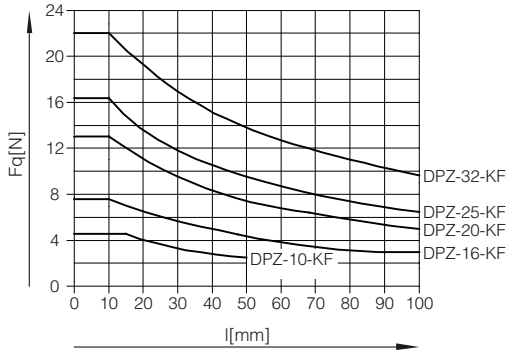


Piston rods at one end

Plain-bearing guide GF

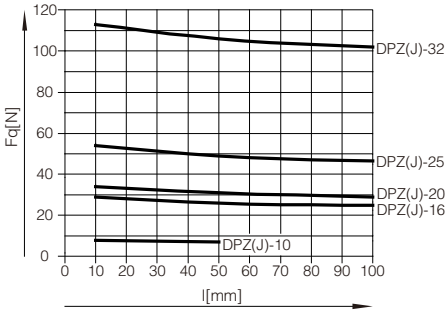


Recirculating ball bearing guide KF

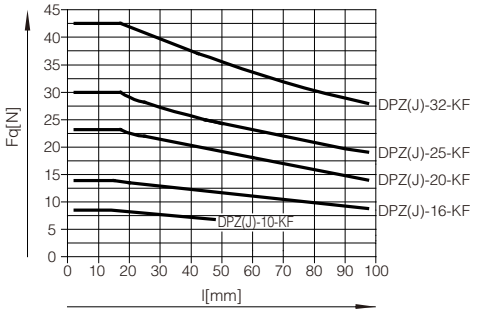


Through piston rods

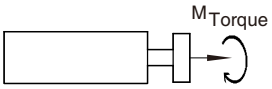
Plain-bearing guide GF



Recirculating ball bearing guide KF

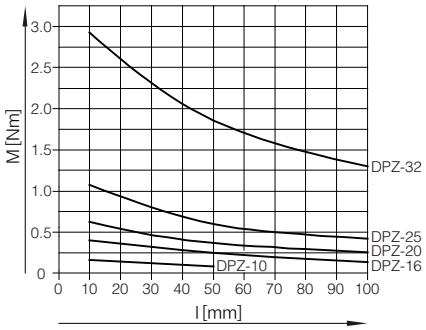


Permissible torque M as a function of stroke l

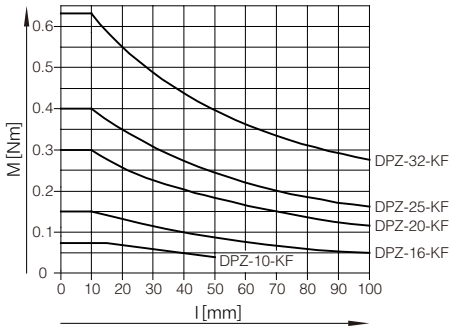


Piston rods at one end

Plain-bearing guide GF

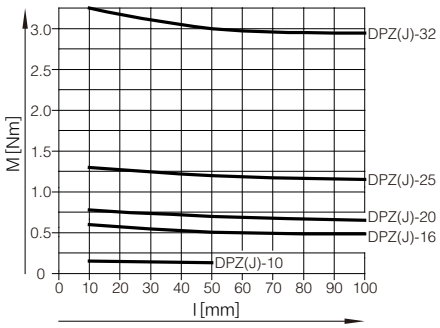


Recirculating ball bearing guide KF

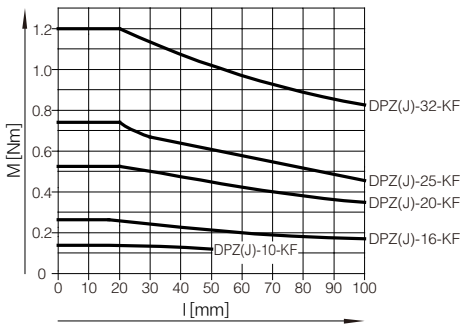


Through piston rods

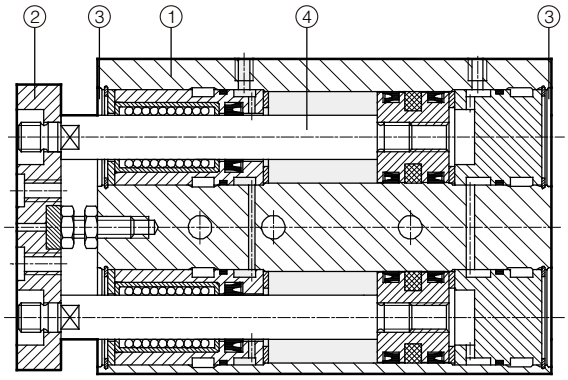
Plain-bearing guide GF



Recirculating ball bearing guide KF



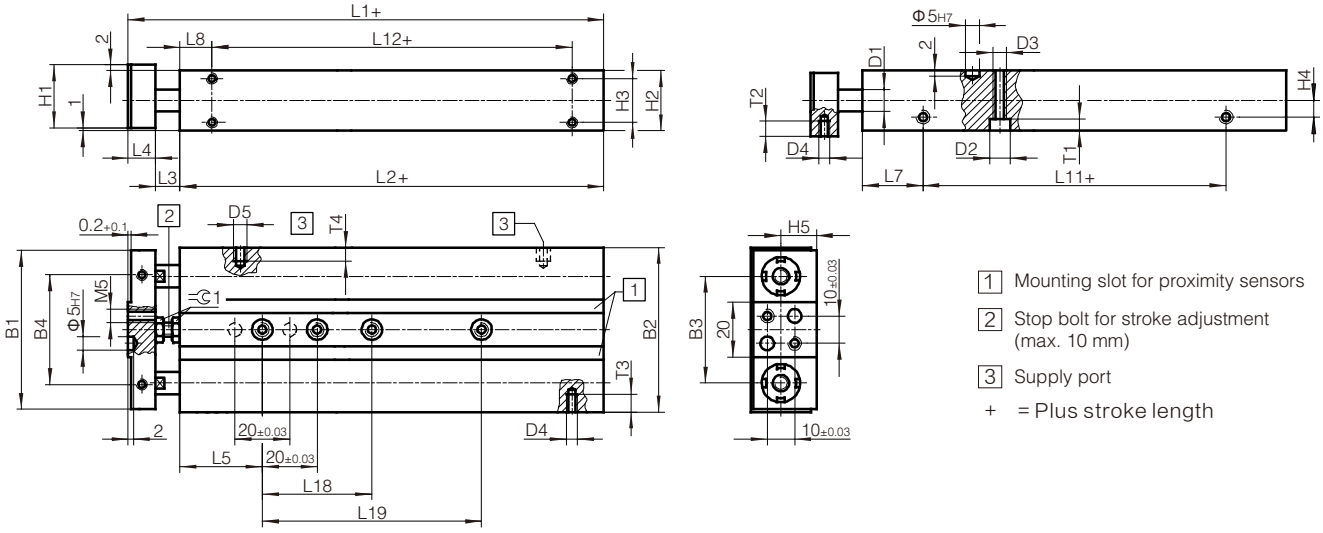
Inner structure and material of major parts



NO.	Item		Material
1	Housing		Wrought aluminium alloy
2	Yoke plate		Tempered steel
3	Plug cap		Wrought aluminium alloy
4	Piston rod	GF	High-alloy stainless steel
		KF	Tempered steel
-	Seals		Polyurethane, nitrile rubber

Dimensions

Basic type (Φ10, Φ16)



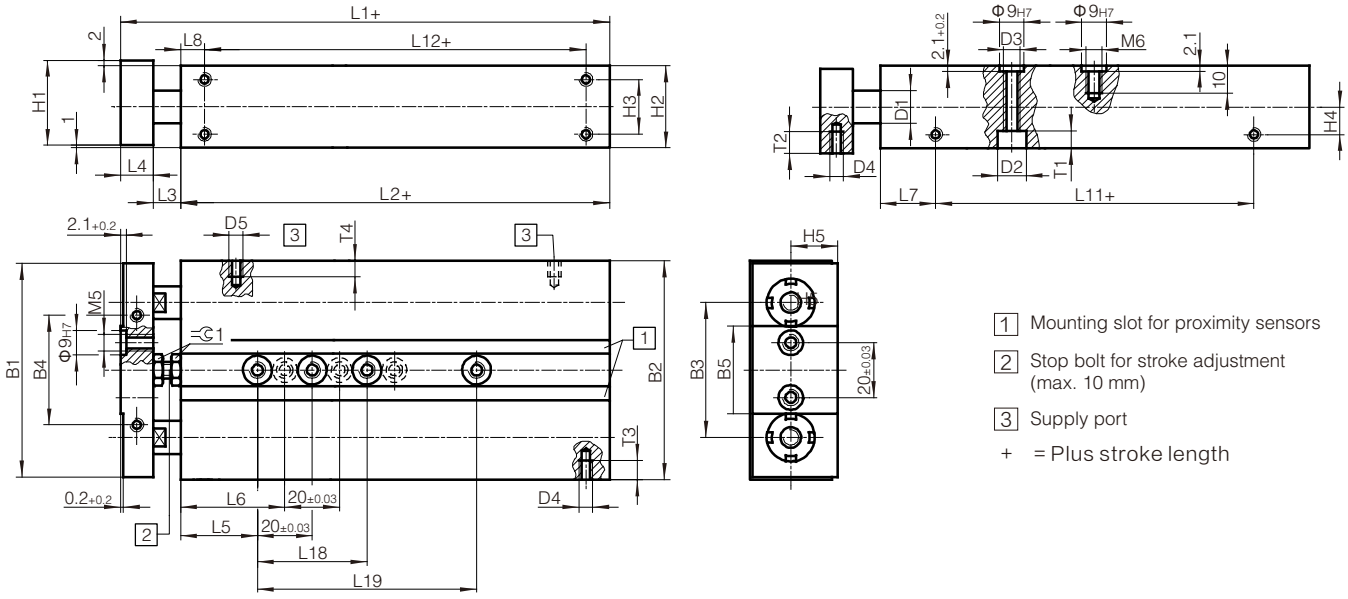
1 Mounting slot for proximity sensors
2 Stop bolt for stroke adjustment (max. 10 mm)
3 Supply port
\+ = Plus stroke length

Bore size (mm)	B1	B2	B3	B4	ΦD1	ΦD2	ΦD3	D4	D5	H1	H2	H3	H4	H5	L1		L2	
															GF	KF	GF	KF
10	48	50	33	28	6	7.5	M5	M4	M5	20	19	13	4.5	11.5	89.6	100	71.6	82
16	58	60	39	40	8	7.5	M5	M4	M5	23	22	16	6	13	93.6	107	74.6	88

Bore size (mm)	L3	L4	L5	L7		L8		L11		L12±0.2		T1	T2	T3	T4	⊂1
				GF	KF	GF	KF	GF	KF	GF	KF					
10	8	10	30	23.4	40.7	13.1	30.8	24.8	24.4	45.4	44.2	4.4	6	5	5	7
16	9	10	30	22	38.9	11.6	25.5	30.6	30.6	51.4	54.4	4.4	5.5	6.5	5	8

Stroke (mm)	L18 ±0.03	L19 ±0.03
10	-	-
25	-	-
40	-	-
50	40	-
80	40	80
100	40	80

Basic type (Φ20, Φ25, Φ32)



1 Mounting slot for proximity sensors
2 Stop bolt for stroke adjustment (max. 10 mm)
3 Supply port
\+ = Plus stroke length

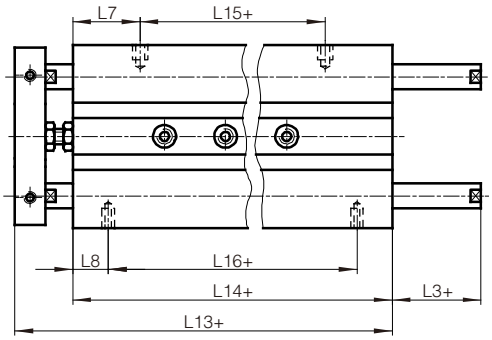
Bore size (mm)	B1	B2	B3	B4	B5	ΦD1	ΦD2	ΦD3	D4	D5	H1	H2	H3	H4	H5	L1		L2	
																GF	KF	GF	KF
20	70	72	45.6	40	32	10	9	M6	M5	M5	25	24	16	7	14	98.6	115	76.6	93
25	78	80	49.2	40	32	12	10.5	6.4	M5	M5	31	30	20	10	17	98.6	116	76.6	94
32	96	98	57	40	35	16	10.5	6.4	M6	1/8	39	38	26	11.5	21	110.1	130	80.1	100

Bore size (mm)	L3	L4	L5	L6	L7		L8		L11		L12±0.2		T1	T2	T3	T4	⊂1
					GF	KF	GF	KF	GF	KF	GF	KF					
20	10	12	30	-	22.8	43.4	12.9	33.5	31	30.7	50.8	50.5	5.4	6.5	7	6	10
25	10	12	28	38	20.2	40	8.7	28.8	36.2	33.8	59.2	56.5	6.4	8	7	6	10
32	15	15	35	45	25	44.9	10	26	30.1	30.1	60.1	64	6.4	8	9	9	10

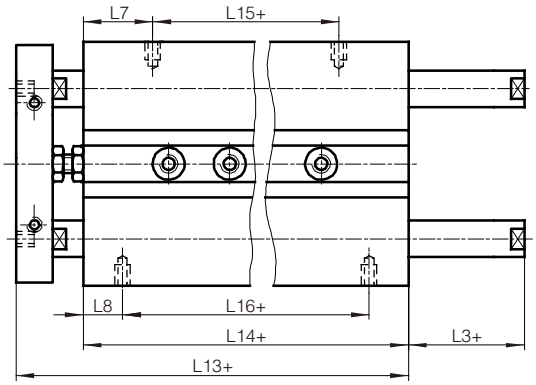
Stroke (mm)	L18 ±0.03	L19 ±0.03
10	-	-
25	-	-
40	-	-
50	40	-
80	40	80
100	40	80

Variants DPZ S2 – Through piston rods

Φ10, Φ16



Φ20, Φ25, Φ32

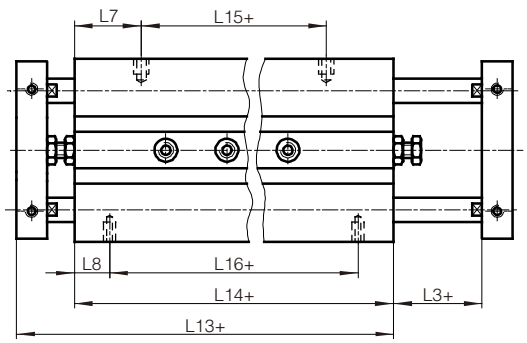


\+ = Plus stroke length

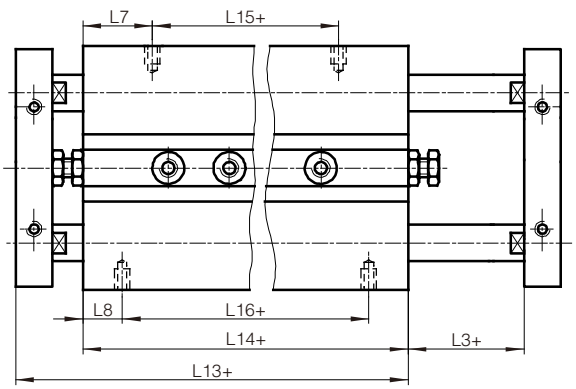
Bore size (mm)	L3	L7		L8		L13		L14		L15		L16±0.2	
		GF	KF	GF	KF	GF	KF	GF	KF	GF	KF	GF	KF
10	8	23.4	40.7	13.1	30.8	89.6	124	71.6	106	24.8	24.7	45.4	44.4
16	9	22	38.9	11.6	25.5	93.6	127.4	74.6	108.4	30.6	30.6	51.4	57.4
20	10	22.8	43.4	12.9	33.5	98.6	139.2	76.6	117.2	31	30.4	50.8	50.2
25	10	20.2	40	8.7	28.8	98.6	135	76.6	113	36.2	33	59.2	55.4
32	15	25	44.9	10	26	110.1	149.9	80.1	119.9	30.1	30.1	60.1	67.9

Variants DPZJ S2 – Through piston rods

Φ10, Φ16



Φ20, Φ25, Φ32



\+ = Plus stroke length

Bore size (mm)	L3	L7		L8		L13		L14		L15		L16±0.2	
		GF	KF	GF	KF	GF	KF	GF	KF	GF	KF	GF	KF
10	8	23.4	40.7	13.1	30.8	89.6	124	71.6	106	24.8	24.7	45.4	44.4
16	9	22	38.9	11.6	25.5	93.6	127.4	74.6	108.4	30.6	30.6	51.4	57.4
20	10	22.8	43.4	12.9	33.5	98.6	139.2	76.6	117.2	31	30.4	50.8	50.2
25	10	20.2	40	8.7	28.8	98.6	135	76.6	113	36.2	33	59.2	55.4
32	15	25	44.9	10	26	110.1	149.9	80.1	119.9	30.1	30.1	60.1	67.9



· Small and light
· Strong lateral load resistance
· Strong Torque Resistance
· High accuracy without rotation
· Bearings with guide rods can be selected as sliding bearings or ball bearings
· Easy installation
· Two-sided nozzle location is

Specifications

Bore size(mm)		12	16	20	25	32	40	50	63	80	100
Fluid		Air									
Action		Double acting									
Maximum operating pressure		1.0MPa									
Minimum operating pressure		0.12MPa	0.1MPa								
Ambient and fluid temperature		-10 to 60℃ (No freezing)									
Piston speed mm/s		50~500mm/s								50~400mm/s	
Cushion		Rubber bumper on both ends									
Stroke length tolerance		$^{+0.15}_{0}$mm									
Lubrication [Note]		Not required (Non-lube)									
Bearing		Slide bearing/Ball bushing bearin									
Non-rotation accuracy of piston rod	Slide bearing	±0.08°		±0.07°		±0.06°		±0.05°		±0.04°	
	Ball bushing bearin	±0.10°		±0.09°		±0.08°		±0.06°		±0.05°	
Port size		M5×0.8		1/8				1/4		3/8	

[Note] If lubrication is required, please use turbine No.1 oil ISOVG32.

Ordering code

N M G P M 20 □ – 50 – Z73 □

Bearing type

M	Slide bearing
L	Ball bushing bearing

Bore size

12	12mm	40	40mm
16	16mm	50	50mm
20	20mm	63	63mm
25	25mm	80	80mm
32	32mm	100	100mm

Port thread type

Blank	M5×0.8
	RC
N	NPT
TF	G

Stroke

Refer to stroke table for details

Number of magnetic switches

Blank	2 pcs.
S	1 pc.

Magnetic switch type

Blank	Without magnetic switch

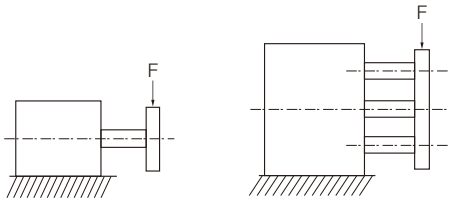
* Magnetic switch type refer stroke /Magnetic switch model table

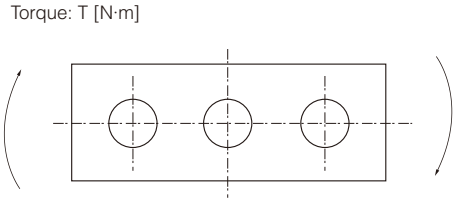
Stroke/magnetic switch model table

Bore size (mm)	Standard stroke*	*Magnetic switch model Rail installation
12,16	10, 20, 30, 40, 50, 75, 100, 125, 150,175, 200, 250	M9B M9P M9N
20,25	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	
32,40,50, 63,80,100	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400	

* Intermediate stroke interval is 1mm (Φ12~Φ32) or 5mm (Φ40 ~Φ100); if non-standard stroke is required, gaskets should be added to the standard stroke cylinder.
** The specifications and characteristics of magnetic switches can be referred to the series of magnetic switches.
Wire length representation mark: no mark-0.5m,
L-3m, Z-5m, Example: M9N, M9NL.

Load and Torque

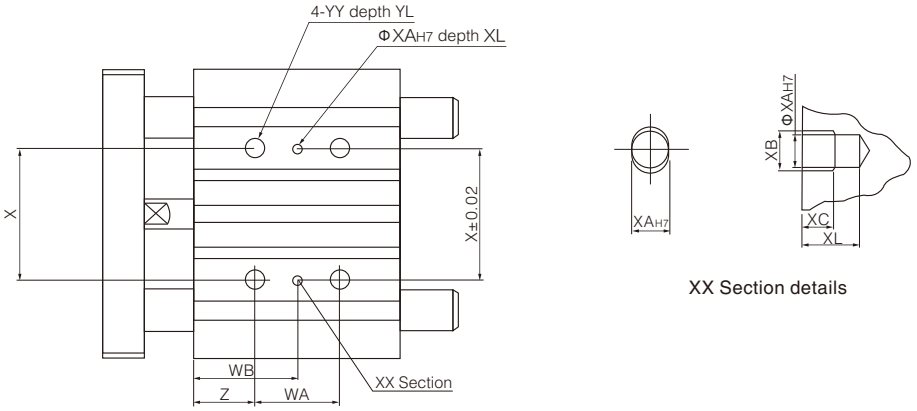


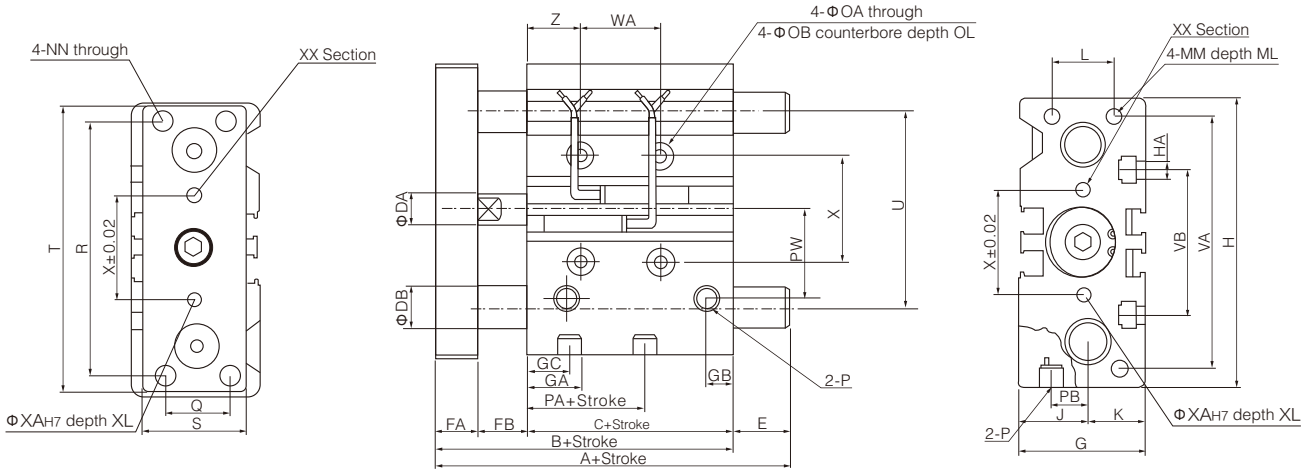


Bore size (mm)	Bearing type	Maximum lateral load F(N) Stroke																Maximum Torque T(N.m) Stroke														
		10	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400	10	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400
12	NMGPM	24	19	-	17	14	13	26	22	19	17	15	13	11	-	-	-	0.39	0.32	-	0.27	0.24	0.21	0.43	0.36	0.31	0.27	0.24	0.22	0.19	-	-	-
	NMGPL	37	27	-	22	35	30	23	18	15	12	11	10	8	-	-	-	0.61	0.45	-	0.35	0.58	0.50	0.37	0.29	0.24	0.20	0.18	0.16	0.12	-	-	-
16	NMGPM	38	31	-	27	23	21	37	32	27	24	22	20	16	-	-	-	0.69	0.58	-	0.49	0.43	0.38	0.69	0.58	0.50	0.44	0.40	0.36	0.30	-	-	-
	NMGPL	54	40	-	32	54	47	35	28	23	20	17	15	12	-	-	-	0.99	0.74	-	0.59	0.99	0.86	0.65	0.52	0.43	0.37	0.32	0.28	0.23	-	-	-
20	NMGPM	-	49	-	43	38	35	87	75	66	59	54	49	42	36	32	29	-	1.05	-	0.93	0.83	0.75	1.88	1.63	1.44	1.28	1.16	1.06	0.90	0.78	0.69	0.62
	NMGPL	-	58	-	48	101	90	70	58	62	54	48	43	35	30	26	23	-	1.26	-	1.03	2.17	1.94	1.52	1.25	1.34	1.17	1.03	1.93	0.76	0.65	0.56	0.49
25	NMGPM	-	69	-	60	54	49	116	100	88	79	71	65	55	48	43	38	-	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
	NMGPL	-	82	-	68	132	118	93	77	80	70	62	55	45	38	33	29	-	2.11	-	1.75	3.37	3.02	2.38	1.97	2.05	1.78	1.58	1.41	1.16	0.98	0.85	0.74
32	NMGPM	-	-	203	-	-	164	182	159	142	127	116	106	91	80	71	64	-	-	6.35	-	-	5.13	5.69	4.97	4.42	3.98	3.61	3.31	2.84	2.48	2.20	1.98
	NMGPL	-	-	191	-	-	157	164	144	203	186	171	158	137	121	108	98	-	-	5.95	-	-	4.89	5.11	4.51	6.34	5.79	5.33	4.93	4.29	3.78	3.38	3.04
40	NMGPM	-	-	203	-	-	164	182	159	142	127	116	106	91	80	71	64	-	-	7.00	-	-	5.66	6.27	5.48	4.87	4.38	3.98	3.65	3.13	2.74	2.43	2.19
	NMGPL	-	-	190	-	-	157	163	144	203	185	171	158	137	121	108	97	-	-	6.55	-	-	5.39	5.62	4.96	6.98	6.38	5.87	5.43	4.72	4.16	3.71	3.35
50	NMGPM	-	-	296	-	-	245	273	241	216	195	179	164	142	125	111	101	-	-	13.0	-	-	10.8	12.0	10.6	9.50	8.60	7.86	7.24	6.24	5.49	4.90	4.43
	NMGPL	-	-	208	-	-	173	223	199	264	242	224	207	181	159	142	128	-	-	9.17	-	-	7.62	9.83	8.74	11.6	10.7	9.83	9.12	7.95	7.02	6.26	5.63
63	NMGPM	-	-	296	-	-	245	273	241	216	195	179	164	142	125	111	101	-	-	14.7	-	-	12.1	13.5	11.9	10.7	9.69	8.86	8.16	7.04	6.19	5.52	4.99
	NMGPL	-	-	206	-	-	171	221	196	262	240	221	205	178	157	140	126	-	-	10.2	-	-	8.48	11.0	9.74	13.0	11.9	11.0	10.2	8.84	7.80	6.94	6.24
80	NMGPM	-	-	352	-	-	297	368	329	298	272	251	232	202	179	161	146	-	-	21.9	-	-	18.6	22.9	20.5	18.6	17.0	15.6	14.5	12.6	11.2	10.0	9.11
	NMGPL	-	-	243	-	-	373	364	331	302	278	256	238	207	181	161	143	-	-	15.1	-	-	23.3	22.7	20.6	18.9	17.3	16.0	14.8	12.9	11.3	10.0	8.94
100	NMGPM	-	-	515	-	-	445	498	450	410	377	349	325	285	254	229	208	-	-	38.8	-	-	33.5	37.5	33.8	30.9	28.4	26.2	24.4	21.4	19.1	17.2	15.7
	NMGPL	-	-	360	-	-	407	503	460	423	390	362	337	294	259	230	206	-	-	27.1	-	-	30.6	37.9	34.6	31.8	29.3	27.2	25.3	22.1	19.5	17.3	15.5

Dimensions

Φ12~Φ25





NMGPM, NMGPL Common Dimensions

St=Stroke

Bore size (mm)	Standard stroke	B	C	DA	FA	FB	G	GA	GB	H	HA	J	K	L	MM	ML	NN	OA	OB	OL	P	PA	PB	PW	Q
12	10,20,30,40,50,75,100125,150,175,200,250	42	29	6	8	5	26	11	7.5	58	M4	13	13	18	M4×0.7	10	M4×0.7	4.3	8	4.5	M5×0.8	13	8	18	14
16		46	33	8	8	5	30	11	8	64	M4	15	15	22	M5×0.8	12	M5×0.8	4.3	8	4.5	M5×0.8	15	10	19	16
20	20,30,40,50,75,100,125,150,175,200,250,300,350,400,	53	37	10	10	6	36	10.5	8.5	83	M5	18	18	24	M5×0.8	13	M5×0.8	5.6	9.5	5.5	1/8	12.5	10.5	25	18
25		53.5	37.5	12	10	6	42	11.5	9	93	M5	21	21	30	M6×1.0	15	M6×1.0	5.6	9.5	5.5	1/8	12.5	13.5	28.5	26

Bore size (mm)	Standard stroke	R	S	T	U	VA	VB	WA					WB					X	XA	XB	XC	XL	YY	YL	Z
								30 st or less	30st ~100st	100st ~200st	200st ~300st	Over 300 st	30 st or less	30st ~100st	100st ~200st	200st ~300st	Over 300 st								
12	10,20,30,40,50,75,100125,150,175,200,250	48	22	56	41	50	37	20	40	110	200	-	15	25	60	105	-	23	3	3.5	3	6	M5×0.8	10	5
16		54	25	62	46	56	38	24	44	100	200	-	17	27	60	105	-	24	3	3.5	3	6	M5×0.8	10	5
20	20,30,40,50,75,100,125,150,175,200,250,300,350,400,	70	30	81	54	72	44	24	44	120	200	300	29	39	77	117	167	28	3	3.5	3	6	M6×1.0	12	17
25		78	38	91	64	82	50	24	44	120	200	300	29	39	77	117	167	34	4	4.5	3	6	M6×1.0	12	17

NMGPM (Slide bearing) A, DB, E Dimensions

Bore size (mm)	A			DB	E		
	50st≥	50st< 100st≥	100st<		50st≥	50st< 100st≥	100st<
12	42	60.5	85	8	0	18.5	43
16	46	64.5	95	10	0	18.5	49

NMGPL (Ball bushing) A, DB, E Dimensions

Bore size (mm)	A			DB	E		
	30st≥	30st< 100st≥	100st<		30st≥	30st< 100st≥	100st<
12	43	55	85	6	1	13	43
16	49	65	95	8	3	19	49

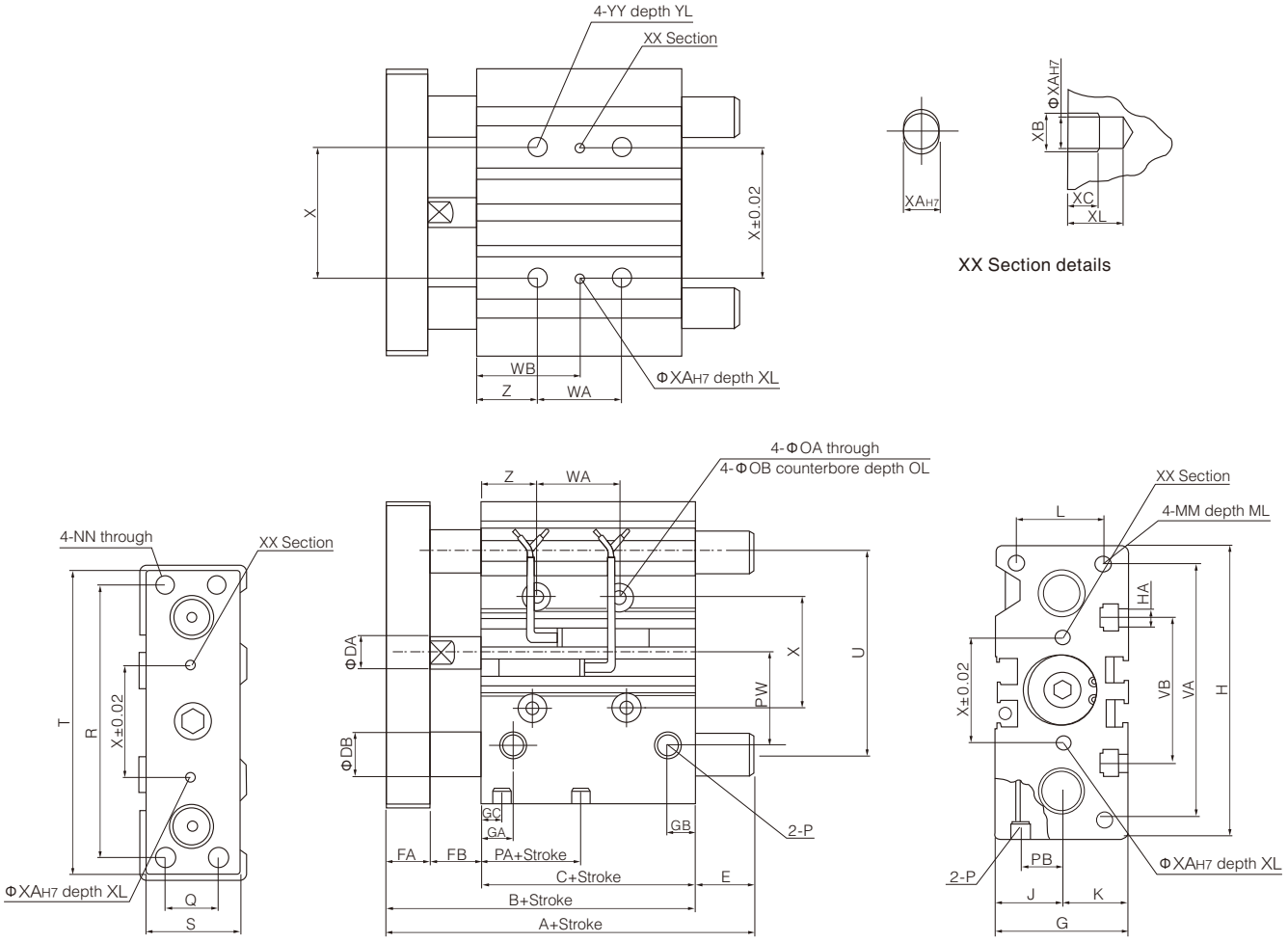
NMGPM (Slide bearing) A, DB, E Dimensions

Bore size (mm)	A			DB	E		
	50st≥	50st< 200st≥	200st<		50st≥	50st< 200st≥	200st<
20	53	84.5	122	12	0	31.5	69
25	53.5	85	122	16	0	31.5	68.5

NMGPL (Ball bushing) A, DB, E Dimensions

Bore size (mm)	A				DB	E			
	30st≥	30st< 100st≥	100st< 200st≥	200st<		30st≥	30st< 100st≥	100st< 200st≥	200st<
20	63	80	104	122	10	10	27	51	69
25	69.5	80.5	104.5	122	13	16	32	51	68.5

Φ32~Φ63



NMGPM, NMGPL Common Dimensions

St=Stroke

Bore size (mm)	Standard stroke	B	C	DA	FA	FB	G	GA	GB	GC	H	HA	J	K	L	MM	ML	NN	OA	OB	OL	P	PA	PB	PW	Q
32	20,50,75, 100,125,150, 175,200,250, 300,350,400,	59.5	37.5	16	12	10	48	12.5	9	12.5	112	M6	24	24	34	M8×1.25	20	M8×1.25	6.6	11	7.5	1/8	7	15	34	30
40		66	44	16	12	10	54	14	10	14	120	M6	27	27	40	M8×1.25	20	M8×1.25	6.6	11	7.5	1/8	13	18	38	30
50		72	44	20	16	12	64	14	11	12	148	M8	32	32	46	M10×1.5	22	M10×1.5	8.6	14	9	1/4	9	21.5	47	40
63		77	49	20	16	12	78	16.5	13.5	16.5	162	M10	39	39	58	M10×1.5	22	M10×1.5	8.6	14	9	1/4	14	28	55	50

Bore size (mm)	R	S	T	U	VA	VB	WA					WB					X	XA	XB	XC	XL	YY	YL	Z
							25 st or less	25st ~100st	100st ~200st	200st ~300st	Over 300 st	25 st or less	25st ~100st	100st ~200st	200st ~300st	Over 300 st								
32	96	44	110	78	98	63	24	48	124	200	300	33	45	83	121	171	42	4	4.5	3	6	M8×1.25	16	21
40	104	44	118	86	106	72	24	48	124	200	300	34	46	84	122	172	50	4	4.5	3	6	M8×1.25	16	22
60	130	60	146	110	130	92	24	48	124	200	300	36	48	86	124	174	66	5	6	4	8	M10×1.5	20	24
63	130	70	158	124	142	110	28	52	128	200	300	38	50	88	124	174	80	5	6	4	8	M10×1.5	20	24

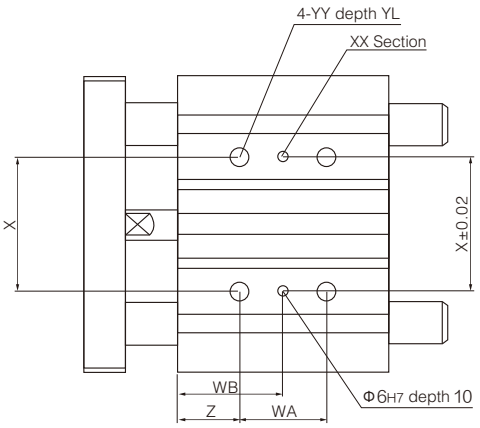
NMGPM (Slide bearing) A, DB, E Dimensions

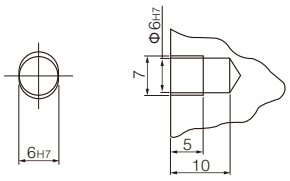
Bore size (mm)	A			DB	E		
	50st≥	50st< 100st≥	200st≥		50st≥	50st< 200st≥	200st≥
32	97	102	140	20	37.5	42.5	80.5
40	97	102	140	20	31	36	74
50	106.5	118	161	25	34.5	46	89
63	106.5	118	161	25	29.5	41	84

NMGPL (Ball bushing) A, DB, E Dimensions

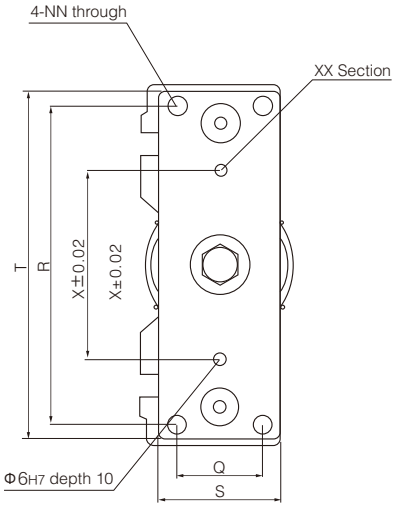
Bore size (mm)	A				DB	E			
	50st≥	50st< 100st≥	100st< 200st≥	200st<		50st≥	50st< 100st≥	100st< 200st≥	200st<
32	81	98	118	140	16	21.5	38.5	58.5	80
40	81	98	118	140	16	15	32	52	74
50	93	114	134	161	20	21	42	62	89
63	93	114	134	161	20	16	37	57	84

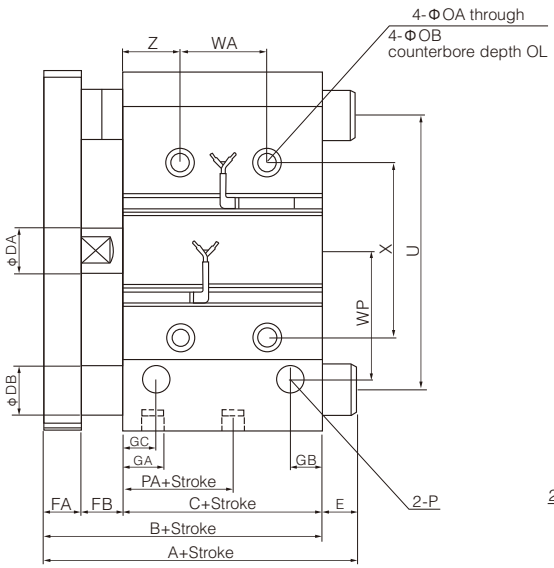
Φ82~Φ100

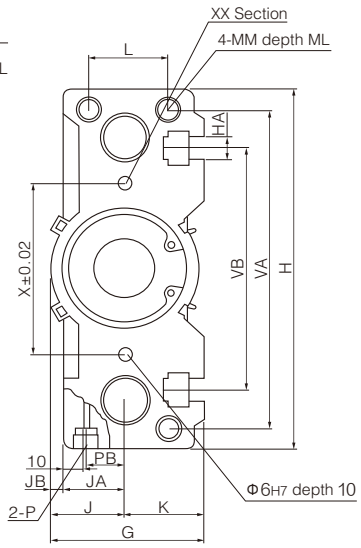




XX Section details







NMGPM, NMGPL Common Dimensions

St=Stroke

Bore size (mm)	Standard stroke	B	C	DA	FA	FB	G	GA	GB	GC	H	HA	J	JA	JB	K	L	MM	ML	NN	OA	OB	OL	P	PA	PB	PW
80	25,50,75,100, 125,150,175,200, 250,300,350,400,	96.5	56.5	25	22	18	91.5	19	15.5	14.5	202	M12	45.5	38	7.5	46	54	M12×1.75	25	M12×1.75	10.6	17.5	8	3/8	14.5	25.5	74
100		116	66	30	25	25	111.5	23	19	18	240	M14	55.5	45	10.5	56	62	M14×2.0	31	M14×2.0	12.5	20	8	3/8	17.5	32.5	89

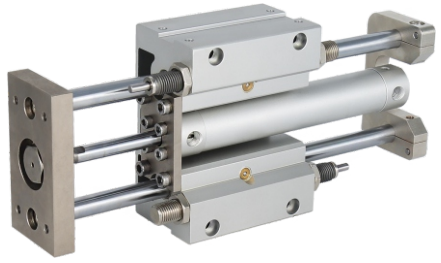
Bore size (mm)	Standard stroke	Q	R	S	T	U	VA	VB	WA					WB					X	YY	YL	Z
									25 st	25st ~100st	100st ~200st	200st ~300st	Over 300 st	25 st	25st ~100st	100st ~200st	200st ~300st	Over 300 st				
80	25,50,75,100, 125,150,175,200, 250,300,350,400,	52	174	75	198	156	180	140	28	52	128	200	300	42	54	92	128	178	100	M12×1.75	24	28
100		64	210	90	236	188	210	166	48	72	148	200	300	35	47	85	121	171	124	M14×2.0	28	11

NMGPM (Slide bearing)

Bore size (mm)	A			DB	E		
	50st≥	50st< 200st≥	200st<		50st≥	50st< 200st≥	200st<
80	115	142	193	30	18.5	45.5	96.5
100	137	162	203	36	21	46	87

NMGPL (Ball bushing)

Bore size (mm)	A				DB	E			
	25st≥	25st< 50st≥	50st< 200st≥	200st<		25st≥	25st< 50st≥	50st< 200st≥	200st<
80	109.5	130	160	193	25	13	33.5	63.5	96.5
100	121	147	180	203	30	5	31	64	87



* Built-in Hydraulic Buffer
* With travel adjustment mechanism
* Strong lateral load resistance
* High accuracy without rotation
* Bearings with guide rods can be selected as sliding bearings or ball bearings

Specifications

Bore size(mm)		20	25	32	40	50	63	80	100
Fluid		Air							
Action		Double acting							
Maximum operating pressure		1.0MPa							
Minimum operating pressure		0.15MPa							
Ambient and fluid temperature		-10 to 60℃ (No freezing)							
Piston speed (mm/s)		50~1000mm/s						50~700mm/s	
Cushion		Built-in shock absorbers (2 pcs.)							
Stroke length tolerance (mm)		~1000mm $^{+1.9}_{+0.2}$ 1001~1300 $^{+2.3}_{+0.2}$							
Stroke adjusting range (One side)(mm)		0~-10	0~-15						
Maximum energy absorption (J)		5.88	19.6		58.8			147	
Lubrication [Note]		Not required (Non-lube)							
Bearing		Slide bearing/Ball bushing bearin							
Non-rotation accuracy of piston rod	Slide bearing	±0.07°	±0.06°	±0.06°	±0.05°	±0.04°	±0.04°	±0.04°	±0.03°
	Ball bushing bearin	±0.06°	±0.05°	±0.04°	±0.04°	±0.04°	±0.03°	±0.03°	±0.02°
Port size		1/8				1/4		3/8	1/2

[Note] If lubrication is required, please use turbine No.1 oil ISOVG32.

Ordering code

NMGG L B 32 – 100 – C73 □

Bearing type

M	Slide bearing
L	Ball bushing

Mounting type

B	Basic type
F	Front mounting flange type

Bore size

20	20mm
25	25mm
32	32mm
40	40mm
50	50mm
63	63mm
80	80mm
100	100mm

Stroke

Refer to stroke table for details

Magnetic switch type

Blank	Without magnetic switch

* Magnetic switch type refer stroke /Magnetic switch model table

Number of magnetic switches

Blank	2 pcs.
S	1 pc.
n	"n" pcs.

Stroke/magnetic switch model table

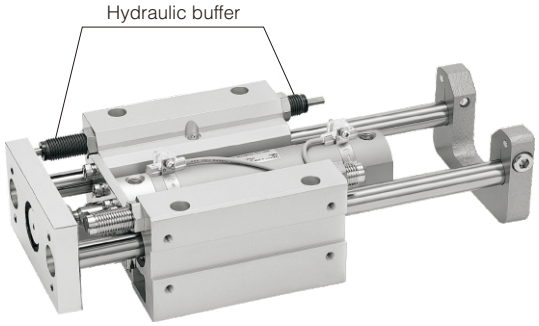
Bore size (mm)	Standard stroke	Long stroke (mm)	*Magnetic switch model (Ring installation)
20	75,100,125,150,200	250,300,350,400	C73
25	75,100,125 150,200 250,300	350,400,450,500	
32		350,400,450,500,600	
40		350,400,450,500,600,700,800	
50		350,400,450,500,600, 700,800,900,1000	
63		350,400,450,500,600, 700,800,900,1000,1100	
80		350,400,450,500,600,700, 800,900,1000,1100,1200	B54
100		350,400,450,500,600,700, 800,900,1000,1100,1200,1300	

* The specifications and characteristics of magnetic switches can be referred to the series of magnetic switches.
Wire length representation mark: no mark-0.5m, L-3m, Z-5m,
Example: C73, C73L.

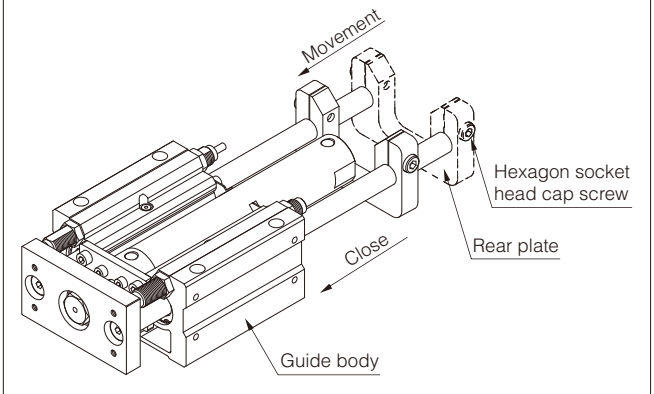
Magnetic switch Installation type

Magnetic switch type	Bore size(mm)							
	20	25	32	40	50	63	80	100
D-C7・H7	BMA2 -020	BMA2 -025	BMA2 -032	BMA2 -040	BMA2 -050	BMA2 -063	-	-
D-B5・G5・K5	BA-01	BA-02	BA-32	BA-04	BA-05	BA-06	BA-08	BA-10

Built-in hydraulic buffer

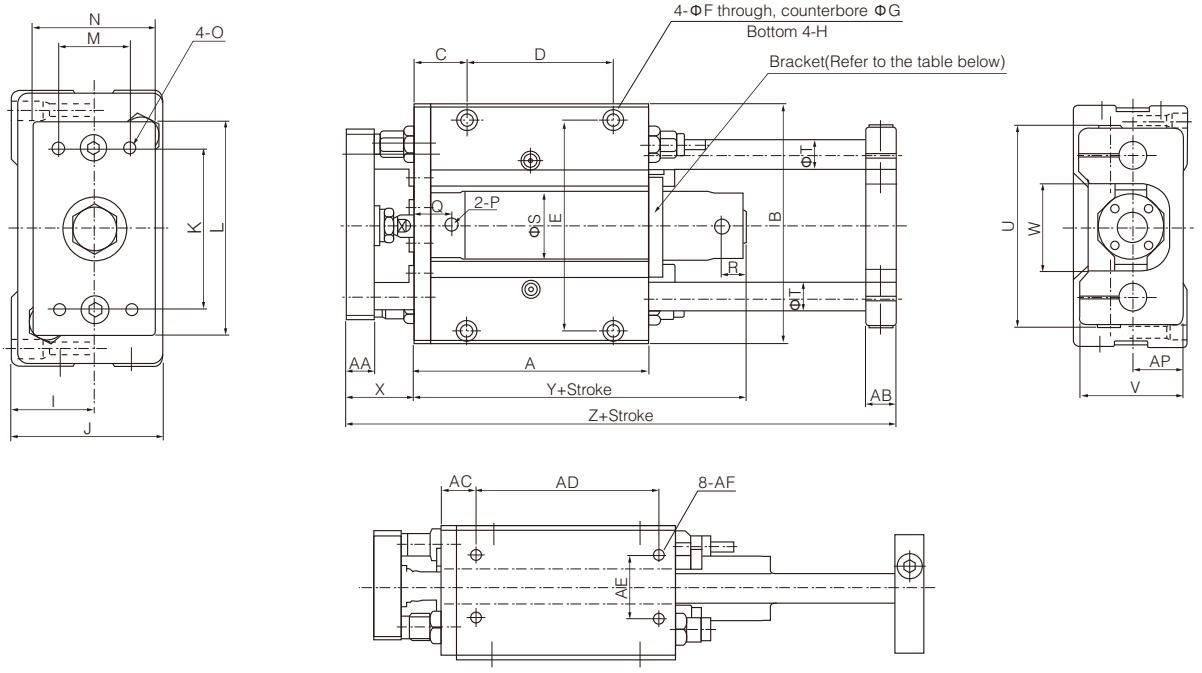


Stroke adjustment device

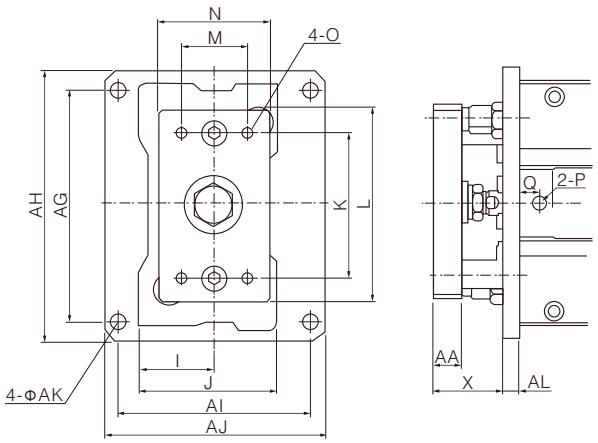


Dimensions

Basic type NMGG□B Φ20~Φ50



Flange type NMGG□F Φ20~Φ50



Bore size (mm)	Basic type							
	Q	X	AG	AH	AI	AJ	AK	AL
20	21	30	112	125	82	95	6.6	9
25	21	37	134	150	92	108	9	9
32	21	37	134	150	102	118	9	9
40	25	44	170	186	134	150	9	12
50	26	55	190	210	140	160	11	12

Bore size (mm)	Stroke range (mm)	A	AA	AB	AC	AD	AE	AF	AP	B	C	D	E	F	G	H	I	J	K	L	M	N
20	75,100,125,150,200	99	12	11	16.5	75	30	M5×0.8 depth 10	25	108	24	60	92	5.5	9.5 depth 6	M8×1.25 depth 14	30	55	60	80	25	45
25	75,100,125,150,200,250 300	109	16	13	16.5	85	30	M6×1 depth 12	30	130	26.5	65	113	6.6	11 depth 8	M10×1.5 depth 18	35	65	70	100	35	54
32		129	16	16	19	100	35	M6×1 depth 12	35	135	29	80	118	6.6	11 depth 8	M10×1.5 depth 18	40	73	80	106	35	60
40		152	19	19	22	120	40	M8×1.25 depth 16	45	170	32	100	150	9	14 depth 10	M12×1.75 depth 21	50	93	95	134	50	75
50		182	25	21	22	150	45	M10×1.5 depth 20	50	194	37	120	170	11	17 depth 12	M14×2 depth 25	55	103	115	152	56	90

Bore size (mm)	O	P	Q	R	S	T	U	V	W	X	Y	Z
20	M6×1 depth 9	Rc(PT)1/8	21	12	26	12	82	48	40	30	80	157
25	M6×1 depth 13	Rc(PT)1/8	21	12	31	13	100	57	46	37	80	175
32	M6×1 depth 13	Rc(PT)1/8	21	12	38	16	114	65	52	37	82	201
40	M8×1.25 depth 16	Rc(PT)1/8	25	12	47	20	138	84	62	44	92	238
50	M10×1.5 depth 21	Rc(PT)1/4	26	14	58	25	164	94	75	55	104	285

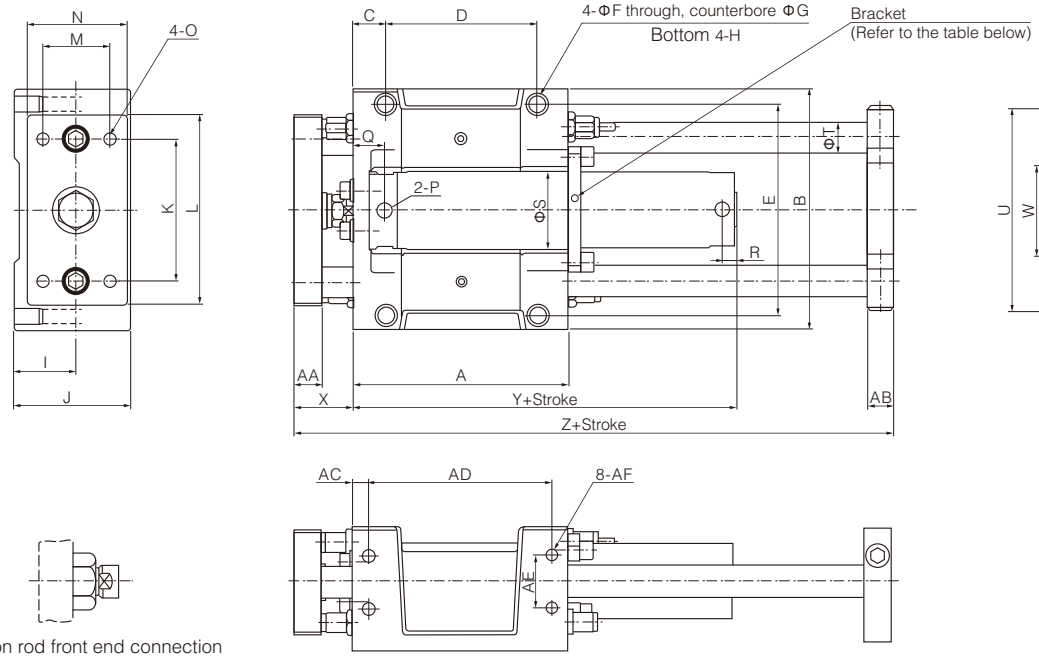
Long stroke

Bore size (mm)	Stroke range (mm)	R	Y
20	250~400	14	88
25	350~500	14	88
32	350~600	14	90
40	350~800	15	101
50	350~1000	16	116

Brackets are attached for more than the following journeys

Bore size (mm)	Bracket Mounting Stroke
20	100 st or more
25	125 st or more
32	150 st or more
40	200 st or more
50	250 st or more

Basic type NMGG□B Φ63~Φ100



Φ100 Piston rod front end connection

Bore size (mm)	Stroke range (mm)	A	AA	AB	AC	AD	AE	AF	AP	B	C	D	E	F	G	H	I	J	K	L	M	N
63	75,100,125,150, 200,250,300	200	25	25	15	170	50	M12×1.75 depth 24	60	228	30	140	200	13.5	20 depth 14.5	M16×2 depth 28	65	117	135	180	66	100
80		230	30	27	15	200	55	M12×1.75 depth 24	70	262	30	170	234	13.5	20 depth 14.5	M16×2 depth 28	75	138	160	214	76	115
100		280	32	30	17.5	245	70	M14×2 depth 28	80	304	35	210	274	15	23 depth 17	M18×2.5 depth 32	85	153	190	245	80	125

Bore size (mm)	O	P	Q	R	S	T	U	V	W	X	Y	Z
63	M12×1.75 depth 23	Rc1/4	29	14	72	30	192	108	86	54	107	308
80	M12×1.75 depth 28	Rc3/8	40	19	89	35	224	128	104	66	131	355
100	M14×2 depth 30	Rc1/2	40	19	110	40	262	143	128	66	131	410

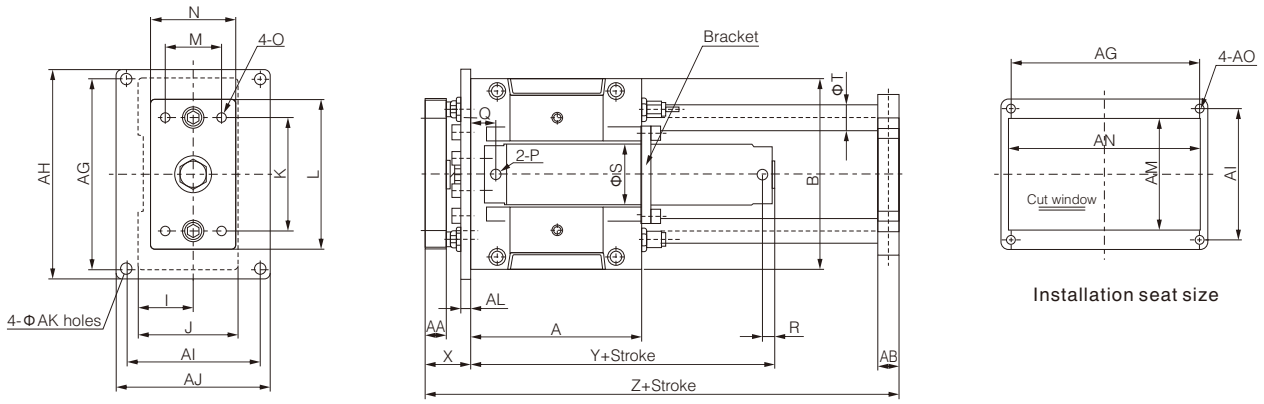
Long stroke

Bore size (mm)	Stroke range (mm)	R	Y
63	350~1100	16	119
80	350~1200	23	145
100	350~1300	23	145

With bracket stroke

Bore size (mm)	Bracket Mounting Stroke
63	300 st or more
80	400 st or more
100	500 st or more

Front mounting flange type NMGG□F Φ63~Φ100



Installation seat size

Bore size(mm)	AL	AH	AG	AI	AJ	AK	AM	AN	AO
63	12	250	228	158	180	14	135	234	M12
80	16	284	262	178	200	14	155	268	M12
100	16	326	300	200	226	16	175	310	M14

* Unmarked dimensions same as table above

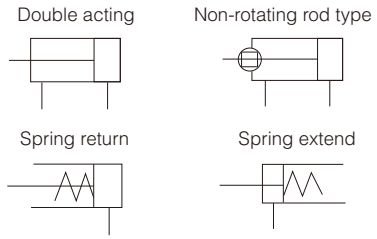


Specifications

Bore size(mm)			6	10	16	20	25	32
Fluid			Air					
Action			Double acting Single action: spring return, spring extend					
Maximum operating pressure			0.7MPa					
Minimum operating pressure (MPa)	Double acting	Single rod	0.12	0.06		0.05		
		Non-rotating rod, double rod	0.15	0.10		0.08		
		Double rod, non-rotating rod, air cushioning	0.18	0.13		0.11		
	Single acting	Standard	0.20	0.15		0.13		
		Non-rotating rod type	0.23	0.18		0.16		
Ambient and fluid temperature			Magnetic switch: -10-60℃, non-magnetic switch: -10-70℃					
Cushion			Rubber cushion at both ends					
Piston speed (mm/s)			50~500mm/s					
Stroke length tolerance (mm)			$^{+1.0}_{0}$					
Lubrication [Note]			Not required (Non-lube)					
Installation form			Free (multifaceted installation)					
Non-rotation accuracy of piston rod			±0.8°			±0.5°		
Port size			M5×0.8					1/8

[Note] If lubrication is required, please use turbine No.1 oil ISOVG32.

Symbol



Ordering code

N C D U K 6 □ – 30 D – M9N □

Built in magnetic ring

Blank	No built-in magnetic ring
D	Built in magnetic ring

Mounting type

Blank	Basic type
K	Non-rotating rod
W	Double rod
KW	Non-rotating rod, double rod

* Single acting cylinder and long stroke double acting cylinder have no W and KW types.

Bore size

6	6mm
10	10mm
16	16mm
20	20mm
25	25mm
32	32mm

Stroke

Refer to stroke table for details

Action

D	Double acting
S	Single action (Spring return)
T	Single action (Spring extend)

Number of magnetic switches

Blank	2 pcs.
S	1 pc.
n	"n" pcs.

Port thread type

Mark	type	Bore size
Blank	M thread	Φ6~25
	Rc	
TN	NPT	Φ32
TF	G	

Magnetic switch type

Blank	Without magnetic switch

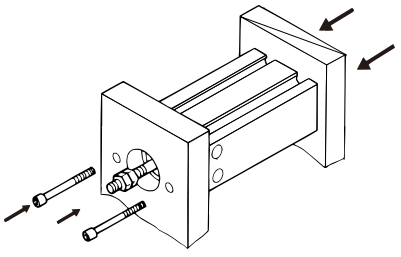
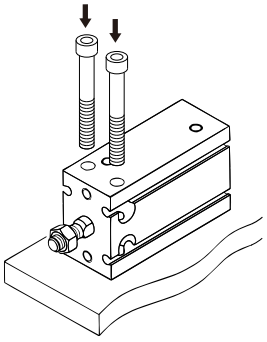
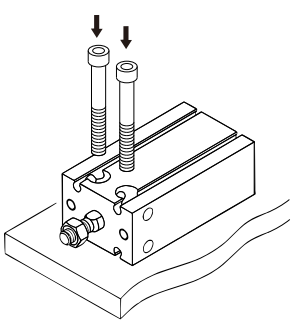
* Magnetic switch type refer stroke /Magnetic switch model table

Stroke/magnetic switch model table

Bore size (mm)	Standard stroke		Long stroke (Double acting)	*Magnetic switch model (Direct mounting)
	Double acting	Single action		
6	5,10,15, 20,25,30	5,10,15	40 50 60	M9N M9B M9P
10				
16				
20	5,10,15, 20,25,30, 40,50		60,70 80,90 100	
25				
32				

* The specifications and characteristics of magnetic switches can be referred to the series of magnetic switches.
Wire length representation mark: no mark-0.5m, L-3m, Z-5m, Example: M9N, M9NL.

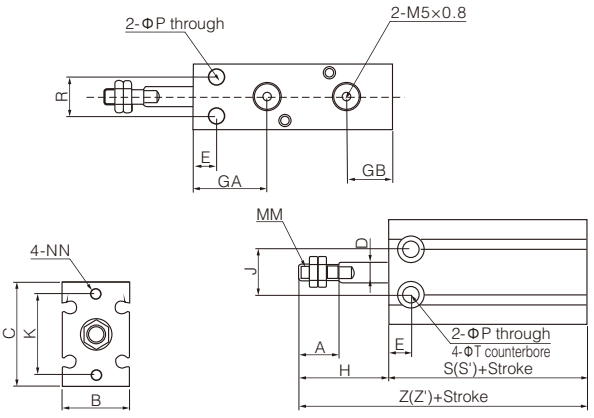
Adaptive installation/rectangular cylinder

Mounting Type	Axial mounting (Body tapped)	Vertical mounting (Body through-holes)	Lateral mounting (Body through-holes)
			

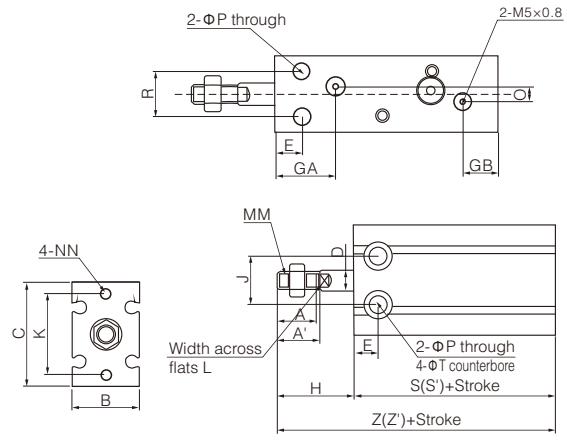
Dimensions

Basic type, built-in magnetic ring type (double-acting, single-acting spring return/extend)

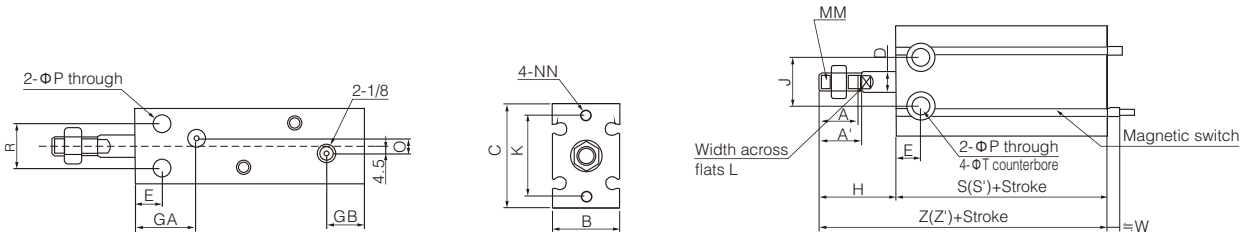
Φ6, Φ10



Φ16~Φ25



Φ32



Common dimension table

Model	A	A'	B	C	D	E	GA	GB	J	K	L	MM	NN	ΦP	Q	R	ΦT
NC□U6	7	-	13	22	3	7	15	10	10	17	-	M3×0.5	M3×0.5 depth 5	3.2	-	7	6 depth 4.8
NC□U10	10	-	15	24	4	7	16.5	10	11	18	-	M4×0.7	M3×0.5 depth 5	3.2	-	9	6 depth 5
NC□U16	11	12.5	20	32	6	7	16.5	11.5	14	25	5	M5×0.8	M4×0.7 depth 6	4.5	4	12	7.6 depth 6.5
NC□U20	12	14	26	40	8	9	19	12.5	16	30	6	M6×1.0	M5×0.8 depth 8	5.5	9	16	9.3 depth 8
NC□U25	15.5	18	32	50	10	10	21.5	13	20	38	8	M8×1.25	M5×0.8 depth 8	5.5	9	20	9.3 depth 9
NC□U32	19.5	22	40	62	12	11	23	13	24	48	10	M10×1.25	M6×1.0 depth 9	6.6	13.5	24	11 depth 11.5

Double acting dimension table

Model	H	Basic type		Built-in magnetic ring type		
		S	Z	W	S'	Z'
NC□U6-□D	13	33	46	2.5	33	46
NC□U10-□D	16	36	52	1	36	52
NC□U16-□D	16	30	46	0	40	56
NC□U20-□D	19	36	55	1	46	65
NC□U25-□D	23	40	63	-1	50	73
NC□U32-□D	27	42	69	-4	52	79

Single action (Spring return) dimension table

*St+Stroke

Model	H	Basic type						Built-in magnetic ring type						
		S			Z			W	S'			Z'		
		5st	10st	15st	5st	10st	15st		5st	10st	15st	5st	10st	15st
NC□U6-□S	13	38	43	48	51	56	61	2.5	38	43	48	51	56	61
NC□U10-□S	16	41	46	56	57	62	72	1	41	46	56	57	62	72
NC□U16-□S	16	35	40	50	51	56	66	0	45	50	60	61	66	76
NC□U20-□S	19	41	46	56	60	65	75	1	51	56	66	70	75	85
NC□U25-□S	23	45	50	60	68	73	83	-1	55	60	70	78	83	93
NC□U32-□S	27	47	52	62	74	79	89	-4	57	62	72	84	89	99

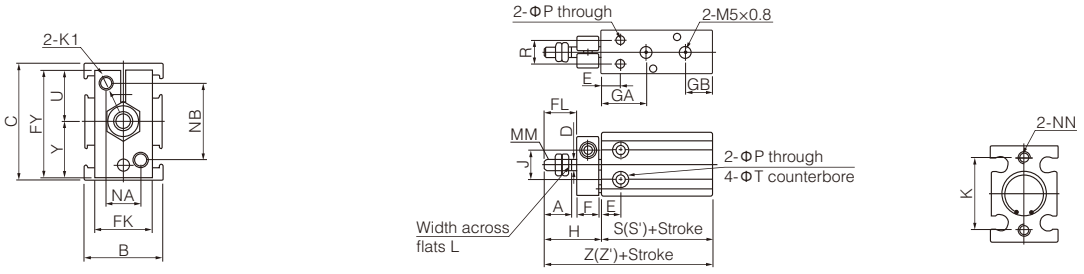
Single action (spring extend) dimension table

*St+Stroke

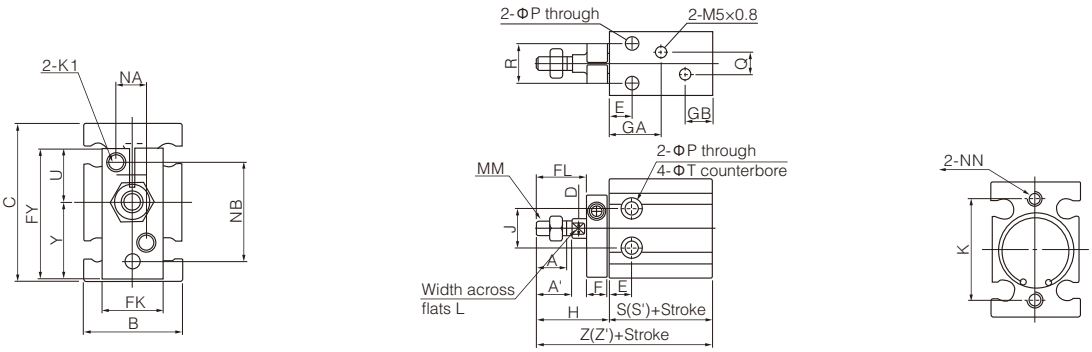
Model	H			Basic type						Built-in magnetic ring type						
				S			Z			W	S'			Z'		
	5st	10st	15st	5st	10st	15st	5st	10st	15st		5st	10st	15st	5st	10st	15st
NC□U6-□T	18	23	28	38	43	48	56	66	76	2.5	38	43	48	56	66	76
NC□U10-□T	21	26	31	41	46	56	62	72	87	1	41	46	56	62	72	87
NC□U16-□T	21	26	31	45	50	60	66	76	91	0	45	50	60	66	76	91
NC□U20-□T	24	29	34	41	46	56	65	75	90	1	51	56	66	75	85	100
NC□U25-□T	28	33	38	45	50	60	73	83	98	-1	55	60	70	83	93	108
NC□U32-□T	32	37	42	47	52	62	79	89	104	-4	57	62	72	89	99	114

Non-rotating rod type, built-in magnetic ring type (double-acting, single-acting spring return/extend)

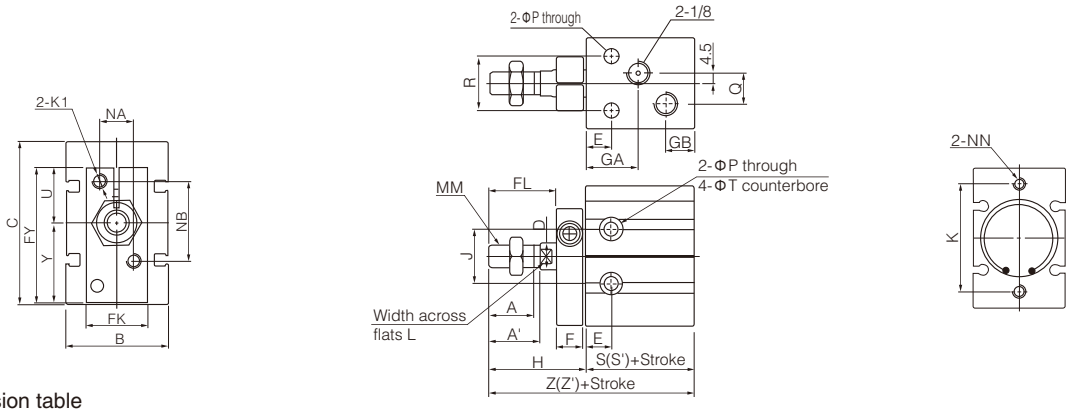
Φ6, Φ10



Φ16~Φ25



Φ32



Common dimension table

Model	A	A'	B	C	ΦD	E	F	FL	FK	FY	GA	GB	H	J	K	L	MM	NA	NB	NN	ΦP	Q	R	ΦT	U	Y
NC□UK6	7	-	13	22	3	7	8	9	11	20.5	15	10	18	10	17	-	M3×0.5	6	14	M3×0.5 depth 5	3.4	-	7	6 depth 4.8	10	10.5
NC□UK10	10	-	15	24	4	7	8	12	12	22	16.5	10	21	11	18	-	M4×0.7	7	15	M3×0.5 depth 5	3.4	-	9	6 depth 5	10.5	11.5
NC□UK16	11	12.5	20	32	6	7	8	17	13	28	16.5	11.5	26	14	25	5	M5×0.8	6	18	M4×0.7 depth 6	4.5	4	12	7.6 depth 6.5	12.5	15.5
NC□UK20	12	14	26	40	8	9	8	20	16	33	19	12.5	29	16	30	6	M6×1.0	8	20	M5×0.8 depth 8	5.5	9	16	9.3 depth 8	13.5	19.5
NC□UK25	15.5	18	32	50	10	10	10	22	20	43.5	21.5	13	33	20	38	8	M8×1.25	10	28	M5×0.8 depth 8	5.5	9	20	9.3 depth 9	19	24.5
NC□UK32	19.5	22	40	62	12	11	12	29	24	51.5	23	12.5	42	24	48	10	M10×1.25	12	32	M6×1.0 depth 9	6.6	13.5	24	11 depth 11.5	21	30.5

Double acting dimension table

Model	H	Without magnetic ring		Built-in magnetic ring type		
		S	Z	W	S'	Z'
NC□UK6-□D	18	33	51	2.5	33	51
NC□UK10-□D	21	36	57	1	36	57
NC□UK16-□D	26	30	56	0	40	66
NC□UK20-□D	29	36	65	1	46	75
NC□UK25-□D	33	40	73	-1	50	83
NC□UK32-□D	42	42	84	-4	52	94

Single action (Spring return) dimension table

*St=Stroke

Model	H	Without magnetic ring						Built-in magnetic ring type									
		S			Z			W	S'			Z'					
		5st	10st	15st	5st	10st	15st		5st	10st	15st	5st	10st	15st			
NC□UK6-□S	18	38	43	48	56	61	66	2.5	38	43	48	56	61	66			
NC□UK10-□S	21	41	46	56	62	67	77	1	41	46	56	62	67	77			
NC□UK16-□S	26	35	40	50	61	66	76	0	45	50	60	71	76	86			
NC□UK20-□S	29	41	46	56	70	75	85	1	51	56	66	80	85	95			
NC□UK25-□S	33	45	50	60	78	83	93	-1	55	60	70	88	93	103			
NC□UK32-□S	42	47	52	62	89	94	104	-4	57	62	72	99	104	114			

Single action (spring extend) dimension table

*St=Stroke

Model	H			ΦT	U	Y	Without magnetic ring						Built-in magnetic ring type						
							S			Z			W	S'			Z'		
	5st	10st	15st				5st	10st	15st	5st	10st	15st		5st	10st	15st	5st	10st	15st
NC□UK6-□T	23	28	33	6 depth 4.8	10	10.5	38	43	48	61	71	81	2.5	38	43	48	61	71	81
NC□UK10-□T	26	31	36	6 depth 5	10.5	11.5	41	46	56	67	77	92	1	41	46	56	67	77	92
NC□UK16-□T	31	36	41	7.6 depth 6.5	12.5	15.5	45	50	60	76	86	101	0	45	50	60	76	86	101
NC□UK20-□T	34	39	44	9.5 depth 8	13.5	19.5	41	46	56	75	85	100	1	51	56	66	85	95	110
NC□UK25-□T	38	43	48	9.5 depth 9	19	24.5	45	50	60	83	93	108	-1	55	60	70	93	103	118
NC□UK32-□T	47	52	57	11 depth 11.5	21	30.5	47	52	62	94	104	119	-4	57	62	72	104	114	129



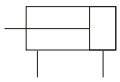
Specifications

Bore size(mm)		4	6	8	10
Fluid		Air			
Action		Double acting/Single action:(spring return)			
Maximum operating pressure		0.7MPa			
Minimumoperating pressure (MPa)	Double acting	0.15			0.1
	Single acting	0.35	0.3		0.2
Ambient and fluid temperature		With magnetic switch: -10-60℃, Without magnetic switch: -10-70℃			
Cushion		None			
Piston speed (mm/s)		50~500mm/s			
Stroke length tolerance (mm)		$^{+0.5}_{0}$			
Lubrication [Note]		Not required (Non-lube)			
Installation form		Through-hole, free (multi-faceted) installation			
Port size		M3×0.5			

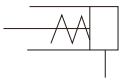
[Note] If lubrication is required, please use turbine No.1 oil ISOVG32.

Symbol

Double acting



Single acting: Spring return



Ordering code

Basic type: **NCUJ B 4 6 S – □**

Built-in magnetic ring: **NCDUJ B 8 10 D – M – M9N S**

With magnetic switch

Built in magnetic ring	

Mounting type

B	Basic (Through-hole)

Bore size

4	4mm
6	6mm
8	8mm
10	40mm

*Φ4mm cylinder has no built-in magnetic ring.

Stroke

Action

D	Double acting
S	Single action (Spring return)

Rod end thread

Blank	Rod end female threaded (Without thread for Φ4)
M	Rod end male threaded

Magnetic switch type

Blank	Without magnetic switch

*Magnetic switch type refer stroke/Magnetic switch model table

Number of magnetic switches

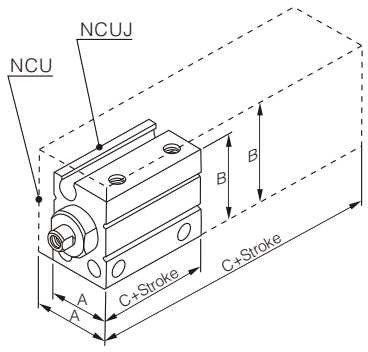
Blank	2 pcs.
S	1 pc.
n	"n" pcs.

Stroke/magnetic switch model table

Bore size (mm)	Standard stroke		*Magnetic switch model (Track installation)
	Double acting	Single action	
4	4, 6, 8, 10, 15, 20	4, 6	M9N M9B M9P
6	4, 6, 8, 10, 15 20, 25, 30	4, 6, 8	
8	4, 6, 8, 10, 15 20, 25, 30	4, 6, 8, 10	
10			

* The specifications and characteristics of magnetic switches can be referred to the series of magnetic switches.
Wire length representation mark: no mark-0.5m, L-3m, Z-5m.

Mini free mount cylinder



Full length: maximum reduction of about 64%
Volume: Maximum reduction of about 70%
(Comparing with NCU series)

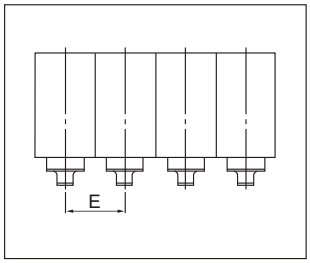
Smaller size
Minimum diameter of cylinder Φ4 mm

Bore size(mm)	A	B	C
4	10	15	13
6	13(13)	19(22)	13(33)
8	13	21	13
10	13.5(15)	22(24)	13(36)

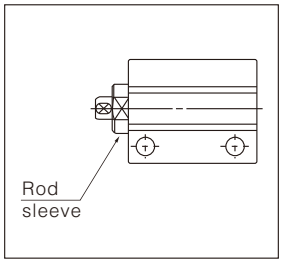
(): The size of NCU Series in brackets

Spacing shorten
(Easy to use side by side)

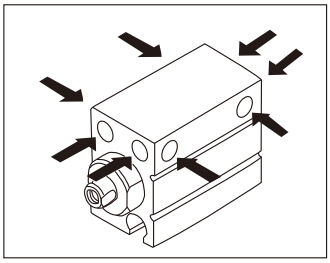
Bore size(mm)	E
4	10
6	13
8	13
10	13.5



With boss (h9)
(Easy to align)

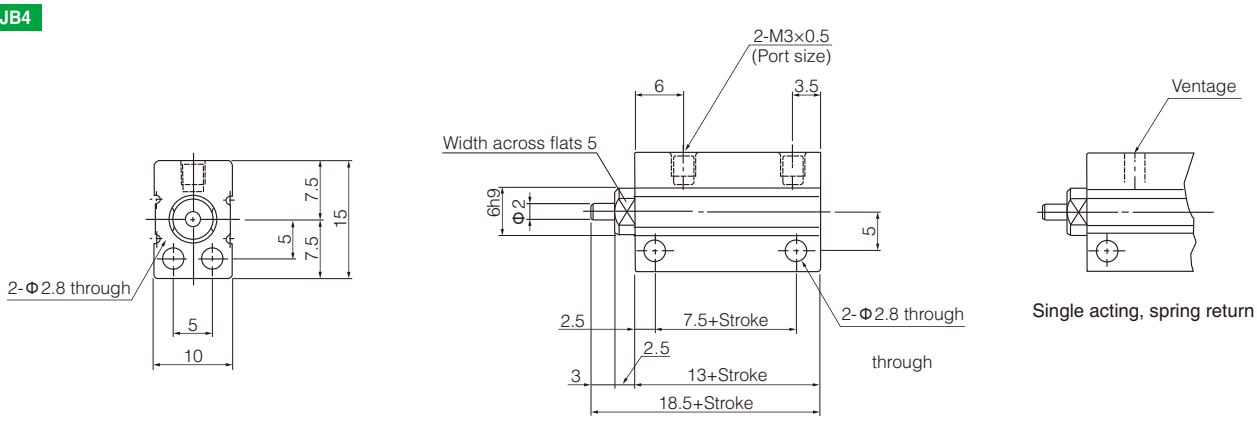


4 sides can be installed
(Easy to install)

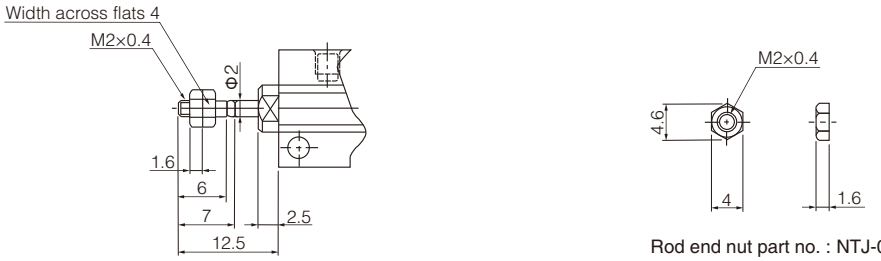


Dimensions

NCUJB4

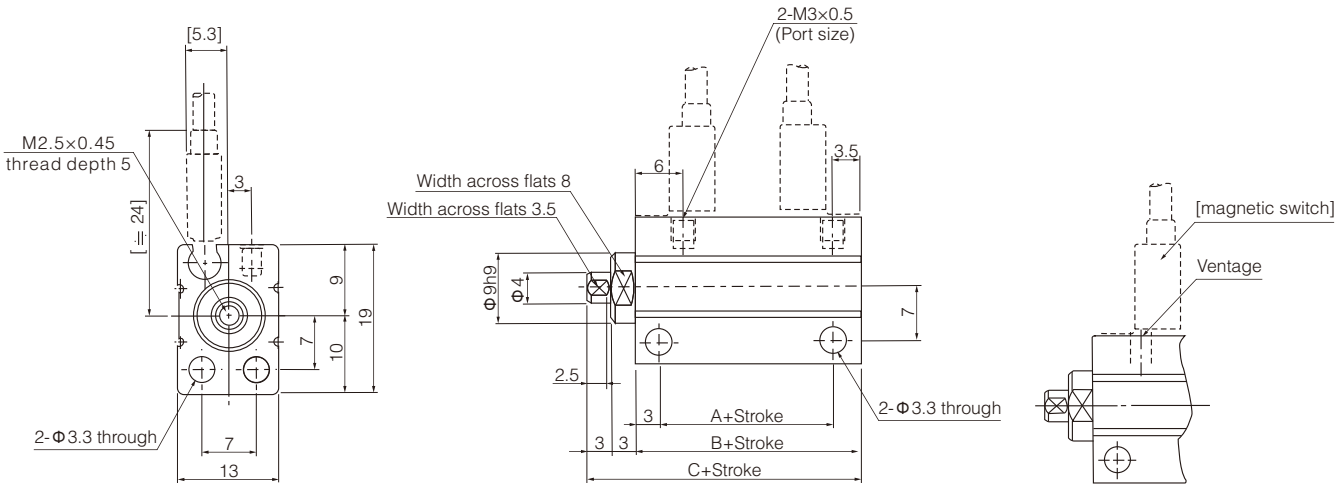


Rod end male threaded

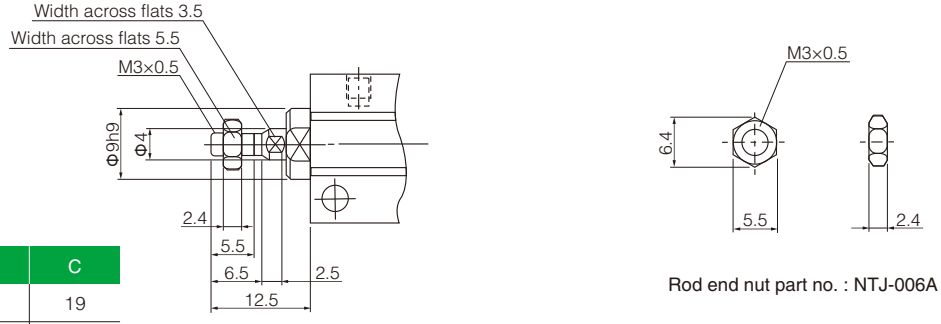


Rod end nut part no. : NTJ-004

NCUJB6・NCDUJB6



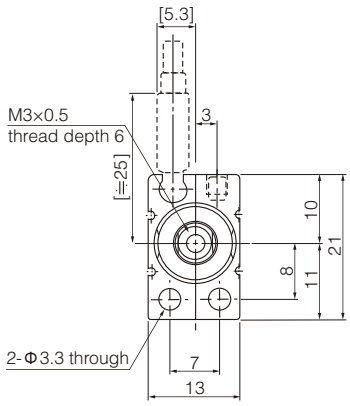
Rod end male threaded

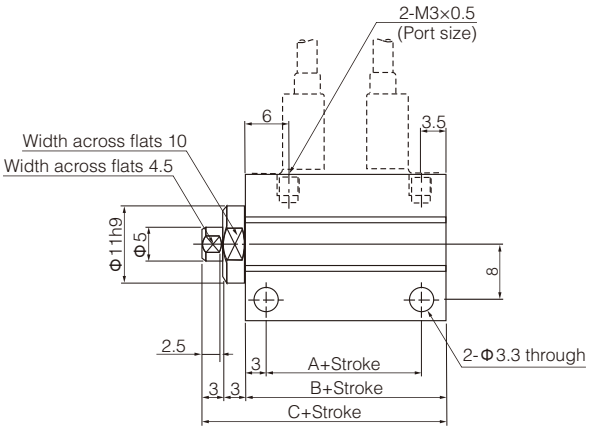


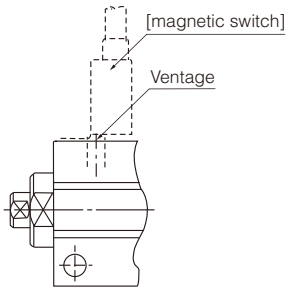
Rod end nut part no. : NTJ-006A

Model	A	B	C
NCUJB6	6.5	13	19
NCDUJB6	11.5	18	24

NCUJB8 · NCDUJB8

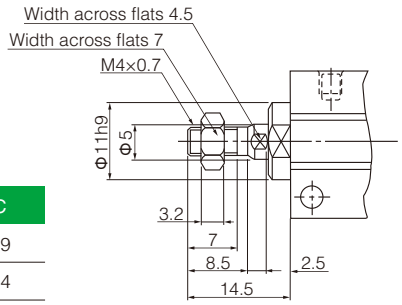


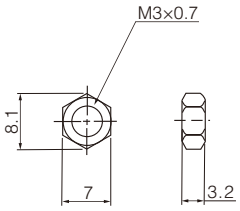




Single acting, spring return

Rod end male threaded

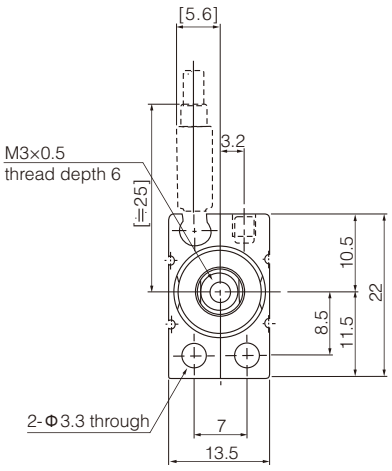


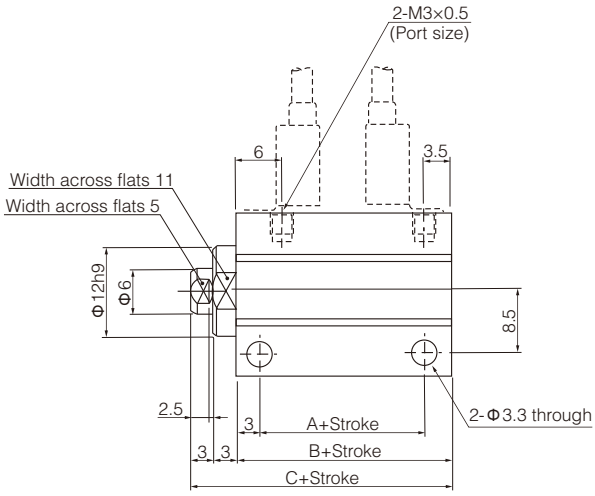


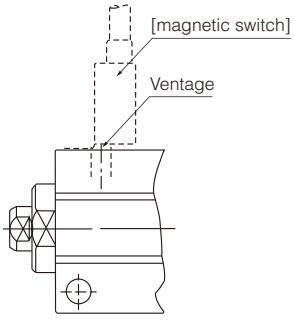
Rod end nut part no. : NTJ-010A

Model	A	B	C
NCUJB8	6.5	13	19
NCDUJB8	11.5	18	24

NCUJB10 · NCDUJB10

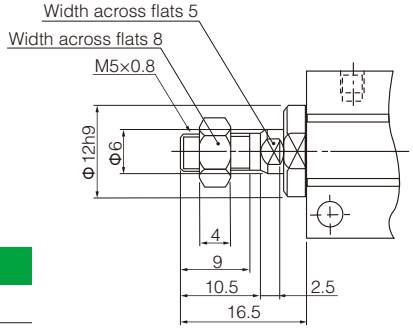


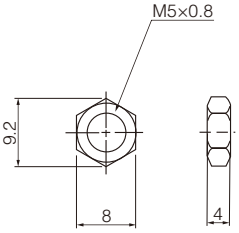




Single acting, spring return

Rod end male threaded





Rod end nut part no. : NTJ-015A

Model	A	B	C
NCUJB10	6.5	13	19
NCDUJB10	11.5	18	24

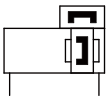


* The wear-resistant ring increases by 70% compared with NCY1B series, so the bearing capacity of the shaft is improved.
* Special resin wear ring is used to improve lubrication performance and durability.
* Use special dust-proof ring, minimum use pressure reduced by 30%.
* Installation size is the same as NCY1B/R series.

Specifications

Bore size(mm)	6	10	15	20	25	32	40	50	63
Fluid	Air								
Action	Double acting								
Maximum operating pressure	0.7MPa								
Minimumoperating pressure (MPa)	0.16				0.15	0.14	0.12		
Ambient and fluid temperature	-10~60℃ (No freezing)								
Cushion	Rubber bumper								
Lubrication	Not required (Non-lube)								
Piston speed (mm/s)	50~500mm/s								
Stroke length tolerance (mm)	0~250 $^{+1.0}_{0}$, 251~1000 $^{+1.4}_{0}$, 1001~ $^{+1.8}_{0}$								
Magnet holding force (N)	19.6	53.9	137	231	363	588	922	1471	2256
Port size	M5×0.8				Rc1/8		Rc1/4		

Symbol



Ordering code

Basic type: **NCY3B 25 □ – 300 □**

Direct mount type: **NCY3R □ 25 □ – 300 □ – M9B S**

Piping type

Blank	Standard type
G	Centralized piping type

* Type G (centralized piping) is not available for Φ6.

Bore size

6	6mm	32	32mm
10	10mm	40	40mm
15	15mm	50	50mm
20	20mm	63	63mm
25	25mm		

Port thread type

Mark	type	Bore size
Blank	M	6,10,15
	Rc	20,25,32, 40,50,63
TN	NPT	
TF	G	

Switch rail

Blank	With switch rail
N	Without switch rail

* A magnet is built into the switch rail.

Stroke

Magnetic switch type

Blank	Without magnetic switch

*Magnetic switch type refer stroke/Magnetic switch model table

Number of magnetic switches

Blank	2 pcs.
S	1 pc.
n	"n" pcs.

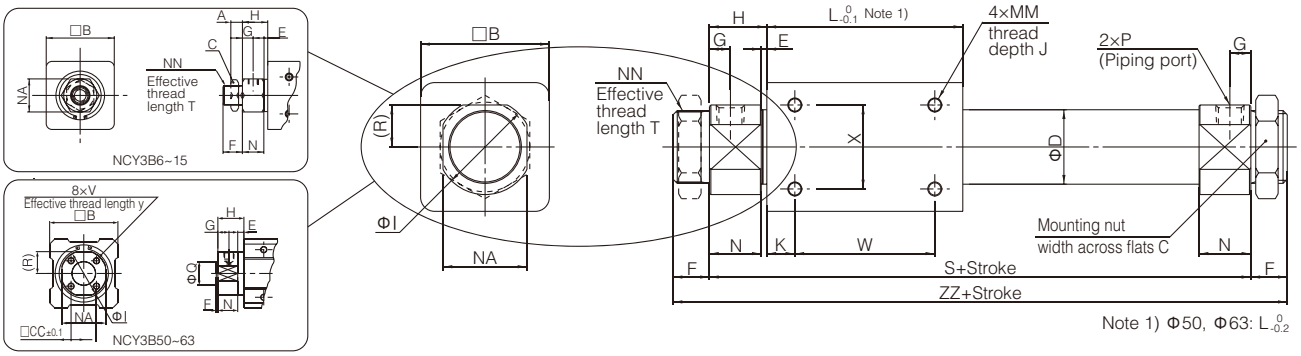
Standard stroke table

Bore size (mm)	Standard stroke	Max. stroke	
		Without switch	With switch
6	50, 100, 150, 200	300	300
10	50, 100, 150, 200, 250, 300	500	500
15	50,100,150,200,250,300,350,400,450,500	1000	7500
20	50, 100, 150, 200, 250, 300, 350 400, 450, 500, 600, 700, 800	1500	1000
25		1500	1200
32		2000	1500
40	50, 100, 150, 200, 250, 300, 350 400, 450, 500, 600, 700, 800 900, 1000	2000	1500
50		2000	1500
63		2000	1500

* The specifications and characteristics of magnetic switches can be referred to the series of magnetic switches.

Dimensions

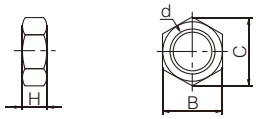
NCY3BΦ6~Φ63



Note 1) Φ50, Φ63: L $^{0}_{-0.2}$

Model	A	B	C	CC	D	E	F	G	H	I	J	K	L	MM	N	NA	NN	Q	R	S	T	V	W	X	Y	Z	P (Piping port)		
																											Blank	TN	TF
NCY3B6	4	17	8	-	7.6	4	8	5	13.5	-	4.5	5	35	M3×0.5	9.5	10	M6×1	-	-	62	6.5	-	25	10	-	78	M3×0.5	-	-
NCY3B10	4	25	14	-	12	1.5	9	5	12.5	-	4.5	4	38	M3×0.5	11	14	M10×1	-	-	63	7.5	-	30	16	-	81	M5×0.8	-	-
NCY3B15	4	35	14	-	16.6	2	10	5.5	13	-	6	11	57	M4×0.7	11	17	M10×1	-	-	83	8	-	35	19	-	103	M5×0.8	-	-
NCY3B20	8	36	26	-	21.6	2	13	7.5	20	28	6	8	66	M4×0.7	18	24	M20×1.5	-	12	106	10	-	50	25	-	132	Rc1/8	NPT1/8	G1/8
NCY3B25	8	46	32	-	26.4	2	13	7.5	20.5	34	8	10	70	M5×0.8	18.5	30	M26×1.5	-	15	111	10	-	50	30	-	137	Rc1/8	NPT1/8	G1/8
NCY3B32	8	60	32	-	33.6	2	16	8	22	40	8	15	80	M6×1	20	36	M26×1.5	-	18	124	13	-	50	40	-	156	Rc1/8	NPT1/8	G1/8
NCY3B40	10	70	41	-	41.6	3	16	11	29	50	10	16	92	M6×1	26	46	M32×2	-	23	150	13	-	60	40	-	182	Rc1/4	NPT1/4	G1/4
NCY3B50	-	86	-	32	52.4	8	2	14	33	58	12	25	110	M8×1.25	25	55	-	30 $^{-0.007}_{-0.037}$	27.5	176	-	M8×1.25	60	60	16	180	Rc1/4	NPT1/4	G1/4
NCY3B63	-	100	-	38	65.4	8	2	14	33	72	12	26	122	M8×1.25	25	69	-	32 $^{-0.007}_{-0.043}$	34.5	188	-	M10×1.5	70	70	16	192	Rc1/4	NPT1/4	G1/4

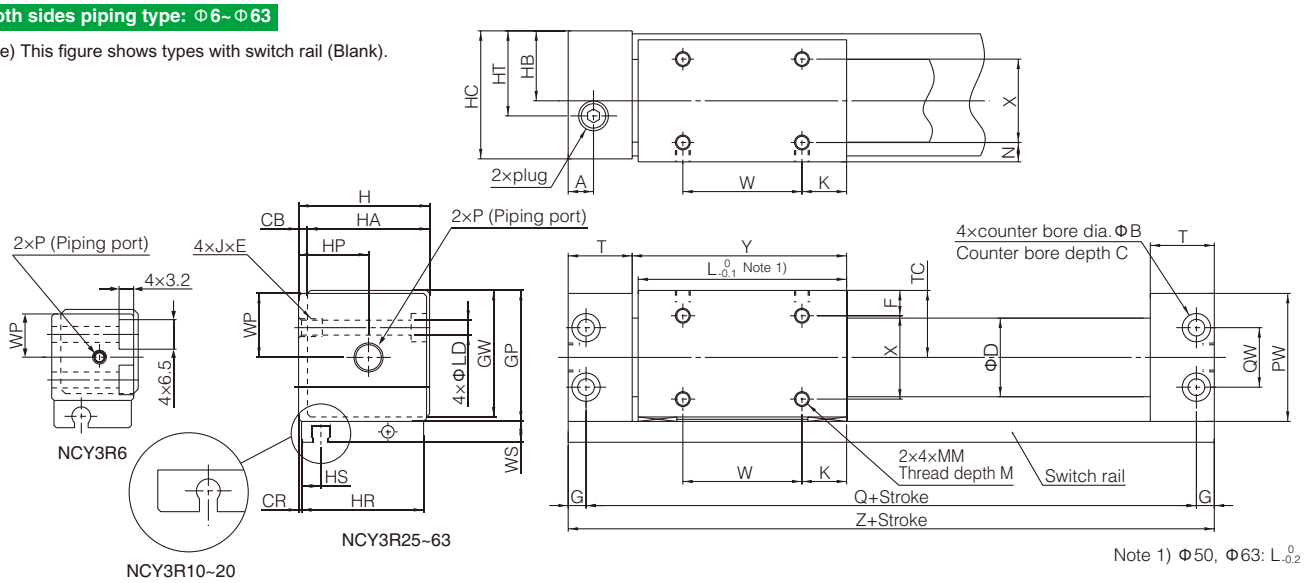
Mounting Nut Included in the package (2 pcs).



Part No.	Applicable bore size (mm)	d	H	B	C
SNJ-006B	6	M6×1.0	4	8	9.2
SNJ-016B	10, 15	M10×1.0	4	14	16.2
SN-020B	20	M20×1.5	8	26	30
SN-032B	25, 32	M26×1.5	8	32	37
SN-040B	40	M32×2.0	10	41	47.3

Both sides piping type: Φ6~Φ63

Note) This figure shows types with switch rail (Blank).

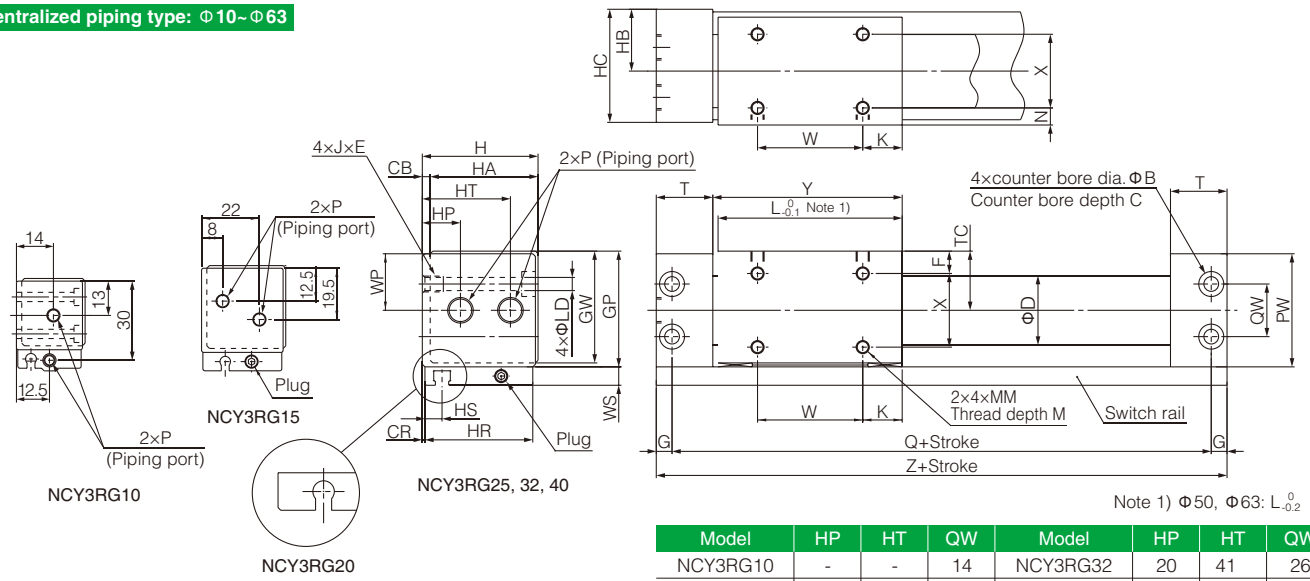


Note 1) Φ50, Φ63: $L_{-0.2}^{0}$

Model	A	B	C	CB	CR	D	F	G	GP	GW	H	HA	HB	HC	HP	HR	HS	HT	J×E	K
NCY3R6	7	-	-	2	0.5	7.6	5.5	3	20	18.5	19	17	10.5	18	10.5	17	6	10.5	M4×0.7×6	7
NCY3R10	9	6.5	3.2	2	0.5	12	6.5	4	27	25.5	26	24	14	25	14	24	5	14	M4×0.7×6	9
NCY3R15	10.5	8	4.2	2	0.5	16.6	8	5	33	31.5	32	30	17	31	17	30	8.5	17	M5×0.8×7	14
NCY3R20	9	9.5	5.2	3	1	21.6	9	6	39	37.5	39	36	21	38	24	36	7.5	24	M6×1×8	11
NCY3R25	8.5	9.5	5.2	3	1	26.4	8.5	6	44	42.5	44	41	23.5	43	23.5	41	6.5	23.5	M6×1×8	15
NCY3R32	10.5	11	6.5	3	1.5	33.6	10.5	7	55	53.5	55	52	29	54	29	51	7	29	M8×1.25×10	13
NCY3R40	10	11	6.5	5	2	41.6	13	7	65	63.5	67	62	36	66	36	62	8	36	M8×1.25×10	15
NCY3R50	14	14	8.2	5	2	52.4	17	8.5	83	81.5	85	80	45	84	45	80	9	45	M10×1.5×15	25
NCY3R63	15	14	8.2	5	3	65.4	18	8.5	95	93.5	97	92	51	96	51	90	9.5	51	M10×1.5×15	24

Model	L	LD	M	MM	N	PW	Q	QW	T	TC	W	WP	WS	X	Y	Z	P (Piping port)		
																	Blank	TN	TF
NCY3R6	34	3.5	3.5	M3×0.5	3.5	19	60	10	14.5	10.5	20	9.5	6	10	35.5	66	M3×0.5	-	-
NCY3R10	38	3.5	4	M3×0.5	4.5	26	68	14	17.5	14	20	13	8	15	39.5	76	M5×0.8	-	-
NCY3R15	53	4.3	5	M4×0.7	6	32	84	18	19	17	25	16	7	18	54.5	94	M5×0.8	-	-
NCY3R20	62	5.4	5	M4×0.7	7	38	95	17	20.5	20	40	19	7	22	64	107	Rc1/8	NPT/8	G1/8
NCY3R25	70	5.4	6	M5×0.8	6.5	43	105	20	21.5	22.5	40	21.5	7	28	72	117	Rc1/8	NPT1/8	G1/8
NCY3R32	76	7	7	M6×1	8.5	54	116	26	24	28	50	27	7	35	79	130	Rc1/8	NPT1/8	G1/8
NCY3R40	90	7	8	M6×1	11	64	134	34	26	33	60	32	7	40	93	148	Rc1/4	NPT1/4	G1/4
NCY3R50	110	8.6	10	M8×1.25	15	82	159	48	30	42	60	41	10	50	113	176	Rc1/4	NPT1/4	G1/4
NCY3R63	118	8.6	10	M8×1.25	16	94	171	60	32	48	70	47	10	60	121	188	Rc1/4	NPT1/4	G1/4

Centralized piping type: Φ10~Φ63



Note 1) Φ50, Φ63: $L_{-0.2}^{0}$

Model	HP	HT	QW	Model	HP	HT	QW
NCY3RG10	-	-	14	NCY3RG32	20	41	26
NCY3RG15	-	-	18	NCY3RG40	25	50	34
NCY3RG20	11	28	17	NCY3RG50	32	56	48
NCY3RG25	14.5	33.5	20	NCY3RG63	35	63.5	60

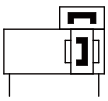


Specifications

Bore size(mm)	6	10	15	20	25	32	40
Fluid	Air						
Action	Double acting						
Maximum operating pressure	0.7MPa						
Minimumoperating pressure	0.18MPa						
Ambient and fluid temperature	-10~60℃ (No freezing)						
Piston speed (mm/s)	50~400mm/s						
Cushion [Note 1]	Rubber bumper						
Stroke length tolerance (mm)	$0\sim250^{+1.0}_{0}$, $251\sim1000^{+1.4}_{0}$, $1001\sim^{+1.8}_{0}$						
Lubrication [Note 2]	Not required (Non-lube)						
Port size	M5×0.8			Rc1/8			Rc1/4
Installation posture	Unlimited						

[Note 1] Hydraulic Buffer Optional (Slide-only-NCY1S) ;
[Note 2] If lubrication is required, please use turbine No.1 oil ISOVG32.

Symbol



Ordering code

NC D Y1 S 25 H – 300 □ – A73 S

Switch rail

Blank	Without switch rail
D	With switch rail

* Basic type No D type.

Slider type

S	Slider type (sliding bearing)

Bore size

6	6mm
10	10mm
15	15mm
20	20mm
25	25mm
32	32mm
40	40mm

Magnet retention force categories

H	High retention
L	Low retention

* Bore size Φ6, Φ10 No L Type

Stroke (See right table)

Adjustment Form

Blank	With two adjusting screw
B	With two hydraulic buffers
BS	With one hydraulic buffers

* Basic type without adjustment form

Magnetic switch type

Blank	Without magnetic switch

* Magnetic switch type refer stroke/Magnetic switch model table
* The basic type does not have this item.

Number of magnetic switches

Blank	2 pcs.
S	1 pc.
n	"n" pcs.

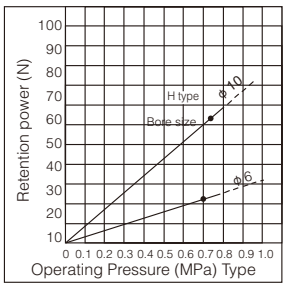
Stroke/magnetic switch model table

Bore size (mm)	*Standard stroke	Max. stroke		**Magnetic switch model (Track installation, slide type only)
		Basic type	Slider type	
6	50,100,150,200	300	300	A73
10	50,100,150,200,250,300	500	500	
15	50,100,150,200,250,300, 350,400,450,500	-	750	
20	100,150,200,250,300,350 400,450,500,600,700,800	-	1000	
25		-	1500	
32				
40	100,150,200,250,300,350 400,450,500,600,700,800 900,1000	-		

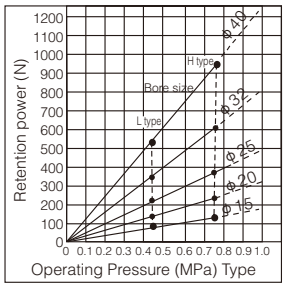
* There are non-standard itineraries to choose from.
* The specifications and characteristics of magnetic switches can be referred to the series of magnetic switches.
Wire length representation mark: no mark-0.5m, L-3m, Z-5m,
Example: A73, A73L.

Cylinder theoretical output force and magnetic couple retention force

Φ6, Φ10



Φ15, Φ20, Φ25, Φ32, Φ40

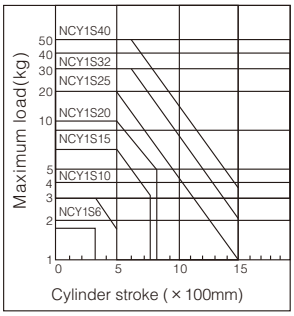


Bore size (mm)	Model	Retention power H type(N)	Pressure corresponding to magnetic couple holding force (Mpa)	Maximum operating pressure during stopping (Mpa)
6	NCY1□6H	19.6	0.7	0.55
10	NCY1□10H	53.9	0.7	0.55
15	NCY1□15H	137.3	0.79	0.65
20	NCY1□20H	231	0.76	0.65
25	NCY1□25H	362.8	0.75	0.65
32	NCY1□32H	588.4	0.74	0.65
40	NCY1□40H	921.8	0.75	0.65

Maximum load and stroke (NCY1S)

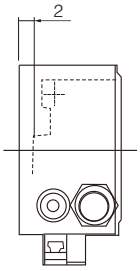
If the load and the center of gravity of the slider are at the same point, the force-stroke relationship curve is as follows.

Use cylinder, as close as possible to the center of gravity of the load and slider, if not possible, please contact our company.

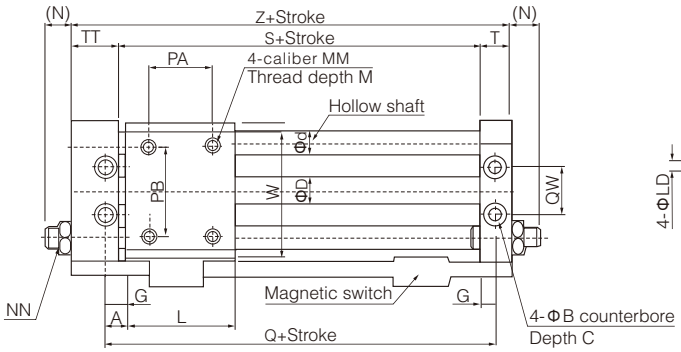


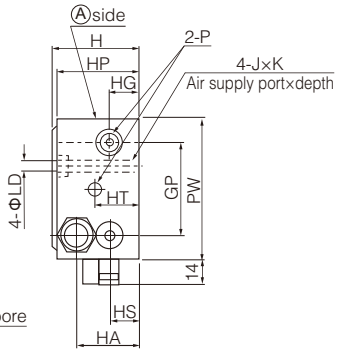
Dimensions

Basic type(NC□Y1S6 · 10)



The switching track can also be fixed on the top of the cylinder.



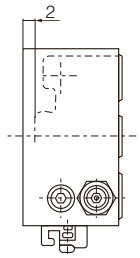


Model	Stroke range	ΦD	Φd	A	ΦB	C	HT	G	GP	H	HA	HG	HP	HS	T	J×K	L	LD	M
NCY1S6 NCDY1S6	~300	7.6	8	6	6.5	3	17	5	32	27	19	8	26	8	10	M4×0.7×6.5	40	3.5	6
NCYS10 NCDY1S10	~300	12	10	7.5	8	4	18	6.5	40	34	25.5	12	33	14	12.5	M5×0.8×9.5	45	4.3	6

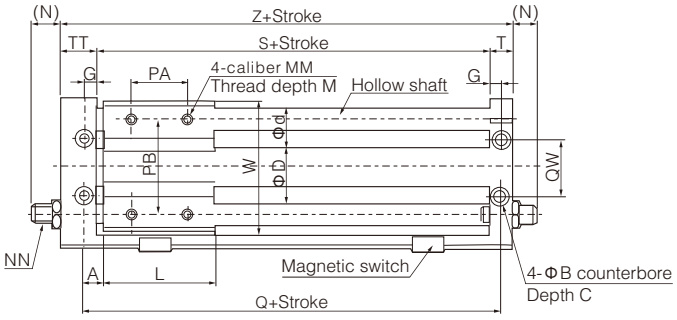
Model	MM	NN	(N)	P	*PA	PB	PW	QW	Q	S	TT	Z	W
NCY1S6 NCDY1S6	M4×0.7	M8×1.0	10	M5×0.8	25	25	50	16	52	42	16	68	46
NCY1S10 NCDY1S10	M4×0.7	M8×1.0	9.5	M5×0.8	25	38	60	24	60	47	20.5	80	58

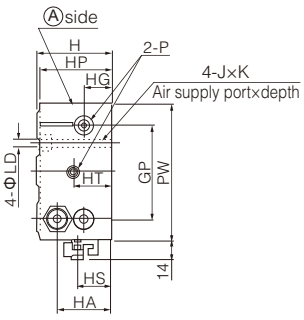
Note) The magnetic switch can also be installed on side Ⓐ.
* The size center of PA is the same as that of L.

NC□Y1S15 · 20 · 25 · 32 · 40



The switching track can also be fixed on the top of the cylinder.





Model	Stroke range	ΦD	Φd	A	ΦB	C	HT	G	GP	H	HA	HG	HP	HS	T	J×K	L	LD	M
NC□Y1S15	~750	16.6	12	7.5	9.5	5	21	6.5	52	40	29	13	39	15	12.5	M6×1.0×9.5	60	5.6	8
NC□Y1S20	~1500	21.6	16	10	9.5	5.2	20	8.5	62	46	36	17	45	25.5	16.5	M6×1.0×9.5	70	5.6	10
NC□Y1S25	~1500	26.4	16	10	11	6.5	20	8.5	70	54	40	20	53	53	16.5	M8×1.25×10	70	7	10
NC□Y1S32	~1500	33.6	20	12.5	14	8	24	9.5	86	66	46	24	64	27	18.5	M10×1.5×15	85	8.7	12
NC□Y1S40	~1500	41.6	25	12.5	14	8	25	10.5	104	76	57	25	74	30	20.5	M10×1.5×15	95	8.7	12

Model	MM	NN	(N)	P	*PA	PB	PW	QW	Q	S	TT	Z	W
NC□Y1S15	M5×0.8	M8×1.0	7.5	M5×0.8	30	50	75	30	75	62	22.5	97	72
NC□Y1S20	M6×1.0	M10×1.0	9.5	1/8	40	70	90	38	90	73	25.5	115	87
NC□Y1S25	M6×1.0	M14×1.5	11	1/8	40	70	100	42	90	73	25.5	115	97
NC□Y1S32	M8×1.25	M20×1.5	11.5	1/8	40	75	122	50	110	91	28.5	138	119
NC□Y1S40	M8×1.25	M20×1.5	10.5	1/8	65	105	145	64	120	99	35.5	155	142

Note) The magnetic switch can also be installed on side Ⓐ.
* The size center of PA is the same as that of L.



Specifications

Bore size(mm)	6	10	15	20	25	32	40
Fluid	Air						
Action	Double acting						
Maximum operating pressure	0.7MPa						
Minimumoperating pressure	0.18MPa						
Ambient and fluid temperature	-10~60℃ (No freezing)						
Piston speed (mm/s)	50~1000mm/s						
Cushion	Both Ends Rubber Buffer/Hydraulic Buffer(optional)						
Stroke length tolerance (mm)	$0\sim250^{+1.0}_{0}$, $251\sim1000^{+1.4}_{0}$, $1001\sim^{+1.8}_{0}$						
Lubrication [Note]	Not required (Non-lube)						
Port size	M8×0.8			1/8			1/4
Installation posture	Unlimited						

[Note] If lubrication is required, please use turbine No.1 oil ISOVG32.

Ordering code

N C Y1 L — 25 — H — 300 — □ — A73 — □

Slider type

L	Ball bushing bearing

Bore size

6	6mm
10	10mm
15	15mm
20	20mm
25	25mm
32	32mm
40	40mm

magnet retention force type

H	High retention
L	Low retention

Stroke
(See table below)

Adjustment Form

Blank	With two adjusting screw
B	With two hydraulic buffers
BS	With one hydraulic buffers

* Basic type without adjustment form

Magnetic switch

Blank	without magnetic switch

* Refer to the table below for the type of magnetic switch.

Number of magnetic switches

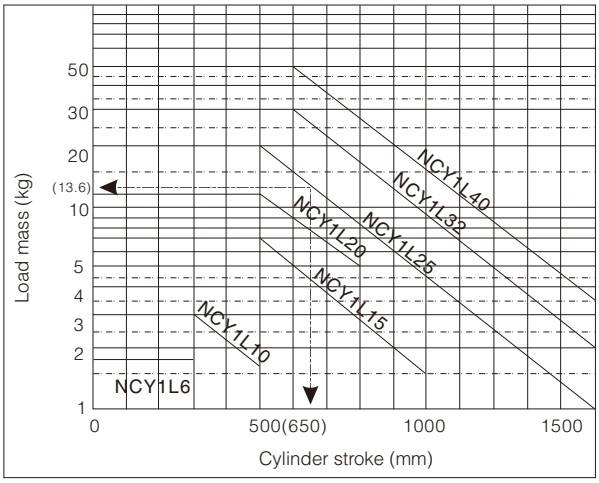
Blank	2 pcs.
S	1 pc.
n	"n" pcs.

Stroke/magnetic switch model table

Bore size (mm)	*Standard stroke	Max. stroke	**Magnetic switch model (Track Installation)
6	50, 100, 150, 200	300	A73
10	50, 100, 150, 200, 250, 300	500	
15	50, 100, 150, 200, 250, 300, 350, 400, 450, 500	750	
20	50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800	1000	
25		1500	
32			
40	50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900,1000		

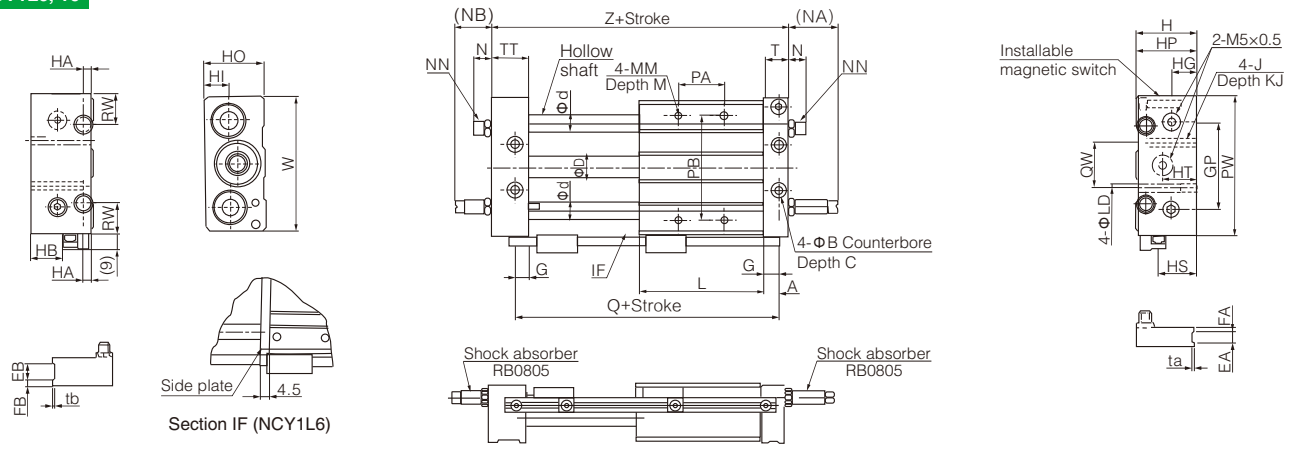
* There are non-standard itineraries to choose from.
* The specifications and characteristics of magnetic switches can be referred to the series of magnetic switches.
  Wire length representation mark: no mark-0.5m, L-3m, Z-5m,
  Example: A73, A73L.

Maximum load and stroke (NCY1L)



Dimensions

NCY1L6, 10

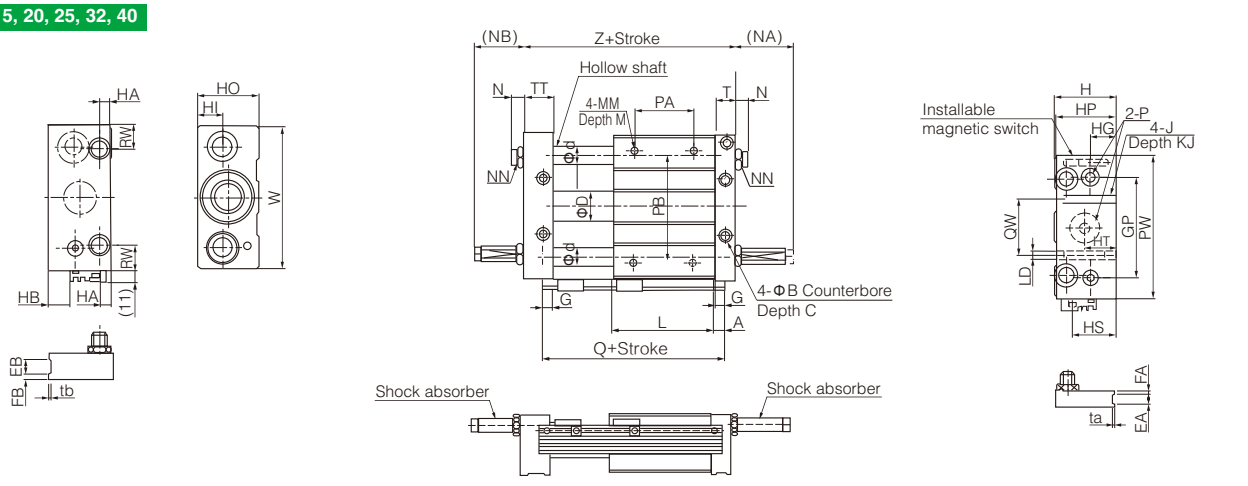


Model	Stroke range	A	B	C	D	d	EA	EB	EA	FB	G	GP	H	HA	HB	HG	HI	HO	HP	HS	HT
NCY1L6	~300	7	6.5	3	7.6	8	-	-	-	-	6	36	27	6	10	11	9	25	26	14	16
NCY1L10	~500	8.5	8	4	12	10	6	12	3	5	7.5	50	34	6	17.5	14.5	13.5	33	33	21.5	18

Model	J	JK	L	LD	M	MM	N	(NA)	(NB)	NN	*PA	PB	PW	Q	QW	RW	T	TT	ta	tb	W	Z
NCY1L6	M4×0.7	6.5	40	3.5	6	M4×0.7	10	30	24	M8×1.0	24	40	60	54	20	12	10	16	-	-	56	68
NCY1L10	M5×0.8	9.5	68	4.3	8	M4×0.7	9.5	27	19	M8×1.0	30	60	80	85	26	17.5	12.5	20.5	0.5	1.0	77	103

* The size center of PA is the same as that of L.

NCY1L15, 20, 25, 32, 40



Model	Stroke range	A	B	C	D	d	EA	EB	FA	FB	G	GP	H	HA	HB	HG	HI	HO	HP	HS	HT	J	JK	L	LD
NCY1L15	~750	7.5	9.5	5	16.6	12	6	13	3	6	6.5	65	40	6.5	4	16	14	38	39	25	16	M6×1.0	9.5	75	5.6
NCY1L20	~ 1500	9.5	9.5	5.2	21.6	16	-	-	-	-	8.5	80	46	9	10	18	16	44	45	31	20	M6×1.0	10	86	5.6
NCY1L25	~1500	9.5	11	6.5	26.4	16	8	14	4	7	8.5	90	54	9	18	23	21	52	53	39	20	M8×1.25	10	86	7
NCY1L32	~1500	10.5	14	8	33.6	20	8	16	5	7	9.5	110	66	12	26.5	26.5	24.5	64	64	47.5	25	M10×1.5	15	100	9.2
NCY1L40	~1500	11.5	14	8	41.6	25	10	20	5	10	10.5	130	78	12	35	30.5	28.5	76	74	56	30	M10×1.5	15	136	9.2

Model	M	MM	(N)	(NA)	(NB)	NN	P	*PA	PB	PW	Q	QW	RW	T	ta	tb	TT	W	Z	Shock absorber
NCY1L15	8	M5×0.8	7.5	27	17	M8×1.0	M5×0.8	45	70	95	90	30	15	12.5	0.5	1.0	22.5	92	112	RB0805
NCY1L20	10	M6×1.0	10	29	20	M10×1.0	Rc(PT)1/8	50	90	120	105	40	28	16.5	-	-	25.5	117	130	RB1006
NCY1L25	10	M6×1.0	11	49	40	M14×1.5	Rc(PT)1/8	60	100	130	105	50	22	16.5	0.5	1.0	25.5	127	130	RB1411
NCY1L32	12	M8×1.25	11.5	52	42	M20×1.5	Rc(PT)1/8	70	120	160	121	60	33	18.5	0.5	1.0	28.5	157	149	RB2015
NCY1L40	12	M8×1.25	10.5	51	36	M20×1.5	Rc(PT)1/8	90	140	190	159	84	35	20.5	1.0	1.0	35.5	187	194	RB2015

* The size center of PA is the same as that of L.

Specifications

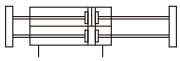
Bore size(mm)	10	16	20	25
Fluid	Air			
Action	Double acting			
Use pressure range	0.1~1.0MPa(14~145psi)			
Guarantee pressure resistance	1.5MPa(215psi)			
working temperature	-20~70℃			
Use speed range (mm/s)	30~500			
Stroke length tolerance (mm)	$^{+1.0}_{0}$			
Cushion	Without	Anti-collision pad or hydraulic buffer (optional)		
Accuracy of non-rotation [Note 1]	±.01°	±0.05°		
Port size [Note 2]	M5×0.8			PT1/8

[Note 1] When the non-rotating precision is that the cylinder is fully recovered, the angle of the cylinder fixing plate can be rotated.

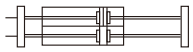
[Note 2] takeover thread has NPT and G thread to choose from.
In addition: STM series are magnetically attached.

Symbol

STMB



STMS



Stroke

Bore size(mm)	Standard stroke (mm)	Maximum stroke	Permissible stroke
10	25 50 75 100	100	150
16	25 50 75 100 125 175 200	200	250
20, 25	25 50 75 100 125 175 200 250	250	300

Note: Within the allowable range, when the stroke is greater than the maximum, it should be treated as non-standard. For other special itineraries, please contact our company.

Product feature

1. Two types of installation and fixing: body installation or slider installation;
2. Dual piston rod structure makes the cylinder have better bending and torsion resistance, and can bear larger moving load or lateral load.
3. Buffer devices such as anti-collision pads at both ends or oil pressure buffers can effectively slow down the impact speed and prolong the service life of cylinders.
4. Choosing high temperature resistant sealing material can ensure the normal operation of cylinder at 150℃.

Ordering code

STM **B** – **25** × **50** – □

Model

STM	Air slide table (Double-acting)

Fixed mode

B	Ontological fixed type
S	Slider fixed type

Bore size

10	10mm
16	16mm
20	20mm
25	25mm

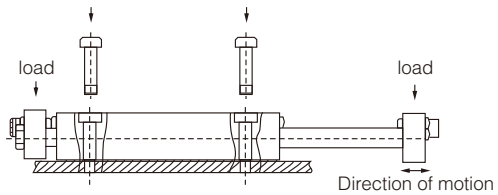
Stroke

Thread type ①

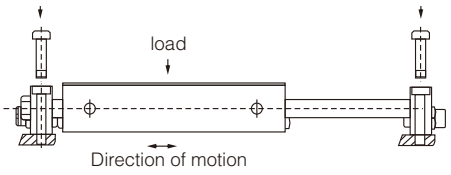
Blank	PT
G	G
T	NPT

① When the takeover is M5, this code is empty.

Fixed mode



STMB: Ontological fixed type



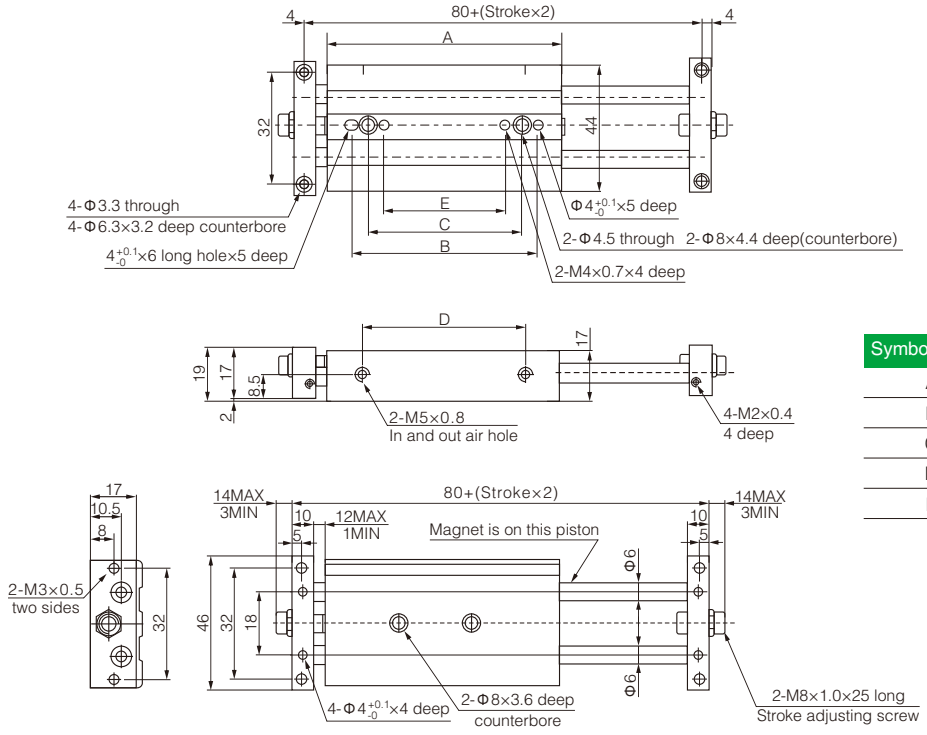
STMS: Slider fixed type

Cylinder theoretical output meter

Bore size (mm)	Piston rod outer diameter (mm)	Action type	Compression area (mm^2)	Air pressure (MPa)						
				0.1	0.2	0.3	0.4	0.5	0.6	0.7
10	6	Double motion	100.5	10.1	20.1	30.2	40.2	50.3	60.3	70.4
16	8	Double motion	301.6	30.2	60.3	90.5	120.6	150.8	181.0	211.1
20	10	Double motion	471.2	47.1	94.2	141.4	188.5	235.6	282.7	329.9
25	12	Double motion	755.6	75.6	151.1	226.7	302.2	377.8	453.3	528.9

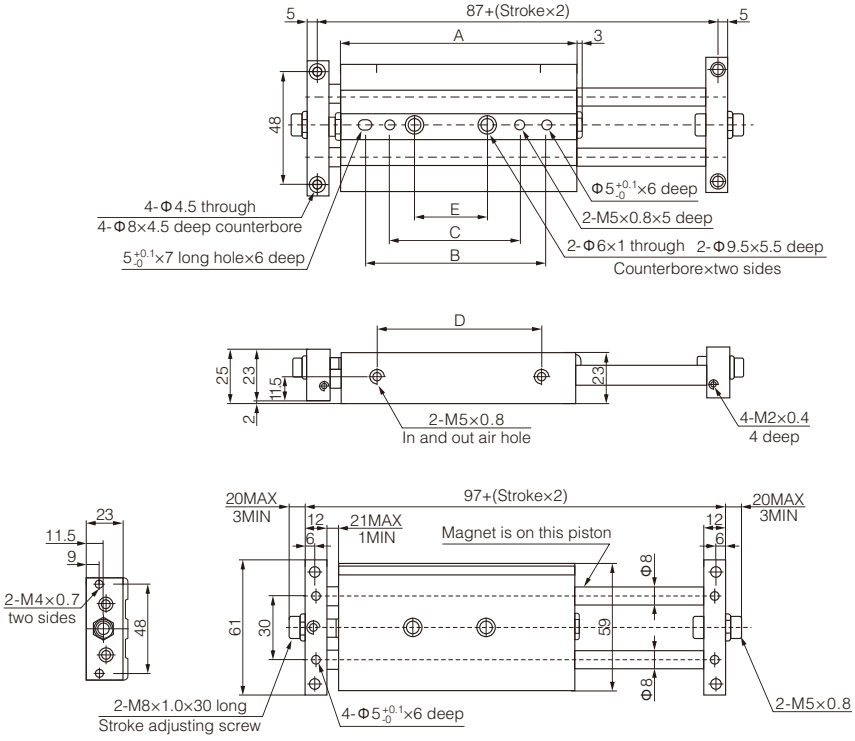
Dimensions

STMB-10



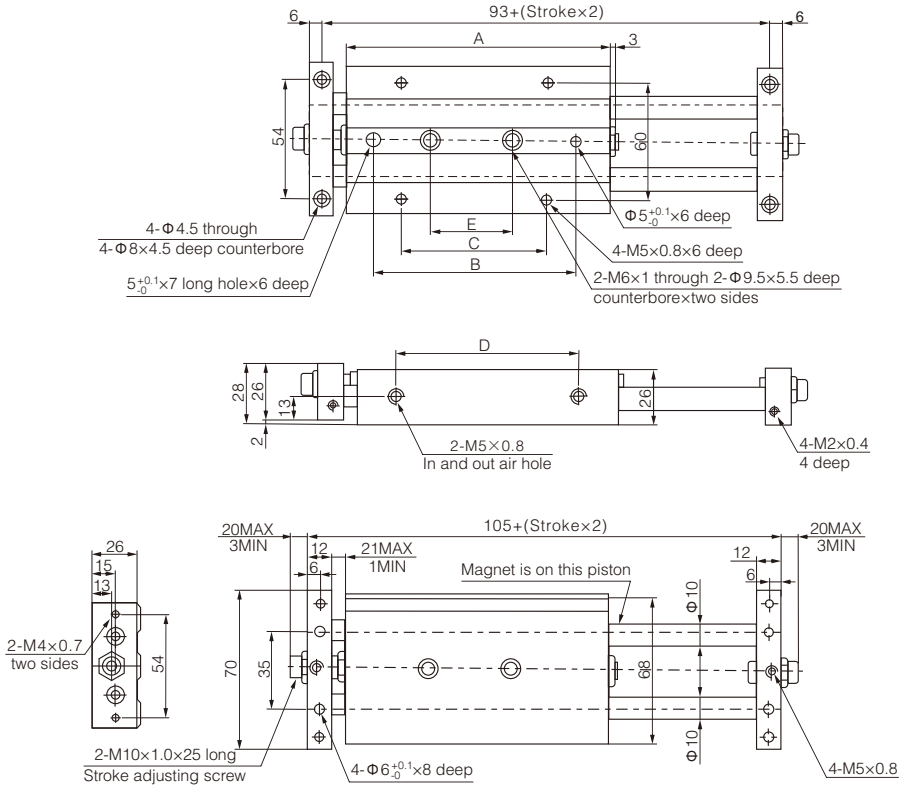
Symbol/Stroke	25	50	75	100
A	81	106	131	156
B	65	85	85	85
C	35	60	60	60
D	46	71	96	121
E	15	40	40	40

STMB-16



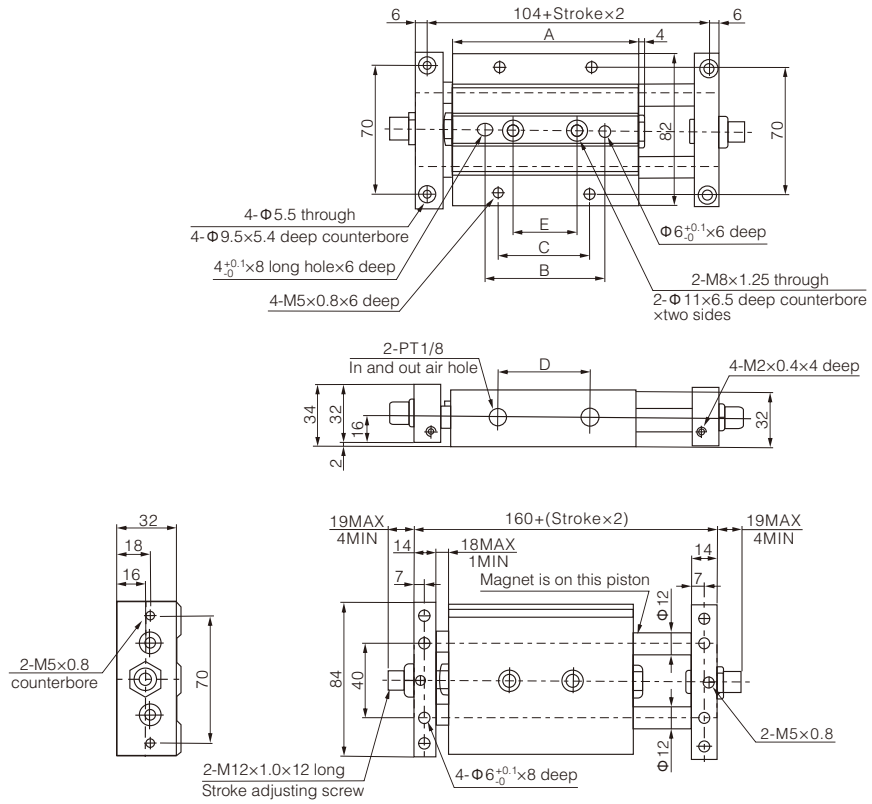
Stroke/Symbol	A	B	C	D	E
25	86	55	-	48	25
50	111	80	-	73	50
75	136	105	75	98	45
100	161	130	100	123	70
125	186	150	120	148	90
150	211	150	120	173	90
175	236	150	120	198	90
200	261	150	120	223	90

STMB-20



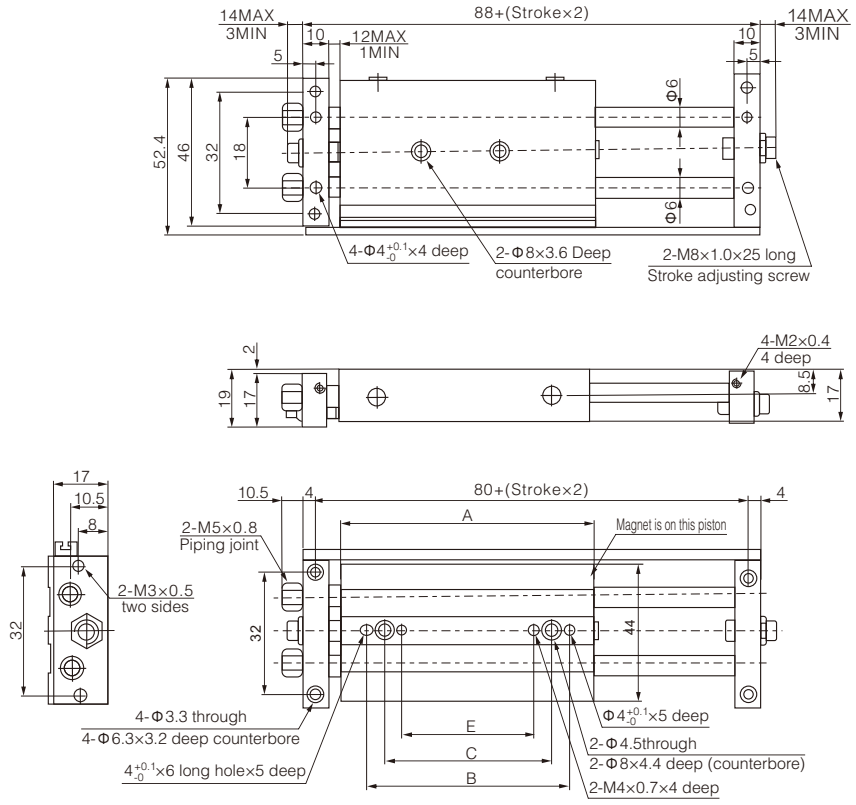
Stroke/Symbol	A	B	C	D	E
25	94	60	50	53	35
50	119	85	50	78	45
75	144	110	75	103	45
100	169	135	100	128	70
125	194	150	120	153	90
150	219	150	120	178	90
175	244	150	120	203	90
200	269	150	120	228	90
250	319	150	120	278	90

STMB-25



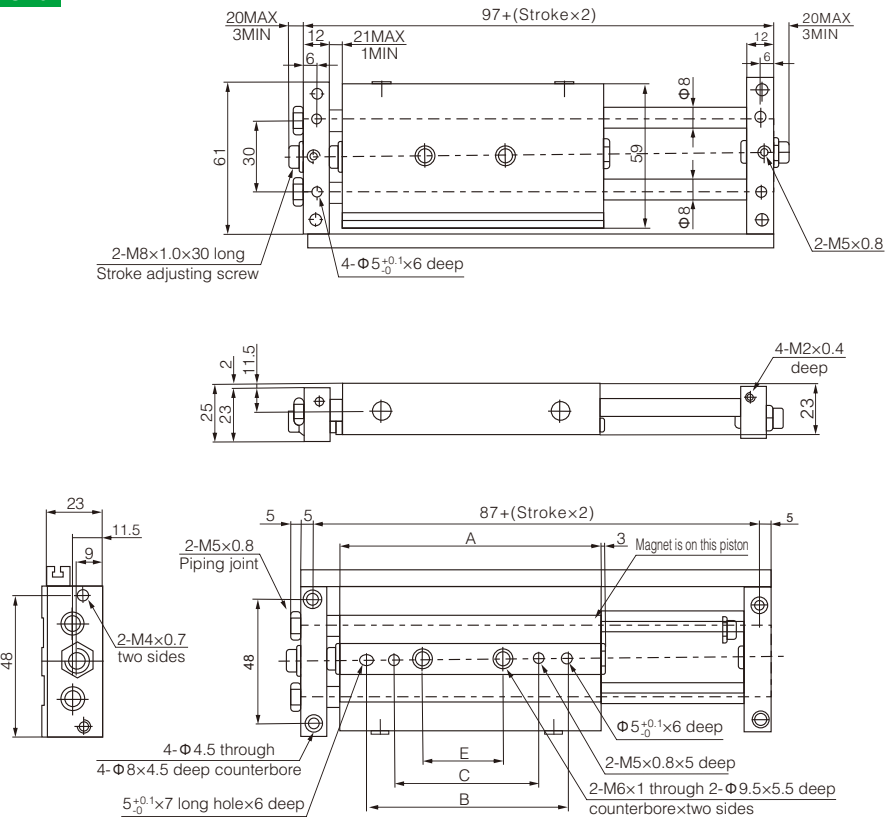
Stroke/Symbol	A	B	C	D	E
25	101	65	50	50	35
50	126	90	50	75	45
75	151	115	75	100	45
100	176	140	100	125	70
125	201	140	100	150	95
150	226	140	100	175	100
175	251	140	100	200	100
200	276	140	100	225	100
250	326	140	100	275	100

STMS-10



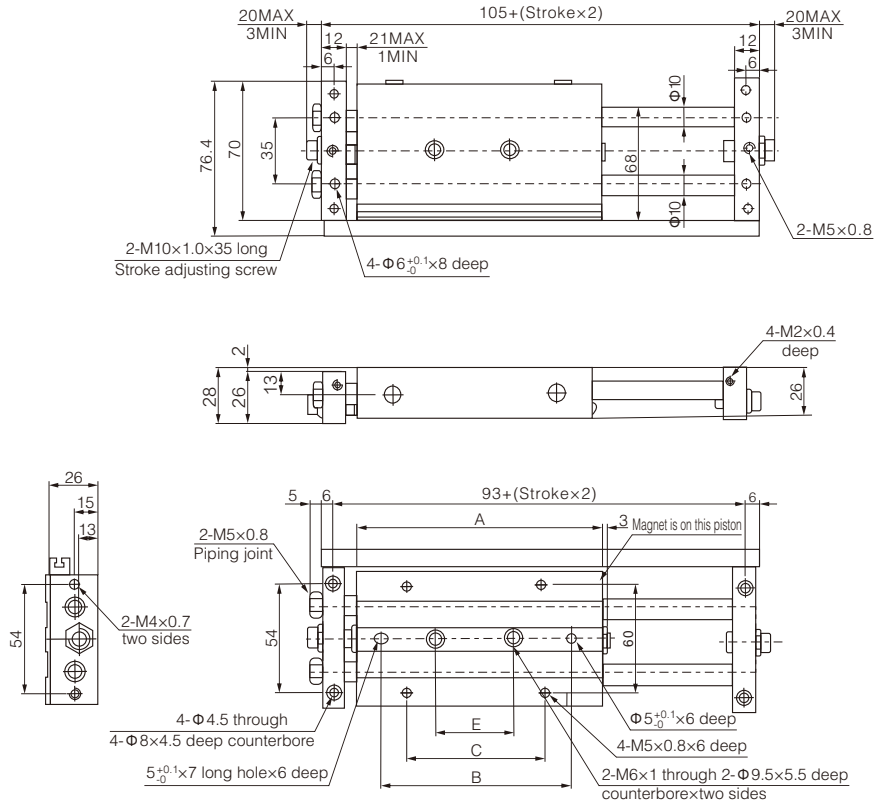
Symbol/Stroke	25	50	75	100
A	81	106	131	156
B	65	85	85	85
C	35	60	60	60
E	15	40	40	40

STMS-16



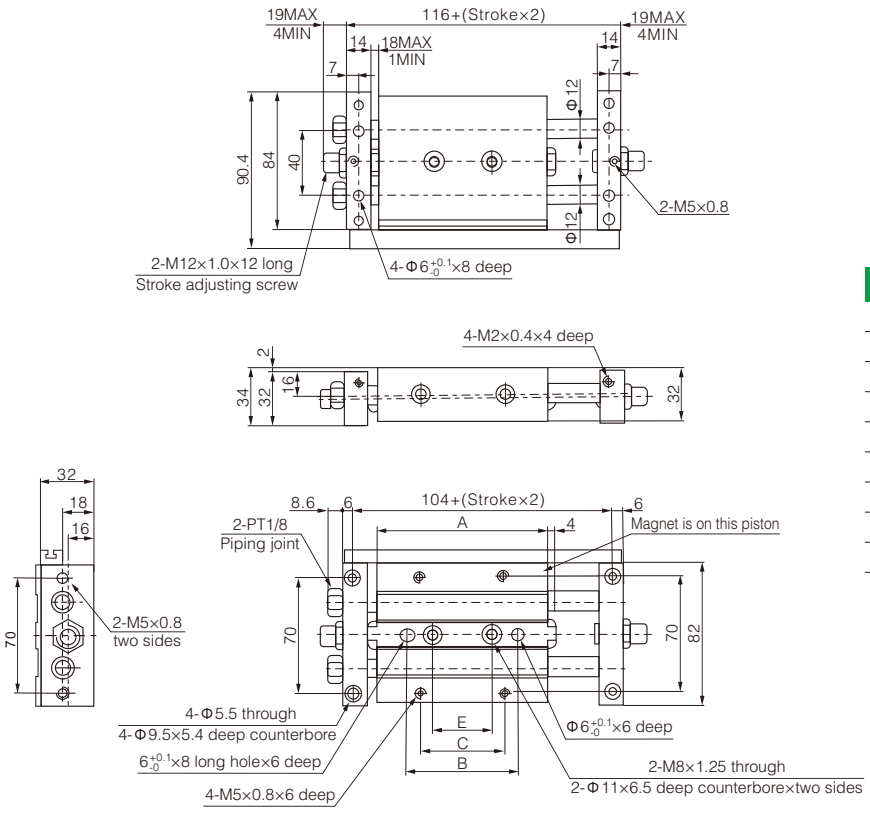
Stroke/Symbol	A	B	C	E
25	86	55	-	25
50	111	80	-	50
75	136	105	75	45
100	161	130	100	70
125	186	150	120	90
150	211	150	120	90
175	236	150	120	90
200	261	150	120	90

STMS-20



Stroke/Symbol	A	B	C	E
25	94	60	50	35
50	119	85	50	45
75	144	110	75	45
100	169	135	100	70
125	194	150	120	90
150	219	150	120	90
175	244	150	120	90
200	269	150	120	90
250	319	150	120	90

STMS-25



Stroke/Symbol	A	B	C	E
25	101	65	50	35
50	126	90	50	45
75	151	115	75	45
100	176	140	100	70
125	201	140	100	95
150	226	140	100	100
175	251	140	100	100
200	276	140	100	100
250	326	140	100	100



1. Linear guide bearing is installed to improve the accuracy of non-rotation of piston rod.
2. Standard built-in magnetic ring can be installed with stroke induction magnetic switch.
3. Gas sources can be connected from three sides.
4. Magnetic switches can be installed on both sides.
5. Standard rubber cushion at both ends.

Specifications

Bore size(mm)	6	10	16	20
Guide bearing width	5	7	9	12
Use fluid	Air			
Action mode	Double action			
Minimum operating pressure	0.15MPa	0.06MPa		0.05MPa
Maximum operating pressure	0.7MPa			
Ambient and fluid temperature	Without auto switch: -10 to 70℃ (No freezing) With auto switch: -10 to 60℃ (No freezing)			
Piston speed	50~500mm/s			
Allowable kinetic energy (J)	0.0125	0.025	0.05	0.1
Lubrication	Non-lube			
Cushion	Rubber bumper on both ends			
Stroke length tolerance (mm)	$^{+1.0}_{0}$			
Magnetic switch selection	Reed type: D-A9□, Solid state electronic type: D-M9□			
Pipe size	M5×0.8			

* If lubrication is required, please use turbine No.1 oil ISO VG32.

Ordering code

Built-in magnetic ring:

NMXH 10 – 30 – M9B □

Bore size	
6	6mm
10	10mm
16	16mm
20	20mm

Stroke

Magnetic switch	
Blank	without magnetic switch

* See the list of magnetic switches

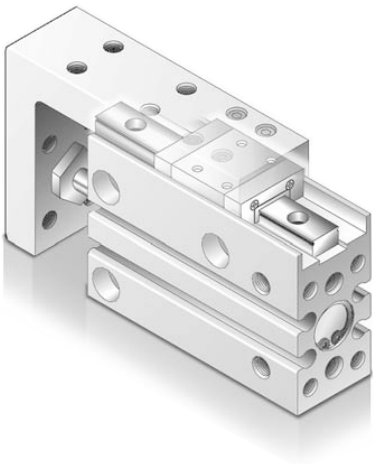
Number of magnetic switches	
Blank	2 pcs.
S	1 pc.

Stroke/magnetic switch model table

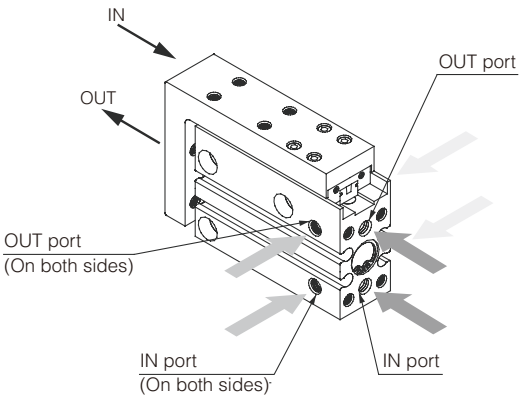
Bore size (mm)	Standard stroke	Direct mounted magnetic switch
6	5, 10, 15, 20, 25, 30, 40, 50, 60	M9B(V) M9N(V) M9P(V)
10		
15		
20		

* The specifications and characteristics of magnetic switches can be referred to the series of magnetic switches.
Wire length representation mark: no mark-0.5m, L-3m, Z-5m,
Example: M9NL.

Small linear guide bearing improvement accuracy of linear motion of cylinder

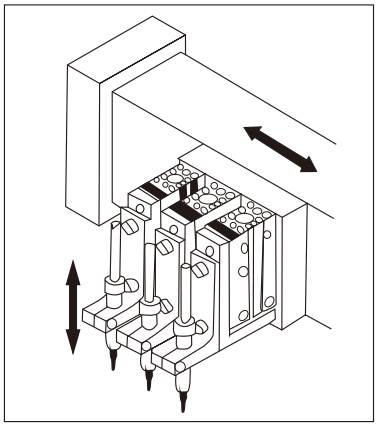


Piping is possible in 3 directions.

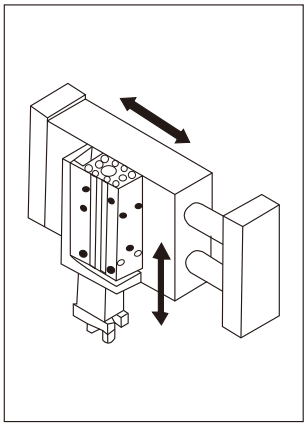


Application

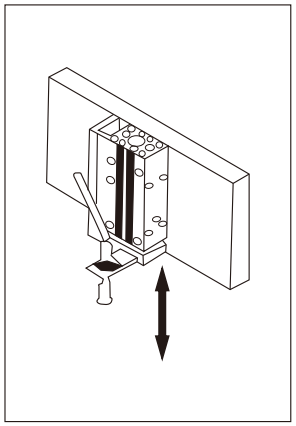
Parallel distributor



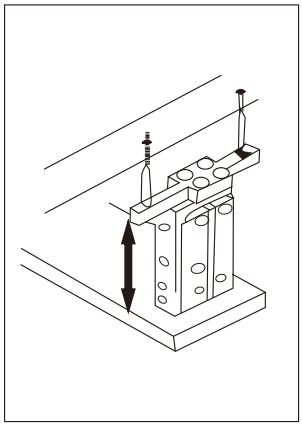
Workpiece delivery



Cooperate with vacuum sucker

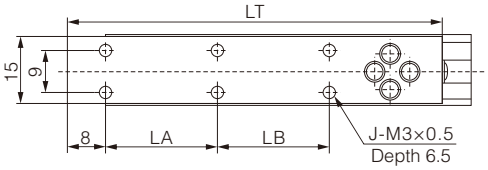


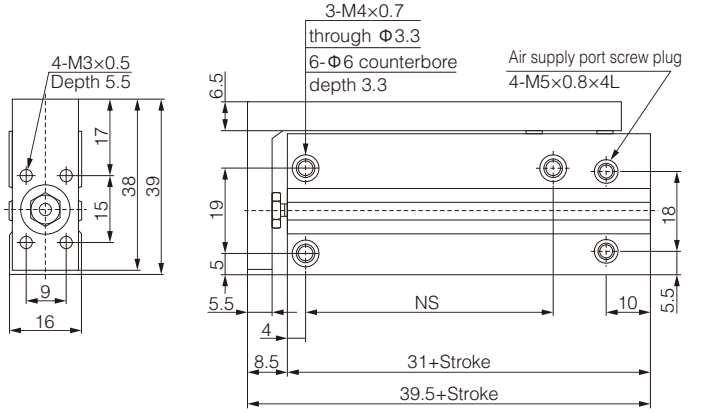
Pinhole locator

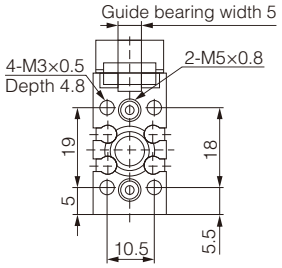


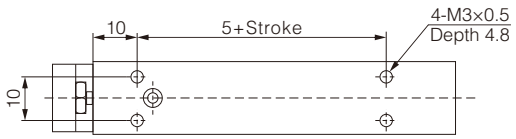
Dimensions

NMXH6



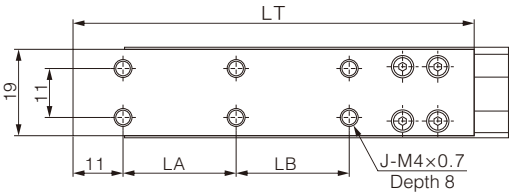


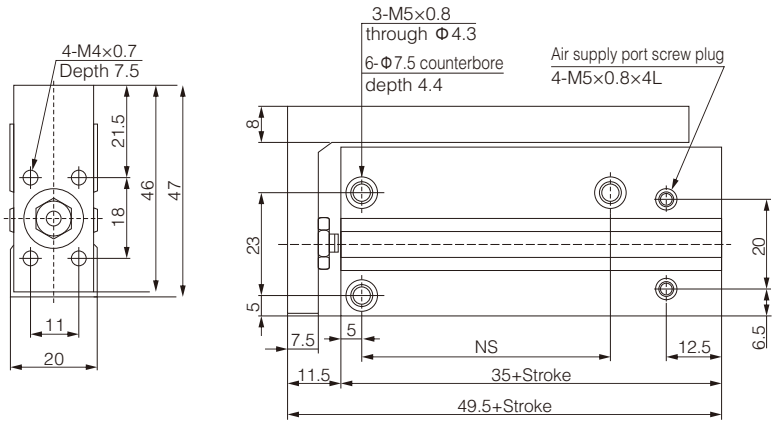


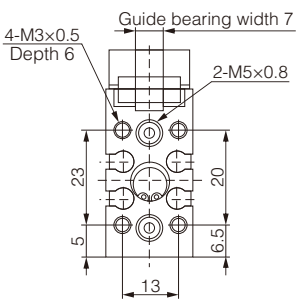


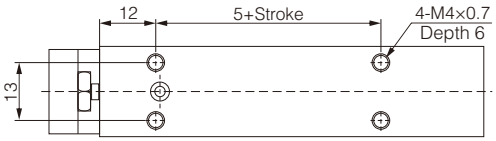
Stroke/Symbol	J	LA	LB	LT	NS
5	4	10	-	42	14
10	4	10	-	42	14
15	4	20	-	52	24
20	4	20	-	52	24
25	4	30	-	62	30
30	4	30	-	62	30
40	6	20	20	72	45
50	6	25	25	82	55
60	6	30	30	92	60

NMXH10



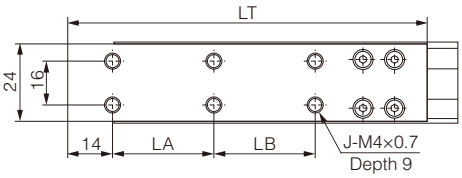


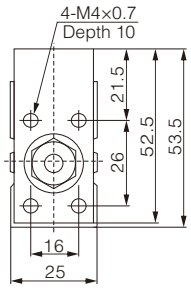


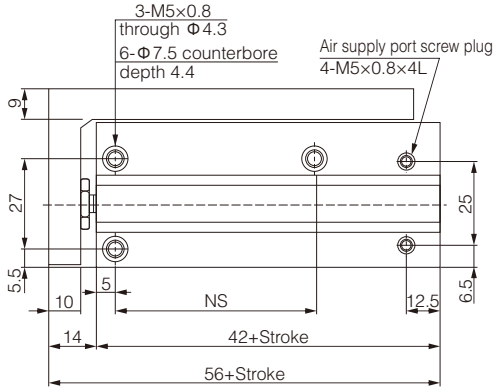


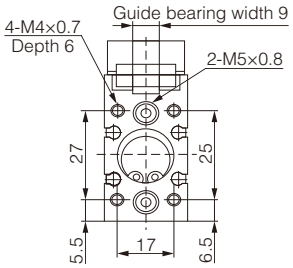
Stroke/Symbol	J	LA	LB	LT	NS
5	4	10	-	49	14
10	4	10	-	49	14
15	4	20	-	59	24
20	4	20	-	59	24
25	4	30	-	69	30
30	4	30	-	69	30
40	6	20	20	79	45
50	6	25	25	89	55
60	6	30	30	99	60

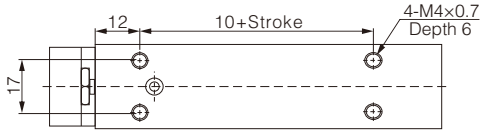
NMXH16





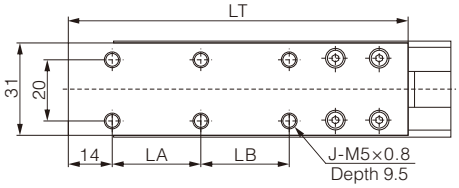


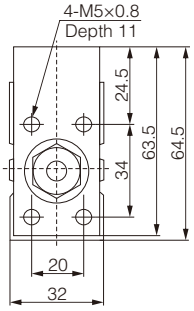


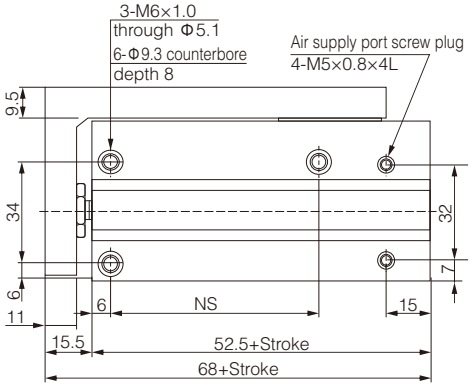


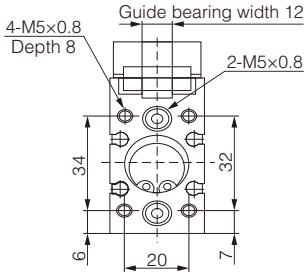
Stroke/Symbol	J	LA	LB	LT	NS
5	4	10	-	58	20
10	4	10	-	58	20
15	4	20	-	68	30
20	4	20	-	68	30
25	4	30	-	78	40
30	4	30	-	78	40
40	6	20	20	88	50
50	6	25	25	98	60
60	6	30	30	108	60

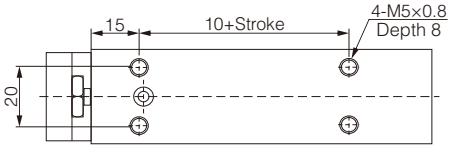
NMXH20











Stroke/Symbol	J	LA	LB	LT	NS
5	4	10	-	64	20
10	4	10	-	64	20
15	4	20	-	74	30
20	4	20	-	74	30
25	4	30	-	84	40
30	4	30	-	84	40
40	6	20	20	94	50
50	6	25	25	104	70
60	6	30	30	114	70



1. Optional with adjustable stroke device (0-5mm).
2. Double cylinder design, 2 times output force, thin volume.
3. Cylinder is combined with the worktable, Reduce the overall size.
4. Cross roller guide design, small friction, no gap between cylinder and table, suitable for precise assembly.
5. It can be installed from three sides.
6. Built in magnetic ring type, magnetic switch can be installed.

Specifications

Model	NMXS6	NMXS8	NMXS12	NMXS16	NMXS20	NMXS25
Bore size(mm)	Φ6×2 (Equate to Φ8)	Φ8×2 (Equate to Φ11)	Φ12×2 (Equate to Φ17)	Φ16×2 (Equate to Φ22)	Φ20×2 (Equate to Φ28)	Φ25×2 (Equate to Φ35)
Use fluid	Air					
Action mode	Double action					
Minimum operating pressure	0.15MPa					
Maximum operating pressure	0.7MPa					
Ambient and fluid temperature	-10 to 60℃ (No freezing)					
Piston speed	50~500mm/s					
Lubrication	Rubber cushion (standard)					
Cushion	Non-lube					
Pipe size	M3×0.5	M5×0.8			M3×0.5	

* If lubrication is required, please use turbine No.1 oil ISO VG32.

Selection table

NMXS Series	Bore size (mm)	Standard stroke (mm) 10	20	30	40	50	75	100	125	150	Function options: Stroke adjuster device (0~5mm)	Spring buffer	With end lock	Axial piping type	Magnetic switch model: Direct installation
	Φ6×2	●	●	●	●	●	●				●	●	●	●	M9N(V) M9B(V) M9P(V)
	Φ8×2	●	●	●	●	●	●	●			●	●	●	●	
	Φ12×2	●	●	●	●	●	●	●	●		●	●	●	●	
	Φ16×2	●	●	●	●	●	●	●	●		●	●	●	●	
	Φ20×2	●	●	●	●	●	●	●	●	●	●	●	●	●	
	Φ25×2	●	●	●	●	●	●	●	●	●	●	●	●	●	

Note: The specifications and characteristics of magnetic switches can be referred to the series of magnetic switches.
Wire length representation mark: no mark -0.5m, L-3m, Z-5m, Example: M9N, M9NL

Ordering code

NMXS 12 – 50 □ □ – M9N □

Bore size | **Stroke**

Adjusting device

Blank	Without adjuster
AS	Adjuster on extension end
AT	Adjuster on retraction end
A	Adjuster on both ends
*BS	Absorber on extension end
*BT	Absorber on retraction end
*B	Absorber on both ends

* NMXS6 without hydraulic buffer

Functional option

Blank	Standard
F	With buffer
*R	With end lock
P	Axial piping type
*FR	With buffer and end lock
FP	With buffer, Axial piping type

* NMXS6 without end lock

Magnetic switch

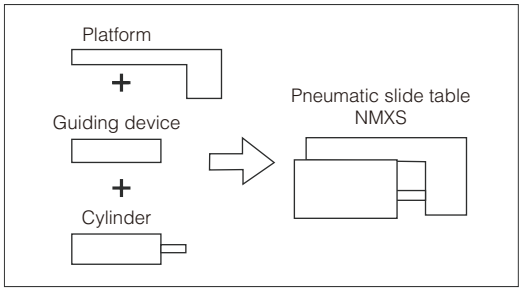
Blank	without magnetic switch

* Refer to the above table for the model of magnetic switch

Number of magnetic switches

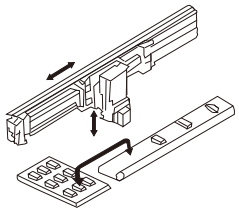
Blank	2 pcs.
S	1 pc.
n	n pcs.

Cylinder and table combination

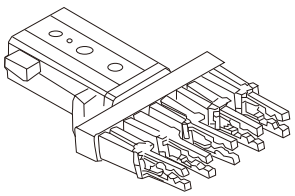


High precision, robust applications

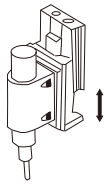
High precision pick and place device



Heavy load



Drive automatic screwdriver



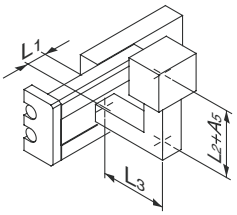
Selection method of pneumatic slide table

Model Selection Steps	Formula/Data	Selection Examples

1 Operating Conditions

Consider the installation posture and workpiece shape, and list the use conditions.

- Model to be used
- Type of cushion
- Workpiece mounting position
- Mounting orientation
- Average operating speed Va (mm/s)
- Load mass W (kg): Fig. (1)
- Overhang Ln (mm): Fig. (2)



Cylinder: NMXS16-50
Cushion: Rubber bumper
Workpiece table mounting
Mounting: Horizontal wall mounting
Average operating speed:
Va=300[mm/s]
Load mass: W=1[kg]
L1=10mm
L2=30mm
L3=30mm

2 Kinetic Energy

Find the kinetic energy E (J) of the load.

Find the allowable kinetic energy Ea (J).

Confirm that the kinetic energy of the load does not exceed the allowable kinetic energy.

$E=\frac{1}{2}\cdot W(\frac{V}{1000})^2$

Collision speed $V=\underline{1.4}\cdot Va$ ※

※) Correction factor (Reference values)

Ea = K・Emax
Workpiece mounting coefficient K: Fig.(3)
Max. allowable kinetic energy Emax: Table (1)
Kinetic energy (E) ≤ Allowable kinetic energy (Ea)

$E=\frac{1}{2}\cdot 1(\frac{420}{1000})^2=0.088$

V=1.4×300=420

Ea=1×0.11=0.11

Can be used based on E=0.088 ≤ Ea=0.11

3 Load Factor

3-1 Load Factor of Load Mass

Find the allowable load mass Wa (kg).

Find the load factor of the load mass α1.

Wa = K・ ・Wmax
Workpiece mounting coefficient K: Fig. (3)
Allowable load mass coefficient : Graph (1)
Max. allowable load mass Wmax: Table (2)
α1 = W/Wa

Wa=1×1×4=4
K=
β=1
Wmax=4
α1=1/4=0.25

3-2 Load Factor of Static Moment

Find the static moment M (N・m).

Find the allowable static moment Ma (N・m).

Find the load factor α2 of the static moment.

M=W×9.8(Ln+An)/1000
Correction value of moment center position distance An: Table (3)

Ma=K・γ ・Mmax
Workpiece mounting coefficient K: Fig. (3)
Allowable moment coefficient γ: Graph (2)
Maximum allowable moment Mmax: Table (4)

α2=M/Ma

Yawing

Examine My.
My=1×9.8(10+30)/1000=0.39
A3=30

May=1×1×15.9=15.9
Mymax=15.9
K=1
γ=1

α2=0.39/15.9=0.025

Rolling

Examine Mr.
Mr=1×9.8(30+10)/1000=0.39
A6=10

Mar=15.9(Same value as May)

α'2=0.39/15.9=0.025

3-3 Load Factor of Dynamic Moment

Find the dynamic moment Me (N・m).

Find the allowable dynamic moment Mea (N・m).

Find the load factor α3 of the dynamic moment.

$Me=1/3\cdot We\times 9.8\frac{(Ln+An)}{1000}$
Collision equivalent to impact We = δ·W·V
δ: Bumper coefficient
With urethane bumper (Standard) = 4/100
With shock absorber = 1/100
Correction value of moment center position distance An: Table (3)

Mea = K・γ・Mmax
Workpiece mounting coefficient K: Fig. (3)
Allowable moment coefficient γ: Graph (2)
Max. allowable moment Mmax: Table (4)

α3=Me/Mea

Pitching Examine Mep.

$Mep=1/3\times 16.8\times 9.8\times\frac{(30+10)}{1000}=2.2$

We=4/100 ×1×420=16.8
A2=10
Meap=1×0.7×15.9=11.1
K=1
γ=0.7
Mpmax=15.9
α3=2.2/11.1=0.20

Yawing Examine Mey.

$Mey=1/3\times 6.8\times 9.8\times\frac{(30+31)}{1000}=3.3$

We=16.8
A4=31
Meay=11.1(Same value as Meap)
α'3=3.3/11.1=0.30

3-4 Sum of Load Factors

Possible to use if the sum of the load factors does not exceed 1.

Σαn=α1+α2+α3 ≤ 1

Σαn=α1+α2+α'2+α3+α'3
=0.25+0.025+0.025+0.20+0.30=0.80≤1
And it is possible to use.

Fig. (1) Load Mass: W (kg)

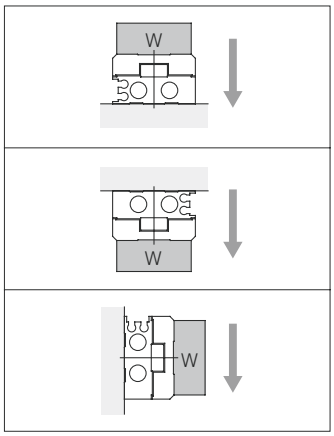
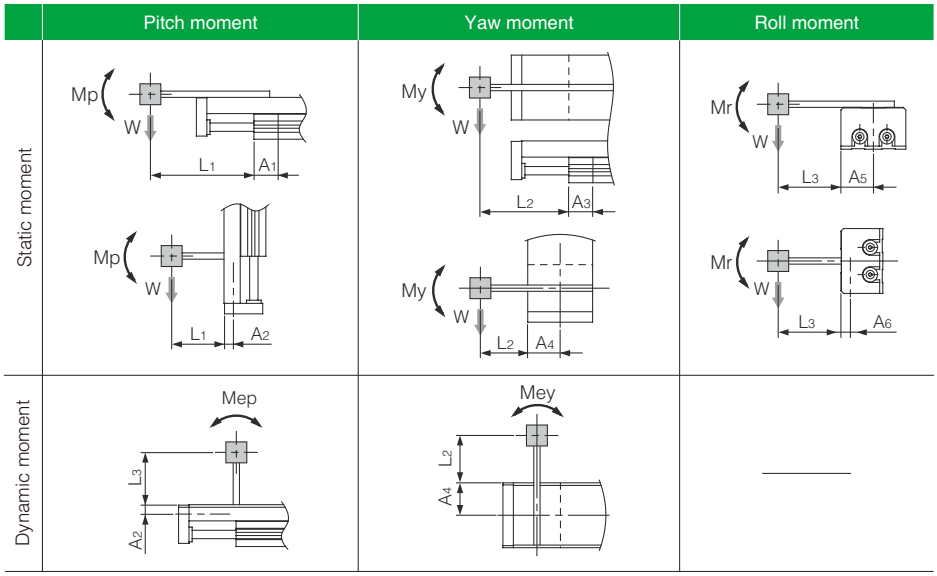


Fig. (2) Overhang: Ln (mm), Correction Value of Moment Center Position Distance: An (mm)



Note) Static moment: Moment generated by gravity
Dynamic moment: Moment generated by impact when colliding with stopper

Fig. (3) Workpiece Mounting Coefficient: K

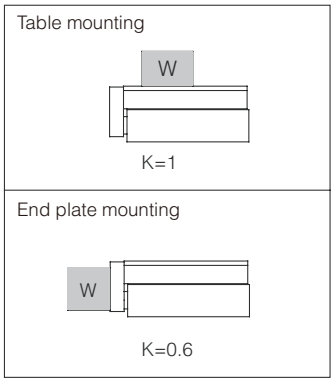


Table (1) Maximum Allowable Kinetic Energy: Emax (J)

Model	Allowable kinetic energy	
	Rubber bumper	Shock absorber
NMXS6	0.018	-
NMXS8	0.027	0.054
NMXS12	0.055	0.11
NMXS16	0.11	0.22
NMXS20	0.16	0.32
NMXS25	0.24	0.48

Graph (4) Allowable Load Mass Coefficient

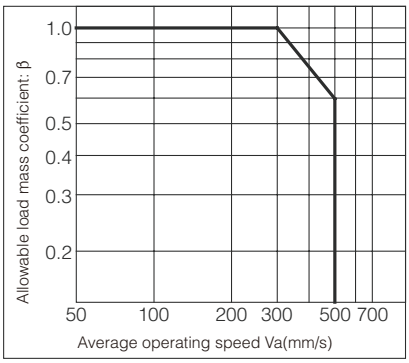


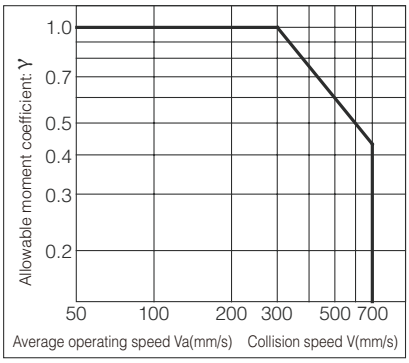
Table (2) Maximum Allowable Load Mass: Wmax (kg)

Model	Maximum allowable load mass
NMXS6	0.6
NMXS8	1
NMXS12	2
NMXS16	4
NMXS20	6
NMXS25	9

Table (3) Correction Value of Moment Center Position Distance: An (mm)

Model	Correction value of moment center position distance (Refer to Figure 2)					
	A1	A2	A3	A4	A5	A6
NMXS6	11	6	13	16	16	6
NMXS8	11	7.5	13	20	20	7.5
NMXS12	24	8.5	26	25	25	8.5
NMXS16	27	10	30	31	31	10
NMXS20	34	14.5	36	38	38	14.5
NMXS25	42	19	44	46	46	19

Graph (5) Allowable Moment Coefficient: γ



Note) Use the average operating speed when calculating static moment.
Use the collision speed when calculating dynamic moment.

Table (4) Maximum Allowable Moment: Mmax (N·m)

Model	Stroke (mm)								
	10	20	30	40	50	75	100	125	150
NMXS6	0.7	1.0	1.2	1.2	1.2	-	-	-	-
NMXS8	2.0	2.0	2.8	3.6	4.2	4.2	-	-	-
NMXS12	4.2	4.2	4.2	5.8	7.0	10.0	10.0	-	-
NMXS16	11.3	11.3	11.3	11.3	15.9	25.0	34.1	34.1	-
NMXS20	19.4	19.4	19.4	19.4	27.2	35.0	50.5	50.5	50.5
NMXS25	30.6	30.6	30.6	30.6	42.8	55.1	67.3	67.3	67.3

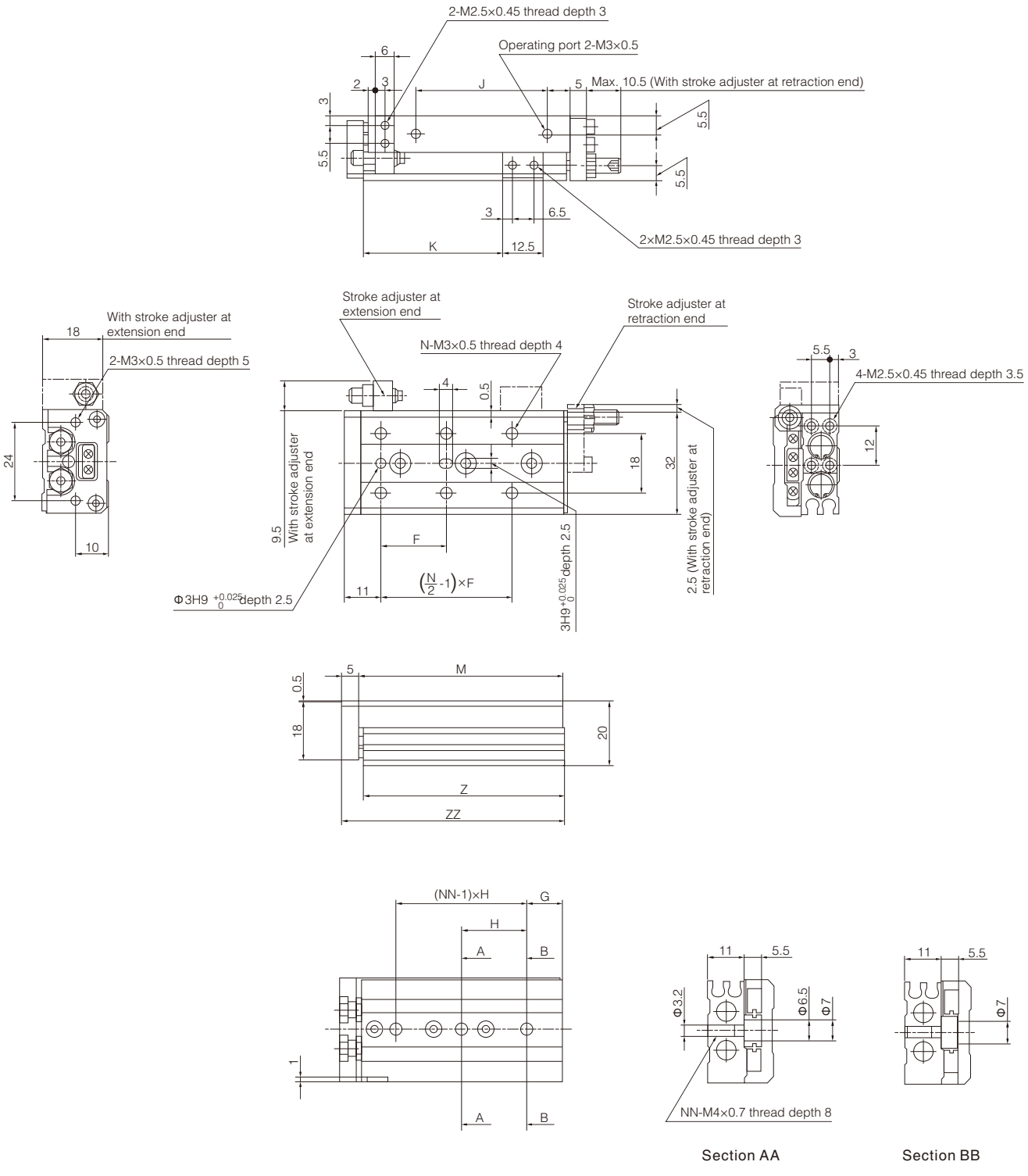
Symbol

Symbol	Definition	Unit
An (n=1 to 6)	Correction value of moment center position distance	mm
E	Kinetic energy	J
Ea	Allowable kinetic energy	J
Emax	Max. allowable kinetic energy	J
Ln (n=1 to 3)	Overhang	mm
M (Mp, My, Mr)	Static moment (Pitch, Yaw, Roll)	N·m
Ma (Map, May, Mar)	Allowable static moment (Pitch, Yaw, Roll)	N·m
Me (Mep, Mey)	Dynamic moment (Pitch, Yaw)	N·m
Mea (Meap, Meay)	Allowable dynamic moment (Pitch, Yaw)	N·m
Mmax (Mpmax, Mymax, Mrmax)	Max. allowable moment (Pitch, Yaw, Roll)	N·m
V	Collision speed	mm/s

Symbol	Definition	Unit
Va	Average operating speed	mm/s
W	Load mass	kg
Wa	Allowable load mass	kg
We	Mass equivalent to impact	kg
Wmax	Max. allowable load mass	kg
α	Load factor	-
β	Allowable load mass coefficient	-
γ	Allowable moment coefficient	-
δ	Damper coefficient	-
K	Workpiece mounting coefficient	-

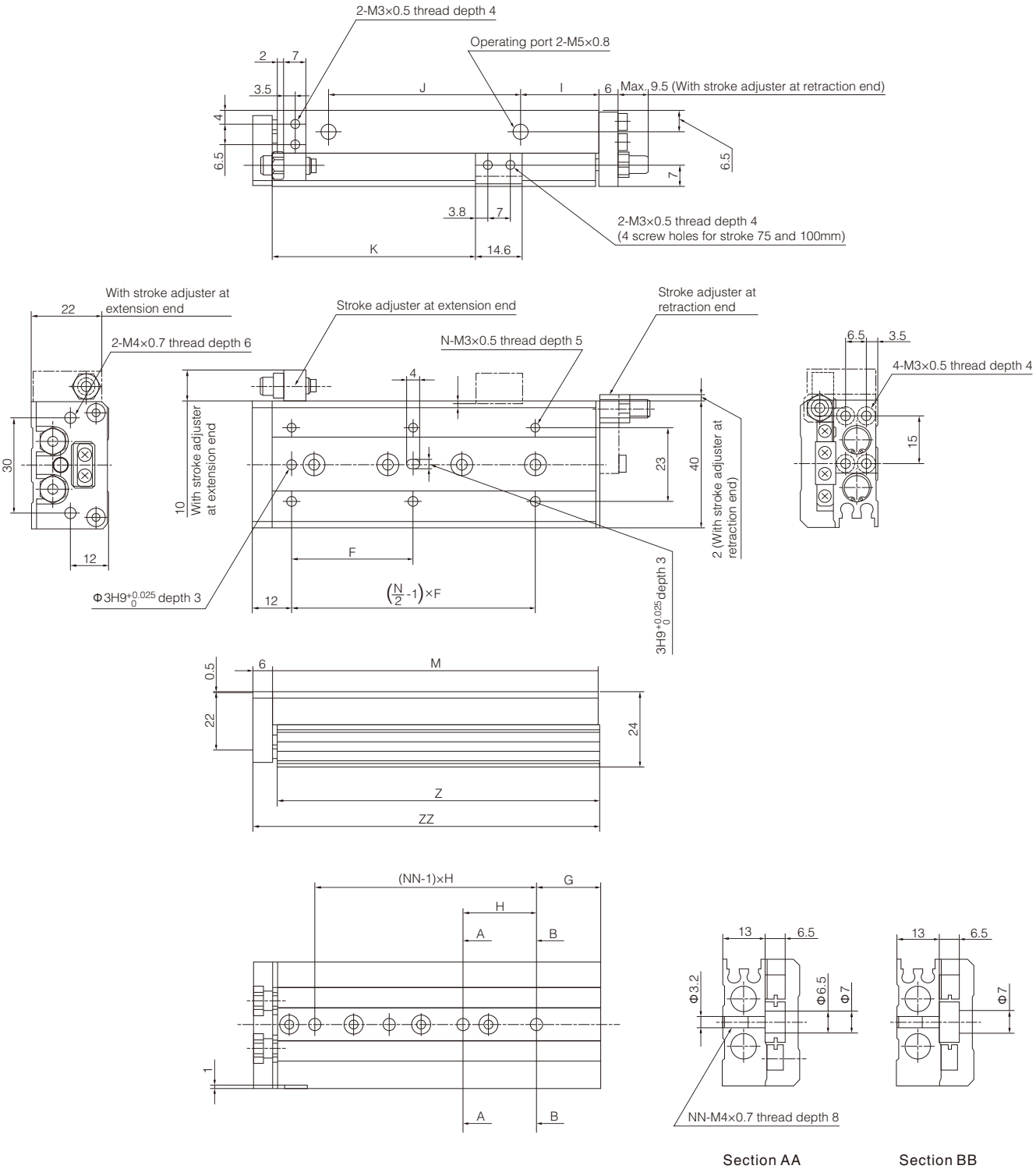
Dimensions

NMXS 6



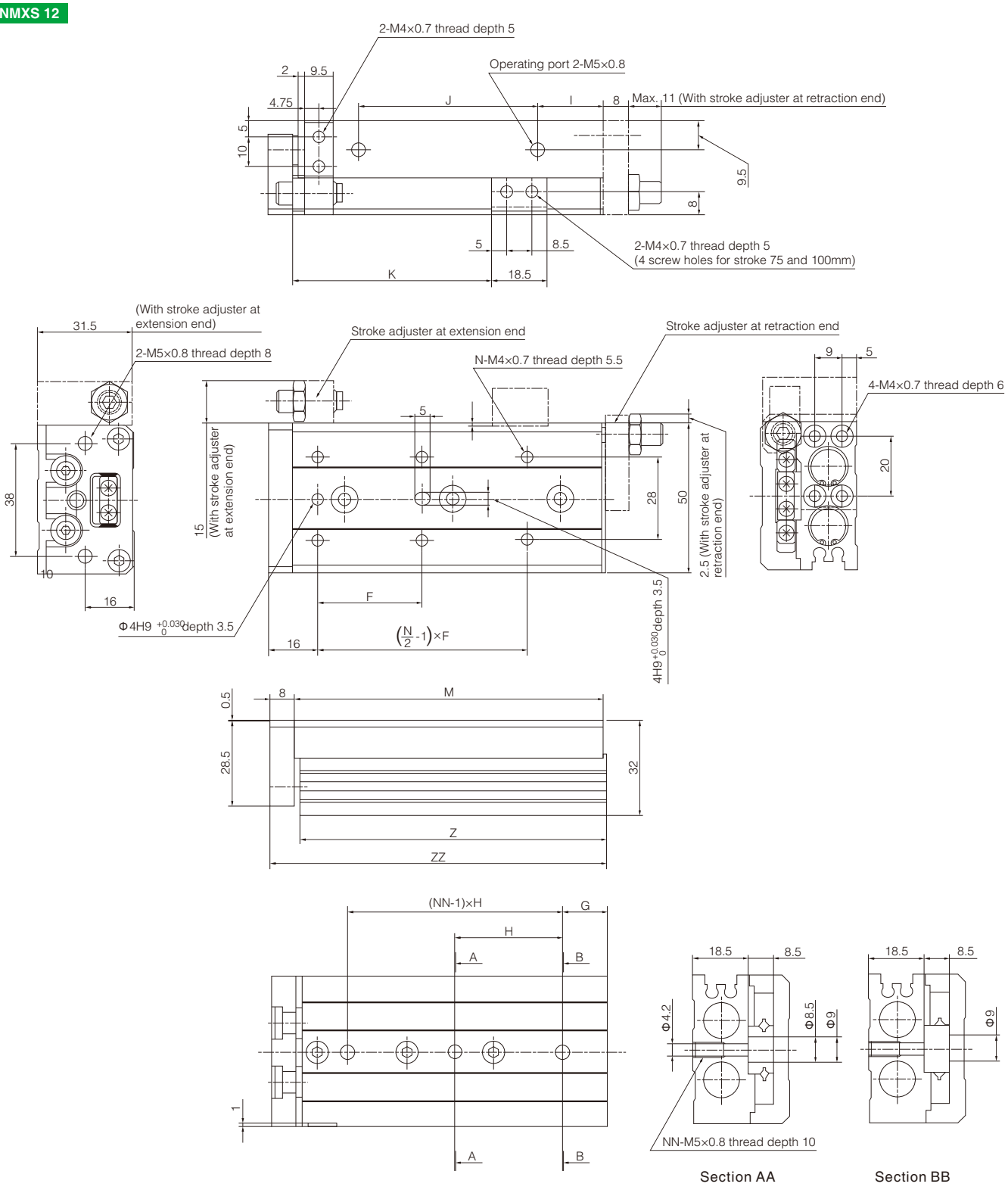
Model	F	N	G	H	NN	I	J	K	M	Z	ZZ
NMXS6-10	20	4	6	25	2	10	17	22.5	42	41.5	48
NMXS6-20	30	4	6	35	2	10	27	32.5	52	51.5	58
NMXS6-30	20	6	11	20	3	7	40	42.5	62	61.5	68
NMXS6-40	28	6	13	30	3	19	50	52.5	84	83.5	90
NMXS6-50	38	6	17	24	4	25	60	62.5	100	99.5	106

NMXS 8



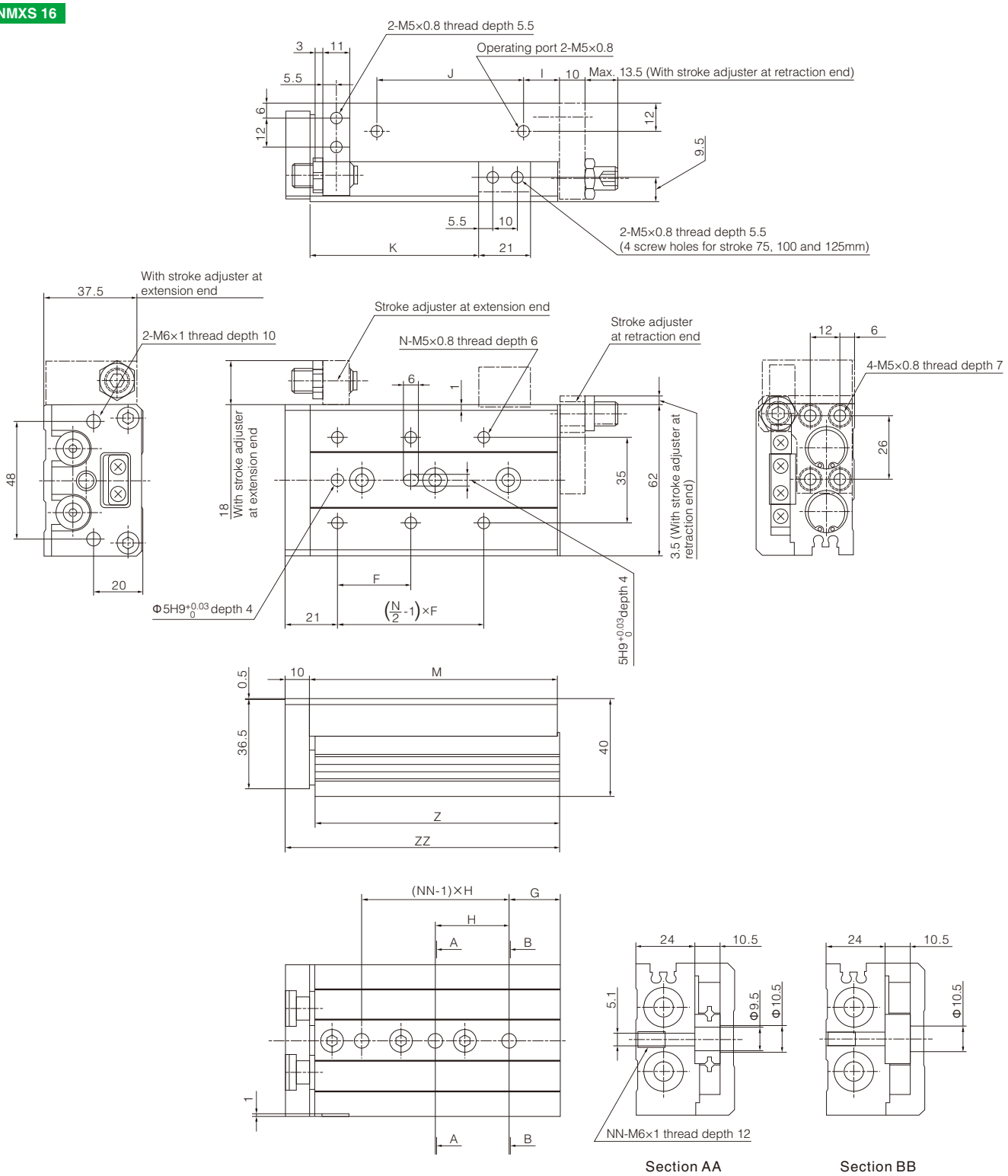
Model	F	N	G	H	NN	I	J	K	M	Z	ZZ
NMXS8-10	25	4	9	28	2	13	19.5	23.5	49	48.5	56
NMXS8-20	25	4	12	30	2	8.5	29	33.5	54	53.5	61
NMXS8-30	40	4	13	20	3	9.5	39	43.5	65	64.5	72
NMXS8-40	50	4	15	28	3	10.5	56	53.5	83	82.5	90
NMXS8-50	38	6	20	23	4	24.5	60	63.5	101	100.5	108
NMXS8-75	50	6	27	28	5	38.5	96	88.5	151	150.5	158

NMXS 12



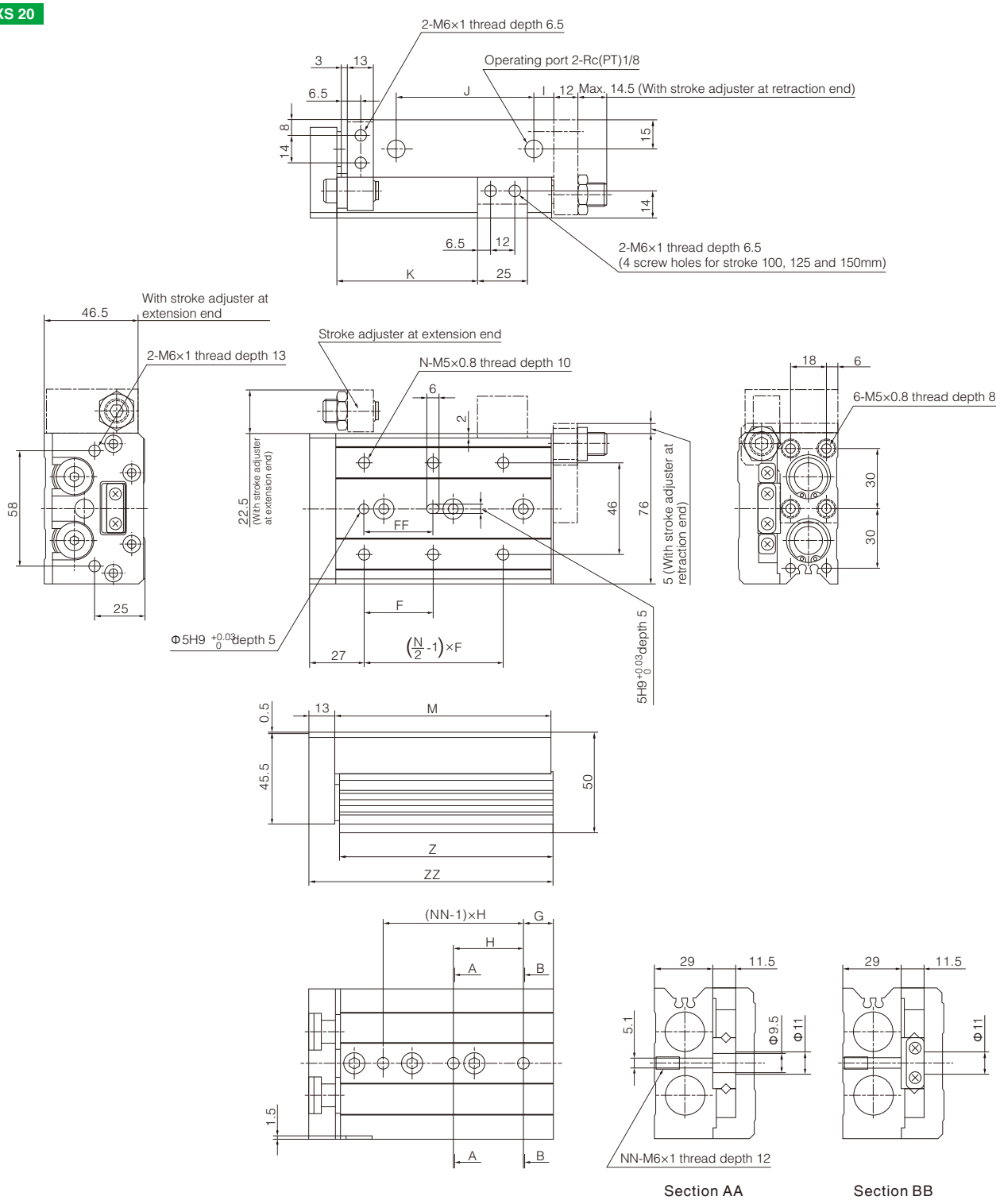
Model	F	N	G	H	NN	I	J	K	M	Z	ZZ
NMXS12-10	35	4	15	40	2	10	40	26.5	71	70	80
NMXS12-20	35	4	15	40	2	10	40	36.5	71	70	80
NMXS12-30	35	4	15	40	2	10	40	46.5	71	70	80
NMXS12-40	50	4	17	25	3	10	52	56.5	83	82	92
NMXS12-50	35	6	15	36	3	22	60	66.5	103	102	112
NMXS12-75	55	6	25	36	4	43	85	91.5	149	148	158
NMXS12-100	65	6	35	38	5	52	130	116.5	203	202	212

NMXS 16



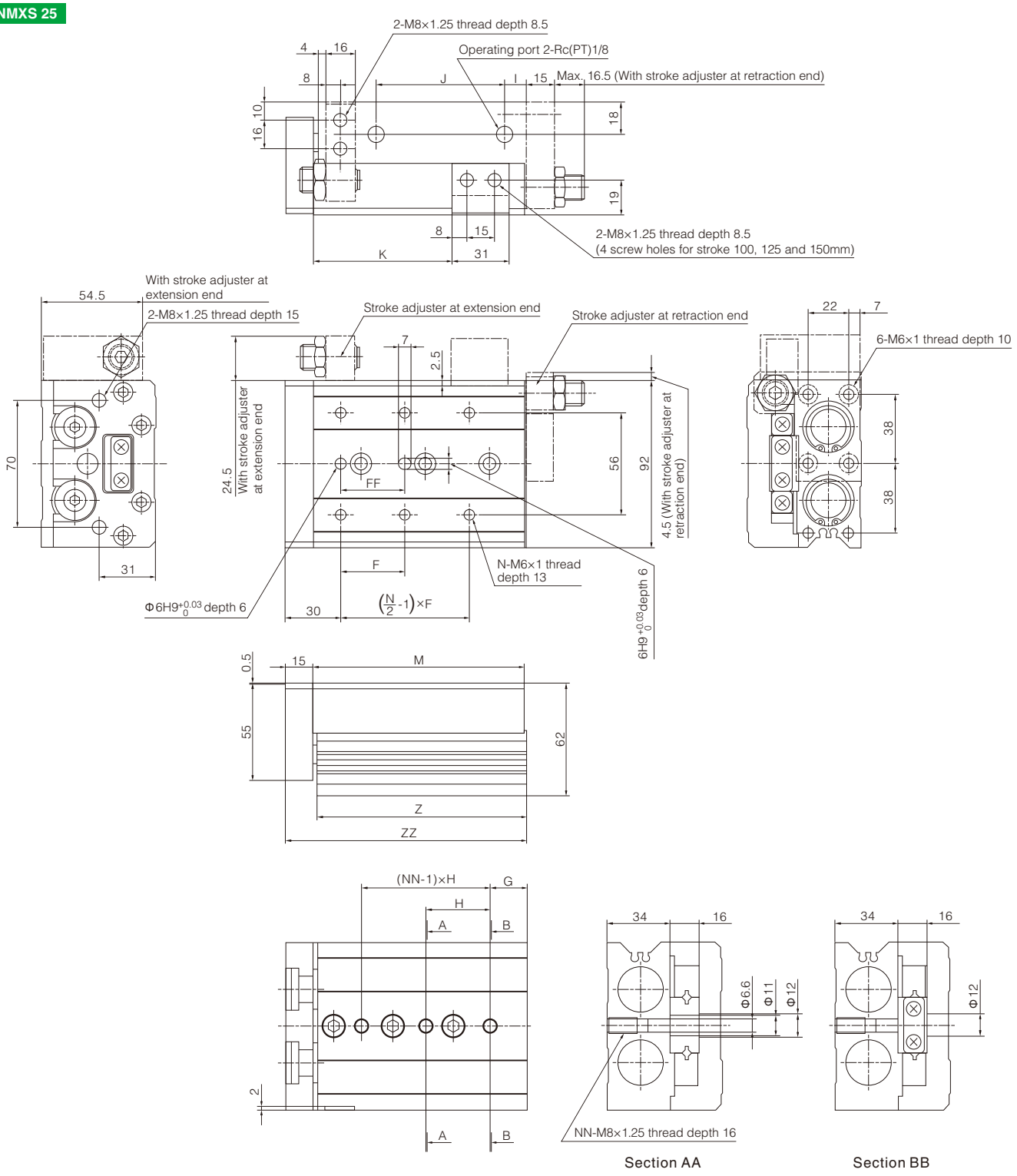
Model	F	N	G	H	NN	I	J	K	M	Z	ZZ
NMXS16-10	35	4	16	40	2	10	40	29	76	75	87
NMXS16-20	35	4	16	40	2	10	40	39	76	75	87
NMXS16-30	35	4	16	40	2	10	40	49	76	75	87
NMXS16-40	40	4	16	50	2	10	50	59	86	85	97
NMXS16-50	30	6	21	30	3	15	60	69	101	100	112
NMXS16-75	55	6	26	35	4	40	85	94	151	150	162
NMXS16-100	65	6	39	35	5	55	118	119	199	198	210
NMXS16-125	70	8	19	35	7	68	155	144	249	248	260

NMXS 20



Model	F	FF	N	G	H	NN	I	J	K	M	Z	ZZ
NMXS20-10	50	40	4	15	45	2	10	44	31	83	81.5	97
NMXS20-20	50	40	4	15	45	2	10	44	41	83	81.5	97
NMXS20-30	50	40	4	15	45	2	10	44	51	83	81.5	97
NMXS20-40	60	50	4	15	55	2	10	54	61	93	91.5	107
NMXS20-50	35	35	6	15	35	3	10	69	71	108	106.5	122
NMXS20-75	60	60	6	19	35	4	10	108	96	147	145.5	161
NMXS20-100	70	70	6	37	35	5	58	113	121	200	198.5	214
NMXS20-125	70	70	8	41	38	6	70	155	146	254	252.5	268
NMXS20-150	80	80	8	19	44	7	87	190	171	306	304.5	320

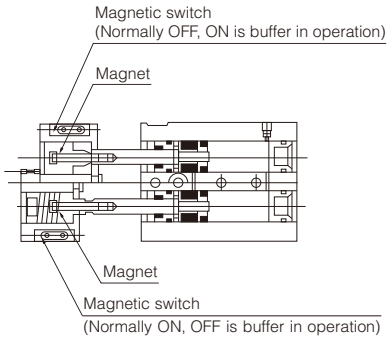
NMXS 25

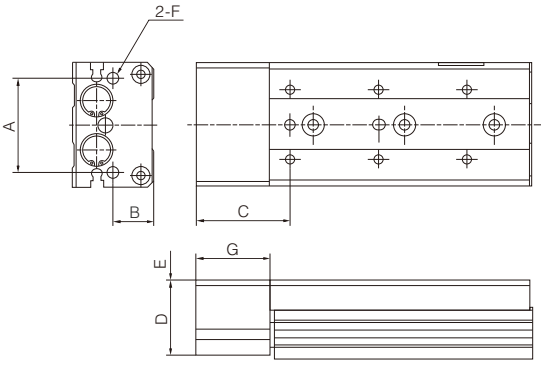


Model	F	FF	N	G	H	NN	I	J	K	M	Z	ZZ
NMXS25-10	50	40	4	22	45	2	12	47	35	92	90.5	108
NMXS25-20	50	40	4	22	45	2	12	47	45	92	90.5	108
NMXS25-30	50	40	4	22	45	2	12	47	55	92	90.5	108
NMXS25-40	60	50	4	22	55	2	12	57	65	102	100.5	118
NMXS25-50	35	35	6	20	35	3	12	70	75	115	113.5	131
NMXS25-75	60	60	6	26	35	4	33	90	100	156	154.5	172
NMXS25-100	70	70	6	32	35	5	50	114	125	197	195.5	213
NMXS25-125	75	75	8	40	38	6	67	155	150	255	253.5	271
NMXS25-150	80	80	8	30	40	7	82	180	175	295	293.5	311

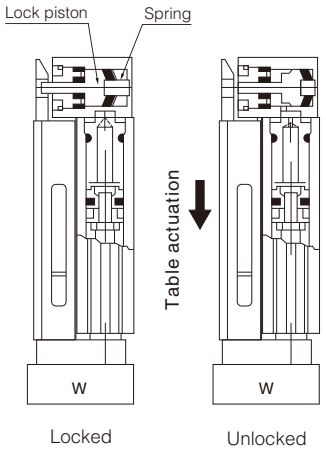
Function options

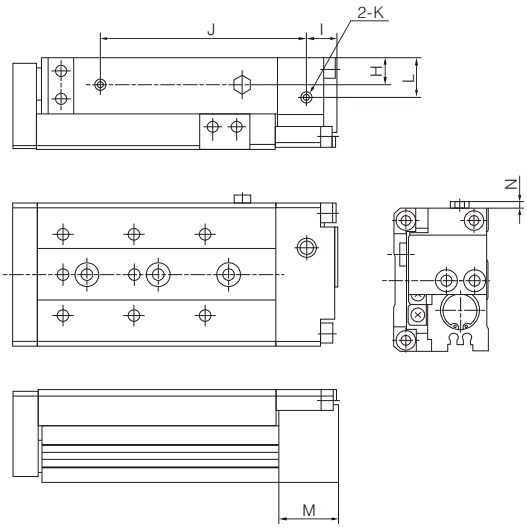
F-with spring buffer



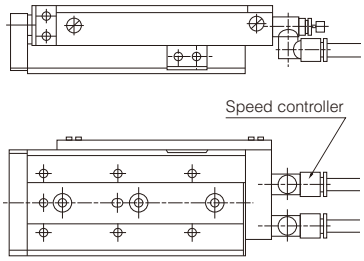


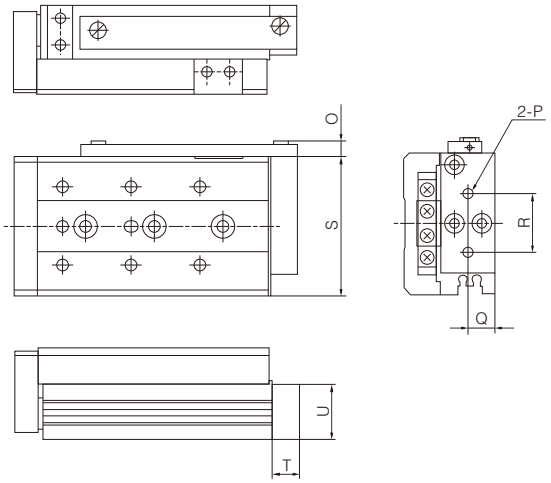
R-With end lock





P-Axial piping type





Model	A	B	C	D	E	F	G	H	I	J									K	L	M	N	O	P	Q	R	S	T	U
										10	20	30	40	50	75	100	125	150											
NMXS6	24	10	28	19	0.5	M3×0.5	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	M3×0.5	5.5	12	32	8	11.5
NMXS8	30	12	28.5	22.5	0.5	M3×0.7	22.5	6.5	9	39	44	55	73	91	141	-	-	-	M3×0.5	10	15.5	3	6.5	M5×0.8	6.5	15	40	12	13.5
NMXS12	38	16	37	30	0.5	M5×0.8	29	9.5	10.5	59.5	59.5	59.5	71.5	91.5	137.5	191.5	-	-	M5×0.8	14.5	20	3	6.5	M5×0.8	9.5	20	50	12	18.7
NMXS16	48	20	41	37.5	0.5	M6×1	30	12	13	62	62	62	72	87	137	185	235	-	M5×0.8	18	25	3	6.5	M5×0.8	12	26	62	12	23.5
NMXS20	58	25	44.5	45.5	0.5	M6×1	30.5	15	15.5	68.5	68.5	68.5	78.5	93.5	132.5	185.5	239.5	291.5	Rc1/8	20	30	-	11.5	Rc1/8	15	32	76	20	29.5
NMXS25	70	31	50	55	0.5	M8×1.25	35	18	18	76	76	76	86	99	140	181	239	279	Rc1/8	25.5	35	-	11.5	Rc1/8	18	40	92	20	35.5



1. Small size, firm, high precision.
2. Combination of small cylinder and circular linear guide.
3. Parallelism: 30μm, perpendicularity: 50μm.
4. Double cylinder design, 2 times output force.
5. Large load moment.
6. Adjustable travel (with adjustable travel device).
7. Magnetic switch can be installed.

Specifications

Model	NMXQ6	NMXQ8	NMXQ12	NMXQ16	NMXQ20	NMXQ25
Bore size(mm)	Φ6×2 (Equate to Φ8)	Φ8×2 (Equate to Φ11)	Φ12×2 (Equate to Φ17)	Φ16×2 (Equate to Φ22)	Φ20×2 (Equate to Φ28)	Φ25×2 (Equate to Φ35)
Use fluid	Air					
Action mode	Double action					
Minimum operating pressure	0.15MPa					
Maximum operating pressure	0.7MPa					
Ambient and fluid temperature	-10 to 60℃ (No freezing)					
Piston speed	50~500mm/s (Adjuster option/Metal stopper: 50 to 200 mm/s)					
Cushion	Rubber buffer (standard), hydraulic buffer, none(Shock absorber)					
Stroke length tolerance(mm)	$^{+1}_{0}$					
Lubrication	Non-lube					
Pipe size	M5×0.8				Rc1/8	

* If lubrication is required, please use turbine No.1 oil ISO VG32.

Selection table

Model		Bore size (mm)
Standard type	Symmetric type	
NMXQ6	NMXQ6L	6
NMXQ8	NMXQ8L	8
NMXQ12	NMXQ12L	12
NMXQ16	NMXQ16L	16
NMXQ20	NMXQ20L	20
NMXQ25	NMXQ25L	25

Standard stroke (mm): 10 20 30 40 50 75 100 125 150

Adjuster option: Rubber stopper (Extension end, Retraction end, Both ends); Shock absorber (Extension end, Retraction end, Both ends); Metal stopper (Extension end, Retraction end, Both ends)

Functional option: With buffer, With end lock, Axial piping type

Magnetic switch: A93(V), A96(V), M9N(V), M9B(V), M9P(V), F9NW

Combination and collocation

Stroke adjuster \ Function options	Without	F	R	P	FR	FP
Without	○	○	○	○	○	○
AS, CS	○	○	○	○	○	○
AT, CT	○	○	×	×	×	×
A, C	○	○	×	×	×	×
BS	○	×	○	○	×	×
BT	○	○	×	×	×	×
B	○	×	×	×	×	×

○: available, ×: not available.

Ordering code

NMXQ 12 L — 50 AS FR — M9N □

Bore size

Symmetric type

Blank	Standard type
L	Symmetric type

Stroke

Adjuster option

Blank	Without adjuster	Without
AS	Extension end rubber stopper	Extension end
AT	Retraction end rubber stopper	Retraction end
A	Double end rubber stopper	Both ends
*BS	Extension end absorber	Extension end
*BT	Retraction end absorber	Retraction end
*B	Double absorber	Both ends
CS	Extension end metal stopper	Extension end
CT	Retraction end metal stopper	Retraction end
C	Double metal stopper	Both ends

* With shock absorber is not available in NMXQ6 series.

Functional option

Blank	Standard type
F	With buffer
*R	With end lock
P	Axial piping type
*FR	With buffer and end lock
FP	With buffer, Axial piping type

* With end lock is not available in NMXQ6 series.

Magnetic switch

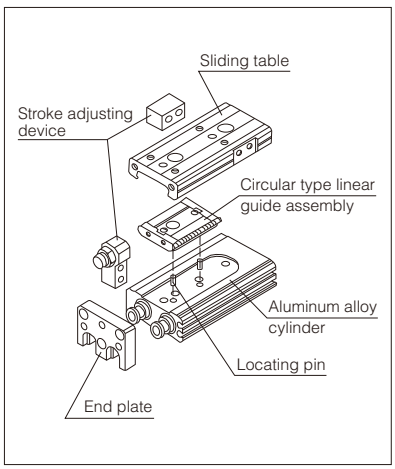
Blank	without magnetic switch

* Wire length representation mark: no mark -0.5m, L-3m, Z-5m.

Number of magnetic switches

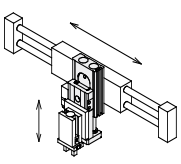
Blank	2 pcs.
S	1 pc.
n	n pcs.

Cylinder and table combination

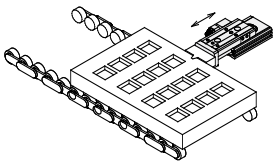


Application examples

Picking action



Precision positioning



Theoretical output force table

Design of double cylinder cylinder

Stretch Shrink

(Unit: N)

Bore size (mm)	Action direction	Compression area (mm²)	Use pressure (Mpa)					
			0.2	0.3	0.4	0.5	0.6	0.7
Φ6×2	Stretch	57	11	17	23	29	34	40
	Shrink	42	8	13	17	21	25	29
Φ8×2	Stretch	101	20	30	40	51	61	71
	Shrink	75	15	23	30	38	45	53
Φ12×2	Stretch	226	45	68	90	113	136	158
	Shrink	170	34	51	68	85	102	119
Φ16×2	Stretch	402	80	121	161	201	241	281
	Shrink	302	60	91	121	151	181	211
Φ20×2	Stretch	628	126	188	251	314	377	440
	Shrink	471	94	141	188	236	283	330
Φ25×2	Stretch	982	196	295	393	491	289	687
	Shrink	756	151	227	302	378	454	529

Note: theoretical output force(N)=pressure(MPa)×compression area (mm²).

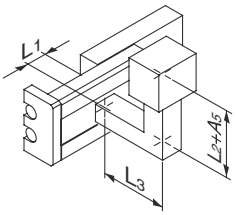
Selection method of pneumatic slide table

Model Selection Steps	Formula/Data	Selection Examples

1 Operating Conditions

Enumerate the operating conditions considering the mounting position and workpiece configuration. Check that the load weight does not exceed the maximum allowable load weight and that the average operating speed does not exceed the operating speed range.

- Model to be used
- Type of cushion
- Workpiece mounting position
- Mounting orientation
- Average operating speed Va (mm/s)
- Load mass W (kg): Fig. (1), Table (2)
- Overhang Ln (mm) Fig. (2)



Cylinder: NMXQ16-50
Cushion: Rubber stopper
Workpiece table mounting
Mounting: Horizontal wall mounting
Average operating speed:
Va = 300 [mm/s]
Load mass: W = 1 [kg]
L1 = 10 mm
L2 = 30 mm
L3 = 30 mm

2 Kinetic Energy

Find the kinetic energy E (J) of the load.

Find the allowable kinetic energy Ea (J).

Confirm that the kinetic energy of the load does not exceed the allowable kinetic energy.

$E = \frac{1}{2} \cdot W(\frac{V}{1000})^2$

Collision speed $V = \underline{1.4}_{※} \cdot Va$

※) Correction factor (Reference values)

Ea = K · Emax
Workpiece mounting coefficient K: Fig.(3)
Max. allowable kinetic energy Emax: Table (1)
Kinetic energy (E) ≤ Allowable kinetic energy (Ea)

$E = \frac{1}{2} \times 1(\frac{420}{1000})^2 = 0.088$

V=1.4×300=420

Ea=1×0.11=0.11

Can be used based on E=0.088 ≤ Ea=0.11

3 Load Factor

3-1 Load Factor of Load Mass

Find the allowable load mass Wa (kg).
Note) No need to consider this load factor in the case of using perpendicularly in a vertical position. (Define α1 =0.)
Find the load factor of the load weight α1.

Wa = K · β · Wmax
Workpiece mounting coefficient K: Fig. (3)
Allowable load mass coefficient β: Graph (1)
Max. allowable load mass Wmax: Table (2)
α1 = W/Wa

Wa=1×1×4=4
K=
β=1
Wmax=4
α1=1/4=0.25

3-2 Load Factor of Static Moment

Find the static moment M (N·m).

Find the allowable static moment Ma (N·m).

Find the load factor α2 of the static moment.

M=W×9.8(Ln+An)/1000
Correction value of moment center position distance An: Table (3)

Ma=K·γ·Mmax
Workpiece mounting coefficient K: Fig. (3)
Allowable moment coefficient γ: Graph (2)
Maximum allowable moment Mmax: Table (4)

α2=M/Ma

Yawing

Examine My.
My=1×9.8(10+30)/1000=0.39
A_3=30

May=1×1×18=18
Mymax=18
K=1
γ=1

α2=0.39/18=0.022

Rolling

Examine Mr.
Mr=1×9.8(30+10.5)/1000=0.39
A_6=10.5

Mar=36
Mymax=36
K=1
γ=1

α'2=0.39/36=0.011

3-3 Load Factor of Dynamic Moment

Find the dynamic moment Me (N·m).

Find the allowable dynamic moment Mea (N·m).

Find the load factor α3 of the dynamic moment.

$Me = 1/3 \cdot We \times 9.8 \frac{(Ln+An)}{1000}$
Collision equivalent to impact We = δ·W·V
δ: Bumper coefficient
Rubber stopper without adjuster = 4/100
Shock absorber = 1/100
Metal stopper = 16/100
Correction value of moment center position distance An: Table (3)

Mea = K·γ·Mmax
Workpiece mounting coefficient K: Fig. (3)
Allowable moment coefficient γ: Graph (2)
Max. allowable moment Mmax: Table (4)

α3=Me/Mea

Pitching Examine Mep.

$Mep = 1/3 \times 16.8 \times 9.8 \times \frac{(30+10.5)}{1000} = 2.2$

We=4/100 ×1×420=16.8
A_2=10.5
Meap=1×0.7×18=12.6
K=1
γ=0.7
Mpmax=18
α3=2.2/12.6=0.17

Yawing Examine Mey.

$Mey = 1/3 \times 16.8 \times 9.8 \times \frac{(30+24.5)}{1000} = 3.0$

We=16.8
A_4=24.5
Meay=12.6(Same value as Meap)
α'3=3.0/12.6=0.24

3-4 Sum of Load Factors

Use is possible if the sum of the load factors does not exceed 1.

Σ αn=α1+α2+……+αn ≤ 1

Σ αn=α1+α2+α'2+α3+α'3
=0.25+0.022+0.011+0.17+0.24=0.693 ≤ 1
And it is possible to use.

Fig. (1)
Load Mass: W (kg)

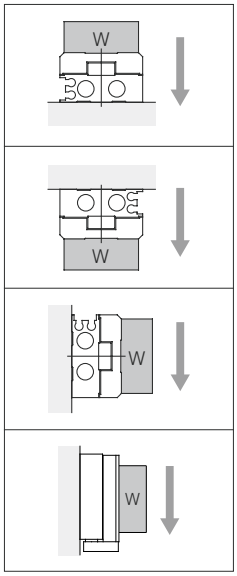
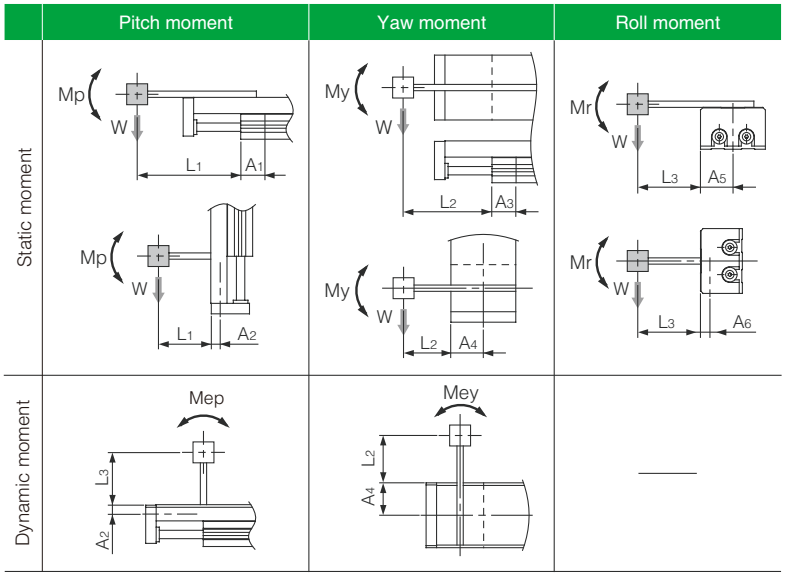


Fig. (2) Overhang: Ln (mm), Correction Value of Moment Center Position Distance: An (mm)



Note) Static moment: Moment generated by gravity
Dynamic moment: Moment generated by impact when colliding with stopper

Fig. (3) Workpiece Mounting Coefficient: K

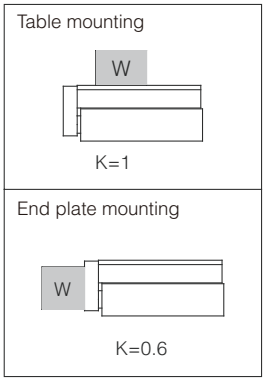


Table (1) Maximum Allowable Kinetic Energy: Emax (J)

Model	Allowable kinetic energy			
	Without adjuster	Adjuster option		
		Rubber stopper	Shock absorber	Metal stopper
NMXQ6	0.018	0.018	-	0.009
NMXQ8	0.027	0.027	0.054	0.013
NMXQ12	0.055	0.055	0.11	0.027
NMXQ16	0.11	0.11	0.22	0.055
NMXQ20	0.16	0.16	0.32	0.080
NMXQ25	0.24	0.24	0.48	0.12

⚠Caution The maximum operating speed for metal stopper is 200 mm/s.

Table (2) Maximum Allowable Load Mass: Wmax (kg)

Model	Maximum allowable load mass
NMXQ6	0.6
NMXQ8	1
NMXQ12	2
NMXQ16	4
NMXQ20	6
NMXQ25	9

Graph (1) Allowable Load Mass Coefficient: β

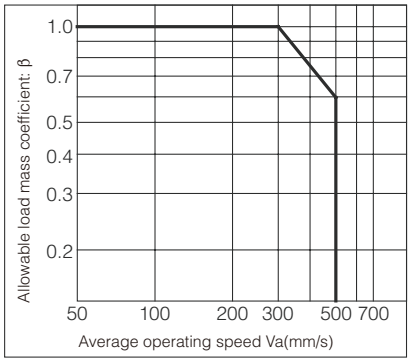
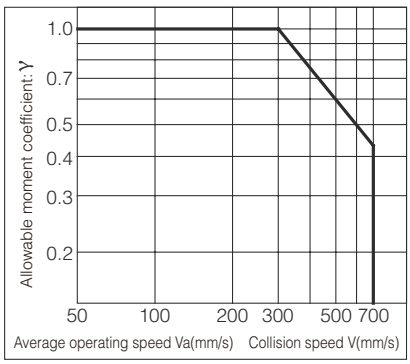


Table (3) Correction Value of Moment Center Position Distance: An (mm)

Model	Correction value of moment center position distance (Refer to Figure (2).)												
	A1, A3									A2	A4	A5	A6
	Stroke (mm)												
	10	20	30	40	50	75	100	125	150				
NMXQ6	14.5	14.5	14.5	18.5	18.5	-	-	-	-	6	13.5	13.5	6
NMXQ8	16.5	16.5	18.5	20.5	28	28.5	-	-	-	7	16	16	7
NMXQ12	21	21	21	25	25	34	34	-	-	9	19.5	19.5	9
NMXQ16	27	27	27	27	30	33	42.5	42.5	-	10.5	24.5	24.5	10.5
NMXQ20	29.5	29.5	29.5	29.5	33.5	37.5	53.5	55	56.5	14	30	30	14
NMXQ25	35.5	35.5	35.5	35.5	43	43	50	64	64	16.5	37	37	16.5

Note) For A2, A4, A5 and A6, there is no difference in the corrected values due to the stroke.

Graph (2) Allowable Moment Coefficient: γ



Note) Use the average operating speed when calculating static moment.
Use the collision speed when calculating dynamic moment.

Table (4) Maximum Allowable Moment: Mmax (N·m)

Model	Pitch/Yaw moment: Mpmax/Mymax									Roll moment: Mrmax								
	Stroke (mm)									Stroke (mm)								
	10	20	30	40	50	75	100	125	150	10	20	30	40	50	75	100	125	150
NMXQ6	1.4	1.4	1.4	2.8	2.8	-	-	-	-	3.5	3.5	3.5	5.1	5.1	-	-	-	-
NMXQ8	2.0	2.0	2.8	3.7	7.9	7-.9	-	-	-	5.1	5.1	6.0	6.9	7.4	7.4	-	-	-
NMXQ12	4.7	4.7	4.7	7.2	7.2	15	15	-	-	11	11	11	13	13	14	14	-	-
NMXQ16	13	13	13	13	18	23	42	42	-	31	31	31	31	36	41	41	41	-
NMXQ20	19	19	19	19	27	36	84	84	84	47	47	47	47	57	66	75	75	75
NMXQ25	32	32	32	32	52	52	78	140	140	81	81	81	81	110	110	130	130	130

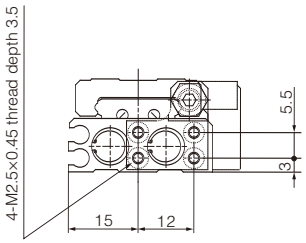
Symbol

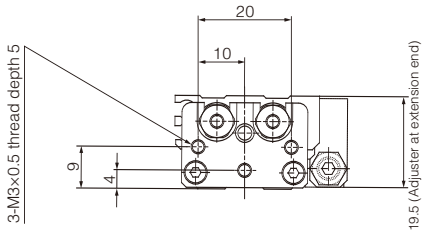
Symbol	Definition	Unit
An (n=1 to 6)	Correction value of moment center position distance	mm
E	Kinetic energy	J
Emax	Allowable kinetic energy	J
Ln (n=1 to 3)	Overhang	mm
M (Mp, My, Mr)	Static moment (Pitch, Yaw, Roll)	N·m
Ma (Map, May, Mar)	Allowable static moment (Pitch, Yaw, Roll)	N·m
Me (Mep, Mey)	Dynamic moment (Pitch, Yaw)	N·m
Mea (Meap, Meay)	Allowable dynamic moment (Pitch, Yaw)	N·m
Mmax (Mpmax, Mymax, Mrmax)	Max. allowable moment (Pitch, Yaw, Roll)	N·m
V	Collision speed	mm/s

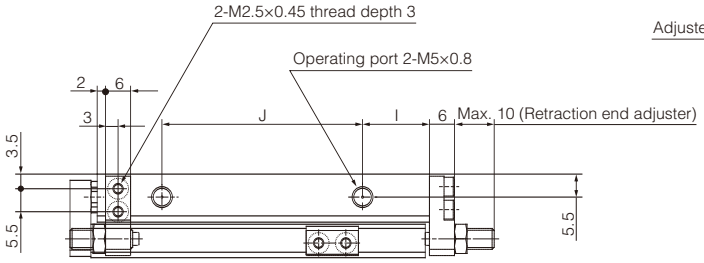
Symbol	Definition	Unit
Va	Average operating speed	mm/s
W	Load mass	kg
Wa	Allowable load mass	kg
We	Weight equivalent to impact	kg
Wmax	Max. allowable load mass	kg
α	Load factor	-
β	Allowable load mass coefficient	-
γ	Allowable moment coefficient	-
K	Workpiece mounting coefficient	-

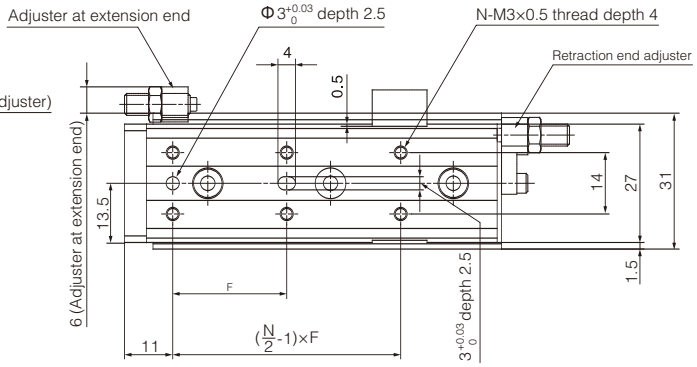
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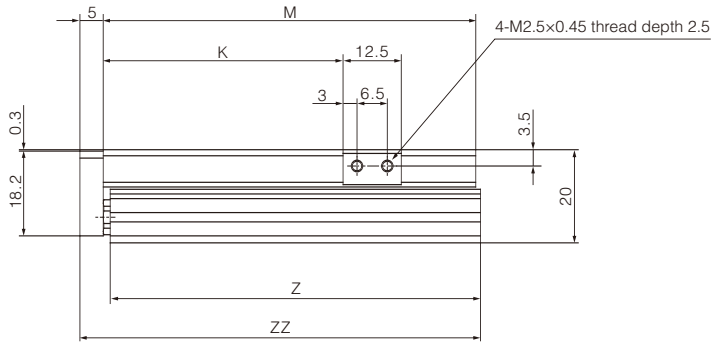
Basic type(NMXQ 6)



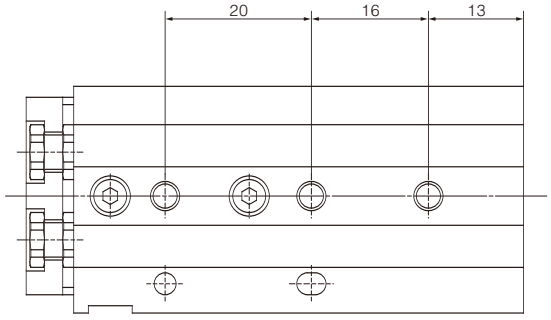


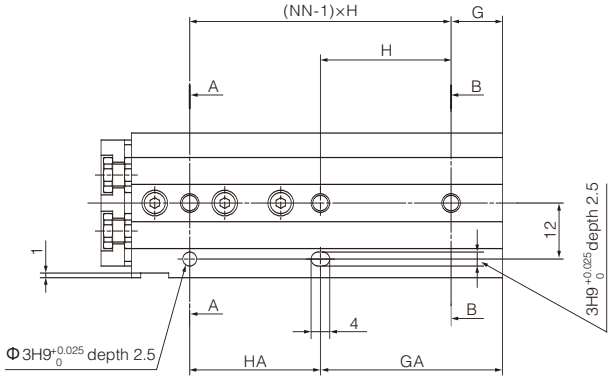


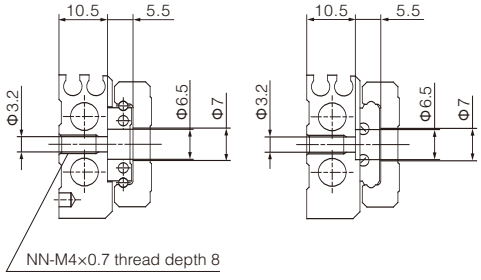




Bottom view of NMXQ6-30



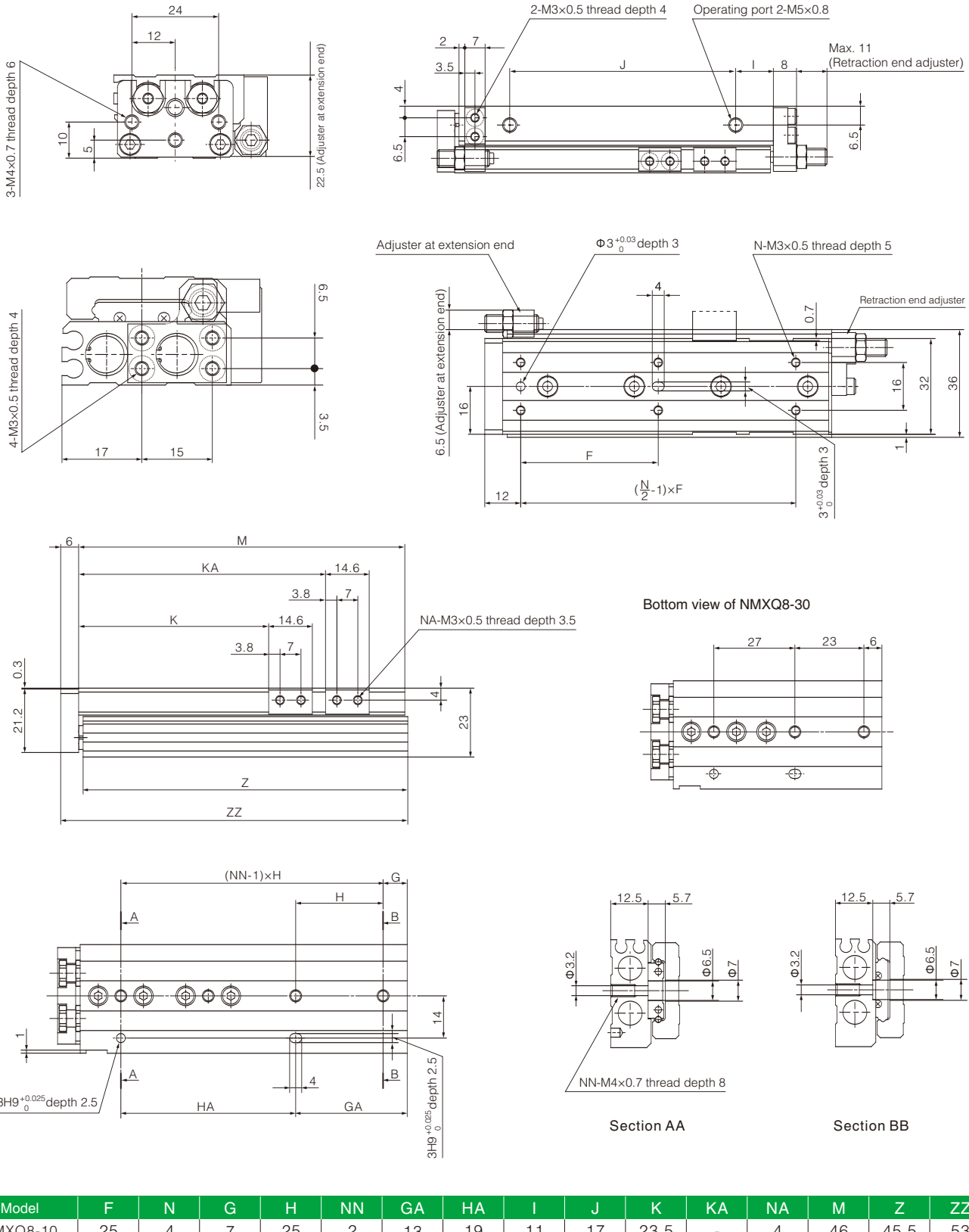




Section AA Section BB

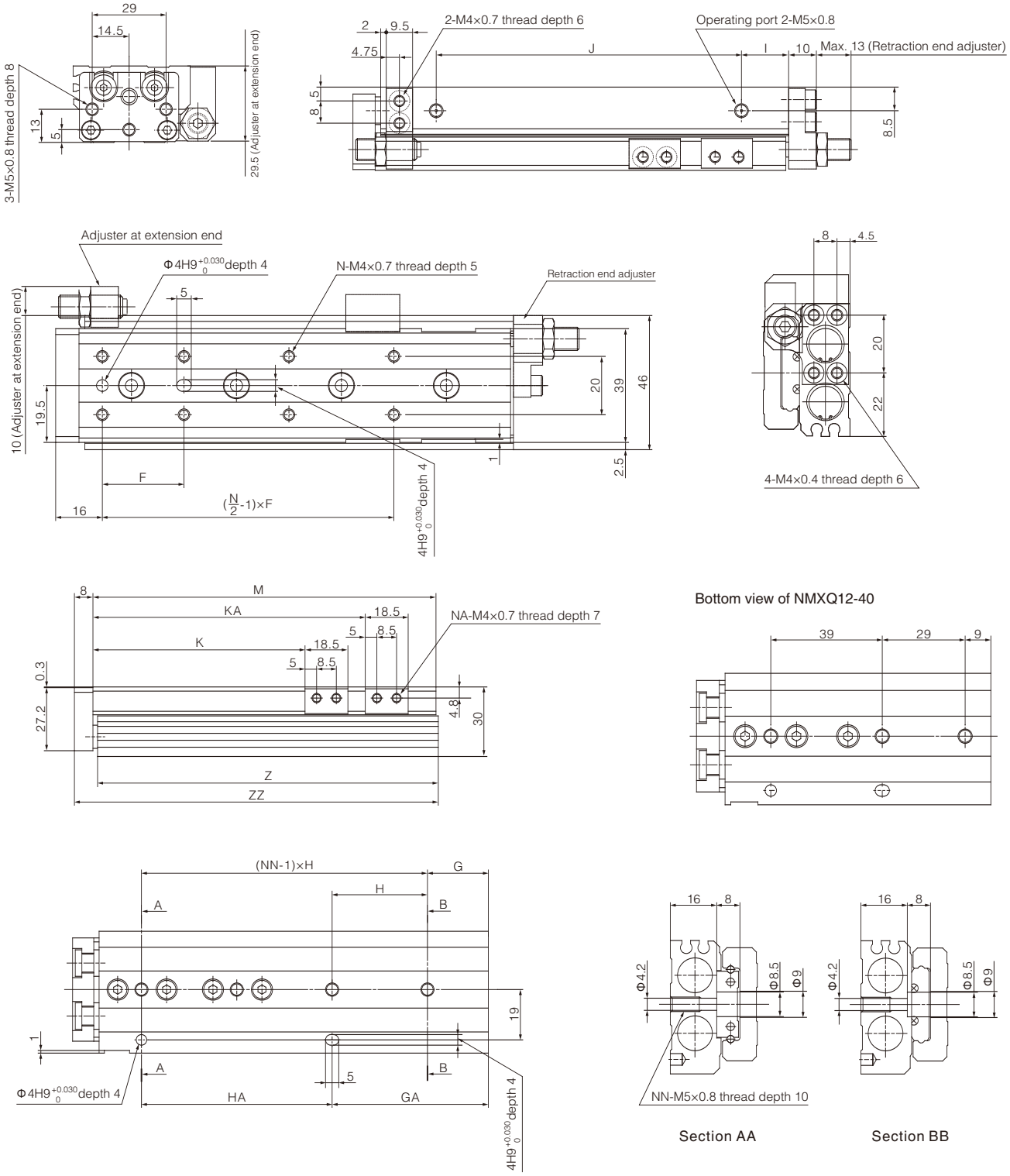
Model	F	N	G	H	NN	GA	HA	I	J	K	M	Z	ZZ
NMXQ6-10	22	4	6	23	2	13	16	9	17	21.5	42	41.5	48
NMXQ6-20	25	4	13	26	2	13	26	9	27	31.5	52	51.5	58
NMXQ6-30	21	6	-	-	3	29	20	9	37	41.5	62	61.5	68
NMXQ6-40	26	6	11	28	3	39	28	16	48	51.5	80	79.5	86
NMXQ6-50	27	6	21	28	3	49	28	9	65	61.5	90	89.5	96

Basic type(NMXQ 8)



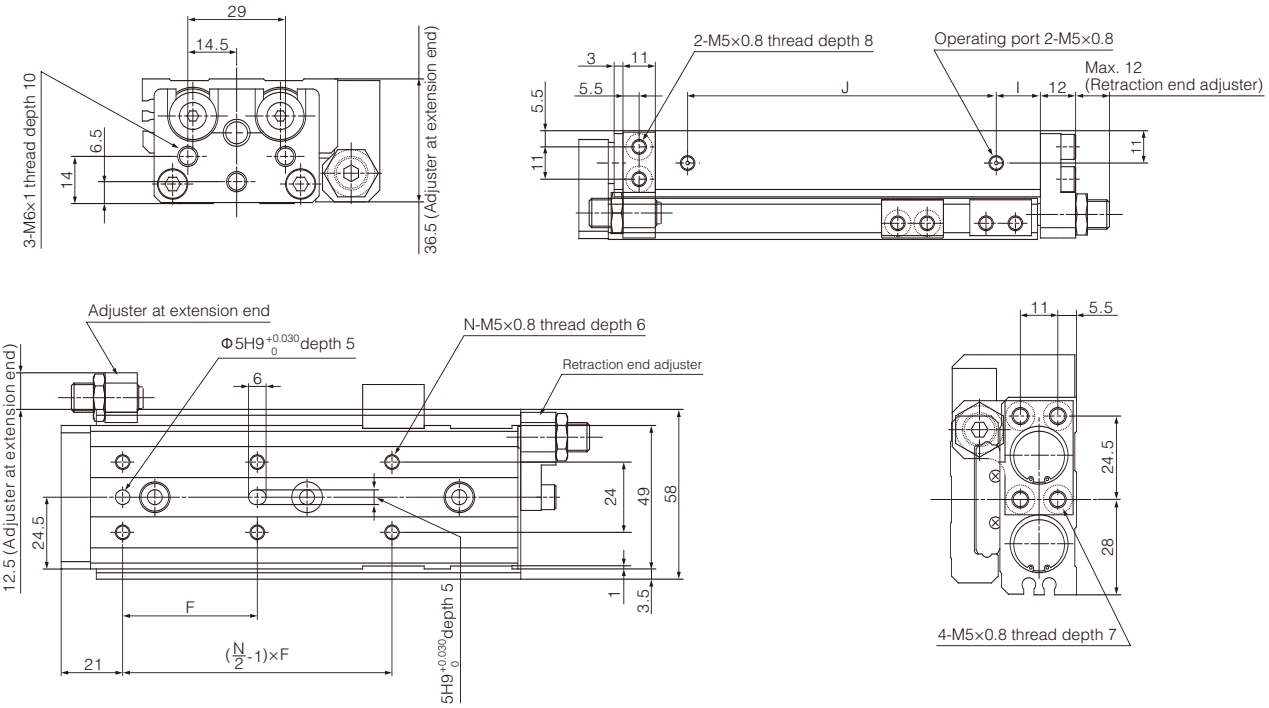
Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
NMXQ8-10	25	4	7	25	2	13	19	11	17	23.5	-	4	46	45.5	53
NMXQ8-20	25	4	14	28	2	14	28	10	28	33.5	-	4	56	55.5	63
NMXQ8-30	26	6	-	-	3	29	27	12	40	43.5	-	4	70	69.5	77
NMXQ8-40	32	6	8	31	3	39	31	14	52	53.5	-	4	84	83.5	91
NMXQ8-50	46	6	8	29	4	37	58	13	78	63.5	82.5	8	109	108.5	116
NMXQ8-75	50	6	31	30	4	61	60	12	105	88.5	112.5	8	135	134.5	142

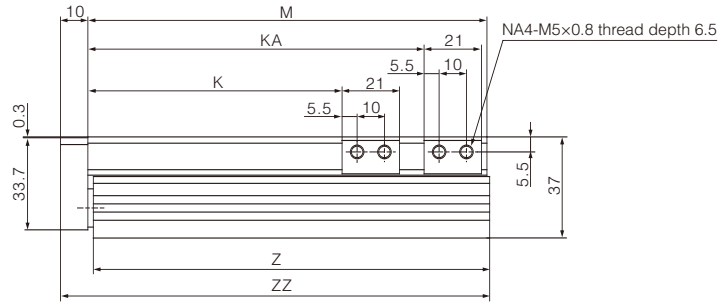
Basic type(NMXQ 12)



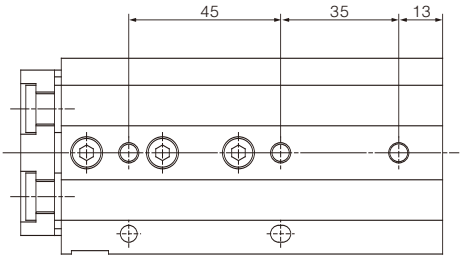
Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
NMXQ12-10	28	4	18	32	2	18	32	12	34	26.5	-	4	67	66	76
NMXQ12-20	28	4	18	32	2	18	32	12	34	36.5	-	4	67	66	76
NMXQ12-30	38	4	20	40	2	20	40	14	42	46.5	-	4	77	76	86
NMXQ12-40	34	6	-	-	3	38	39	15	58	56.5	-	4	94	93	103
NMXQ12-50	34	6	9	39	3	48	39	13	70	66.5	-	4	104	103	113
NMXQ12-75	36	8	23	36	4	59	72	17	110	91.5	117.5	8	148	147	157
NMXQ12-100	36	10	12	36	5	84	72	17	135	116.5	142.5	8	173	172	182

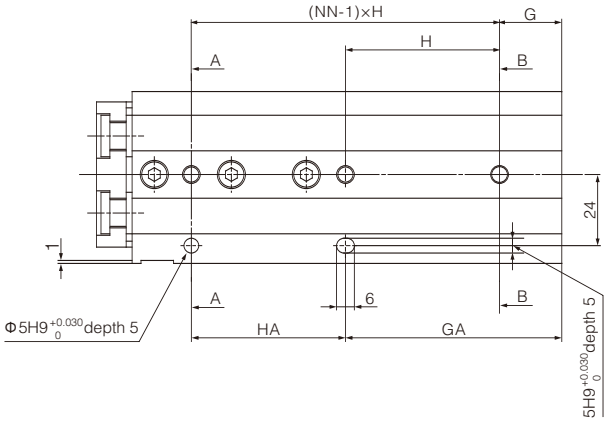
Basic type(NMXQ 16)

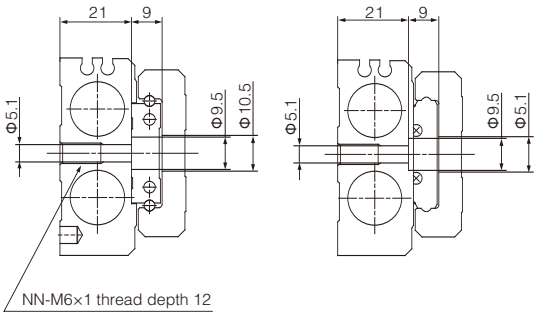




Bottom view of NMXQ16-50

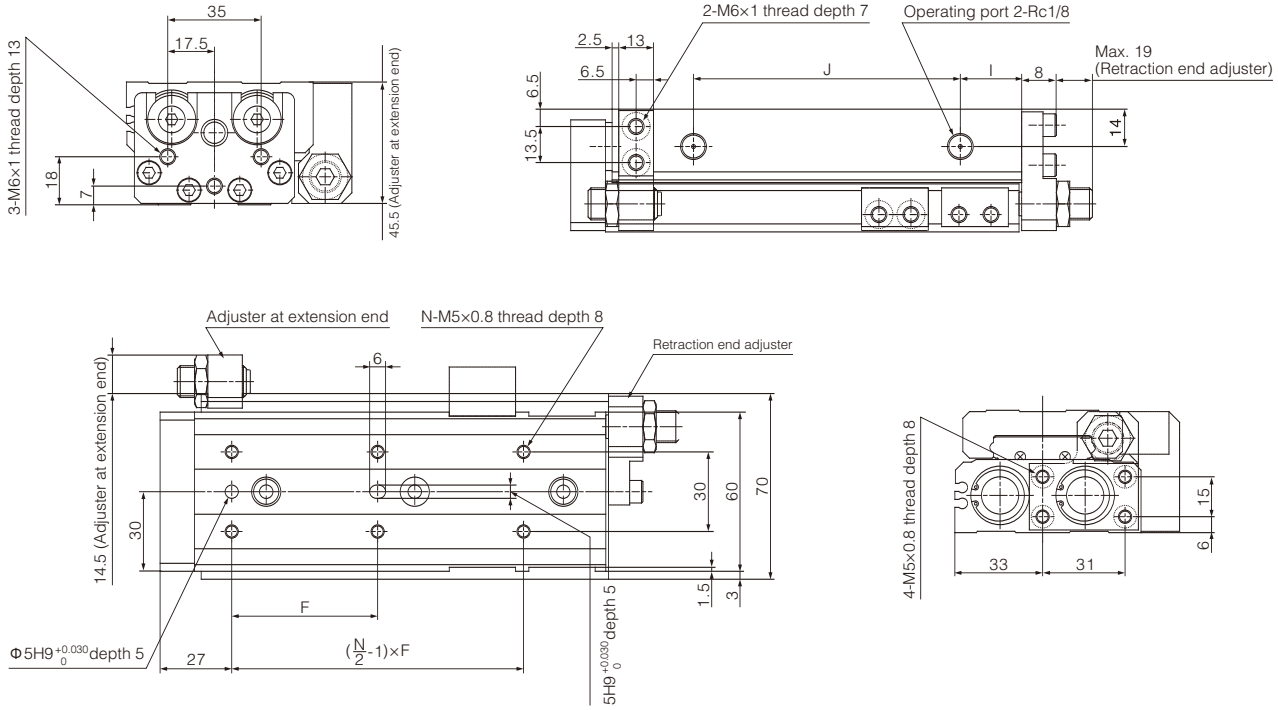




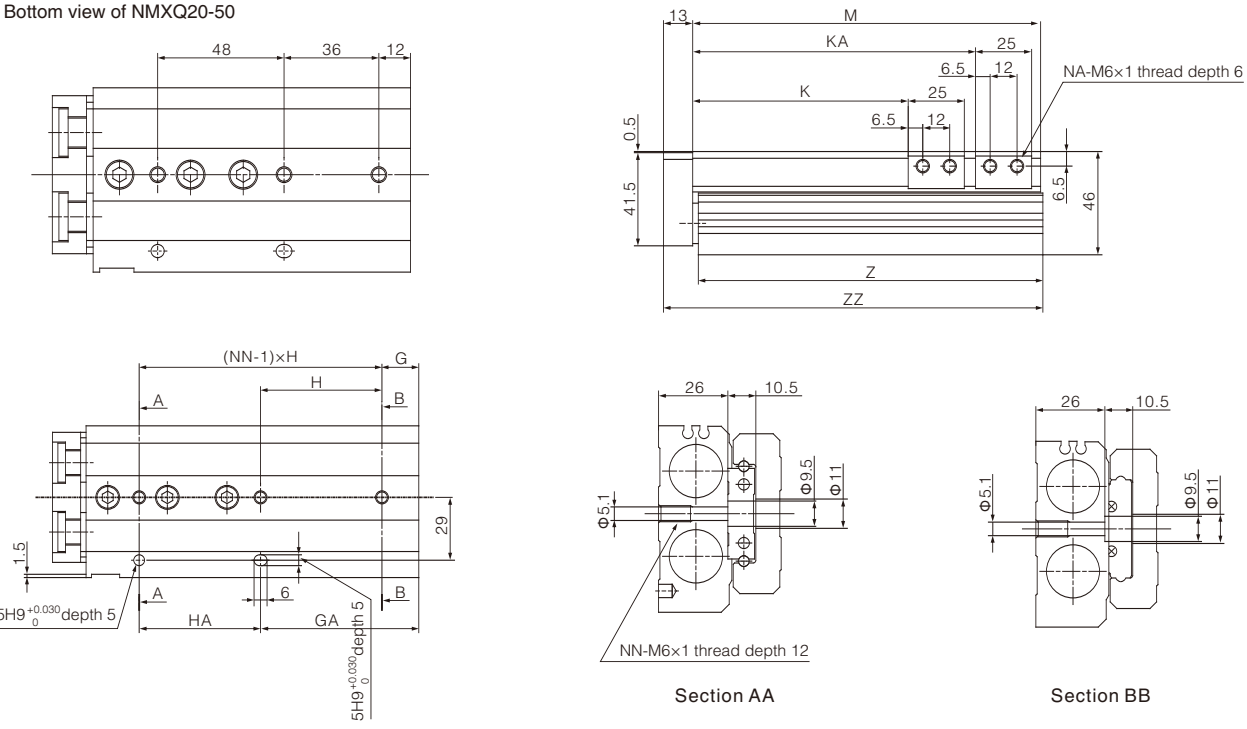


Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
NMXQ16-10	38	4	18	39	2	18	39	12	40	28	-	4	78	77	89
NMXQ16-20	38	4	18	39	2	18	39	12	40	38	-	4	78	77	89
NMXQ16-30	48	4	19	48	2	19	48	12	50	48	-	4	88	87	99
NMXQ16-40	58	4	19	58	2	19	58	12	60	58	-	4	98	97	109
NMXQ16-50	40	6	-	-	3	48	45	20	68	68	91	8	114	113	125
NMXQ16-75	46	6	21	52	3	73	52	15	105	93	123	8	146	145	157
NMXQ16-100	44	8	36	44	4	80	88	18	145	118	166	8	189	188	200
NMXQ16-125	44	10	17	44	5	105	88	23	165	143	191	8	214	213	225

Basic type(NMXQ 20)



Bottom view of NMXQ20-50

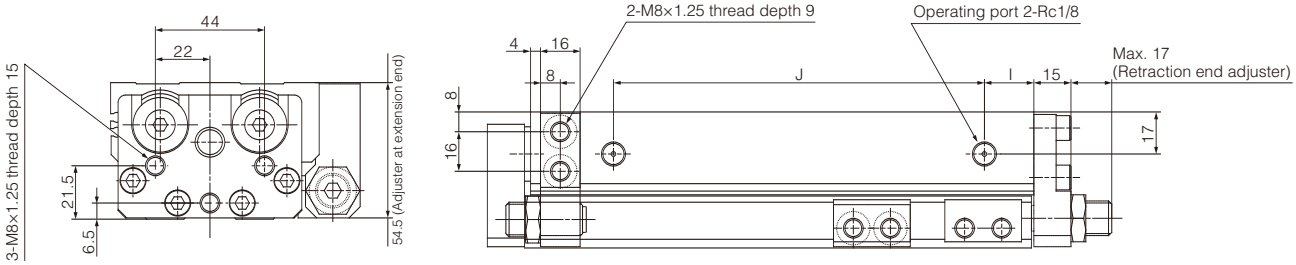


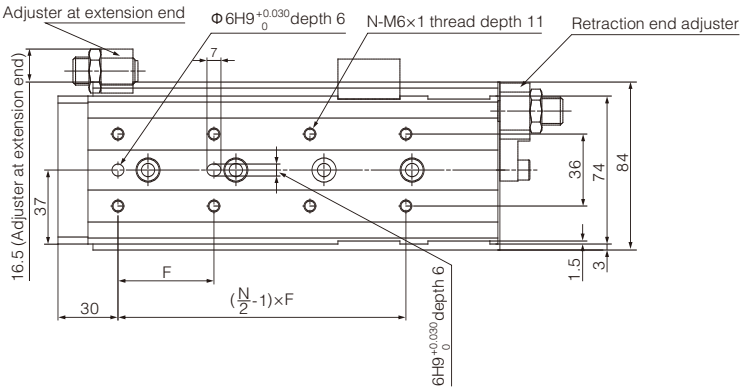
Section AA

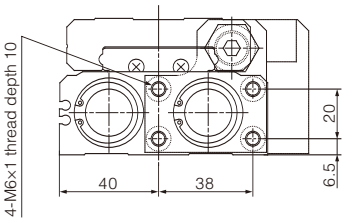
Section BB

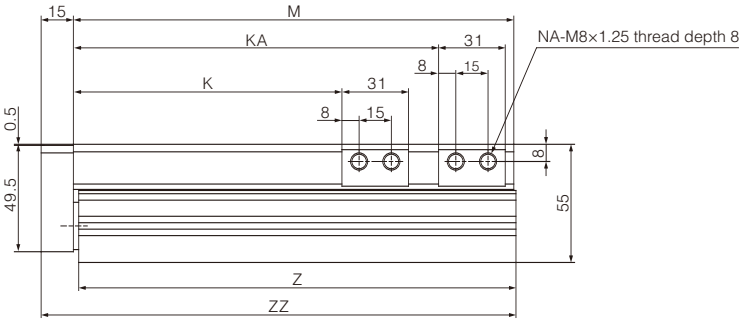
Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
NMXQ20-10	45	4	22	46	2	18	50	16	46	31	-	4	94	92.5	108
NMXQ20-20	40	4	22	46	2	18	50	16	46	41	-	4	94	92.5	108
NMXQ20-30	48	4	22	46	2	18	50	16	46	51	-	4	94	92.5	108
NMXQ20-40	58	4	22	56	2	22	56	16	56	61	-	4	104	102.5	118
NMXQ20-50	42	6	-	-	3	48	48	18	72	71	-	4	122	120.5	136
NMXQ20-75	55	6	17	56	3	73	56	23	100	96	126	8	155	153.5	169
NMXQ20-100	50	8	18	56	4	74	112	25	155	121	183	8	212	210.5	226
NMXQ20-125	55	8	37	59	4	96	118	18	190	146	211	8	240	238.5	254
NMXQ20-150	62	8	56	62	4	118	124	21	215	171	239	8	268	266.5	282

Basic type(NMXQ 25)

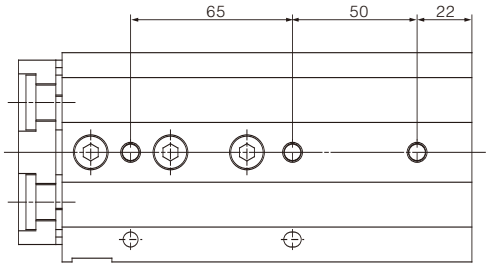


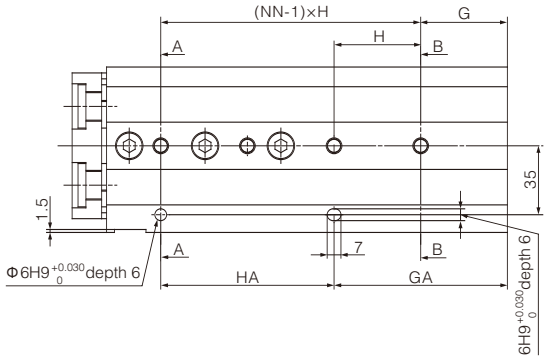


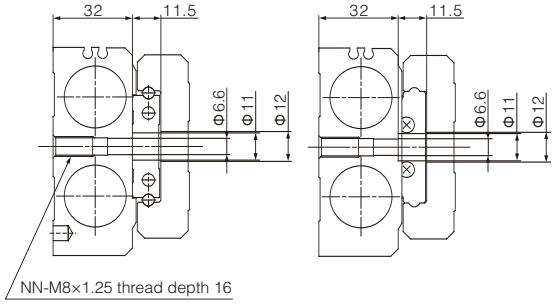




Bottom view of NMXQ25-75







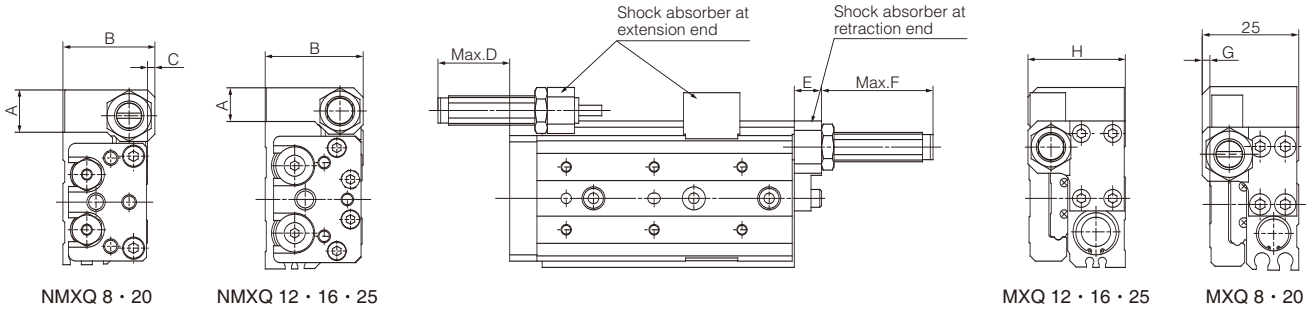
Section AA

Section BB

Model	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
NMXQ25-10	55	4	23	55	2	23	55	16	56	35	-	4	107	105.5	123
NMXQ25-20	46	4	23	55	2	23	55	16	56	45	-	4	107	105.5	123
NMXQ25-30	55	4	23	55	2	23	55	16	56	55	-	4	107	105.5	123
NMXQ25-40	65	4	23	65	2	23	65	16	66	65	-	4	117	115.5	133
NMXQ25-50	75	4	32	80	2	32	80	16	90	75	-	4	141	139.5	157
NMXQ25-75	60	6	-	-	3	72	65	31	100	100	-	4	166	164.5	182
NMXQ25-100	48	8	44	44	4	88	88	20	150	125	170	8	205	203.5	221
NMXQ25-125	60	8	31	66	4	97	132	18	205	150	223	8	258	256.5	274
NMXQ25-150	65	8	56	66	4	122	132	18	230	175	248	8	283	281.5	299

Function options

B-With shock absorber NMXQ [Bore size] – [Stroke] [ ] BS,BT,B

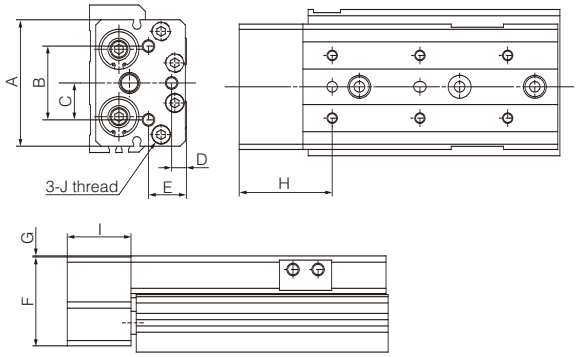


NMXQ 8・20　NMXQ 12・16・25　MXQ 12・16・25　MXQ 8・20

With shock absorber

Model	Adjust stroke range		A	B	C	D	E	F	G	H
	Front	After								
NMXQ8	20	20	11.5	25	2	23	8	32	2	25
NMXQ12	18	18	10	29.5	-	18	10	30	-	29.5
NMXQ16	22	22	12.5	36.5	-	20	12	34	-	36.5
NMXQ20	35	35	16	46.5	0.5	35	13	54	0.5	46.5
NMXQ25	35	35	16.5	54.5	-	29	15	52	-	54.5

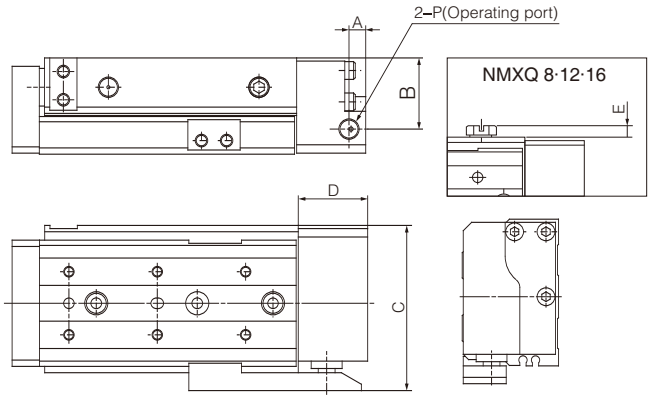
F-with spring buffer NMXQ [Bore size] – [Stroke] [ ] F



With spring buffer

Model	A	B	C	D	E	F	G	H	I	J
NMXQ6	30	16	8	4	8	19.2	0.3	28	22	M3×0.5 depth 5
NMXQ8	34	24	12	5	10	22.2	0.3	28.5	22.5	M4×0.7 depth 6
NMXQ12	43	29	14.5	5	13	29.2	0.3	37	29	M5×0.8 depth 8
NMXQ16	54	42	21	6.5	15.5	35.7	0.3	41	30	M6×1 depth 10
NMXQ20	60	35	17.5	7	18	42.5	0.5	44.5	30.5	M6×1 depth 12
NMXQ25	74	44	22	6.5	21.5	49.5	0.5	50	35	M8×1.25 depth 15

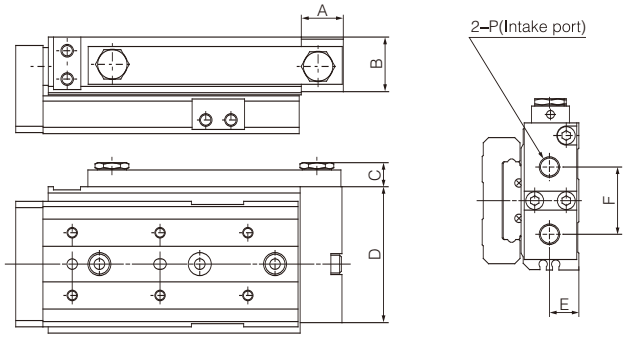
R- With end lock NMXQ [Bore size] – [Stroke] [ ] R



With end lock

Model	A	B	C	D	E	P
NMXQ8	4	17.5	40.5	16	3	M5×0.8
NMXQ12	5	22	51	22	3	M5×0.8
NMXQ16	6	29	65.5	25	3	M5×0.8
NMXQ20	8	34	78.5	33	-	Rc1/8
NMXQ25	8	40	94	37	-	Rc1/8

P-Axial piping type NMXQ [Bore size] – [Stroke] [ ] P



Axial piping type

Model	A	B	C	D	E	F	P
NMXQ6	12	12.5	6.3	26	5.5	12	M5×0.8
NMXQ8	12	14.5	6.3	31	6.5	15	M5×0.8
NMXQ12	13	16.5	6.3	41	8.5	20	M5×0.8
NMXQ16	14	21	6.3	52	11	26	M5×0.8
NMXQ20	20	26	11.5	65	14	32	Rc1/8
NMXQ25	20	32	11.5	79	17	40	Rc1/8