

Series AX

Standard Type/Double Acting : Single Rod

Bore Size(mm) : $\phi 20$, $\phi 25$, $\phi 32$, $\phi 40$



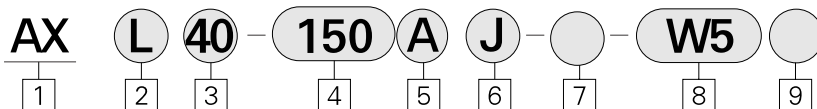
- STAINLESS STEEL BODY
- HIGH CYCLE LIFE
- LOW BREAKAWAY
- NUMEROUS MOUNTING OPTIONS
- MAGNET STANDARD FOR AUTO SWITCH
- BUMPERS STANDARD (AIR CUSHION OPTIONAL)
- DESIGNED FOR NON-LUBRICATED SERVICE
- COMPACT LIGHT DESIGN
- REPLACEABLE ROD GLAND
- MANUFACTURING CERTIFIED TO ISO 9001 / 9002

Symbol

Double acting/Single rod



How to Order



1 Air Cylinder

2 Mounting

- B : Basic type
- L : Axial foot type
- F : Rod side flange type
- G : Head side flange type
- C : Single clevis type
- D : Double clevis type
- T : Head side trunnion type
- U : Rod side trunnion type
- E : Integrated clevis type
- BZ : Boss-cut basic type
- FZ : Boss-cut flange type
- UZ : Boss-cut trunnion type

3 Bore Size(mm)

- 20 : $\phi 20$
- 25 : $\phi 25$
- 32 : $\phi 32$
- 40 : $\phi 40$

4 Stroke(mm)

※ For Stroke Refer to page 22.

5 Cushion

- Blank : Rubber Cushion
- A : Air Cushion

6 Rod Boot Option

- Blank : Without Boot
- J : Nylon Tarpaulin
- K : Neoprene Cloth

Max. Ambient Temperature

J	60 °C
K	※ 110 °C

※ The Max. Ambient Temperature of Gaiters Only

7 Special Option

- Blank : Standard Type
- XC16 : Copper-Free

8 Applicable Auto Switch

- (Band mounted type)
- Blank : without Switch
- W5 : Reed Switch(Lead wire of 0.5m)
- W5L : Reed Switch(Lead wire of 3m)

9 Number of Switches

- Blank : 2 pcs.
- S : 1 pc.
- N : (n) pcs.

PART No. of Mounting Bracket

Bore Size(mm)	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$
※Axial foot	TCM-L020B	TCM-L032B	TCM-L040B	
Flange	TCM-F020B	TCM-F032B	TCM-F040B	
Single Clevis	TCM-C020B	TCM-C032B	TCM-C040B	
Double Clevis	TCM-D020B	TCM-D032B	TCM-D040B	
Trunnion(With nut)	TCM-T020B	TCM-T032B	TCM-T040B	

※ 2 pcs. Required Per Cylinder

PART No. of Auto Switch Mounting Band

Auto Switch Model	Bore Size(mm)			
	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$
W5	TBM2-020	TBM2-025	TBM2-032	TBM2-040

Model

Bore Size (mm)	ø 20	ø 25	ø 32	ø 40
Type	Air Cylinder			
Cushion	Rubber Cushion, Air Cushion			
Piping Method	1/8 Rc(PT)	1/8 Rc(PT)	1/8 Rc(PT)	1/4 Rc(PT)

Specifications

Action	Double Acting Single Rod
Fluid	Air
Proof Pressure	15kgf/cm ² {1.5MkPa}
Max. Operating Pressure	9.9kgf/cm ² {1.0MPa}
Min. Operating Pressure	0.5kgf/cm ² {0.05MPa}
Ambient and Fluid Temperature	5~60 ° C
Lubrication	None (Non-Lube)
Thread Tolerance	KS 2 Class
Stroke Tolerance	^{+1.4} ₀ mm

Piston Speed (Rubber Cushion)

Bore Size (mm)	ø 20	ø 25	ø 32	ø 40
Piston Speed	50~750 mm/sec			
Allowable Kinetic Energy(kgf-cm)	2.7	4	6.5	12

Auto Switch Specifications

Mounting	Lead Wire Entry	Reed Switch
Band Mounting Type	Grommet	W5

Bore Size-Standard Stroke

(Unit : mm)

Bore Size	※ Standard Stroke	※ Long Stroke	Production Max. Stroke
ø 20	25, 50, 75, 100, 125, 150, 200, 250, 300	400	500
ø 25		450	
ø 32		450	
ø 40		500	

※ A long stroke applies to the foot type and the rod side flange type.

Boss-Cut Type

Boss for the head cover bracket is eliminated and the total length of the cylinder is shortened.

Compared to The Total Length of Cylinder

(Compared to The Basic Type)

ø 20	ø 25	ø 32	ø 40
▲ 13	▲ 13	▲ 13	▲ 16

Mounting

- Boss-Cut Basic Type(BZ)
- Boss-Cut Flange Type(FZ)
- Boss-Cut Trunnion Type(UZ)

Mounting and Accessovies

Accessories Mounting	Standard			Option		
	Mounting Nut	Rod End Nut	Clevis Pin	Single Kn-Uckle Joint	Double Kn-Uckle Joint	Boot
Basic Type	● (1pc.)	●	—	●	●	●
Axial Foot Type	● (2)	●	—	●	●	●
Rod Side Flange Type	● (1)	●	—	●	●	●
Head Side Flange Type	● (1)	●	—	●	●	●
Integrated Clevis Type	—	●	—	●	●	●
Single Clevis Type	—	●	—	●	●	●
Double Clevis Type	—	●	●	●	●	●
Head Side Trunnion Type	● (1)	●	—	●	●	●
Rod Side Trunnion Type	● (1)	●	—	●	●	●
Boss-Cut Basic Type	● (1)	●	—	●	●	●
Boss-Cut Flange Type	● (1)	●	—	●	●	●
Boss-Cut Trunnion Type	● (1)	●	—	●	●	●
Note					With pin	

Weight Table

(kgf)

Bore Size(mm)		ø 20	ø 25	ø 32	ø 40
Basic Weight	Basic Type	0.14	0.21	0.28	0.56
	Axial Foot Type	0.29	0.37	0.44	0.83
	Flange Type	0.20	0.30	0.37	0.68
	Integrated Clevis Type	0.12	0.19	0.27	0.52
	Single Clevis Type	0.18	0.25	0.32	0.65
	Double Clevis Type	0.19	0.27	0.33	0.69
	Trunnion Type	0.18	0.28	0.34	0.66
	Boss-Cut basic Type	0.13	0.19	0.26	0.53
	Boss-Cut flange Type	0.19	0.28	0.35	0.65
	Boss-Cut trunnion Type	0.17	0.26	0.32	0.63
Additional weight for each 50 of stroke		0.04	0.06	0.08	0.13
Mounting bracket	Single Knuckle Joint	0.06	0.06	0.06	0.23
	Single Knuckle Joint	0.07	0.07	0.07	0.20

Calculation Example: AXL32-100

- Basic weight : 0.44 (Foot type, ø 32)
- Additional weight : 0.08/50 stroke
- Cylinder stroke: 100 stroke

$$0.44 + 0.08 \times 100/50 = 0.06\text{kgf}$$

Series AX

Boss – Cut Type

AX ☐ Z ☐ Bore Size ☐ Stroke ☐ Boot



Specifications

Action	Double Acting Single Rod
Bore Size (mm)	ø 20, ø 25, ø 32, ø 40
Max. Operating Pressure	9.9kgf/cm ² (1.0MPa)
Min. Operating Pressure	1.8kgf/cm ² (0.18MPa)
Piston Speed	0.5~300 mm/sec
Cushion	Rubber cushion (standard)
Piping Method	Screwed type
Mounting	Basic Type, Rod Side Flange Type, Head Side Flange Type, Rod Side Trunnion Type.

※ Auto Switch Available.

With Air Cushion

AX ☐ Mounting ☐ Bore Size ☐ Stroke ☐ A ☐ Boot
With Air Cushion ●



Specifications

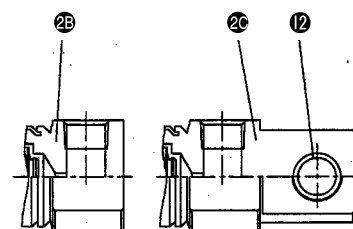
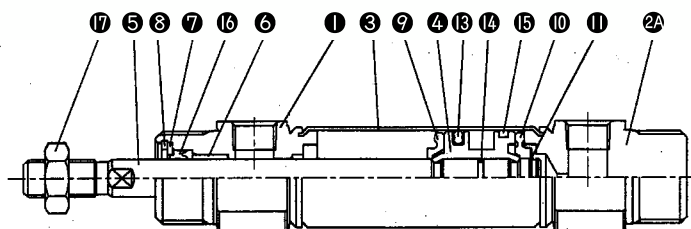
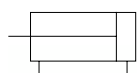
Action	Double Acting Single Rod
Bore Size(mm)	ø 20, ø 25, ø 32, ø 40
Max. Operating Pressure	9.9kgf/cm ² (1.0MPa)
Min. Operating Pressure	0.5kgf/cm ² (0.05MPa)
Cushion	Air Cushion
Piping Method	Screwed Type
Piston Speed	50~1,000 mm/sec
Mounting	Basic Type, Axial Foot Type, Rod Side Flange Type, Head Side Flange Type, Single Clevis Type, Double Clevis Type, Head Side Trunnion Type, Rod Side Trunnion Type, Integrated Clevis Type, Boss-Cut Type.

※ Auto Switch Available.

Cushion Mechanism

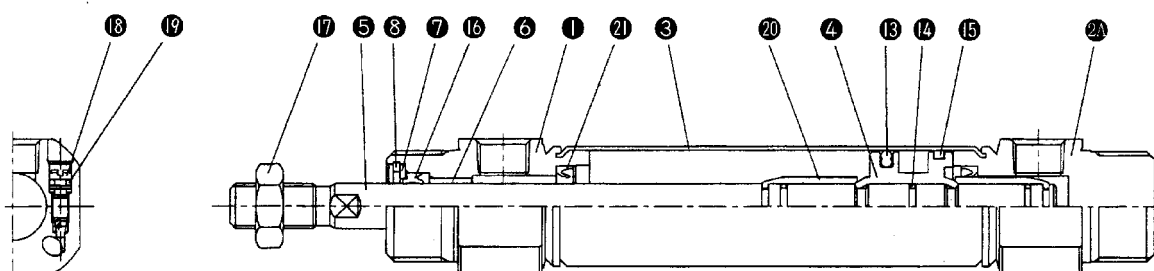
Bore size (mm)	Effective Cushion Length(mm)	Cushion Effective Orifice(cm ²)	Allowable Kinetic Energy(kgf-cm)
ø 20	11.0	2.09	5.5
ø 25	11.0	3.30	8.0
ø 32	11.0	5.86	13
ø 40	11.8	9.08	24

Construction/Parts List



Boss-Cut Type Integrated Clevis Type

With Air Cushion



Parts list

No.	Description	Material	Note
1	Rod Cover	Aluminum Alloy	White Alumite
2A	Head Cover A	Aluminum Alloy	White Alumite (Standard type)
2B	Head Cover B	Aluminum Alloy	White Alumite (Boss-cut type)
2C	Head Cover C	Aluminum Alloy	White Alumite (Integrated clevis type)
3	Cylinder Tube	Stainless Steel	
4	Piston	Aluminum Alloy	Chromate
5	Piston Rod	Carbon Steel	Hard Chrome plated
6	Bush	Lead Bronze Casting	
7	Packing Retainer	Rolled Steel	Nickel plated
8	Retaining Pin	Carbon Steel	Nickel plated
9	Damper A	Urethane	
10	Damper B	Urethane	
11	Stopper Ring	Carbon Steel	

No.	Description	Material	Note
12	Clevis Bush	Lead Bronze Casting	
13	Piston Packing	NBR	
14	Piston Gasket	NBR	
15	Wearing	Resin	
17	Rod Nut	Nickel Plated	
18	Cushion Value Gasket	NBR	
19	Cushion Ring		
20	Cushion Packing	NBR	

Spare parts/Packing List

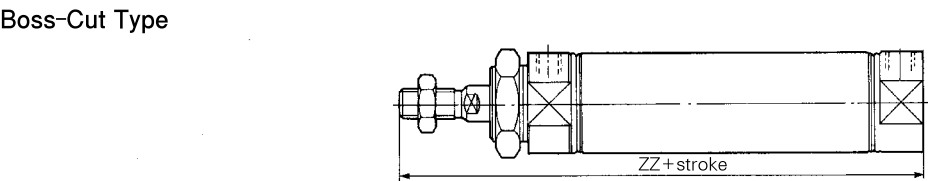
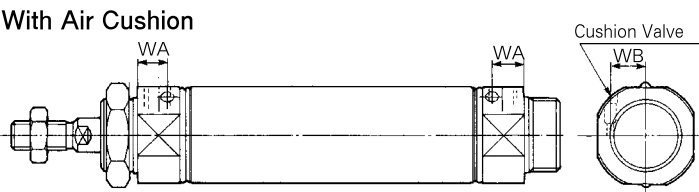
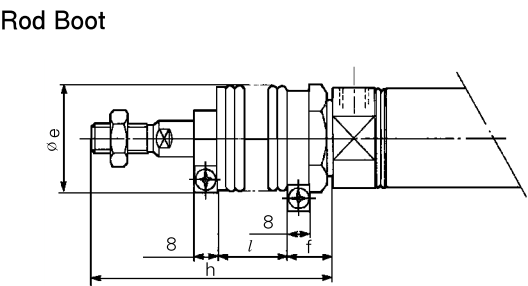
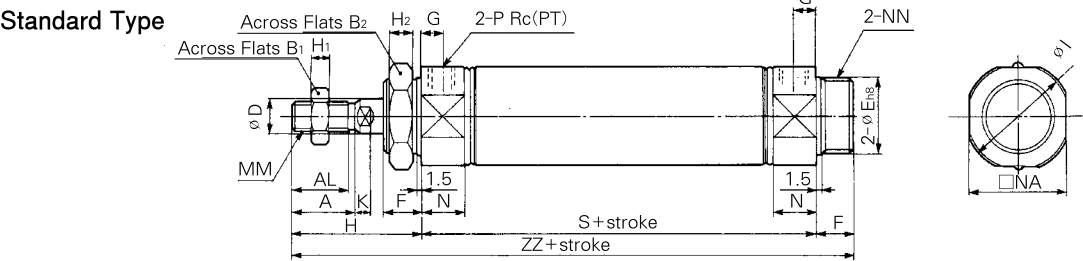
• With Rubber Cushion/With Air Cushion

No.	Description	Material	Bore Size(mm)			
			ø 20	ø 25	ø 32	ø 40
16	Rod Packing	NBR	PDU-8Z	PDU-10Z	PDU-12LZ	PDU-14LZ

Series AX

Basic Type (B)

AXB **Bore Size** **Stroke** 



(Unit : mm)

Bore Size	Stroke Range	A	AL	B ₁	B ₂	D	E	F	G	H	H ₁	H ₂	I	K	MM	N	NA	NN	P	S	ZZ
φ 20	~300	18	15.5	13	26	8	20 ⁰ _{-0.033}	13	8	41	5	8	27	5	M8×1.25	15	24	M20×1.5	1/8	62	116
φ 25	~300	22	19.5	17	32	10	26 ⁰ _{-0.033}	13	8	45	6	8	33	5.5	M10×1.25	15	30	M26×1.5	1/8	62	120
φ 32	~300	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	64	122
φ 40	~300	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	88	154

With Boot

(Unit : mm)

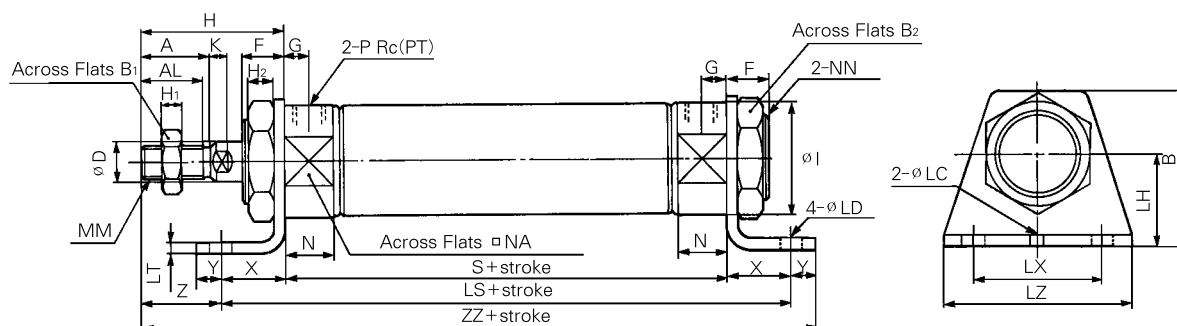
Bore Size	e	f	h							l						
			1~50	51~100	101~150	151~200	201~300	301~400	401~500	1~50	51~100	101~150	151~200	201~300	301~400	401~500
φ 20	30	16	68	81	93	106	131	156	—	12.5	25	37.5	50	75	100	—
φ 25	30	16	72	85	97	110	135	160	185	12.5	25	37.5	50	75	100	125
φ 32	30	16	72	85	97	110	135	160	185	12.5	25	37.5	50	75	100	125
φ 40	40	18	77	90	102	115	140	165	190	12.5	25	37.5	50	75	100	125

Boss-Cut Type	
Bore Size	ZZ
φ 20	103
φ 25	107
φ 32	109
φ 40	138

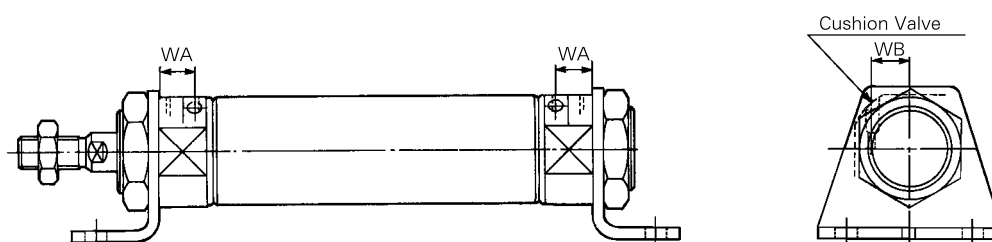
With Air Cushion		
Bore Size	WA	WB
φ 20	11.5	8.5
φ 25	11.5	10
φ 32	11.5	11.5
φ 40	14.5	15

Axial Foot Type(L)

AXL Bore Size Stroke



With



(Unit : mm)

Bore Size	Stroke Range	A	AL	B	B ₁	B ₂	D	F	G	H	H ₁	H ₂	I	K	LC	LD	LH	LS	LT	LX	LZ	MM	N	NA	NN	P	S	X	Y	Z	ZZ
ø 20	~400	18	15.5	40	13	26	8	13	8	41	5	8	27	5	4	6.8	25	102	3.2	40	55	M8×1.25	15	24	M20×1.5	1/8	62	20	8	21	131
ø 25	~450	22	19.5	47	17	32	10	13	8	45	6	8	33	5.5	4	6.8	28	102	3.2	40	55	M10×1.25	15	30	M26×1.5	1/8	62	20	8	25	135
ø 32	~450	22	19.5	47	17	32	12	13	8	45	6	8	37.5	5.5	4	6.8	28	104	3.2	40	55	M10×1.25	15	34.5	M26×1.5	1/8	64	20	8	25	137
ø 40	~500	24	21	54	22	41	14	16	11	50	8	10	46.5	7	4	7	30	134	3.2	55	75	M14×1.5	21.5	42.5	M32×2	1/4	88	23	10	27	171

With Air Cushion

Bore Size	WA	WB
ø 20	11.5	8.5
ø 25	11.5	10
ø 32	11.5	11.5
ø 40	14.5	15

ACP

AX

AS

AM

AM2

AL
ALX

ARD

AJ

AQ

AG

AGX
GX

ADM

ADR

AMR

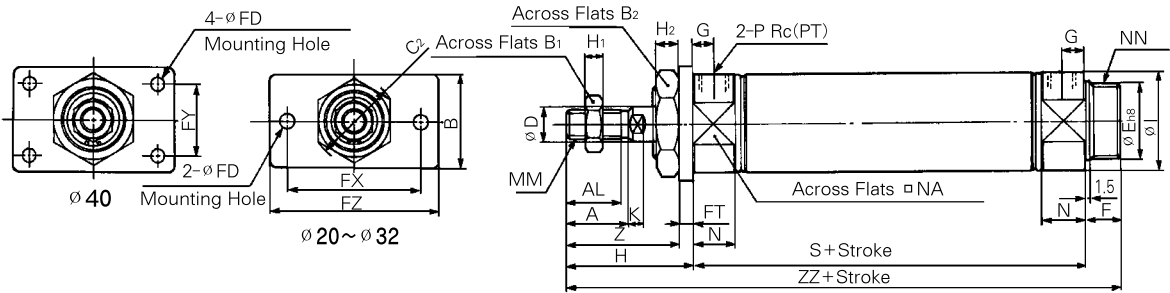
AST

NLCD

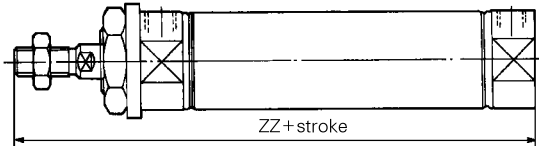
Series AX

Rod Side Flange Type (F)

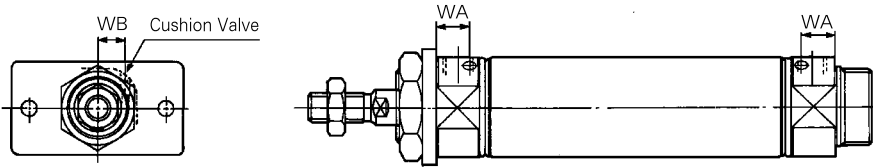
AXF Bore Size Stroke 



Boss-Cut Type



With Air Cushion



(Unit : mm)

Bore Size	Stroke Range	A	AL	B	B ₁	B ₂	C ₂	D	E	F	FD	FT	FX	FY	FZ	G	H	H ₁	H ₂	I	K	MM
$\phi 20$	~400	18	15.5	34	13	26	30	8	20 ⁰ _{-0.033}	13	7	4	60	—	75	8	41	5	8	27	5	M8×1.25
$\phi 25$	~450	22	19.5	40	17	32	37	10	26 ⁰ _{-0.033}	13	7	4	60	—	75	8	45	6	8	33	5.5	M10×1.25
$\phi 32$	~450	22	19.5	40	17	32	37	12	26 ⁰ _{-0.033}	13	7	4	60	—	75	8	45	6	8	37.5	5.5	M10×1.25
$\phi 40$	~500	24	21	52	22	41	47.3	14	32 ⁰ _{-0.039}	16	7	5	66	36	82	11	50	8	10	46.5	7	M14×1.5

(Unit : mm)

Bore Size	N	NA	NN	P	S	Z	ZZ
$\phi 20$	15	24	M20×1.5	1/8	62	37	116
$\phi 25$	15	30	M26×1.5	1/8	62	41	120
$\phi 32$	15	34.5	M26×1.5	1/8	64	41	122
$\phi 40$	21.5	42.5	M32×2	1/4	88	45	154

Boss-Cut Type

Bore Size	ZZ
$\phi 20$	103
$\phi 25$	107
$\phi 32$	109
$\phi 40$	138

With Air Cushion

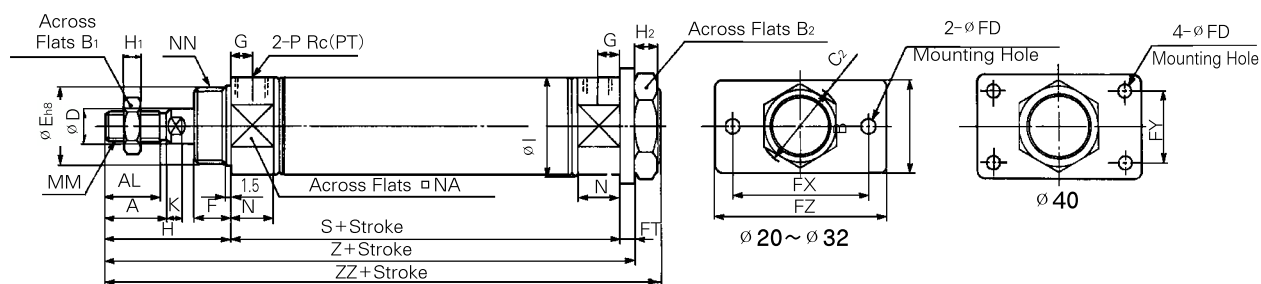
Bore Size	WA	WB
$\phi 20$	11.5	8.5
$\phi 25$	11.5	10
$\phi 32$	11.5	11.5
$\phi 40$	14	15

Head Side Flange Type (G)

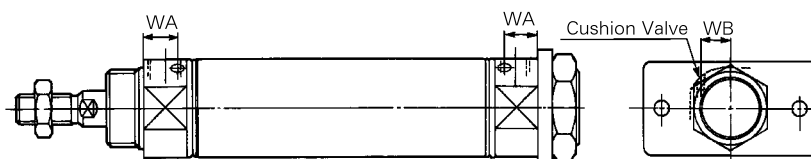
AXG

Bore Size

Stroke



With Air Cushion



(Unit : mm)

Bore Size	Stroke Range	A	AL	B	B ₁	B ₂	C ₂	D	E	F	FD	FT	FX	FY	FZ	G	H	H ₁	H ₂	I
Ø 20	~300	18	15.5	34	13	26	30	8	20 ⁰ _{-0.033}	13	7	4	60	—	75	8	41	5	8	27
Ø 25	~300	22	19.5	40	17	32	37	10	26 ⁰ _{-0.033}	13	7	4	60	—	75	8	45	6	8	33
Ø 32	~300	22	19.5	40	17	32	37	12	26 ⁰ _{-0.033}	13	7	4	60	—	75	8	45	6	8	37.5
Ø 40	~300	24	21	52	22	41	47.3	14	32 ⁰ _{-0.039}	16	7	5	66	36	82	11	50	8	10	46.5

(Unit : mm)

Bore Size	K	MM	N	NA	NN	P	S	Z	ZZ
Ø 20	5	M8×1.25	15	24	M20×1.5	1/8	62	107	116
Ø 25	5.5	M10×1.25	15	30	M26×1.5	1/8	62	111	120
Ø 32	5.5	M10×1.25	15	34.5	M26×1.5	1/8	64	113	122
Ø 40	7	M14×1.5	21.5	42.5	M32×2	1/4	88	143	154

With Air Cushion

Bore Size	WA	WB
Ø 20	11.5	8.5
Ø 25	11.5	10
Ø 32	11.5	11.5
Ø 40	14.5	15

ACP

AX

AS

AM

AM2

AL
ALX

ARD

AJ

AQ

AG

AGX
GX

ADM

ADR

AMR

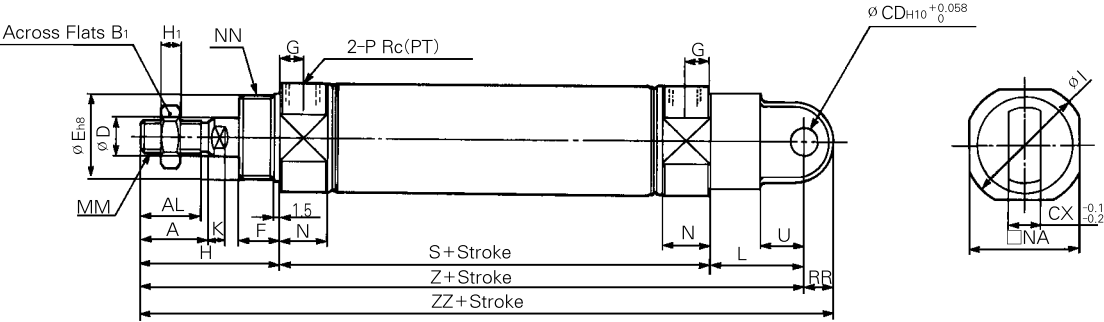
AST

NLCD

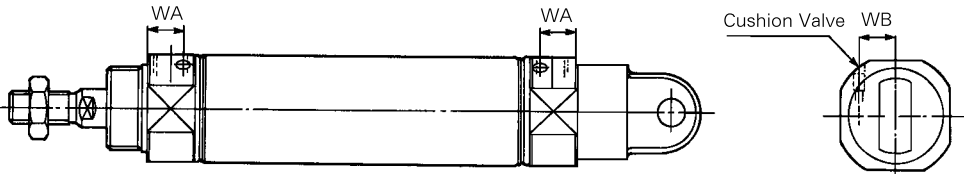
Series AX

Single Clevis Type (C)

AXC Bore Size Stroke 



With Air Cushion



(Unit : mm)

Bore Size	Stroke Range	A	AL	B ₁	CD	CX	D	E	F	G	H	H ₁	I	K	L	MM
ø 20	~300	18	15.5	13	9	10	8	20 ⁰ _{-0.033}	13	8	41	5	27	5	30	M8×1.25
ø 25	~300	22	19.5	17	9	10	10	26 ⁰ _{-0.033}	13	8	45	6	33	5.5	30	M10×1.25
ø 32	~300	22	19.5	17	9	10	12	26 ⁰ _{-0.033}	13	8	45	6	37.5	5.5	30	M10×1.25
ø 40	~300	24	21	22	10	15	14	32 ⁰ _{-0.039}	16	11	50	8	46.5	7	39	M14×1.5

(Unit : mm)

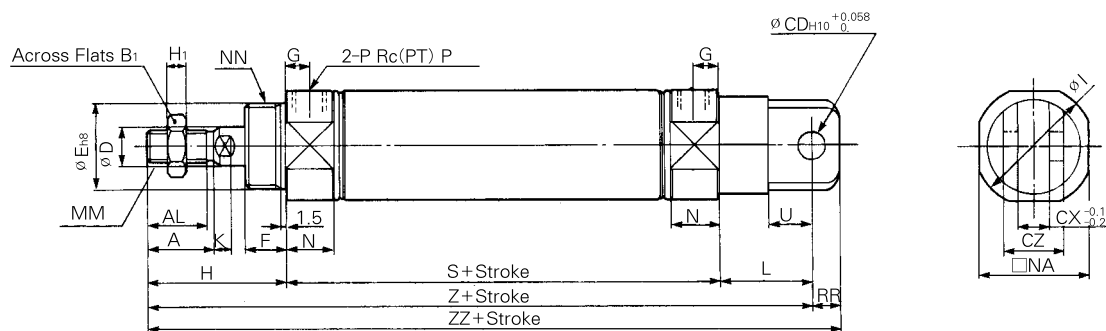
Bore Size	N	NA	NN	P	RR	S	U	Z	ZZ
ø 20	15	24	M20×1.5	1/8	9	62	14	133	142
ø 25	15	30	M26×1.5	1/8	9	62	14	137	146
ø 32	15	34.5	M26×1.5	1/8	9	64	14	139	148
ø 40	21.5	42.5	M32×2	1/4	11	88	18	177	188

With Air Cushion

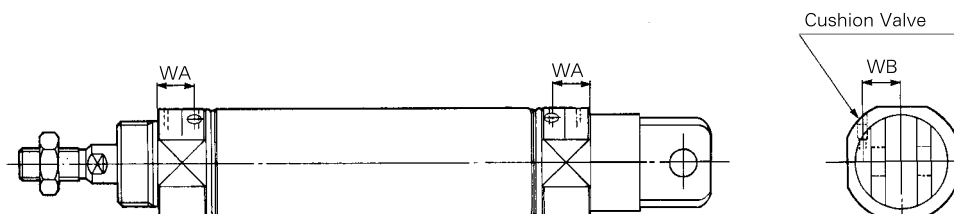
Bore Size	WA	WB
ø 20	11.5	8.5
ø 25	11.5	10
ø 32	11.5	11.5
ø 40	14.5	15

Double Clevis Type (D)

AXD Bore Size Stroke



With Air Cushion



(Unit : mm)

Bore Size	Stroke Range	A	AL	B1	CD	CX	CZ	D	E	F	G	H	H1	I	K	L	MM	N	NA	NN	P	RR	S	U	Z	ZZ
ø 20	~300	18	15.5	13	9	10	19	8	20 ⁰ _{-0.033}	13	8	41	5	27	5	30	M8×1.25	15	24	M20×1.5	1/8	9	62	14	133	142
ø 25	~300	22	19.5	17	9	10	19	10	26 ⁰ _{-0.033}	13	8	45	6	33	5.5	30	M10×1.25	15	30	M26×1.5	1/8	9	62	14	137	146
ø 32	~300	22	19.5	17	9	10	19	12	26 ⁰ _{-0.033}	13	8	45	6	37.5	5.5	30	M10×1.25	15	34.5	M26×1.5	1/8	9	64	14	139	148
ø 40	~300	24	21	22	10	15	30	14	32 ⁰ _{-0.039}	16	11	50	8	46.5	7	39	M14×1.5	21.5	42.5	M32×2	1/4	11	88	18	177	188

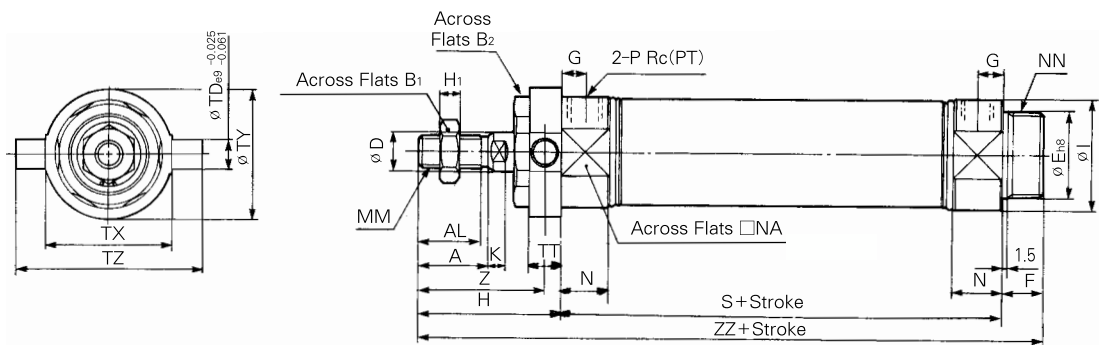
With Air Cushion

Bore Size	WA	WB
ø 20	11.5	8.5
ø 25	11.5	10
ø 32	11.5	11.5
ø 40	14.5	15

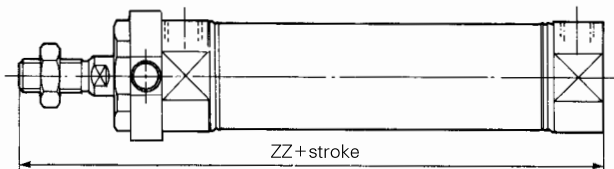
Series AX

Rod Side Trunnion Type (U)

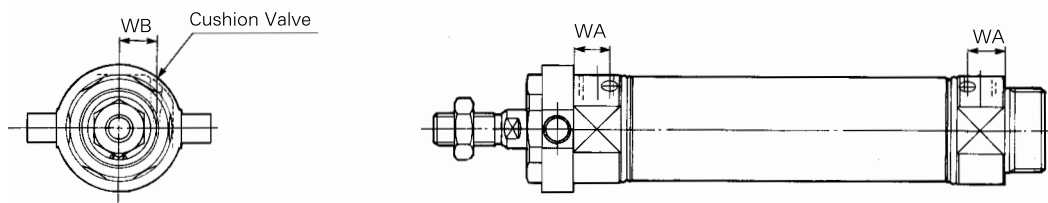
AXU Bore Size Stroke 



Boss-Cut Type



With Air Cushion



(Unit : mm)

Bore Size	Stroke Range	A	AL	B ₁	B ₂	D	E	F	G	H	H ₁	I	K	MM	N	NA	NN	P
ø 20	~300	18	15.5	13	26	8	20 ⁰ _{-0.033}	13	8	41	5	27	5	M8×1.25	15	24	M20×1.5	1/8
ø 25	~300	22	19.5	17	32	10	26 ⁰ _{-0.033}	13	8	45	6	33	5.5	M10×1.25	15	30	M26×1.5	1/8
ø 32	~300	22	19.5	17	32	12	26 ⁰ _{-0.033}	13	8	45	6	37.5	5.5	M10×1.25	15	34.5	M26×1.5	1/8
ø 40	~300	24	21	22	41	14	32 ⁰ _{-0.039}	16	11	50	8	46.5	7	M14×1.5	21.5	42.5	M32×2	1/4

(Unit : mm)

Bore Size	S	TD	TT	TX	TY	TZ	Z	ZZ
ø 20	62	8	10	32	32	52	36	116
ø 25	62	9	10	40	40	60	40	120
ø 32	64	9	10	40	40	60	40	122
ø 40	88	10	11	53	53	77	44.5	154

Boss-cut type

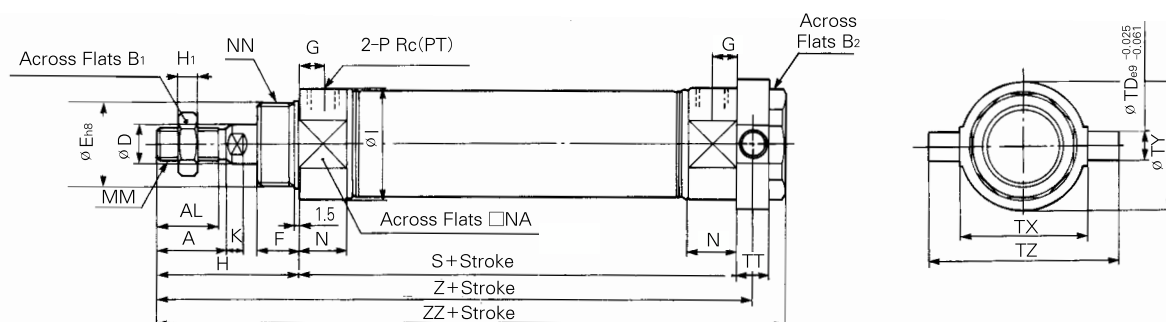
Bore Size	ZZ
ø 20	103
ø 25	107
ø 32	109
ø 40	138

With air cushion

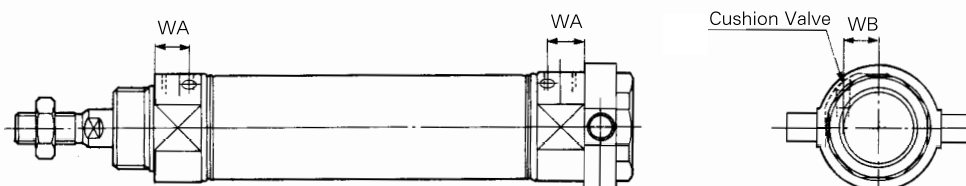
Bore Size	WA	WB
ø 20	11.5	8.5
ø 25	11.5	10
ø 32	11.5	11.5
ø 40	14.5	15

Head Side Trunnion Type (T)

AXT Bore Size Stroke



With Air Cushion



(Unit : mm)

Bore Size	Stroke Range	A	AL	B ₁	B ₂	D	E	F	G	H	H ₁	I	K	MM	N	NA	NN	P
ø 20	~300	18	15.5	13	26	8	20 ⁰ _{-0.033}	13	8	41	5	27	5	M8×1.25	15	24	M20×1.5	1/8
ø 25	~300	22	19.5	17	32	10	26 ⁰ _{-0.033}	13	8	45	6	33	5.5	M10×1.25	15	30	M26×1.5	1/8
ø 32	~300	22	19.5	17	32	12	26 ⁰ _{-0.033}	13	8	45	6	37.5	5.5	M10×1.25	15	34.5	M26×1.5	1/8
ø 40	~300	24	21	22	41	14	32 ⁰ _{-0.039}	16	11	50	8	46.5	7	M14×1.5	21.5	42.5	M32×2	1/4

(Unit : mm)

Bore Size	S	TD	TT	TX	TY	TZ	Z	ZZ
ø 20	62	8	10	32	32	52	108	118
ø 25	62	9	10	40	40	60	112	122
ø 32	64	9	10	40	40	60	114	124
ø 40	88	10	11	53	53	77	143.5	154

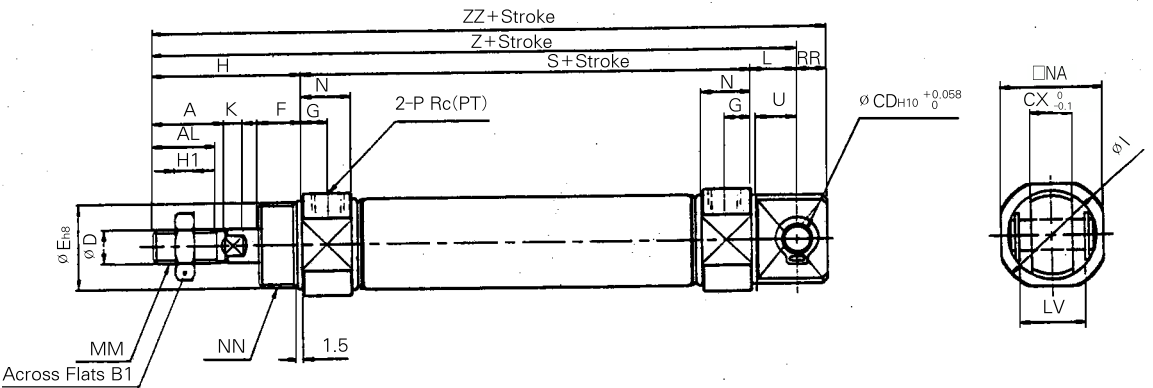
With Air Cushion

Bore Size	WA	WB
ø 20	11.5	8.5
ø 25	11.5	10
ø 32	11.5	11.5
ø 40	14.5	15

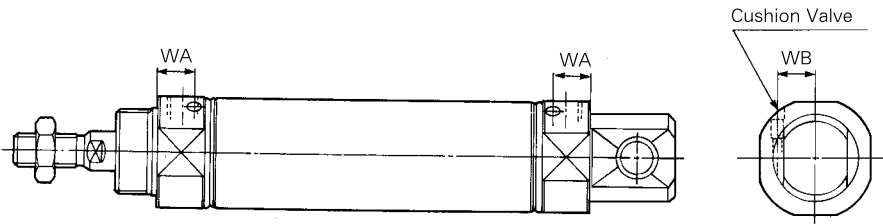
Series AX

Integrated Clevis Type (E)

AXE Bore Size Stroke 



With Air Cushion



(Unit : mm)

Bore Size	Stroke Range	A	AL	B ₁	CD	CX	D	E	F	G	H	H ₁	I	K	L	MM	N	NA	NN
∅ 20	~300	18	15.5	13	8	12	8	20 ⁰ _{-0.033}	13	8	41	5	27	5	12	M8×1.25	15	24	M20×1.5
∅ 25	~300	22	19.5	17	8	12	10	26 ⁰ _{-0.033}	13	8	45	6	33	5.5	12	M10×1.25	15	30	M26×1.5
∅ 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
∅ 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

(Unit : mm)

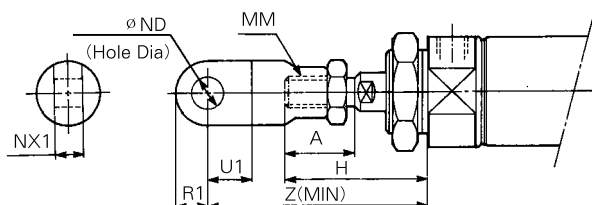
Bore Size	P	RR	S	U	Z	ZZ	LV
∅ 20	1/8	9	62	11.5	115	124	18.4
∅ 25	1/8	9	62	11.5	119	128	18.4
∅ 32	1/8	12	64	14.5	124	136	28
∅ 40	1/4	12	88	14.5	153	165	28

With Air Cushion

Bore Size	WA	WB
∅ 20	11.5	8.5
∅ 25	11.5	10
∅ 32	11.5	11.5
∅ 40	14.5	15

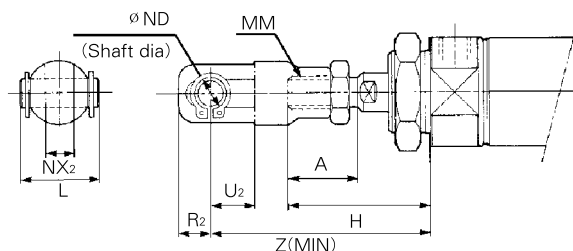
Accessories/Dimensions

Single Knuckle Joint



Bore Size	A	H	MM	Ø ND ^{H10}	NX ₁	U ₁	R ₁	Z
Ø 20	18	41	M8×1.25	9 ^{+0.058} ₀	9 ^{-0.1} _{-0.2}	14	10	66
Ø 25 · Ø 32	22	45	M10×1.25	9 ^{+0.058} ₀	9 ^{-0.1} _{-0.2}	14	10	69
Ø 40	24	50	M14×1.5	12 ^{+0.070} ₀	16 ^{-0.1} _{-0.3}	20	15.5	92

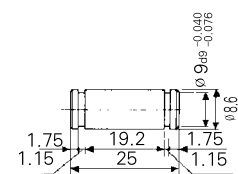
Double Knuckle Joint



Bore Size	A	H	L	MM	Ø ND _{d9}	NX ₂	R ₂	U ₂	Z
Ø 20	18	41	25	M8×1.25	9 ^{-0.040} _{0.076}	9 ^{+0.2} _{+0.1}	10	14	66
Ø 25 · Ø 32	22	45	25	M10×1.25	9 ^{-0.040} _{0.076}	9 ^{+0.2} _{+0.1}	10	14	69
Ø 40	24	50	49.7	M14×1.5	12 ^{-0.050} _{0.093}	16 ^{+0.3} _{+0.1}	13	25	92

Clevis Pin, Knuckle Pin

Applicable Bore Size : Ø 20, Ø 25, Ø 32
TCDP-1

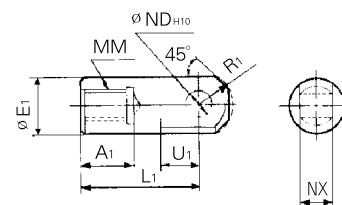
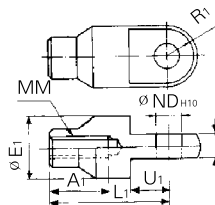


Material: Carbon Steel
Retaining Pin: C9 Type For Pivot

Single Knuckle Joint

TI-020B, 032B

TI-040B



Material : Rolled Steel

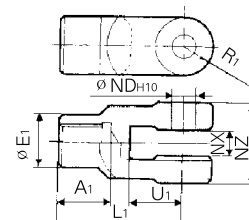
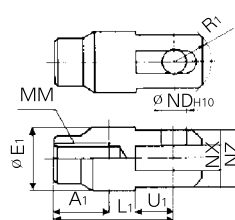
Material : Free Cutting Sulfur Steel

Part No.	Applicable Bore size	A ₁	E ₁	L ₁	MM	ND ^{H10}	NX	R ₁	U ₁
TI-020B	Ø 20	16	20	36	M8×1.25	9 ^{+0.058} ₀	9 ^{-0.1} _{-0.2}	10	14
TI-032B	Ø 25 · Ø 32	18	20	38	M10×1.25	9 ^{+0.058} ₀	9 ^{-0.1} _{-0.2}	10	14
TI-040B	Ø 40	22	24	55	M14×1.5	12 ^{+0.070} ₀	16 ^{-0.1} _{-0.3}	15.5	20

Double Knuckle Joint

TY-020B, 032B

TY-040B



Material : Rolled steel

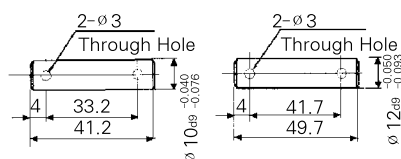
Material : Cast iron

Part No.	Applicable Bore size	A ₁	E ₁	L ₁	MM	ND ^{H10}	NX	NZ	R ₁	U ₁	Applicable pin part NO.
TY-020B	Ø 20	16	20	36	M8×1.25	9 ^{+0.058} ₀	9 ^{+0.2} _{+0.1}	18	12	14	TCDP-1
TY-032B	Ø 25 · Ø 32	18	20	38	M10×1.25	9 ^{+0.058} ₀	9 ^{+0.2} _{+0.1}	18	12	14	TCDP-1
TY-040B	Ø 40	22	24	55	M14×1.5	12 ^{+0.070} ₀	16 ^{+0.3} _{+0.1}	38	13	25	TCDP-3

Clevis Pin, Knuckle Pin

Applicable Bore Size : Ø 40
TCDP-2

TCDP-3

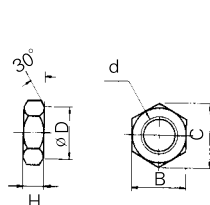


Material: Carbon Steel Material: Carbon Steel
Applicable Split Pin : Ø 0.12×0.71 l

Accessories/Dimensions

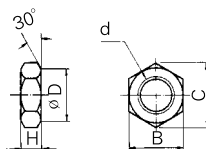
Rod End Nut

Material : Carbon Steel



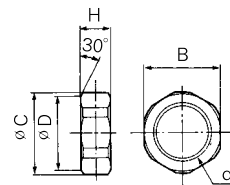
Mounting Nut

Material : Carbon Steel



Trunnion Nut

Material : Carbon Steel



(Unit : mm)

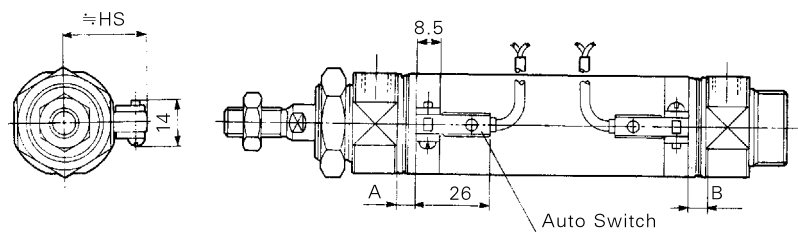
Part No.	Applicable bore size	B	C	D	d	H
TNT-02	Ø 20	13	15.5	12.5	M8×1.25	5
TNT-03	Ø 25 · Ø 32	17	19.6	16.5	M10×1.25	6
TNT-04	Ø 40	22	25.4	21.0	M14×1.5	8

Part No.	Applicable bore size	B	C	D	d	H
TSN-020B	Ø 20	26	30	25.5	M20×1.5	8
TSN-032B	Ø 25 · Ø 32	32	37	31.5	M26×1.5	8
TSN-040B	Ø 40	41	47.3	40.5	M32×2.0	10

Part No.	Applicable bore size	B	C	D	d	H
TN-020B	Ø 20	26	28	25.5	M20×1.5	10
TN-032B	Ø 25 · Ø 32	32	34	31.5	M26×1.5	10
TN-040B	Ø 40	41	45	40.5	M32×2	10

Reed Switch Setting Position (Stroke End)

W5



Bore Size

Bore Size	W5		
	A	B	Hs
Ø 20	7	6	22.5
Ø 25	7	6	25
Ø 32	8	7	28.5
Ø 40	13	12	32.5

Auto Switch Mounting, Minimum Possible Cylinder Strokes (mm)

Auto Switch Type	No. of Auto Switch				1pc.
	2pcs.		n pcs.		
	Different Surface	Same Surface	Different Orientation	Same Orientation	
W5	15	50	$15+45(\frac{n-2}{2})$ (n=2, 4, 6, 8...)	$50+45(n-2)$	10

① Adjustable Stroke Cylinder/Extension Adjustable Type

AX (Mounting) (Type) (Bore Size) (Stroke) (Additional Symbol) (Stroke Adjusting Symbol) — XC8

Additional Symbol ●
 Blank-With Boot
 J-With Boot(Nylon Tarpaulin)
 K-With Boot(Neoprene Cloth)

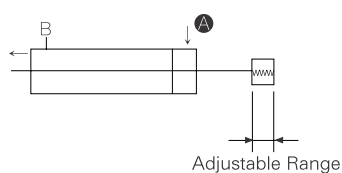
Stroke Adjusting Symbol
 A-Stroke Adjusting Range 0~25mm
 B-Stroke Adjusting Range 0~50mm

The Extended Stroke of the cylinder can be adjusted by the stopper in the head side.

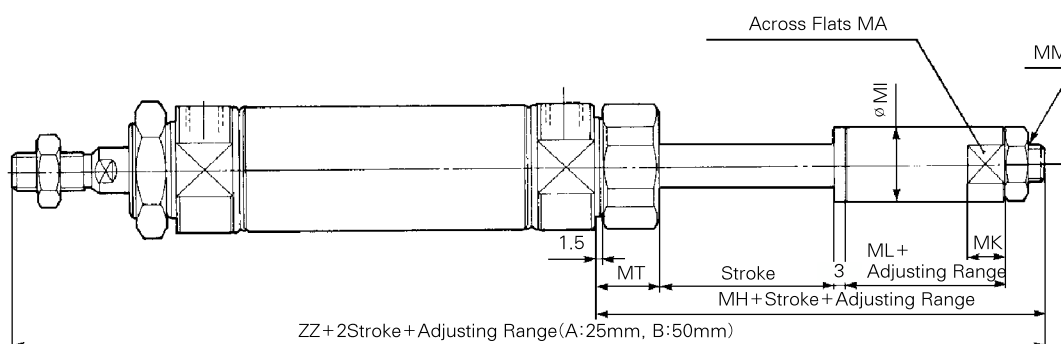
Specifications

Fluid	Air
Proof Pressure	15kgf/cm ² (1.5MPa)
Max. Operating Pressure	9.9kgf/cm ² (1.0MPa)
Min. Operating Pressure	0.5kgf/cm ² (0.05MPa)
Piston Speed	50~750 mm/sec
Cushion	Rubber Cushion(Standard)
Stroke Adjusting System	Adjusting Stopper
Stroke Adjusting Range	A : 0~25mm, B : 0~50mm
Mounting	Basic Type, Axial Foot Type, Rod Side Flange Type, Head Side Flange Type, Rod Side Trunnion Type
Applicable Bore Size(mm)	ø 20, ø 25, ø 32, ø 40

Symbol



Construction, Dimensions/Basic Type



(Unit: mm)

Bore Size	MA	MK	MI	MM	MT	MH	ML	ZZ
ø 20	12	8	15	M8×1.25	16.5	47	18	150
ø 25	17	10	20	M10×1.25	17.5	49	18	156
ø 32	17	10	20	M10×1.25	17.5	49	18	158
ø 40	22	12	25	M14×1.5	21.5	60	22	198

※ Other dimensions are the same as for standard type.

② Adjustable Stroke Cylinder/Retraction Adjustable Type

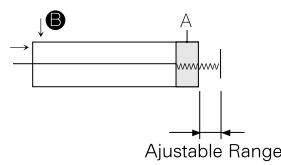
AX Mounting Type Bore Size Stroke Additional Symbol Stroke Adjusting Symbol — XC9

Additional symbol ●
Blank-Without Boot
J-With Boot(Nylon tarpaulin)
K-With Boot(Neoprene cloth)

● Stroke Adjusting Symbol
A-Stroke Adjusting Range 0~25mm
B-Stroke Adjusting Range 0~50mm

The Retracted Stroke of the cylinder can be adjusted from (0~25)mm or (0~50)mm by the adjusting bolt

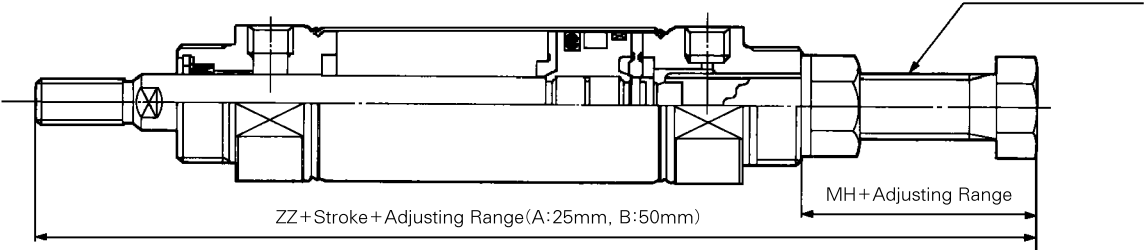
Symbol



Specifications

Fluid	Air
Proof Pressure	15kgf/cm ² (1.5MPa)
Max. Operating Pressure	9.9kgf/cm ² (1.0MPa)
Min. Operating Pressure	0.5kgf/cm ² (0.05MPa)
Piston Speed	50~750mm/sec
Cushion	Rubber cushion(Standard)
Stroke Adjusting System	Stopper adjustment
Stroke Adjusting Range	A : 0~25mm, B : 0~50mm
Mounting	Basic Type, Axial Foot Type, Rod Side Flange Type, Head Side Flange Type, Rod Side Trunnion Type, Head Side Trunnion Type
Applicable Bore Size(mm)	ø 20, ø 25, ø 32, ø 40
Stroke Range	~300 mm

Construction, Dimensions/Basic Type



(Unit : mm)

Bore Size	BM	MH	ZZ
ø 20	M8×1.25	20	136
ø 25	M8×1.25	20	140
ø 32	M8×1.25	20	142
ø 40	M12×1.75	24	178

※ Other dimensions are the same as for standard type.

③ Dual Stroke Cylinder/Single Rod Type

AX (Mounting) (Type) (Bore Size) (Stroke A) (Additional Symbol) + (Stroke B) (Additional Symbol) - XC10

Additional symbol ●

Blank-With Boot

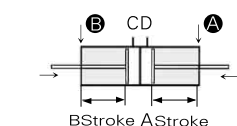
J-With Boot(Nylon tarpaulin)

K-With Boot(Neoprene cloth)

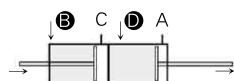
Two cylinders are constructed as one cylinder in a back-to-back configuration allowing the cylinder stroke to be controlled in three steps.

Symbol

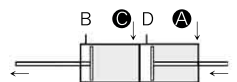
Function



When air pressure is supplied to ports ① and ②, both A and B strokes retract.



When air pressure is supplied to ports ③ and ④, A stroke extends.



When air pressure is supplied to ports ① and ③, B stroke extends.

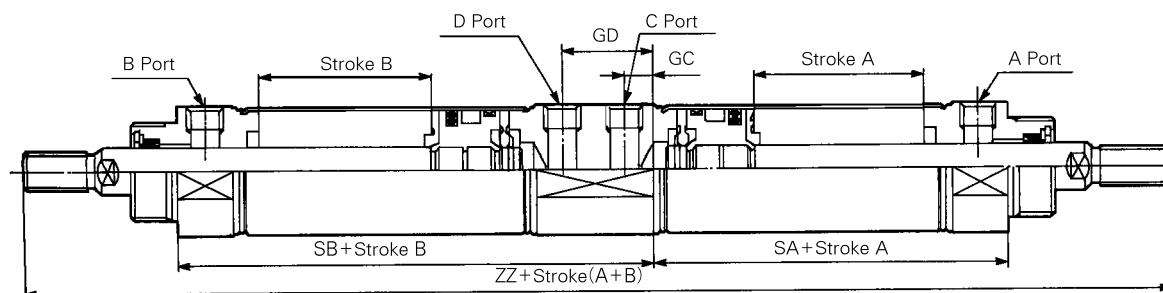


When air pressure is supplied to ports ③ and ④, both strokes A and B out strokes.

Specifications

Type	Non-lube
Fluid	Air
Proof Pressure	15kgf/cm ² (1.5MPa)
Max. Operating Pressure	9.9kgf/cm ² (1.0MPa)
Min. Operating Pressure	0.5kgf/cm ² (0.05MPa)
Piston Speed	50~750 mm/sec
Cushion	Rubber cushion(Standard)
Mounting	Basic type, Foot type, Flange type
Applicable Bore Size(mm)	ø 20, ø 25, ø 32, ø 40
Stroke A, B	~300 mm

Construction, Dimensions/Basic Type



(Unit : mm)

Bore Size	GC	GD	SA	SB	ZZ
ø 20	7	24	47	78	207
ø 25	7	24	47	78	215
ø 32	7	24	49	80	219
ø 40	10.5	33.5	66.5	110.5	277

※ Other dimensions are the same as for standard type.

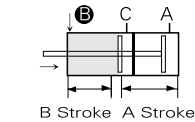
④ Dual Stroke Cylinder/Single Rod Type

AX Mounting Type Bore Size Stroke A + Stroke B - A Additional Symbol -XC11

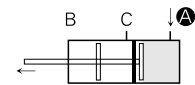
Additional Symbol ●
Blank-With Boot
J-With Boot(Nylon tarpaulin)
K-With Boot(Neoprene cloth)

Symbol

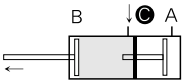
Function



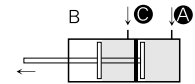
When air pressure is supplied to the ③ port, both A and B strokes retract.



When air pressure is supplied to the ④ port, the rod extends by A Stroke.



When air pressure is supplied to the ⑤ port, the rod extends.

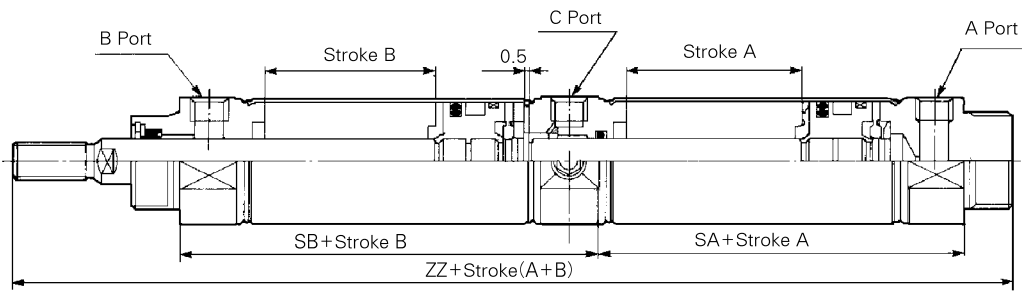


When air pressure is supplied to both ports ④ and ⑤ double output force is obtainable in the range of the A stroke length.

Specifications

Fluid	Air
Proof Pressure	15kgf/cm ² (1.5MPa)
Max. Operating Pressure	9.9kgf/cm ² (1.0MPa)
Min. Operating Pressure	0.5kgf/cm ² (0.05MPa)
Piston Speed	50~750 mm/sec
Cushion	Rubber Cushion (Standard)
Mounting	Basic Type, Foot Type, Rod Side Flange Type, Head Side Flange type, Single Clevis Type, Double Clevis Type.
Applicable Bore Size(mm)	ø 20, ø 25, ø 32, ø 40
Stroke	~300 mm

Construction, Dimensions/Basic Type



(Unit : mm)

Bore Size	SA	SB	ZZ
ø 20	48	62	164
ø 25	48	62	168
ø 32	50	64	172
ø 40	67.5	88.5	222

※ Other dimensions are the same as for standard type.

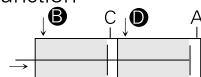
⑤ Tandem Type Air Cylinder

AX **Mounting** **Type** **Bore Size** **Stroke** —XC12

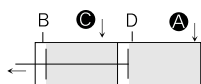
This is a cylinder produced with two air cylinders in line allowing double the output force.

Symbol

Function



When air pressure is supplied to ports ② and ④, the output force is doubled in the retract stroke.

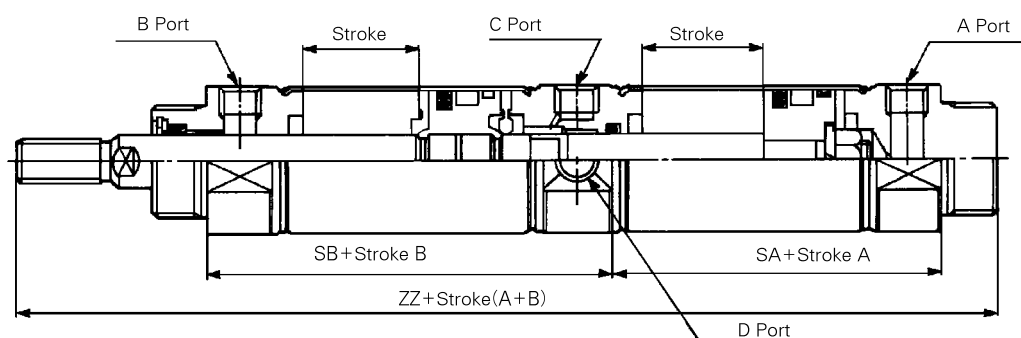


When air pressure is supplied to ports ① and ③, the output force is doubled in the extend stroke.

Specifications

Type	Air cylinder
Applicable Bore Size	ø 20, ø 25, ø 32, ø 40
Max. Operating Pressure	9.9kgf/cm ² (1.0 MPa)
Min. Operating Pressure	0.8kgf/cm ² (0.08 MPa)
Cushion	Rubber Cushion (Standard)
Action	Double Acting
Mounting	Basic Type, Axial Foot Type, Rod Side Flange Type, Head Side Flange Type, Single Clevis Type, Double Clevis Type

Construction



(Unit : mm)

Bore Size	SA	SB	ZZ
ø 20	48	62	164
ø 25	48	62	168
ø 32	50	64	172
ø 40	67.5	88.5	222

※ Other dimensions are the same as for standard type.

Series AXW

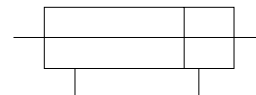
Standard Type/Double Acting : Double Rod

Bore Size(mm) : $\phi 20$, $\phi 25$, $\phi 32$, $\phi 40$

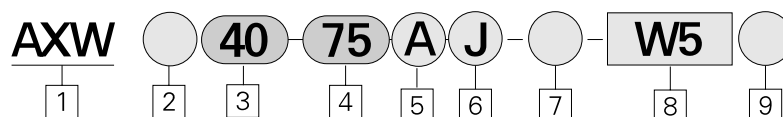


- STAINLESS STEEL BODY
- HIGH CYCLE LIFE
- LOW BREAKAWAY
- NUMEROUS MOUNTING OPTION
- MAGNET STANDARD FOR AUTO SWITCH
- BUMPERS STANDARD (AIR CUSHION OPTIONAL)
- DESIGNED FOR NON-LUBRICATED SERVICE
- COMPACT LIGHT DESIGN
- REPLACEABLE ROD GLAND
- MANUFACTURING CERTIFIED TO ISO 9001 / 9002

Symbol Double Acting/Double Rod



How to Order



[1] Double Rod Type
(Built-in Magnet Standard)

[2] Mounting
B : Basic Type
L : Foot Type
F : Flange Type
U : Trunnion Type

[3] Bore Size(mm)
20 : $\phi 20$
25 : $\phi 25$
32 : $\phi 32$
40 : $\phi 40$

[4] Stroke(mm)
※ For Stroke Refer to page 23.

[5] Cushion
Blank : Rubber Cushion
A : Air Cushion

[6] Rod Boot Option
Blank : Without Boot
J : Nylon Tarpaulin(Single side)
JJ : Nylon Tarpaulin(Both side)
K : Neoprene Cloth(Single side)
KK : Neoprene Cloth(Both side)

[7] Special Option
Blank : Standard type
XC16 : Copper-free

[8] Applicable Auto Switch
Reed Switch
(Band mounted type)
(Grommet)
Blank : Without auto switch
W5 : W5
※ Standard Lead Length 0.5m
(up to 3m optional)

[9] Number of Switches
Blank : 2 pcs.
S : 1 pc.
n : (n) pcs.

Model				
Bore size(mm)	ø 20	ø 25	ø 32	ø 40
Type	Air Cylinder			
Cushion	Rubber Cushion, Air Cushion			
Piping Method	1/8 Rc(PT)	1/8 Rc(PT)	1/8 Rc(PT)	1/4 Rc(PT)

Standard Stroke List	
Action	Double Acting Double Rod
Fluid	Air
Proof Pressure	15kgf/cm ² (1.5 MPa)
Max. Operating Pressure	9.9kgf/cm ² (1.0 MPa)
Min. Operating Pressure	0.5kgf/cm ² (0.05 MPa)
Ambient and Fluid Temperature	40~140° F (5~60° C)
Lubrication	None (Non-Lube)
Thread Tolerance	KS 2 Class
Stroke Tolerance	$\begin{smallmatrix} +1.4 \\ 0 \end{smallmatrix}$ mm

Piston Speed				
Bore Size(mm)	ø 20	ø 20	ø 32	ø 32
Piston Speed(mm/sec)	50~750			
Allowable Kinetic Energy(kgf/cm)	2.7	4	6.5	12

Auto Switch Specifications		
Mounting	Lead Wire Entry	Reed Switch
Band Mounted Type	Grommet	W5

Standard Stroke			
Bore Size(mm)	Standard Stroke	※Long stroke	Production Max.Stroke
ø 20	25, 50, 75, 100, 125, 150, 200,	400	500
ø 25		450	
ø 32		450	
ø 40	250, 300	500	

※ A long stroke applies to the foot type and the flange type. For other mountings and case exceeding the Standard stroke limit, the max.

ACP

AX

AS

AM

AM2

AL
ALX

ARD

AJ

AQ

AG

AGX
GX

ADM

ADR

AMR

AST

NLCD

Mounting and Accessories

Accessories Mounting	Standard		Option		
	Mounting Nut	Rod end Nut	Single Knuckle Joint	Double Knuckle Joint	Rod Boot
Basic Type	●(2pcs)	●(2pcs)	●	●	●
Foot Type	●(2pcs)	●(2pcs)	●	●	●
Flange Type	●(1pc)	●(2pcs)	●	●	●
Trunnion Type	●(1pc)	●(2pcs)	●	●	●
Note				With pin	Single, Both side

Material of gaiter

Symbol		Material of Boot	Max. Ambient Temperature
Single Side	Both Side		
J	JJ	Nylon tarpaulin	140°F(60°C)
K	KK	Neoprene cloth	※230°F(110°C)

※ The max. ambient temperature of Boot only.

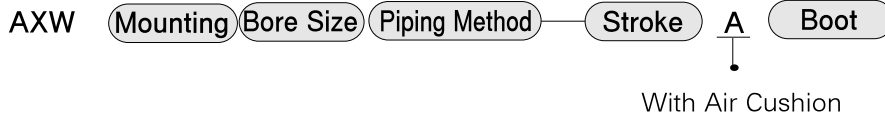
Weight Table

Bore Size(mm)		(kgf)			
		ø 20	ø 25	ø 32	ø 40
Basic Weight	Basic Type	0.16	0.25	0.32	0.65
	Foot Type	0.31	0.41	0.48	0.92
	Flange Type	0.22	0.34	0.41	0.77
	Trunnion Type	0.20	0.32	0.38	0.75
Additional weight for each 50 of stroke		0.06	0.09	0.13	0.19
Mounting Bracket	Single Knuckle Joint	0.06	0.06	0.06	0.23
	Double Knuckle Joint(with pin)	0.07	0.07	0.07	0.20

Calculation (Example) AXWL32-100

- Basic weight-0.48(Foot type, ø 32)
- Additional weight-0.13/50 stroke
- Cylinder stroke -100 stroke
- $0.48 + 0.13 \times 100 / 50 = 0.74 \text{kgf}$

With Air Cushion



With covers on both sides equipped with the cushion function, the cylinder absorbs the impact during high-speed operation without vibrating the section around it, and the cylinder provides longer life.

Specifications

Action	Double acting double rod
Bore Size	ø 20, ø 25, ø 32, ø 40
Max. Operating Pressure	140PSI (1.0MPa)
Min. Operating Pressure	70PSI (0.05MPa)
Cushion	Air Cushion
Piping Method	Screwed Type
Piston Speed	50~1,000mm/sec
Mounting	Basic Type, Foot Type, Flange Type, Trunnion Type

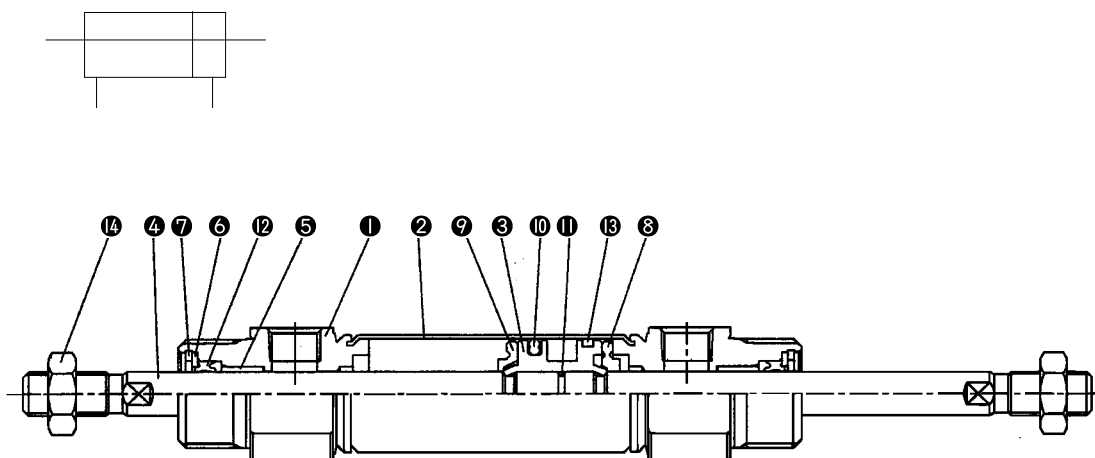
※Auto switch Available

Cushion Mechanism

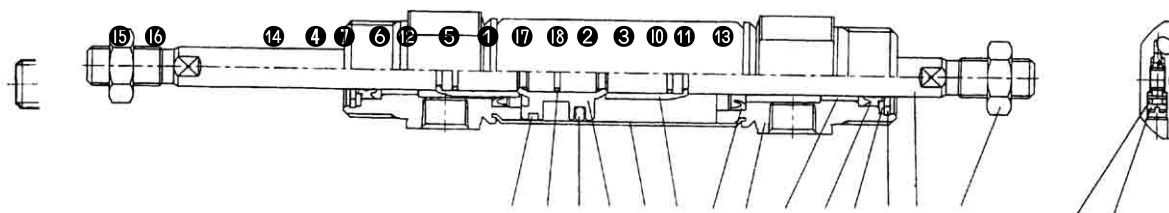
Bore Size (mm)	Effective Cushion Length(mm)	Cushion Effective orifice(mm ²)	Allowable Kinetic Energy(kgf-cm)
ø 20	11.0	2.09	5.5
ø 25	11.0	3.30	8.0
ø 32	11.0	5.86	13
ø 40	11.8	9.08	24

Construction/Parts List

Standard



With Air Cushion



ACP

AX

AS

AM

AM2

AL
ALX

ARD

AJ

AQ

AG

AGX
GX

ADM

ADR

AMR

AST

NLCD

Parts List

No.	Description	Material	Note
①	Rod Cover	Aluminum Alloy	White Alumite
②	Cylinder Tube	Stainless Steel	
③	Piston	Aluminum Alloy	Chromate
④	Pistin Rod	Carbon Steel	Hard Chrome Plated
⑤	Bush	Sintered Metal	
⑥	Packing Retainer	Rolled Steel	Nickel Plated
⑦	Stopper Ring	Carbon Steel	Nickel Plated
⑧	Damper A	Urethane	
⑨	Damper B	Urethane	
⑩	Piston Packing	NBR	
⑪	Piston Gasket	NBR	
⑬	Wear Ring	-	

No.	Description	Material	Note
⑭	Rod End Nut	-	Nickel Plated
⑮	Cushion Valve	-	Nickel Plated
⑯	Cushion Valve Gasket	NBR	
⑰	Cushion Packing	NBR	
⑱	Cushion Ring	-	

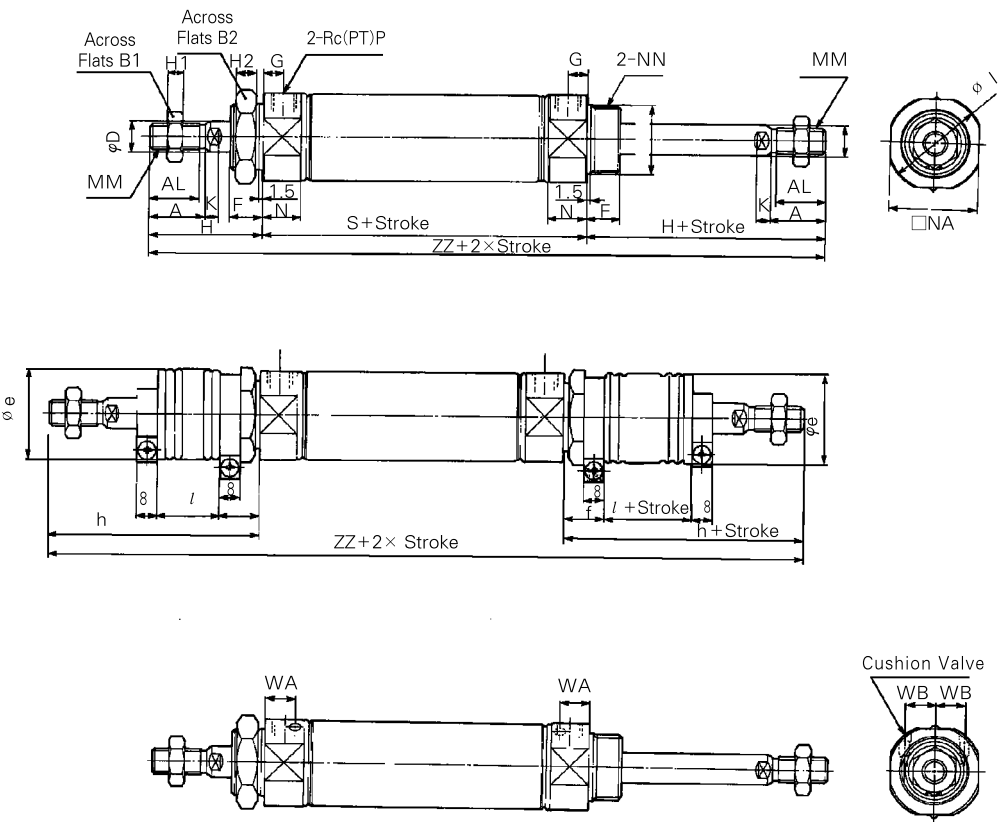
Spare Parts/ Packing List

•With Rubber Cushion /With Air Cushion						
No.	Description	Material	Bore Size(mm)			
			ø 20	ø 25	ø 32	ø 40
⑫	Rod Packing	NBR	PDU-8Z	PDU-10Z	PDU-12LZ	PDU-14LZ

Series AXW

Basic Type(B)

AXWB Bore Size Stroke



※ 301mm Stroke or more : Long Stroke

(Unit : mm)

Bore Size	Stroke Range	A	AL	B ₁	B ₂	D	E	F	G	H	H ₁	H ₂	I	K	MM	N	NA	NN	P	S	ZZ
ø 20	~300	18	15.5	13	26	8	20 ⁰ _{-0.033}	13	8	41	5	8	27	5	M8×1.25	15	24	M20×1.5	1/8	62	144
ø 25	~300	22	19.5	17	32	10	26 ⁰ _{-0.033}	13	8	45	6	8	33	5.5	M10×1.25	15	30	M26×1.5	1/8	62	152
ø 32	~300	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	64	154
ø 40	~300	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	88	188

With Gaiter

Bore Size	e	f	h							l							zz						
			1~50	51~100	101~150	151~200	201~300	301~400	401~500	1~50	51~100	101~150	151~200	201~300	301~400	401~500	1~50	51~100	101~150	151~200	201~300	301~400	401~500
ø 20	30	16	68	81	93	106	131	156	—	12.5	25	37.5	50	75	100	—	198	224	248	274	324	374	—
ø 25	30	16	72	85	97	110	135	160	185	12.5	25	37.5	50	75	100	125	206	232	256	282	332	382	432
ø 32	30	16	72	85	97	110	135	160	185	12.5	25	37.5	50	75	100	125	208	234	258	284	334	384	434
ø 40	40	18	77	90	102	115	140	165	190	12.5	25	37.5	50	75	100	125	242	268	292	318	368	418	468

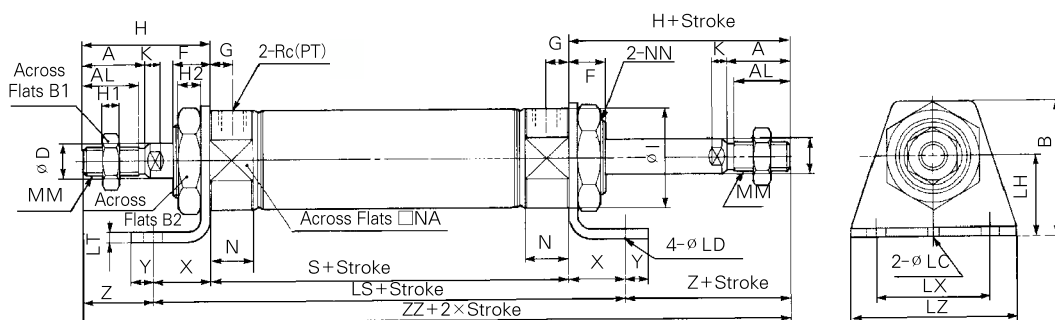
With Air Cushion

Bore size	WA	WB
ø 20	11.5	8.5
ø 25	11.5	10
ø 32	11.5	11.5
ø 40	14.5	15

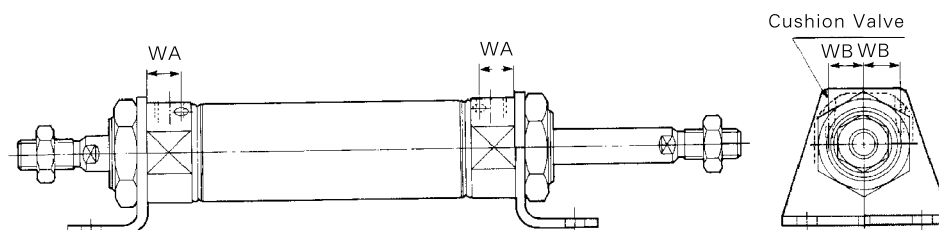
Foot Type(L)

AXWL Bore Size Stroke

Standard



With Air Cushion



(Unit : mm)

Bore Size	Stroke Range	A	AL	B	B ₁	B ₂	D	F	G	H	H ₁	H ₂	I	K	LC	LD	LH	LS	LT	LX	LZ	MM	N	NA	NN	P	S	X	Y	Z	ZZ
ø 20	~400	18	15.5	40	13	26	8	13	8	41	5	8	27	5	4	6.8	25	102	3.2	40	55	M8×1.25	15	24	M20×1.5	1/8	62	20	8	21	144
ø 25	~450	22	19.5	47	17	32	10	13	8	45	6	8	33	5.5	4	6.8	28	102	3.2	40	55	M10×1.25	15	30	M26×1.5	1/8	62	20	8	25	152
ø 32	~450	22	19.5	47	17	32	12	13	8	45	6	8	37.5	5.5	4	6.8	28	104	3.2	40	55	M10×1.25	15	34.5	M26×1.5	1/8	64	20	8	25	154
ø 40	~500	24	21	54	22	41	14	16	11	50	8	10	46.5	7	4	7	30	134	3.2	55	75	M14×1.5	21.5	42.5	M32×2	1/4	88	23	10	27	188

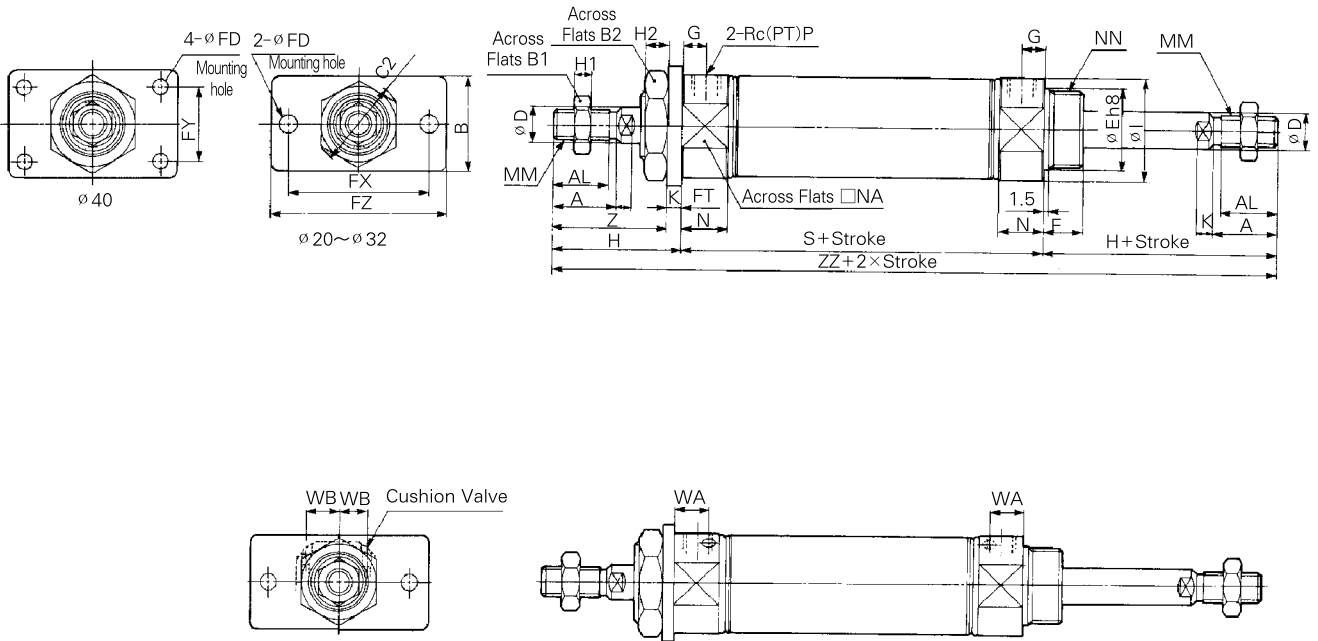
With air cushion

Bore size	WA	WB
ø 20	11.5	8.5
ø 25	11.5	10
ø 32	11.5	11.5
ø 40	14.5	15

Series AXW

Foot Type(F)

AXWF Bore Size Stroke 



(Unit : mm)

Bore Size	Stroke Range	A	AL	B	B ₁	B ₂	C ₂	D	E	F	FD	FT	FX	FY	FZ	G	H	H ₁	H ₂	I	K	MM
ø 20	~300	18	15.5	34	13	26	30	8	20 ⁰ _{-0.033}	13	7	4	60	—	75	8	41	5	8	27	5	M8×1.25
ø 25	~300	22	19.5	40	17	32	37	10	26 ⁰ _{-0.033}	13	7	4	60	—	75	8	45	6	8	33	5.5	M10×1.25
ø 32	~300	22	19.5	40	17	32	37	12	26 ⁰ _{-0.033}	13	7	4	60	—	75	8	45	6	8	37.5	5.5	M10×1.25
ø 40	~300	24	21	52	22	41	47.3	14	32 ⁰ _{-0.039}	16	7	5	66	36	82	11	50	8	10	46.5	7	M14×1.5

(Unit : mm)

Bore Size	N	NA	NN	P	S	Z	ZZ
ø 20	15	24	M20×1.5	1/8	62	37	144
ø 25	15	30	M26×1.5	1/8	62	41	152
ø 32	15	34.5	M26×1.5	1/8	64	41	154
ø 40	21.5	42.5	M32×2	1/4	88	45	188

With Air Cushion

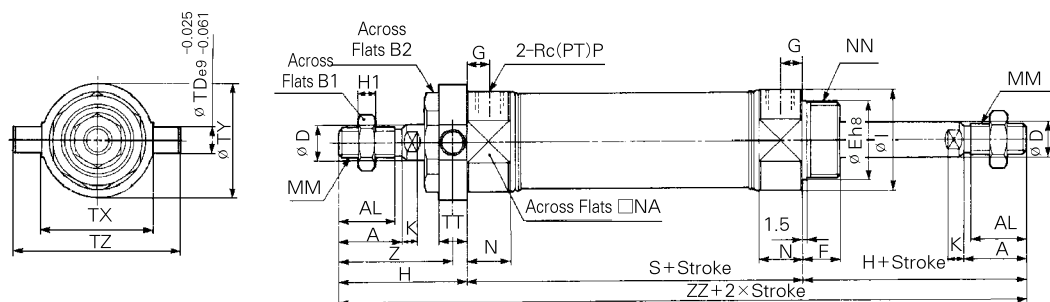
Bore size	WA	WB
ø 20	11.5	8.5
ø 25	11.5	10
ø 32	11.5	11.5
ø 40	14.5	15

Trunnion Type(U)

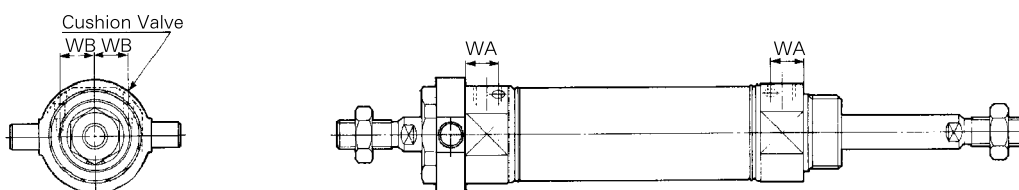
AXWU

Bore Size

Stroke



With Air Cushion



(Unit : mm)

Bore Size	Stroke Range	A	AL	B ₁	B ₂	D	E	F	G	H	H ₁	I	K	MM	N	NA	NN	P	S
ø 20	~300	18	15.5	13	26	8	20 ⁰ _{-0.033}	13	8	41	5	27	5	M8×1.25	15	24	M20×1.5	1/8	62
ø 25	~300	22	19.5	17	32	10	26 ⁰ _{-0.033}	13	8	45	6	33	5.5	M10×1.25	15	30	M26×1.5	1/8	62
ø 32	~300	22	19.5	17	32	12	26 ⁰ _{-0.033}	13	8	45	6	37.5	5.5	M10×1.25	15	34.5	M26×1.5	1/8	64
ø 40	~300	24	21	22	41	14	32 ⁰ _{-0.039}	16	11	50	8	46.5	7	M14×1.5	21.5	42.5	M32×2	1/4	88

(Unit : mm)

Bore Size	TD	TT	TX	TY	TZ	Z	ZZ
ø 20	8	10	32	32	52	36	144
ø 25	9	10	40	40	60	40	152
ø 32	9	10	40	40	60	40	154
ø 40	10	11	53	53	77	44.5	188

With Air Cushion

Bore Size	WA	WB
ø 20	11.5	8.5
ø 25	11.5	10
ø 32	11.5	11.5
ø 40	14.5	15

ACP

AX

AS

AM

AM2

AL
ALX

ARD

AJ

AQ

AG

AGX
GX

ADM

ADR

AMR

AST

NLCD

Series **AXS**

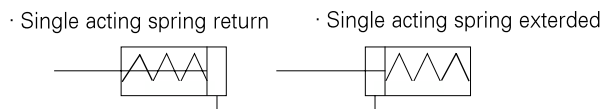
Standard Type/Single Acting: Spring Return, Spring Extended

Bore Size(mm) : $\phi 20$, $\phi 25$, $\phi 32$, $\phi 40$

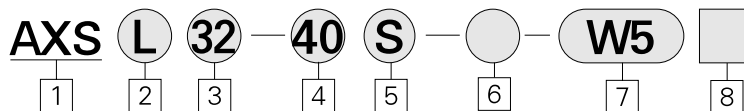


- STAINLESS STEEL BODY
- HIGH CYCLE LIFE
- LOW BREAKAWAY
- NUMEROUS MOUNTING OPTION
- MAGNET STANDARD FOR AUTO SWITCH
- BUMPERS STANDARD
- DESIGNED FOR NON-LUBRICATED SERVICE
- COMPACT LIGHT DESIGN
- REPLACEABLE ROD GLAND
- MANUFACTURING CRETIFIED TO ISO 9001 / 9002

Symbol



How to Order



1 Type: Single Acting

2 Mounting

B : Basic Type
 L : Axial Foot Type
 F : Rod Side Flange Type
 G : Head Side Flange Type
 C : Single Clevis Type
 D : Double Clevis Type
 T : Head Side Trunnion Type
 U : Rod Side Trunnion Type
 E : Integrated Clevis Type
 BZ : Boss-Cut Basic Type
 FZ : Boss-Cut Flange Type
 UZ : Boss-Cut Trunnion Type

3 Bore Size(mm)

20 : $\phi 20$
 25 : $\phi 25$
 32 : $\phi 32$
 40 : $\phi 40$

4 Stroke

※ For Stroke Refer to page A-51.

5 Action

S : Single Acting Spring Return
 T : Single Acting Spring Extended

6 Special Option

Blank : Standard type
 XC16 : Copper-free

7 Applicable Auto Switch Reed Switch

Blank : Without auto switch
 W5 : W5
 Standard Lead Length 0.5m
 (Up to 3m Optional)

8 Number of Switches

Blank : 2 pcs.
 S : 1 pc.
 n : (n) pcs.

PART No. of Mounting Bracket

Bore Size(mm)	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$
※Axial foot	TCM-L020B	TCM-L032B	TCM-L040B	
Flange	TCM-F020B	TCM-F032B	TCM-F040B	
Single Clevis	TCM-C020B	TCM-C032B	TCM-C040B	
Double Clevis	TCM-D020B	TCM-D032B	TCM-D040B	
Trunnion(With Nut)	TCM-T020B	TCM-T032B	TCM-T040B	

※ 2pcs. Required Per Cylinder

PART No. of Auto Switch Mounting Band

Auto Switch Model	Bore Size(mm)			
	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$
W5	TBM2-020	TBM2-025	TBM2-032	TBM2-040

Model				
Bore Size(mm)	ø 20	ø 25	ø 32	ø 40
Type	Air Cylinder			
Cushion	Rubber Cushion			
Piping Method	Rc(PT) 1/8	Rc(PT) 1/8	Rc(PT) 1/8	Rc(PT) 1/4

Specifications		
Action	Spring Return	Spring Extended
Fluid	Air	
Proof Pressure	15kgf/cm ² {1.5MPa}	
Max. Operating Pressure	9.9kgf/cm ² {0.9MPa}	
Min. Operating Pressure	1.8kgf/cm ² {0.18 MPa}	2.3kgf/cm ² {0.23 MPa}
Ambient and Fluid Temperature	40~140°F (5~60°C)	
Lubrication	None(Non-lube)	
Thread Tolerance	KS 2 class	
Stroke Tolerance	^{+1.4} ₀ mm	

Piston Speed				
Bore Size(mm)	ø 20	ø 25	ø 32	ø 40
Piston speed(mm/sec)	50~500			
Allowable kinetic energy(kgf-cm)	2.7	4	6.5	12

Standard Stroke	
Bore Size(mm)	Standard Stroke(mm)
ø 20	25, 50, 75, 100, 125, 150
ø 25	25, 50, 75, 100, 125, 150
ø 32	25, 50, 75, 100, 125, 150, 200
ø 40	25, 50, 75, 100, 125, 150, 200, 250

Auto Switch Specification		
Mounting	Lead Wire Entry	Reed Switch
Band Mounting Type	Grommet	W5

ACP
AX
AS
AM
AM2
AL
ALX
ARD
AJ
AQ
AG
AGX
GX
ADM
ADR
AMR
AST
NLCD

Boss-Cut Type

Boss for the head cover bracket is eliminated and the total length of the cylinder is shortened.

Compared to the Total Length of Cylinder

(Compared to the Basic Type)				(mm)
20	25	32	40	
▲13	▲13	▲13	▲16	

Mounting

- Boss-Cut Basic Type(BZ)
- Boss-Cut Flange Type(FZ)
- Boss-Cut Trunnion Type(UZ)

Mounting and Accessories

Accessories Mounting	Standard			Option	
	Mounting Nut	Rod end Nut	Clevis Pin	Single Knuckle Joint	Double Knuckle Joint
Basic Type	●1pc.	●	—	●	●
Axial Foot Type	●2pcs.	●	—	●	●
Rod Side Flange Type	●1pc.	●	—	●	●
Head Side Flange Type	●1pc.	●	—	●	●
Integrated Clevis Type	—	●	—	●	●
Single Clevis Type	—	●	—	●	●
Double Clevis Type	—	●	●	●	●
Head Side Trunnion Type	●1pc.	●	—	●	●
Rod Side Trunnion Type	●1pc.	●	—	●	●
Boss-Cut Basic Type	●1pc.	●	—	●	●
Boss-Cut Flange Type	●1pc.	●	—	●	●
Boss-Cut Trunnion Type	●1pc.	●	—	●	●
Note					With Pin

Weight Table

Spring Return

(kgf)

Bore Size (mm)		ø 20	ø 25	ø 32	ø 40
Basic weight	25 stroke	0.20	0.30	0.42	0.77
	50 stroke	0.22	0.33	0.46	0.84
	75 stroke	0.27	0.42	0.58	1.03
	100 stroke	0.29	0.45	0.63	1.09
	125 stroke	0.35	0.54	0.76	1.29
	150 stroke	0.37	0.57	0.80	1.36
	200 stroke	—	—	0.97	1.61
	250 stroke	—	—	—	1.87
Mounting Bracket Weight	Foot Type	0.15	0.16	0.16	0.27
	Flange Type	0.06	0.09	0.09	0.12
	Single Clevis Type	0.04	0.04	0.04	0.09
	Double Clevis Type	0.05	0.06	0.06	0.13
	Trunnion Type	0.04	0.07	0.07	0.10
	Integrated Clevis Type	-0.02	-0.02	-0.01	-0.04
	Boss-Cut Basic Type	-0.01	-0.02	-0.02	-0.03
	Boss-Cut Flange Type	0.05	0.07	0.07	0.09
Accessories	Boss-Cut Trunnion Type	0.03	0.05	0.05	0.07
	Single Knuckle Joint	0.06	0.06	0.06	0.23
Accessories	Double Knuckle Joint (with pin)	0.07	0.07	0.07	0.20

Spring Extended

(kgf)

Bore Size (mm)		ø 20	ø 25	ø 32	ø 40
Basic weight	25 stroke	0.19	0.29	0.40	0.74
	50 stroke	0.21	0.32	0.44	0.81
	75 stroke	0.25	0.39	0.54	0.97
	100 stroke	0.27	0.42	0.58	1.03
	125 stroke	0.32	0.49	0.69	1.20
	150 stroke	0.34	0.52	0.73	1.27
	200 stroke	—	—	0.88	1.49
	250 stroke	—	—	—	1.72
Mounting Bracket Weight	Foot Type	0.15	0.16	0.16	0.27
	Flange Type	0.06	0.09	0.09	0.12
	single Clevis Type	0.04	0.04	0.04	0.09
	Double Clevis Type	0.04	0.06	0.06	0.13
	Trunnion Type	0.04	0.07	0.07	0.10
	Integrated Clevis Type	-0.02	-0.02	-0.01	-0.04
	Boss-Cut Basic Type	-0.01	-0.02	-0.02	-0.03
	Boss-Cut Flange Type	0.05	0.07	0.07	0.09
Accessories	Boss-Cut Trunnion Type	0.03	0.05	0.05	0.07
	Single Knuckle Joint	0.06	0.06	0.06	0.23
Accessories	Double Knuckle Joint (with pin)	0.07	0.07	0.07	0.20

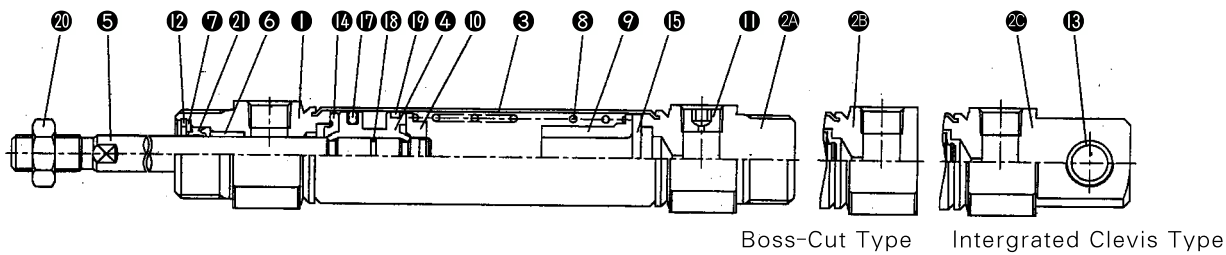
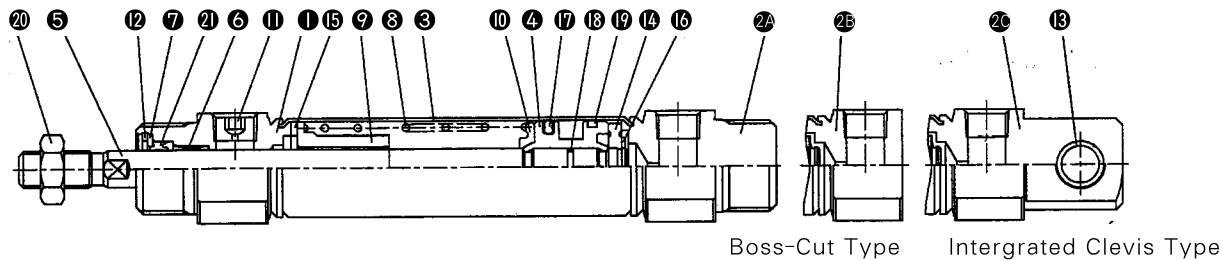
Calculation Example : AXL32-100S

Basic weight ...0.63 kgf (Foot type ø 32)

Cylinder stroke ...100 stroke

0.63 + 0.16 = 0.79kgf

Construction/Parts List



Part List

No.	Description	Material	Remarks
1	Rod Cover	Aluminum Alloy	White Alumite
2A	Head Cover-A	Aluminum Alloy	White Alumite
2B	Head Cover-B	Aluminum Alloy	White Alumite
2C	Head Cover-C	Aluminum Alloy	White Alumite
3	Cylinder Tube	Stainless Steel	-
4	Piston	Aluminum Alloy	Chromate
5	Piston Rod	Carbon Steel	Hard Chrome Plating
6	Guide Bush		
7	Retaining Ring		Nickel Plating
8	Spring		
9	Spring Guide	Aluminum Alloy	Chromate
10	Spring Supporter	Aluminum Alloy	"
11	Plug		
12	Stopper Ring		Nickel Plating

No.	Description	Material	Remarks
13	Bushing		
14	Damper A	Urethane	
15	Damper B	Urethane	
16	Retaining Ring	Carbon Tool Steel	
17	Piston Packing	NBR	
18	Piston Gasket	NBR	
19	Wear Ring	Resin	
20	Rod End Nut	Carbon Steel	Nickel Plating

Packing List

No.	Description	Material	Bore Size(mm)			
			20	25	32	40
21	Rod Packing	NBR	PDU-8Z	PDU-10Z	PDU-12LZ	PDU-14LZ

ACP

AX

AS

AM

AM2

AL
ALX

ARD

AJ

AQ

AG

AGX
GX

ADM

ADR

AMR

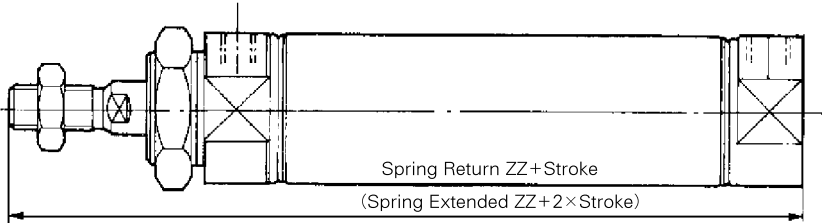
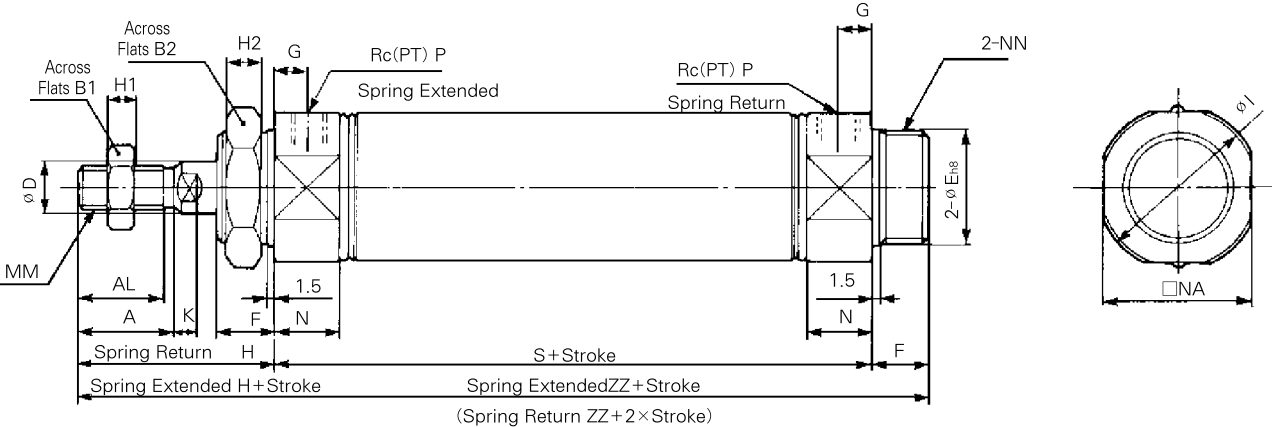
AST

NLCD

Series **AXS**

Basic(B)

AXSB **Bore Size** **Stroke** $\frac{S}{T}$



※ This Drawing is Spring Extended. (Unit : mm)

Bore Size	A	AL	B ₁	B ₂	D	E	F	G	H	H ₁	H ₂	I	K	MM	N	NA	NN	P
φ20	18	15.5	13	26	8	20 ⁰ _{-0.033}	13	8	41	5	8	27	5	M8×1.25	15	24	M20×1.5	1/8
φ25	22	19.5	17	32	10	26 ⁰ _{-0.033}	13	8	45	6	8	33	5.5	M10×1.25	15	30	M26×1.5	1/8
φ32	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
φ40	24	21	22	41	14	32 ⁰ _{-0.039}	16	11	50	8	10	46.5	7	M4×1.5	21.5	42.5	M32×2	1/4

Stroke Dimension Adder (Unit : mm)

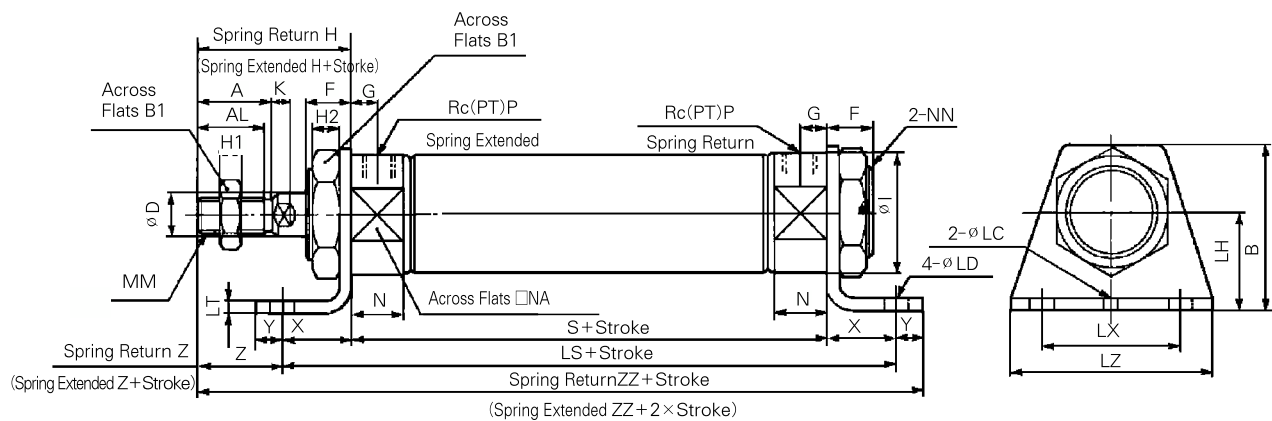
Stroke Symbol Bore Size	1~50		51~100		101~150		151~200		201~250	
	S	ZZ	S	ZZ	S	ZZ	S	ZZ	S	ZZ
φ20	87	141	112	166	137	191	—	—	—	—
φ25	87	145	112	170	137	195	—	—	—	—
φ32	89	147	114	172	139	197	164	222	—	—
φ40	113	179	138	204	163	229	188	254	213	279

Boss-Cut Type (Unit : mm)

Stroke Symbol Bore Size	1~50	51~100	101~150	151~200	201~250
	ZZ	ZZ	ZZ	ZZ	ZZ
φ20	128	153	178	—	—
φ25	132	157	182	—	—
φ32	134	159	184	209	—
φ40	163	188	213	238	263

Axial Foot Type (L)

AXSL Bore Size Stroke $\frac{S}{T}$



※ This Drawing is Spring Extended

(Unit : mm)

Bore Size	A	AL	B	B ¹	B ²	D	F	G	H	H ¹	H ²	I	K	LC	LD	LH	LT	LX	LZ	MM	N	NA	NN	P	X	Y	Z
ø 20	18	15.5	40	13	26	8	13	8	41	5	8	27	5	4	6.8	25	3.2	40	55	M20×1.25	15	24	M20×1.5	1/8	20	8	21
ø 25	22	19.5	47	17	32	10	13	8	45	6	8	33	5.5	4	6.8	28	3.2	40	55	M20×1.25	15	30	M20×1.5	1/8	20	8	25
ø 32	22	19.5	47	17	32	12	13	8	45	6	8	37.5	5.5	4	6.8	28	3.2	40	55	M20×1.25	15	34.5	M20×1.5	1/8	20	8	25
ø 40	24	21	54	22	41	14	16	11	50	8	10	46.5	7	4	7	30	3.2	55	75	M20×1.25	21.5	42.5	M20×1.5	1/8	23	8	25

Stroke Dimension Adder

(Unit : mm)

Stroke Symbol Bore size	1~50			51~100			101~150			151~200			201~250		
	S	LS	ZZ	S	LS	ZZ	S	LS	ZZ	S	LS	ZZ	S	LS	ZZ
ø 20	87	127	156	112	152	181	137	177	206	—	—	—	—	—	—
ø 25	87	127	160	112	152	185	137	177	210	—	—	—	—	—	—
ø 32	89	129	162	114	154	187	139	179	212	164	204	237	—	—	—
ø 40	113	159	196	138	184	221	163	209	246	188	234	271	213	259	296

ACP

AX

AS

AM

AM2

AL
ALX

ARD

AJ

AQ

AG

AGX
GX

ADM

ADR

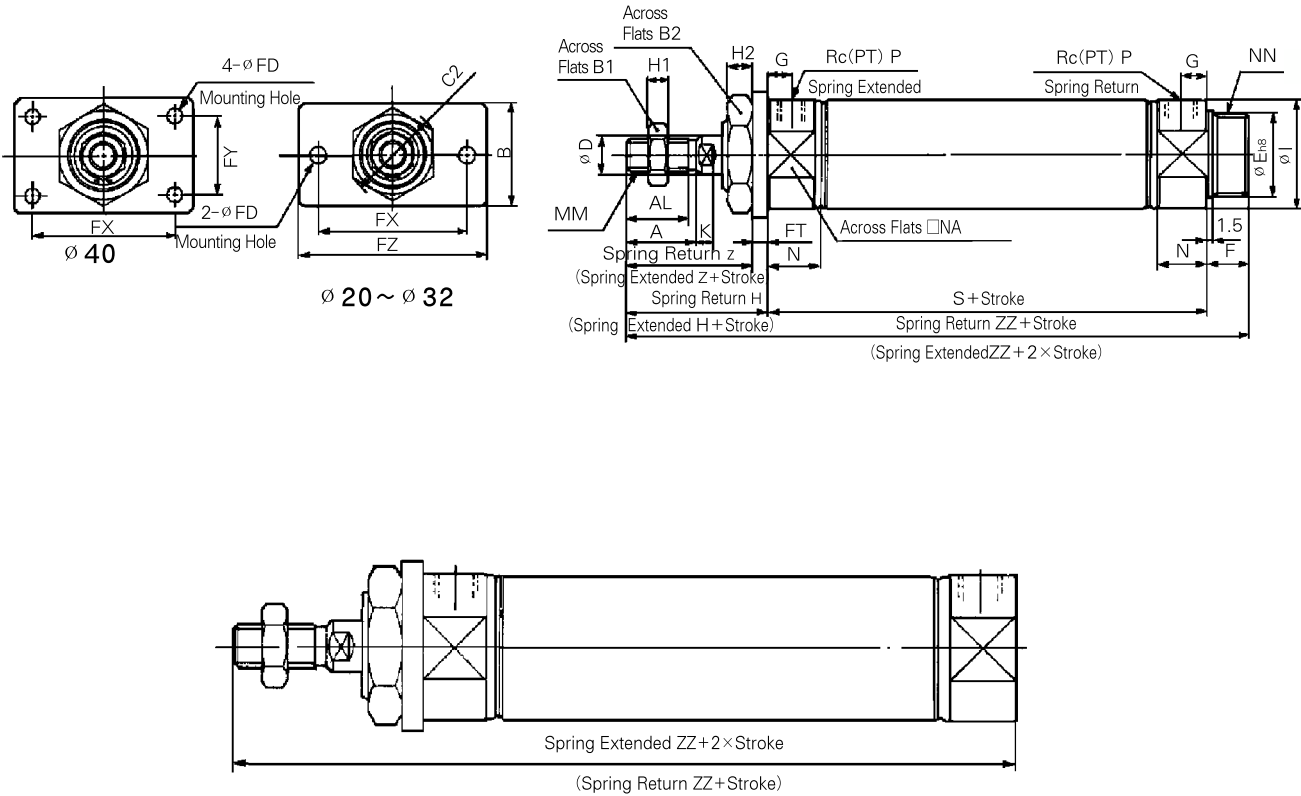
AMR

AST

NLCD

Rod Side Flange Type(F)

AXSF **Bore Size** **Stroke** $\frac{S}{T}$



※ This drawing is spring extended (Unit : mm)

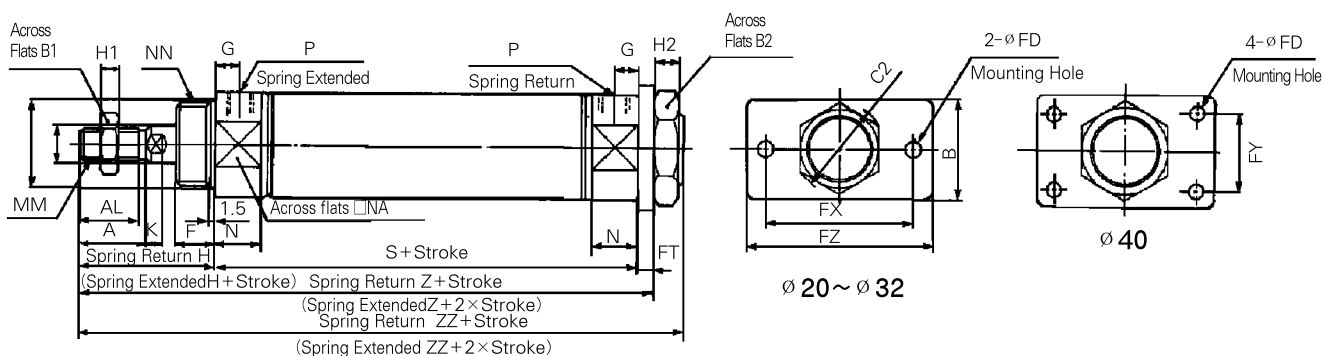
Bore Size	A	AL	B	B ¹	B ²	C ²	D	E	F	FD	FT	FX	FY	FZ	G	H	H ¹	H ²	I	K	MM	N	NA	NN	P	Z
ø 20	18	15.5	34	13	26	30	8	20 ⁰ _{-0.033}	13	7	4	60	—	75	8	41	5	8	27	5	M8×1.25	15	24	M20×1.5	1/8	37
ø 25	22	19.5	40	17	32	37	10	26 ⁰ _{-0.033}	13	7	4	60	—	75	8	45	6	8	33	5.5	M10×1.25	15	30	M26×1.5	1/8	41
ø 32	22	19.5	40	17	32	37	12	26 ⁰ _{-0.033}	13	7	4	60	—	75	8	45	6	8	37.5	5.5	M10×1.25	15	34.5	M26×1.5	1/8	41
ø 40	24	21	52	22	41	47.3	14	32 ⁰ _{-0.039}	16	7	5	66	36	82	11	50	8	10	46.5	7	M14×1.5	21.5	42.5	M32×2	1/4	45

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

Boss-Cut Type					
Bore size	1~50		51~100		Symbol
	ZZ	ZZ	ZZ	ZZ	
ø 20	128	153	178	—	
ø 25	132	157	182	—	
ø 32	134	159	184	209	
ø 40	163	188	213	238	

Head Side Flange Type(G)

AXSG Bore Size Stroke $\frac{S}{T}$



※This Drawing is Spring Extended.

(Unit : mm)

Bore Size	A	AL	B	B ₁	B ₂	C ₂	D	E	F	FD	FT	FX	FY	FZ	G	H	H ₁	H ₂	I	K	MM	N	NA	NN	P	Z
φ 20	18	15.5	34	13	26	30	8	20 ⁰ _{-0.033}	13	7	4	60	—	75	8	41	5	8	27	5	M8×1.25	15	24	M20×1.5	1/8	37
φ 25	22	19.5	40	17	32	37	10	26 ⁰ _{-0.033}	13	7	4	60	—	75	8	45	6	8	33	5.5	M10×1.25	15	30	M26×1.5	1/8	41
φ 32	22	19.5	40	17	32	37	12	26 ⁰ _{-0.033}	13	7	4	60	—	75	8	45	6	8	37.5	5.5	M10×1.25	15	34.5	M26×1.5	1/8	41
φ 40	24	21	52	22	41	47.3	14	32 ⁰ _{-0.039}	16	7	5	66	36	82	11	50	8	10	46.5	7	M14×1.5	21.5	42.5	M32×2	1/4	45

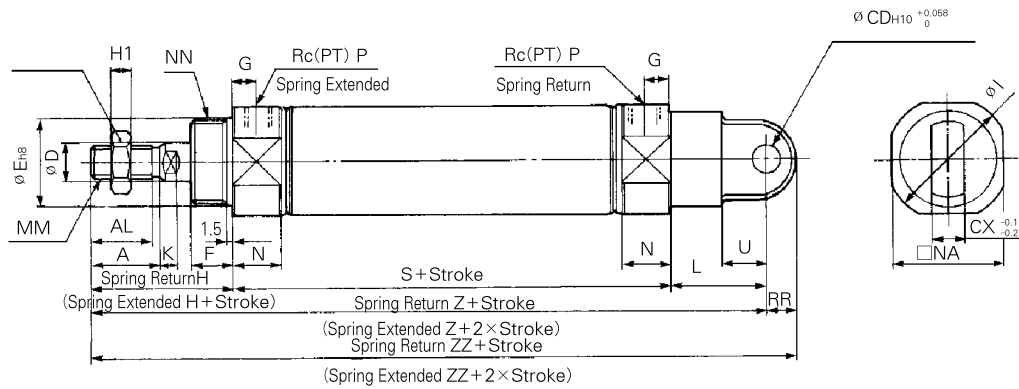
Stroke Dimension Adder

Stroke Symbol Bore size	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
φ 20	87	132	141	112	157	166	137	182	191	—	—	—	—	—	—
φ 25	87	136	145	112	161	170	137	186	195	—	—	—	—	—	—
φ 32	89	138	147	114	163	172	139	188	197	164	213	222	—	—	—
φ 40	113	168	179	138	193	204	163	218	229	188	243	254	213	268	279

Series **AXS**

Single Clevis Type(C)

AXSC **Bore Size** **Stroke** $\frac{S}{T}$



※ This Drawing is Spring Extended (Unit : mm)

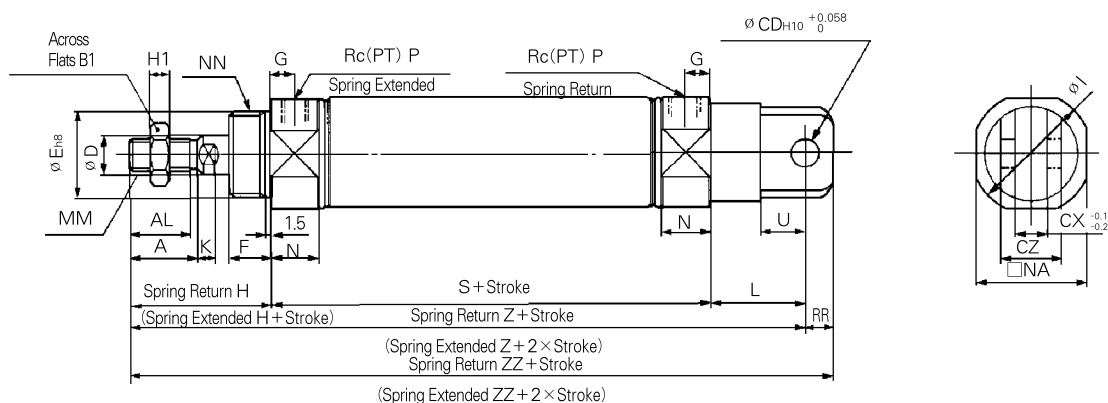
Bore Size	A	AL	B ₁	CD	CX	D	E	F	G	H	H ₁	I	K	L	MM	N	NA	NN	P	RR	U
ø 20	18	15.5	13	9	10	8	20 ⁰ _{-0.033}	13	8	41	5	27	5	30	M8×1.25	15	24	M20×1.5	1/8	9	14
ø 25	22	19.5	17	9	10	10	26 ⁰ _{-0.033}	13	8	45	6	33	5.5	30	M10×1.25	15	30	M26×1.5	1/8	9	14
ø 32	22	19.5	17	9	10	12	26 ⁰ _{-0.033}	13	8	45	6	37.5	5.5	30	M10×1.25	15	34.5	M26×1.5	1/8	9	14
ø 40	24	21	22	10	15	14	32 ⁰ _{-0.039}	16	11	50	8	46.5	7	39	M14×1.5	21.5	42.5	M32×2	1/4	11	18

Stroke Dimension Adder

Stroke Symbol Bore size	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
ø 20	87	158	167	112	183	192	137	208	217	—	—	—	—	—	—
ø 25	87	162	171	112	187	196	137	212	221	—	—	—	—	—	—
ø 32	89	164	173	114	189	198	139	214	223	164	239	248	—	—	—
ø 40	113	202	213	138	227	238	163	252	263	188	277	288	213	302	313

Double Clevis Type(D)

AXSD Bore Size Stroke $\frac{S}{T}$



※ This Drawing is Spring Extended

(Unit : mm)

Bore Size	A	AL	B ₁	CD	CX	CZ	D	E	F	G	H	H ₁	I	K	L	MM	N	NA	NN	P	RR	U
ø 20	18	15.5	13	9	10	19	8	20 ⁰ _{-0.033}	13	8	41	5	27	5	30	M8×1.25	15	24	M20×1.5	1/8	9	14
ø 25	22	19.5	17	9	10	19	10	26 ⁰ _{-0.033}	13	8	45	6	33	5.5	30	M10×1.25	15	30	M26×1.5	1/8	9	14
ø 32	22	19.5	17	9	10	19	12	26 ⁰ _{-0.033}	13	8	45	6	37.5	5.5	30	M10×1.25	15	34.5	M25×1.5	1/8	9	14
ø 40	24	21	22	10	15	30	14	32 ⁰ _{-0.039}	16	11	50	8	46.5	7	39	M14×1.5	21.5	42.5	M32×2	1/4	11	18

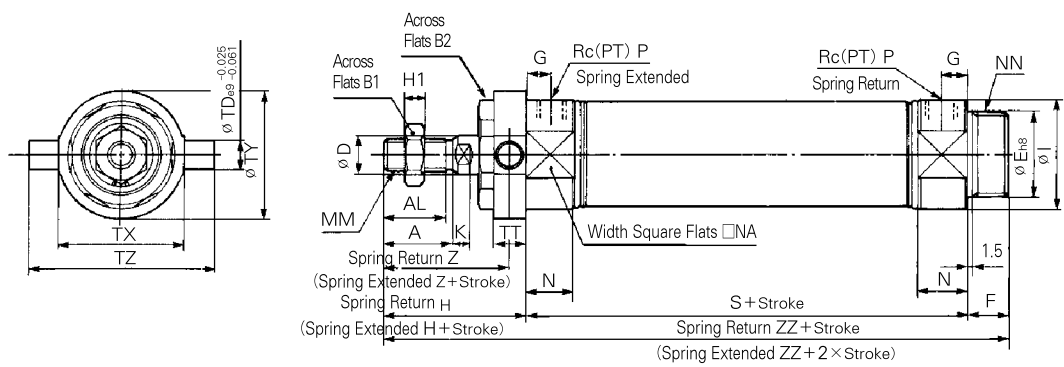
Stroke Dimension Adder

Stroke 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
ø 20	87	158	167	112	183	192	137	208	217	—	—	—	—	—	—
ø 25	87	162	171	112	187	196	137	212	221	—	—	—	—	—	—
ø 32	89	164	173	114	189	198	139	214	223	164	239	248	—	—	—
ø 40	113	202	213	138	227	238	163	252	263	188	277	288	213	302	313

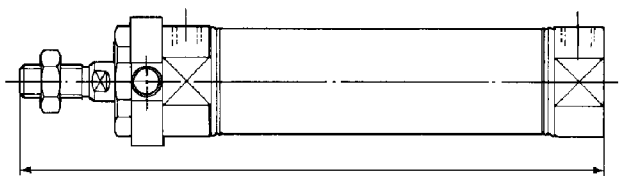
Series *AXS*

Rod Side Trunnion Type(U)

AXSU Bore Size Stroke $\frac{S}{T}$



Boss-Cut Type



※ This drawing spring extended (Unit : mm)

Bore size	A	AL	B ₁	B ₂	D	E	F	G	H	H ₁	I	K	MM	N	NA	NN	P	TD	TT	TX	TY	TZ	Z
ø 20	18	15.5	13	26	8	20 ⁰ _{-0.033}	13	8	41	5	27	5	M8×1.25	15	24	M20×1.5	1/8	8	10	32	32	52	36
ø 25	22	19.5	17	32	10	26 ⁰ _{-0.033}	13	8	45	6	33	5.5	M10×1.25	15	30	M26×1.5	1/8	9	10	40	40	60	40
ø 32	22	19.5	17	32	12	26 ⁰ _{-0.033}	13	8	45	6	37.5	5.5	M10×1.25	15	34.5	M26×1.5	1/8	9	10	40	40	60	40
ø 40	24	21	22	41	14	32 ⁰ _{-0.039}	16	11	50	8	46.5	7	M14×1.5	21.5	42.5	M32×2	1/4	10	11	53	53	77	44.5

Stroke Dimension Adder

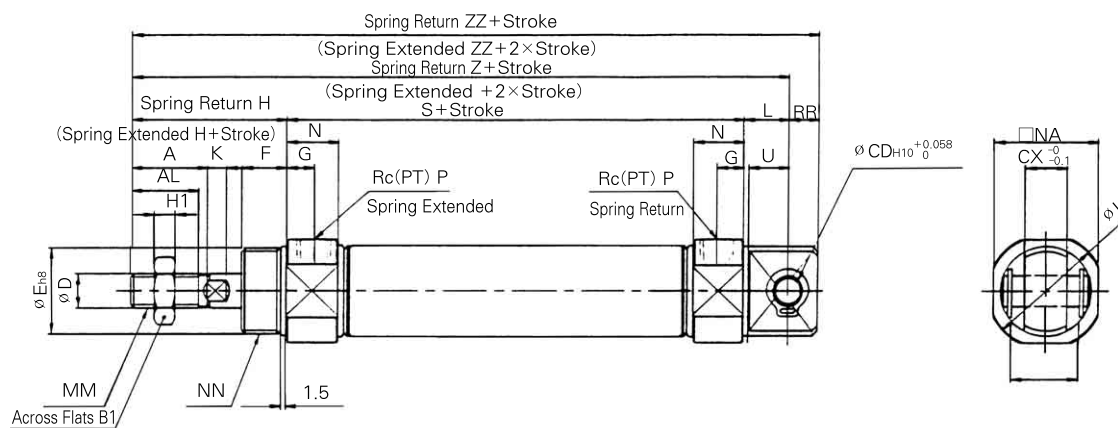
Stroke Symbol Bore size	1~50		51~100		101~200		151~200		201~250	
	S	ZZ	S	ZZ	S	ZZ	S	ZZ	S	ZZ
ø 20	87	141	112	166	137	191	—	—	—	—
ø 25	87	145	112	170	137	195	—	—	—	—
ø 32	89	147	114	172	139	197	164	222	—	—
ø 40	113	179	138	204	163	229	188	254	213	279

Boss-Cut Type

Stroke Symbol Bore size	1~50	51~100	101~150	151~200	201~250
	ZZ	ZZ	ZZ	ZZ	ZZ
ø 20	128	153	178	—	—
ø 25	132	157	182	—	—
ø 32	134	159	184	209	—
ø 40	163	188	213	238	263

Integrated Clevis Type(E)

AXSE Bore Size Stroke $\frac{S}{T}$



※ This drawing is spring extended.

(Unit : mm)

Bore Size	A	AL	B ₁	CD	CX	D	E	F	G	H	H ₁	I	K	L	LV	MM	N	NA	NN	P	RR	U
φ 20	18	15.5	13	8	12	8	20 ⁰ _{-0.033}	13	8	41	5	27	5	12	18.4	M8×1.25	15	24	M20×1.5	1/8	9	11.5
φ 25	22	19.5	17	8	12	10	26 ⁰ _{-0.033}	13	8	45	6	33	5.5	12	18.4	M10×1.25	15	30	M26×1.5	1/8	9	11.5
φ 32	22	19.5	17	10	20	12	26 ⁰ _{-0.033}	13	8	45	6	37.5	5.5	15	28	M10×1.25	15	34.5	M26×1.5	1/8	12	14.5
φ 40	24	21	22	10	20	14	32 ⁰ _{-0.039}	16	11	50	8	46.5	7	15	28	M14×1.5	21.5	42.5	M32×2	1/4	12	14.5

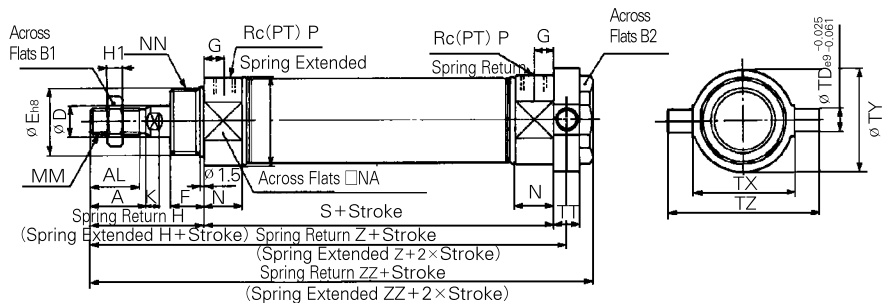
Stroke Dimension Adder

(Unit : mm)

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

Head Side Trunnion Type(T)

AXST Bore Size Stroke S



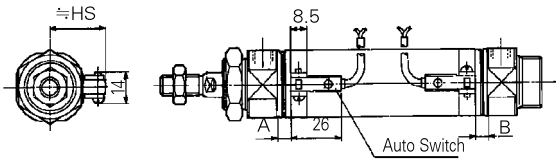
※ This Drawing is Spring Extended (Unit : mm)

Bore Size	A	AL	B1	B2	D	E _{h8}	F	G	H	H ₁	I	K	MM	N	NA	NN	P	TD	TT	TX	TY	TZ
ø 20	18	15.5	13	26	8	20 ⁰ _{-0.033}	13	8	41	5	27	5	M8×1.25	15	24	M20×1.5	1/8	8	10	32	32	52
ø 25	22	19.5	17	32	10	26 ⁰ _{-0.033}	13	8	45	6	33	5.5	M10×1.25	15	30	M26×1.5	1/8	9	10	40	40	60
ø 32	22	19.5	17	32	12	26 ⁰ _{-0.033}	13	8	45	6	37.5	5.5	M10×1.25	15	34.5	M26×1.5	1/8	9	10	40	40	60
ø 40	24	21	22	41	14	32 ⁰ _{-0.039}	16	11	50	8	46.5	7	M14×1.5	21.5	42.5	M32×2	1/4	10	11	53	53	77

Stroke Symbol	1~50			51~100			101~150			151~200			201~250		
Bore size	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ
ø 20	87	133	143	112	158	168	137	183	193	—	—	—	—	—	—
ø 25	87	137	147	112	162	172	137	187	197	—	—	—	—	—	—
ø 32	89	139	149	114	164	174	139	189	199	164	214	224	—	—	—
ø 40	113	168.5	179	138	193.5	204	163	218.5	229	188	243.5	254	213	268.5	279

Reed Switch Setting Position (Stroke End)

W5 (Unit : mm)



Auto Switch Mounting, Minimum Possible Cylinder Stroke

Auto Switch Type	No. of auto switch				1pc
	2pcs.		npcs.		
	Different Surface	Same Surface	Different Surface	Same Surface	
W5	15	50	$15+45(\frac{n-2}{2})$ (n=2,4,6,8 ...)	$50+45(n-2)$	10

Auto switch setting position(Stroke end) (Unit : mm)

Auto Switch Type	Bore Size	Spring Return						Spring Extended						Hs
		A					B	A	B					
		~50 ST	51~100 ST	101~150 ST	151~200 ST	201~250 ST			~50 ST	51~100 ST	101~150 ST	151~200 ST	201~250 ST	
W5	ø 20	32	57	82	107	132	6	7	31	56	81	106	131	22.5
	ø 25	32	57	82	107	132	6	7	31	56	81	106	131	25
	ø 32	33	58	83	108	133	7	8	32	57	82	107	132	28.5
	ø 40	38	63	88	113	138	12	13	37	62	87	112	137	32.5

Series **AXK**

Non-Rotating Piston Rod Type/Double Acting:Single Rod

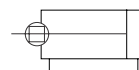
Bore Size(mm) : $\varnothing 20$, $\varnothing 25$, $\varnothing 32$, $\varnothing 40$



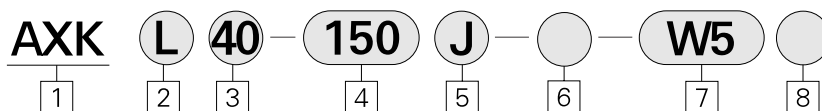
- NUMEROUS MOUNTING OPTION
- MAGENT STANDARD FOR AUTO SWITCH
- BUMPERS STNADARD
- DESIGED FOR NON-LUBRICATED SERVICE
- COMPACT LIGHT DESIGN
- REPLACEABLE ROD GLAND
- CUSTOM DESIGNED PISTON ROD FOR NON-ROTATION
- MANUFACTURING CERTIFIED TO ISO 9001 / 9002

Symbol

Double Acting/Single Rod



How to Order



1 Non-Rotating Piston Rod Type

2 Mounting

B : Basic Type
L : Axial Foot Type
F : Rod Side Flange Type
G : Head Side Flange Type
C : Single Clevis Type
D : Double Clevis Type
T : Head Side Trunnion Type
U : Rod Side Trunnion Type
E : Integrated Clevis Type
BZ : Boss-Cut Basic Type
FZ : Boss-Cut Flange Type
UZ : Boss-Cut Trunnion Type

3 Bore size(mm)

20 : $\varnothing 20$
25 : $\varnothing 25$
32 : $\varnothing 32$
40 : $\varnothing 40$

4 Stroke (mm)

※ For Stroke Refer to Page 64.

5 Rod Boot Option

Blank : Without Boot
J : Nylon Tarpaulin
K : Neoprene Cloth

6 Special Option

Blank : Standard type
XC16 : Copper-free

7 Applicable Auto Switch Reed Switch

(Band mounted type)
(Grommet)
Blank : Without auto switch
W5 : W5
Standard Lead 0.5m
(Up to 3m Optional)

8 Number of Switches

Blank : 2 pcs.
S : 1 pc.
N : (n) pcs.

PART No. of Mounting Bracket

Bore size(mm)	$\varnothing 20$	$\varnothing 25$	$\varnothing 32$	$\varnothing 40$
※Axial foot	TCM-L020B	TCM-L032B	TCM-L040B	
Flange	TCM-F020B	TCM-F032B	TCM-F040B	
Single clevis	TCM-C020B	TCM-C032B	TCM-C040B	
Double clevis	TCM-D020B	TCM-D032B	TCM-D040B	
Trunnion(With nut)	TCM-T020B	TCM-T032B	TCM-T040B	

※ 2 pcs. Required Per Cylinder

PART No. of Auto Switch Mounting Band

Auto Switch Model	Bore size(mm)			
	$\varnothing 20$	$\varnothing 25$	$\varnothing 32$	$\varnothing 40$
W5	TBM2-020	TBM2-025	TBM2-032	TBM2-040

Model

Bore Size(mm)	ø 20	ø 25	ø 32	ø 40
Action	Double Acting Single Rod			
Cushion	Rubber Cushion (Standard)			
Piping Method	Rc(PT) ¹ / ₈	Rc(PT) ¹ / ₈	Rc(PT) ¹ / ₈	Rc(PT) ¹ / ₄

Specifications

Action	Double Acting Single Rod	
Fluid	Air	
Proof pressure	15kgf/cm ² (1.5 MPa)	
Max. Operating Pressure	9.9kgf/cm ² (1.0 MPa)	
Min. Operating Pressure	0.5kgf/cm ² (0.05 MPa)	
Ambient and Fluid Temperature	40~140°F (5~ 60℃)	
Lubrication	None (Non-Lube)	
Stroke Tolerance	^{+1.4} ₀ mm	
Mounting	Basic Type, Axial Foot Type, Rod Side Flange Type, Head Side Flange Type, Single Clevis Type, Head Side Trunnion Type, Rod Side Trunnion Type, Integrated Clevis, Type Boss-Cut Type	
Non-Rotating Accuracy	ø 20, ø 25	±0.8°
	ø 32, ø 40	±0.5°

Piston Speed

Bore Size(mm)	ø 20	ø 25	ø 32	ø 40
Piston Speed(mm/sec)	50 ~ 500			
Allowable Kinetic Energy(kgf/cm)	2.7	4	6.5	12

Auto Switch Specifications

Mounting	Lead Wire Entry	Reed Switch
Band Mounting Type	Grommet	W5

Standard stroke(mm)

Bore size(mm)	Standard stroke
ø 20	25, 50, 75, 100, 125, 150
ø 25	25, 50, 75, 100, 125, 150, 200
ø 32	25, 50, 75, 100, 125, 150, 200
ø 40	25, 50, 75, 100, 125, 150, 200, 250, 300

Material of Boot

Symbol	Material of Boot	Max. Ambient Temperature
J	Nylon Tarpaulin	140°F (60℃)
K	Neoprene Cloth	※230°F (110℃)

※ The max. ambient temperature of gaiters only.

Boss-cut Type

Boss for the head cover bracket is eliminated and the total length of the cylinder is shortened.

Compared to the total length of cylinder (mm)

ø 20	ø 25	ø 32	ø 40
▲13	▲13	▲13	▲13

Mounting : ■ Boss-Cut Basic Type(BZ) ■ Boss-Cut Flange Type(FZ)
 ■ Boss-Cut Trunnion Type(UZ)

Mounting and Accessories

Accessories Mounting	Standard			Option		
	Mounting Nut	Rod End Nut	Clevis Pin	Knuckle Joint	Double Knuckle Joint	Boot
Basic Type	● (1pc.)	●	—	●	●	●
Axial Foot Type	● (2)	●	—	●	●	●
Rod Side Flange Type	● (1)	●	—	●	●	●
Head Side Flange Type	● (1)	●	—	●	●	●
Integrated Clevis Type	—	●	—	●	●	●
Single Clevis Type	—	●	—	●	●	●
Double Clevis Type	—	●	●	●	●	●
Head Side Trunnion Type	● (1)	●	—	●	●	●
Rod Side Trunnion Type	● (1)	●	—	●	●	●
Boss-Cut Basic Type	● (1)	●	—	●	●	●
Boss-Cut Flange Type	● (1)	●	—	●	●	●
Boss-Cut Trunnion Type	● (1)	●	—	●	●	●
Note					With pin	

Weight Table

(kgf)

Bore Size(mm)		ø 20	ø 25	ø 32	ø 40
Basic weight	Basic Type	0.14	0.21	0.28	0.57
	Axial Foot Type	0.29	0.37	0.44	0.84
	Flange Type	0.20	0.30	0.37	0.69
	Integrated Clevis Type	0.12	0.19	0.27	0.53
	Single Clevis Type	0.18	0.25	0.32	0.66
	Double Clevis Type	0.19	0.27	0.33	0.70
	Trunnion Type	0.18	0.28	0.34	0.67
	Boss-Cut Basic Type	0.13	0.19	0.26	0.54
	Boss-Cut Flange Type	0.19	0.28	0.35	0.66
	Boss-Cut Trunnion Type	0.17	0.26	0.32	0.64
Additional weight for each 50 mm of stroke		0.14	0.07	0.09	0.14
Accessories Weight	Single Knuckle joint	0.06	0.06	0.06	0.23
	Double Knuckle Joint (with pin)	0.07	0.07	0.07	0.20

Calculation Example

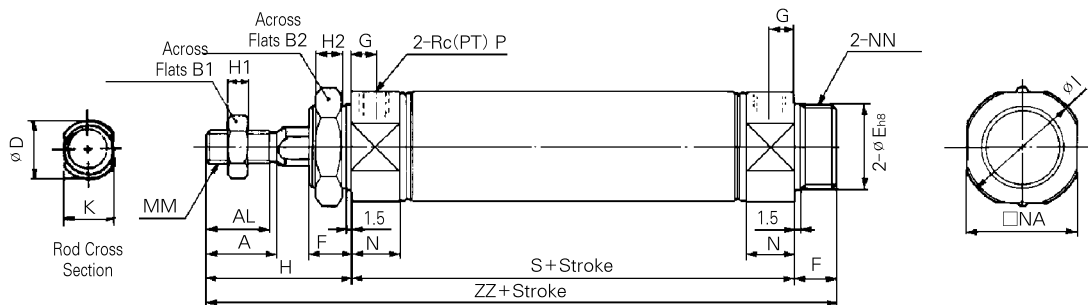
AXKL 32-100

- Basic weight : 0.44(Foot type ø 32)
 - Additional weight : 0.09/50 stroke
 - Cylinder stroke : 100 stroke
- $0.44 + 0.09 \times 100/50 = 0.62\text{kgf}$

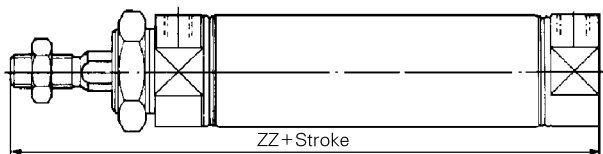
Series AXK

Basic Type(B)

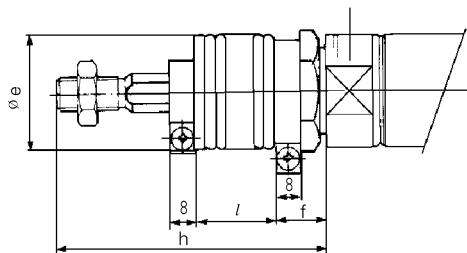
AXKB Bore Size — Stroke



Bos



Witl



(mm)

Bore Size	A	AL	B ₁	B ₂	D	E	F	G	H	H ₁	H ₂	I	K	MM	N	NA	NN	P	S	ZZ
Ø 20	18	15.5	13	26	10 ^{-0.01 -0.05}	20 ^{0 -0.033}	13	8	41	5	8	27	8 ^{-0.01 -0.05}	M8×1.25	15	24	M20×1.5	1/8	62	116
Ø 25	22	19.5	17	32	10 ^{-0.01 -0.05}	26 ^{0 -0.033}	13	8	45	6	8	33	8 ^{-0.01 -0.05}	M8×1.25	15	30	M26×1.5	1/8	62	120
Ø 32	22	19.5	17	32	12 ^{-0.01 -0.05}	26 ^{0 -0.033}	13	8	45	6	8	37.5	10 ^{-0.01 -0.05}	M10×1.25	15	34.5	M26×1.5	1/8	64	122
Ø 40	24	21	22	41	16 ^{-0.01 -0.05}	32 ^{0 -0.039}	16	11	50	8	10	46.5	14 ^{-0.01 -0.05}	M14×1.5	21.5	42.5	M32×2	1/4	88	154

With Rod Boot

(mm)

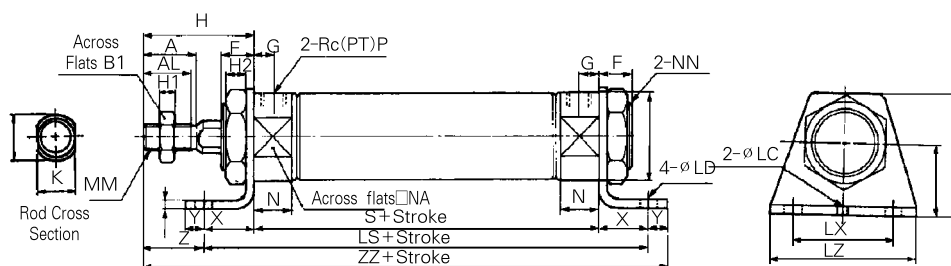
Bore Size	e	f	h					l				
			1~50 ^g	51~100 ^g	101~150 ^g	151~200 ^g	201~300 ^g	1~50 ^g	51~100 ^g	101~150 ^g	151~200 ^g	201~300 ^g
$\varnothing$ 20	30	16	68	81	93	106	131	12.5	25	37.5	50	75
$\varnothing$ 25	30	16	72	85	97	110	135	12.5	25	37.5	50	75
$\varnothing$ 32	30	16	72	85	97	110	135	12.5	25	37.5	50	75
$\varnothing$ 40	40	18	77	90	102	115	140	12.5	25	37.5	50	75

Boss-Cut Type

Bore Size	ZZ
ø 20	103
ø 25	107
ø 32	109
ø 40	138

Axial Foot Type(L)

AXKL Bore Size Stroke

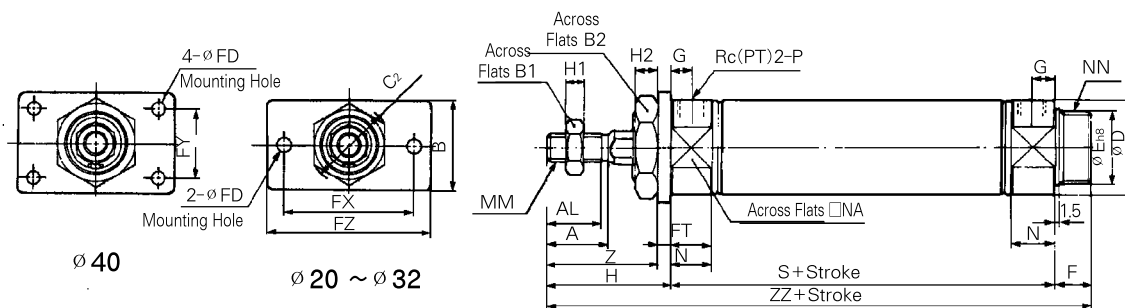


(mm)

Bore Size	A	AL	B	B ₁	B ₂	D	F	G	H	H ₁	H ₂	I	K	LC	LD	LH	LS	LT	LX	LZ	MM	N	NA	NN	P	S	X	Y	Z	ZZ
ø20	18	15.5	40	13	26	10 ^{-0.01/-0.05}	13	8	41	5	8	27	8 ^{-0.01/-0.05}	4	6.8	25	102	3.2	40	55	M8×1.25	15	24	M20×1.5	1/8	62	20	8	21	131
ø25	22	19.5	47	17	32	10 ^{-0.01/-0.05}	13	8	45	6	8	33	8 ^{-0.01/-0.05}	4	6.8	28	102	3.2	40	55	M8×1.25	15	30	M26×1.5	1/8	62	20	8	25	135
ø32	22	19.5	47	17	32	12 ^{-0.01/-0.05}	13	8	45	6	8	37.5	10 ^{-0.01/-0.05}	4	6.8	28	104	3.2	40	55	M10×1.25	15	34.5	M26×1.5	1/8	64	20	8	25	137
ø40	24	21	54	22	41	16 ^{-0.01/-0.05}	16	11	50	8	10	46.5	14 ^{-0.01/-0.05}	4	7	30	134	3.2	55	75	M14×1.5	21.5	42.5	M32×2	1/4	88	23	10	27	171

Rod Side Flange Type(F)

AXKF Bore Size Stroke



(mm)

Bore Size	A	AL	B	B ₁	B ₂	C ₂	D	E	F	FD	FT	FX	FY	FZ	G	H	H ₁	H ₂	I	K	MM
ø20	18	15.5	34	13	26	30	10 ^{-0.01/-0.05}	20 ^{0/-0.033}	13	7	4	60	—	75	8	41	5	8	27	8 ^{-0.01/-0.05}	M8×1.25
ø25	22	19.5	40	17	32	37	10 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	7	4	60	—	75	8	45	6	8	33	8 ^{-0.01/-0.05}	M8×1.25
ø32	22	19.5	40	17	32	37	12 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	7	4	60	—	75	8	45	6	8	37.5	10 ^{-0.01/-0.05}	M10×1.25
ø40	24	21	52	22	41	47.3	16 ^{-0.01/-0.05}	32 ^{0/-0.039}	16	7	5	66	36	82	11	50	8	10	46.5	14 ^{-0.01/-0.05}	M14×1.5

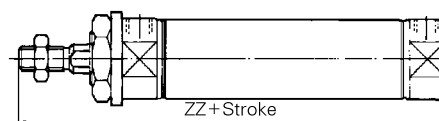
(mm)

Bore Size	N	NA	NN	P	S	Z	ZZ
ø20	15	24	M20×1.5	1/8	62	37	116
ø25	15	30	M26×1.5	1/8	62	41	120
ø32	15	34.5	M26×1.5	1/8	64	41	122
ø40	21.5	42.5	M32×2	1/4	88	45	154

Boss-Cut Type

Bore Size	ZZ
ø20	103
ø25	107
ø32	109
ø40	138

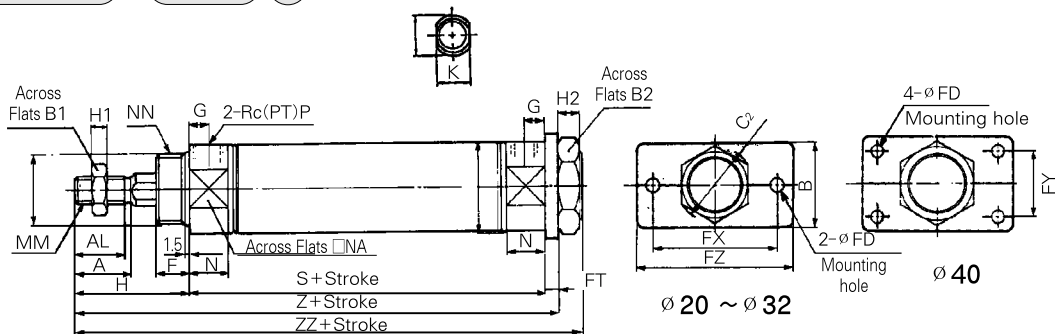
Boss-cut type



Series AXK

Head Side Flange Type(G)

AXKG (Bore Size) (Stroke)



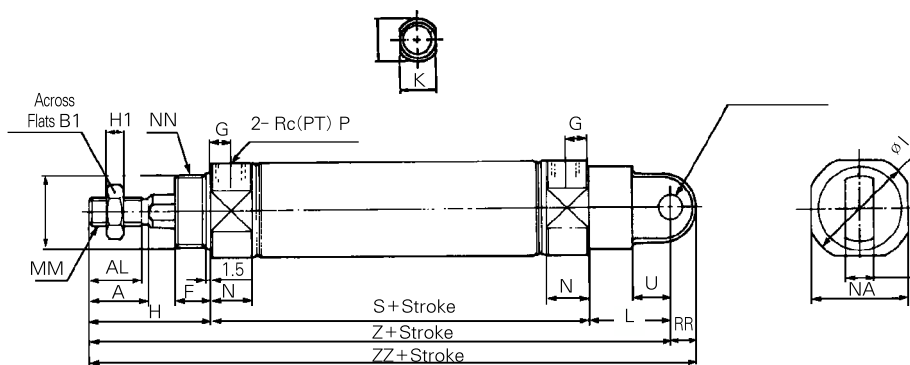
(mm)

Bore Size	A	AL	B	B ₁	B ₂	C ₂	D	E	F	FD	FT	FX	FY	FZ	G	H	H ₁	H ₂	I	K	MM
ø20	18	15.5	34	13	26	30	10 ^{-0.01/-0.05}	20 ^{0/-0.033}	13	7	4	60	—	75	8	41	5	8	27	8 ^{-0.01/-0.05}	M8×1.25
ø25	22	19.5	40	17	32	37	10 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	7	4	60	—	75	8	45	6	8	33	8 ^{-0.01/-0.05}	M8×1.25
ø32	22	19.5	40	17	32	37	12 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	7	4	60	—	75	8	45	6	8	37.5	10 ^{-0.01/-0.05}	M10×1.25
ø40	24	21	52	22	41	47.3	16 ^{-0.01/-0.05}	32 ^{0/-0.039}	16	7	5	66	36	82	10	50	8	10	46.5	14 ^{-0.01/-0.05}	M14×1.5

Bore Size	N	NA	NN	P	S	Z	ZZ
ø20	15	24	M20×1.5	1/8	62	107	116
ø25	15	30	M26×1.5	1/8	62	111	120
ø32	15	34.5	M26×1.5	1/8	64	113	122
ø40	21.5	42.5	M32×2	1/4	88	143	154

Single Clevis Type (C)

AXKC



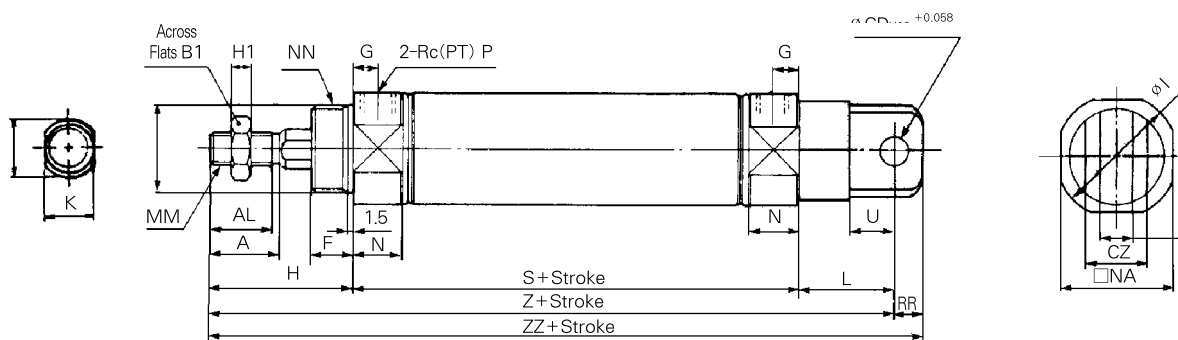
(mm)

Bore Size	A	AL	B ₁	CD	CX	D	E	F	G	H	H ₁	I	K	L	MM	N	NA	NN	P	RR
ø20	18	15.5	13	9	10	10 ^{-0.01/-0.05}	20 ^{0/-0.033}	13	8	41	5	27	8 ^{-0.01/-0.05}	30	M8×1.25	15	24	M20×1.5	1/8	9
ø25	22	19.5	17	9	10	10 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	8	45	6	33	8 ^{-0.01/-0.05}	30	M8×1.25	15	30	M26×1.5	1/8	9
ø32	22	19.5	17	9	10	12 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	8	45	6	37.5	10 ^{-0.01/-0.05}	30	M10×1.25	15	34.5	M26×1.5	1/8	9
ø40	24	21	22	10	15	16 ^{-0.01/-0.05}	32 ^{0/-0.039}	16	11	50	8	46.5	14 ^{-0.01/-0.05}	39	M14×1.5	21.5	42.5	M32×2	1/4	11

Bore Size	S	U	Z	ZZ
ø20	62	14	133	142
ø25	62	14	137	146
ø32	64	14	139	148
ø40	88	18	177	188

Double Clevis Type(D)

AXKD Bore Size Stroke

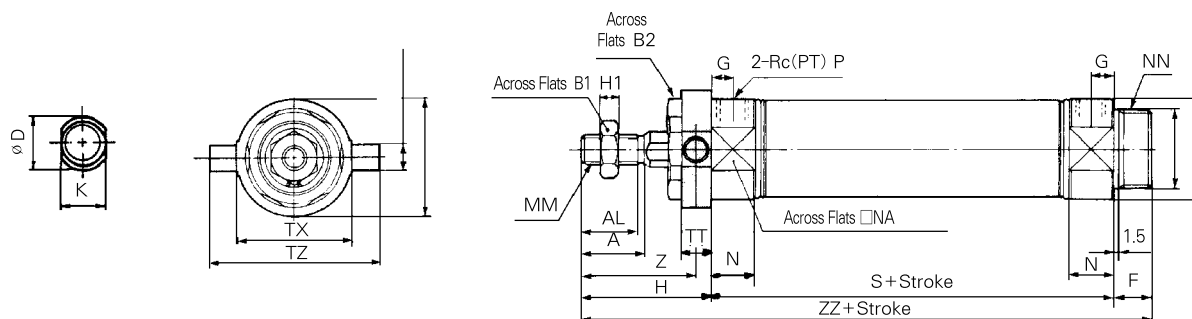


(mm)

Bore Size	A	AL	B ₁	CD	CX	CZ	D	E	F	G	H	H ₁	I	K	L	MM	N	NA	NN	P	RR	S	U	Z	ZZ
ø 20	18	15.5	13	9	10	19	10 ^{-0.01/-0.05}	20 ^{0/-0.033}	13	8	41	5	27	8 ^{-0.01/-0.05}	30	M8×1.25	15	24	M20×1.5	1/8	9	62	14	133	142
ø 25	22	19.5	17	9	10	19	10 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	8	45	6	33	8 ^{-0.01/-0.05}	30	M8×1.25	15	30	M26×1.5	1/8	9	62	14	137	146
ø 32	22	19.5	17	9	10	19	12 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	8	45	6	37.5	10 ^{-0.01/-0.05}	30	M10×1.25	15	34.5	M26×1.5	1/8	9	64	14	139	148
ø 40	24	21	22	10	15	30	16 ^{-0.01/-0.05}	32 ^{0/-0.039}	16	11	50	8	46.5	14 ^{-0.01/-0.05}	39	M14×1.5	21.5	42.5	M32×2	1/4	11	88	18	177	188

Rod Side Trunnion Type(U)

AXKU Bore Size Stroke



(mm)

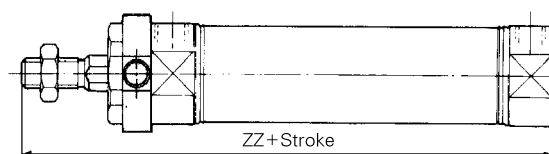
Bore Size	A	AL	B ₁	B ₂	D	E	F	G	H	H ₁	I	K	MM	N	NA	NN	P	S	TD	TT
ø 20	18	15.5	13	26	10 ^{-0.01/-0.05}	20 ^{0/-0.033}	13	8	41	5	27	8 ^{-0.01/-0.05}	M8×1.25	15	24	M20×1.5	1/8	62	8	10
ø 25	22	19.5	17	32	10 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	8	45	6	33	8 ^{-0.01/-0.05}	M8×1.25	15	30	M26×1.5	1/8	62	9	10
ø 32	22	19.5	17	32	12 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	8	45	6	37.5	10 ^{-0.01/-0.05}	M10×1.25	15	34.5	M26×1.5	1/8	64	9	10
ø 40	24	21	22	41	16 ^{-0.01/-0.05}	32 ^{0/-0.039}	16	11	50	8	46.5	14 ^{-0.01/-0.05}	M14×1.5	21.5	42.5	M32×2	1/4	88	10	11

Boss-Cut Type

Bore Size	TX	TY	TZ	Z	ZZ
ø 20	32	32	52	36	116
ø 25	40	40	60	40	120
ø 32	40	40	60	40	122
ø 40	53	53	77	44.5	154

Bore Size	ZZ
ø 20	103
ø 25	107
ø 32	109
ø 40	138

Boss-Cut Type



ACP

AX

AS

AM

AM2

AL
ALX

ARD

AJ

AQ

AG

AGX
GX

ADM

ADR

AMR

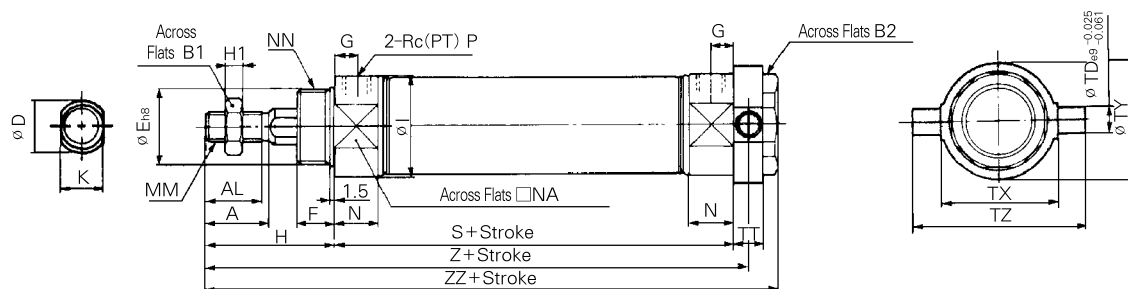
AST

NLCD

Series AXK

Head Side Trunnion Type(T)

AXKT Broe size Stroke



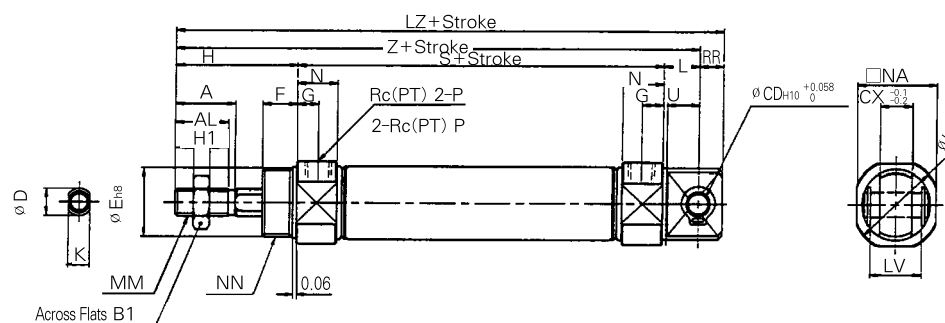
(mm)

Bore Size	A	AL	B ₁	B ₂	D	E	F	G	H	H ₁	I	K	MM	N	NA	NN	P	S	TD	TT
ø20	18	15.5	13	26	10 ^{-0.01/-0.05}	20 ^{0/-0.033}	13	8	41	5	27	8 ^{-0.01/-0.05}	M8×1.25	15	24	M20×1.5	1/8	62	8	10
ø25	22	19.5	17	32	10 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	8	45	6	33	8 ^{-0.01/-0.05}	M8×1.25	15	30	M26×1.5	1/8	62	9	10
ø32	22	19.5	17	32	12 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	8	45	6	37.5	10 ^{-0.01/-0.05}	M10×1.25	15	34.5	M26×1.5	1/8	64	9	10
ø40	24	21	22	41	16 ^{-0.01/-0.05}	32 ^{0/-0.039}	16	11	50	8	46.5	14 ^{-0.01/-0.05}	M14×1.5	21.5	42.5	M32×2	1/4	88	10	11

Bore Size	TX	TY	TZ	Z	ZZ
ø20	32	32	52	108	118
ø25	40	40	60	112	122
ø32	40	40	60	114	124
ø40	53	53	77	143.5	154

Integrated Clevis Type(E)

AXKE Bore Size Stroke



(mm)

Bore Size	A	AL	B ₁	CD	CX	D	E	F	G	H	H ₁	I	K	L	MM	N	NA	NN	P	RR
ø20	18	15.5	13	8	12	10 ^{-0.01/-0.05}	20 ^{0/-0.033}	13	8	41	5	27	8 ^{-0.01/-0.05}	12	M8×1.25	15	24	M20×1.5	1/8	9
ø25	22	19.5	17	8	12	10 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	8	45	6	33	8 ^{-0.01/-0.05}	12	M8×1.25	15	30	M26×1.5	1/8	9
ø32	22	19.5	17	10	20	12 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	8	45	6	37.5	10 ^{-0.01/-0.05}	15	M10×1.25	15	34.5	M26×1.5	1/8	12
ø40	24	21	22	10	20	16 ^{-0.01/-0.05}	32 ^{0/-0.039}	16	11	50	8	46.5	14 ^{-0.01/-0.05}	15	M14×1.5	21.5	42.5	M32×2	1/4	12

Bore Size	S	U	Z	ZZ	LV
ø20	62	11.5	115	124	18.4
ø25	62	11.5	119	128	18.4
ø32	64	14.5	124	136	28
ø40	88	14.5	153	165	28

Series AXKS

Non-Rotating Piston Rod Type/Single Acting: Spring Return, Spring Extended

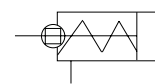
Bore Size(mm) : $\phi 20$, $\phi 25$, $\phi 32$, $\phi 40$



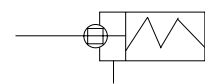
- NUMEROUS MOUNTING OPTION
- MAGNET STANDARD FOR AUTO SWITCH
- BUMPERS STANDARD
- DESIGNED FOR NON-LUBRICATED SERVICE
- COMPACT LIGHT DESIGN
- REPLACEABLE ROD GLAND
- CUSTOM DESIGNED PISTON ROD FOR NON-ROTATION AND LONG ROD SEAL LIFE
- MANUFACTURING CERTIFIED TO ISO 9001 / 9002

Symbol

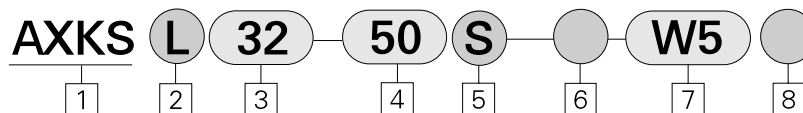
Single Acting Spring Return



Single Acting Spring Extended



How to Order



1 Non-Rotating Piston Rod Type

2 Mounting

- B : Basic Type
- L : Axial Foot Type
- F : Rod Side Flange Type
- G : Head Side Flange Type
- C : Single Clevis Type
- D : Double Clevis Type
- T : Head Side Trunnion Type
- U : Rod Side Trunnion Type
- E : Integrated Clevis Type
- BZ : Boss-Cut Basic Type
- FZ : Boss-Cut Flange Type
- UZ : Boss-Cut Trunnion Type

3 Bore Size(mm)

- 20: $\phi 20$
- 25: $\phi 25$
- 32: $\phi 32$
- 40: $\phi 40$

4 Stroke/mm

※ For Stroke Refer to page 72.

5 Action

- S : Single Acting Spring Return
- T : Single Acting Spring Extend

6 Special Option

- Blank : Standard Type
- XC16 : Copper-Free

7 Applicable Auto Switch Reed Switch

(Band mounted type)
(Grommet)

- Blank : Without auto switch
- W5 : W5

Standard Lead 0.5m

(Up to 3m Optional)

(Example) W5 → W5L

8 Number of Switches

- Blank : 2 pcs.
- S : 1 pc.
- N : n pcs.

ACP

AX

AS

AM

AM2

AL
ALX

ARD

AJ

AQ

AG

AGX
GX

ADM

ADR

AMR

AST

NLCD

Model

Bore Size(mm)		φ 20	φ 25	φ 32	φ 40
Type		Air Cylinder			
Cushion		Rubber Cushion (Standard)			
Piping Method	Screwed Type	Rc(PT) 1/8	Rc(PT) 1/8	Rc(PT) 1/8	Rc(PT) 1/4

Specifications

Action		Spring Return	Spring Extended
Fluid		Air	
Proof Pressure		15kgf/cm ² (1.5 MPa)	
Max. Operating Pressure		9.9kgf/cm ² (1.0 MPa)	
Min. Operating Pressure		180 kgf/cm ²	230 kgf/cm ²
Ambient and Fluid Temperature		40~140°F (5~60°C)	
Lubrication		None (Non-Lube)	
Thread Tolerance		KS 2 Class	
Stroke Tolerance		+1.4 0 mm	
Mounting		Basic Type, Axial Foot Type, Rod Side Flange Type, Head Side Flange Type, Single Clevis Type, Double Clevis Type, Rod Side Trunnion Type, Head Side Trunnion Type, Integrated Clevis Type, Boss-Cut Type.	
Non-Rotating Accuracy	φ 20, φ 25	±0.8°	
	φ 32, φ 40	±0.5°	

Piston Speed

Bore Size (mm)	φ 20	φ 25	φ 32	φ 40
Piston Speed (mm/sec)	50~500			
Allowable Kinetic Energy (kgf-cm)	2.7	4	6.5	12

Auto Switch Specifications

Mounting	Lead Wire Entry	Reed Switch
Band Mounting Type	Grommet	W5

Standard Stroke

Bore size(mm)	Standard Stroke (mm)
φ 20	25, 50, 75, 100, 125, 150
φ 25	25, 50, 75, 100, 125, 150
φ 32	25, 50, 75, 100, 125, 150, 200,
φ 40	25, 50, 75, 100, 125, 150, 200, 250

Boss-Cut Type

Boss for the head cover bracket is eliminated and the total length of the cylinder is shortened.

Compared to the Total Length of Cylinder

(Compared to the basic type) (mm)

ø 20	ø 25	ø 32	ø 40
▲13	▲13	▲13	▲16

Mounting

- Boss-Cut Basic Type(BZ)
- Boss-Cut Flange Type(FZ)
- Boss-Cut Trunnion Type(UZ)

※ Spring return/() : spring extended

Mounting and Accessories

Accessories	Standard			Option	
	Mounting Nut	Rod End Nut	Clevis Pin	Single Knuckle Joint	Double Knuckle Joint
Basic Type	● (1pc.)	●	—	●	●
Axial Foot Type	● (2)	●	—	●	●
Rod Side Flange Type	● (1)	●	—	●	●
Head Side Flange Type	● (1)	●	—	●	●
Integrated Clevis Type	—	●	—	●	●
Single Clevis Type	—	●	—	●	●
Double Clevis Type	—	●	●	●	●
Head Side Trunnion Type	● (1)	●	—	●	●
Rod Side Trunnion Type	● (1)	●	—	●	●
Boss-Cut Basic Type	● (1)	●	—	●	●
Boss-Cut Flange Type	● (1)	●	—	●	●
Boss-Cut Trunnion Type	● (1)	●	—	●	●
Note					With pin

Weight Table

(kgf)

Bore Size(mm)		ø 20	ø 25	ø 30	ø 40
Basic Weight	25 Stroke	0.20(0.19)	0.31(0.30)	0.43(0.41)	0.78(0.75)
	50 Stroke	0.23(0.21)	0.34(0.33)	0.48(0.45)	0.86(0.83)
	75 Stroke	0.29(0.25)	0.43(0.41)	0.61(0.56)	1.08(0.99)
	100 Stroke	0.31(0.27)	0.47(0.44)	0.66(0.56)	1.14(1.06)
	125 Stroke	0.37(0.32)	0.56(0.52)	0.66(0.60)	0.34(1.23)
	150 Stroke	0.39(0.34)	0.59(0.55)	0.81(0.72)	1.39(1.31)
	175 Stroke	—(—)	—(—)	0.85(0.76)	1.71(1.54)
	200 Stroke	—(—)	—(—)	1.04(0.92)	2.00(1.78)
Mounting Bracket Weight	Foot type	0.15(0.15)	0.16(0.16)	—(—)	0.27(0.27)
	Flang type	0.06(0.06)	0.09(0.09)	0.16(0.16)	0.12(0.12)
	Single clevis type	0.04(0.04)	0.04(0.04)	0.09(0.09)	0.09(0.09)
	Double Knuckle Joint(with PIN) type	0.05(0.05)	0.06(0.06)	0.04(0.04)	0.13(0.13)
	Double clevis type	0.04(0.04)	0.07(0.07)	0.06(0.06)	0.10(0.10)
	Trunnion type	−0.02(−0.02)	−0.02(−0.02)	0.07(0.07)	−1.14(−0.04)
	Intergrated clevis type	−0.01(−0.01)	−0.02(−0.02)	−0.01(−0.01)	−0.03(−0.03)
	Boss-cut basic type	0.05(0.05)	0.07(0.07)	−0.02(−0.02)	0.09(0.09)
Accessories	Boss-cut flange type	0.03(0.03)	0.05(0.05)	0.07(0.07)	0.07(0.07)
	Boss-cut trunnion type	0.06(0.06)	0.06(0.06)	0.05(0.05)	0.23(0.23)
	Single knuckle joint type	0.07(0.07)	0.07(0.07)	0.06(0.06)	0.20(0.20)

Calculation

Example:AXKL32-100S(Bore size ø 32, Foot type, 100st)

Basic weight...0.66 + (Mounting bracket weight)0.16=0.82kgf

ACP

AX

AS

AM

AM2

AL
ALX

ARD

AJ

AQ

AG

AGX
GX

ADM

ADR

AMR

AST

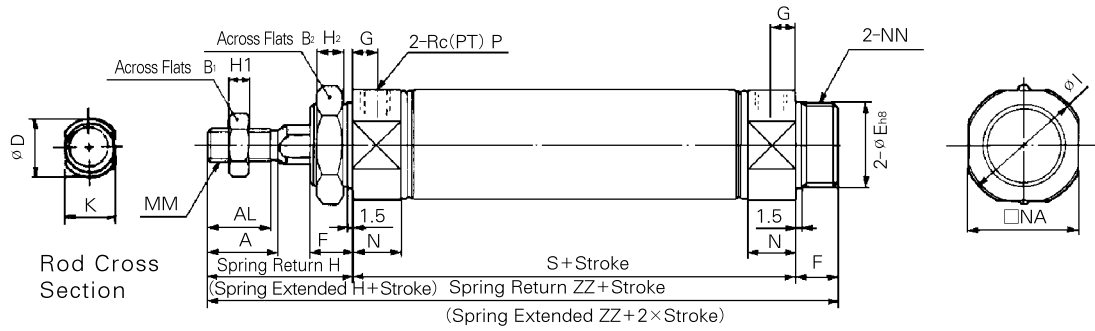
NLCD

Series AXKS

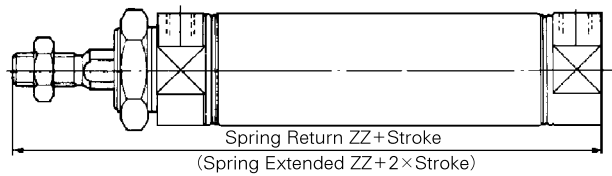
Basic Type (B)

AXKB Bore Size Stroke S
T

Bas



Bos



(mm)

Bore Size	A	AL	B	B ₁	B ₂	C ₂	D	E	F	FD	FT	FX	FY	FZ	G	H	H ₁	H ₂	I	K	MM	N	NA	NN	P
ø 20	18	15.5	34	13	26	30	10 ^{-0.01 -0.05}	20 ^{0 -0.033}	13	7	4	60	—	75	8	41	5	8	27	8 ^{0.01 -0.05}	M8×1.25	15	24	M20×1.5	1/8
ø 25	22	19.5	40	17	32	37	10 ^{-0.01 -0.05}	26 ^{0 -0.033}	13	7	4	60	—	75	8	45	6	8	33	8 ^{0.01 -0.05}	M8×1.25	15	30	M26×1.5	1/8
ø 32	22	19.5	40	17	32	37	12 ^{-0.01 -0.05}	26 ^{0 -0.033}	13	7	4	60	—	75	8	45	6	8	37.5	10 ^{-0.01 -0.05}	M10×1.25	15	34.5	M26×1.5	1/8
ø 40	24	21	52	22	41	47.3	16 ^{-0.01 -0.05}	32 ^{0 -0.039}	16	7	5	66	36	82	11	50	8	10	46.5	14 ^{0.01 -0.05}	M14×1.5	21.5	42.5	M32×2	1/4

Stroke Dimension Adder

(mm)

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

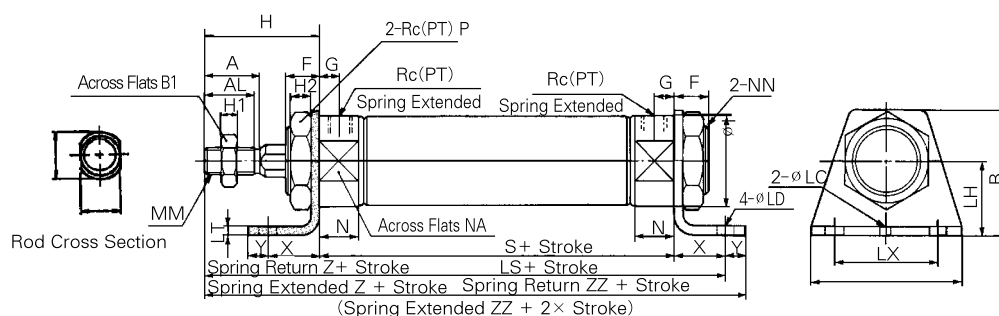
Boss-Cut Type

(mm)

Stroke Symbol Bore Size	1~50	51~100	101~150	151~200	201~250
	ZZ	ZZ	ZZ	ZZ	ZZ
ø 20	128	153	178	—	—
ø 25	132	157	182	—	—
ø 32	134	159	184	209	—
ø 40	163	188	213	238	263

Foot Type(L)

AXKL Bore Size ϕ Stroke $\uparrow$



(mm)

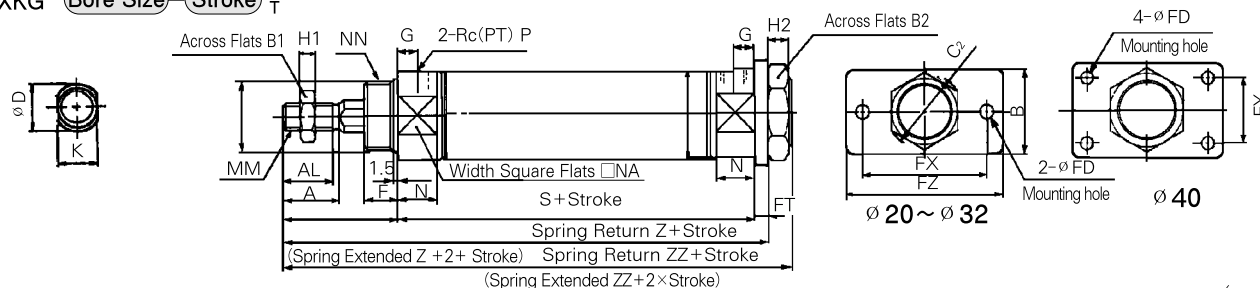
Bore Size	A	AL	B	B ₁	B ₂	D	F	G	H	H ₁	H ₂	I	K	LC	LD	LH	LT	LX	LZ	MM	N	NA	NN	P	X	Y	Z
ø 20	18	15.5	40	13	26	10 ^{-0.01/-0.05}	13	8	45	5	8	27	8 ^{-0.01/-0.05}	4	6.8	25	3.2	40	55	M8×1.25	15	24	M20×1.5	1/8	20	8	21
ø 25	22	19.5	47	17	32	10 ^{-0.01/-0.05}	13	8	45	6	8	33	8 ^{-0.01/-0.05}	4	6.8	28	3.2	40	55	M8×1.25	15	30	M26×1.5	1/8	20	8	25
ø 32	22	19.5	47	17	32	12 ^{-0.01/-0.05}	13	8	45	6	8	37.5	10 ^{-0.01/-0.05}	4	6.8	28	3.2	40	55	M10×1.25	15	34.5	M26×1.5	1/8	20	8	25
ø 40	24	21	54	22	41	16 ^{-0.01/-0.05}	16	11	50	8	10	46.5	14 ^{-0.01/-0.05}	4	7	30	3.2	55	75	M14×1.5	21.5	42.5	M32×2	1/4	23	10	27

Stroke Dimension Adder

Stroke Symbol	1~50			51~100			101~150			151~200			201~250		
Bore Size	S	LS	ZZ	S	LS	ZZ	S	LS	ZZ	S	LS	ZZ	S	LS	ZZ
ø 20	87	127	156	112	152	181	137	177	206	—	—	—	—	—	—
ø 25	87	127	160	112	152	185	137	177	210	—	—	—	—	—	—
ø 32	89	129	162	114	154	187	139	179	212	164	204	237	—	—	—
ø 40	113	159	196	138	184	221	163	209	246	188	234	271	213	259	296

Head Side Flange Type(G)

AXKG Bore Size ϕ Stroke $\uparrow$



(mm)

Bore Size	A	AL	B	B ₁	B ₂	C ₂	D	E	F	FD	FT	FX	FY	FZ	G	H	H ₁	H ₂	I	K	MM	N	NA	NN	P	Z
ø 20	18	15.5	34	13	26	30	10 ^{-0.01/-0.05}	20 ^{-0/-0.033}	13	7	4	60	—	75	8	41	5	8	27	8 ^{-0.01/-0.05}	M8×1.25	15	24	M20×1.5	1/8	37
ø 25	22	19.5	40	17	32	37	10 ^{-0.01/-0.05}	26 ^{-0/-0.033}	13	7	4	60	—	75	8	45	6	8	33	8 ^{-0.01/-0.05}	M8×1.25	15	30	M26×1.5	1/8	41
ø 32	22	19.5	40	17	32	37	12 ^{-0.01/-0.05}	26 ^{-0/-0.033}	13	7	4	60	—	75	8	45	6	8	37.5	10 ^{-0.01/-0.05}	M10×1.25	15	34.5	M26×1.5	1/8	41
ø 40	24	21	52	22	41	47.3	16 ^{-0.01/-0.05}	32 ^{-0/-0.039}	16	7	5	66	36	82	11	50	8	10	46.5	14 ^{-0.01/-0.05}	M14×1.5	21.5	42.5	M30×2	1/4	45

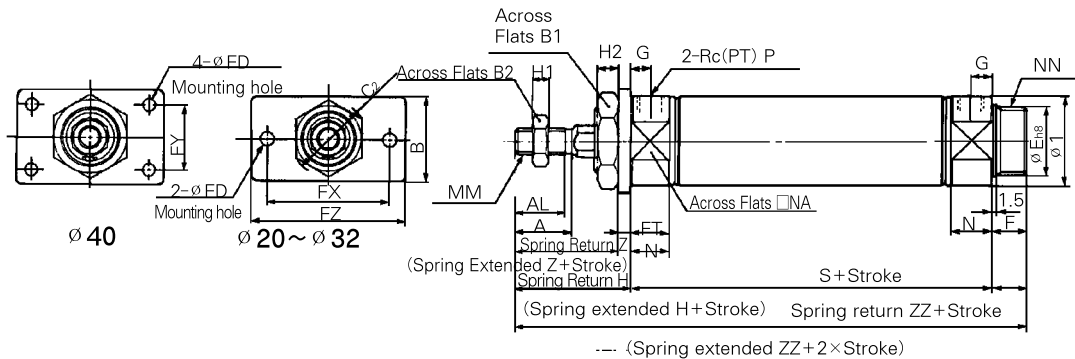
Stroke Dimension Adder

(Unit : mm)

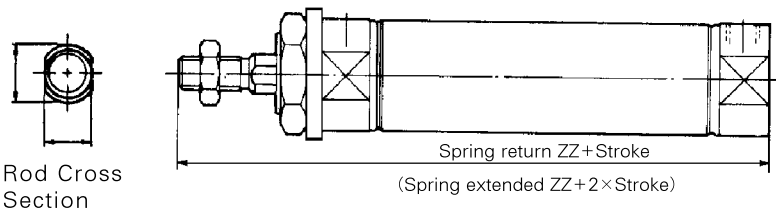
Stroke Symbol	1~50			51~100			101~150			151~200			201~250		
Bore Size	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ
ø 20	87	132	141	112	157	166	137	182	191	—	—	—	—	—	—
ø 25	87	136	145	112	161	170	137	186	195	—	—	—	—	—	—
ø 32	89	138	147	114	163	172	139	188	197	164	213	222	—	—	—
ø 40	113	168	179	138	193	204	163	218	229	188	243	254	213	268	279

Rod Side Flange Type(F)

AXKF Bore Size Stroke S



Boss-Cut type



※ This Drawing is Spring Extended.

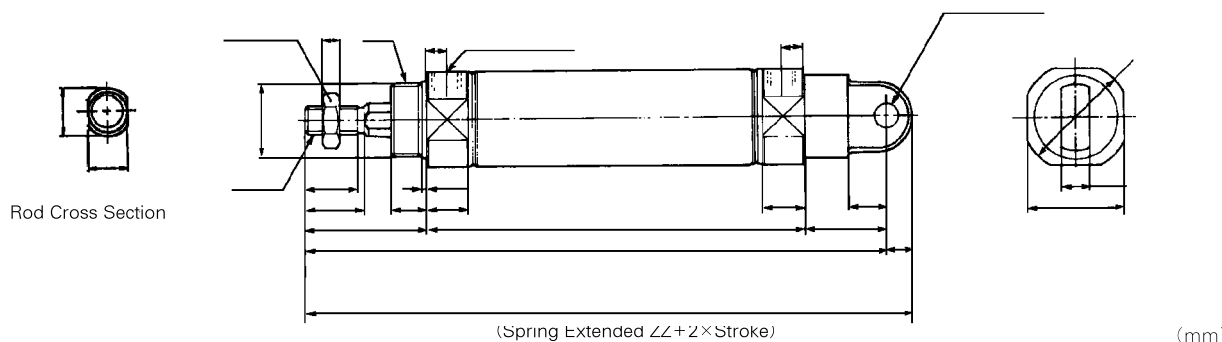
(mm)																										
Bore Size	A	AL	B	B ₁	B ₂	C ₂	D	E	F	FD	FT	FX	FY	FZ	G	H	H ₁	H ₂	I	K	MM	N	NA	NN	P	Z
ø 20	18	15.5	34	13	26	30	10 ^{-0.01 -0.05}	20 ^{0 -0.033}	13	7	4	60	—	75	8	41	5	8	27	8 ^{-0.01 -0.05}	M8×1.25	15	24	M20×1.5	1/8	37
ø 25	22	19.5	40	17	32	37	10 ^{-0.01 -0.05}	26 ^{0 -0.033}	13	7	4	60	—	75	8	45	6	8	33	8 ^{-0.01 -0.05}	M8×1.25	15	30	M26×1.5	1/8	41
ø 32	22	19.5	40	17	32	37	12 ^{-0.01 -0.05}	26 ^{0 -0.033}	13	7	4	60	—	75	8	45	6	8	37.5	10 ^{-0.01 -0.05}	M10×1.25	15	34.5	M26×1.5	1/8	41
ø 40	24	21	52	22	41	47.3	16 ^{-0.01 -0.05}	32 ^{0 -0.033}	16	7	5	66	36	82	11	50	8	10	46.5	14 ^{-0.01 -0.05}	M14×1.5	21.5	42.5	M32×2	1/4	45

Stroke Dimension Adder (mm)										
Stroke Symbol Bore Size	1~50		51~100		101~150		151~200		201~250	
	S	ZZ	S	ZZ	S	ZZ	S	ZZ	S	ZZ
φ20	87	141	112	166	137	191	—	—	—	—
φ25	87	145	112	170	137	195	—	—	—	—
φ32	89	147	114	172	139	197	164	222	—	—
φ40	113	179	138	204	163	229	188	254	213	279

Boss-Cut Type/Distinction of Stroke (mm)					
Stroke Symbol Bore Size	1~50	51~100	101~150	151~200	201~250
	ZZ	ZZ	ZZ	ZZ	ZZ
φ20	128	153	178	—	—
φ25	132	157	182	—	—
φ32	134	159	184	209	—
φ40	163	188	213	238	263

Single Clevis Type (C)

AXKG (Bore Size) (Stroke) $\frac{S}{T}$



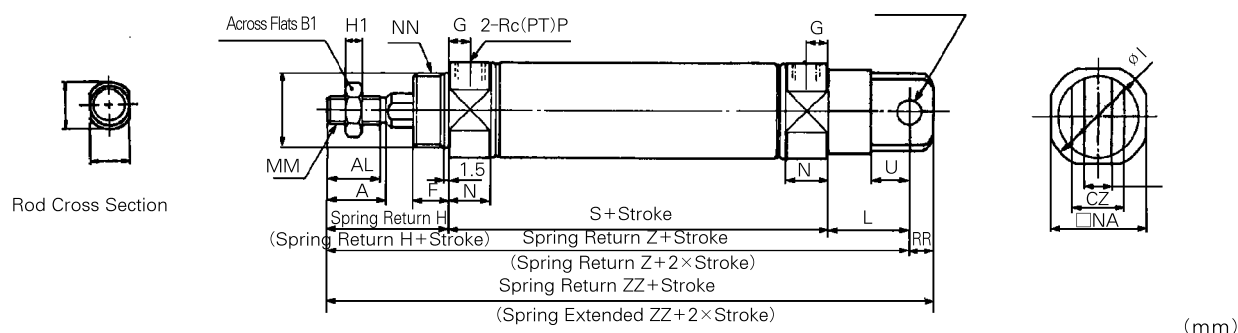
Bore Size	A	AL	B ₁	CD	CX	D	E	F	G	H	H ₁	I	K	L	MM	N	NA	NN	P	RR	U
ø 20	18	15.5	13	9	10	10 ^{-0.01/-0.05}	20 ^{0/-0.033}	13	8	41	5	27	8 ^{-0.01/-0.05}	30	M8×1.25	15	24	M20×1.5	1/8	9	14
ø 25	22	19.5	17	9	10	10 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	8	45	6	33	8 ^{-0.01/-0.05}	30	M8×1.25	15	30	M26×1.5	1/8	9	14
ø 32	22	19.5	17	9	10	12 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	8	45	6	37.5	10 ^{-0.01/-0.05}	30	M10×1.25	15	34.5	M26×1.5	1/8	9	14
ø 40	24	21	22	10	15	16 ^{-0.01/-0.05}	32 ^{0/-0.039}	16	11	50	8	46.5	14 ^{-0.01/-0.05}	39	M14×1.5	21.5	42.5	M32×2	1/4	11	18

Stroke Dimension Adder

Stroke	1~50			51~100			101~150			151~200			201~250		
Bore Size	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ
ø 20	87	158	167	112	183	192	137	208	217	—	—	—	—	—	—
ø 25	87	162	171	112	187	196	137	212	221	—	—	—	—	—	—
ø 32	89	164	173	114	189	198	139	214	223	164	239	248	—	—	—
ø 40	113	202	213	138	227	238	163	252	263	188	277	288	213	302	313

Double Clevis Type (D)

AXKG (Bore Size) (Stroke) $\frac{S}{T}$



Bore Size	A	AL	B ₁	CD	CX	CZ	D	E	F	G	H	H ₁	I	K	L	MM	N	NA	NN	P	RR	U
ø 20	18	15.5	13	9	10	19	10 ^{-0.01/-0.05}	20 ^{0/-0.033}	13	8	41	5	27	8 ^{-0.01/-0.05}	30	M8×1.25	15	24	M20×1.5	1/8	9	14
ø 25	22	19.5	17	9	10	19	10 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	8	45	6	33	8 ^{-0.01/-0.05}	30	M8×1.25	15	30	M26×1.5	1/8	9	14
ø 32	22	19.5	17	9	10	19	12 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	8	45	6	37.5	10 ^{-0.01/-0.05}	30	M10×1.25	15	34.5	M26×1.5	1/8	9	14
ø 40	24	21	22	10	15	30	16 ^{-0.01/-0.05}	32 ^{0/-0.039}	16	11	50	8	46.5	14 ^{-0.01/-0.05}	39	M14×1.5	21.5	42.5	M32×2	1/4	11	18

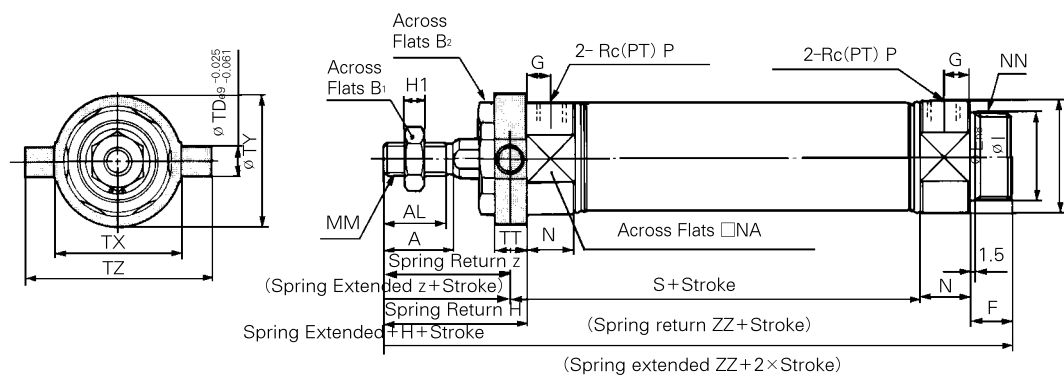
Stroke Dimension Adder

(Unit : mm)

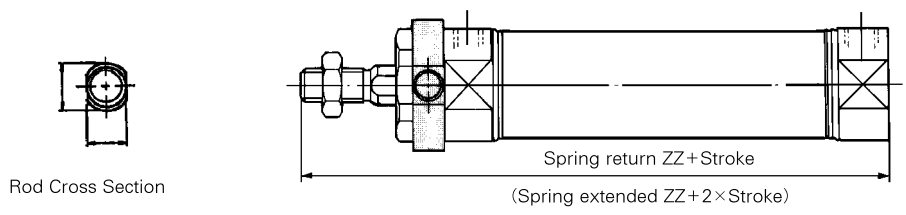
Stroke	1~50			51~100			101~150			151~200			201~250		
Bore Size	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ
ø 20	87	158	167	112	183	192	137	208	217	—	—	—	—	—	—
ø 25	87	162	171	112	187	196	137	212	221	—	—	—	—	—	—
ø 32	89	164	173	114	189	198	139	214	223	164	239	248	—	—	—
ø 40	113	202	213	138	227	238	163	252	263	188	277	288	213	302	313

Rod Side Trunnion Type(U)

AXKU Bore Size Stroke $\frac{S}{T}$



Boss-cut type



※ This Drawing is Spring Extended. (mm)

Bore Size	A	AL	B ₁	B ₂	D	E	F	G	H	H ₁	I	K	MM	N	NA	NN	P	TD	TT	TX	TY	TZ	Z
ø 20	18	15.5	13	26	10 ^{-0.01 -0.05}	20 ^{0 -0.033}	13	8	41	5	27	8 ^{-0.01 -0.05}	M8×1.25	15	24	M20×1.5	1/8	8	10	32	32	52	36
ø 25	22	19.5	17	32	10 ^{-0.01 -0.05}	26 ^{0 -0.033}	13	8	45	6	33	8 ^{-0.01 -0.05}	M8×1.25	15	30	M26×1.5	1/8	9	10	40	40	60	40
ø 32	22	19.5	17	32	12 ^{-0.01 -0.05}	26 ^{0 -0.033}	13	8	45	6	37.5	10 ^{-0.01 -0.05}	M10×1.25	15	34.5	M26×1.5	1/8	9	10	40	40	60	40
ø 40	24	21	22	41	16 ^{-0.01 -0.05}	32 ^{0 -0.039}	16	11	50	8	46.5	14 ^{-0.01 -0.05}	M14×1.5	21.5	42.5	M32×2	1/4	10	11	53	53	77	44.5

Stroke Dimension Adder (mm)

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

Boss-Cut (mm)

Stroke Symbol Bore Size	1~50	51~100	101~150	151~200	201~250
	ZZ	ZZ	ZZ	ZZ	ZZ
ø 20	128	153	178	—	—
ø 25	132	157	182	—	—
ø 32	134	159	184	209	—
ø 40	163	188	213	238	263

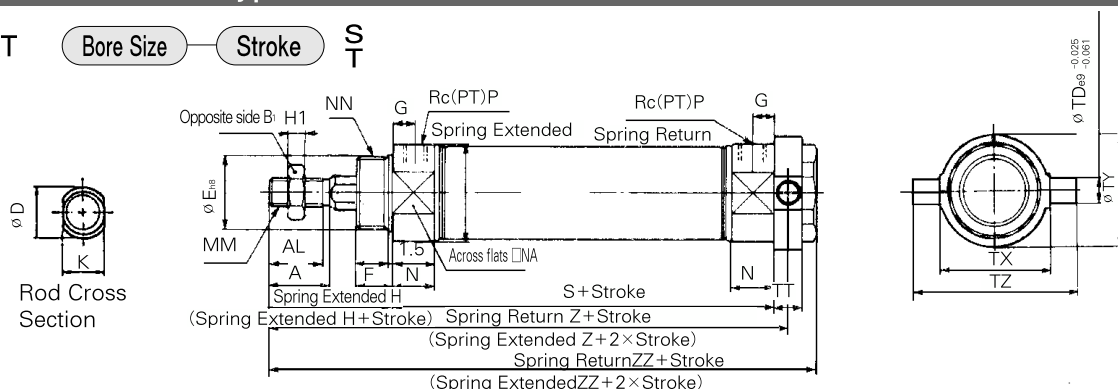
Head Side Trunnion type (T)

AXKT

Bore Size

Stroke

S
T



(mm)

Bore Size	A	AL	B ₁	B ₂	D	E	F	G	H	H ₁	I	K	MM	N	NA	NN	P	TD	TT	TX	TY	YZ
ø 20	18	15.5	13	26	10 ^{-0.01/-0.05}	20 ^{0/-0.033}	13	8	41	5	27	8 ^{-0.01/-0.05}	M8×1.25	15	24	M20×1.5	1/8	8	10	32	32	52
ø 25	22	19.5	17	32	10 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	8	45	6	33	8 ^{-0.01/-0.05}	M8×1.25	15	30	M26×1.5	1/8	9	10	40	40	60
ø 32	22	19.5	17	32	12 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	8	45	6	37.5	10 ^{-0.01/-0.05}	M10×1.25	15	34.5	M26×1.5	1/8	9	10	40	40	60
ø 40	24	21	22	41	16 ^{-0.01/-0.05}	32 ^{0/-0.039}	16	11	50	8	46.5	14 ^{-0.01/-0.05}	M14×1.5	21.5	42.5	M32×2	1/4	10	11	53	53	77

Stroke Dimension Adder

(mm)

Stroke Symbol	1~50			51~100			101~150			151~200			201~250		
Bore Size	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ
ø 20	87	133	143	112	158	168	137	183	193	—	—	—	—	—	—
ø 25	87	137	147	112	162	172	137	187	197	—	—	—	—	—	—
ø 32	89	139	149	114	164	174	139	189	199	164	214	224	—	—	—
ø 40	113	168.5	179	138	193.5	204	163	218.5	229	188	243.5	254	213	268.5	279

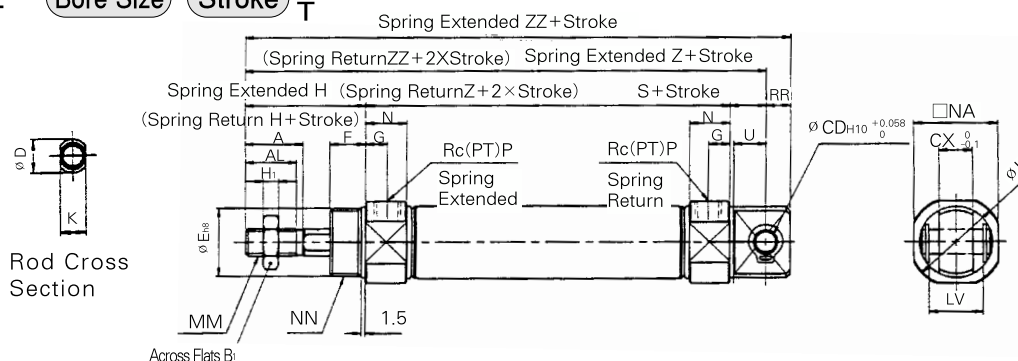
Single Clevis Type(E)

AXKE

Bore Size

Stroke

S
T



(mm)

Bore Size	A	AL	B ₁	CD	CX	D	E	F	G	H	H ₁	I	K	L	LV	MM	N	NA	NN	P	RR	U
ø 20	18	15.5	13	8	12	10 ^{-0.01/-0.05}	20 ^{0/-0.033}	13	8	41	5	27	8 ^{-0.01/-0.05}	12	18.4	M8×1.25	15	24	M20×1.5	1/8	9	11.5
ø 25	22	19.5	17	8	12	10 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	8	45	6	33	8 ^{-0.01/-0.05}	12	18.4	M8×1.25	15	30	M26×1.5	1/8	9	11.5
ø 32	22	19.5	17	10	20	12 ^{-0.01/-0.05}	26 ^{0/-0.033}	13	8	45	6	37.5	10 ^{-0.01/-0.05}	15	28	M10×1.25	15	34.5	M26×1.5	1/8	12	14.5
ø 40	24	21	22	10	20	16 ^{-0.01/-0.05}	32 ^{0/-0.039}	16	11	50	8	46.5	14 ^{-0.01/-0.05}	15	28	M14×1.5	21.5	42.5	M32×2	1/4	12	14.5

Stroke Dimension Adder

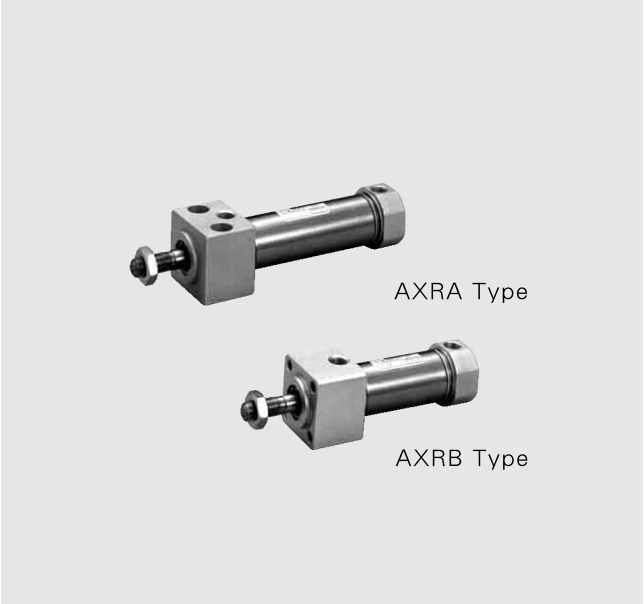
(mm)

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

Series **AXR**

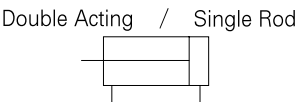
Direct Mounting Cylinder/Double Acting Single Rod

Bore size(mm) : $\varnothing 20$, $\varnothing 25$, $\varnothing 32$, $\varnothing 40$

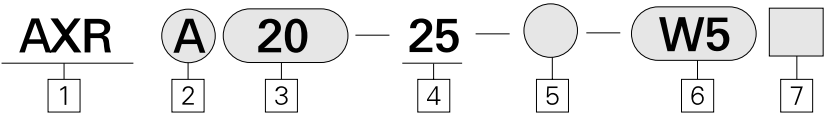


- STAINLESS STEEL BODY
- HIGH CYCLE LIFE
- LOW BREAKAWAY
- MAGNET STANDARD FOR AUTO SWITCH
- BUMPERS STANDARD
- DESIGNED FOR NON-LUBRICATED SERVICE
- COMPACT LIGHT DESIGN
- ADJUSTABLE STROKE AVAILABLE
- REPLACEABLE ROD GLAND
- MANUFACTURING CERTIFIED TO ISO 9001 / 9002

Symbol



How to Order



- 1 Direct Mount**
- 2 Mounting**
 - A : Rear Pivot Mounting
 - B : Front Face Mounting
- 3 Bore Size(mm)**
 - 20 : $\varnothing 20$
 - 25 : $\varnothing 25$
 - 32 : $\varnothing 32$
 - 40 : $\varnothing 40$
- 4 Stroke/mm**
 - ※ For Stroke Refer to Page A-81.
- 5 Series**
 - Blank : Standard type
 - XC16 : Copper-free

- 6 Applicable Auto Switch Reed Switch (Band Mounted Type)**
 - 〈Grommet〉
 - Blank : Without Auto Switch
 - W5 : W5
 - ※Standard Lead Length 0.5m (Up to 3m Optional)
 - (Example) W5 → W5L
- 7 Number of Switches**
 - Blank : 2 pcs.
 - S : 1 pc.
 - n : (n) pcs.

PART No. of Auto Switch Mounting Band				
Auto Switch Model	Bore size (mm)			
	$\varnothing 20$	$\varnothing 25$	$\varnothing 32$	$\varnothing 40$
W5	TBM2-020	TBM2-025	TBM2-032	TBM2-040

Specifications

Action	Double Acting Single Rod
Fluid	Air
Proof Pressure	15kgf/cm ² (1.5MPa)
Max. Operating Pressure	9.9kgf/cm ² (1.0MPa)
Min. Operating Pressure	0.5kgf/cm ² (0.05MPa)
Ambient and Fluid Temperature	40~140°F (5~60°C)
Lubricant	None(Non-Lube)
Stroke Tolerance	+1.4 0 mm
Mounting	Flush Mounting, Front Nose Mounting

Piston Speed

Bore Size(mm)	ø 20	ø 25	ø 32	ø 40
Piston Speed(mm/sec)	50~750			
Allowable Kinetic Energy(kgf-cm)	2.7	4	6.5	12

Standard Stroke

Bore Size(mm)	Standard Stroke(mm)
ø 20	25, 50, 75, 100, 125, 150
ø 25	25, 50, 75, 100, 125, 150, 200
ø 32	25, 50, 75, 100, 125, 150, 200
ø 40	25, 50, 75, 100, 125, 150, 200, 250, 300

Auto Switch Specifications

Mounting	Lead Wire Entry	Reed Switch
Band Mounting Type	Grommet	W5

Mounting and Accessories

Accessories	Standard	Option	
	Rod End Nut	Single Knuckle Joint	Double Knuckle Joint
Rear Pivot Mounting	●	●	●
Front Nose Mounting	●	●	●

Weight Table

kgf

Bore size(mm)		ø 20	ø 25	ø 32	ø 40
Basic Weight	Rear Pivot Mounting	0.14	0.23	0.32	0.62
	Front Nose Mounting	0.14	0.22	0.32	0.61
Additional Weight For Each 50 mm of Stroke		0.04	0.06	0.08	0.13

Calculation Example : AXRA 32-100

• Basic weight ... 0.32 • Additional weight ... 0.08/50 stroke • Cylinder stroke ... 100 stroke
 $0.32 + 0.08 \times 100/50 = 0.48$ kgf

ACP

AX

AS

AM

AM2

AL
ALX

ARD

AJ

AQ

AG

AGX
GX

ADM

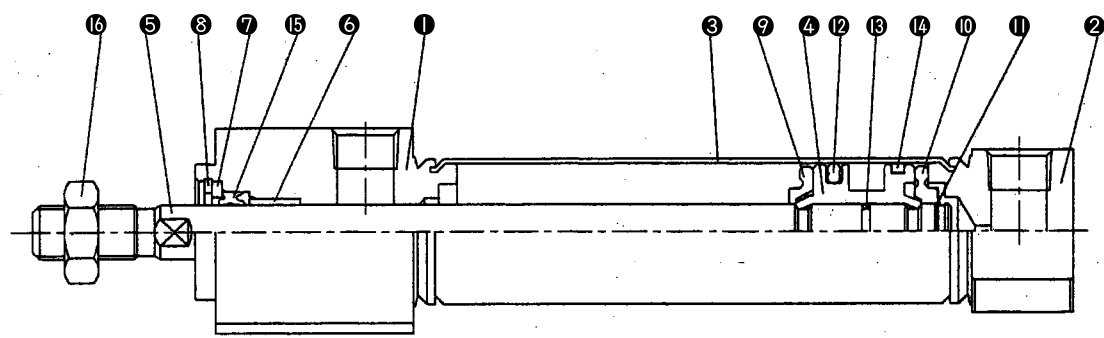
ADR

AMR

AST

NLCD

Construction/Parts List



Parts List

No.	Description	Material	Remarks
❶	Rod Cover	Aluminum Alloy	White Alumite
❷	Head Cover	Aluminum Alloy	White Alumite
❸	Cylinder Tube	Stainless Steel	
❹	Piston	Aluminum Alloy	Chromate
❺	Piston Rod	Carbon Steel	Hard Chrome Plated
❻	Bushing	Sintered BR	
❼	Packing	NBR	Nickel Plated
❽	Retaining Ring	Carbon Steel	Nickel Plated
❾	Bumper A	Urethane	
❿	Bumper B	Urethane	
⓫	Retaining Ring	Carbon Tool Steel	
⓬	Piston Packing	NBR	
⓮	Rod End Nut	Carbon Steel	Nickel Plated

Packing List

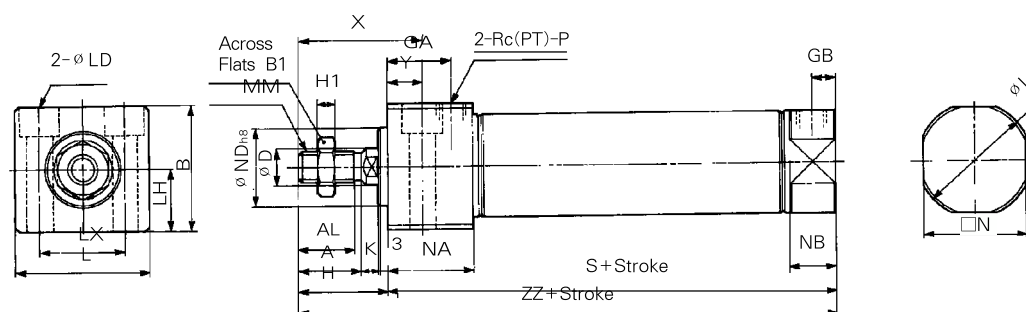
No.	Description	Material	Bore Size (mm)			
			ø 20	ø 25	ø 32	ø 40
⓬	Piston Packing	NBR	PSD20	PSD25	PSD30	PSD40
⓭	Wear Ring	Resin				
⓮	Rod Packing	NBR	PDU-10	PDU-12LZ	PDU-24LZ	PDU-16Z

Rear Pilot Mounting

AXRA

Bore Size

Stroke



(Unit:mm)

Bore size	Stroke range
φ 20	~150
φ 25	~200
φ 32	~200
φ 40	~300

(Unit:mm)

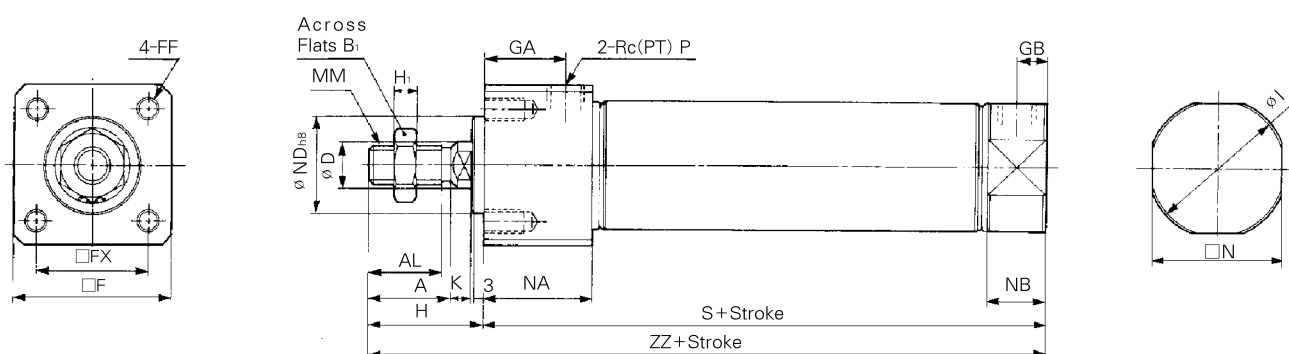
Bore Size	A	AL	B	B ₁	D	GA	GB	H	H ₁	I	K	L	LD	LH	LX	MM	N	NA	NB	ND	P	S	X	Y	ZZ
φ 20	18	15.5	30.3	13	8	22	8	27	5	27	5	33.5	φ5.5, φ9.5C-BORE Dp6.5	15	21	M8×1.25	24	29	15	20 ⁰ _{-0.033}	1/8	76	39	12	103
φ 25	22	19.5	36.3	17	10	22	8	31	6	33	5.5	39	φ6.6, φ11C-BORE Dp7.5	18	25	M10×1.25	30	29	15	26 ⁰ _{-0.033}	1/8	76	43	12	107
φ 32	22	19.5	42.3	17	12	22	8	31	6	37.5	5.5	47	φ9, φ14C-BORE Dp10	21	30	M10×1.25	34.5	29	15	26 ⁰ _{-0.033}	1/8	78	43	12	109
φ 40	24	21	52.3	22	14	27	11	34	8	46.5	7	58.5	φ11, φ17.5C-BORE Dp12.5	26	38	M14×1.5	42.5	37.5	21.5	32 ⁰ _{-0.039}	1/4	104	49	15	138

Front Face Mounting

AXRB

Bore Size

Stroke



(Unit : mm)

Bore Size	A	AL	B ₁	D	F	FF	FX	GA	GB	H	H ₁	I	K	MM	N	NA	NB	ND	P	S	ZZ	Stroke
φ 20	18	15.5	13	8	30.4	M5×0.8Depth9	22	22	8	27	5	27	5	M8×1.25	24	29	15	20 ⁰ _{-0.033}	1/8	76	103	~150
φ 25	22	19.5	17	10	36.4	M6×1Depth11	26	22	8	31	6	33	5.5	M10×1.25	30	29	15	26 ⁰ _{-0.033}	1/8	76	107	~200
φ 32	22	19.5	17	12	42.4	M6×1Depth11	30	22	8	31	6	37.5	5.5	M10×1.25	34.5	29	15	26 ⁰ _{-0.033}	1/8	78	109	~200
φ 40	24	21	22	14	52.4	M8×1.25Depth14	36	27	11	34	8	46.5	7	M14×1.5	42.5	37.5	21.5	32 ⁰ _{-0.039}	1/4	104	138	~300

ACP

AX

AS

AM

AM2

AL
ALX

ARD

AJ

AQ

AG

AGX
GX

ADM

ADR

AMR

AST

NLCD

Series AXR

① Adjustable Stroke Cylinder/Extension Adjustable Type

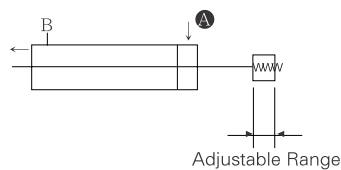
AXR Mounting Bore Size Stroke Stroke Adjusting Symbol XC8



- Stroke adjusting symbol
A-Stroke Adjusting Range 0~25 mm
B-Stroke Adjusting Range 0~50 mm

The extended stroke of the cylinder can be adjusted by the stopper on the head side from full stroke (0~25) mm or (0~50) mm.

Symbol

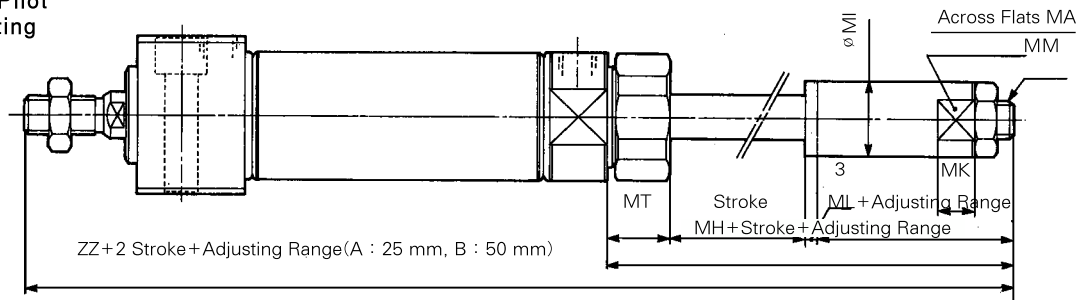


Specifications

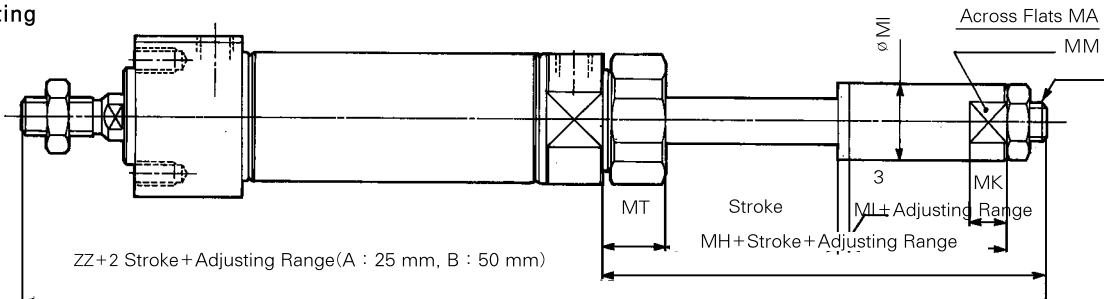
Type	Air Cylinder
Applicable Bore Size	ø 20, ø 25, ø 32, ø 40
Action	Double Acting Single Rod
Piston Speed(mm/sec)	50~750
Cushion	Rubber Cushion(Standard)
Stroke Adjusting System	Stopper Adjustment
Stroke Adjusting Range	A:0~25 mm, B : 0~50 mm
Mounting	Rear Pivot Mounting, Front Nose Mounting

Dimensions

Rear Pilot Mounting



Front Face Mounting



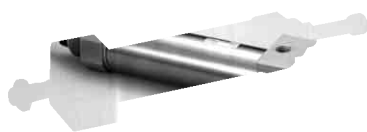
(mm)

Bore Size	MA	MH	MI	MK	ML	MM	MT	ZZ
ø 20	12	47	15	8	18	M8×1.25	16.5	150
ø 25	17	49	20	10	18	M10×1.25	17.5	156
ø 32	17	49	20	10	18	M10×1.25	17.5	158
ø 40	22	60	25	12	22	M14×1.5	21.5	198

※ Other dimensions are the same as for standard type.

② Adjustable Stroke Cylinder/Retraction Adjustable Type

TCM2R Mounting Bore Size Stroke Stroke Adjusting Symbol XC9

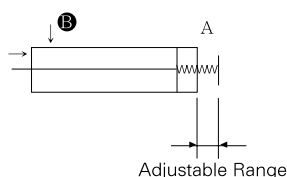


Stroke Adjusting Symbol

- A-Stroke Adjusting Range 0~25 mm
- B-Stroke Adjusting Range 0~50 mm

The retracted stroke of the cylinder can be adjusted from (0~25) mm or (0~50) mm by the adjusting bolt.

Symbol

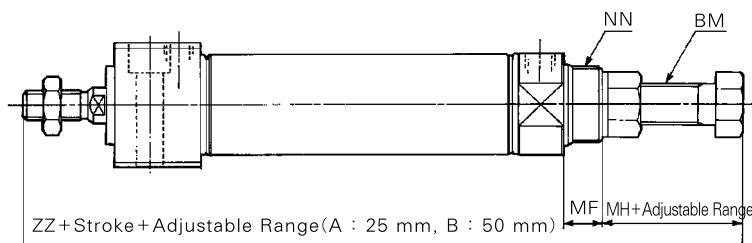


Specifications

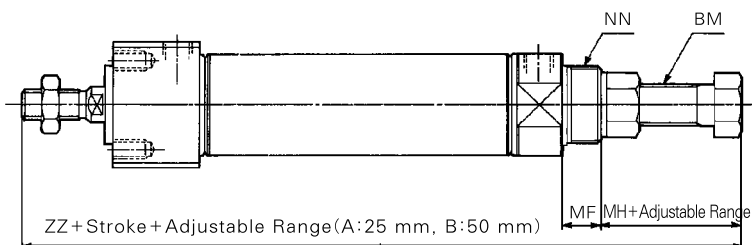
Type	Air Cylinder
Applicable Bore Size	ø 20, ø 25, ø 32, ø 40
Action	Double Acting Single Rod
Piston Speed(mm/sec)	50~750
Cushion	Rubber Cushion(Standard)
Stroke Adjusting System	Stopper Adjustment
Stroke Adjusting Range	A:0~25 mm, B : 0~50 mm
Mounting	Rear Pivot Mounting, Front Nose Mounting

Dimensions

Rear Pilot Mounting



Front Face Mounting



(Unit : mm)

Bore Size	BM	MF	MH	NN	ZZ
ø 20	M8×1.25	13	20	M20×1.5	136
ø 25	M8×1.25	13	20	M26×1.5	140
ø 32	M8×1.25	13	20	M26×1.5	142
ø 40	M12×1.75	16	24	M30×2	178

※ Other dimensions are the same as for standard type.

Series **AXRK**

Non-Rotating Piston Rod Direct Mounting type

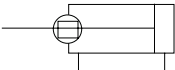
Bore Size(mm) : $\varnothing 20$, $\varnothing 25$, $\varnothing 32$, $\varnothing 40$



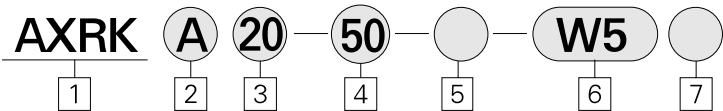
- DIRECT MOUNT CYLINDER
- HIGH ANTI-ROTATING ACCURACY
- SPACE SAVING CYLINDER
- SQUARE ROD COVER MAKES DIRECT MOUNTING POSSIBLE

Symbol

Double acting/Single rod
Non-rotating Piston rod



How to Order



1 Type
Non-Rotating/
Direct Pivot

2 Mounting
A : Rear Pilot mounting
B : Front Face mounting

3 Bore Size(mm)
20 : $\varnothing 20$
25 : $\varnothing 25$
32 : $\varnothing 32$
40 : $\varnothing 40$

4 Stroke/mm
※ For Stroke Refer to Page 87.

5 Special Options
Blank : Standard type
XC16 : Copper-free

**6 Applicable Auto
Switch Reed Switch**
(Band mounted type)
<Grommet>
Blank : Without Auto Switch
W5 : W5
Standard Lead Length 0.5m
(Up to 3m Optional)

7 Number of Switches
Blank : 2 pcs.
S : 1 pc.
n : n pcs.

PART No. of Auto Switch Mounting Band

Auto Switch Model	Bore size(mm)			
	$\varnothing 20$	$\varnothing 25$	$\varnothing 32$	$\varnothing 40$
W5	TBM2-020	TBM2-025	TBM2-032	TBM2-040

Specifications

Action	Double acting single rod
Fluid	Air
Proof Pressure	15kgf/cm ² {1.5MPa}
Max. Operating Pressure	9.9kgf/cm ² {1.0MPa}
Min. Operating Pressure	0.5kgf/cm ² {0.05MPa}
Ambient and Fluid Temperature	5~60℃
Cushion	Rubber Cushion (Standard)
Stroke Tolerance	$^{+1.4}_0$ mm
Non-Rotating Accuracy	ø 20, ø 25: ±0.8°, ø 32, ø 40: ±5°
Mounting	Rear Pivot Mounting, Front Face mounting

Piston Speed

Bore Size(mm)	ø 20	ø 25	ø 32	ø 40
Piston Speed	50~750 mm/sec			
Allowable Kinetic Energy(kgf/cm)	2.7	4	6.5	12

Standard stroke

Bore Size(mm)	Standard Stroke(mm)
ø 20	25, 50, 75, 100, 125, 150
ø 25	25, 50, 75, 100, 125, 150, 200
ø 32	25, 50, 75, 100, 125, 150, 200
ø 40	25, 50, 75, 100, 125, 150, 200, 250, 300

Auto Switch Specifications

Mounting	Lead Wire Entry	Reed Switch
Band Mounting Type	Grommet	W5

Mounting and Accessories

Accessories	Standard	Option	
	Rod End Nut	Single Knuckle Joint	Double Knuckle Joint
Rear Pivot Mounting	●	●	●
Front Nose Mounting	●	●	●

Weight Table

(kgf)

Bore Size(mm)		ø 20	ø 25	ø 32	ø 40
Basic Weight	Rear Pivot Mounting	0.14	0.23	0.32	0.63
	Front Nose Mounting	0.14	0.22	0.32	0.62
Additional weight for each 50 of stroke		0.04	0.07	0.09	0.14

ACP

AX

AS

AM

AM2

AL
ALX

ARD

AJ

AQ

AG

AGX
GX

ADM

ADR

AMR

AST

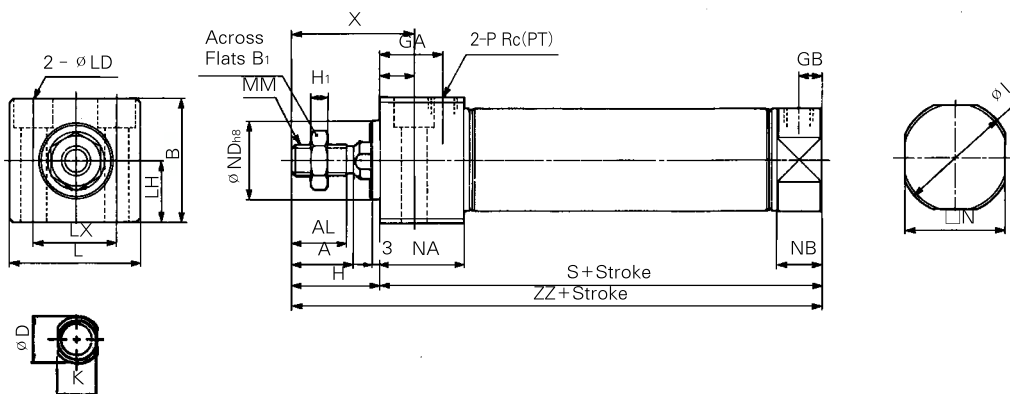
NLCD

Rear Pilot Mounting

AXRKA

Bore Size

Stroke



Rod Cross Section

(mm)

Stroke range

~150

ø 25	10 ^{-0.01 -0.05}	8 ^{-0.01 -0.05}	~200
ø 32	12 ^{-0.01 -0.05}	10 ^{-0.01 -0.05}	~200
ø 40	16 ^{-0.01 -0.05}	14 ^{-0.01 -0.05}	~300

(mm)

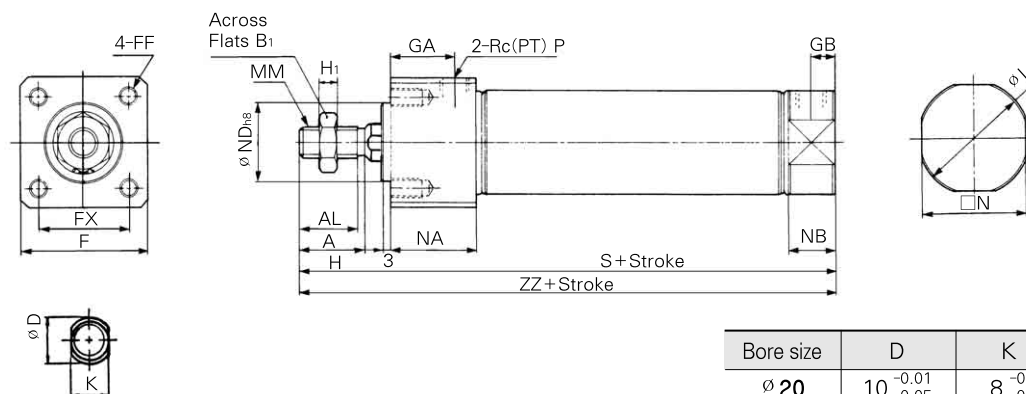
Bore size	A	AL	B	B ₁	GA	GB	H	H ₁	I	L	LD	LH	LX	MM	N	NA	NB	ND	P	S	X	Y	ZZ
ø 20	18	15.5	30.3	13	22	8	27	5	27	33.5	ø5.5, ø9.5C-BORE Dp6.5	15	21	M8×1.25	24	29	15	20 ^{-0 -0.033}	1/8	76	39	12	103
ø 25	22	19.5	36.3	17	22	8	31	6	33	39	ø6.6, ø11C-BORE Dp7.5	18	25	M8×1.25	30	29	15	26 ^{-0 -0.033}	1/8	76	43	12	107
ø 32	22	19.5	42.3	17	22	8	31	6	37.5	47	ø9, ø14C-BORE Dp10	21	30	M10×1.25	34.5	29	15	26 ^{-0 -0.033}	1/8	78	43	12	109
ø 40	24	21	52.3	22	27	11	34	8	46.5	58.5	ø11, ø17.5C-BORE Dp12.5	26	38	M14×1.5	42.5	37.5	21.5	32 ^{-0 -0.039}	1/4	104	49	15	138

Front Face Mounting

AXRKB

Bore Size

Stroke



Rod Cross Section

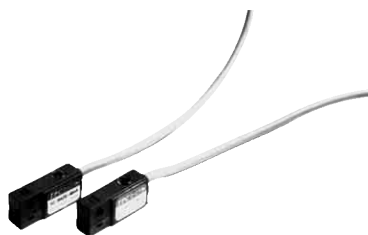
(mm)

Bore size	D	K	Stroke range
ø 20	10 ^{-0.01 -0.05}	8 ^{-0.01 -0.05}	~150
ø 25	10 ^{-0.01 -0.05}	8 ^{-0.01 -0.05}	~200
ø 32	12 ^{-0.01 -0.05}	10 ^{-0.01 -0.05}	~200
ø 40	16 ^{-0.01 -0.05}	14 ^{-0.01 -0.05}	~300

(mm)

Bore size	A	AL	B ₁	F	FF	FX	GA	GB	H	H ₁	I	MM	N	NA	NB	ND	P	S	ZZ
ø 20	18	15.5	13	30.4	M5×0.8Dp9	22	22	8	27	5	27	M8×1.25	24	29	15	20 ^{-0 -0.033}	1/8	76	103
ø 25	22	19.5	17	36.4	M6×1Dp11	26	22	8	31	6	33	M8×1.25	30	29	15	26 ^{-0 -0.033}	1/8	76	107
ø 32	22	19.5	17	42.4	M6×1Dp11	30	22	8	31	6	37.5	M10×1.25	34.5	29	15	26 ^{-0 -0.033}	1/8	78	109
ø 40	24	21	22	52.4	M8×1.25Dp14	36	27	11	34	8	46.5	M14×1.5	42.5	37.5	21.5	32 ^{-0 -0.039}	1/4	104	138

Reed Switch Type/Band Mounted Type Series W5



Specifications W5 Type(With indicator lamp)

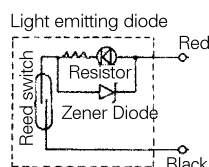
Auto Switch Model	W5	
Application	Relay, Sequence Control	
Load Voltage	DC24V	AC110V
Max. Load Current/Range of Load Current	5~40mA	5~20mA
Protection Circuit for Contact Breaker Point	None	
Internal Voltage Drop	2.4V or less	
Indicator Lamp	ON:Red light emitting diode	

- Leakage Current — None
- Response Time — 1.2ms
- Lead Wire — Oil proof vinyl, $\phi 3.4$ 0.2mm², 2 Wire(red, black), 0.5m(18in)
- Impact Resistance— 30G
- Insulation Resistance — 50M Ω or more under the test voltage 500VDC (Between case and cable)
- Withstand Voltage — 1500VAC 1min (between case and cable)
- Ambient Temperature — 14~140°F (-10~60°C)
- Protection Structure — IEC spec IP67, Water-proof(JISCO920), oil-proof.

※ If 3m lead wire is required, L is put at the end of numbers.

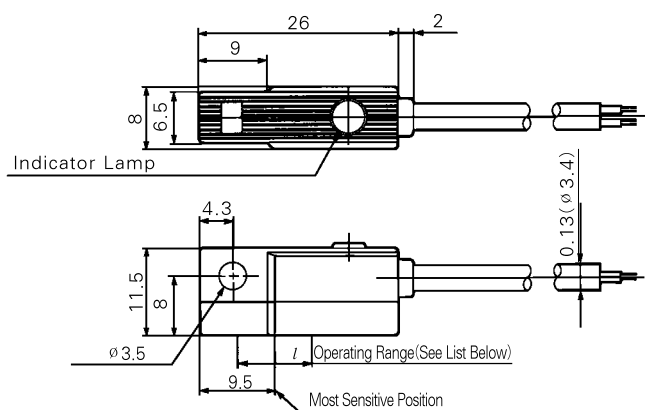
Example : W5L

Auto Switch/Internal Circuit



Auto Switch Dimensions

(mm)



Operating Range(l Dimension)

(mm)

Series	Bore size			
	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$
AX	7	8	8	8