



KS A 9001 / ISO 9001 / EN ISO 9001 / QS-9000 / ISO-14001
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PJ KODIVAC VACUUM PRODUCTS

Cumulative High Technology Your Technological Partner For
The New Millennium



 (주)PJ KODIVAC

 VACTECH SDN. BHD.
(Company No. 389978-P)

MFC(NEOS) MODEL

NEOS MFC

Mechanical

- ▶ 13개의 Sub-부품으로 구성
- ▶ 유선형 내부유로
- ▶ Dead Space 최소화
- ▶ 피팅과 베이스 일체형
- ▶ 다이아프램 용접구조
- ▶ No O-Ring
- ▶ 가스 내성 소재 적용
- ▶ 선형비례제어형 슬러노이드

Software

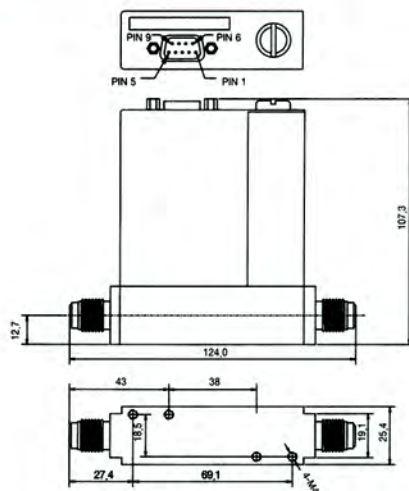
- ▶ 시리얼 통신지원 (RS-232 or RS-485)
- ▶ 사용자 MFC를 진단 가능
- ▶ Auto-Zeroing기능 Enable/Disable
- ▶ Multi-Drop
- ▶ 데이터 수집 및 저장 가능
- ▶ MFC기본정보 표시
예) Serial No., Gas, Full Range

Performance

- ▶ 빠른 응답특성
- ▶ 우수한 정확도
- ▶ 낮은 유량범위에서 제어능력 우수
- ▶ 설치방향 민감성 최소화
- ▶ 주위온도 보상
- ▶ Valve Return

Design / Outline Drawing(mm)

"NEOS" MFC는 Simple한 Mechanism과 안정된 Control Logic으로 반도체 및 비반도체 공정에서 문제가 되어 온 Leak Integrity, Cleanliness, Accuracy, Drift, Low Flow Operation 및 Reliability에 대한 근본적 해답을 제공합니다.



SPECIFICATIONS

MFC Model KAM-5L / KDM-5L / KAM-200

PERFORMANCE

Flow Range(full scale)	5-20,000 sccm (N ₂ equivalent)
Control Range	2-100% of F.S. (except min, flow 2 sccm in any range)
Accuracy	± 1% of Setpoint (See Graph)
Repeatability	± 0.2% Full scale
Linearity	± 0.2% Full scale
Response	1.0 sec. (typical)
Temperature Coefficient	± 0.05%/°C
Pressure Coefficient	<0.025%/psi
Helium Leakage	1 × 10 ⁻⁹ atm-cc/sec(He)
Warm Up Time	30 minutes

MECHANICAL

Wetted Materials	SS 316L, Al ₂ O ₃ , Si ₃ N ₄ , Ni200, No elastomers
O-Ring Seals	only KAM-200
Fittings	1/4"VCR ¹ , 1/4" LOK
Weight	1.0 kg
Valve	Solenoid, Normally closed standard, Normally open optional

ELECTRICAL

Internal Operation	Digital control algorithm(KDM) / Analog Control(KAM)
Input Voltage	± 15 VDC
Maximum Input Current	101mA @ +15 VDC, 320mA @ -15 VDC
Maximum Input Power	6.3 Watts @ ± 15 VDC
Normal Input Power	4.1 Watts @ ± 15 VDC
Connector	9 pin D sub standard 20 pin AMP 583718-1 optional
Output Signal	0-5 VDC into 10K Ω
Communication	RS-485 or RS-232 (Digital)

MFC PIN OUT 9 PIN (MALE)	
PIN OUT	DESCRIPTION
PIN 1	Valve Return
PIN 2	Flow Signal Output (0-5VDC)
PIN 3	+15 VDC Power Supply
PIN 4	Power Common
PIN 5	- 15 VDC Power Supply
PIN 6	Setpoint Input (0-5VDC)
PIN 7	Signal Common
PIN 8	TxD (-)
PIN 9	RxD (+)

ENVIRONMENTAL

Operating Temperature Range	0-50°C
Maximum Operating Pressure	50 psig
Mounting Attitude	Any Position
Maximum Differential Pressure	60 psid

OTHER

- Automatic or manual zero
- Operation from analog or digital input commands
- Internal surfaces polished to 0.4 μm Ra
- No trapped internal volumes or internal threads
- Diaphragm valve seal
- Usable control range 50:1

AS SHIPPED, DEFAULT SETTINGS

Input Mode	Analog
Auto Zero	Disabled
MFC I.D. No.	1

MFC(NEOS) MFC MODEL

NEOS MFC

A. Separate Valve Return

Electrical power supplied to electrical equipment over extended cable length can develop significant voltage drop. This becomes a source of error if power and signal lines share the same ground connection. To minimize such errors, the MFC uses a separate return line, Pin 1, for the solenoid valve which consumes approximately 70% of the total power. To utilize this feature, Pin 1 must be directly connected to the power supply ground.

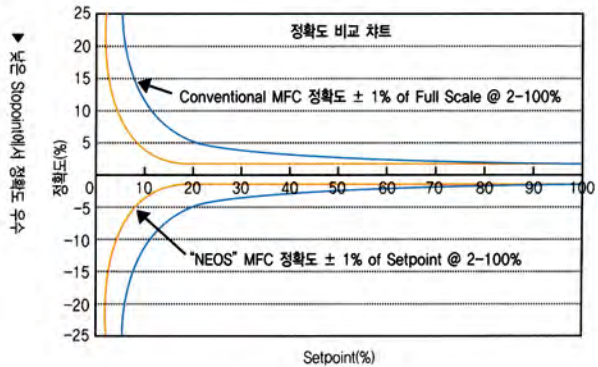
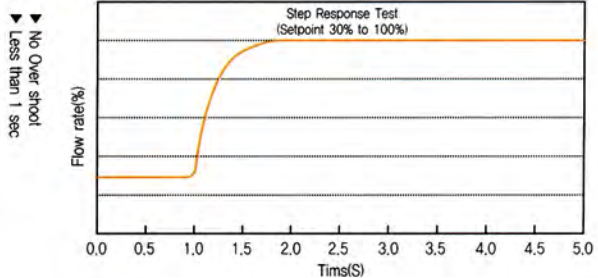
B. Inlet and Exhaust Gas Pressure

An isolation diaphragm in the MFC prevents the process gas from entering the solenoid actuator. The diaphragm is designed to withstand a maximum safe inlet pressure of 100 psig without damage, and a burst pressure of 2000 psig. The maximum operating inlet pressure is 50 psig. The maximum operating differential pressure (inlet/exhaust) is 60 psig ; therefore, when a MFC is exhausting into a vacuum, the inlet pressure should not exceed 45.3 psig.

C. Valve Leakage

The MFC utilizes a hard valve element for the purpose of reducing moisture retention and particulate contamination. All valve elements are tested for internal leakage of less than 0.1 sccm N₂ at 50 psid. This low leakage may be compromised by introduction of contaminants into the MFC. A point of use 1 micron filter is recommended for prolonged use of the entire 2-100% control range.

Performance



MFC READOUT POWER SUPPLY

MGF-E Series (Features)

- Precision 10-Turn potention meter for mass flow setting
- Display for actual mass flow rate SCCM / SLM
- 3½ digit bright red LED readout
- Error alarm indicate
- Remote analog interface
- Independent shutoff valve control voltage out put
- Output short circuit protection
- Full range 90~260Vac input
- Dimension(H×W×D) :
 - MGF-1E : 96×96×222 (mm)
 - MGF-4E : 88×485×260 (mm)



It's customers and we will take a big step forward to becoming the first specialized company in the vacuum industry.

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