

Series AX

Standard Type/Double Acting : Single Rod

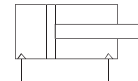
Bore Size(mm) : Ø20, Ø25, Ø32, Ø40



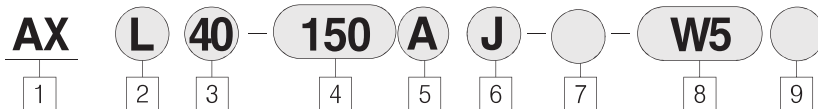
- STAINLESS STEEL BODY
- HIGH CYCLE LIFE
- LOW BREAKAWAY
- NUMEROUS MOUNTING OPTIONS
- MAGNET STANDARD FOR AUTO SWITCH
- BUMPERS STANDARD (AIR CUSHION OPTIONAL)
- DESIGNED FOR NON-LUBRICATED SERVICE
- COMPACT LIGHT DESIGN
- REPLACEABLE ROD GLAND

Symbol

Double acting/Single rod



How to Order



1 Air Cylinder

※ Built-in Magnet standard

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 : φ 20
- 25 : φ 25
- 32 : φ 32
- 40 : φ 40

4 Stroke(mm)

- φ 20 : 25, 50, 75, 100, 125, 150, 200, 250, 300
- φ 25 : 25, 50, 75, 100, 125, 150, 200, 250, 300
- φ 32 : 25, 50, 75, 100, 125, 150, 200, 250, 300
- φ 40 : 25, 50, 75, 100, 125, 150, 200, 250, 300

5 Cushion

- Blank : Rubber Cushion
- A : Air Cushion
- ※ Compact Type : Only Rubber Cushion

6 Rod Boot Option

- Blank : None
- J : Nylon Tarpaulin
- K : Neoprene Cloth

Max. Ambient Temperature

J	60 °C (140 °F)
K	※ 110 °C (230 °F)

※ The Max. Ambient Temperature of Gaiters Only

- ※ When knuckles are ordered
- I : Single knuckle are ordered
- Y : Double knuckle attached

7 Special Option

- Blank : Standard Type
- XC16 : Copper-Free

8 Auto Switch

- (Band mounted type)
- Blank : None
- W5 : Reed Switch (Lead wire of 0.5m)
- W5L : Reed Switch (Lead wire of 3m)

9 Number of Auto Switches

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

PART No. of Mounting Bracket

Bore Size(mm)	φ 20	φ 25	φ 32	φ 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)			
	φ 20	φ 25	φ 32	φ 40
W5	TBM2-020	TBM2-025	TBM2-032	TBM2-040

※ Refer to P.598 for information on Rod end form change.

ACP

APM

AS

AX

AM2

AM

AL
ALX

AQ
ADQ

AQ2
ADQ2

AJ
AJM

ABK

ACK1

NSK

AG

NGQ

AGX
GX

NP

ADR

AMR

NDM

ARD

NST

AST

ASTH

NLCD

NLCS

Series AX

Model				
Bore Size (mm)	φ 20	φ 25	φ 32	φ 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)
Magnet	Built Magnet standard			
Auto switch (Band Mounting Type)	Reed Auto Switch / W5			
Rod Boot	Non, Nylon Tarpaulin : 60℃(140° F) Neopren Cloth : 110℃(230° F)			

Specifications	
Action	Double Acting Single Rod
Fluid	Air
Proof Pressure	1.5MPa (213psi)
Max. Operating Pressure	1.0MPa (140psi)
Min. Operating Pressure	0.05MPa (7psi)
Ambient and Fluid Temperature	-10~+70 ° C (14~158 ° F)
Lubrication	None (Non-Lube)
Thread Tolerance	KS 2 Class
Stroke Tolerance	$^{+1.4}_0$ mm

Piston Speed (Rubber Cushion)				
Bore Size (mm)	φ 20	φ 25	φ 32	φ 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

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

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)

φ 20	φ 25	φ 32	φ 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 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 (lbf)

Bore Size(mm)		φ 20	φ 25	φ 32	φ 40
Basic Weight	Basic Type	0.14(0.31)	0.21(0.46)	0.28(0.62)	0.56(1.23)
	Axial Foot Type	0.29(0.64)	0.37(0.82)	0.45(0.97)	0.83(1.83)
	Flange Type	0.20(0.44)	0.31(0.66)	0.37(0.82)	0.68(1.5)
	Integrated Clevis Type	0.12(0.26)	0.19(0.42)	0.27(0.6)	0.52(1.15)
	Single Clevis Type	0.18(0.4)	0.25(0.55)	0.32(0.71)	0.65(1.43)
	Double Clevis Type	0.19(0.42)	0.26(0.6)	0.33(0.73)	0.68(1.52)
	Trunnion Type	0.18(0.4)	0.28(0.62)	0.34(0.75)	0.66(1.46)
	Boss-Cut basic Type	0.13(0.29)	0.19(0.42)	0.26(0.57)	0.53(1.17)
	Boss-Cut flange Type	0.19(0.42)	0.28(0.62)	0.35(0.77)	0.65(1.43)
	Boss-Cut trunnion Type	0.17(0.37)	0.27(0.57)	0.32(0.71)	0.63(1.39)
Additional weight for each 50 of stroke		0.04(0.09)	0.06(0.13)	0.08(0.18)	0.13(0.29)
Mounting bracket	Single Knuckle Joint	0.06(0.13)	0.06(0.13)	0.07(0.13)	0.23(0.51)
	Double Knuckle Joint	0.07(0.15)	0.07(0.15)	0.07(0.15)	0.21(0.44)

Calculation Example: AXL32-100

- Basic weight : 0.44 (Foot type, φ 32)
 - Additional weight : 0.08/50 stroke
 - Cylinder stroke: 100 stroke
- $$0.44 + 0.08 \times 100 / 50 = 0.66 \text{ kgf}$$

- ACP
- APM
- AS
- AX
- AM2
- AM
- AL
- ALX
- AQ
- ADQ
- AQ2
- ADQ2
- AJ
- AJM
- ABK
- ACK1
- NSK
- AG
- NGQ
- AGX
- GX
- NP
- ADR
- AMR
- NDM
- ARD
- NST
- AST
- ASTH
- NLCD
- NLCS

Series AX

Boss - Cut Type

AX ○ Z Bore Size Stroke Boot



Specifications

Action	Double Acting Single Rod
Bore Size (mm)	φ 20, φ 25, φ 32, φ 40
Max. Operating Pressure	1.0MPa (140psi)
Min. Operating Pressure	0.18MPa (25psi)
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

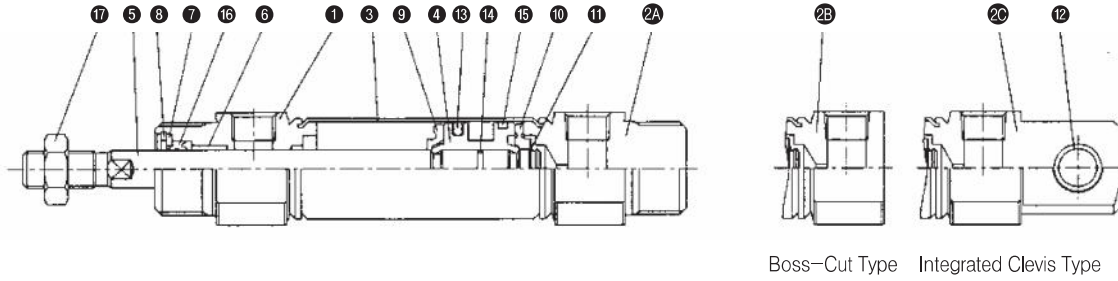
Action	Double Acting Single Rod
Bore Size(mm)	φ 20, φ 25, φ 32, φ 40
Max. Operating Pressure	1.0MPa (140psi)
Min. Operating Pressure	0.05MPa (7psi)
Cushion	Air Cushion
Piping Method	Screwed Type
Piston Speed	50~1,000 mm/sec
Mounting	Basic Type, Axial Foot Type, Rod Side Flange Type, Head Side Flange 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

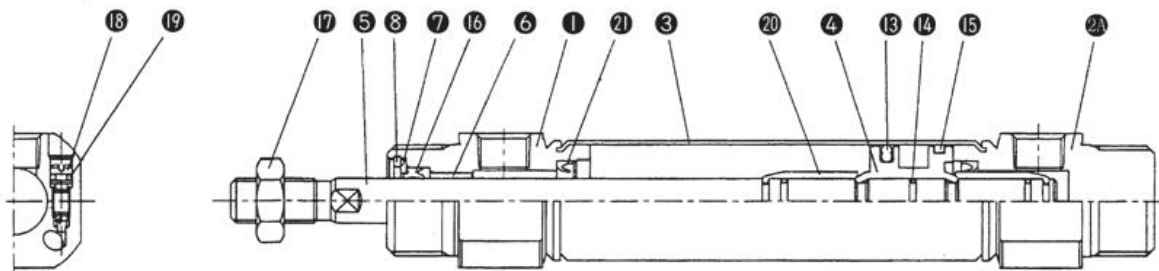
Bore size (mm)	Effective Cushion Length(mm)	Cushion Effective Orifice(cm ²)	Allowable Kinetic Energy(kgf-cm)
φ 20	11.0	2.09	5.5
φ 25	11.0	3.30	8.0
φ 32	11.0	5.86	13
φ 40	11.8	9.08	24

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

Rubber Cushion / Air Cushion

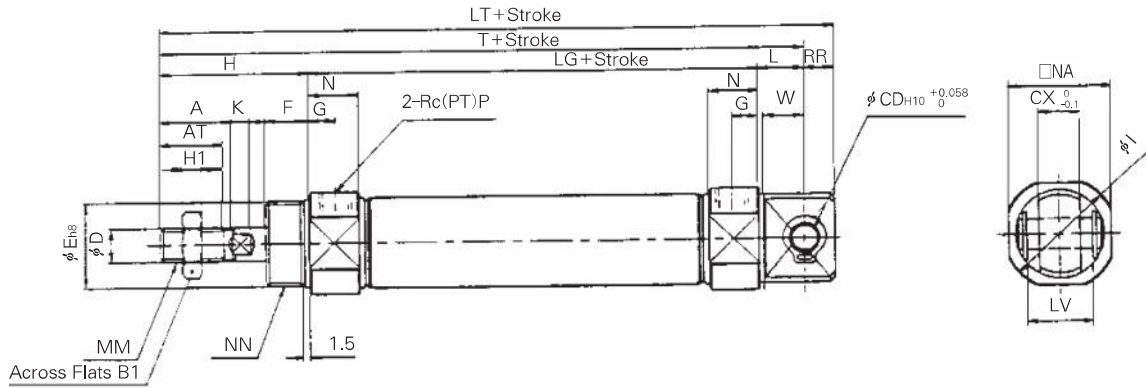
No.	Description	Material	Type	Bore Size			
				20	25	32	40
16	Rod Packing	NBR	Rubber Cushion	PDU-8LZ	PDU-10LZ	PDU-12LZ	PDU-14LZ
			Air Cushion	PDU-8Z	PDU-10Z	PDU-12Z	PDU-14Z

- ACP
- APM
- AS
- AX**
- AM2
- AM
- AL
ALX
- AQ
ADQ
- AQ2
ADQ2
- AJ
AJM
- ABK
- ACK1
- NSK
- AG
- NGQ
- AGX
GX
- NP
- ADR
- AMR
- NDM
- ARD
- NST
- AST
- ASTH
- NLCD
- NLCS

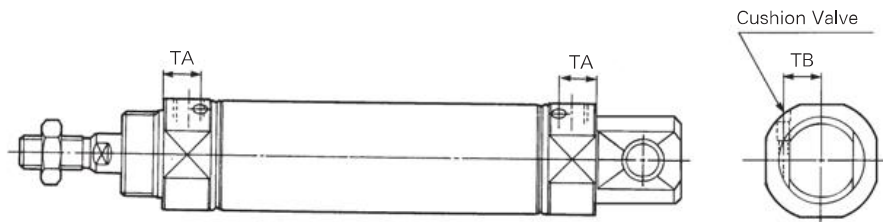
Series AX

Integrated Clevis Type (E)

AXE Bore Size Stroke



With Air Cushion



(Unit : mm)

Bore Size	Stroke Range	A	AT	B _i	CD	CX	D	E	F	G	H	H _i	I	K	L	MM	N	NA	NN
φ 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
φ 25	~300	22	19.5	17	8	12	10	26 ⁰ _{-0.033}	13	8	45	6	33	5.5	12	M8×1.25	15	30	M26×1.5
φ 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
φ 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	LG	W	T	LT	LV
φ 20	1/8	9	62	11.5	115	124	18.4
φ 25	1/8	9	62	11.5	119	128	18.4
φ 32	1/8	12	64	14.5	124	136	28
φ 40	1/4	12	88	14.5	153	165	28

With Air Cushion

Bore Size	TA	TB
φ 20	11.5	8.5
φ 25	11.5	10
φ 32	11.5	11.5
φ 40	14.5	15