

PARALLEL GRIPPERS

Series AG1P

Cat No AG1P - 01 - 01 - A

PARALLEL GRIPPERS - Ø10, 16, 20, 25, 32, 40 mm

Features

- Hard anodised body
- Either internal or external holding possible
- Compact design
- Magnetic sensing as standard



Technical Specifications

Model	AG1P-10	AG1P-16	AG1P-20	AG1P-25	AG1P-32	AG1P-40
Cylinder bore (mm)	Ø10	Ø16	Ø20	Ø25	Ø32	Ø40
Medium	Compressed Air - Filtered					
Type of operation	Double acting					
Working pressure (bar)	2 to 7	1 to 7				
Ambient temperature (°C)	-10° to +60° C					
Medium temperature (°C)	+5° to +50° C					
Maximum operation frequency (Cycles/min)	100				60	
Repeatability (mm)	±0.01				±0.02	
Lever open / close stroke (mm)	4	6	10	14	22	30
Lubrication	Non-lubricated (without moisture), If lubricated provide continuously					

Type

Operating type	Model	Bore dia (mm)	Gripping Force (N)		Close stroke (mm)	Weight (kg)
			Outer gripping force	Inner gripping force		
Double Acting	AG1P-10	10	11	17	4	0.06
	AG1P-16	16	34	45	6	0.14
	AG1P-20	20	42	66	10	0.27
	AG1P-25	25	65	104	14	0.49
	AG1P-32	32	158	193	22	0.81
	AG1P-40	40	254	318	30	1.37

Operating type and Data

Operating Type	Model	Bore dia (mm)	Minimum operating pressure (bar)	Thread port (mm)	Effective gripping force Kgf (N)	
Double Acting	AG1P-10	10	2.2	M2.5x0.45 - 4nos	Open	1.7 (17)
					Close	1.1 (11)
	AG1P-16	16	1	M3x0.5 - 4nos	Open	4.5 (45)
					Close	3.4 (34)
	AG1P-20	20	1	M4x0.7 - 4nos	Open	6.7 (66)
					Close	4.2 (42)
	AG1P-25	25	1	M5x0.8 - 4nos	Open	10.6 (104)
					Close	6.6 (65)
	AG1P-32	32	1	M6x1.0 - 4nos	Open	19.6 (193)
					Close	16.1 (158)
	AG1P-40	40	1	M8x1.25 - 4nos	Open	32.4 (318)
					Close	25.9 (254)

Note: The gripping force is the force of open and close gripper which is in the length of gripping point is 30mm and acting pressure is 5 bar

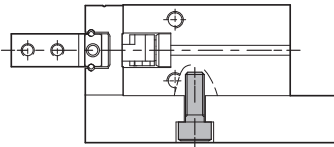
PARALLEL GRIPPERS

Series AG1P

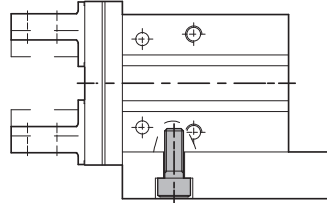
Cat No AG1P - 01 - 01 - A

Mounting type

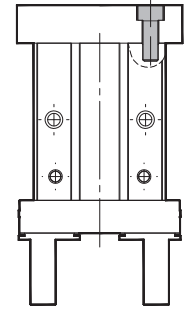
1. Use the thread in the front



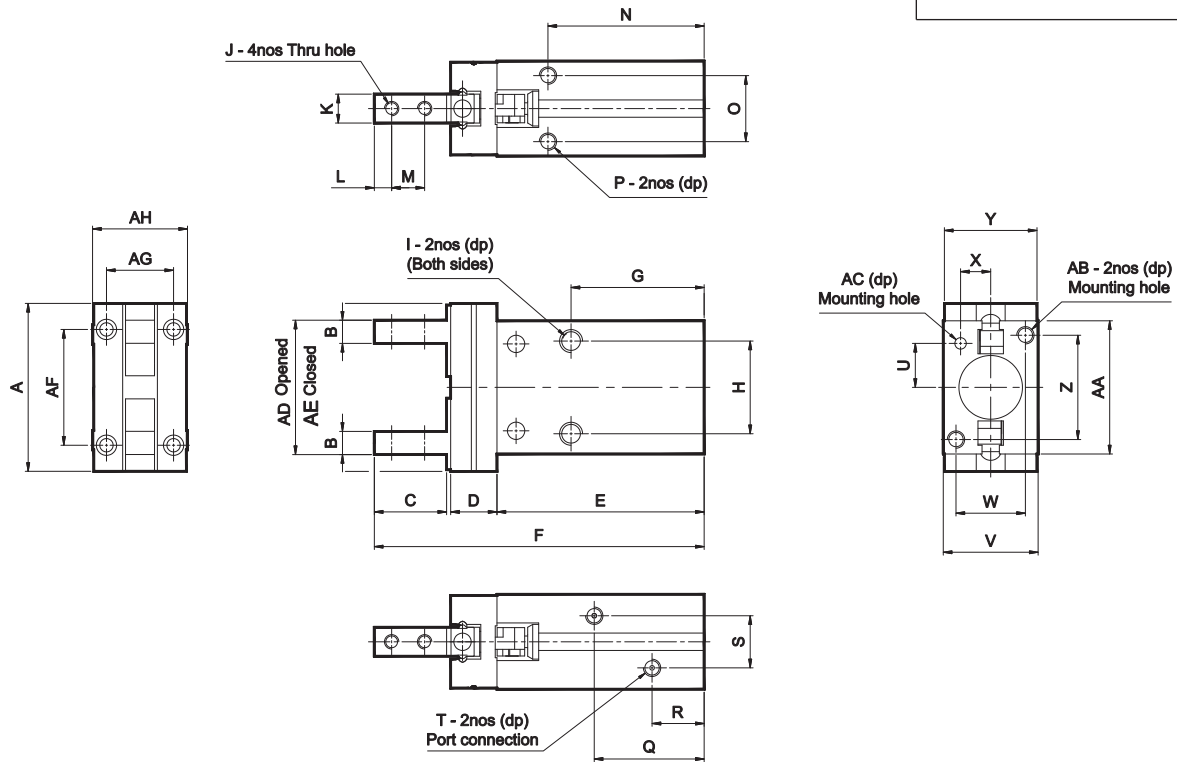
2. Use the thread in the side of body



3. Top side of body



Basic Dimensions



Bore dia (mm)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
AG1P- 10	29	4	12	8	35.8	57	23	16	M3x0.5Px5.5dp	M2.5x0.45P	5	3	5.7	27	11.4	M3x0.5Px6dp	19
AG1P- 16	38	5	15	9.5	40.5	67.3	24.5	24	M4x0.7Px8dp	M3x0.5P	8	4	7	30	16	M4x0.7Px4.5dp	19
AG1P- 20	50	8	20	11.5	50.8	84.8	29	30	M5x0.8Px10dp	M4x0.7P	10	5	9	35	18.6	M5x0.8Px8dp	23
AG1P- 25	63	10	25	13	61.6	102.7	30	36	M6x1Px12dp	M5x0.8P	12	6	12	36.5	22	M6x1Px10dp	23.5
AG1P- 32	97	12	29	13	66	113	40	46	M6x1Px13dp	M6x1P	15	7	14	48	26	M6x1Px10dp	31
AG1P- 40	119	14	36	16	82	139	49	56	M8x1.25Px13dp	M8x1.25P	18	9	17	58	32	M8x1.25Px13dp	38

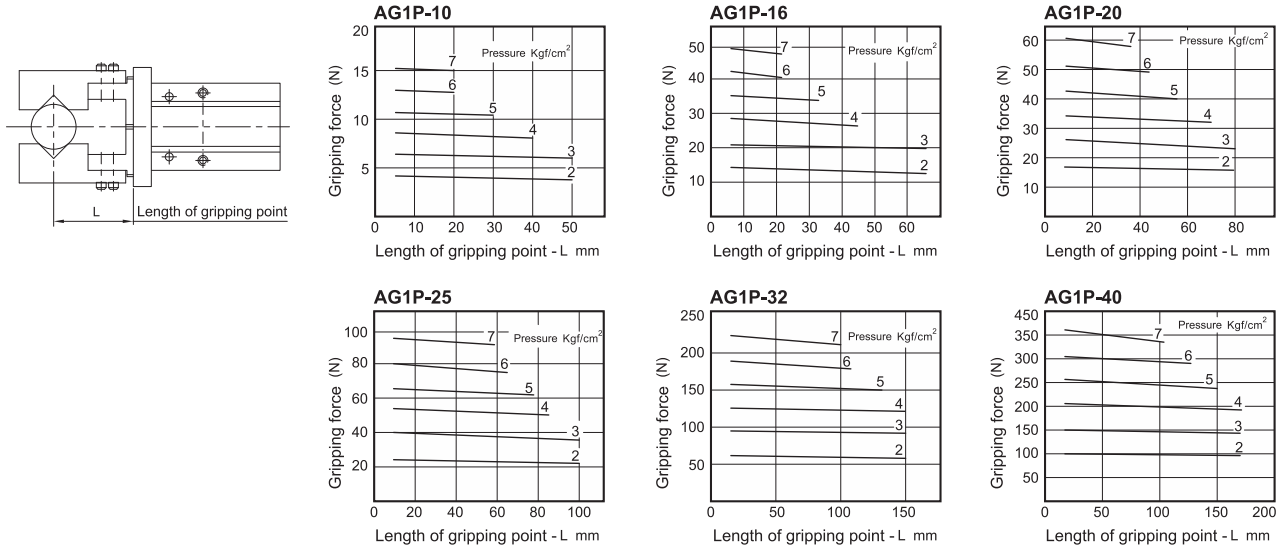
Bore dia (mm)	R	S	T	U	V	W	X	Y	Z	AA	AB	AC ^{+0.03} _{+0.01}	AD	AE	AF	AG	AH
AG1P- 10	9	11	M3x0.5Px5.5dp	7.6	16.4	12	5.2	16	18	23	M3x0.5Px6dp	Ø2x3dp	23.2 ^{+2.2} ₀	19.2 ⁰ _{-0.7}	20	16	11.6
AG1P- 16	7.5	13	M5x0.8Px8dp	11	23.6	15	6.5	23.2	22	30.6	M4x0.7Px8dp	Ø3x3dp	30.9 ^{+2.2} _{-0.2}	24.9 ⁰ _{-0.7}	26.6	23.2	17
AG1P- 20	10	15	M5x0.8Px8dp	16.8	27.6	18	7.5	27.2	32	42	M5x0.8Px10dp	Ø4x4dp	42.3 ^{+2.2} _{-0.2}	32.3 ⁰ _{-0.7}	36	20	27.2
AG1P- 25	10.7	20	M5x0.8Px8dp	21.8	33.6	22	10	33.2	40	52	M6x1Px12dp	Ø4x4dp	53.3 ^{+2.5} _{-0.2}	39.3 ⁰ _{-0.8}	44	24.8	33.2
AG1P- 32	11	24	M5x0.8Px8dp	23	40	26	12	39.6	46	60	M6x1Px13dp	Ø5x5dp	72 ^{+2.5} ₀	50 ⁰ _{-0.5}	50.5	28.5	39.6
AG1P- 40	12	28	M5x0.8Px8dp	29	48	32	14	47.6	56	72	M8x1.25Px15dp	Ø5x5dp	88 ^{+2.7} ₀	58 ⁰ _{-0.5}	61	34	47.6

PARALLEL GRIPPERS

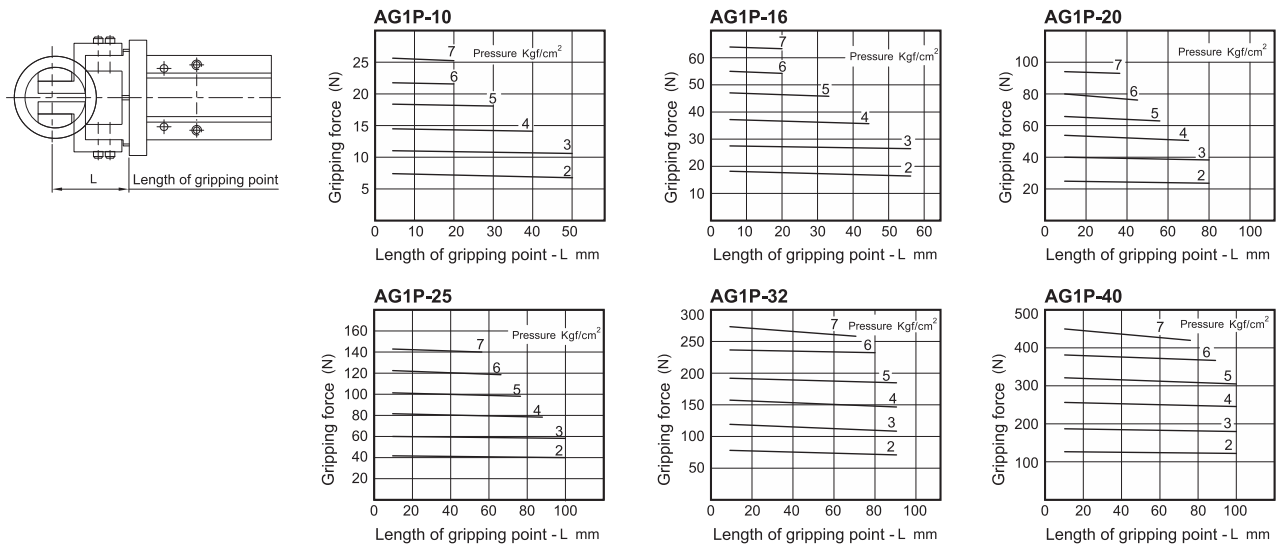
Series AG1P

Cat No AG1P - 01 - 01 - A

Outside diameter - Gripping force characteristic



Inside diameter - Gripping force characteristic



Note1: L : Gripping point length = 20 mm, P : Pressure = 5 Kgf/cm²

How to order

AG1P01	040	B
Bore (mm)		Mountings
010	- Ø10	B - Basic
016	- Ø16	
020	- Ø20	
025	- Ø25	
032	- Ø32	
040	- Ø40	

Ordering Example:

Ordering no. for parallel gripper with 40 dia bore basic : **AG1P01040B**

Subject to change

PARALLEL GRIPPERS

Series AG1P

Cat No AG1P - 01 - 01 - A

ACCESSORIES FOR PARALLEL GRIPPERS

MAGNETIC SENSOR - AM080, AM090



Features

- ❑ Integrated LED
- ❑ Moulded cable with flying lead and Quick Disconnect (QD) connector versions
- ❑ Direct mounting, simple installation
- ❑ Reed contact type & Solid state type versions

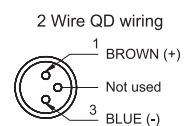
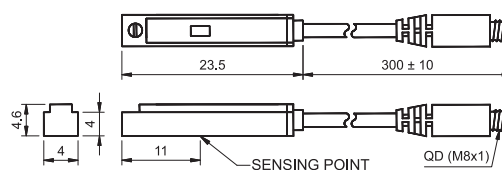
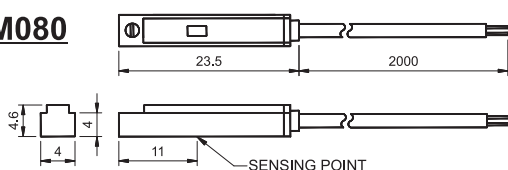
Function

The pistons of these cylinders are equipped with a permanent magnet, which activates the cylinder switches when it approaches these. The switch in question then outputs an electrical or pneumatic signal.

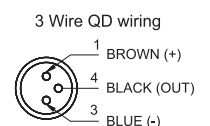
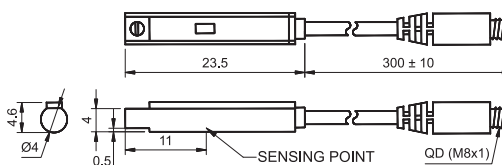
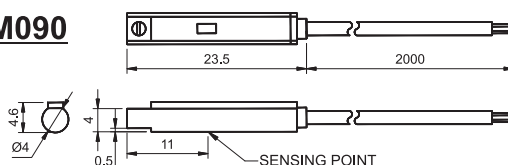
Technical Specifications

Circuit and connection diagram						
	AM080	AM090	AM080	AM090	AM080	AM090
Bore dia mm	16, 20, 25, 32, 40	10, 16, 20, 25, 32, 40	16, 20, 25, 32, 40	10, 16, 20, 25, 32, 40	16, 20, 25, 32, 40	10, 16, 20, 25, 32, 40
Wiring system	Two lead wire type		Three lead wire type			
Switching voltage	DC: 5 ~ 120V AC: 5 ~ 120V		DC: 5 ~ 30V			
Switching current	100mA max.		200mA max.			
Contact capacity	6W max.		6W max.			
Delay time	< 2ms (500Hz)		< 1ms (500Hz)			
Contact	Normally open		NPN. Current sinking		PNP. Current sourcing	
Production grade	IP-67					
Colour of LED	Red		Red		Green	
Cable	Ø 2.8 wire cable, 2M		Ø 3.3, 3 single wire, 2M			
Voltage drop	3.5 V max.		1 V max.			
Voltage consumption	---		OFF: 7mA (24V) ON: 8mA (24V) max			
Contact protective circuit	Non.		Yes			
Operating temperature	-10° to 70° C					

AM080



AM090

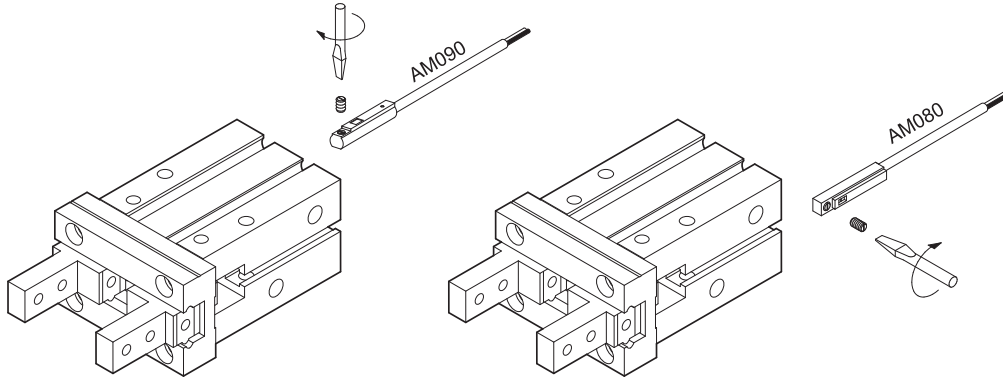


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Cat No AG1P - 01 - 01 - A

Sensing setting and Installation



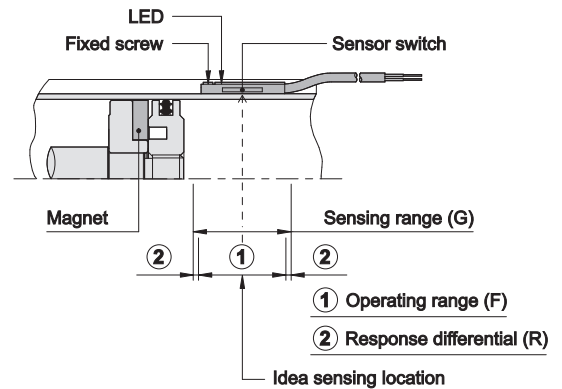
Sensing range

Sensor switch is fixed on the cylinder body. The magnetic piston head will activate the sensor switch when it enters the operating range. It has 0.5mm differential.

Operating range

When piston head moves the switch setting and adjustment will be based on the responding range generated by the magnetic field and the switch. (Please refer to the table)

Sensor switch setting and Operating range



Model	AM080 *	
Bore size	Operating range (F)	Response differential (R)
Ø10	5	1
Ø16	11.5	1
Ø20	10	1
Ø25	12	1
Ø32	10	1.2
Ø40	12	1.2

* AM080 mounting type is in the side

Model	AM090 *	
Bore size	Operating range (F)	Response differential (R)
Ø10	---	---
Ø16	5	1
Ø20	8	1
Ø25	8	1
Ø32	10	1
Ø40	13	1.2

* AM090 mounting type is in the front

How to order

AM080 OR AM090	0	FL-04	S
Switch type 0 - Reed switch 2 wire type 2 - Solid state type, current sourcing (PNP) 3 - Solid state type, current sinking (NPN)		End connection FL - 04 (Flying lead with 2 meter cable length) QD - 02 (Quick disconnecter with 300 mm cable length)	Connection type S - Straight type L - Angle type

Ordering example :- Reed switch 2 wire type with Flying lead of 2 meter cable length, straight type connection : **AM080-0FL-04S**

Subject to change