

## WFC Series - Air Gripper (Parallel open/Close type)



### Specification

Bore size(mm)	16	20	25	32	40	50	63
Acting type	Double acting						
Fluid	Air (to be filtered by 40μ m filter element)						
Operating pressure	0.2~0.6MPa(28~87psi)(2.0~6.0bar)			0.15~0.6MPa(22~87psi)(1.5~6.0bar)			
Temperature °C	-10~60						
Lubrication	Not required						
Repeatability mm	± 0.01						
Max.frequency	120(c.p.m)			60(c.p.m)			
Sensor switches ①	DS1-H,DS1-HL						
Port size	M3x0.5			M5x0.8			

① Sensor switch should be ordered additionally, please refer to P457-480 for detail of sensor switch.

### Ordering code / Symbol / Product feature

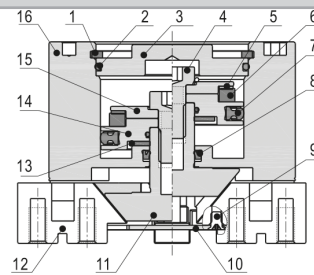
Model	WFC Y 20	Bore size	Symbol	Product feature
WFC: Air finger (Double acting, parallel type)		16: Ø16mm 20: Ø20mm 25: Ø25mm 32: Ø32mm 40: Ø40mm 50: Ø50mm 63: Ø63mm		1. Uniform block is adopted in the interior of the air gripper to afford larger gripper force. 2. The bumper is adopted in the front of piston, which can reduce the noise of metal bump. 3. A positioning hole is attached to the bottom of the body, which can improve the precision and consistency of repeated dismounting and positioning. 4. Precision repeating snatch which adopted roboticized equipment. 5. Kinds of series and styles for you to choose which snatch multiform workpiece.
	Finger type			
	2: Two grippers			
	3: Three grippers			
	4: Four grippers			

### Gripping force and stroke

Model	Gripping force per finger Effective valve(N)	Opening / Closing stroke (Both sides)(mm)		
		Internal	External	
2 grippers	WFC2-16	23	21	4
	WFC2-20	42	37	4
	WFC2-25	71	63	6
	WFC2-32	123	111	8
	WFC2-40	195	177	8
	WFC2-50	306	280	12
3 grippers	WFC3-16	16	14	4
	WFC3-20	28	25	4
	WFC3-25	47	42	6
	WFC3-32	82	74	8
	WFC3-40	130	118	8
	WFC3-50	204	187	12
4 grippers	WFC4-16	12	10	4
	WFC4-20	21	19	4
	WFC4-25	35	31	6
	WFC4-32	61	55	8
	WFC4-40	97	88	8
	WFC4-50	153	140	12
WFC4-63	268	251	16	

Note: The gripping force in the above table is in the working pressure of 0.5MPa, and with a gripping point of L=20mm(Ø32-Ø63). Add: Please refer to page 405 for the definition of \*L\*.

### Inner structure and material of major parts



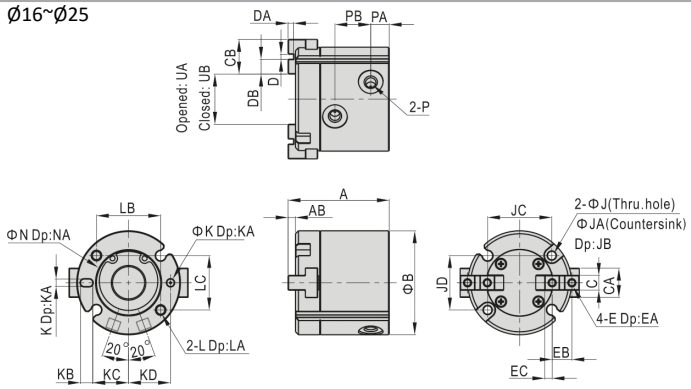
NO.	Item	Material
1	C clip	Spring steel
2	O-ring	NBR
3	Back cover	Aluminium alloy
4	Screw	Carbon steel
5	Magnet washer	NBR
6	Magnet	Sintered metal (Neodymium-iron-boron)
7	Piston seal	NBR
8	Rod packing	NBR
9	Countersink screw	Stainless steel
10	Cover blank	Stainless steel
11	Piston rod	Stainless steel
12	Gripper	Stainless steel
13	Bumper	TPU
14	Piston	Aluminium alloy
15	Magnet holder	Aluminium alloy
16	Body	Aluminium alloy

**WFC Series - Air Gripper (Parallel open/Close type)**

**Dimensions**

**Two grippers**

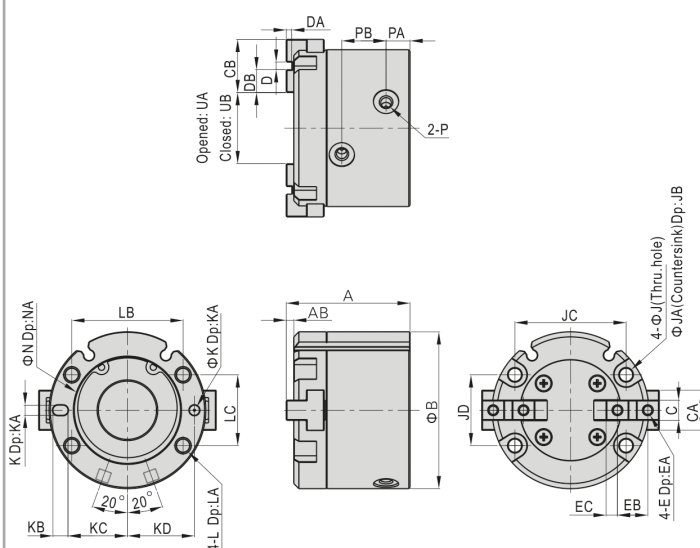
Ø16~Ø25



Type/Item	A	AB	B	C	CA	CB	D	DA	DB	E	EA	EB	EC	J	JA	JB	JC	JD
WFC2-16	35	3	30	5 <sup>+0.01</sup> <sub>-0.03</sub>	8	10	2 <sup>+0.04</sup> <sub>-0.01</sub>	2 <sup>+0.2</sup> <sub>0</sub>	4	M3x0.5	5	6	2	3.4	6	6	18	16
WFC2-20	39	3	36	6 <sup>+0.01</sup> <sub>-0.03</sub>	10	12	2 <sup>+0.04</sup> <sub>-0.01</sub>	2 <sup>+0.2</sup> <sub>0</sub>	5	M3x0.5	5	7	2.5	3.4	6	6	24	18
WFC2-25	41	3	42	6 <sup>+0.01</sup> <sub>-0.03</sub>	12	14	2 <sup>+0.04</sup> <sub>-0.01</sub>	2 <sup>+0.2</sup> <sub>0</sub>	6	M3x0.5	5	8	3	3.4	6	6	26	22

Type/Item	K	KA	KB	KC	KD	L	LA	LB	LC	N	NA	P	PA	PB	UA	UB
WFC2-16	2 <sup>+0.04</sup> <sub>-0.01</sub>	3	3	11	12.5	M4x0.7	8	18	16	17	1.5	M3x0.5	7	10	14	10
WFC2-20	2 <sup>+0.04</sup> <sub>-0.01</sub>	3	3	13	14.5	M4x0.7	8	24	18	21	1.5	M5x0.8	7	13	16	12
WFC2-25	2 <sup>+0.04</sup> <sub>-0.01</sub>	3	5	14.5	17	M4x0.7	8	26	22	26	1.5	M5x0.8	7.5	14.5	20	14

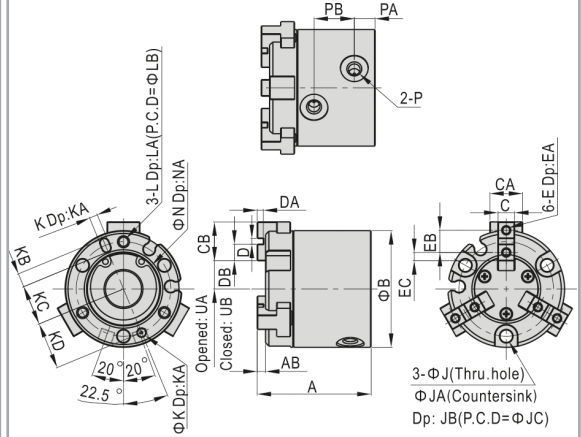
Ø32~Ø63



Type/Item	A	AB	B	C	CA	CB	D	DA	DB	E	EA	EB	EC	J	JA	JB	JC	JD
WFC2-32	45	3	55	8 <sup>+0.01</sup> <sub>-0.03</sub>	14	20	2 <sup>+0.04</sup> <sub>-0.01</sub>	2 <sup>+0.2</sup> <sub>0</sub>	9	M4x0.7	8	11	4.5	4.2	8	9	38	25
WFC2-40	49	3	62	8 <sup>+0.01</sup> <sub>-0.03</sub>	16	21	3 <sup>+0.04</sup> <sub>-0.01</sub>	2 <sup>+0.2</sup> <sub>0</sub>	9	M4x0.7	8	12	4.5	5.2	9.5	9	44	28
WFC2-50	57	3	70	10 <sup>+0.01</sup> <sub>-0.03</sub>	18	24	4 <sup>+0.04</sup> <sub>-0.01</sub>	2 <sup>+0.2</sup> <sub>0</sub>	10	M5x0.8	9	14	5	5.2	9.5	12	52	34
WFC2-63	68	4	86	12 <sup>+0.01</sup> <sub>-0.03</sub>	24	28	6 <sup>+0.04</sup> <sub>-0.01</sub>	2 <sup>+0.2</sup> <sub>0</sub>	11	M5x0.8	9	17	5.5	5.2	9.5	14	66	38

Type/Item	K	KA	KB	KC	KD	L	LA	LB	LC	N	NA	P	PA	PB	UA	UB
WFC2-32	3 <sup>+0.04</sup> <sub>-0.01</sub>	3	5	20.5	23	M5x0.8	10	38	25	34	2	M5x0.8	8.5	16	24	16
WFC2-40	4 <sup>+0.04</sup> <sub>-0.01</sub>	4	6	23.5	26.5	M6x1.0	12	44	28	42	2	M5x0.8	9.5	17.5	28	20
WFC2-50	4 <sup>+0.04</sup> <sub>-0.01</sub>	4	6	28	31	M6x1.0	12	52	34	52	2	M5x0.8	9.5	21	34	22
WFC2-63	5 <sup>+0.04</sup> <sub>-0.01</sub>	5	7	34.5	38	M6x1.0	12	66	38	65	2.5	M5x0.8	12	24	46	30

**Three grippers**



Type/Item	A	AB	B	C	CA	CB	D	DA	DB	E	EA	EB	EC
WFC3-16	35	3	30	5 <sup>+0.01</sup> <sub>-0.03</sub>	8	10	2 <sup>+0.04</sup> <sub>-0.01</sub>	2 <sup>+0.2</sup> <sub>0</sub>	4	M3x0.5	5	6	2
WFC3-20	39	3	36	6 <sup>+0.01</sup> <sub>-0.03</sub>	10	12	2 <sup>+0.04</sup> <sub>-0.01</sub>	2 <sup>+0.2</sup> <sub>0</sub>	5	M3x0.5	5	7	2.5
WFC3-25	41	3	42	6 <sup>+0.01</sup> <sub>-0.03</sub>	12	14	2 <sup>+0.04</sup> <sub>-0.01</sub>	2 <sup>+0.2</sup> <sub>0</sub>	6	M3x0.5	5	8	3
WFC3-32	45	3	52	8 <sup>+0.01</sup> <sub>-0.03</sub>	14	20	2 <sup>+0.04</sup> <sub>-0.01</sub>	2 <sup>+0.2</sup> <sub>0</sub>	9	M4x0.7	8	11	4.5
WFC3-40	49	3	62	8 <sup>+0.01</sup> <sub>-0.03</sub>	16	21	3 <sup>+0.04</sup> <sub>-0.01</sub>	2 <sup>+0.2</sup> <sub>0</sub>	9	M4x0.7	8	12	4.5
WFC3-50	57	3	70	10 <sup>+0.01</sup> <sub>-0.03</sub>	18	24	4 <sup>+0.04</sup> <sub>-0.01</sub>	2 <sup>+0.2</sup> <sub>0</sub>	10	M5x0.8	9	14	5
WFC3-63	68	4	86	12 <sup>+0.01</sup> <sub>-0.03</sub>	24	28	6 <sup>+0.04</sup> <sub>-0.01</sub>	2 <sup>+0.2</sup> <sub>0</sub>	11	M5x0.8	9	17	5.5

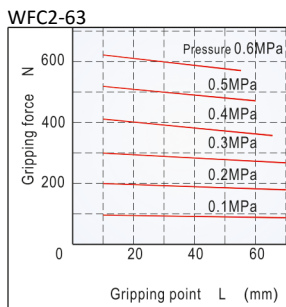
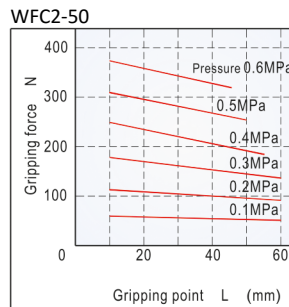
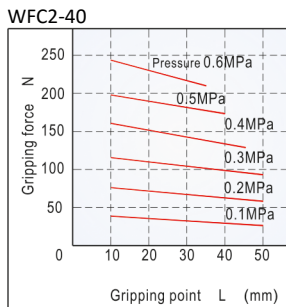
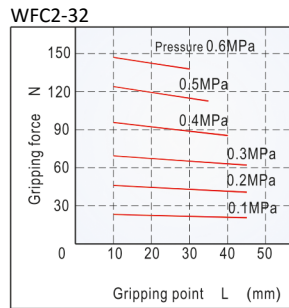
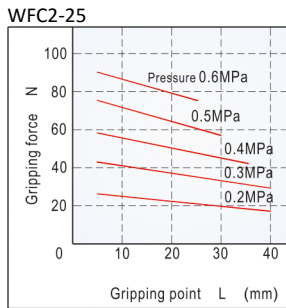
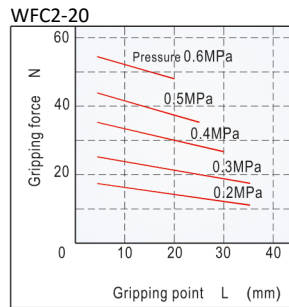
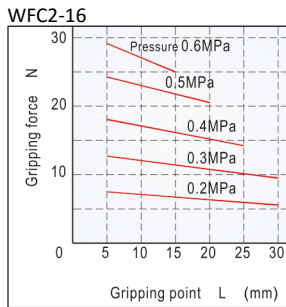
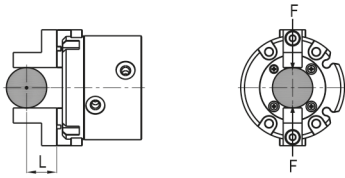
Type/Item	J	JA	JB	JC	K	KA	KB	KC	KD	L	LA	LB	N
WFC3-16	3.4	6	6	25	2 <sup>+0.04</sup> <sub>-0.01</sub>	3	11	12.5	M3x0.5	6	25	17	1.5
WFC3-20	3.4	6	6	29	2 <sup>+0.04</sup> <sub>-0.01</sub>	3	13	14.5	M3x0.5	6	29	21	1.5
WFC3-25	4.5	8	9	34	3 <sup>+0.04</sup> <sub>-0.01</sub>	5	14.5	17	M4x0.7	8	34	26	1.5
WFC3-32	4.5	8	9	44	3 <sup>+0.04</sup> <sub>-0.01</sub>	5	19.5	22	M4x0.7	8	44	34	1.5
WFC3-40	5.5	9.5	9	53	4 <sup>+0.04</sup> <sub>-0.01</sub>	6	23.5	26.5	M5x0.8	10	53	42	1.5
WFC3-50	5.5	9.5	12	62	4 <sup>+0.04</sup> <sub>-0.01</sub>	6	28	31	M5x0.8	10	62	52	1.5
WFC3-63	6.6	11	14	76	5 <sup>+0.04</sup> <sub>-0.01</sub>	7	34.5	38	M6x1.0	12	76	65	1.5

Type/Item	NA	P	PA	PB	UA	UB
WFC3-16	1.5	M3x0.5	7	10	7	5
WFC3-20	1.5	M5x0.8	7	13	8	6
WFC3-25	1.5	M5x0.8	7.5	14.5	10	7
WFC3-32	2	M5x0.8	8.5	16	12	8
WFC3-40	2	M5x0.8	9.5	17.5	14	10
WFC3-50	2	M5x0.8	9.5	21	17	11
WFC3-63	2.5	M5x0.8	12	24	23	15

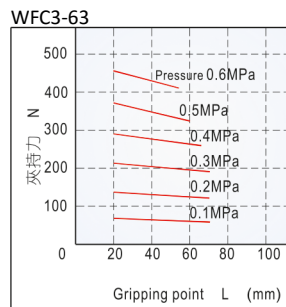
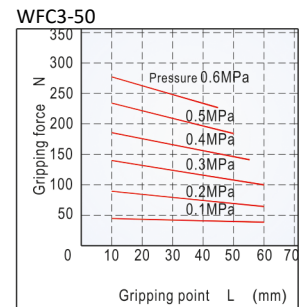
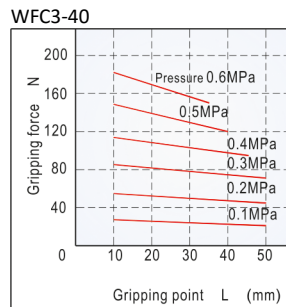
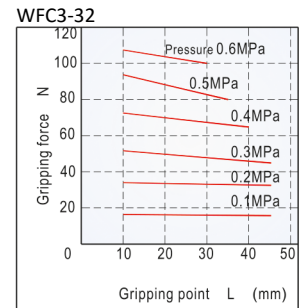
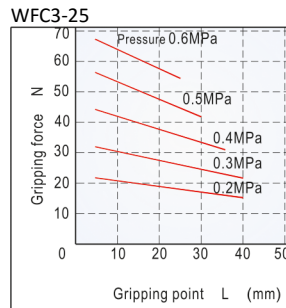
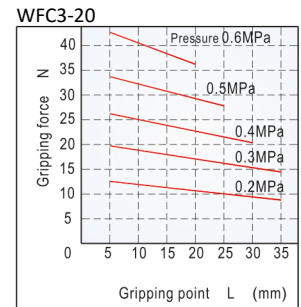
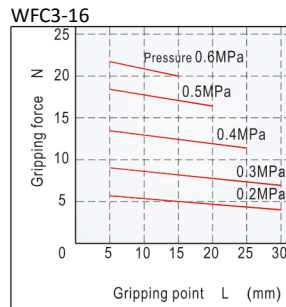
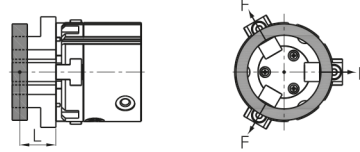


**WFC Series - Air Gripper (Parallel open/Close type)**

**Closed gripping force (2 type)**

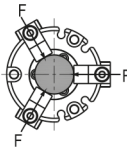
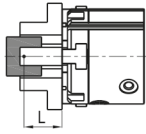


**Opened gripping force (3 type)**

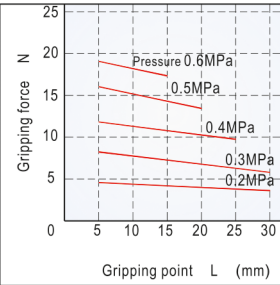


**WFC Series - Air Gripper (Parallel open/Close type)**

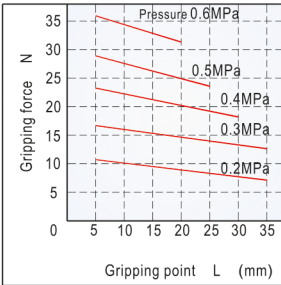
**Closed gripping force (3 Type)**



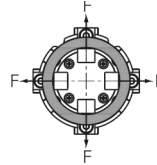
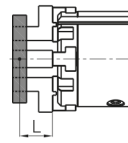
**WFC3-16**



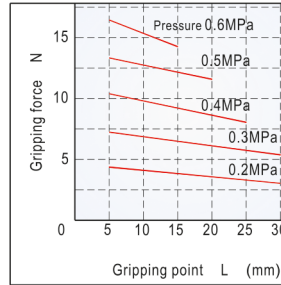
**WFC3-20**



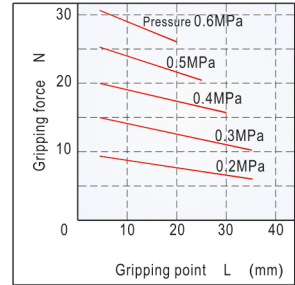
**Opened gripping force (4 Type)**



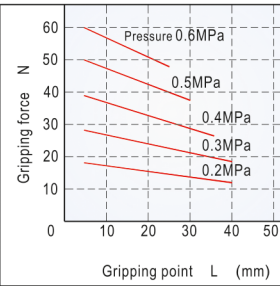
**WFC4-16**



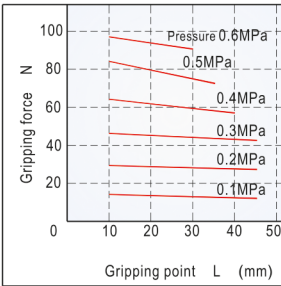
**WFC4-20**



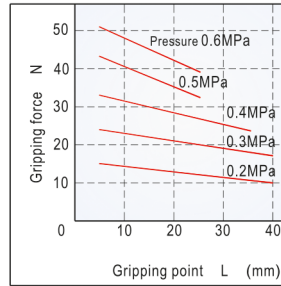
**WFC3-25**



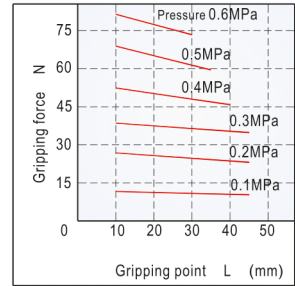
**WFC3-32**



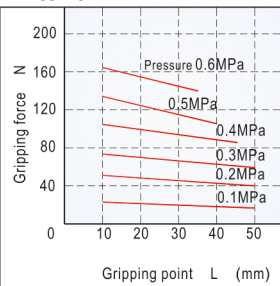
**WFC4-25**



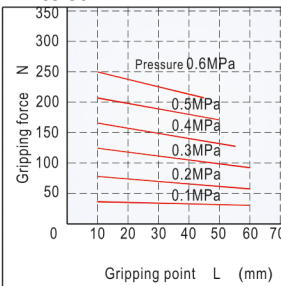
**WFC4-32**



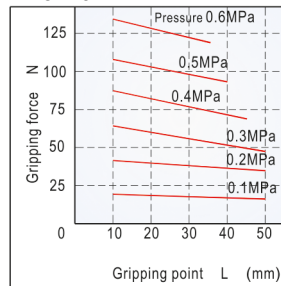
**WFC3-40**



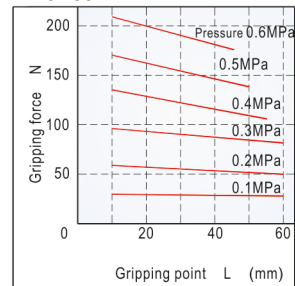
**WFC3-50**



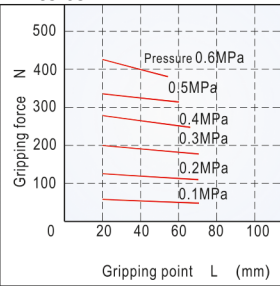
**WFC4-40**



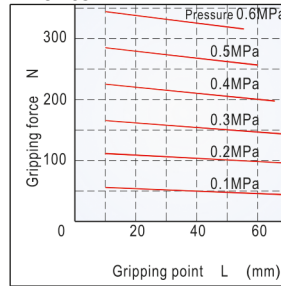
**WFC4-50**



**WFC3-63**

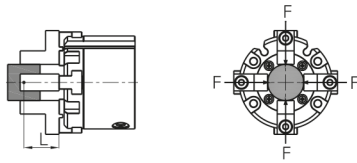


**WFC4-63**

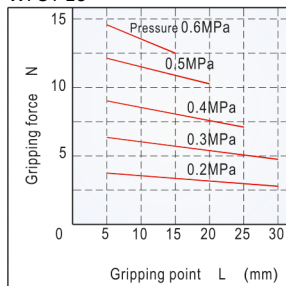


## WFC Series - Air Gripper (Parallel open/Close type)

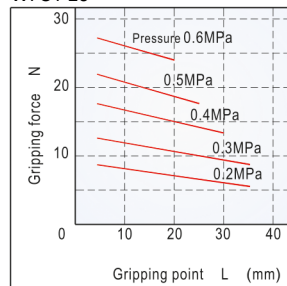
### Closed gripping force (4 type)



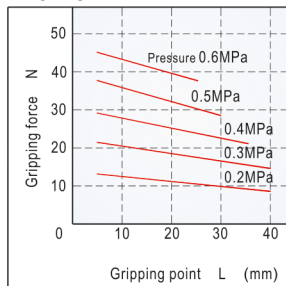
WFC4-16



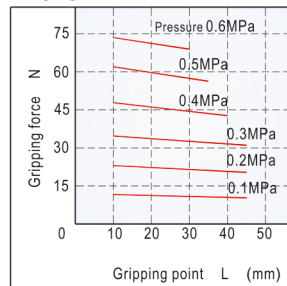
WFC4-20



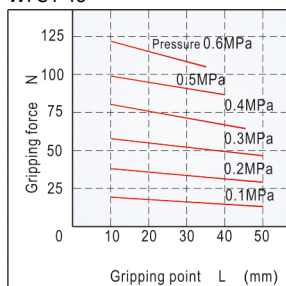
WFC4-25



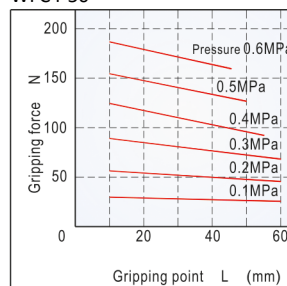
WFC4-32



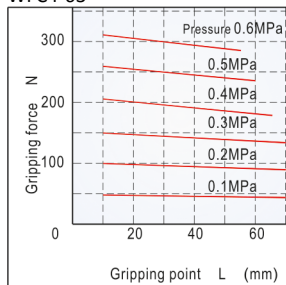
WFC4-40



WFC4-50



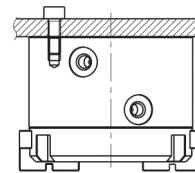
WFC4-63



### Installation and application

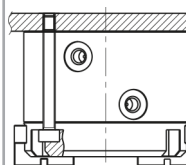
1. Due to the abrupt changes, the circuit pressure is low, which will lead to the decrease of the gripping force and falling of the work-pieces. In order to avoid the harm to human body and damage to the equipment, anti-dropping device must be equipped.
2. Don't use the air gripper under strong external force and impact force.
3. When install and fix the air gripper, avoid falling down, collision and damage.
4. When fixing the gripping jaw parts, don't twist the gripping jaw.
5. There are several kinds of installation method, and the locking torque is too large, it will cause the dysfunctional. If the locking torque is too small, it will cause the position deviation and fall.

### Tail installation type



Model	Bore size	The bolts type	Max.locking moment(Nm)	Max.screwed depth(mm)	The aperture of the positioning bore(mm)	The depth of the positioning bore(mm)
WFC2	16	M4x0.7	2.1	8	Ø17 <sup>+0.05</sup> <sub>0</sub>	1.5
	20	M4x0.7	2.1	8	Ø21 <sup>+0.05</sup> <sub>0</sub>	1.5
	25	M4x0.7	2.1	8	Ø26 <sup>+0.05</sup> <sub>0</sub>	1.5
	32	M5x0.8	4.3	10	Ø34 <sup>+0.05</sup> <sub>0</sub>	2
	40	M6x1.0	7.3	12	Ø42 <sup>+0.05</sup> <sub>0</sub>	2
	50	M6x1.0	7.3	12	Ø52 <sup>+0.05</sup> <sub>0</sub>	2
WFC3	16	M3x0.5	0.88	6	Ø17 <sup>+0.05</sup> <sub>0</sub>	1.5
	20	M3x0.5	0.88	6	Ø21 <sup>+0.05</sup> <sub>0</sub>	1.5
	25	M4x0.7	2.1	8	Ø26 <sup>+0.05</sup> <sub>0</sub>	1.5
	32	M4x0.7	2.1	8	Ø34 <sup>+0.05</sup> <sub>0</sub>	2
	40	M5x0.8	4.3	10	Ø42 <sup>+0.05</sup> <sub>0</sub>	2
	50	M5x0.8	4.3	10	Ø52 <sup>+0.05</sup> <sub>0</sub>	2
63	M6x1.0	7.3	12	Ø65 <sup>+0.05</sup> <sub>0</sub>	2.5	

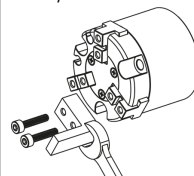
### The installation of the front through hole



Model	Bore size	The bolts type	Max.locking moment(Nm)
WFC2	16	M3x0.5	0.88
	20	M3x0.5	0.88
	25	M3x0.5	0.88
	32	M4x0.7	2.1
	40	M5x0.8	4.3
	50	M5x0.8	4.3
WFC3	16	M3x0.5	0.88
	20	M3x0.5	0.88
	25	M3x0.5	2.1
	32	M4x0.7	2.1
	40	M5x0.8	4.3
	50	M5x0.8	4.3
63	M6x1.0	7.3	

### 6.The installation method of the gripping jaw fittings

When install gripping jaw fittings, you have to pay particular attention that you can only hold the gripping jaw by using spanner, and then lock the screws with allen wrench. Never clamp the body directly and then lock the screws, otherwise the parts will be easily damaged.



Bore size	The bolts type	Max.locking moment(Nm)
16	M3x0.5	0.59
20	M3x0.5	0.59
25	M3x0.5	0.59
32	M4x0.7	1.4
40	M4x0.7	1.4
50	M5x0.8	2.8
63	M5x0.8	2.8