

FENG&TENG
风 腾 气 动

 **FNC**

FENG&TENG PNEUMATIC

产品选型手册

Product Selection Manual



[Https://yqcfqd.1688.com](https://yqcfqd.1688.com)

安徽风腾自动化科技有限公司
ANHUI FENTENG AUTOMATIC TECHNOLOGY CO.,LTD.

Anhui Fengteng Automatic Technology Co., Ltd. is a production-oriented enterprise specializing in the production, processing and sales of pneumatic cylinders. It is a professional company dedicated to the promotion and application of international excellent brand products of pneumatic components for a long time. Design, installation, and maintenance of efficient, low-cost automated actuators and pneumatic systems. The company's main products include mini cylinders, free cylinders, double rod cylinders, thin cylinders, standard cylinders, guide rod cylinders, rotary cylinders, finger cylinders, swing cylinders, rodless cylinders and slide cylinders.

Fengteng is committed to the production of high-end cylinder products. Quality is the cornerstone of Fengteng's rapid development. Fengteng has an automated production and storage workshop of about 5,500 square meters. The high-efficiency and high-precision automatic machining center production line lays the foundation for high-quality products. At present, the company With a complete production line from raw materials to finished products, Fengteng's cylinders have passed CE and ISO9001 international certifications. The main markets of the products include the United States, Europe, Japan, Southeast Asia and other countries and regions.



FENG&TENG

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Mini Pneumatic Cylinder

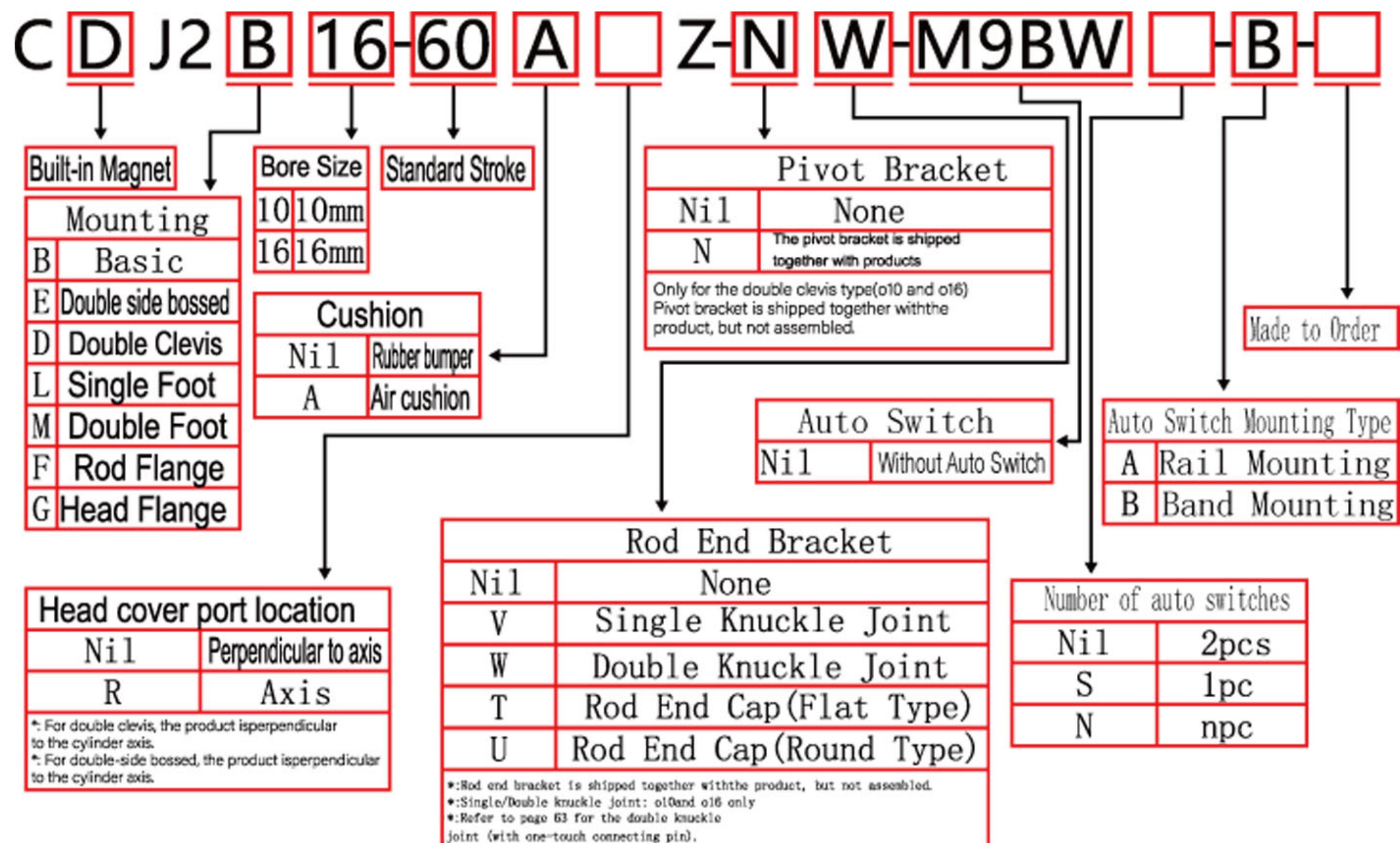


CJ2 Series

Bore Size:6mm, 10mm, 16mm



Ordering Code



Specifications

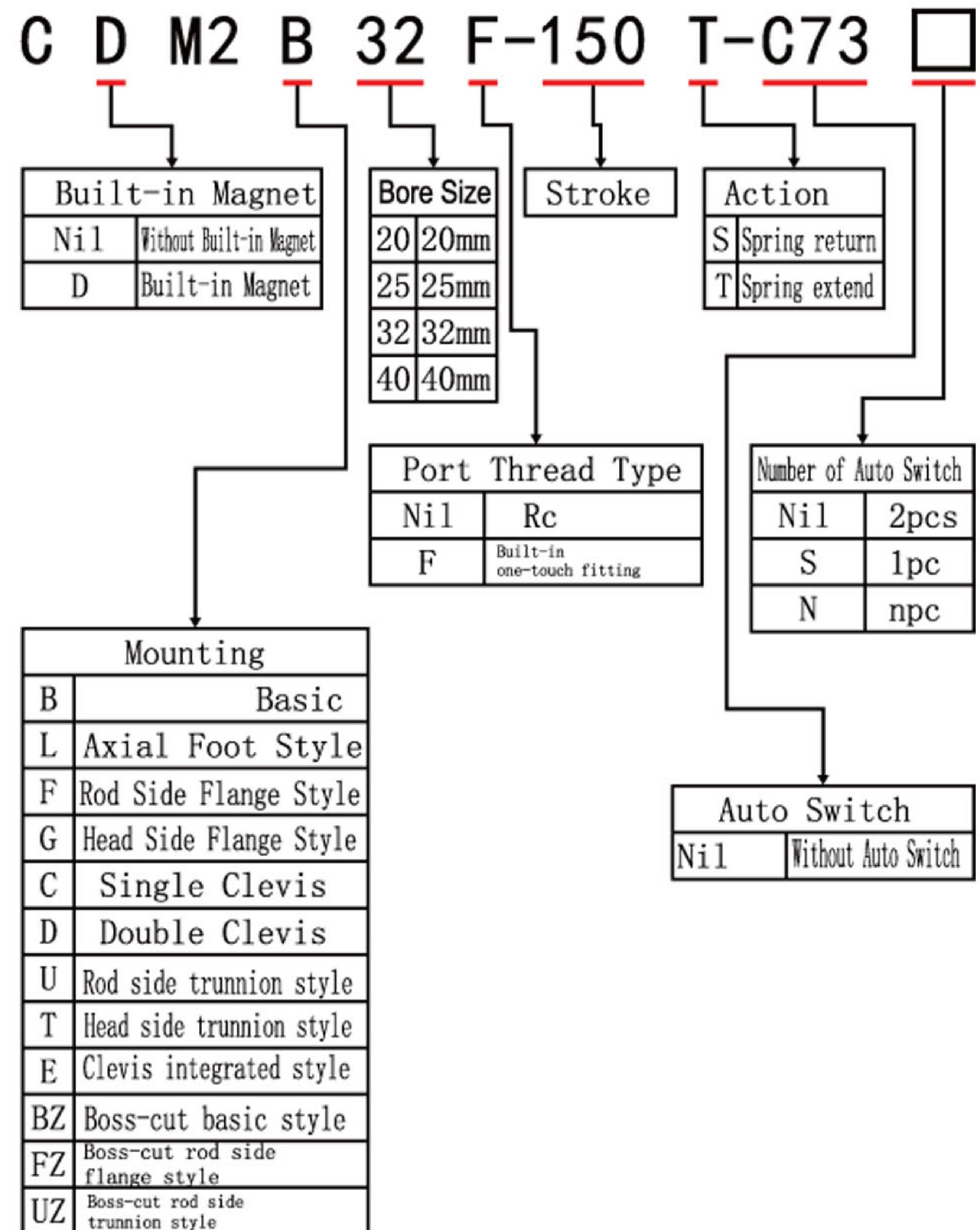
Bore size [mm]	6	10	16
Action		Double acting, Single rod	
Fluid		Air	
Proof pressure		1 MPa	
Maximum operating pressure		0.7 MPa	
Minimum operating pressure	Rubber bumper	0.12 MPa	0.06 MPa
	Air cushion	—	0.1 MPa
Ambient and fluid temperature		Without auto switch: -10°C to 70°C With auto switch: -10°C to 60°C	(No freezing)
Cushion	Rubber bumper	Rubber bumper/Air cushion	
Lubrication		Not required (Non-lube)	
Piston speed	Rubber bumper	50 to 750 mm/s	
	Air cushion	—	50 to 1000 mm/s
Allowable kinetic energy	Rubber bumper	0.012 J	0.035 J
	Air cushion (Effective cushion length)	—	0.07 J (9.4 mm)
Stroke length tolerance		+1.0 0	0.18 J (9.4 mm)

CM2 Series

Bore Size: 20mm, 25mm, 32mm, 40mm



Ordering Code



Specifications

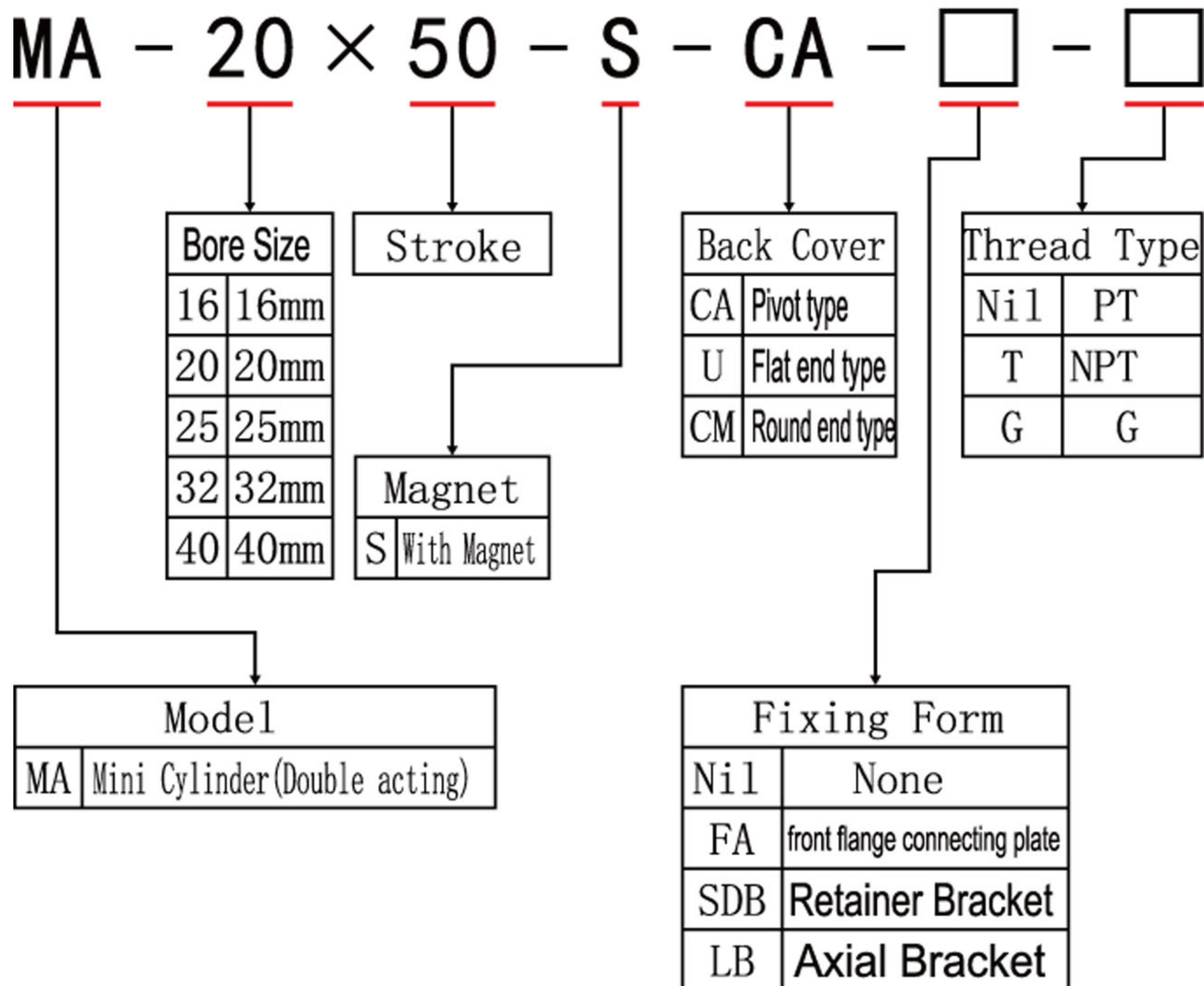
Bore size (mm)	20	25	32	40			
Rod non-rotating accuracy	±0.7		±0.5				
Action	Spring acting, Spring return/Spring extend						
Fluid	Air						
Cushion	Rubber bumper						
Proof pressure	1.5 MPa						
Maximum operating pressure	1.0 MPa						
Minimum operating pressure	Spring return	0.18 MPa					
	Spring extend	0.23 MPa					
Ambient and fluid temperature	Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)						
Lubrication	Not required (Non-lube)						
Stroke length tolerance	+0.14 -0 mm						
Piston speed	50 to 500 mm/s						
Allowable kinetic energy	0.27 J	0.4 J	0.65 J	1.2 J			

MA Series

Bore Size:16mm, 20mm, 25mm, 32mm, 40mm, 50mm, 63mm



Ordering Code



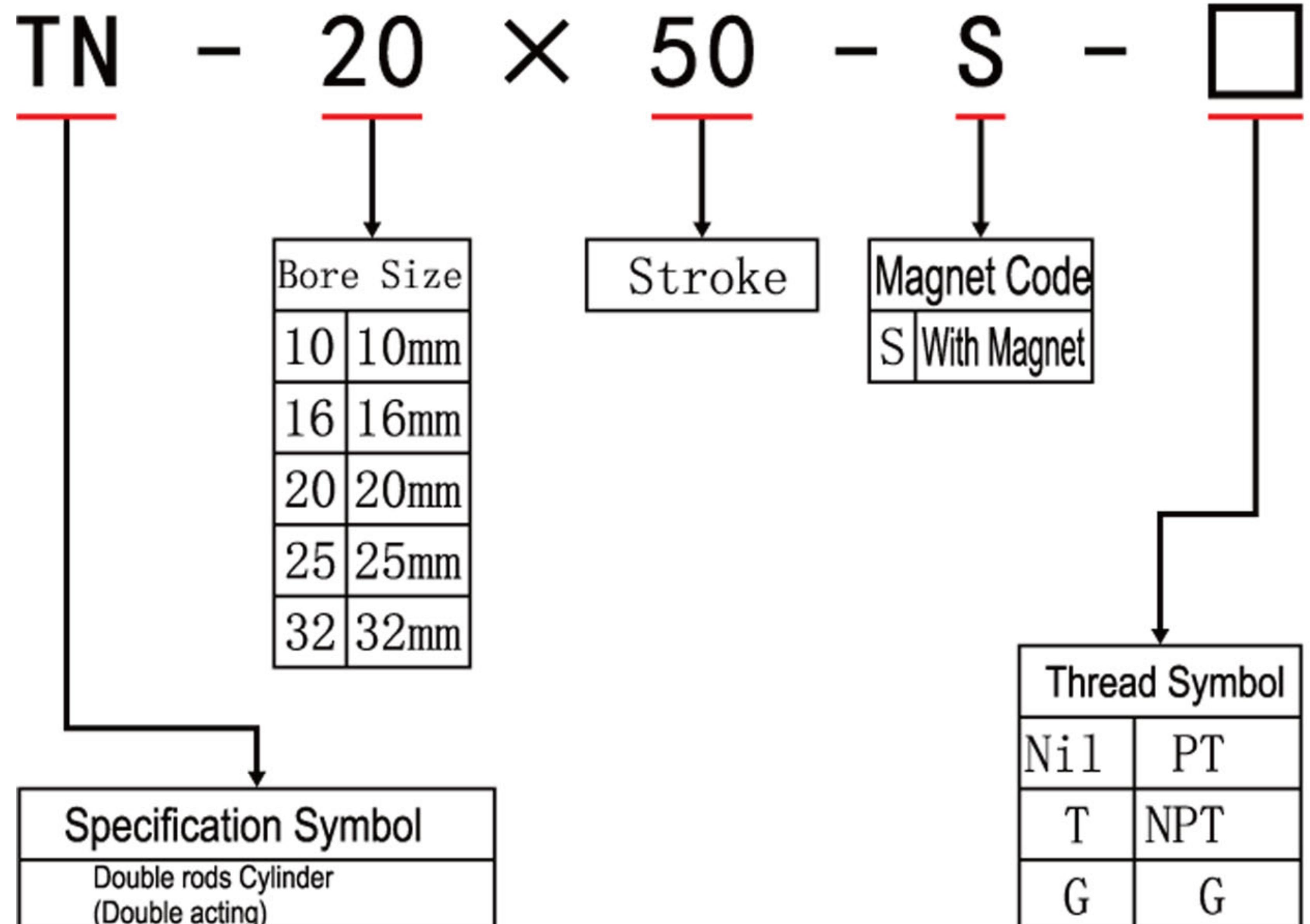
■ Specification

Bore size(mm)		16	20	25	32	40	50	63
Acting type	MSA, MTA			Single acting			—	
	MA, MAD, MAJ			Double acting			—	
	MAR	—			Double acting			
	MAC, MACD, MACJ	—			Double acting with cushion			
Fluid		Air(to be filtered by 40 μ m filter element)						
Operating pressure	Double acting			0.1~1.0MPa(15~145psi)(1.0~10.0bar)				
	Single acting			0.2~1.0MPa(28~145psi)(2.0~10.0bar)				
Proof pressure		1.5MPa(215psi)(15bar)						
Temperature °C		-20~70						
Speed range mm/s		Double acting: 30~800 Single acting: 50~800						
Stroke tolerance		$0~150^{+1.0}_0$ $>150^{+1.4}_0$						
Cushion type		MAC、MACD、MACJ Series: Adjustable cushion					Other series: Bumper	
Port size ①		M5 × 0.8		1/8"			1/4"	

① PT thread, NPT thread and G thread are available. Add) Refer to P397~420 for detail of sensor switch.



Ordering Code



Specification

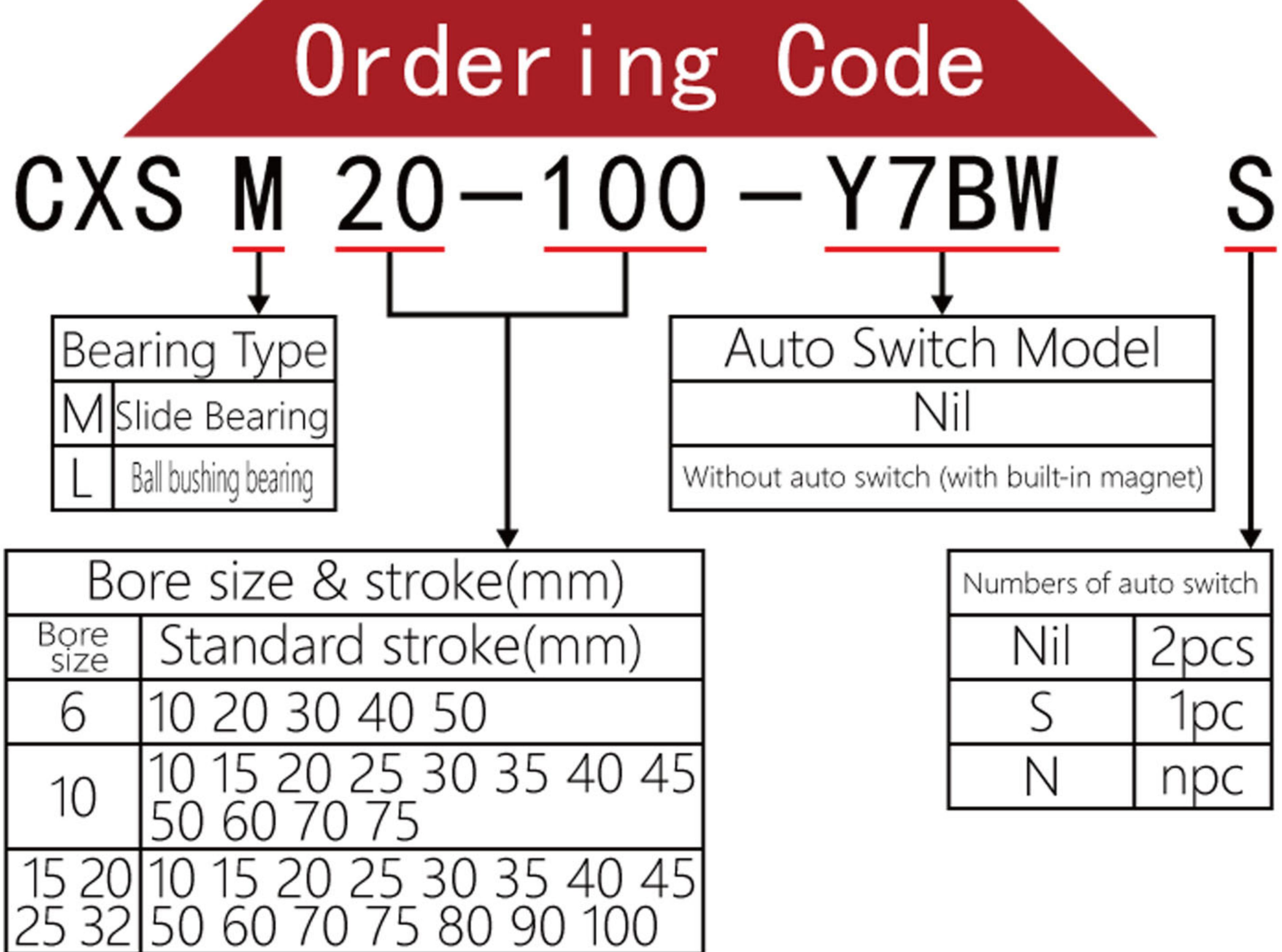
Bore size(mm)	10	16	20	25	32
Acting type	Double acting				
Fluid	Air(to be filtered by 40 μ m filter element)				
Operating pressure	0.15~1.0MPa(22~145psi)				
Proof pressure	1.5MPa(215psi)				
Temperature $^{\circ}$ C	-20~70				
Speed range mm/s	30~500				
Adjustable stroke mm	-10~0				
Stroke tolerance	≤ 100 $^{+1.0}_{-0}$ > 100 $^{+1.5}_{-0}$				
Cushion type	Bumper				
Non-rotating tolerance [Note1]	$\pm 0.4^{\circ}$	$\pm 0.3^{\circ}$			
Port size [Note2]	M5 × 0.8			1/8"	

[Note1] Retract position.

[Note2] PT thread is available.

Add) Refer to P353 for detail of sensor switch.

CXSM Series Bore Size: 6mm, 10mm, 15mm, 20mm, 25mm, 32mm

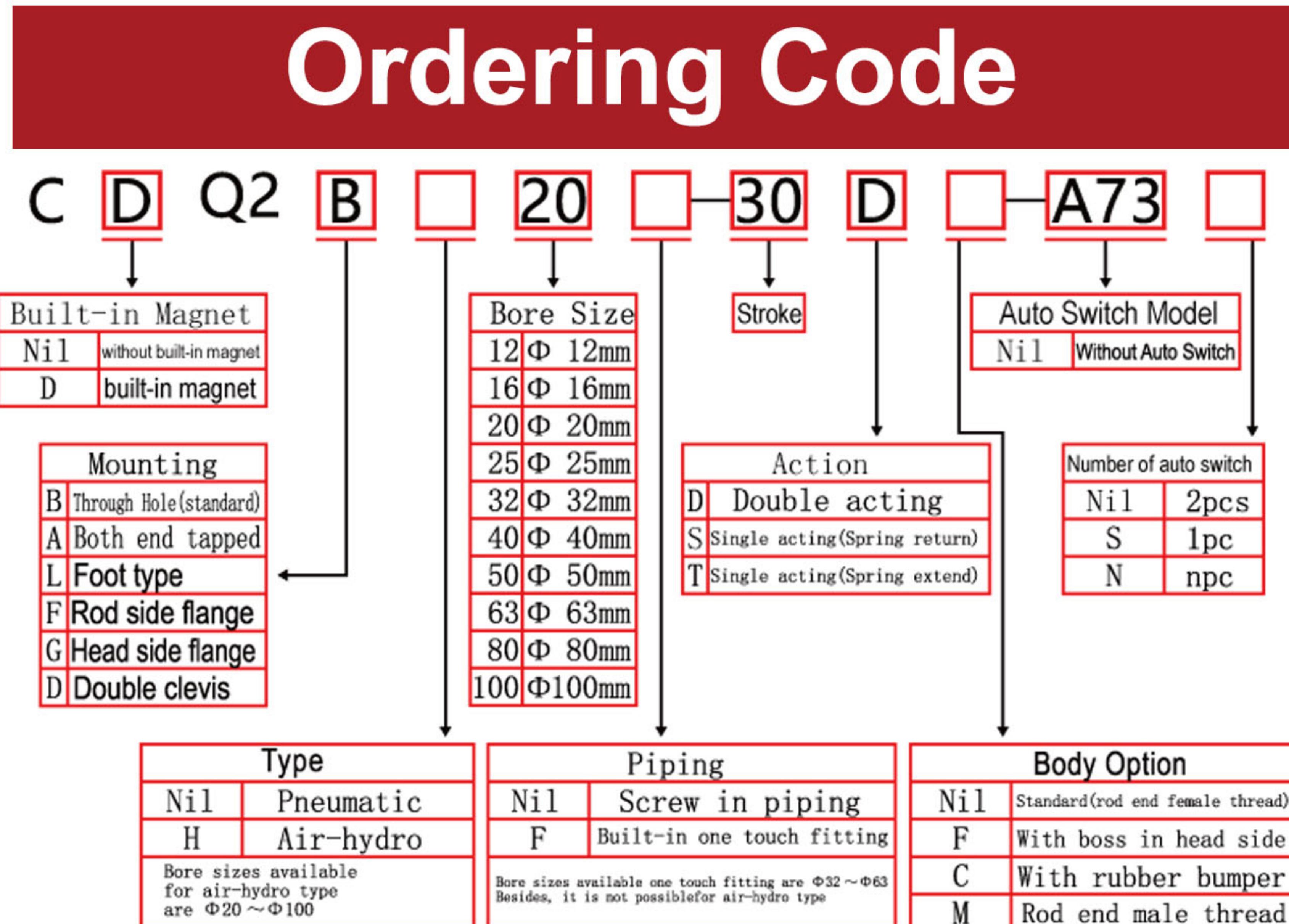


Specifications

Bore size (mm)	6	10	15	20	25	32
Fluid				Air (Non-lube)		
Proof pressure				1.05 MPa		
Maximum operating pressure				0.7 MPa		
Minimum operating pressure	0.15 MPa	0.1 MPa			0.05 MPa	
Ambient and fluid temperature				–10 to 60°C (No freezing)		
Piston speed	30 to 300 mm/s	30 to 800 mm/s	30 to 700 mm/s		30 to 600 mm/s	
Cushion				Rubber bumper		
Stroke adjustable range			0 to –5 mm compared to the standard stroke			
Port size			M5 x 0.8		Rc 1/8	
Bearing type			Slide bearing, Ball bushing bearing (Same dimensions for both)			
Allowable kinetic energy	0.0023 J	0.064 J	0.095 J	0.17 J	0.27 J	0.32 J

CQ2 Series

Bore Size:12mm, 16mm, 20mm, 25mm
32mm, 40mm, 50mm, 63mm, 80mm,100mm



Specifications

Pneumatic type

Bore size (mm)	12	16	20	25	32	40	50	63	80	100	
Action	Double acting, Single rod										
Fluid	Air										
Proof pressure	1.5 MPa										
Maximum operating pressure	1.0 MPa										
Minimum operating pressure	0.07 MPa		0.05 MPa								
Ambient and fluid temperature	Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)										
Lubrication	Not required (Non-lube)										
Piston speed	50 to 500 mm/s										
Allowable kinetic energy (J)	Standard	0.022	0.038	0.055	0.09	0.15	0.26	0.46	0.77	1.36	2.27
	With rubber bumper	0.043	0.075	0.11	0.18	0.29	0.52	0.91	1.54	2.71	4.54
Stroke length tolerance	+1.0 mm Note) 0										

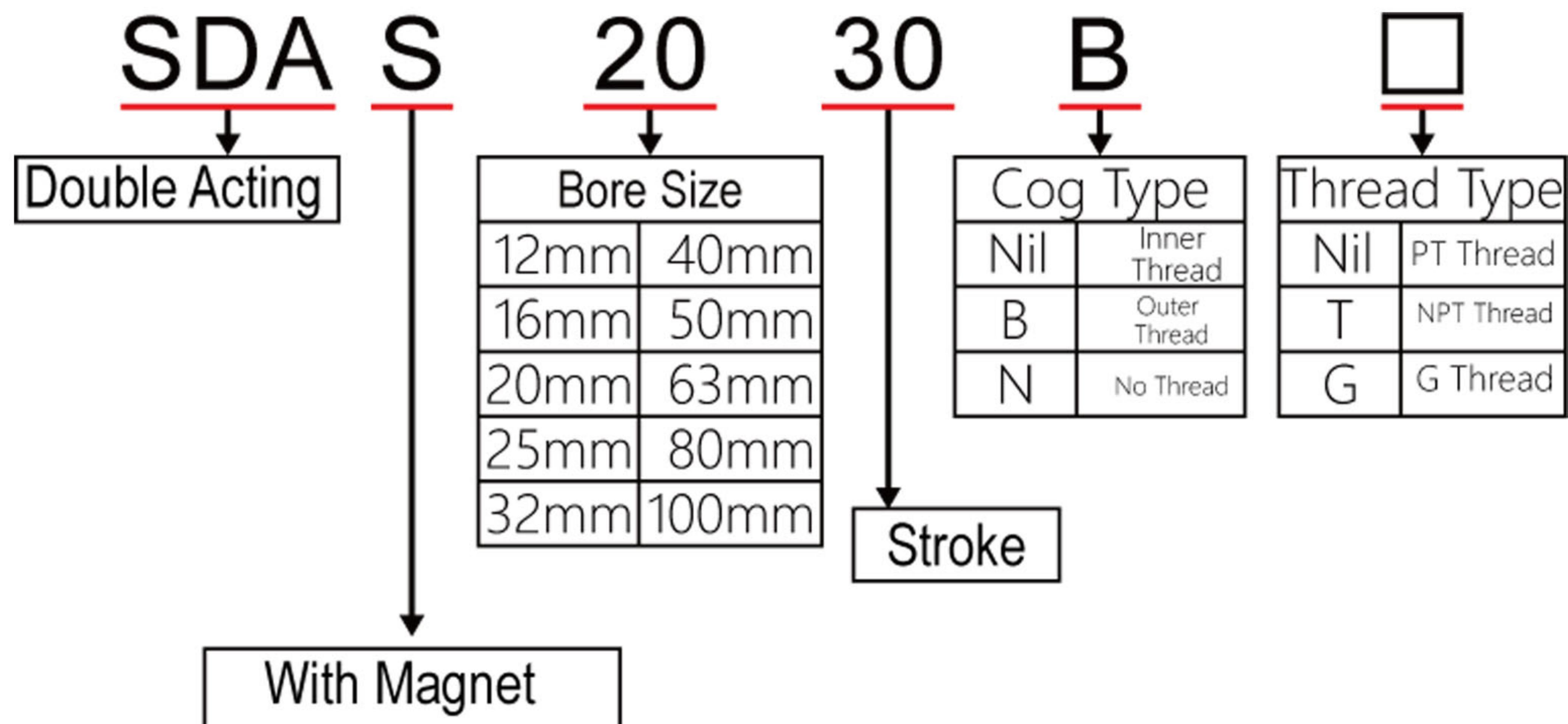
Note) Stroke length tolerance does not include the amount of bumper change.

SDA Series

Bore Size:12mm, 16mm, 20mm, 25mm
32mm, 40mm, 50mm, 63mm, 80mm, 100mm



Ordering Code



■ Specification

Bore size (mm)	12	16	20	25	32	40	50	63	80	100
Acting type	Double acting type									
	Single acting-Push type, Single acting-Pull type									-
Fluid	Air(to be filtered by 40um filter element)									
Operating pressure	Double acting: 0.1~1.0MPa(14~145Psi) Single acting: 0.2~1.0MPa(28~145Psi)									
Proof pressure	1.5MPa(215Psi)									
Temperature °C	-20~80									
Speed range mm/s	Double acting type: 30~500 Single acting type: 50~500									
Stroke tolerance	+1.0 0									
Cushion type	Bumper									
Port size ①	M5 x 0.8			1/8"		1/4"		3/8"		

① PT thread, NPT thread and G thread are available;
Add: Refer to PVI-39~VI-50 for detail of sensor switch.

Standard cylinders DNC, ISO 15552

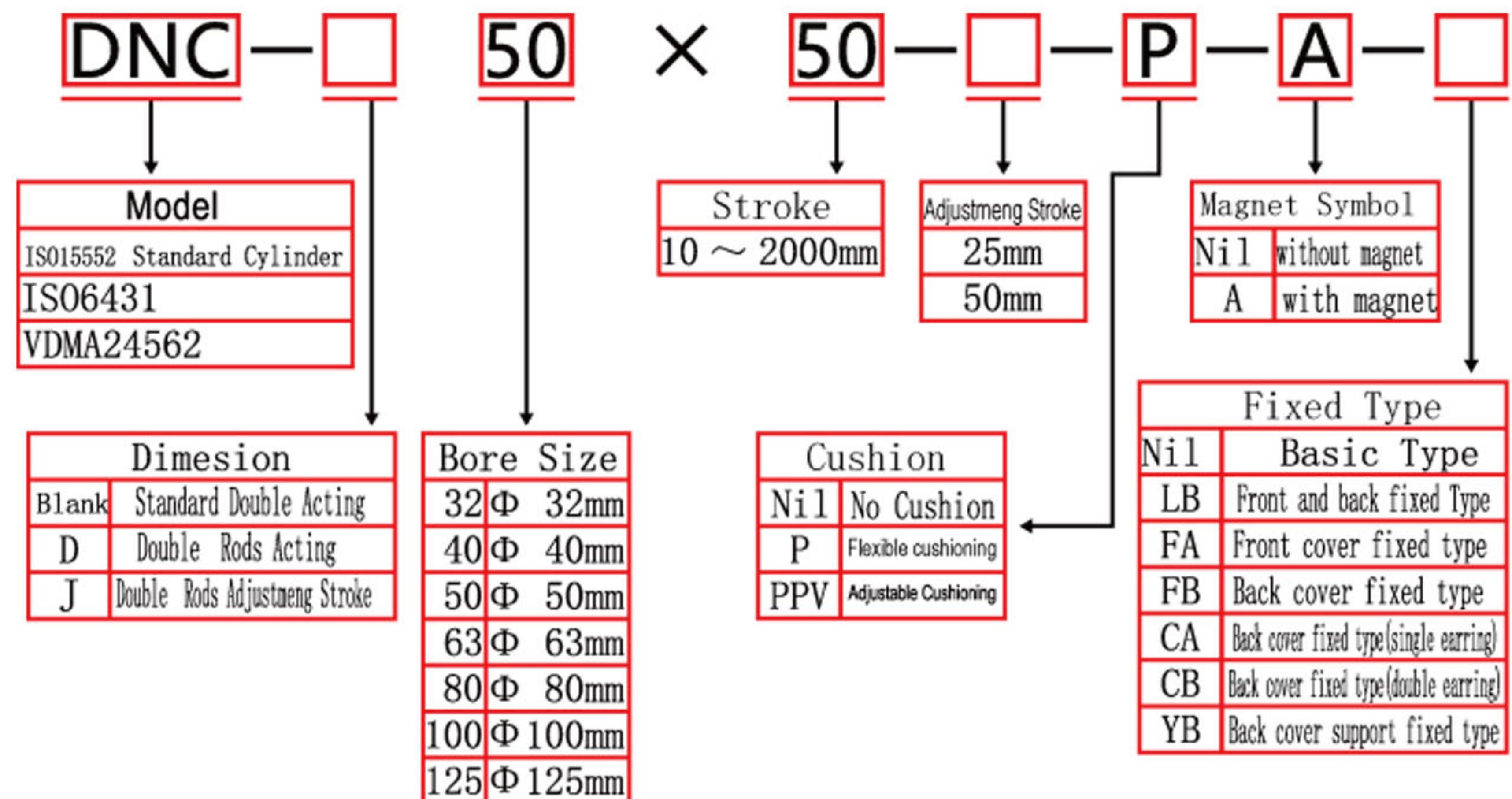


DNC Series

**Bore Size:32mm, 40mm, 50mm, 63mm
80mm, 100mm, 125mm**

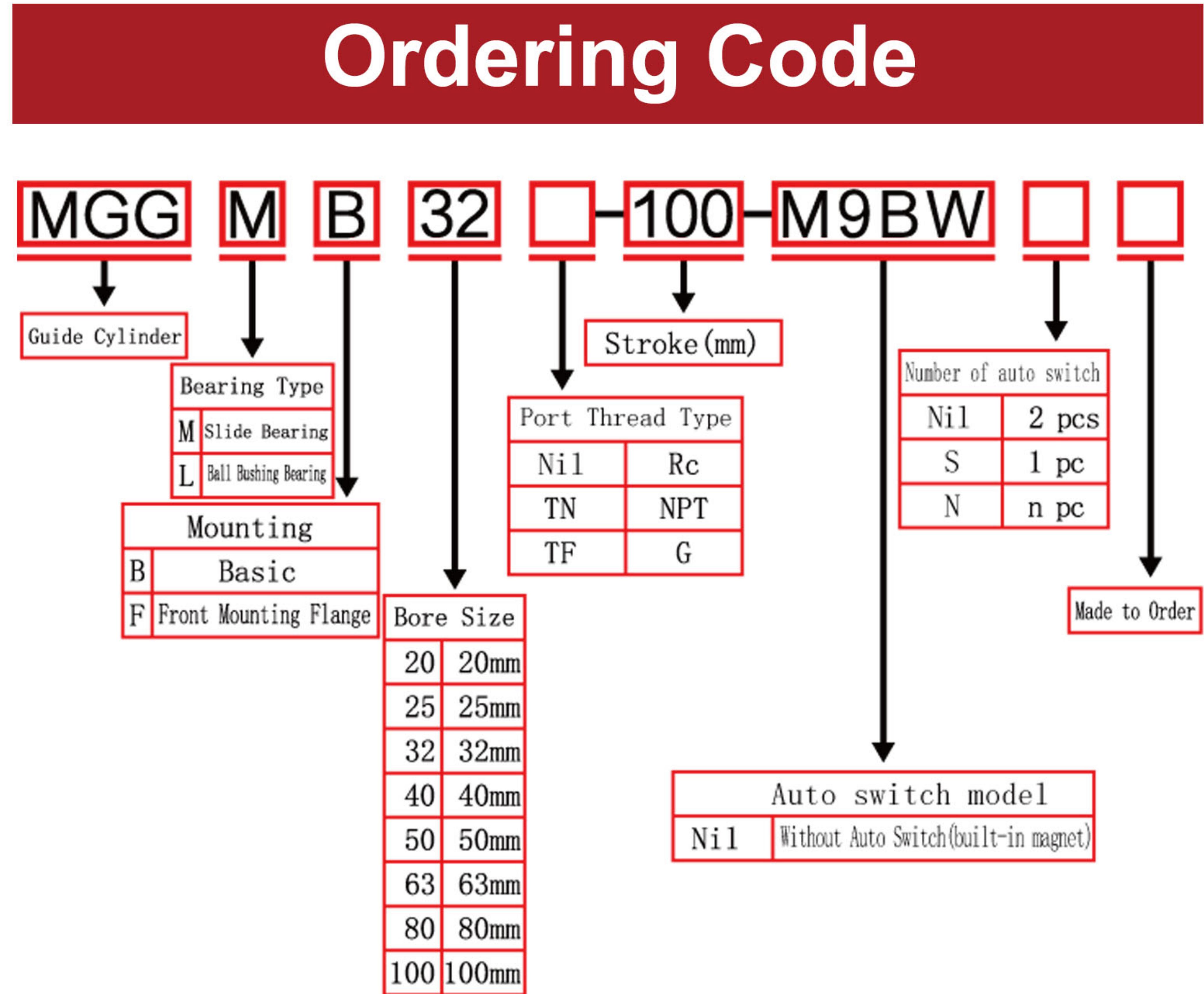


Ordering Code



MGG Series

Bore Size:20mm, 25mm, 32mm, 40mm, 50mm, 63mm, 80mm,100mm



Specifications

Model	MGG□□20	MGG□□25	MGG□□32	MGG□□40	MGG□□50	MGG□□63	MGG□□80	MGG□□100			
Basic cylinder	CDG1BN	CDG1BN	Bore size	Port thread type	—	Stroke	—	Auto switch			
Bore size (mm)	20	25	32	40	50	63	80	100			
Action	Double acting										
Fluid	Air										
Proof pressure	1.5 MPa										
Maximum operating pressure	1.0 MPa										
Minimum operating pressure	0.15 MPa (Horizontal with no load)										
Ambient and fluid temperature	-10 to 60°C										
Piston speed	50 to 1000 mm/s						50 to 700 mm/s				
Cushion	Basic cylinder	Rubber bumper									
	Guide unit	Built-in shock absorbers (2 pcs.)									
Stroke adjusting range (One side) [Built-in adjusting bolts (2 pcs.)]	0 to -10 mm	0 to -15 mm									
Base cylinder lubrication	Non-lube										
Stroke length tolerance	+1.9 +0.2 mm(1000 st or less), +2.3 +0.2 mm(1001 st or more)										
Non-rotating accuracy [*]	Slide bearing	±0.07°	±0.06°	±0.06°	±0.05°	±0.04°	±0.04°	±0.04°			
	Ball bushing bearing	±0.06°	±0.05°	±0.04°	±0.04°	±0.04°	±0.03°	±0.02°			
Piping port size (Rc, NPT, G)	1/8			1/4			3/8	1/2			

* When the cylinder is retracted (initial value), the non-rotating accuracy without loads or deflection of the guide rods will be below the values shown in the table above as a guideline.

Compact Guide Cylinder

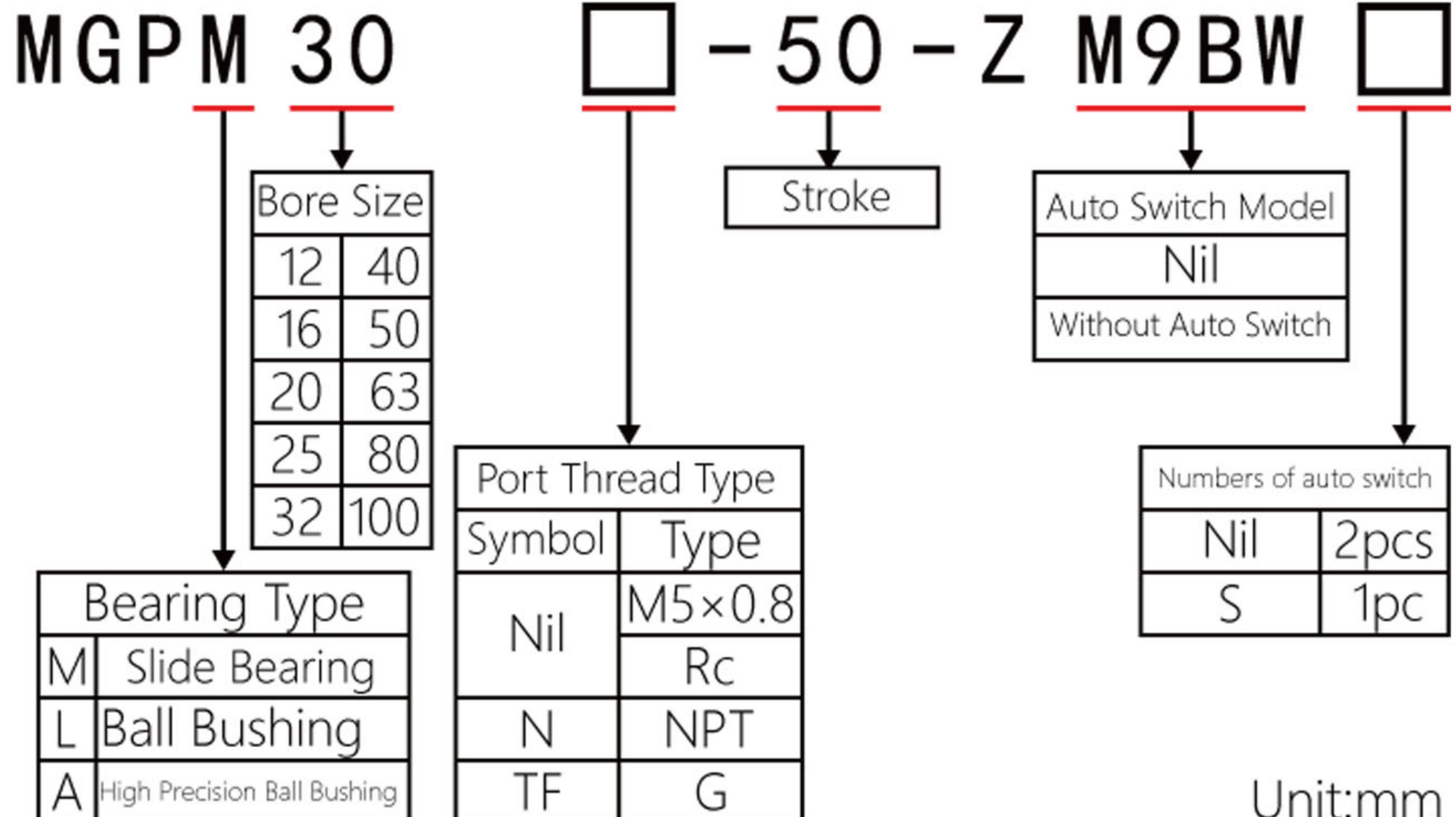


MGPM Series

Bore Size: 12mm, 16mm, 20mm, 25mm
32mm, 40mm, 50mm, 63mm, 80mm, 100mm



Ordering Code



Specifications

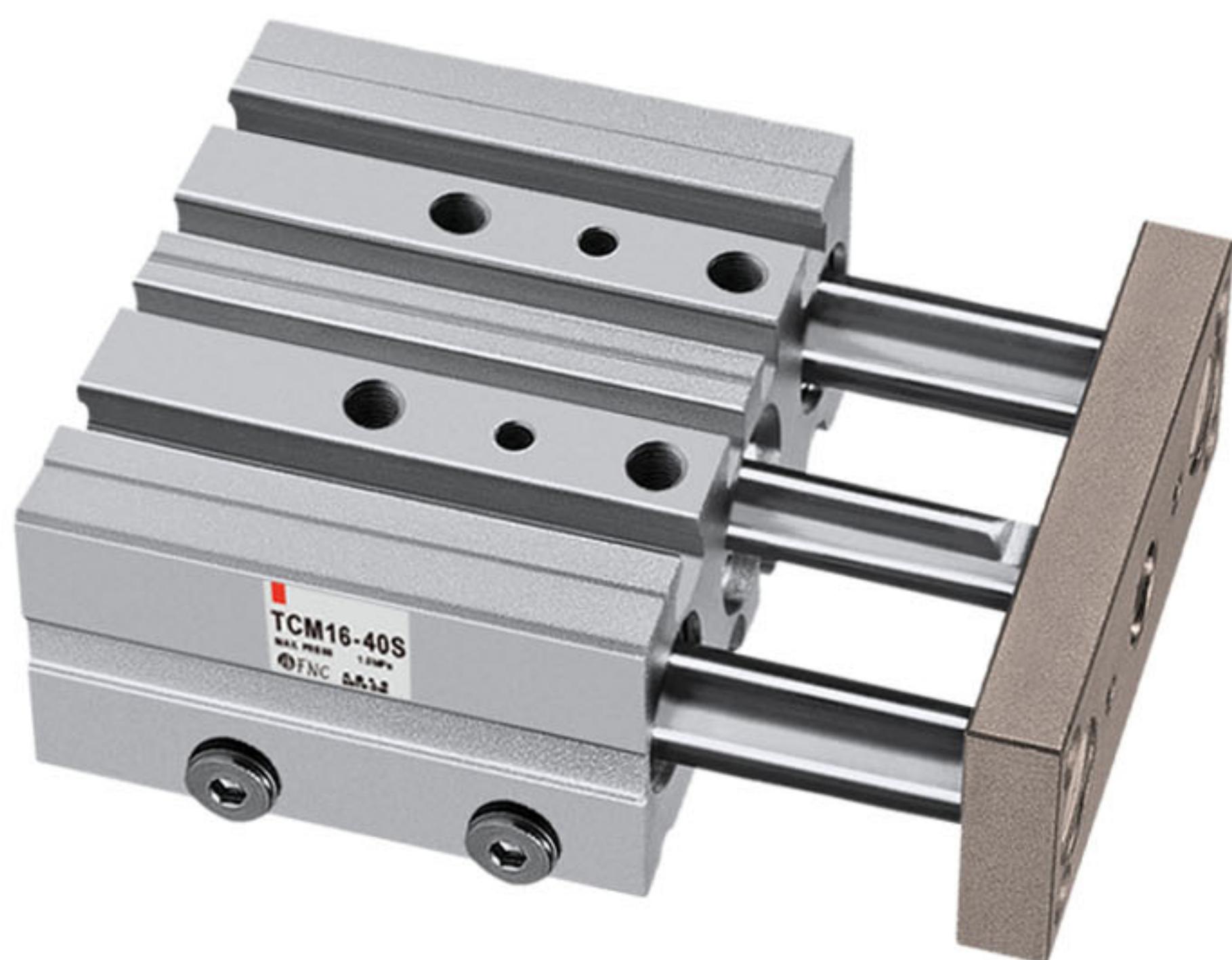
Bore size	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100				
Action	Double acting													
Fluid	Air													
Proof pressure	218psi (1.5 MPa)													
Maximum operating pressure	145psi (1.0 MPa)													
Minimum operating pressure	17psi (0.12 MPa)	14.5psi (0.1 MPa)												
Ambient and fluid temperature	14 to 140°F (-10 to 60°C) (No freezing)													
Piston speed Note)	50 to 500 mm/s						50 to 400 mm/s							
Cushion	Rubber bumper on both ends													
Lubrication	Not required (Non-lube)													
Stroke length tolerance	$^{+1.5}_0$ mm													

Note) Maximum speed with no load.

Make a model selection, considering a load according to the graph on pages 8 to 14.

TC Series

Bore Size:6mm, 10mm, 12mm, 16mm, 20mm, 25mm, 32mm, 40mm, 50mm, 63mm, 80mm, 100mm



产品选型

TC	M	J	50	×	50	–	20	S	□
① Model	② Bearing Type	③ Model Symbol	④ Bore size	⑤ Stroke	⑥ Adjust Stroke			⑦ Magnet	⑧ Thread Type
	M: Bronze bearing	Blank:Standard	6 10 12 16 20 25 32 40 50 63 80 100		No codes				
					Standard	Adjust			
	L: Linear Bearing M: Bronze Bearing	Blank: Standard J: Adjust							
					Refer to stock table for details				
						No codes			
						10 20 30 40 50 75 100			
							No codes		

[Note1] TC Series are all with magnet [Note2] When the thread is standard, the code is blank

Specification

Bore size(mm)	6	10	12	16	20	25	32	40	50	63	80	100
Acting type	Double acting											
Fluid	Air(to be filtered by 40 μ m filter element)											
Operating pressure	0.15~0.7MPa(22~100psi)		0.15~1.0MPa(22~145psi)									
Proof pressure	1.2MPa(175psi)		1.5MPa(215psi)									
Temperature $^{\circ}$ C	-20~70											
Speed range mm/s	50~500		30~500		50~400							
Stroke tolerance	$\leq 100^{+1.0}_0$		$> 100^{+1.5}_0$									
Cushion type	Bumper											
Non-rotating tolerance [Note1]	TCL	-	$\pm 0.08^{\circ}$	$\pm 0.07^{\circ}$	$\pm 0.06^{\circ}$	$\pm 0.05^{\circ}$	$\pm 0.04^{\circ}$					
	TCM	$\pm 0.1^{\circ}$	$\pm 0.10^{\circ}$	$\pm 0.09^{\circ}$	$\pm 0.08^{\circ}$	$\pm 0.06^{\circ}$	$\pm 0.05^{\circ}$					
Port size [Note2]	M3×0.5		M5×0.8	1/8"		1/4"	3/8"					

[Note1] Retract position.

[Note2]PT thread, G thread and NPT thread are available.

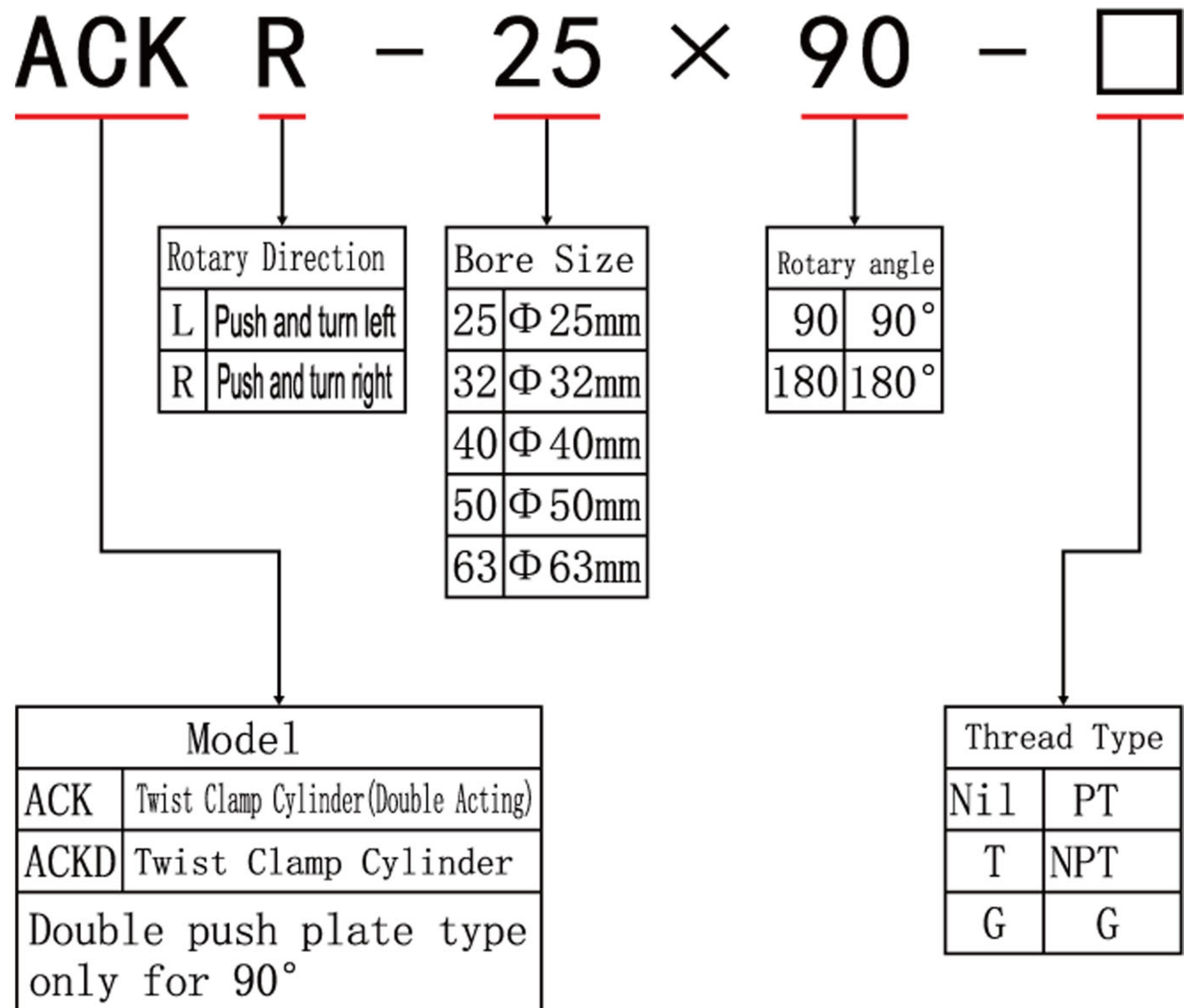
Add) Refer to P353 for detail of sensor switch.

ACK Series

Bore Size: 25mm 32mm, 40mm, 50mm, 63mm



Ordering Code



Specification

Bore size(mm)	25	32	40	50	63
Acting type	Double acting				
Fluid	Air(to be filtered by 40 μ m filter element)				
Operating pressure	0.15~1.0MPa(22~145psi)				
Proof pressure	1.5MPa(215psi)				
Temperature °C	-20~80				
Speed range mm/s	50~200				
Stroke tolerance	± 1.0				
Rotary angle tolerance	$\pm 1.5^\circ$				
Cushion type ①	No cushion				
Port size ②	M5 × 0.8			1/8"	

① If there is no buffering device, exhaust throttle shall be added to achieve buffering effect.

② PT thread, G thread and NPT thread are available.

Double Acting Rotary Type Cylinder



SRC Series

Bore Size:25mm, 32mm, 40mm, 50mm, 63mm



Ordering Code

SRC R 32 × 12 - D

Series Model

Rotary Direction

32

Bore Size

12

Stroke

L Left

R Right

25 Φ 25mm

32 Φ 32mm

40 Φ 40mm

50 Φ 50mm

63 Φ 63mm

12mm

12mm

12mm

15mm

15mm

Stoke is push stoke
(without rotary stroke)

Plate Type

Nil	Single Plate
D	Double Plate

Note: Not available for 25
in Double Plate

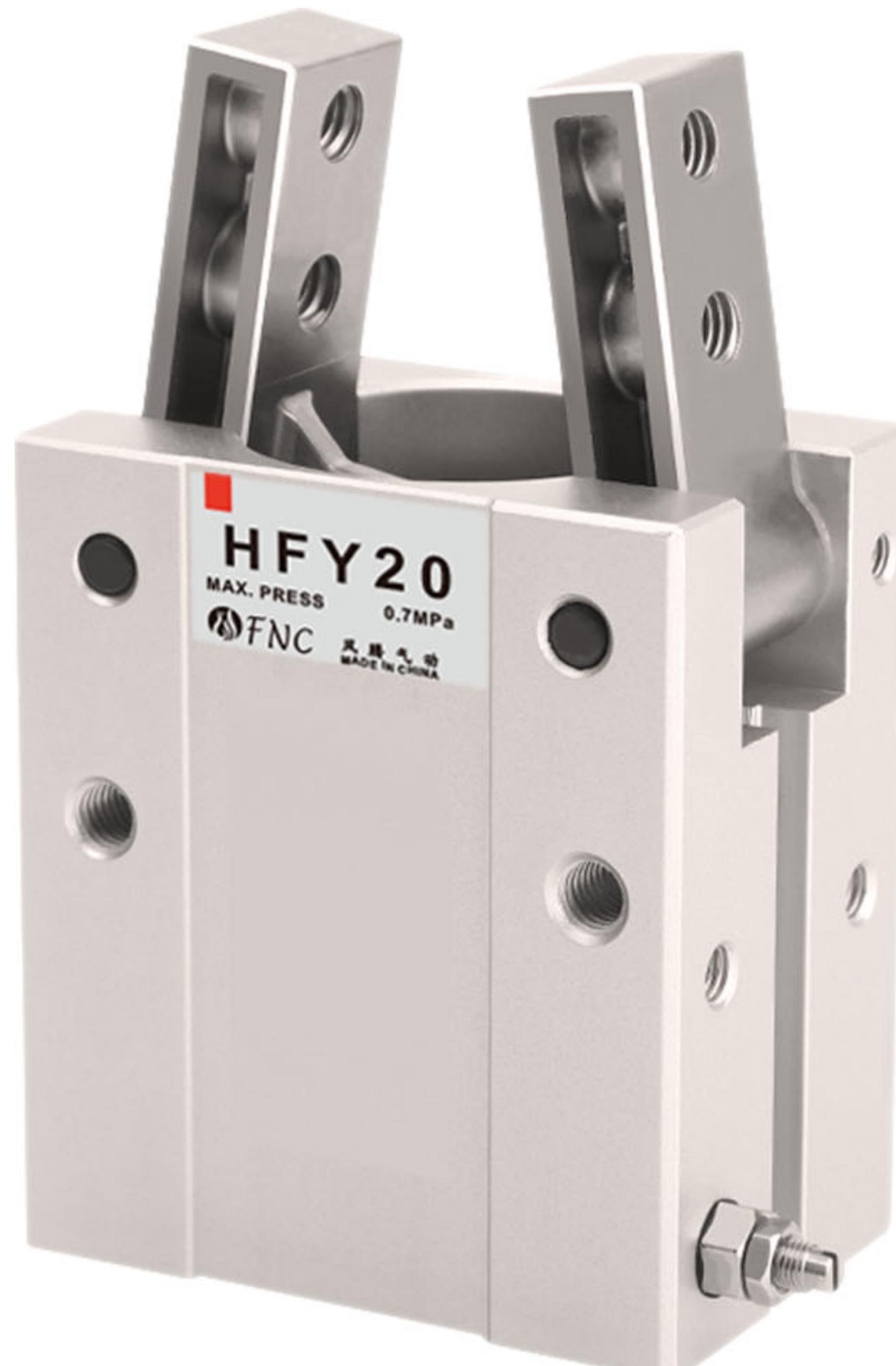
Specification

Bore	25	32	40	50	63
Motion Pattern	Double Action				
Working Medium	Air				
Operating Pressure	1.5~9.5(150-950)kg/cm ² (kpa)				
Operating Temperature	0~60°C				
Operating Stroke	30~500mm/sec				
Rotating Stroke	11	13	13	15	15
Pushing Stroke	11	13	13	15	15
Rotating Angle	90° can be customized(0°,45°,90°)				
Rotating Direction	Turn Left[from right to left]-L, Turn Right[from left to right]-R				
Cushion Direction	Rubber Gasket Buffer				
Lubricating	Free supply mode				
Port Size	M5*0.8				

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HFY Series

Bore Size:6mm, 10mm, 16mm, 20mm, 25mm, 32mm



Ordering Code

HFY

20

Model

HFY	Air finger(Angle Style, Double acting)
HFTY	Air finger(Angle Style, Single acting and normally opened)

Bore Size

Φ 6mm	Φ20mm
Φ10mm	Φ25mm
Φ16mm	Φ32mm

Model

Model	HFY6	HFY10	HFY16	HFY20	HFY25	HFY32
Air hole thread	M3*0.5	M3*0.5	M5*0.8	M5*0.8	M5*0.8	M5*0.8

■ Specification

Bore size (mm)			6	10	16	20	25	32
Acting type					Double acting	Single acting		
Fluid					Air(to be filtered by 40 μ m filter element)			
Operating pressure	Double acting	Φ6			0.15~0.7MPa(22~100psi)(1.5~7.0bar)			
		Φ10~Φ32			0.1~0.7MPa(15~100psi)(1.0~7.0bar)			
	Single acting	Φ6			0.3~0.7MPa(45~100psi)(3.0~7.0bar)			
		Φ10~Φ32			0.25~0.7MPa(36~100psi)(2.5~7.0bar)			
Temperature $^{\circ}\text{C}$					-20~70			
Lubrication					Cylinder: Not required;	Gripper jaws: Lubricate grease		
Cushion type					Bumper			
Max. frequency					180(c.p.m)			
Sensor switches ①			DS1-H		CS1-G、 DS1-G			

① Sensor switch should be ordered additionally, please refer to P419~442 for detail of sensor switch.

Angular Style Air Gripper

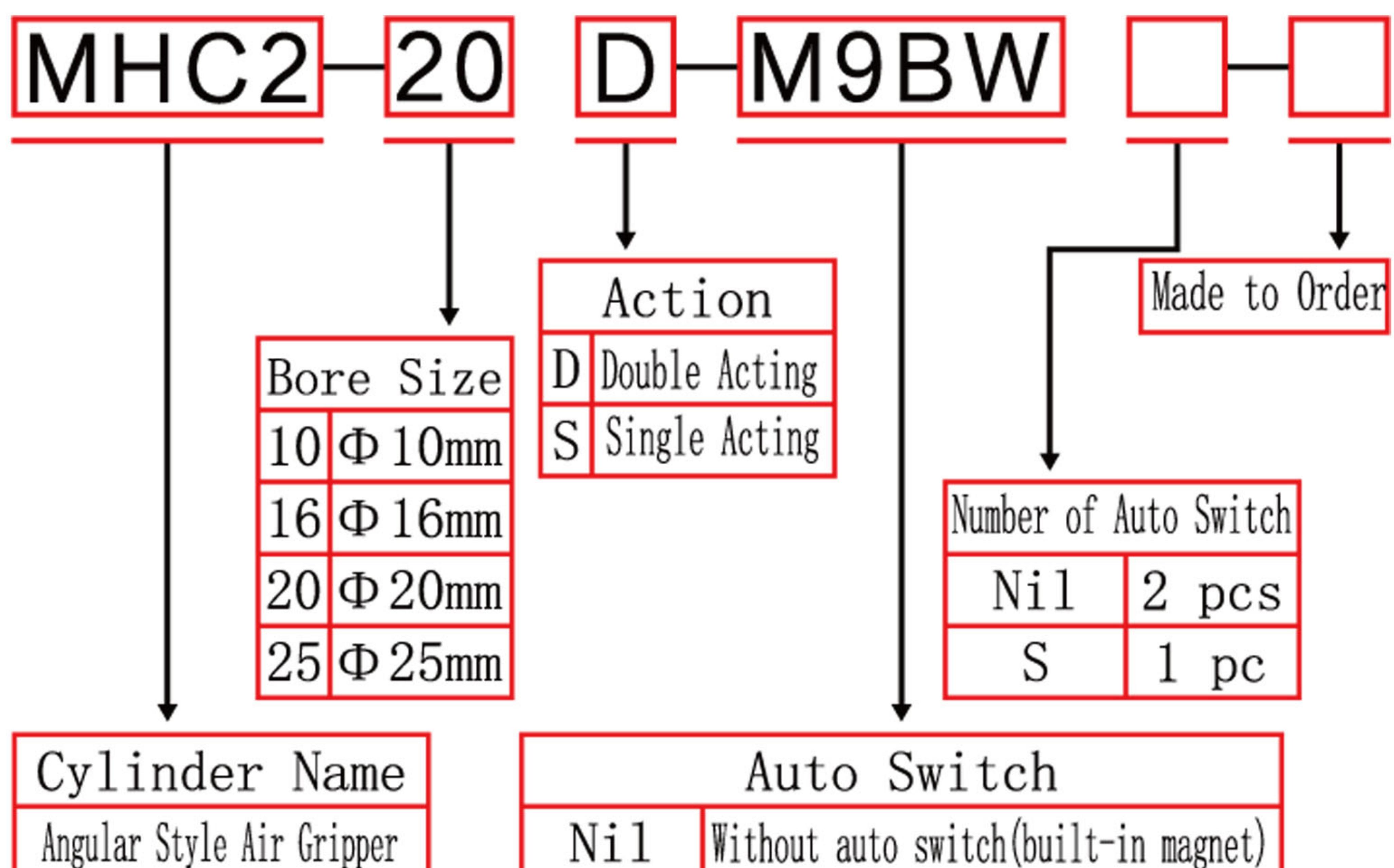


MHC2 Series

Bore Size:10mm, 16mm, 20mm, 25mm



Ordering Code



Specifications

Fluid	Air
Operating pressure	0.15 to 0.6 MPa
Single acting: Normally open	0.3 to 0.6 MPa
Ambient and fluid temperature	–10 to 60°C
Repeatability	±0.02 mm
Maximum operating frequency	180 c.p.m
Lubrication	Non-lube
Action	Double acting, Single acting (Normally open)
Auto switch (Option) <small>Note</small>	Solid state auto switch (3-wire, 2-wire)

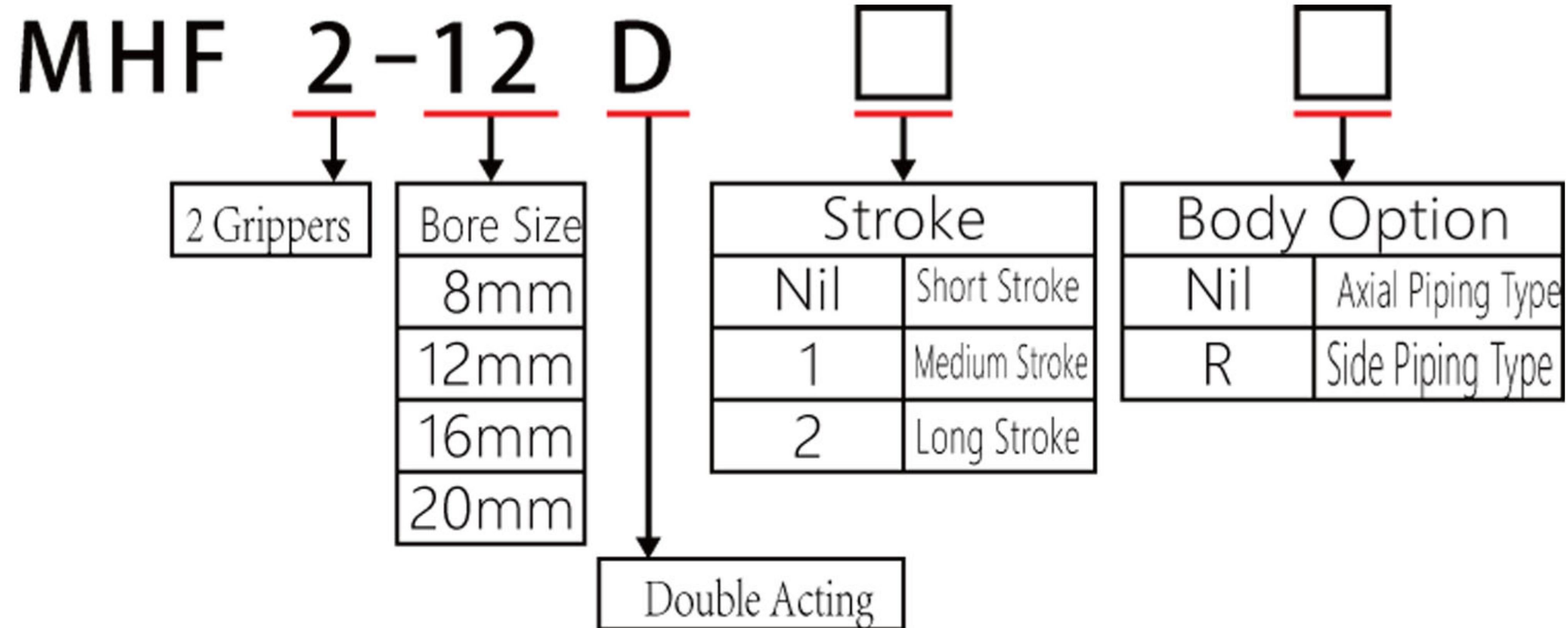
Note) Refer to pages 761 to 809 for further information on auto switches.

MHF2 Series

Bore Size: 8mm, 12mm, 16mm, 20mm,



Ordering Code



Specifications

Fluid	Air	
Operating pressure	$\varnothing 8$: 0.15 to 0.7 MPa $\varnothing 12$ to 20: 0.1 to 0.7 MPa	
Ambient and fluid temperature	-10 to 60°C (with no condensation)	
Repeatability	± 0.05 mm <small>Note 1)</small>	
Maximum operating frequency	Short stroke	120 c.p.m.
	Medium stroke	120 c.p.m.
	Long stroke	60 c.p.m.
Lubrication	Not required	
Action	Double acting	
Auto switch (Option) <small>Note 2)</small>	Solid state auto switch (3-wire, 2-wire)	

Note 1) This is the value when no offset load is applied to the finger.

When an offset load is applied to the finger, the maximum value is ± 0.15 mm due to the influence of backlash of the rack and pinion.

Note 2) Refer to pages 761 to 809 for further information on auto switches.

Parallel Style Air Gripper: Wide Type



MHL2 Series

Bore Size:10mm, 16mm, 20mm, 25mm
32mm, 40mm



Ordering Code

MHL	2	-	16	<input type="checkbox"/>	D	<input type="checkbox"/>	-	M9BW	<input type="checkbox"/>
Wide Opening		Number of fingers			Bore Size		Action		
		2	2 fingers		10	10mm	D	Double Acting	
					16	16mm			
					20	20mm			
					25	25mm			
					32	32mm			
					40	40mm			
Number of auto switch									
Nil 2 pcs									
S 1 pc									
N n pc									
Auto Switch Model									
Nil									
Without auto switch(built-in magnet)									
Thread Type									
Symbol	Type	Bore Size							
Nil	M Thread	$\phi 10 \sim \phi 25$							
	Rc	$\phi 32 \sim \phi 40$							
TN	NPT								
TF	G								
Opening & closing stroke(mm)									
symbol	$\phi 10$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$			
Nil	20	30	40	50	70	100			
1	40	60	80	100	120	160			
2	60	80	100	120	160	200			

Specifications

Bore size (mm)	10	16	20	25	32	40	
Fluid	Air						
Action	Double acting						
Operating pressure (MPa)	0.15 to 0.6	0.1 to 0.6					
Ambient and fluid temperature	-10 to 60°C						
Repeatability	± 0.1						
Lubrication	Not required						
Effective gripping force (N) ^{Note} at 0.5 MPa	14	45	74	131	228	396	

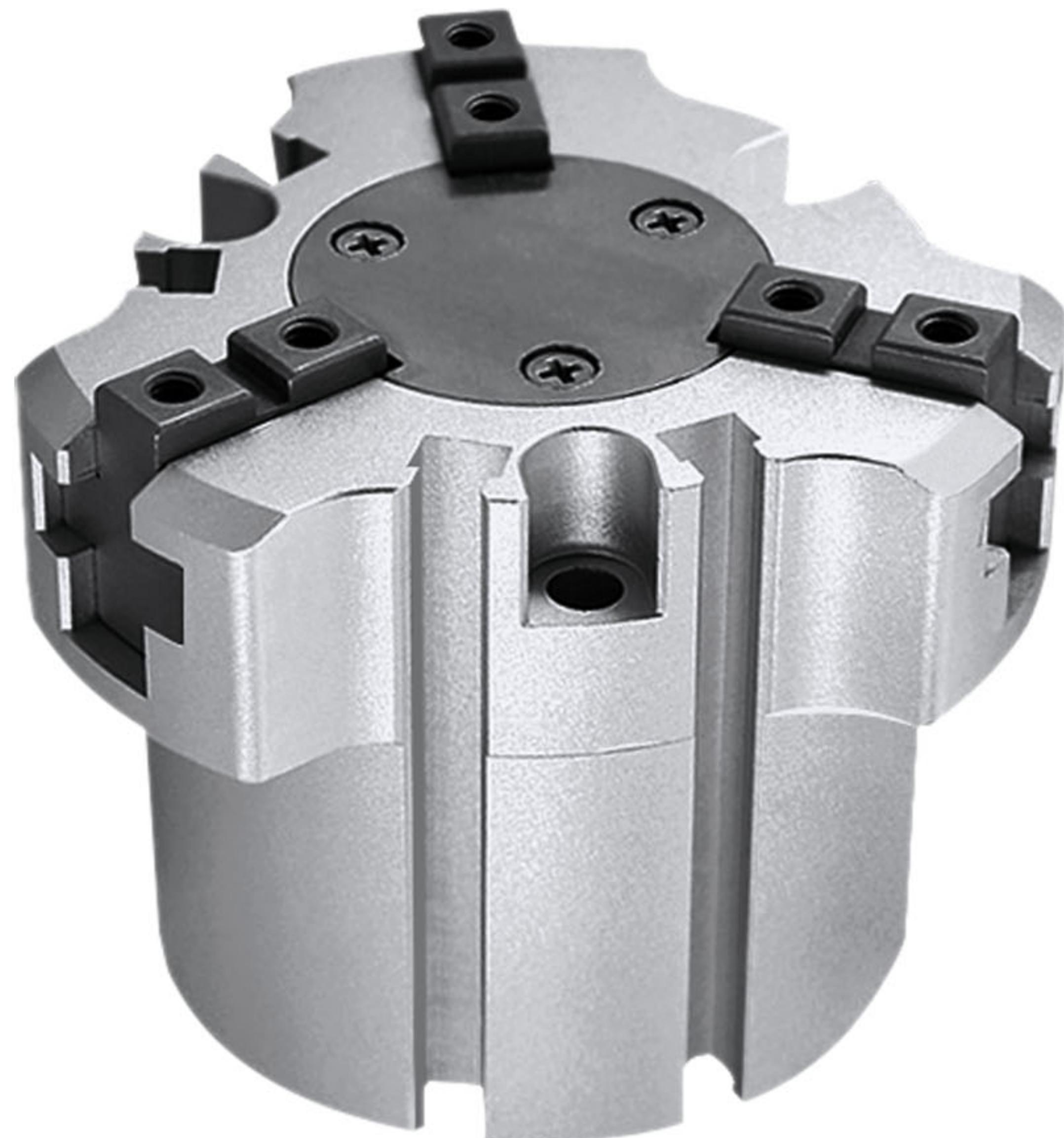
Note) Gripping point = Bore size 10, 16, 20, 25: 40 mm, Bore size 32, 40: 80 mm.

3 Finger Air Gripper Parallel Type



MHSL3 Series

Bore Size:16mm, 20mm, 25mm, 32mm, 40mm, 50mm, 63mm, 80mm, 100mm, 125mm



Ordering Code

MHS **L** 3 - 32 D - M9N

Type		Bore Size	Double Acting	number of auto switch
Nil	Standard	16 20		Nil 2 pcs
L	Long Stroke type	25 32		S 1 pc
J	with dust cover	40 50		※N n pc
		63 80		※Bore Size
		100 125		Φ32~Φ125
3 Grippers		<p>Auto Switch Nil</p> <p>Without Auto Switch (built-in magnet)</p> <p>Auto Switch model +wire length model</p>		
Nil		0.5m		
L		3m		
Z		5m		
Example:Y59BL				

Model	MHS3-16D	MHS3-20D	MHS3-25D	MHS3-32D	MHS3-40D	MHS3-50D	MHS3-63D	MHS3-80D	MHS3-100D	MHS3-125D	
Cylinder bore size mm	16	20	25	32	40	50	63	80	100	125	
Fluid						Air					
Operating pressure MPa		0.2 to 0.6				0.1 to 0.6					
Ambient and fluid temperature °C						-10 to 60					
Repeatability mm						±0.01					
Max. operating frequency c.p.m.		120				60				30	
Lubrication						Non-lube					
Action						Double acting					
Effective gripping force N at pressure of 0.5MPa	<small>Note 1)</small> External gripping force	14	25	42	74	118	187	335	500	750	1,270
	Internal gripping force	16	28	47	82	130	204	359	525	780	1,320
Opening/closing stroke mm (dia.)		4	4	6	8	8	12	16	20	24	32
Weight g		60	100	140	237	351	541	992	1,850	3,340	6,460

Note 1) Values for ø16 to ø25 are with gripping point L = 20mm, for ø32 to ø63 with gripping point L = 30mm, and for ø80 to ø125 with gripping point L = 50mm.

$$L = 50\text{mm.}$$

Refer to the "Effective Gripping Force" data on pages 5-169 through 5-171 for the gripping force at each gripping position.

Note 2) Open and closed diameter values apply for external gripping of work pieces.

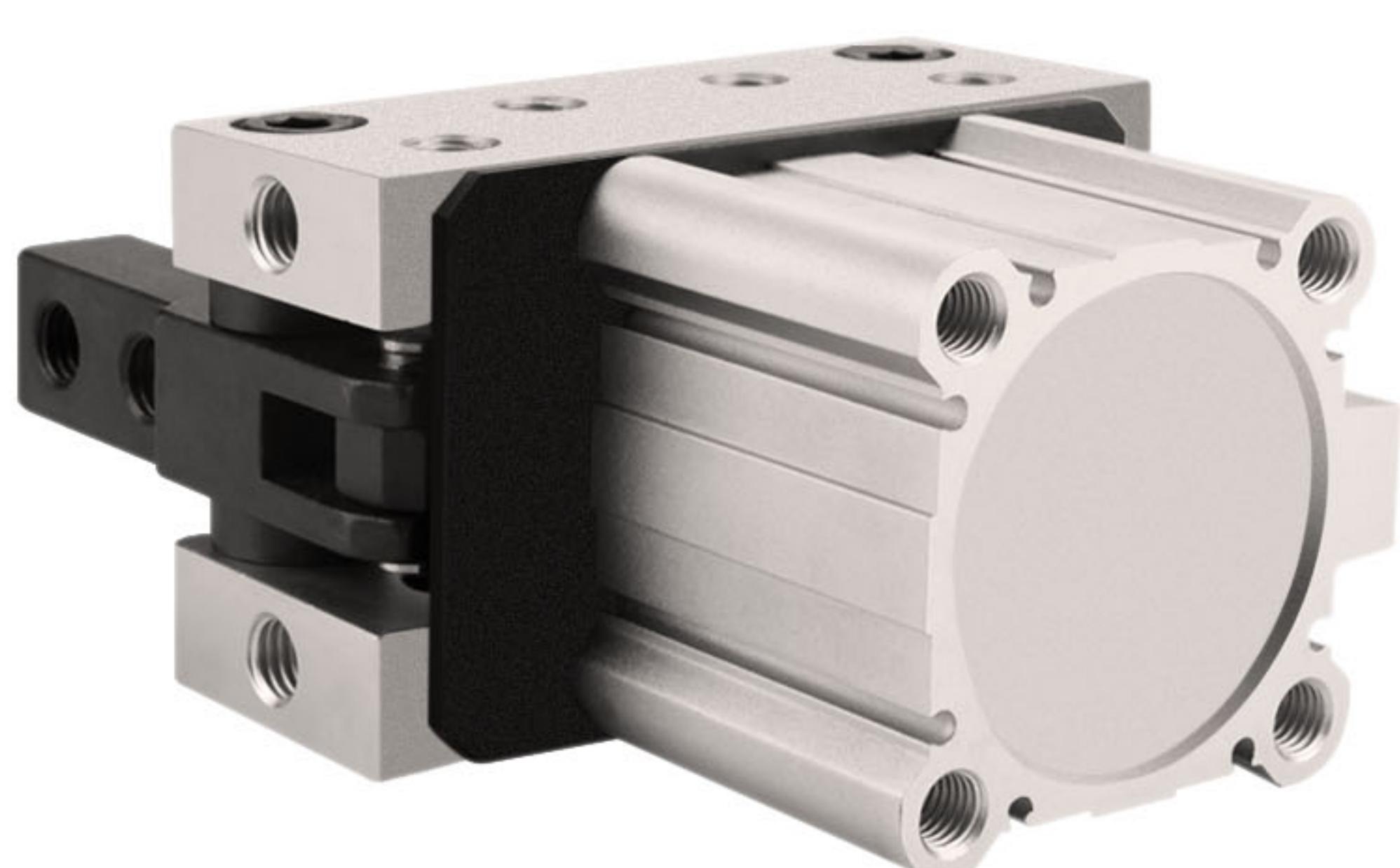
Toggle Style Air Gripper



MHT Series

Recirculating linear ball bearing

Bore Size: 32mm, 40mm, 50mm, 63mm



Ordering Code

MHT 2 – 32 D – A73

2 Fingers
Bore Size
32mm
40mm
50mm
63mm

D – A73

Auto Switch Symbol
Nil
Without Auto Switch
Double Acting

Numbers of Auto Switch
Nil 2pcs
S 1pcs
N npcs

Bore size (mm)	32	40	50	63
Air intake thread	1/8	1/8	1/4	1/4
Blessing torque(N·m)	12.4	36	63	106
Finger opening angle	-3° ~28°	-3° ~27°	-2° ~23°	-2° ~23°

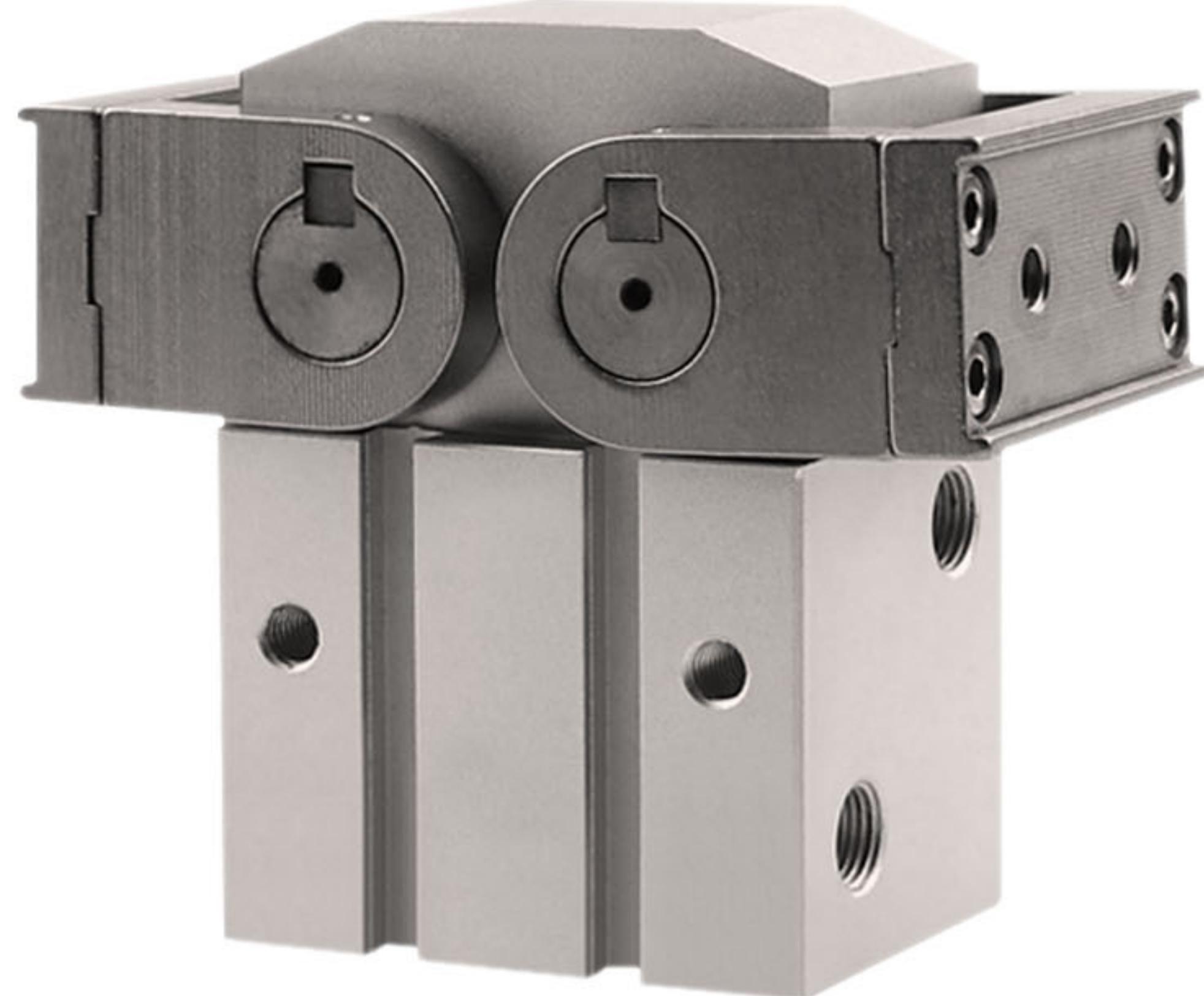
Model/Specifications

Model	MHT2-32D	MHT2-40D	MHT2-50D	MHT2-63D
Bore size (mm)	32	40	50	63
Action	Double acting			
Fluid	Air			
Operating pressure	0.1 to 0.6MPa			
Ambient and fluid temperature	5 to 60°C			
Lubrication	Non-lube			
Finger opening angle (total)	-3° to 28°	-3° to 27°	-2° to 23°	-2° to 23°
Weight	0.80 kg	1.09 kg	1.93kg	2.8 kg
Holding moment (Effective value) Nm ^{Note}	12.4	36.0	63.0	106

Note) At pressure 0.5 MPa

MHW Series

Bore Size:20mm, 25mm, 32mm, 40mm, 50M



Ordering Code

MHW 2 - 20 D 1 - M9BW

Numbers of Finger
2

Bore Size
20 20mm
25 25mm
32 32mm
40 40mm
50 50mm

Action Model
D Double Acting

Finger Option
Nil Flat type fingers (Standard)
1 Right angle type fingers tapped mounting

Numbers of Auto Switch
Nil 2pcs
S 1pc
N npcs

Port thread type		
Symbol	Type	Size
Nil	M Thread	ø20, ø25
	Rc	ø32
TN	NPT	ø40
TF	G	ø50

Auto Switch Model	
Nil	Without auto switch (Built-in magnet)

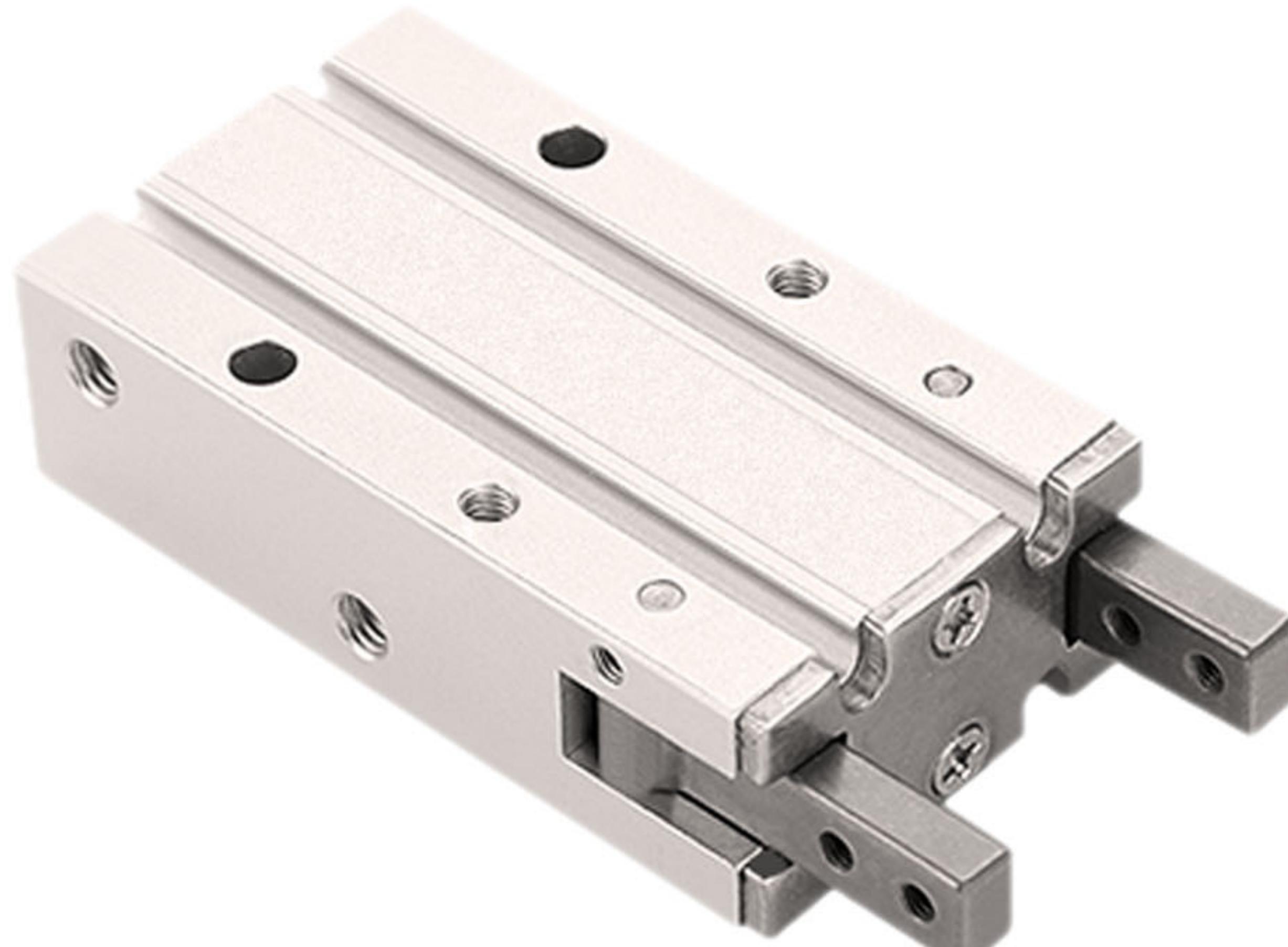
Unit: mm

Specifications

Fluid	Air
Operating pressure	0.15 to 0.7 MPa
Ambient and fluid temperature	-10 to 60°C
Repeatability	±0.2 mm
Max. operating frequency	ø20, 25: 60 c.p.m. ø32 to 50: 30 c.p.m.
Lubrication	Not required
Action	Double acting
Auto switch (Option) <small>Note</small>	Solid state auto switch (3-wire, 2-wire)

MHY Series

Bore Size:10mm, 16mm, 20mm, 25mm



Ordering Code

MHY 2-16 D 2 - M9NL

2 Grippers

Bore Size

Double Acting

10mm

16mm

20mm

25mm

Auto Switch Model

Nil

Without Auto Switch

Auto Switch Model +
Wire Length Model

Nil L Z

0.5m 3m 5m

Example: M9N, M9NL

Fingers Option

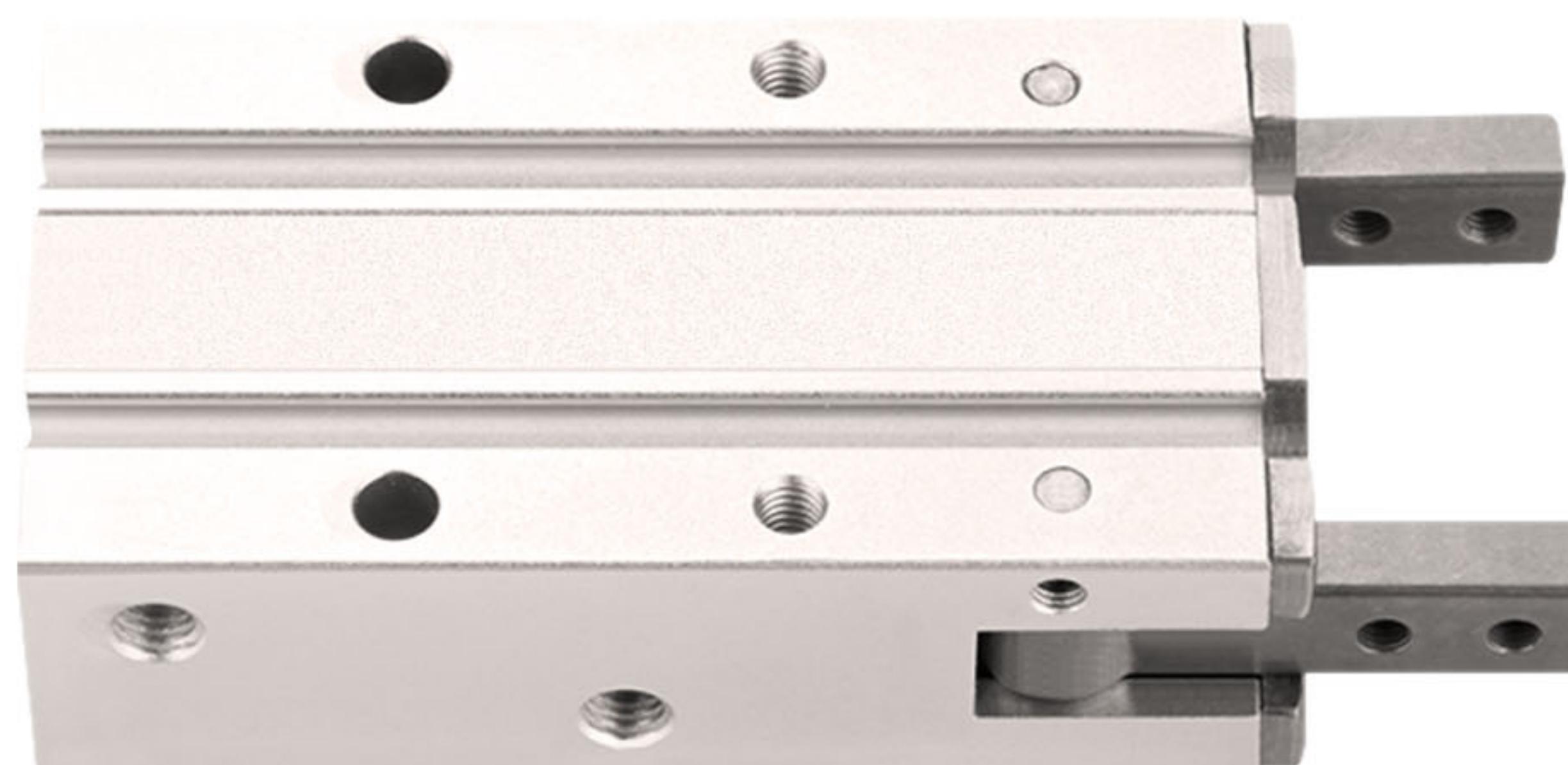
Nil Standard Tapped Mounting

2 Through Holes in
opening/closing direction

Numbers of Auto Switch

Nil 2pcs

S 1pcs



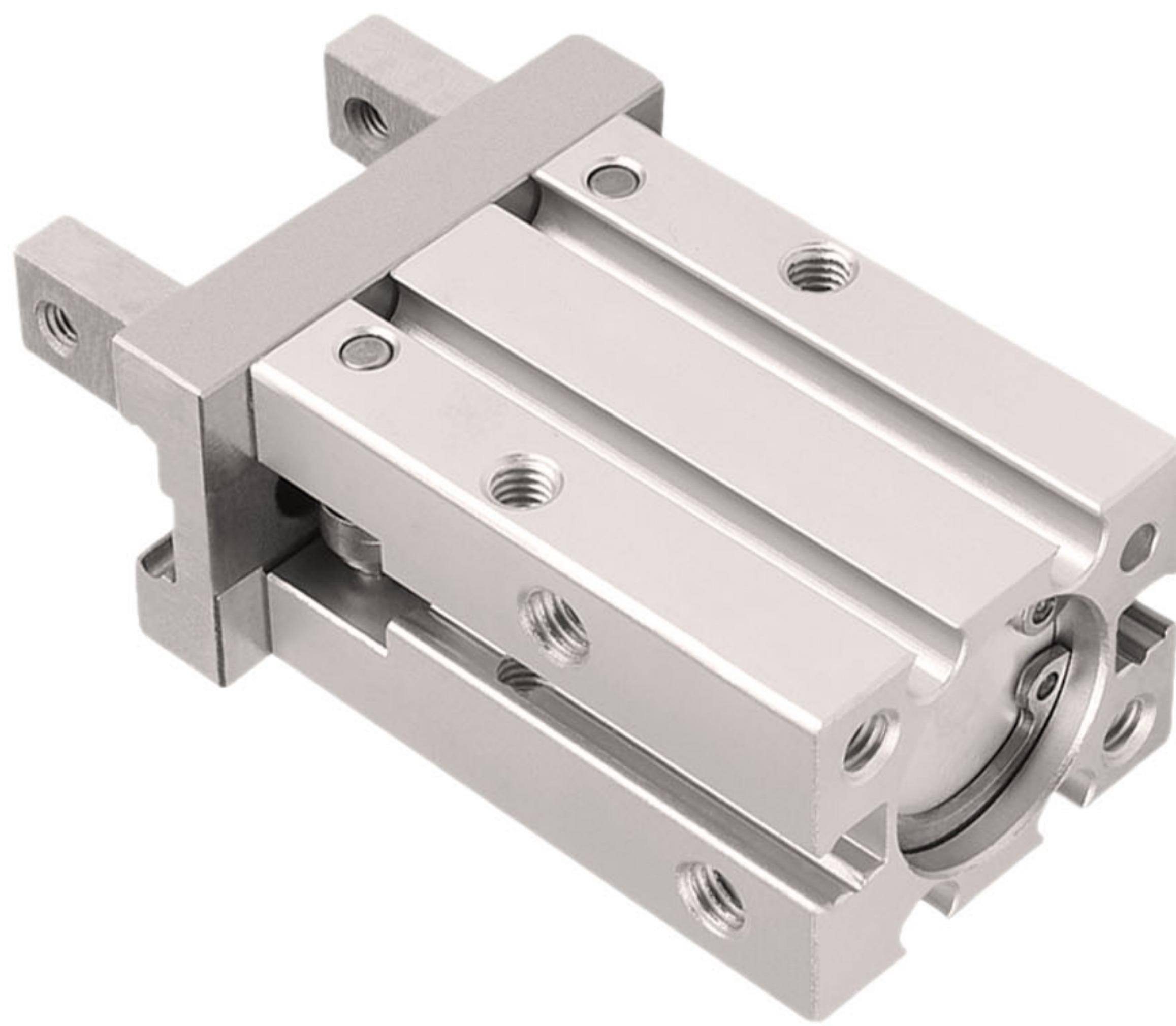
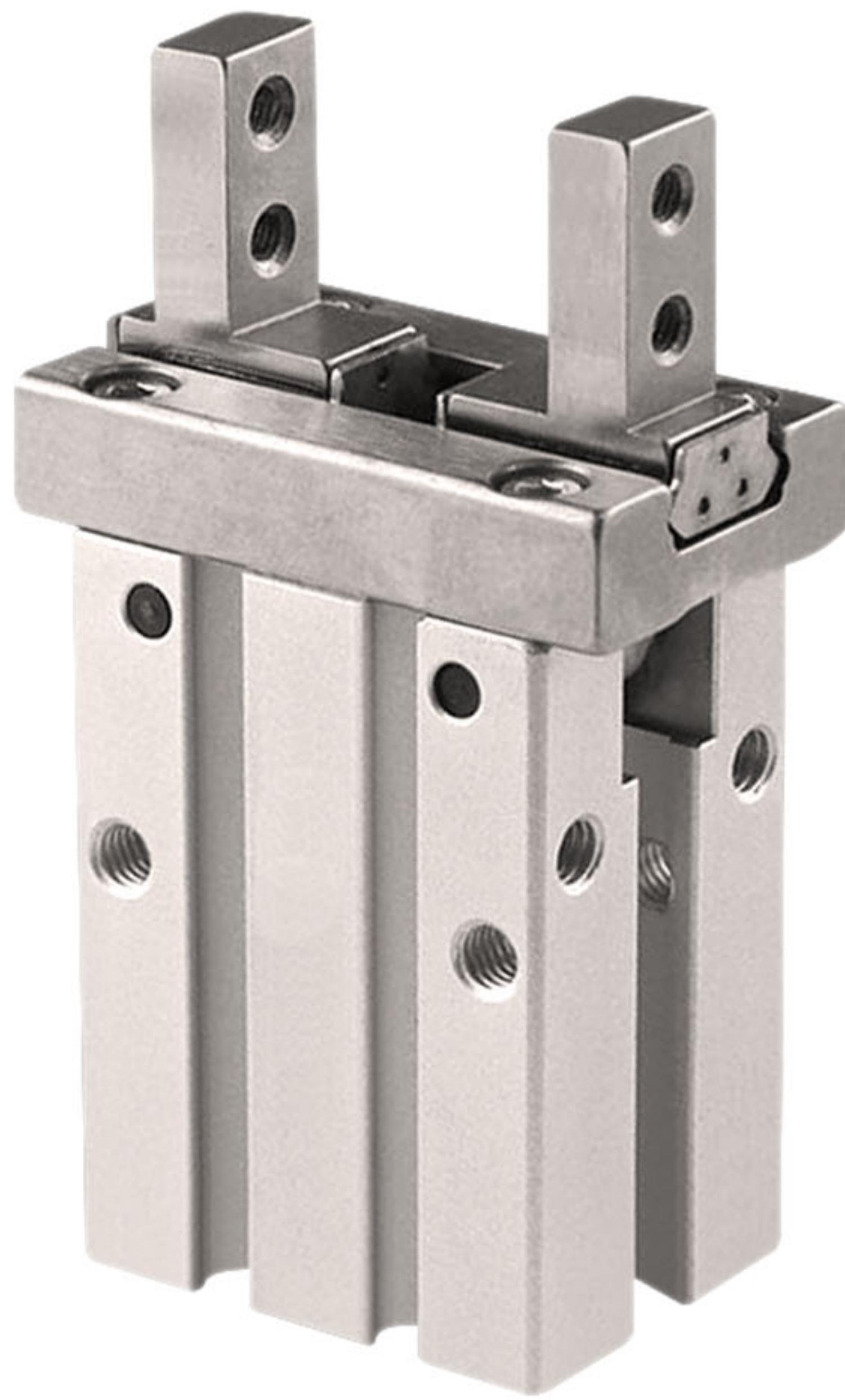
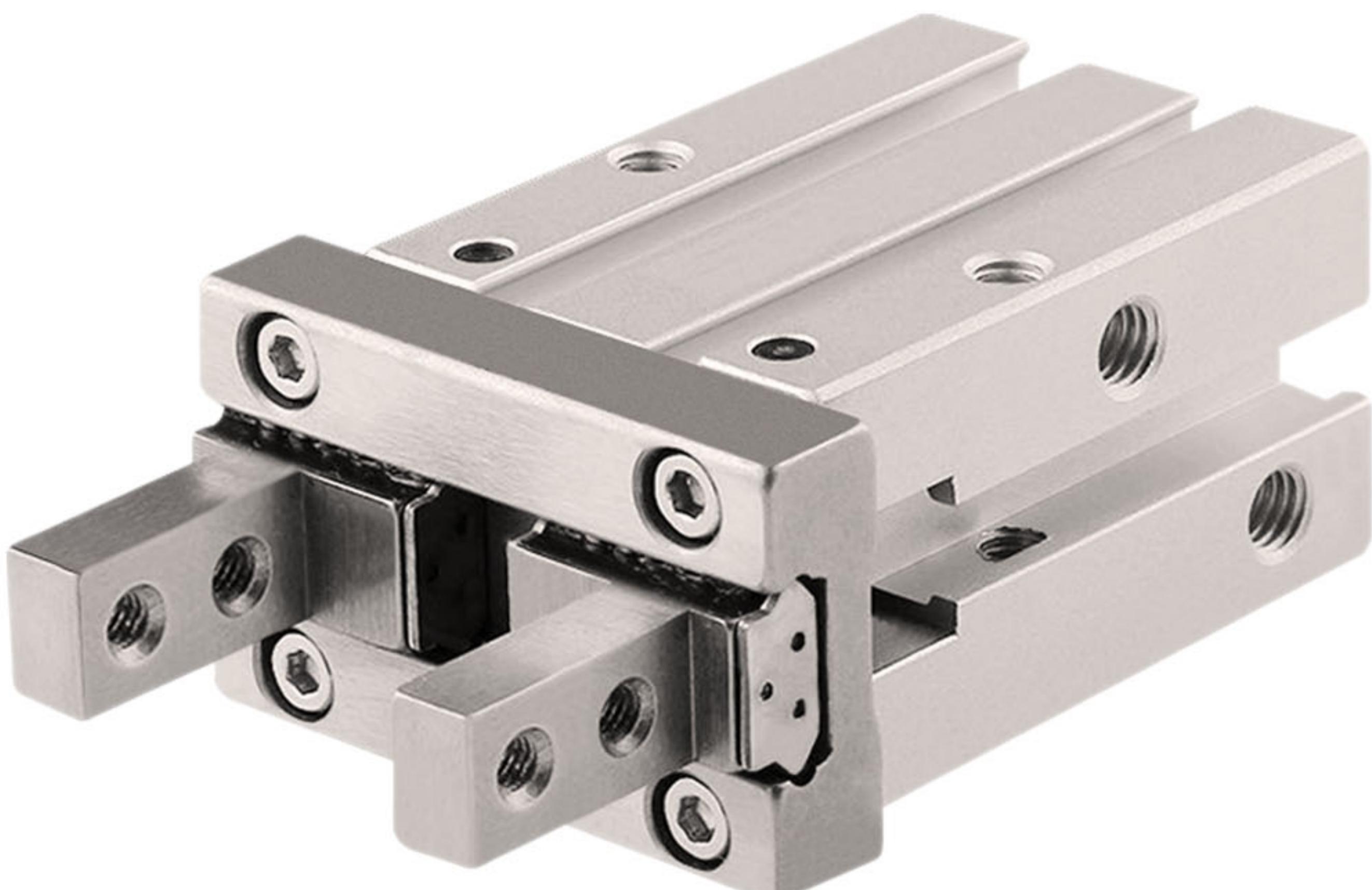
Specifications

Fluid	Air
Operating pressure	0.1 to 0.6 MPa
Ambient and fluid temperature	-10 to 60°C
Repeatability	±0.2 mm
Max. operating frequency	60 c.p.m.
Lubrication	Not required
Action	Double acting
Auto switch (Option) <small>Note</small>	Solid state auto switch (3-wire, 2-wire)

Note) Refer to pages 797 to 850 for further information on auto switches.

MHZ Series

Bore Size: 10mm, 16mm, 20mm, 25mm
32mm, 40mm



Ordering Code

<u>M</u>	<u>H</u>	<u>Z</u>	<u>2</u>	-	<u>2</u>	<u>0</u>	<u>S</u>	<u>N</u>
Series Number								
MHZ2 Parallel opening and closing type								
MHZ2				Bore			Action	
				10			D	Double acting
				16			S	Single acting (Normally open)
				20			C	Single acting (Normally closed)
				25				
				32				
				40				
Finger Type								
Nil							Standard	
N								narrow

Specifications

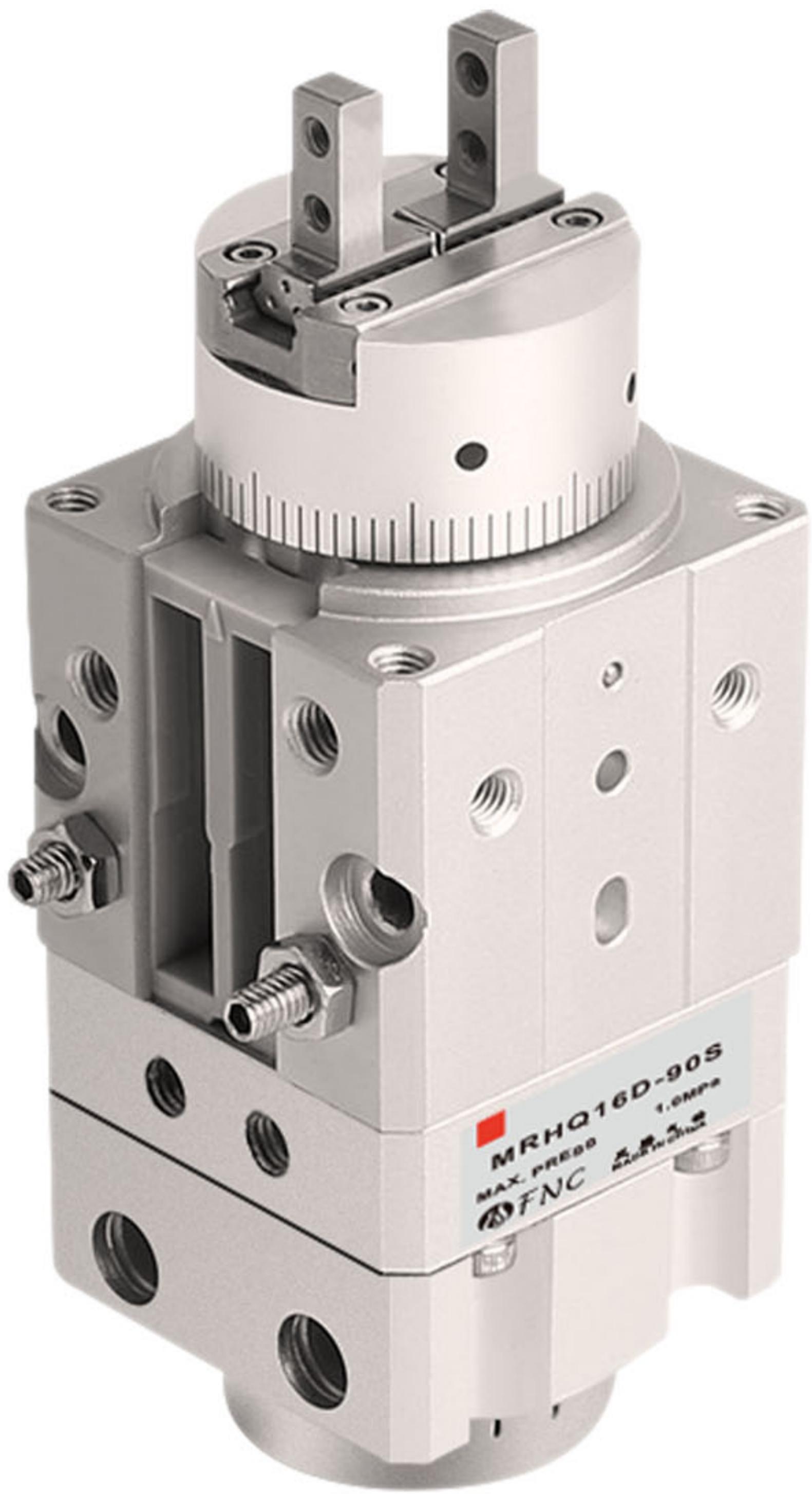
Fluid			Air
Operating pressure	Double acting		ø6: 0.15 to 0.7 MPa
	Single acting	Normally open	ø10: 0.2 to 0.7 MPa
		Normally closed	ø16 to ø25: 0.1 to 0.7 MPa
Ambient and fluid temperature	ø6: 0.3 to 0.7 MPa		
Repeatability	ø10: 0.35 to 0.7 MPa		
Max. operating frequency	ø16 to ø25: 0.25 to 0.7 MPa		
Lubrication	-10 to 60°C		
Action	±0.01 mm		
Auto switch (option) <small>Note)</small>	180 c.p.m.		
	Not required		
	Double acting, Single acting		
	Solid state auto switch (3-wire, 2-wire)		

Note) Refer to pages 761 to 809 for further information on auto switches.

MRHQ Series

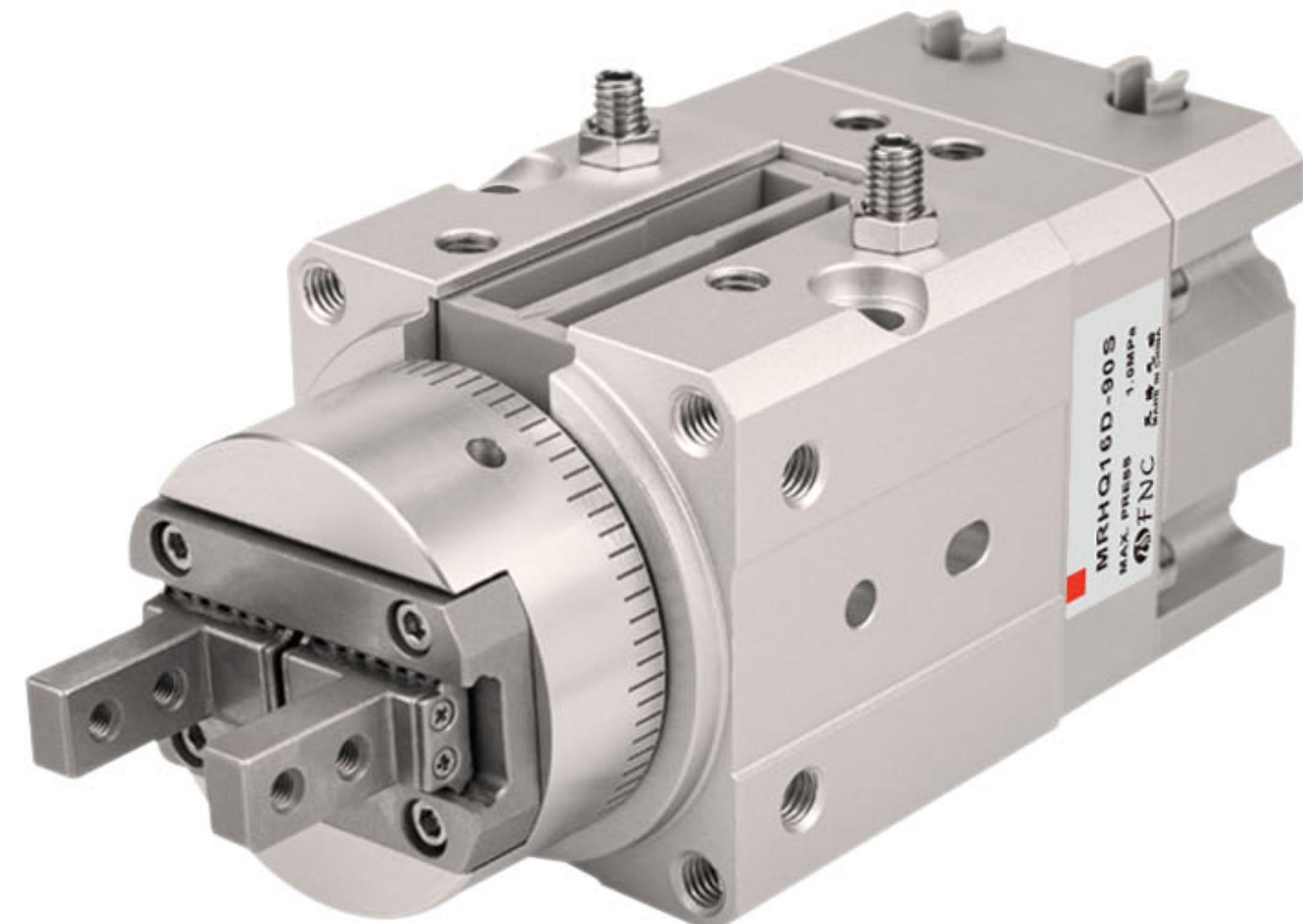
Recirculating linear ball bearing

Bore Size: 10mm, 16mm, 20mm, 25mm



Ordering Code

MRH	Q	16	D	90	S
Rotary Gripper		Bore Size	Double Acting	Rotation Angle	Single Vane
Parallel Type					
		10 10mm		90 90°	
		16 16mm		180 180°	
		20 20mm			
		25 25mm			



Specifications

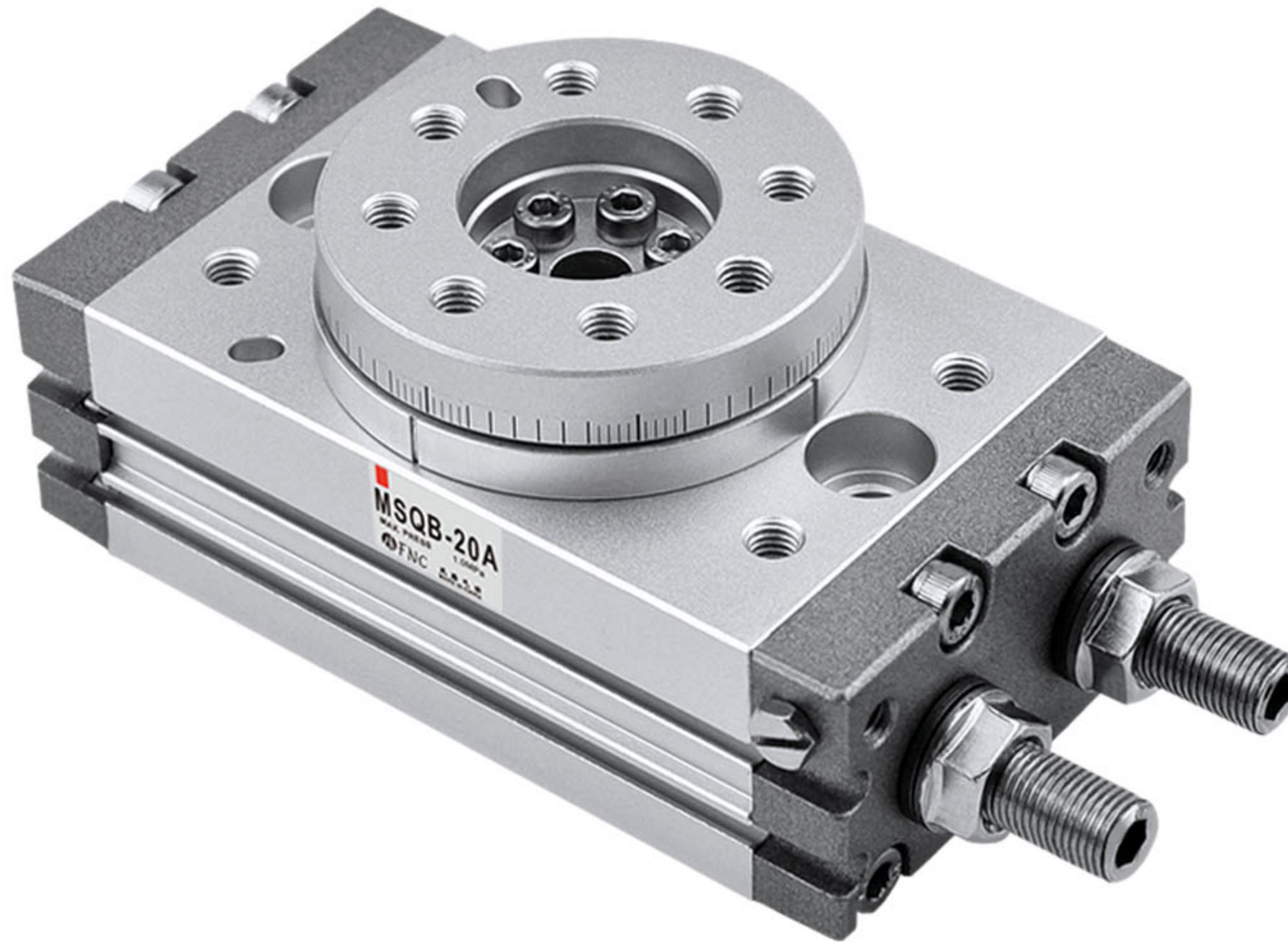
Model		MRHQ10	MRHQ16	MRHQ20	MRHQ25		
Fluid		Air					
Operating pressure	Rotary unit	0.25 to 0.7 MPa		0.25 to 1.0 MPa			
	Gripper unit	Double acting	0.25 to 0.7 MPa	0.1 to 0.7 MPa			
Rotation angle		90° ±10°, 180° ±10° (Both ends of vibration ±5° adjustable)					
Gripper action		Double acting, Single acting					
Finger opening/closing repeatability		±0.01mm					
Gripper maximum operating frequency		180 c.p.m					
Ambient and fluid temperature		5 to 60°C					
Adjustable rotation time range (1)		0.07 to 0.3 s/90° (at 0.5 MPa)					
Allowable kinetic energy		0.0046 J	0.014 J	0.034 J	0.074 J		
Auto switch	Rotary unit	Solid state auto switch (2-wire, 3-wire)					
	Gripper unit	Solid state auto switch (2-wire, 3-wire)					

Note 1) Operate within the speed adjustment range, as speed control exceeding the limit value of the low speed may cause sticking or failure to operate.

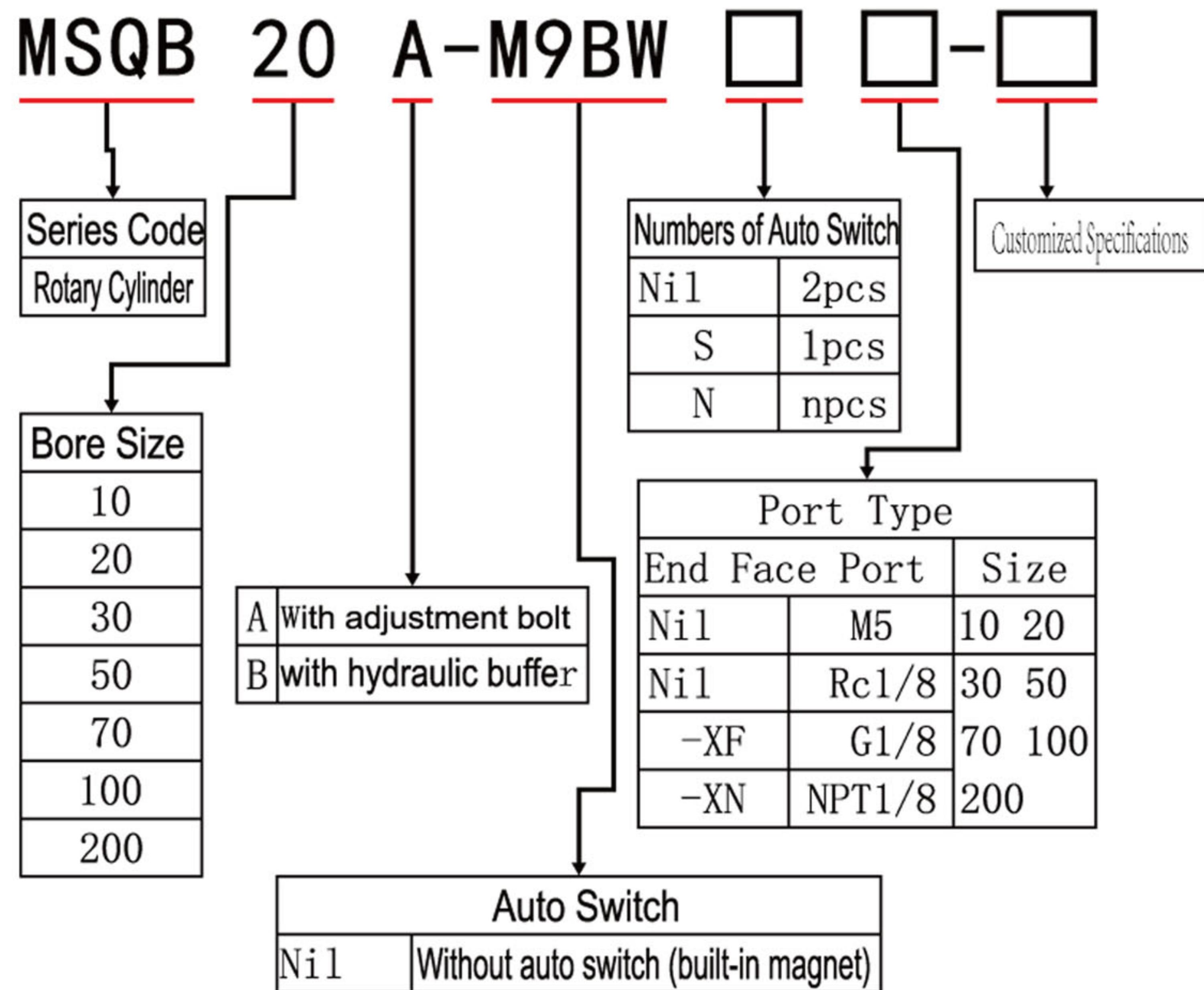
MSQ Series

Recirculating linear ball bearing

Bore Size: 1mm, 2mm, 3mm, 7mm



Ordering Code



Specifications

Size	10	20	30	50	70	100	200
Fluid	Air (non-lube)						
Maximum operating pressure	1 MPa						
	0.6 MPa <small>Note 1)</small>						
Minimum operating pressure	0.1 MPa						
Ambient and fluid temperature	0 to 60°C (with no freezing)						
Cushion	With adjustment bolt						
	Rubber bumper						
Shock absorber	With internal shock absorber						
	Shock absorber model	RBA0805-X692	RBA1006-X692	RBA1411-X692	RBA2015-X821	RBA2725-X821	
Angle adjustment range	0 to 190° <small>Note 2)</small>						
Maximum rotation	190°						
Cylinder bore size	ø15	ø18	ø21	ø25	ø28	ø32	ø40
Port size	End ports		M5 x 0.8				
	Side ports		Rc 1/8, G 1/8, NPT 1/8				

Note 1) The maximum operating pressure of the actuator is restricted by the maximum allowable thrust of the shock absorber.

Note 2) Be careful if the rotation angle of a type with internal shock absorber is set below the value in the table below, the piston stroke will be smaller than the shock absorber's effective stroke, resulting in decreased energy absorption ability.

RTP Series

Bore Size:16mm, 20mm, 25mm, 30mm



Ordering Code

RTP 10 × 180-2D-SE 2-A 2

Torque	
5	0.38N · m
10	0.88N · m
20	1.86N · m
30	2.94N · m

Rotation Angle	
90	90°
180	180°

Axis Type	
Nil	Single rod
2D	Double Rod

Model

Sensor Switch		
Sensor Type	SE	CS-30E
	SEN	CS-30EN
	SEP	CS-30EP
Number of Sensor Switch	1	1pc Sensor Switch
Number of Sensor Switch	2	2 pcs Sensor Switch(option)

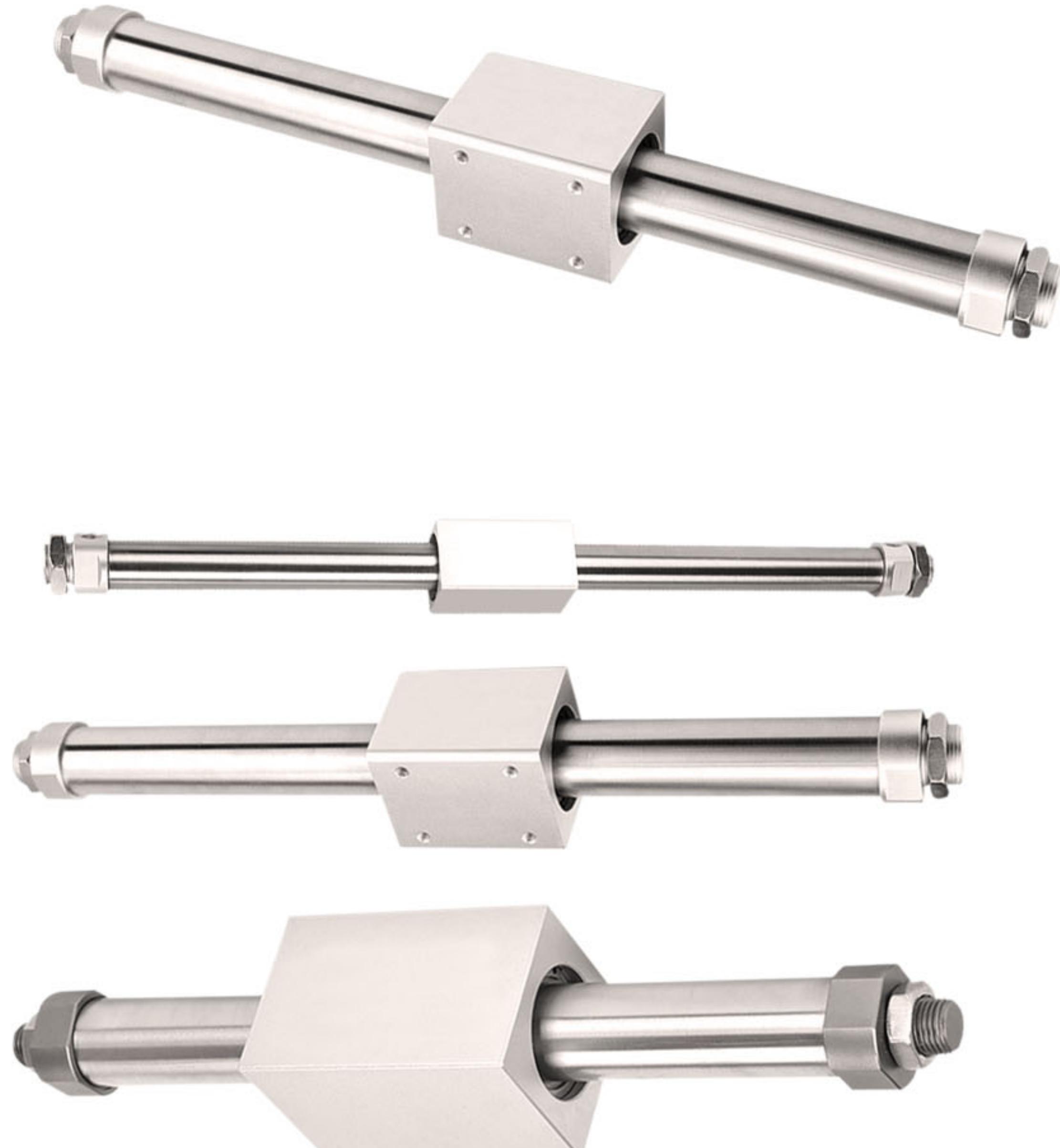
Shock Absorber		
A	Shock Absorber SAC1008N	
1	1 pc	
2	2 pcs (option)	

Specification

Item	Model	RTP5 -	RTP10 -	RTP20 -	RTP30 -
Operation		Double acting			
Fluid		Air			
Torque	N·m	0.38	0.88	1.86	2.94
Bore size		Ø16	Ø20	Ø25	Ø30
Rotation angle		90°、180°			
Adjustment angle		+5°~ -30°			
Port size		Rc1/8"			
Pressure range	kgf/cm ² (kpa)	1.5 ~ 7 (150 ~ 700)			
Temperature range	°C	0 ~ 50			

CY1B Series

Bore Size:6mm, 10mm, 15mm, 20mm, 25mm, 32mm, 40mm, 50mm, 63mm



Ordering Code

CY1B 20 H — 50

Unit:mm

① ②

① Bore Size	② Stroke
6	50/100/150/200
10	50/100/150/200/250
15	50/100/150/200/250/300/350/400/450/500
20	50/100/150/200/250/300/350/400/450/500/600/700/800
25	50/100/150/200/250/300/350/400/450/500/600/700/800/900/1000
32	800/900/1000
40	
50	
63	

Specifications

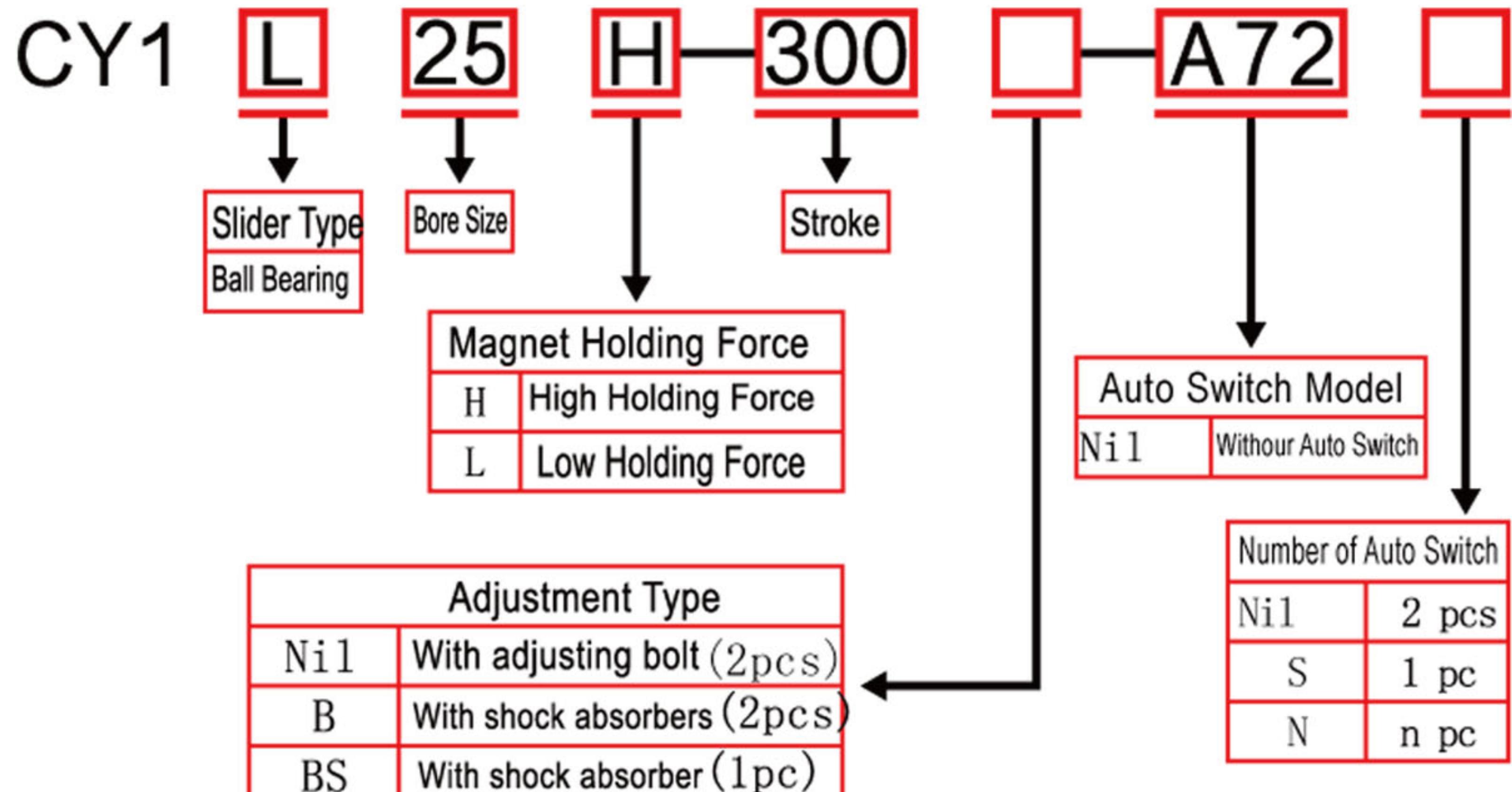
Fluid	Air
Proof pressure	1.05 MPa
Maximum operating pressure	0.7 MPa
Minimum operating pressure	0.18 MPa
Ambient and fluid temperature	-10 to 60°C
Piston speed	50 to 400 mm/s
Cushion	Rubber bumper on both ends
Lubrication	Non-lube
Stroke length tolerance	0 to 250 st: ${}^{+1.0}_{-0}$, 251 to 1000 st: ${}^{+1.4}_{-0}$, 1001 st and up: ${}^{+1.8}_{-0}$
Mounting orientation	Free
Mounting nuts (2 pcs.)	Standard equipment (Accessory)

CY1L Series



Recirculating linear ball bearing
Bore Size: 6mm, 10mm, 15mm, 20mm,
25mm, 32mm, 40mm

Ordering Code

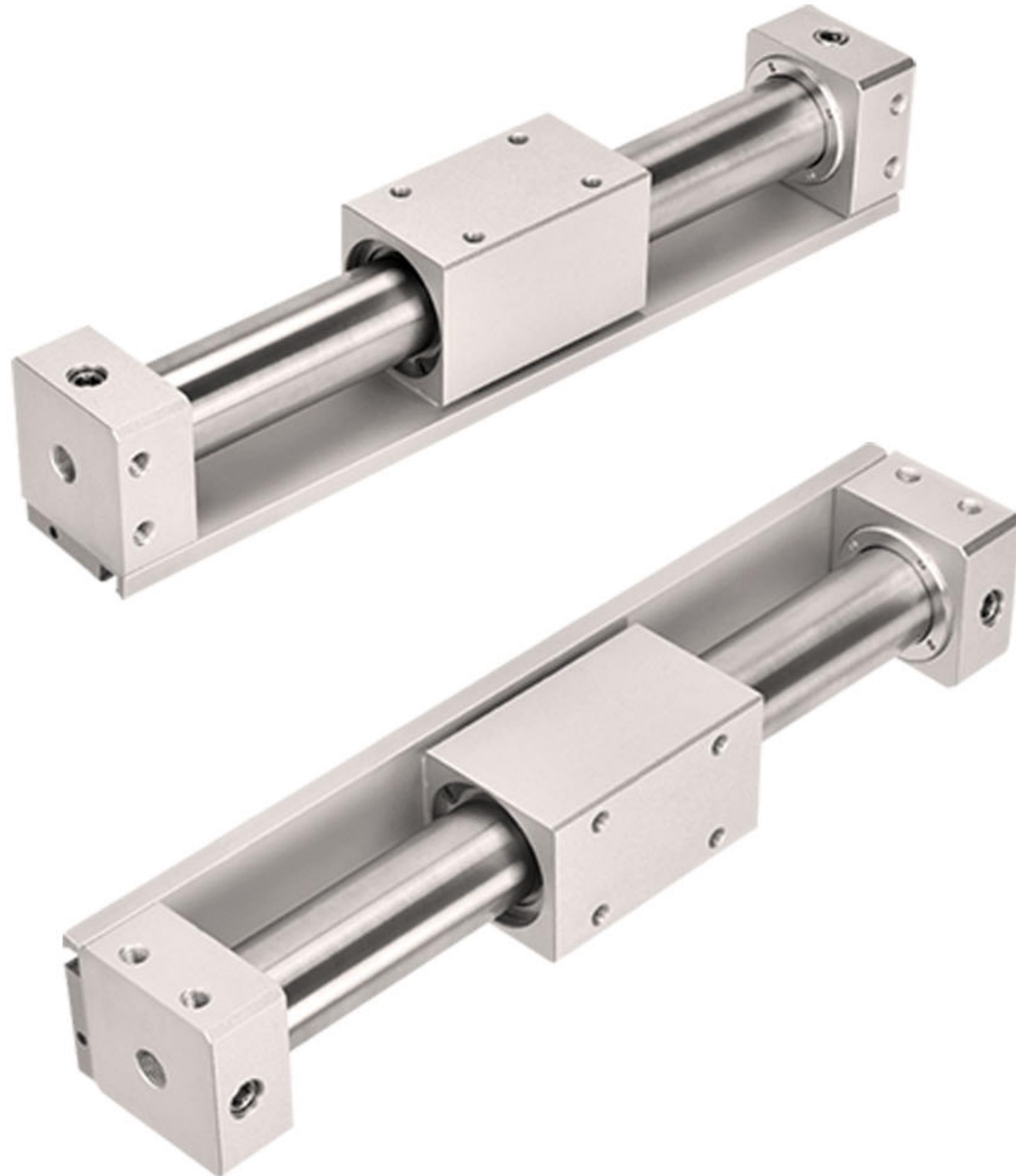


Specifications

Bore size (mm)	6	10	15	20	25	32	40
Fluid	Air						
Proof pressure	1.05 MPa						
Maximum operating pressure	0.7 MPa						
Minimum operating pressure	0.18 MPa						
Ambient and fluid temperature	-10 to 60°C						
Piston speed *	50 to 500 mm/s						
Cushion	Rubber bumper/Shock absorber						
Lubrication	Not required (Non-lube)						
Stroke length tolerance	0 to 250 st: $^{+1.0}_0$, 251 to 1000 st: $^{+1.4}_0$, 1001 st and up: $^{+1.8}_0$						
Holding force	Type H	19.6	53.9	137	231	363	588
	Type L	-	-	81.4	154	221	358
Standard equipment	Auto switch mounting rail						

* In the case of setting an auto switch at the intermediate position, the maximum piston speed is subject to restrict for detection upon the response time of a load (Relays, Sequence controller, etc.).

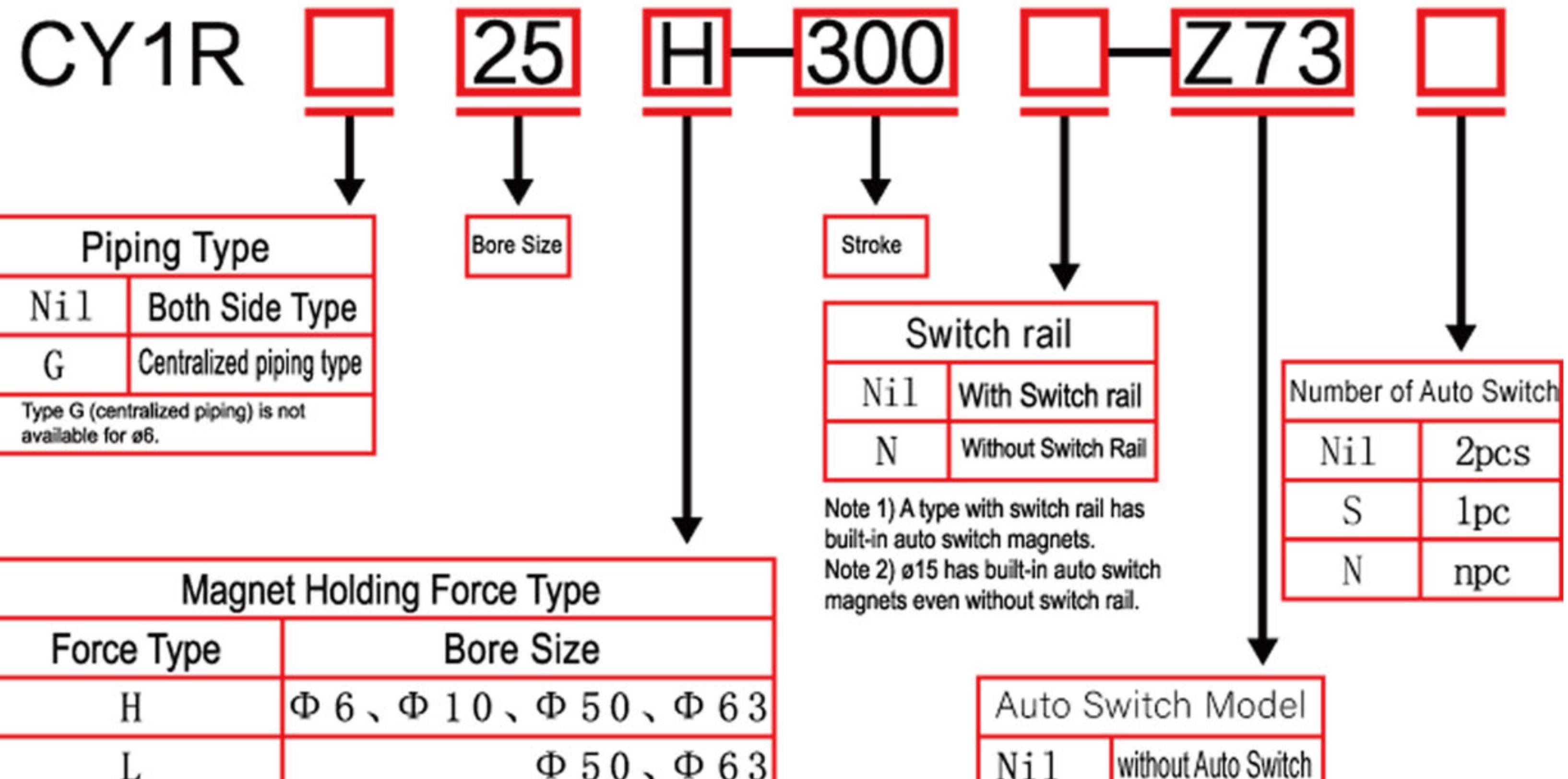
CY1R Series



Recirculating linear ball bearing

Bore Size: 6mm, 10mm, 15mm, 20mm, 25mm, 32mm, 40mm, 50mm, 63mm

Ordering Code



Specifications

Bore size (mm)	6	10	15	20	25	32	40	50	63
Fluid	Air								
Proof pressure	1.05 MPa								
Max. operating pressure	0.7 MPa								
Min. operating pressure	0.16	0.16	0.16	0.16	0.15	0.14	0.12	0.12	0.12
Ambient and fluid temperature	-10 to 60°C								
Piston speed	50 to 500 mm/s								
Cushion	Rubber bumper								
Lubrication	Not required (Non-lube)								
Stroke length tolerance	0 to 250 st: $^{+1.0}_0$, 251 to 1000 st: $^{+1.4}_0$, 1001 st to: $^{+1.8}_0$								
Mounting	Direct mount type								
Mounting orientation	Horizontal, Inclined, Vertical <small>Note 2)</small>								
Magnet holding force (N)	19.6	53.9	137	231	363	588	922	1471	2256

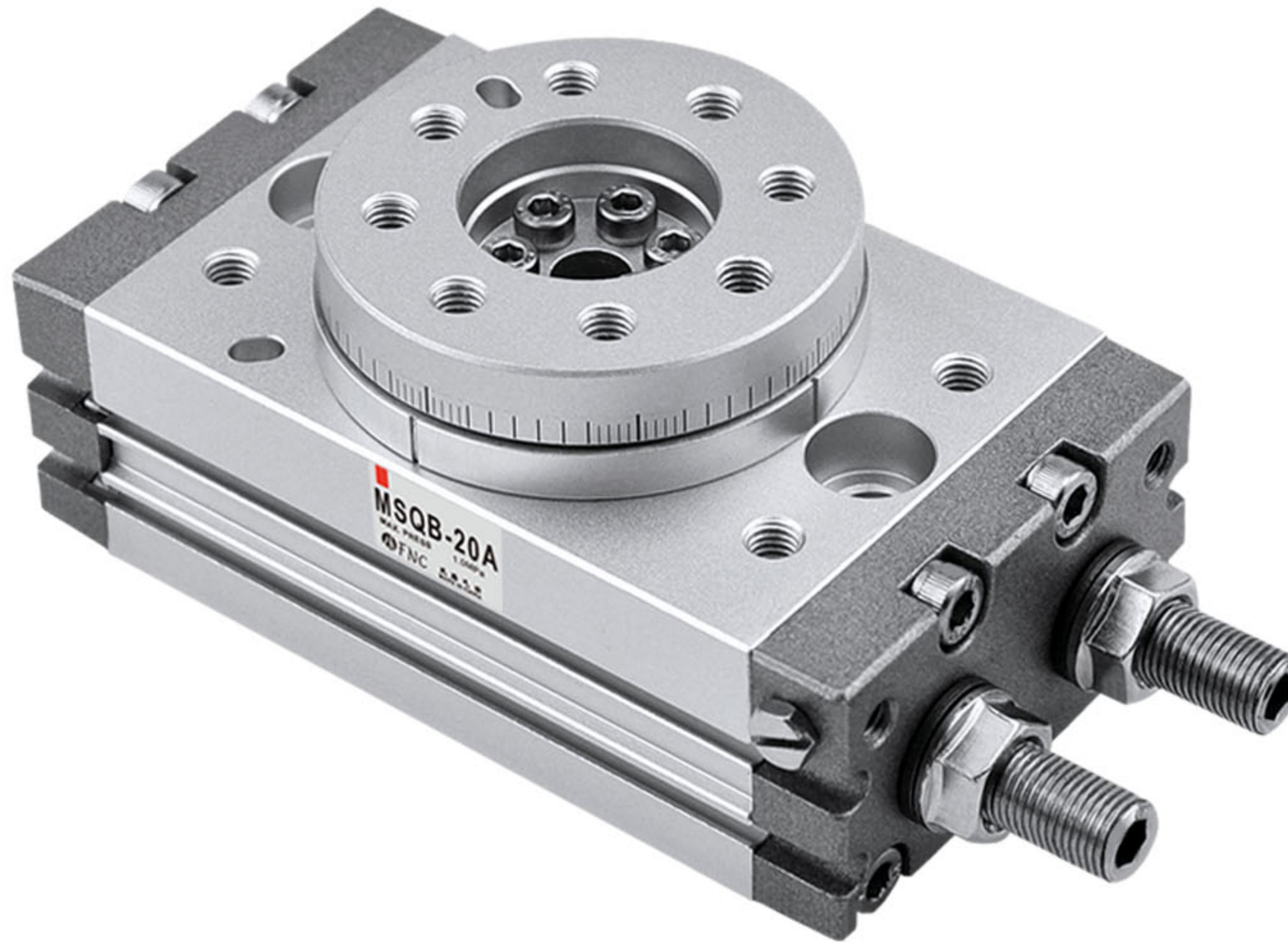
Note 1) When an auto switch is installed at an intermediate position of a type with auto switch, keep the maximum piston speed at 300 mm/s or below to ensure operation of relays or other devices.

Note 2) When vertically mounting, it is impossible to perform an intermediate stop by means of a pneumatic circuit.

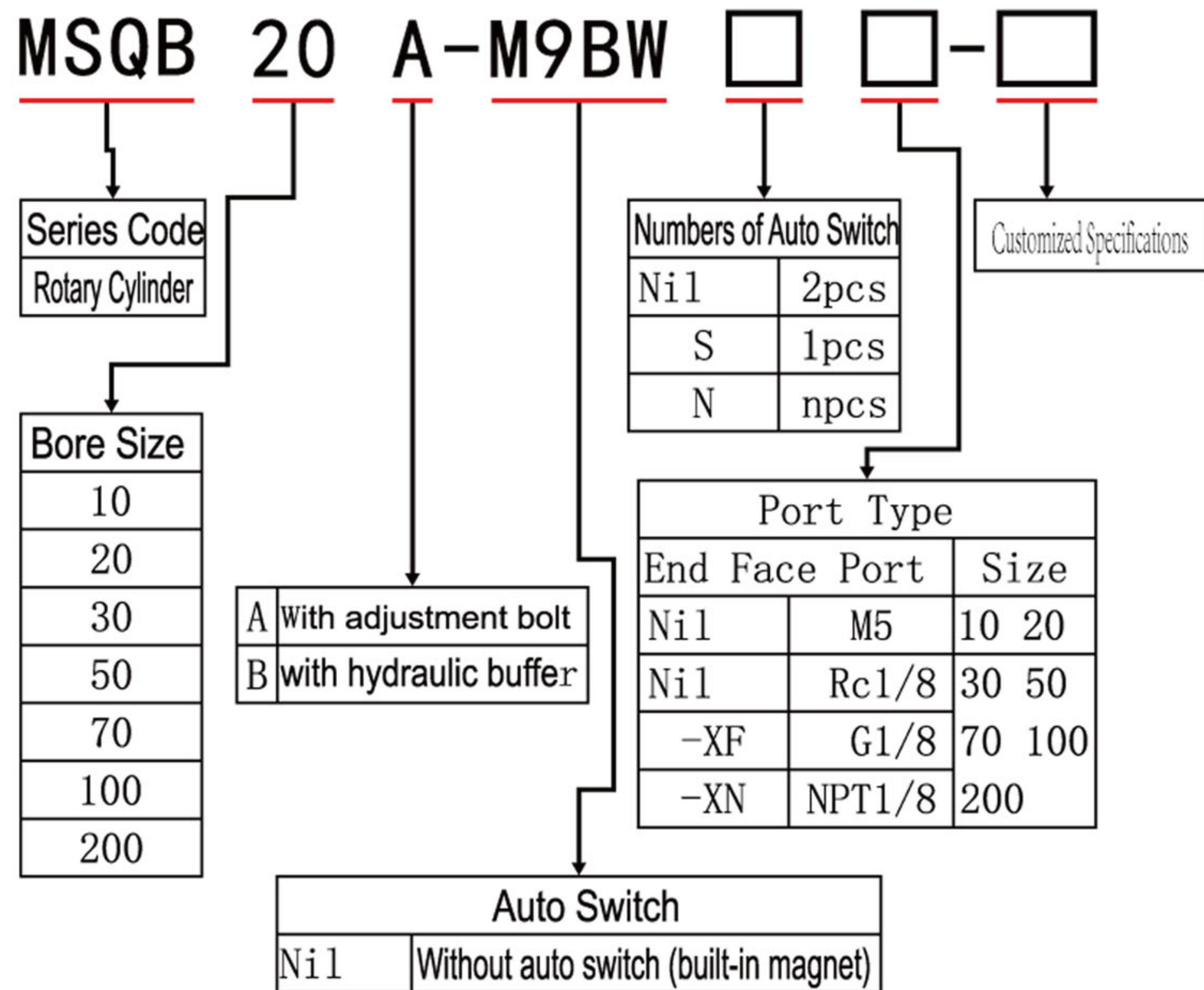
MSQ Series

Recirculating linear ball bearing

Bore Size: 1mm, 2mm, 3mm, 7mm



Ordering Code



Specifications

Size	10	20	30	50	70	100	200
Fluid	Air (non-lube)						
Maximum operating pressure	1 MPa						
	0.6 MPa <small>Note 1)</small>						
Minimum operating pressure	0.1 MPa						
Ambient and fluid temperature	0 to 60°C (with no freezing)						
Cushion	With adjustment bolt						
	Rubber bumper						
Shock absorber	With internal shock absorber						
	Shock absorber model	RBA0805-X692	RBA1006-X692	RBA1411-X692	RBA2015-X821	RBA2725-X821	
Angle adjustment range	0 to 190° <small>Note 2)</small>						
Maximum rotation	190°						
Cylinder bore size	ø15	ø18	ø21	ø25	ø28	ø32	ø40
Port size	End ports		M5 x 0.8				
	Side ports		Rc 1/8, G 1/8, NPT 1/8				

Note 1) The maximum operating pressure of the actuator is restricted by the maximum allowable thrust of the shock absorber.

Note 2) Be careful if the rotation angle of a type with internal shock absorber is set below the value in the table below, the piston stroke will be smaller than the shock absorber's effective stroke, resulting in decreased energy absorption ability.

MXH Series

Bore Size:6mm, 10mm, 16mm, 20mm



Ordering Code

MXH 10-60-M9BW

Compact Slide Cylinder

Bore Size

Stroke

Number of auto switch

Made to Order

6	6mm
10	10mm
16	16mm
20	20mm

Nil	Without Auto Switch(built-in magnet)
-----	--------------------------------------

Auto Switch Model

Nil Without Auto Switch(built-in magnet)

Specifications

Bore size (mm)	6	10	16	20
Guide rail width (mm)	5	7	9	12
Fluid	Air			
Action	Double acting			
Piping port size	M5 x 0.8			
Minimum operating pressure	0.15 MPa	0.06 MPa	0.05 MPa	
Maximum operating pressure	0.7 MPa			
Proof pressure	1.05 MPa			
Ambient and fluid temperature	Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)			
Piston speed	50 to 500 mm/s			
Allowable kinetic energy (J)	0.0125	0.025	0.05	0.1
Lubrication	Non-lube			
Cushion	Rubber bumper on both ends			
Stroke length tolerance	+ 1.0 0			
Auto switch (Option)	Reed auto switch: D-A9□ Solid state auto switch: D-M9□, D-M9□W			

Compact Slide Pneumatic Cylinder

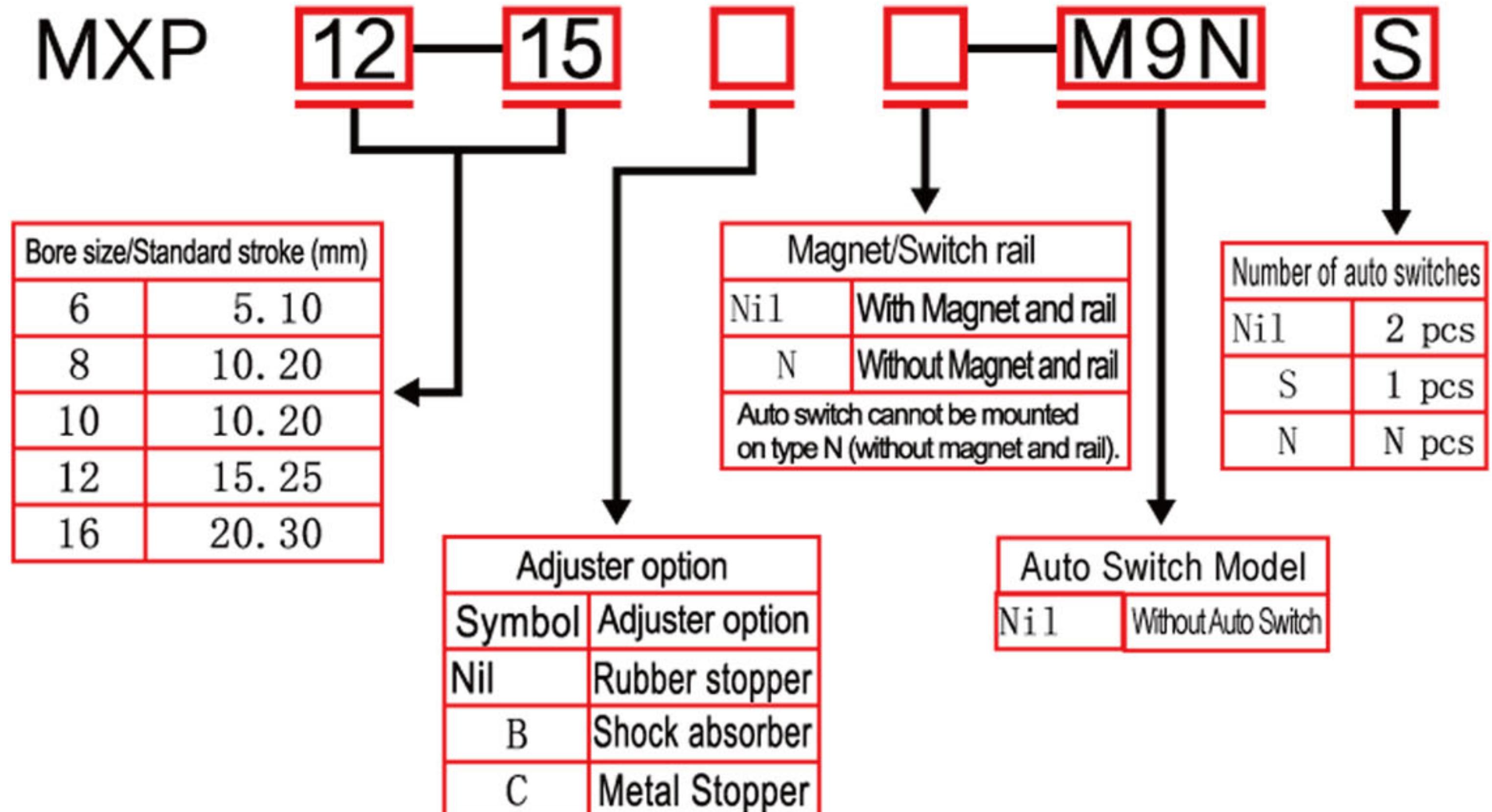


HLQ Series

Recirculating linear ball bearing
Bore Size:6mm, 8mm, 12mm, 16mm



Ordering Code



Note 1) Adjuster for Series MXP6 is available for one side only.

Note 2) Shock absorber is not available in Series MXP6 and MXP8.

Note 3) Stroke adjusting screw of metal stopper uses stainless steel 304.

For heat treated specifications, refer to "Made to Order Specifications" .

Specifications

Model	MXP6	MXP8	MXP10	MXP12	MXP16
Bore size (mm)	6	8	10	12	16
Piping port size	M3 x 0.5		M5 x 0.8		
Fluid			Air		
Action			Double acting		
Operating pressure			0.15 to 0.7 MPa		
Proof pressure			1.05 MPa		
Ambient and fluid temperature			-10 to 60°C		
Piston speed			50 to 500 mm/s (Adjuster option/Metal stopper: 50 to 200 mm/s)		
Cushion			Rubber bumper Shock absorber (Option is not available for Series MXP6 and MXP8) None (Adjuster option/Metal stopper)		
Lubrication			Non-lube		
Stroke adjuster			Standard equipment (Adjustable on one side only, for the MXP6)		
Stroke adjustment range	Rubber stopper	0 to 5 mm on one side only	Each 0 to 3 mm on both ends		
	Shock absorber	—	Each 0 to 5 mm on both ends		
	Metal stopper	0 to 6 mm on one side only	Each 0 to 5 mm on both ends	Each 0 to 4 mm on both ends	
Auto switch			Reed auto switch (2-wire, 3-wire) Solid state auto switch (2-wire, 3-wire) 2-color indication solid state auto switch (2-wire, 3-wire)		
Stroke length tolerance			${}^{+1}_0$ mm		

Standard Stroke

(mm)

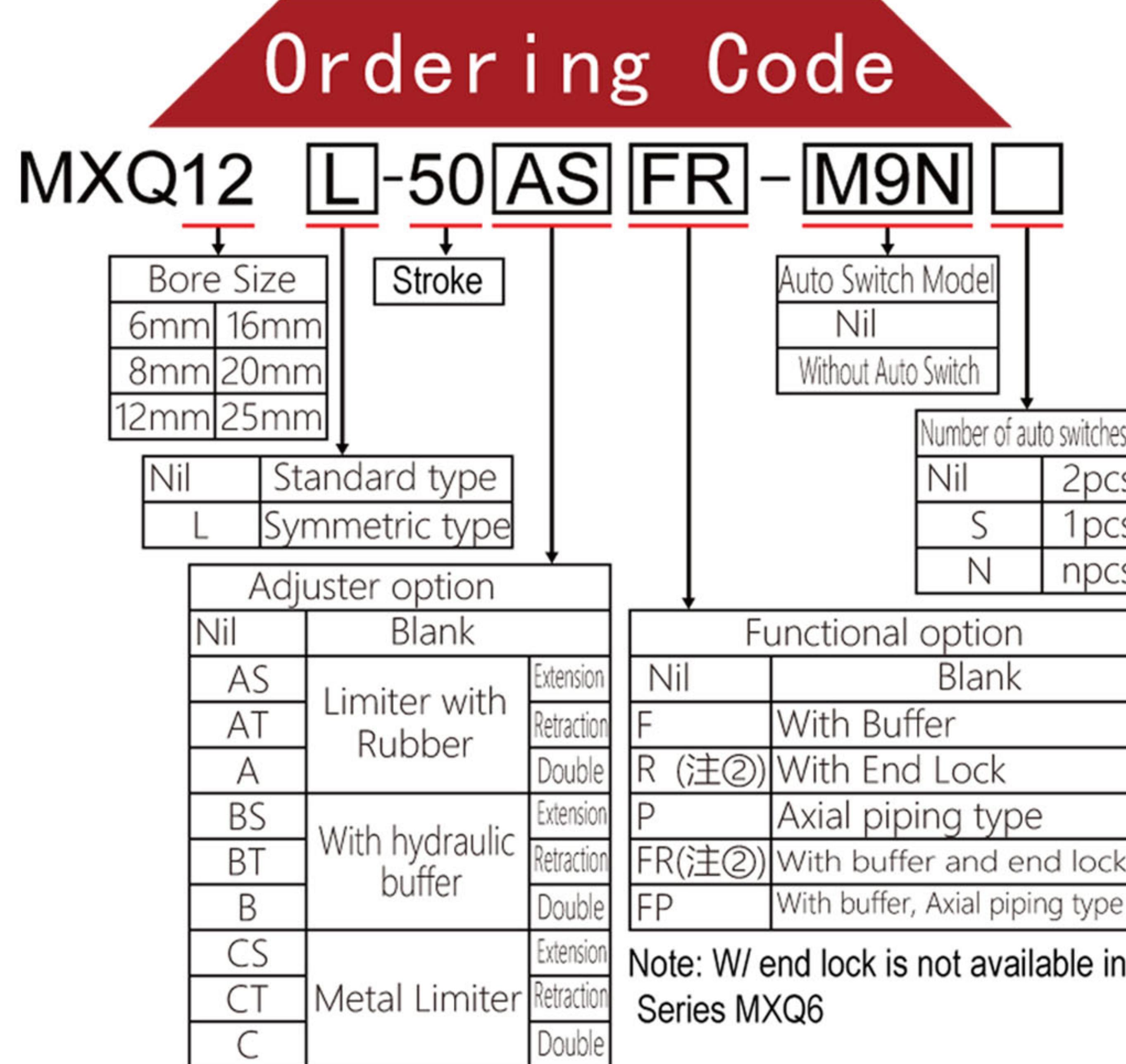
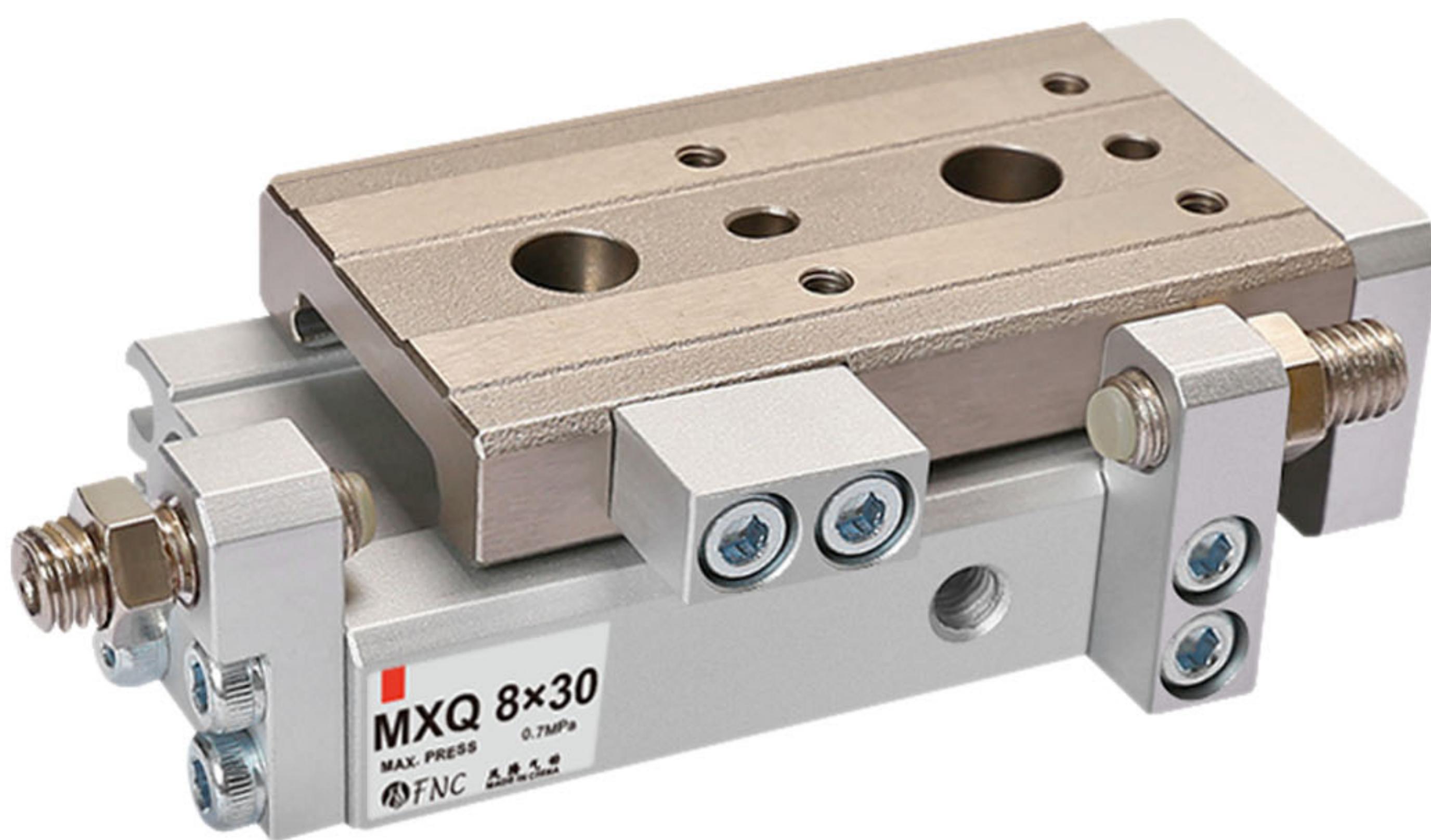
Model	Standard stroke
MXP6	5, 10
MXP8	10, 20
MXP10	10, 20
MXP12	15, 25
MXP16	20, 30

Compact Slide Pneumatic Cylinder



MXQ Series

Recirculating linear ball bearing
Bore Size:6mm, 8mm, 12mm, 16mm, 20mm, 25mm



Note: W/ end lock is not available in Series MXQ6

Note: W/ end lock is not available in Series MXQ6

Model	Standard stroke (mm)
MXQ 6	10, 20, 30, 40, 50
MXQ 8	10, 20, 30, 40, 50, 75
MXQ12	10, 20, 30, 40, 50, 75, 100
MXQ16	10, 20, 30, 40, 50, 75, 100, 125
MXQ20	10, 20, 30, 40, 50, 75, 100, 125, 150
MXQ25	10, 20, 30, 40, 50, 75, 100, 125, 150

Specifications

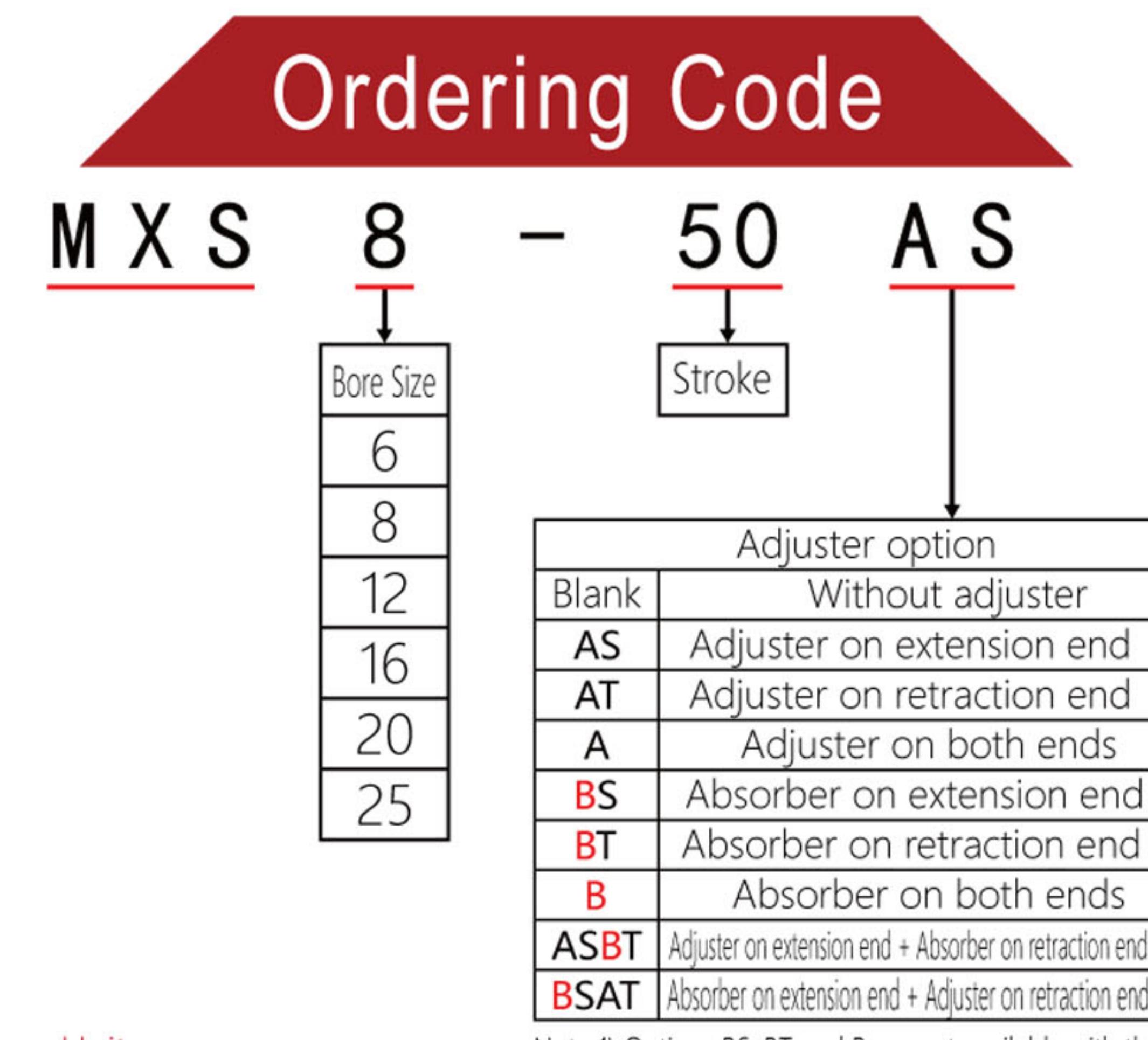
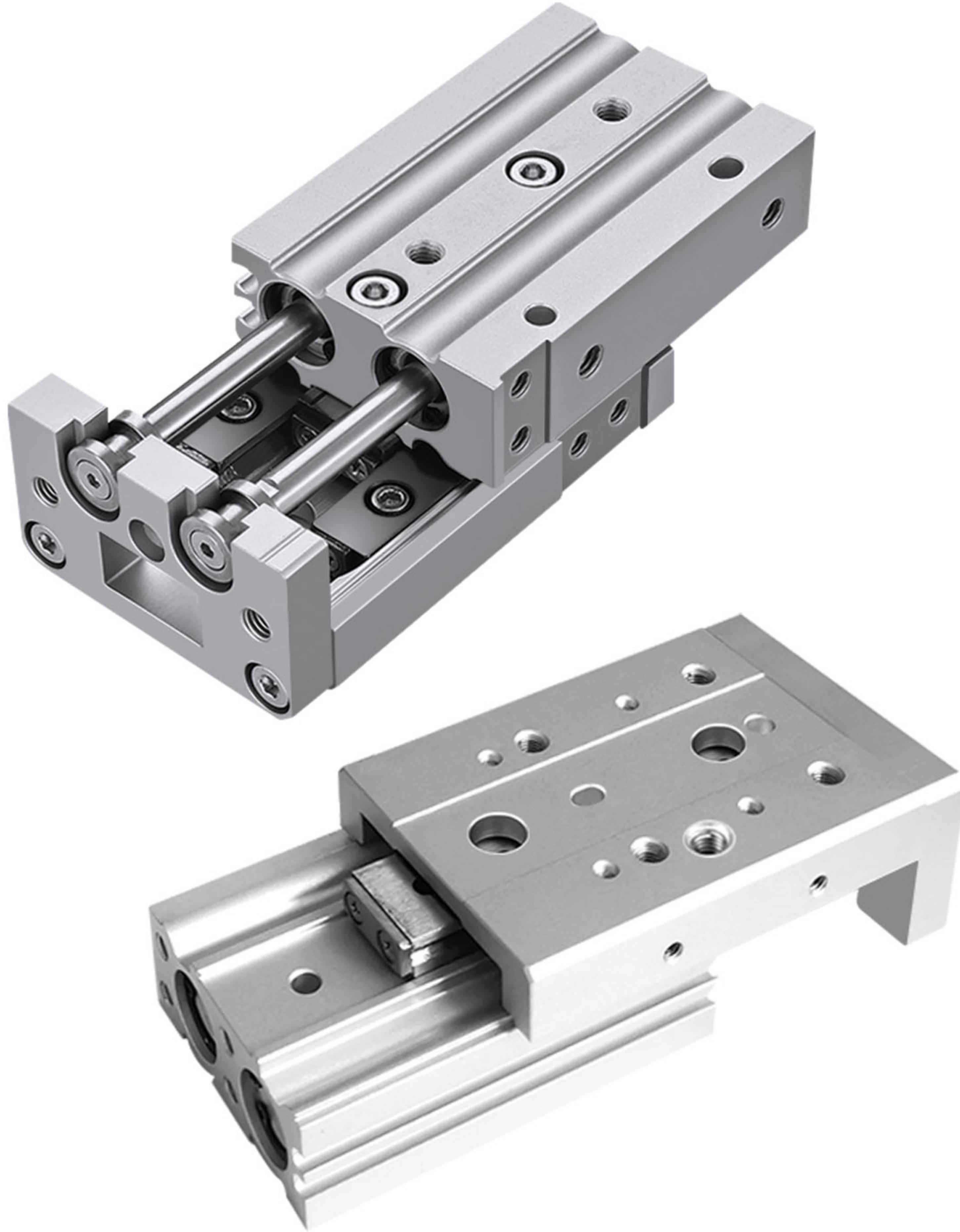
Bore size (mm)	6	8	12	16	20	25
Piping port size		M5 x 0.8			Rc 1/8, NPT 1/8, G 1/8	
Fluid			Air			
Action			Double acting			
Operating pressure			0.15 to 0.7 MPa			
Proof pressure			1.05 MPa			
Ambient and fluid temperature			–10 to 60°C			
Piston speed		50 to 500 mm/s (Adjuster option/Metal stopper: 50 to 200 mm/s)				
Cushion	Rubber bumper (Standard, Adjuster option/Rubber stopper) Shock absorber (Adjuster option/Shock absorber) None (Adjuster option/Metal stopper)					
Lubrication		Non-lube				
Auto switch	Reed auto switch (2-wire, 3-wire) Solid state auto switch (2-wire, 3-wire) 2-color indication solid state auto switch (2-wire, 3-wire)					
Stroke length tolerance	+1 mm					

Compact Slide Pneumatic Cylinder



MXS Series

Recirculating linear ball bearing
Bore Size:6mm, 8mm, 12mm, 16mm, 20mm, 25mm



Unit: mm

Note 1) Options BS, BT and B are not available with the MXS6 series.

STANDARD STROKE	
Model	Standard stroke (mm)
MXS6	10, 20, 30, 40, 50
MXS8	10, 20, 30, 40, 50, 75
MXS12	10, 20, 30, 40, 50, 75, 100
MXS16	10, 20, 30, 40, 50, 75, 100, 125
MXS20	10, 20, 30, 40, 50, 75, 100, 125, 150
MXS25	10, 20, 30, 40, 50, 75, 100, 125, 150

Specifications

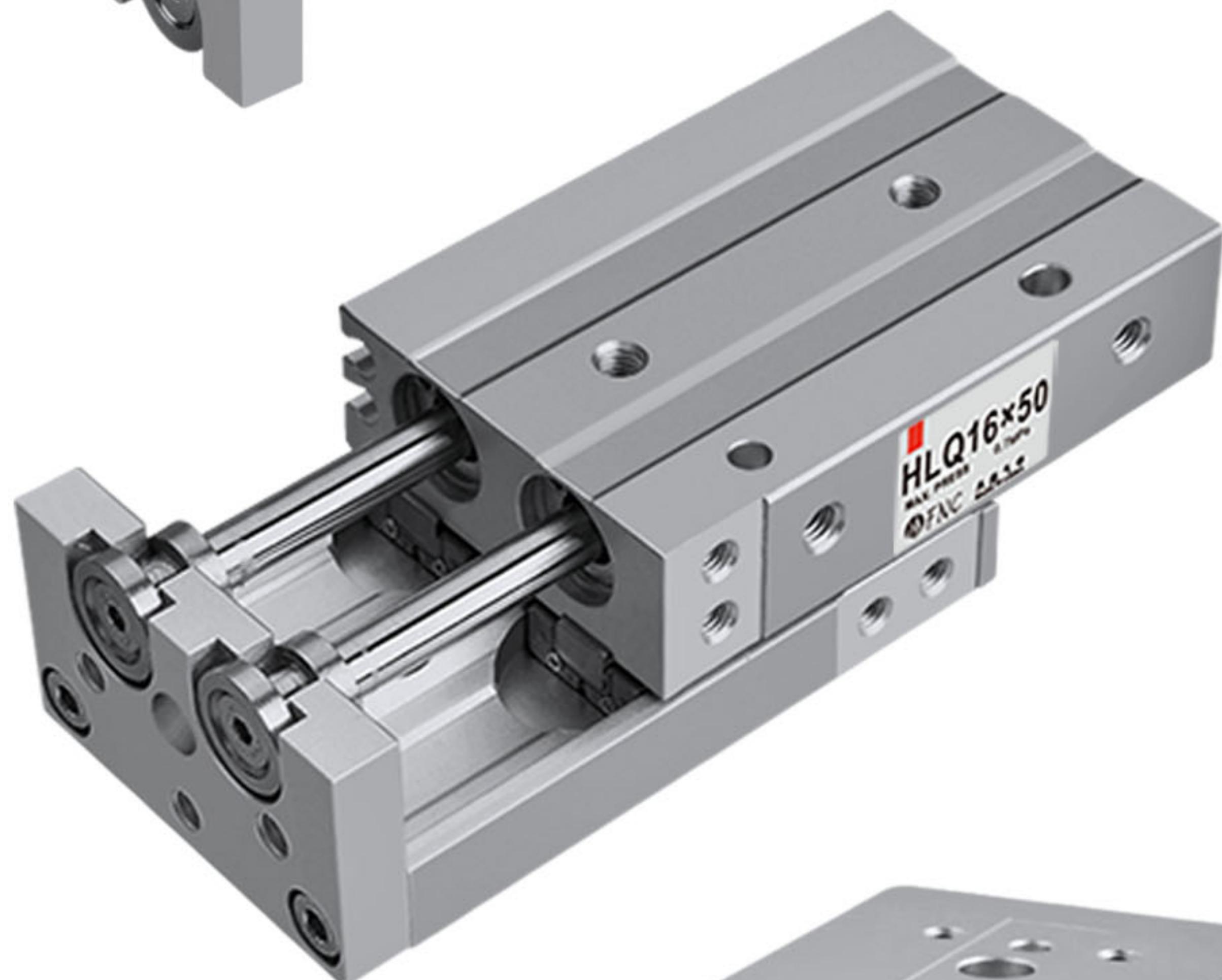
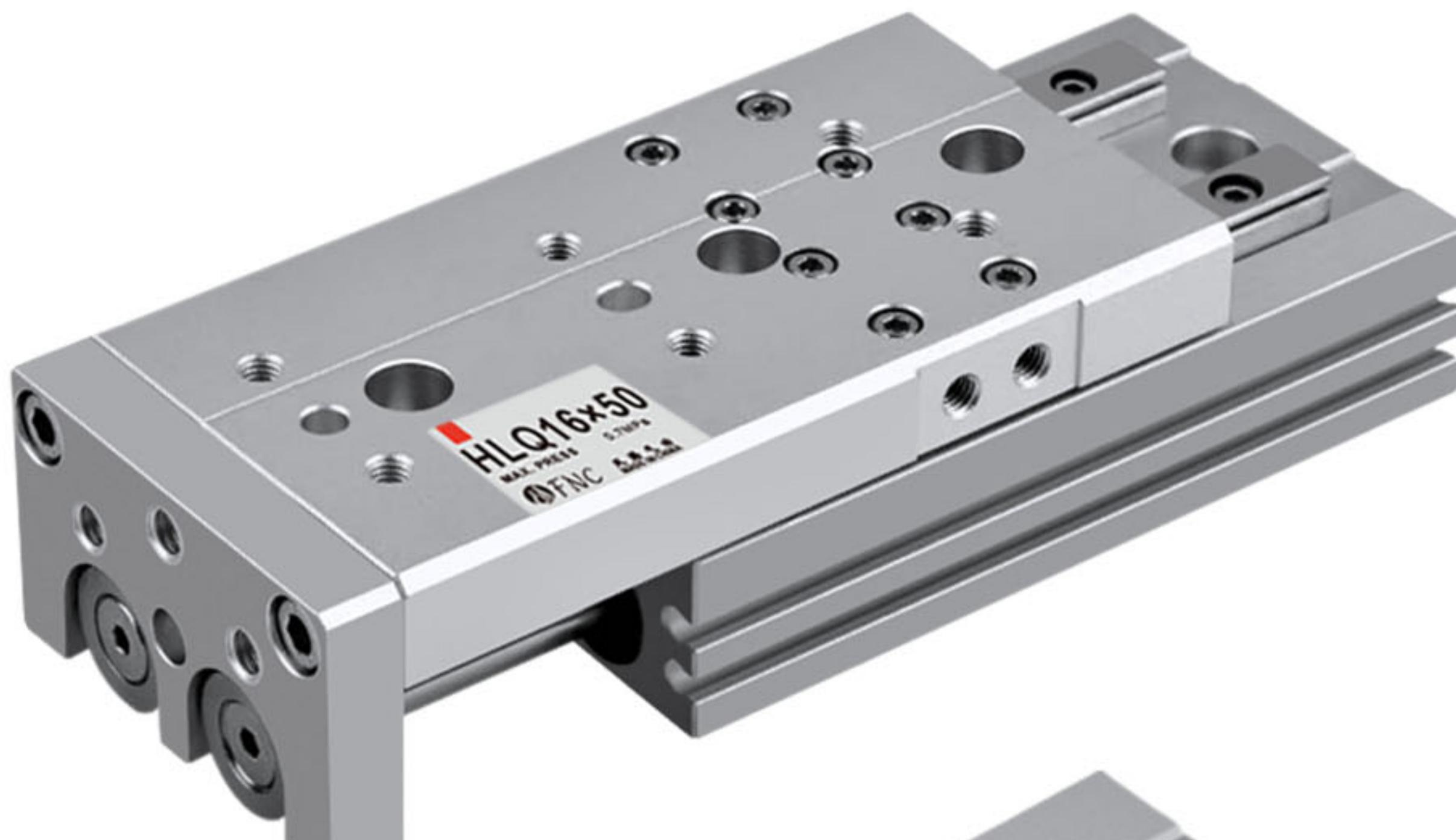
Bore size (mm)	6	8	12	16	20	25
Piping port size	M3 x 0.5		M5 x 0.8		Rc 1/8, NPT 1/8, G 1/8	
Fluid			Air			
Action			Double acting			
Operating pressure			0.15 to 0.7 MPa			
Proof pressure			1.05 MPa			
Ambient and fluid temperature			-10 to 60°C			
Piston speed			50 to 500 mm/s			
Cushion			Rubber bumper (Standard, With stroke adjuster) Shock absorber (Optional)			
Lubrication			Non-lube			
Auto switch (Optional)			Reed auto switch (2-wire, 3-wire) Solid state auto switch (2-wire, 3-wire) 2-color indication solid state auto switch (2-wire, 3-wire)			
Stroke length tolerance			+1 0 mm			

Compact Slide Pneumatic Cylinder



HLQ Series

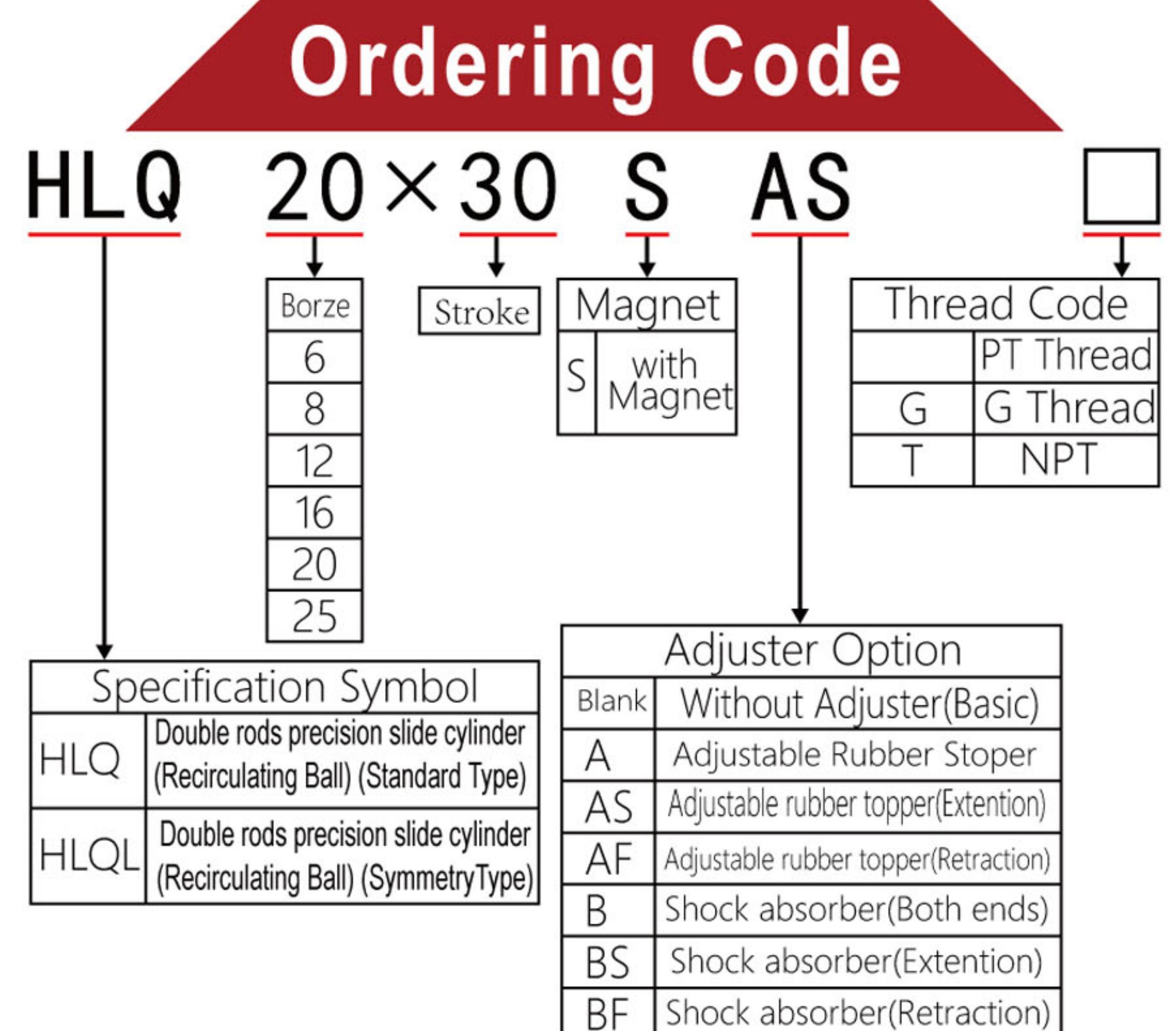
Recirculating linear ball bearing
Bore Size:6mm, 8mm, 12mm, 16mm, 20mm, 25mm



Specification

Bore size(mm)	6	8	12	16	20	25				
Guide rail width(mm)	10	10	7	9	9	12				
Number of guide rail	Single guide rail		Double guide rail							
Acting type	Double acting									
Fluid	Air(to be filtered by 40μm filter element)									
Operating pressure	22~100psi(0.15~0.7MPa)									
Proof pressure	175psi(1.2MPa)									
Temperature	-20~70°C									
Speed range mm/s	50~500									
Stroke tolerance	Stroke \leq 100 $^{+1.0}_0$ Stroke $>$ 100 $^{+1.5}_0$									
Cushion type	Bumper(Both ends)、Shock absorber									
Sensor switches	CMSH、DMSH(S)									
Port size [Note1]	M5×0.8			1/8						

[Note1] NPT thread is available.



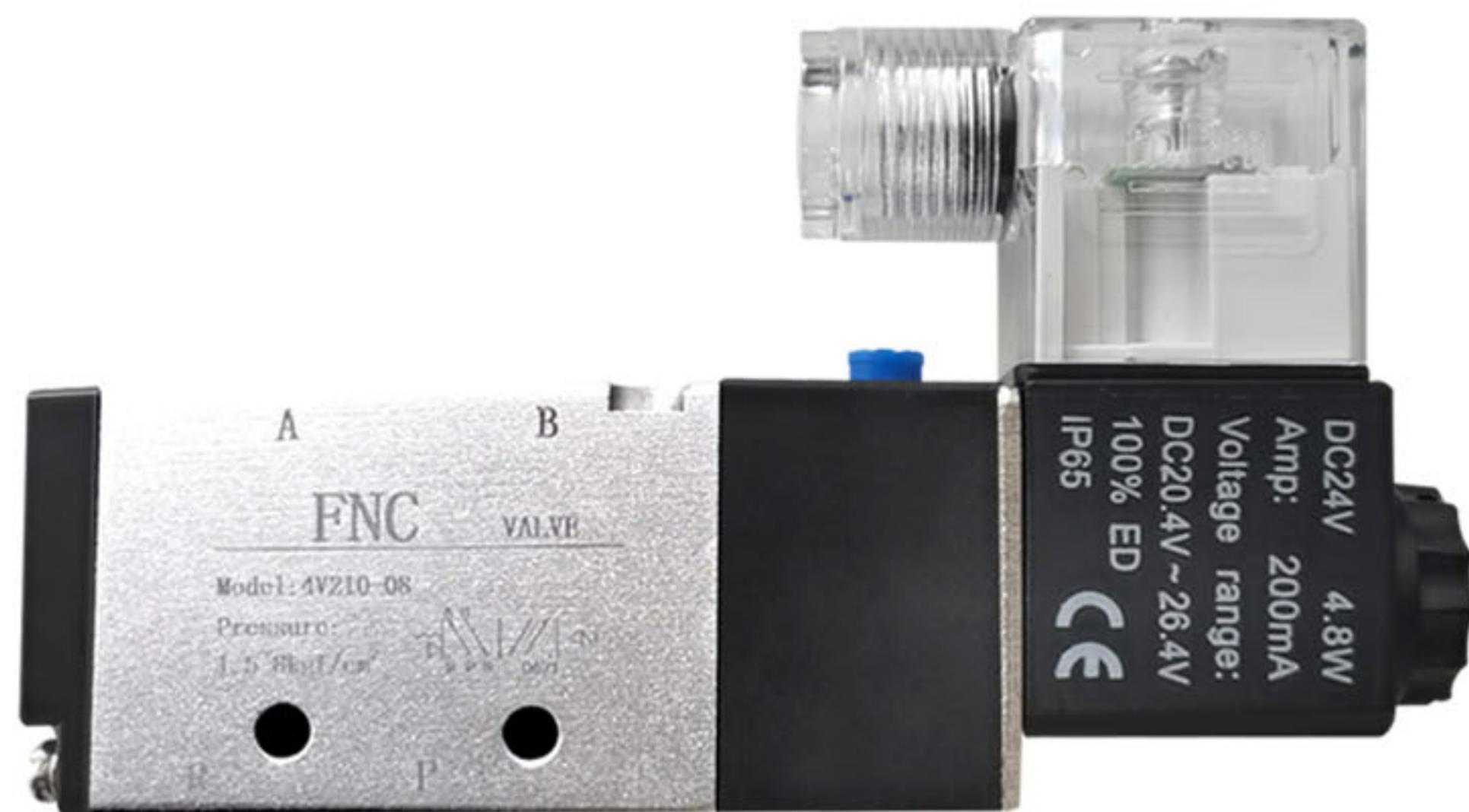
STANDARD STROKE

Bore (mm)	Standard Stroke (mm)	Max Stroke
6	10 20 30 40 50	50
8	10 20 30 40 50 75	75
12	10 20 30 40 50 75 100	100
16	10 20 30 40 50 75 100 125	125
20	10 20 30 40 50 75 100 125 150	150
25	10 20 30 40 50 75 100 125 150	150

Note: Special stroke, please contact to us.

THREAD LIST

Imperial	Chinese	Other Standard	Outside Diameter (mm)	Inner Diameter (mm)
G1/8	1分	DN6	9.5 \pm 0.2	8.8 \pm 0.2
G1/4	2分	DN8	12.5 \pm 0.3	11.5 \pm 0.3
G3/8	3分	DN10	16.2 \pm 0.3	15.3 \pm 0.3
G1/2	4分	DN15	20.3 \pm 0.3	19.5 \pm 0.3
G3/4	6分	DN20	25.7 \pm 0.5	24 \pm 0.5
G1	1寸	DN25	32.5 \pm 0.5	30.5 \pm 0.5
G1-1/4	1.2寸	DN32	41.3 \pm 0.5	39.5 \pm 0.5
G1-1/2	1.5寸	DN40	47.8 \pm 0.5	46.6 \pm 0.5
G2	2寸	DN50	59.6 \pm 0.5	56.6 \pm 0.5



4A210-08



4A220-08

Ordering code

4A 2 10 08 T

1 2 3 4 5

① Model
4A: Air valve
(5/2, 5/3 way)

② Code
2: 200 Series

③ Valve type
10: Single air control 5/2 way
20: Double air control 5/2 way
30C: Double air control 5/3 way closed center
30E: Double air control 5/3 way exhaust center
30P: Double air control 5/3 way pressure center

④ Port size
06: 1/8"
08: 1/4"

⑤ Thread type
T: NPT

Please refer to P111 for manifold specification and the order way.

Specification

Model	4A210-06 4A220-06	4A230C-06 4A230E-06 4A230P-06	4A210-08 4A220-08	4A230C-08 4A230E-08 4A230P-08
Fluid	Air(to be filtered by 40 μ m filter element)			
Acting	Exterior control			
Port size [Note1]	In=Out=Exhaust=1/8"		In=Out=1/4" Exhaust=1/8"	
Orifice size [Note4]	4A210-08,4A220-08:17.0mm ² (Cv=1.0) 4A230C-08:13.6mm ² (Cv=0.8)			
Valve type	5 port 2 position	5 port 3 position	5 port 2 position	5 port 3 position
Operating pressure	21~114psi(0.15~0.8MPa)			
Proof pressure	175psi(1.2MPa)			
Temperature	-20~70°C			
Material of body	Aluminum alloy			
Lubrication [Note2]	Not required			
Max. frequency [Note3]	5 cycle/sec	3 cycle/sec	5 cycle/sec	3 cycle/sec
Weight (g)	4A210-06:185 4A220-06:285	365	4A210-08:185 4A220-08:285	365

[Note1] NPT thread is available.

[Note2] Once lubricated air is used, continue with same medium to optimize valve life span.

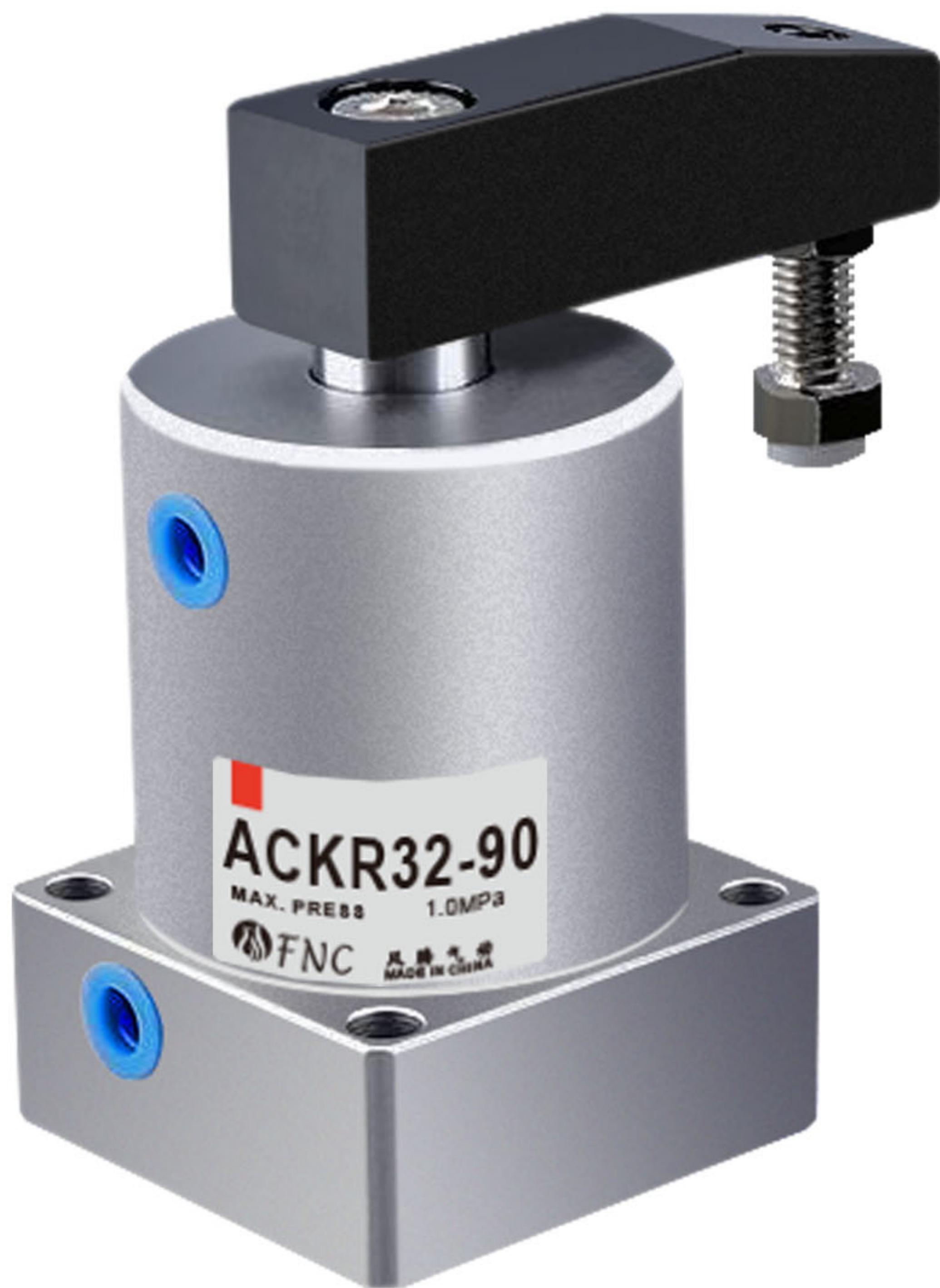
Lubricants like ISO VG32 or equivalent are recommended.

[Note3] The maximum actuation frequency is in the no-load state.

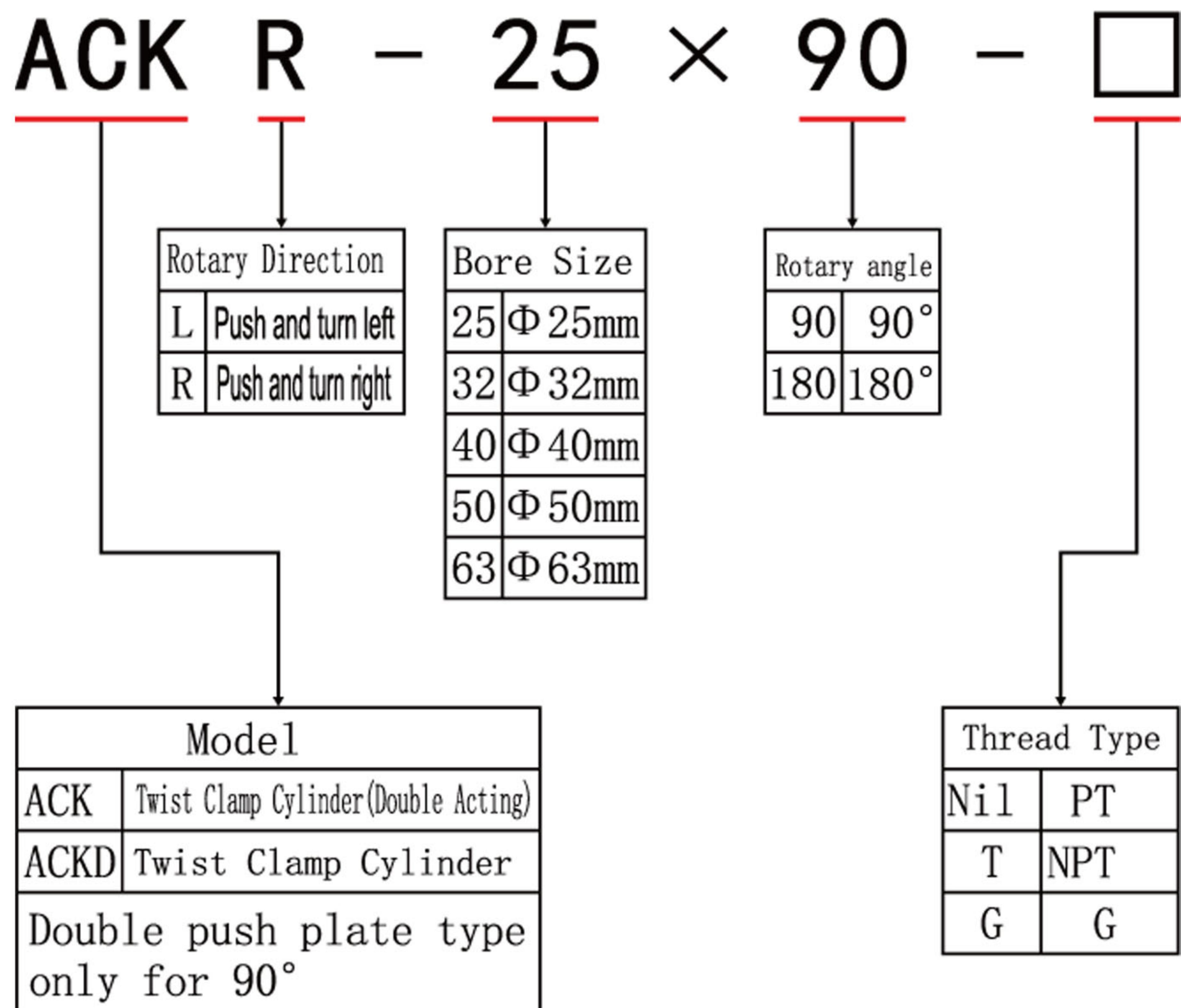
[Note4] Equivalent orifice S and Cv are all calculated from the flow rate data.

ACK Series

Bore Size: 25mm 32mm, 40mm, 50mm, 63mm



Ordering Code



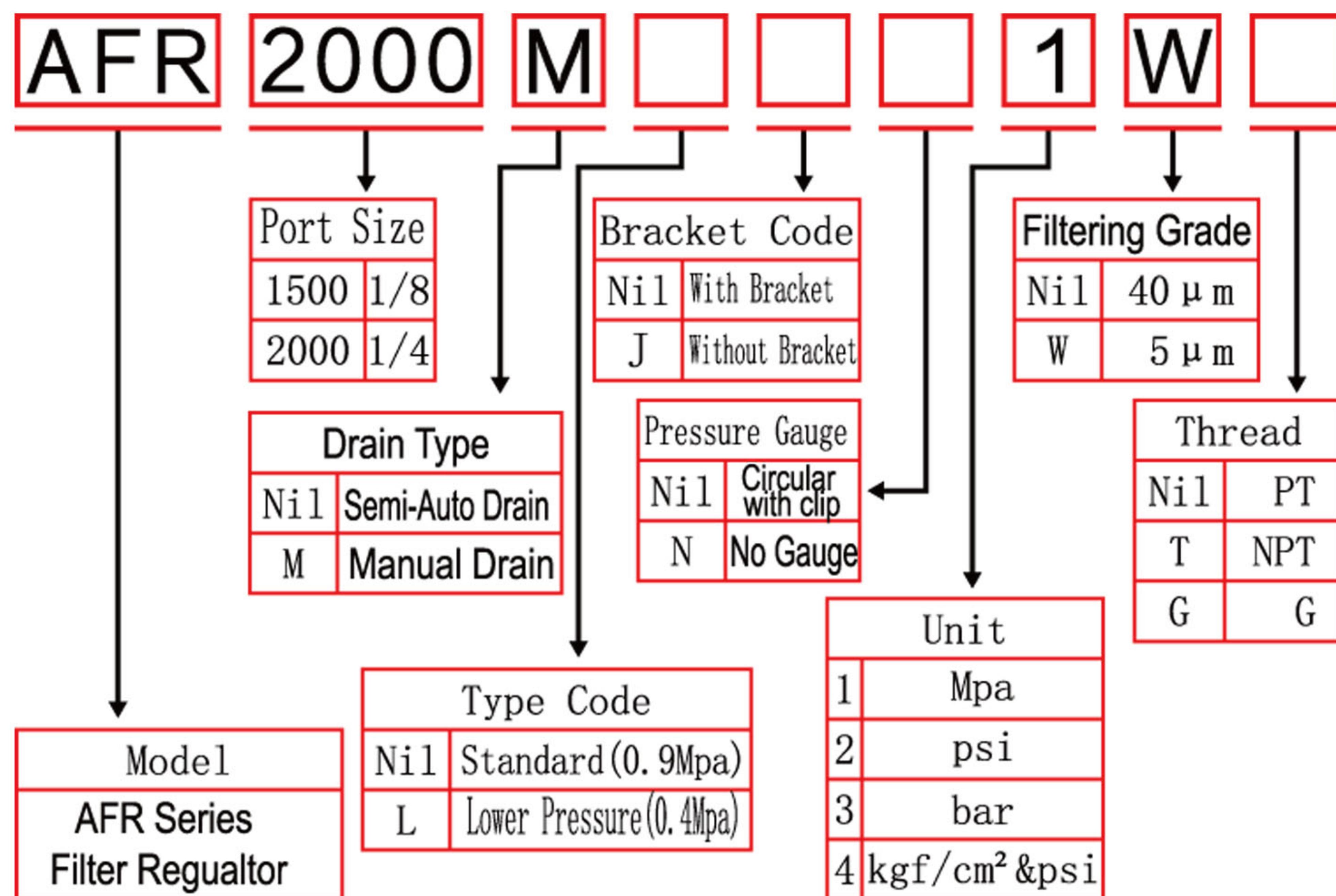
Specification

Bore size(mm)	25	32	40	50	63
Acting type			Double acting		
Fluid		Air(to be filtered by 40 μm filter element)			
Operating pressure			0.15~1.0MPa(22~145psi)		
Proof pressure			1.5MPa(215psi)		
Temperature °C			-20~80		
Speed range mm/s			50~200		
Stroke tolerance			+1.0 0		
Rotary angle tolerance			± 1.5°		
Cushion type ①			No cushion		
Port size ②	M5 × 0.8			1/8"	

① If there is no buffering device, exhaust throttle shall be added to achieve buffering effect.

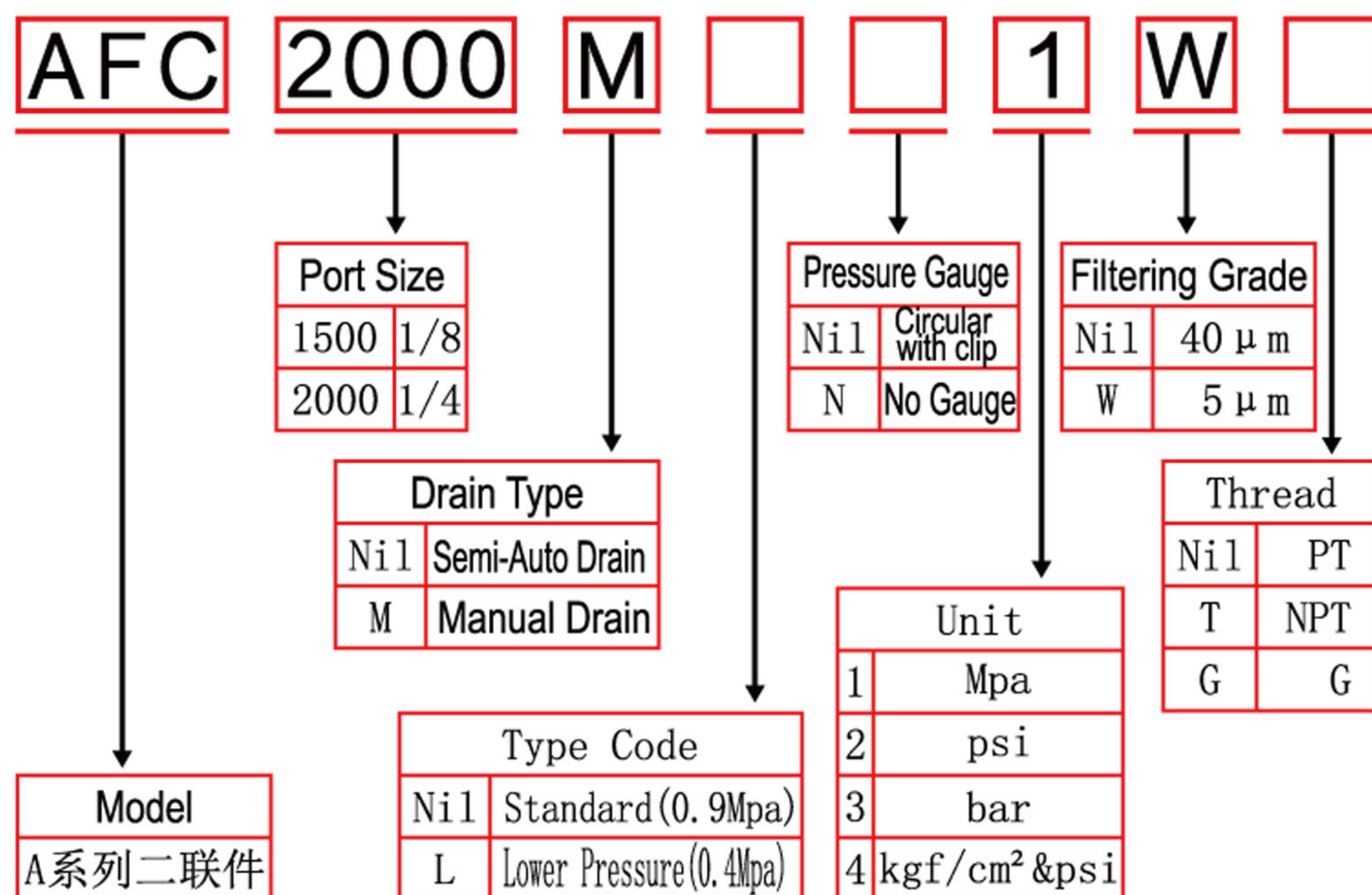
② PT thread, G thread and NPT thread are available.

AFR Series Filter Regulator



Model	AFR1500	AFR2000	BFR2000	BFR3000	BFR4000
Fluid	Air				
Port size	1/8"	1/4"	1/4"	3/8"	1/2"
Filtering grade	40μm or 5 μm				
Pressure range	Semi-auto and automatic drain: 0.15~0.9MPa(20~130Psi) Manual drain: 0.05~0.9Mpa(7~130Psi)				
Max. pressure	1.0MPa(145Psi)				
Proof pressure	1.5MPa(215Psi)				
Temperature range	- 5~70°C(unfreeze)				
Capacity of oil bowl	15CC		60CC		
Weight	260g		400g		

Air Filter Regulator Lubricator Combinations



Specification

Model	AFC1500 AFC1500A AFC1500M	AFC2000 AFC2000A AFC2000M	BFC2000 BFC2000A BFC2000M	BFC3000 BFC3000A BFC3000M	BFC4000 BFC4000A BFC4000M
Component	Filter-regulator AFR1500	AFR2000	BFR2000	BFR3000	BFR4000
Lubricator	AL1500	AL2000	BL2000	BL3000	BL4000
Port size RC(PT)	1/8"	1/4"	1/4"	3/8"	1/2"
Fluid			Air		
Proof pressure			0.5~8.5bar kgf/cm ²		
Max. operating pressure			9.5kgf/cm ²		
Ambient & fluid temperature			15.0kgf/cm ²		
Nominal filtration rate			5-60°C		
Recommended lubrication			40 μm		
Adjustable pressure range			Turbine No.1 oil (ISO VG32)		
Drain bowl capacity	15CC		60CC		
Oil bowl capacity	25CC		90CC		
Weight (kg)	0.5		0.7		
Main parts material	Body Bowl Bowl guard		Aluminum alloy PC AFC1500~AFC2000: without BFC2000~BFC4000: with (Plastic)		



Ordering Code

AD402

03

Model
Auto Drain Valve

Thread Type	
Nil	Rc
N	NPT
F	G

Standard Specification	
Nil	—
2	Metal Cover

Port Size		
Symbol	IN	OUT
02	1/4	3/8
03	3/8	3/8
04	1/2	3/8

Model/Specifications

Model	AD402	AD600
Proof pressure	1.5 MPa	1.5 MPa
Max. operating pressure	1.0 MPa	1.0 MPa
Operating pressure range <small>Note)</small>	0.1 to 1.0 MPa	0.3 to 1.0 MPa
Ambient and fluid temperature	–5 to 60°C (No freezing)	–5 to 60°C (No freezing)
Port size	Rc 1/4, 3/8, 1/2	Rc 3/4, 1
Drain discharge port size	3/8	3/4, 1
Weight (g)	620	2100



4H 2 30C 08 T

1 2 3 4 5

①Model	②Code	③Valve type	④Port size	⑤Thread type
4H: Manual return 4HA: Spring return	2: 200 Series	10: 5/2 Way 30C: 5/3 Way closed center 30E: 5/3 Way exhaust center	06: 1/8" 08: 1/4"	T: NPT
	3: 300 Series		08: 1/4" 10: 3/8"	

Specification

Model	210-06	230-06	210-08	230-08	310-08	330-08	310-10	330-10
Fluid	Air (to be filtered by 40 μm filter element)							
Operating	Manual control direct acting type)							
Port size [Note1]	In=Out =Exhaust=1/8"	In=Out=1/4"; Exhaust=1/8"	In=Out =Exhaust=1/4"	In=Out=3/8"; Exhaust=1/4"				
Orifice size [Note3]	4H210-08:17.0mm ² (Cv=1.0) 4H230C-08:13.6mm ² (Cv=0.8)				4H310-10:28.0mm ² (Cv=1.65) 4H330C-10:21.3mm ² (Cv=1.25)			
Valve type	5/2 way	5/3 way	5/2 way	5/3 way	5/2 way	5/3 way	5/2 way	5/3 way
Lubrication [Note2]	Not required							
Pressure range	0~145psi(0~1.0MPa)							
Proof pressure	215psi(1.5MPa)							
Temperature	-20~70°C							
Material body	Aluminum alloy							
Operating angle	$\pm 15^\circ$	$\pm 8.5^\circ$	$\pm 15^\circ$	$\pm 8.5^\circ$	$\pm 18^\circ$	$\pm 10^\circ$	$\pm 18^\circ$	$\pm 10^\circ$

[Note1] NPT thread is available.

[Note2] Once lubricated air is used, continue with same medium to optimise valve life span.

It is suggested to use ISO VG32 lubricant or the oil with the same grade.

[Note3] Equivalent orifice S and Cv are all calculated from the flow rate data.



D-A73



CS1-G



CS1-J



D-A93



CS1-M



CS1-U

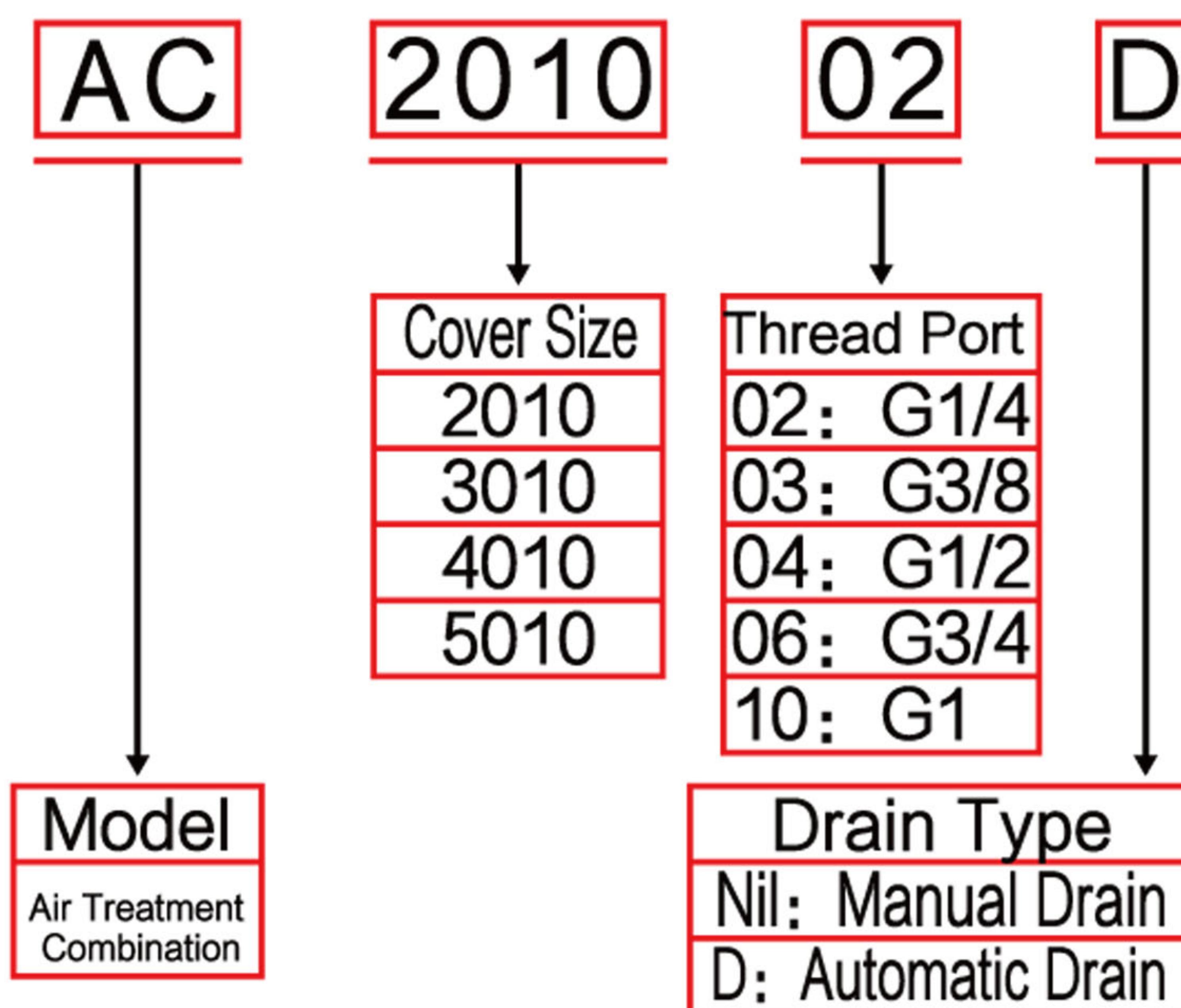


D-A54



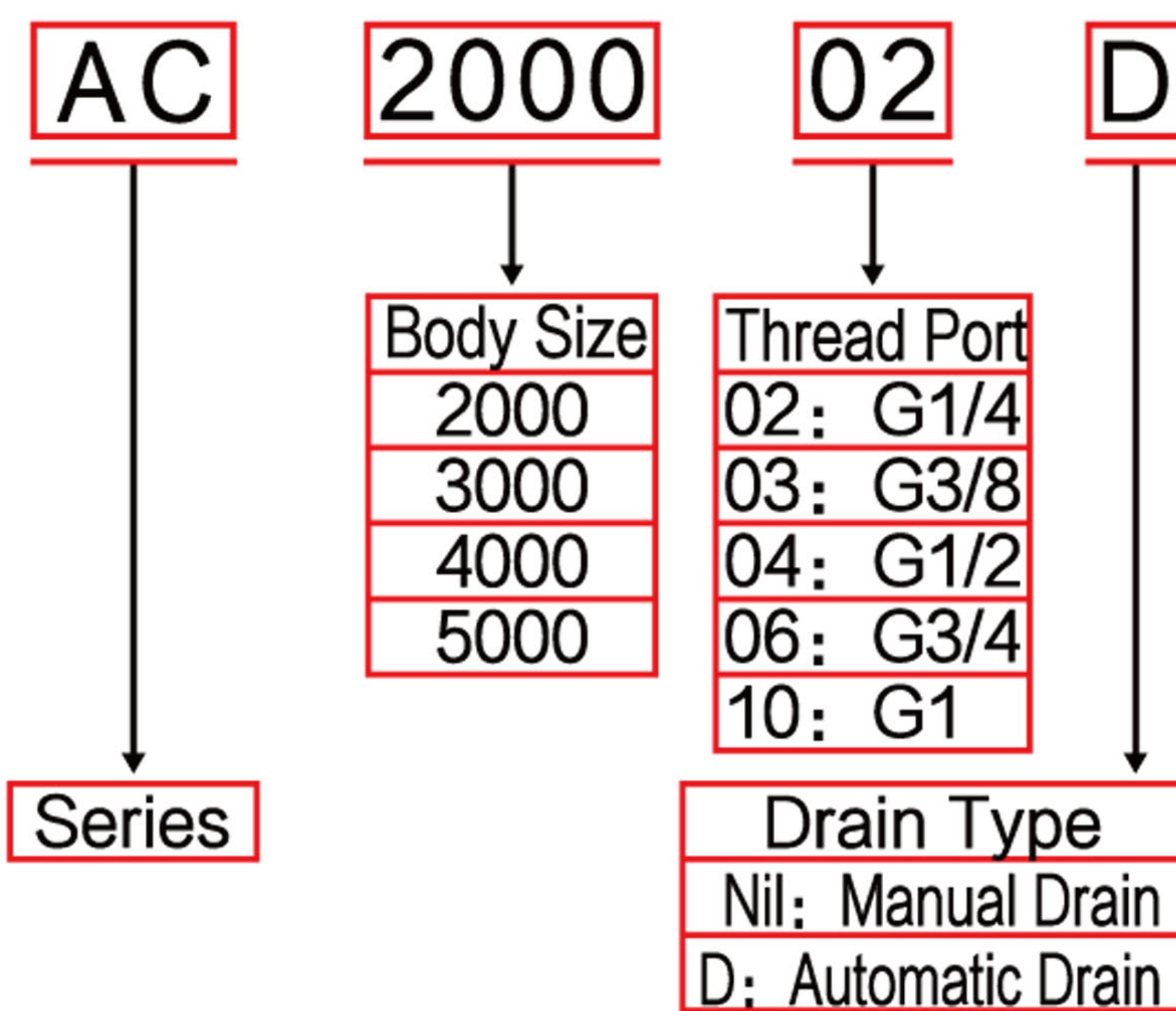
D-Z73

Air Treatment Combination



Model	AC1010-M5	AC2010-01	<u>AC2010-02</u>	AC3010-02	AC3010-03	AC4010-03	AC4010-04	AC4010-06	AC5010-06	AC5010-10					
Fluid Medium	Air														
Filtering Grade	25μm														
Pressure Gauge Port Size	G1/16	G1/8		G1/8		G1/4									
Port size	M5	G1/8	G1/4	G3/8		G1/2	G3/4	G1							
Max Operating Pressure	1.0MPa(145psi)														
Proof Pressure	1.5MPa(217psi)														
Working Temperature	5–60°C														
Recommended Lubricant	Class 1 Turbine Oil(ISO VG32)														
Bowl Guard	Not Available			Available											
Rated Flow(L/min)	90	500		1700		3000			4000						
Components	AW1000		AW2000		AW3000		AW4000			AW5000					
	AL1000		AL2000		AL3000		AL4000			AL5000					
Weight/g	220	660		980		1930	1990	3200							

Air Filter Combination



Model	AC1500	AC2000	BC2000	BC3000	BC4000
Fluid	Air				
Port size	1/8"	1/4"	1/4"	3/8"	1/2"
Filtering grade	40µm or 5 µm				
Pressure range	Semi-auto and automatic drain: 0.15~0.9MPa(20~130Psi) Manual drain: 0.05~0.9Mpa(7~130Psi)				
Max. pressure	1.0MPa(145Psi)				
Proof pressure	1.5MPa(215Psi)				
Temperature range	- 5~70°C(unfreeze)				
Capacity of drain bowl	15CC		60CC		
Capacity of oil bowl	25CC		90CC		
Recommend lubricant	ISO VG 32 or equivalent				
Weight	700g		900g		
Constitute	Filter	AF1500	AF2000	BF2000	BF3000
	Regulator	AR1500	AR2000	BR2000	BR3000
	Lubricator	AL1500	AL2000	BL2000	BL3000
					BL4000



AL

Series

2000

Cover Size

2000
3000
4000
5000

02

Thread Port

02: G1/4
03: G3/8
04: G1/2
06: G3/4
10: G1

Specifications

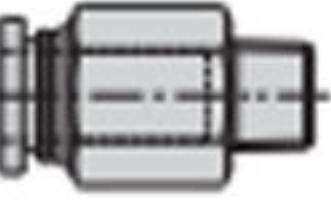
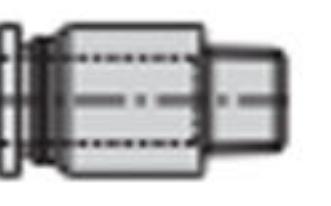
Model	AL1500	AL2000	BL2000	BL3000	BL4000
Fluid			Air		
Port size	1/8"	1/4"	1/4"	3/8"	1/2"
Pressure range			0.05-1.0MPa(7-145Psi)		
Proof pressure			1.5MPa(215Psi)		
Temperature range			-5-70 C(unfreeze)		
Capacity of oil bowl	25CC			90CC	
Recommended lubricant			ISO VG 32 or equivalent		
Weight	170g			250g	



Ordering code

PC 6 01 □ □

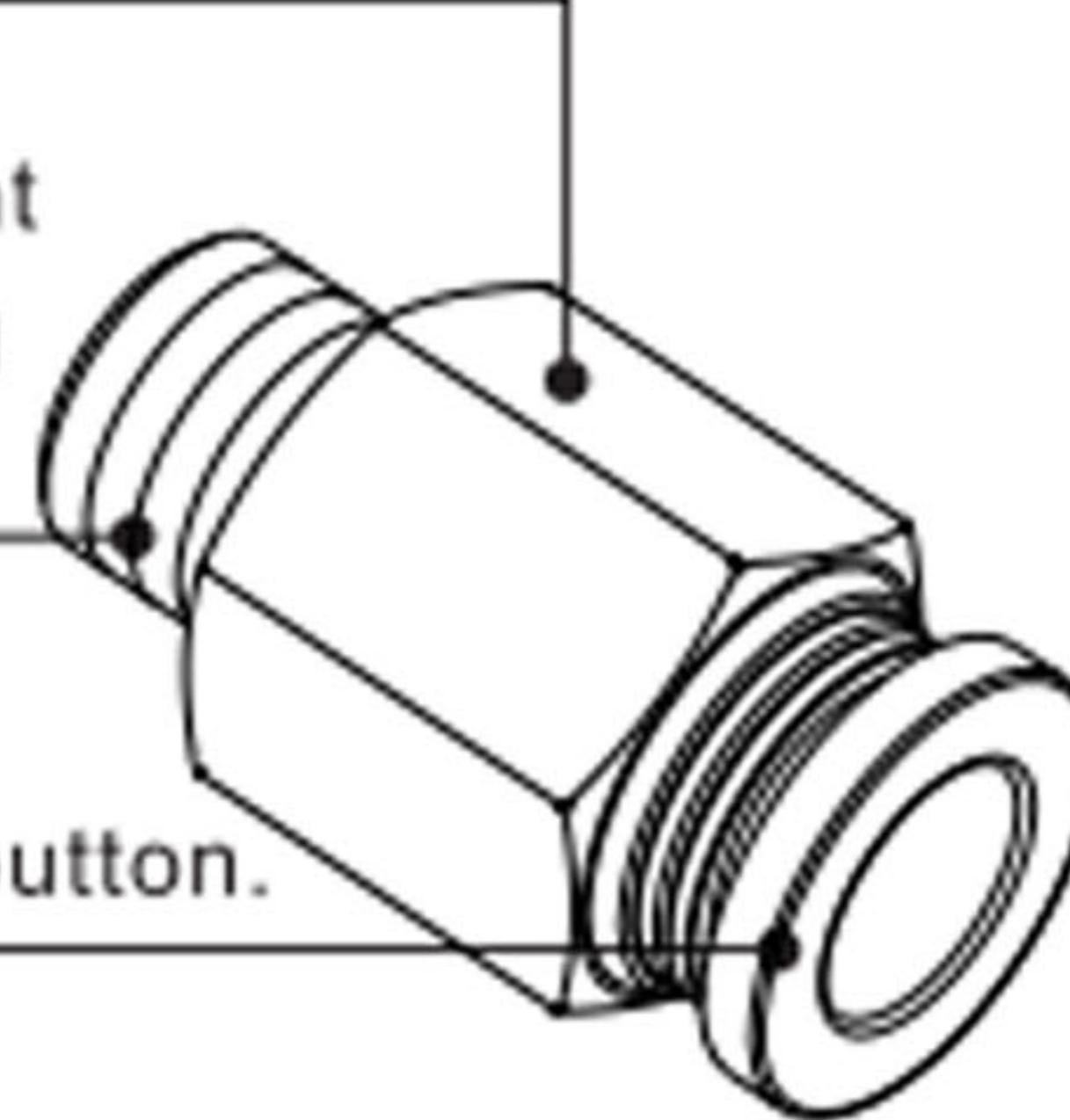
1 2 3 4 5

① Model	② Port size	③ Thread connection	④ Standard color	⑤ Thread type
PC: Male connector 	4 □ Φ4mm 6 □ Φ6mm 8 □ Φ8mm 10 □ Φ10mm 12 □ Φ124mm	Thread connection M5 □ M5X0.8 01: 1/8" 02: 1/4" 03: 3/8" 04: 1/2"	Adaptable port size Φ4, Φ6 Φ4, Φ6 Φ8, Φ10 Φ12	Standard color Blank: Gray Blank: Gray D: Black Release button:Gray Release button:Black
POC: Male connector 				Blank: PT

1. The compact appearance space saving.

2. The threaded portion is covered with sealant and the M5 thread is attached with a sealing gasket to prevent air leakage over the connection thread portion.

3. Grey and black are optional for the release button.



Specification

Operating pressure range		0~10kgf/cm ² (0~1.0MPa)
Negative pressure		-750mmHg(10Torr)
Proof pressure		1.5MPa
Ambient and fluid temperature (°C)		-20~70
Applicable tubing		Soft nylon or polyurethane
Color		Grey/black