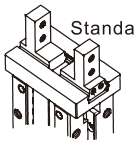
Parallel style with guide track——ball bearing

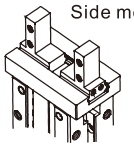
Compendium of HFZ Series

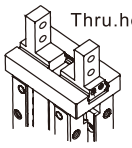
Seven kinds of bore size and three kinds of type

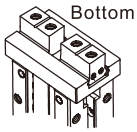
Bore size: 6, 10, 16, 20, 25, 32, 40,
HFZ: Double acting
HFSZ: Single acting and normally closed
HFTZ: Single acting and normally opened

Four kinds of finger type


Standard type(Φ6~Φ40)


Side mounting type(B)(Φ6)

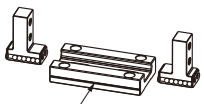

Thru.hole mounting type(N)(Φ6)


Bottom mounting type(F)(Φ6)

According to the actual using requirements of customers, the initial position of clamping jaw can be customized to meet the different needs under different working conditions.

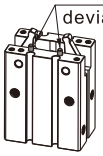
Integrated design of linear guide rail

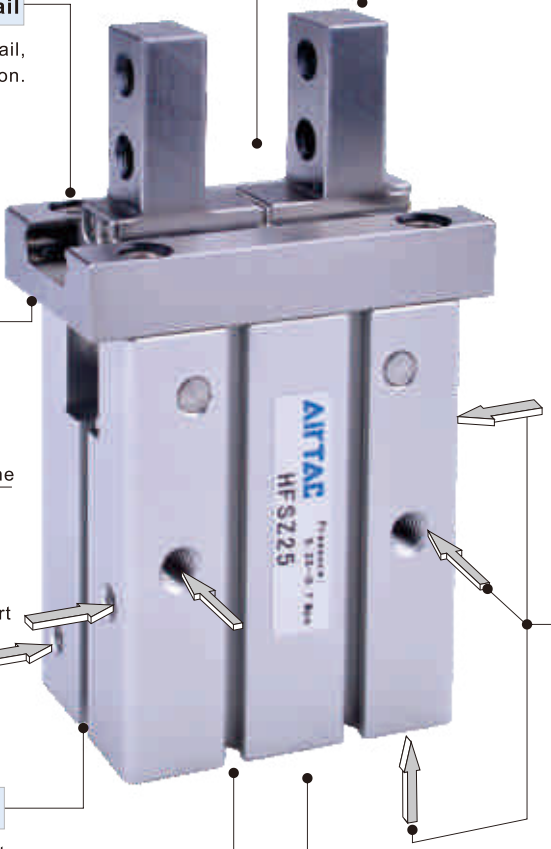
Integrated design of linear guide rail, high rigidity and high precision.


Integration of a linear guide rail

With positioning pin

A positioning pin is attached to the bottom of the linear guide rail, which can prevent the deviation of the positioning rail and body.


The positioning pin prevents the deviation of the rail and body



Closed port

Opened port

Can be mounted from three directions

With mounting holes on the side and tail.

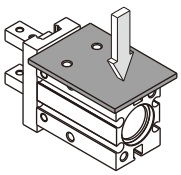
With squareness magnetic switch slots

The squareness magnetic switch slots convenient to install DMSG(S)\CMSG type inducting switch.

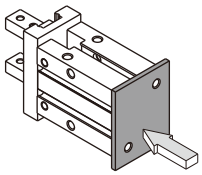
With roundness magnetic switch slots

The roundness magnetic switch slots convenient to install DMSH(S)\CMSH type inducting switch.

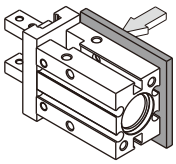
Surface installation



Tail installation

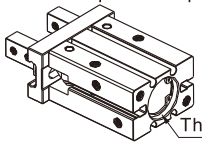


Front installation



With positioning hole

The positioning hole can improve the precision and the consistency of repeated dismounting and positioning.


The positioning hole

Bore size (mm)			6	10	16	20	25	32	40
Acting type			Double acting Single acting						
Fluid			Air(to be filtered by 40 μ m filter element)						
Operating pressure	Double acting	Φ6, Φ10	0.2~0.7MPa(28~100psi)(2.0~7.0bar)						
		Others	0.15~0.7MPa(22~100psi)(1.5~7.0bar)						
	Single acting	Φ6, Φ10	0.35~0.7MPa(50~100psi)(3.5~7.0bar)						
		Others	0.25~0.7MPa(36~100psi)(2.5~7.0bar)						
Temperature ℃			-20~70						
Lubrication			Not required						
Repeatability mm			±0.01					±0.02	
Max. frequency			180(c.p.m)					60(c.p.m)	
Sensor switches			DMSH(S)\CMSH		DMSG(S)\CMSG, DMSH(S)\CMSH				
Port size			M3×0.5		M5×0.8				

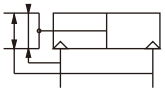
Note) Refer to P353 for detail of sensor switch.

Air gripper(parallel style——ball bearing)

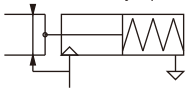
HFZ Series

Symbol

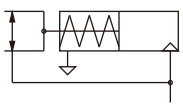
HFZ: Double acting



HFTZ: Single acting and normally opened



HFSZ: Single acting and normally closed



Gripping force and stroke

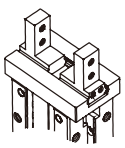
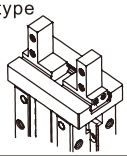
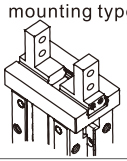
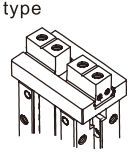
Acting type		Double acting(HFZ)							Single acting_NO (HFTZ)							Single acting_NC (HFSZ)						
Bore size		6	10	16	20	25	32	40	6	10	16	20	25	32	40	6	10	16	20	25	32	40
Gripping force per finger Effective value(N)	External	3.3	11	34	45	69	160	255	1.9	7	27	35	55	133	220	-	-	-	-	-	-	-
	Internal	6.1	17	45	68	102	195	320	-	-	-	-	-	-	-	3.7	13	38	59	87	163	270
Opening/Closing stroke(Both sides)(mm)		3	4	6	10	14	22	30	3	4	6	10	14	22	30	3	4	6	10	14	22	30
Weight (g)	F Type	24	-	-	-	-	-	-	25	-	-	-	-	-	-	25	-	-	-	-	-	-
	Others	25	56	124	236	428	729	1268	26	57	125	238	430	778	1365	26	57	125	238	430	778	1365

[Note] The gripping force in the above table is in the working pressure of 0.5MPa, and with a gripping point of L=20mm.
Add) Please refer to page 285 for the definition of "L".

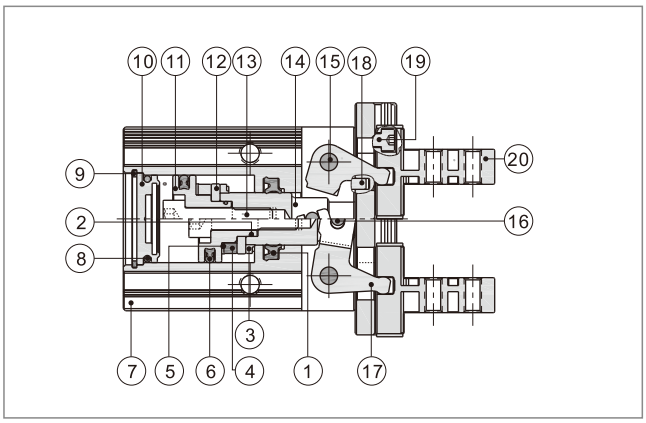
Ordering code

HFZ 20 □

1 2 3

①Model	②Bore size	③Finger type			
HFZ: Air finger(Double acting) HFSZ: Air finger (Single acting and nrmally closed) HFTZ: Air finger (Single acting and normally opened)	6 10 16 20 25 32 40	Blank:Standard 			
	6	B:Side mounting type 	N:Thru.hole mounting type 	F:Bottom mounting type 	HFZ series are all attached with magnet.

Inner structure and material of major parts



NO.	Item	Material
1	Rod packing	NBR
2	O-ring	NBR
3	Bumper	TPU
4	Magnet	Sintered metal(Neodymium-iron-boron)
5	Magnet washer	NBR
6	Piston seal	NBR
7	Body	Aluminum alloy
8	O-ring	NBR
9	C clip	Spring steel
10	Back cover	Aluminum alloy
11	Piston	Aluminum alloy/Stainless steel
12	Magnet fixed flake	Stainless steel
13	Screw	Carbon steel
14	Piston rod	Aluminum alloy/Stainless steel
15	Pin	Stainless steel
16	Pin	Stainless steel
17	Curved bar	Stainless steel
18	Pin	Stainless steel
19	Countersink screw	Carbon steel
20	Assembly of clamping jaw and guide rail	Stainless steel

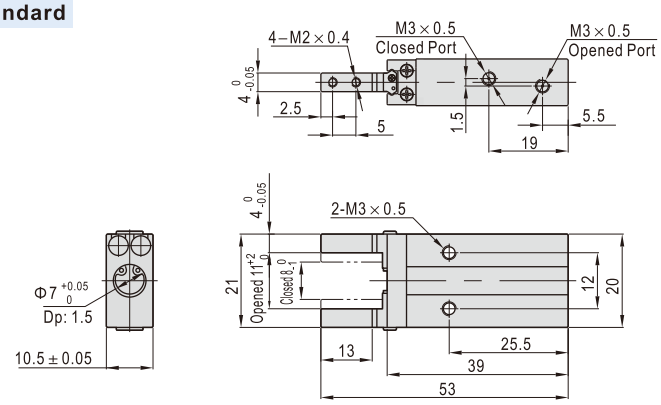
Air gripper(parallel style——ball bearing)

HFZ Series

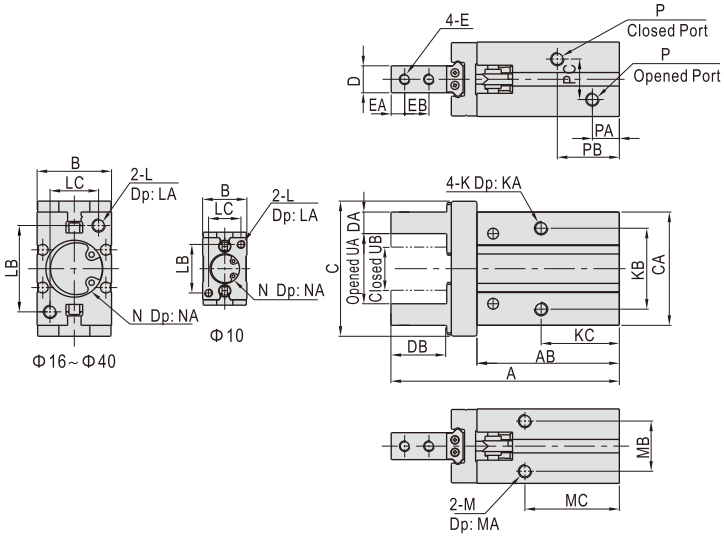
Dimensions

Standard

Φ6



Φ10~Φ40



Model\Item	A	AB	B	C	CA	D	DA	DB	E	EA
HFZ10	57	37.5	16.5	30	23	5 $^{0}_{-0.05}$	4 $^{0}_{-0.05}$	12	M2.5×0.45	3
HFZ16	67.5	42.5	23.5	39	30.5	8 $^{0}_{-0.05}$	5 $^{0}_{-0.05}$	15	M3×0.5	4
HFZ20	85	53	27.5	53	42	10 $^{0}_{-0.05}$	8 $^{0}_{-0.05}$	20	M4×0.7	5
HFZ25	103	64	33.5	71	52	12 $^{0}_{-0.05}$	10 $^{0}_{-0.05}$	25	M5×0.8	6
HFZ32	113(122)	67(76)	40	106	60	15 $^{0}_{-0.05}$	12 $^{0}_{-0.05}$	29	M6×1.0	7
HFZ40	139(152)	83(96)	48	132	72	18 $^{0}_{-0.05}$	14 $^{0}_{-0.05}$	36	M8×1.25	9

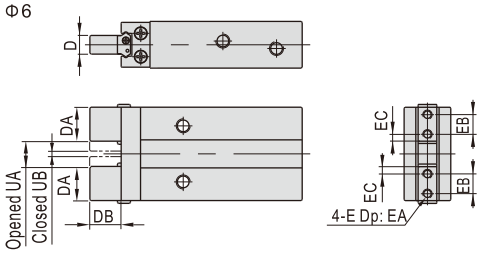
Model\Item	EB	K	KA	KB	KC	L	LA	LB	LC	M	MA	MB
HFZ10	5.7	M3×0.5	5	16	23	M3×0.5	6	18	12	M3×0.5	6	11.5
HFZ16	7	M4×0.7	7	24	24.5	M4×0.7	8	22	15	M4×0.7	4.5	16
HFZ20	9	M5×0.8	8	30	29	M5×0.8	10	32	18	M5×0.8	8	18.5
HFZ25	12	M6×1.0	10	36	30	M6×1.0	12	40	22	M6×1.0	10	22
HFZ32	14	M6×1.0	10	46	40(49)	M6×1.0	12	46	26	M6×1.0	10	26
HFZ40	17	M8×1.25	12	56	49(62)	M8×1.25	16	56	32	M8×1.25	12	32

Model\Item	MC	N	NA	P	PA	PB	PC	UA(Opened)	UB(Closed)
HFZ10	27	Φ11 $^{+0.05}_{0}$	1.5	M3×0.5	7	19	10	15.5 $^{+2}_{0}$	11.5 $^{0}_{-1}$
HFZ16	30	Φ17 $^{+0.05}_{0}$	1.5	M5×0.8	7.5	19	13	21 $^{+2}_{0}$	15 $^{0}_{-1}$
HFZ20	35	Φ21 $^{+0.05}_{0}$	2	M5×0.8	9.5	23	15	26.5 $^{+2}_{0}$	16.5 $^{0}_{-1}$
HFZ25	36.5	Φ26 $^{+0.05}_{0}$	2	M5×0.8	9	24	20	33.5 $^{+2}_{0}$	19.5 $^{0}_{-1}$
HFZ32	48(57)	Φ34 $^{+0.05}_{0}$	2.5	M5×0.8	9.5	31(40)	24	48 $^{+2.5}_{0}$	26 $^{0}_{-1}$
HFZ40	58(71)	Φ42 $^{+0.05}_{0}$	2.5	M5×0.8	10.5	38(50)	28	60 $^{+2.5}_{0}$	30 $^{0}_{-1}$

[Note]The values in "()" in the above table are single acting type sizes.

Bottom mounting type(F type)

Φ6

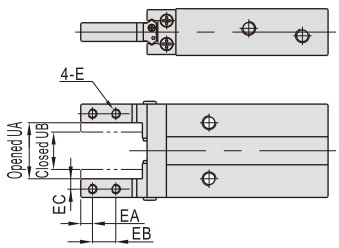


Model\Item	D	DA	DB	EA	EB	E
HFZ6-F	4 $^{0}_{-0.05}$	7.5	7	3	3.5	M2×0.4

Model\Item	UA(Opened)	UB(Closed)
HFZ6-F	5 $^{+1.5}_{0}$	1.8 $^{0}_{-0.5}$

Side mounting type(B type)

Φ6

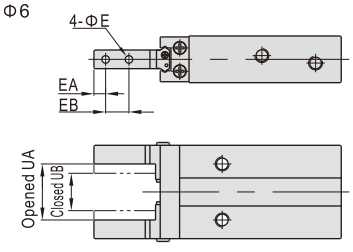


Model\Item	E	EA	EB	EC
HFZ6-B	M2×0.4	2.5	5	2

Model\Item	UA(Opened)	UB(Closed)
HFZ6-B	11 $^{+2}_{0}$	8 $^{0}_{-1}$

Thru.hole mounting type(N type)

Φ6



Model\Item	E	EA	EB
HFZ6-N	2.3	2.5	5

Model\Item	UA(Opened)	UB(Closed)
HFZ6-N	11 $^{+2}_{0}$	8 $^{0}_{-1}$

[Note] The other dimensions are the same as standard type.

How to select product \ Installation and application

Please refer to HFK series for details.