



Professionally create boutique

All-In-One Integrated High Vacuum Poppet Valve



SEVEN INDUSTRY-LEADING ADVANTAGES

MIRO INNOVATION(SHENZHEN) LTD.

www.miroinno.com

COMPANY INTRODUCTION

Miro Innovation (Shenzhen) Co., Ltd. is dedicated to the research and production of high vacuum pneumatic poppet valves, an enterprise brimming with innovation. Our all-in-one integrated high vacuum pneumatic poppet valve is renowned for its highly compact structure and electrical design, tens of millions of operations life span, and temperature resistance up to 250°C. Additionally, the product is equipped with high-performance position sensors and convenient electrical wiring functions. We strive for perfection in every detail, going all out to provide customers with high-quality products, which reflects our commitment to the spirit of craftsmanship and the philosophy of innovation.



focus



professional

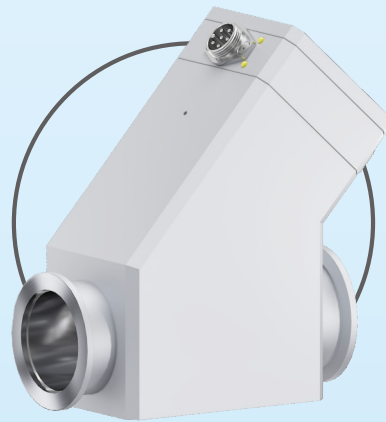


meticulous

PRODUCT INTRODUCTION



KF40 vacuum angle valve



KF40 vacuum inline valve

01 HIGHLY COMPACT NICE APPEARANCE

The valve is design with solenoids, magnetic switches, aviation plug, gas fitting, dust filter, muffler, sensor indicators and Built-in cylinder integrated into one body.

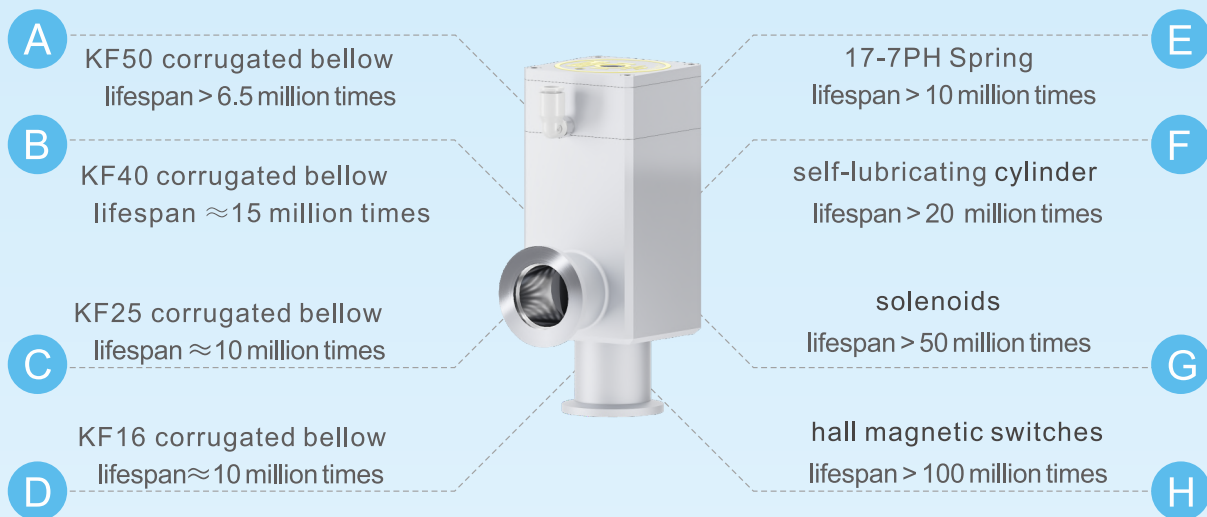
solenoids	1 PCS	hall magnetic switch	2 PCS
muffler	1 PCS	dust filter	1 PCS
LED indicators	3 PCS	Rod indicator	1 PCS
gas fitting	1 PCS	aviation plug	1 PCS

02 HIGHLY ROBUSTNESS 10 MILLION TIMES LIFESPAN

©Corrugated metal bellow adopt innovative design and rigorous testing, improving their lifespan performance through techniques such as variable wave distances, special surface treatments, and special softening processes. Specifically, the lifespan of KF40 bellows approaches 15 million operations, the lifespan of KF25/KF16 bellows is about 10 million operations, and the lifespan of KF50 bellows exceeds 6.5 million operations, and In practical applications, when used in the high-frequency lithium battery helium detection industry, the lifespan of KF25 valves have been stably operated in bulk at more than 12 million operations.

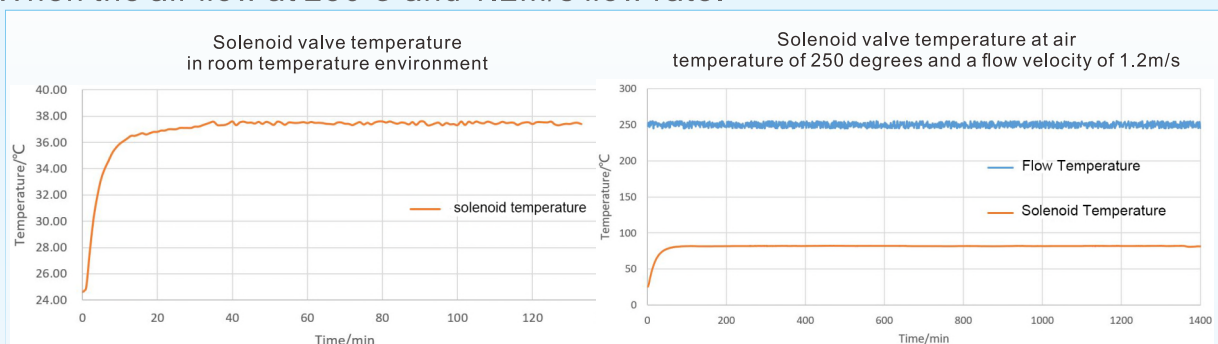
©All moving parts use the highest grade of selection and design, such as self-lubricating cylinders, high-temperature-resistant stainless steel springs with a yield strength of up to 1700Mpa, built-in dust filters, magnetic switches designed with protection functions against short-circuiting, reverse connection, and surge.

©Assembly in a 100,000-level cleanroom, and strict quality management processes. Each valve undergoes initial testing, 10,000 cycles of operation, secondary testing before leaving the factory to ensure the quality of the product.



03 THERMAL ENDURANCE 250°C

The winding coil inside solenoid is generating heat continuous which will cause malfunction of the vave when work at high temperature . Filling gap between the solenoid and upper cover with thermal conductive material, the solenoid surface temperature could maintain at 37°C when valve is at room temperature. The solenoid surface temperature could maintain at 85°C (Max. Working temperature is 110°C) When the air flow at 250°C and 1.2m/s flow rate.



Remark: The Max. working temperature of the FKM O-ring is 250°C , the life of the O-ring will be shortened at this temperature

04 ADVANCED PERFORMANCE HALL MAGNETIC SWITCH

The disadvantages for traditional two wire magnetic switch are high leak current (at mA level), meanwhile the load current is low (about decades of mA). The two wire magnetic switch developed by Miro is patented and consists of ultra micro power voltage regulator-tube, ultra micro power hall effect magnetic switch, optical coupler, high power triode. The leak current is about 6 μ A, load voltage low to 2.5V, Max. current up to 0.5A, also with short-circuit protection, reverse polarity protection, surge protection. Applied to IC(5V)\MCU(5V)\PLC\Relays..

Performance comparison between Miro and D-M9B, the most commonly used two-wire Hall magnetic switch of a Japanese brand

	Miro	Japan S*C/D-M9B
Type	Two-wire	Two-wire
Load voltage	5-24V	10-24V
Leakage current	6 μ A	800 μ A
Voltage drop	2.5V	4V
Max. current	500mA	40mA



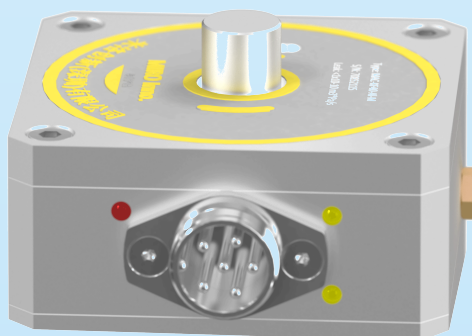
ISOK DN63 vacuum angle valve



KF16 vacuum angle valve

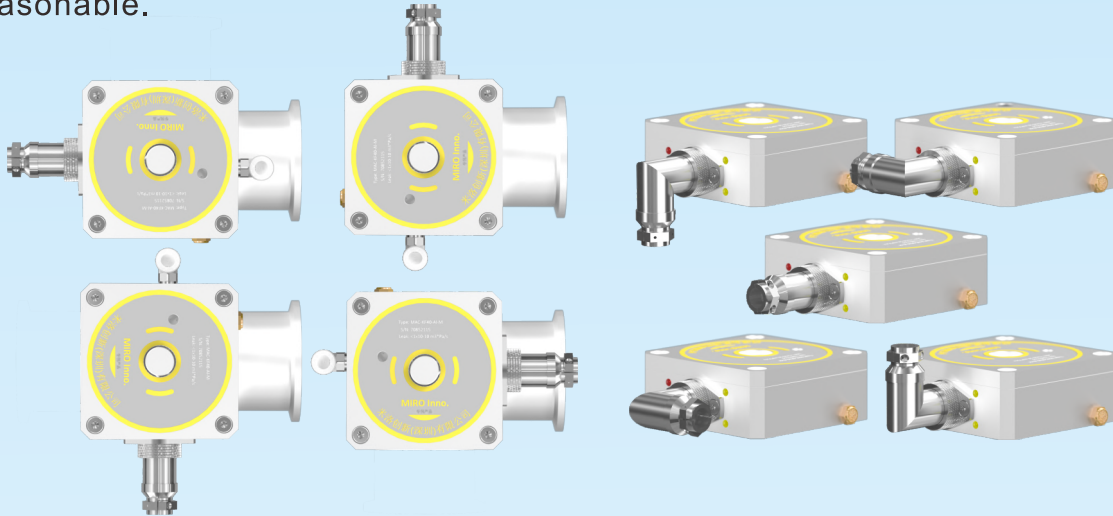
05 FOUR INDICATORS EASY MAINTENANCE

Miro's valve provides 4 kinds of indicators: mechanical bar, solenoid power indicator, 2 magnetic switch indicators, these 4 indicators make the equipment debug and maintenance more convenient.



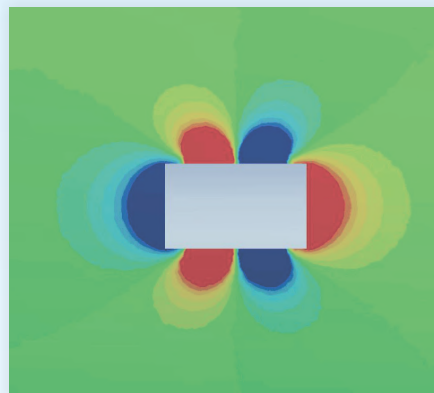
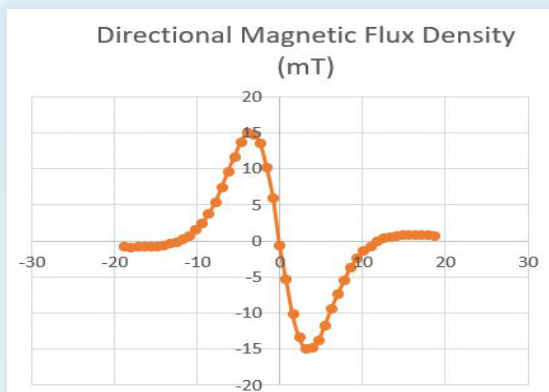
06 ELECTRIC PLUG ORIENTATION EASILY ADJUSTABLE

Compared to other non-integrated valves, the integrated electrical connector makes wiring more compact, and at the same time, the electric connector could be easily adjusted to any side of the valve, which makes the wiring harness layout more reasonable.



07 MAGNETIC SWITCH TRIGGERING WITHOUT INTERFERENCE

To avoid interference, the distance of two magnetic switches need to reach at least 20mm traditionally. The triggering circuit of Miro's design is patented, which will ensure there is no interference between 2 magnetic switches at any distance. This design ensures the robustness of the triggering circuit and meanwhile reduces the valve body space.

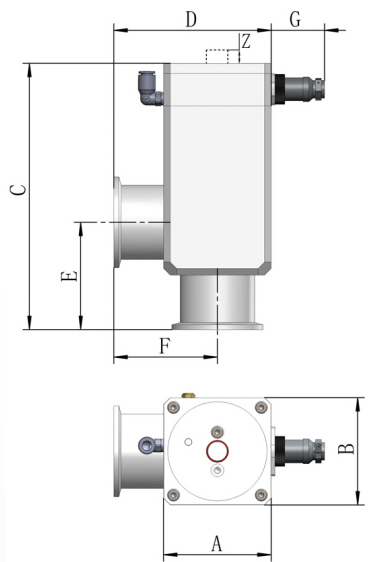


AFTER-SALES SERVICE

Miro pursuit to provide customer with high robustness pneumatic high vacuum valve, all valves with 1 years' after-sales warranty.

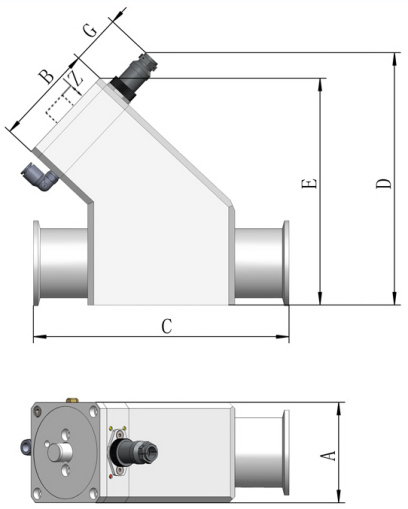
PRODUCT SPECIFICATIONS

Unit(mm)



Type	KF50	KF40	KF25	KF16	KF10
A	78	65	52	42	42
B	78	65	52	42	42
C	189	161.5	136.5	113	109
D	109	97.5	78	61	61
E	70	65	50	40	30
F	70	65	50	40	40
G	32.2	32.2	32.2	32.2	32.2
Z	10	10	8	4	4

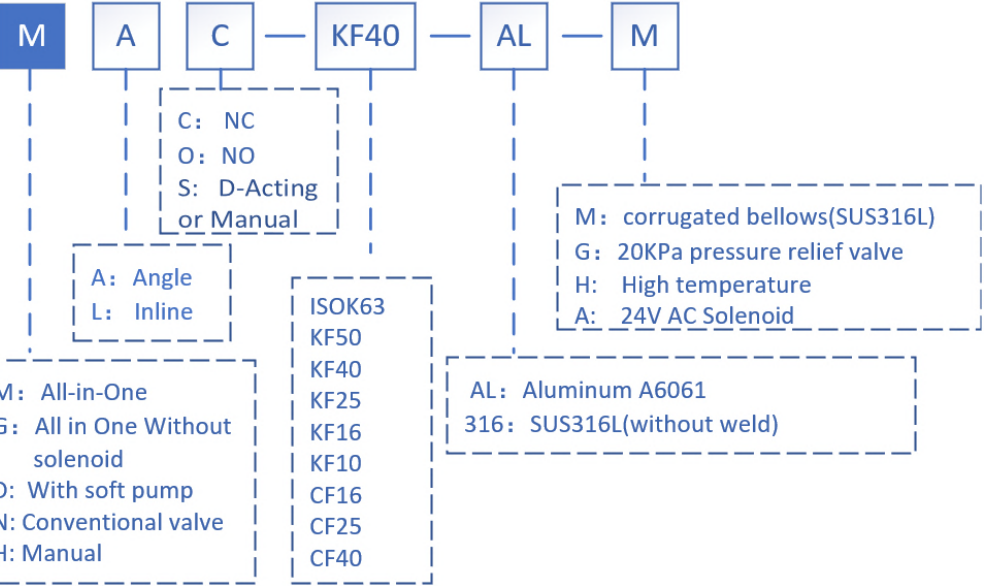
Type	KF50	KF40	KF25	KF16	KF10
A	78	65	52	42	42
B	78	65	52	42	42
C	178	130	100	80	80
D	198	162.5	136	114	114
E	186	148	122	104	104
F	32.3	32.2	32.2	32.2	32.2



Note: Please download the 3D model file from the website homepage

PRODUCT SELECTION

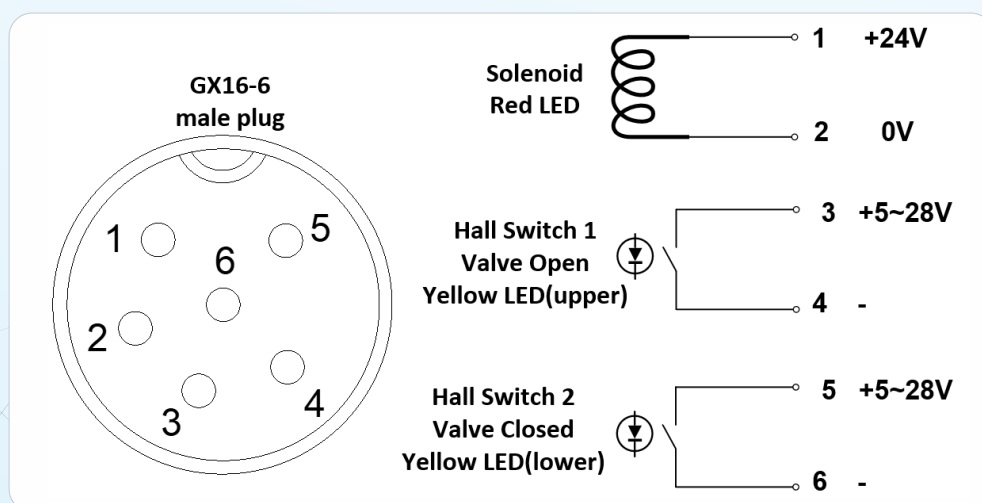
Common examples: MAC-KF40-AL-M



PERFORMANCE INTRODUCTION

Flange type	ISO-K DN63\KF50\KF40\KF25\KF16\KF10
Valve body Material	A6061,SUS316L(without weld)
Bellows	SUS316L corrugated bellow
Gas drive	Clean compressed air or inert gas (ISO8573-15.4.4)
Gas drive pressure	3.5~7bar
Nominal gas pressure	6 bar
Leak rate	$<1 \times 10^{-9}$ mbar•L/sec (1×10^{-10} m ³ •Pa/sec)
Working pressure	1×10^{-9} mbar to 2000mbar
Max. forward pressure	2000mbar
Max. reverse pressure	1200mbar
Sealing material	FKM
Max. flow temperature	250°C
Component's life	KF40 Corrugated metal bellows ≈15 million KF25\KF16 Corrugated metal bellows ≈10 million KF50 Corrugated metal bellows>6.5 million
Solenoid voltage	24V(±5%)
hall magnetic switch	Quiescent current : 6μA , Voltage drop: 2.5V~3.2V, Max. current: 500mA , Load voltage: 5~28V (Nominal 24V)
LED indicator	The upper yellow LED is on (valve opened), the lower yellow LED is on (valve closed), the red LED is on (power on)
Rod indicator	10mm

ELECTRICAL WIRING





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