

molstic-S™ Mounting Systems for molbloc-S® Mass Flow Elements

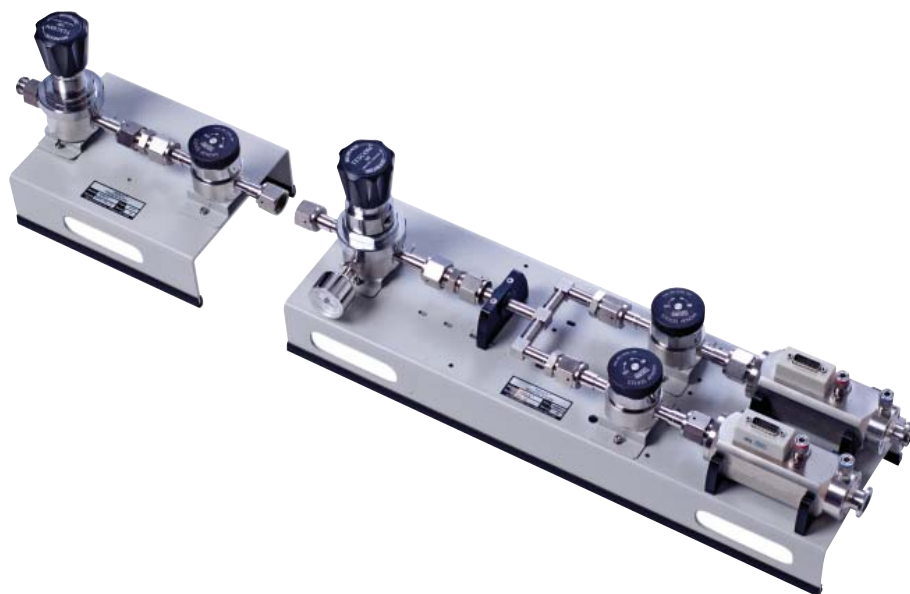
DESCRIPTION

molstic-S™ provides an engineered solution to the practical issues of mounting molbloc-S® mass flow elements, connecting a gas supply, regulating the operating pressure and connecting the device under test (DUT). A filter is included on the 1/4 in. molstic-S to protect the smaller molbloc-S elements from contamination. Highest quality components are integrated into a convenient, compact, modular assembly to assure optimum molbloc®/molbox™ performance.

The single channel molstic-S is designed to accommodate one molbloc-S element. The dual channel allows two molbloc-S elements to be simultaneously mounted, allowing use of two ranges without changing hardware during a test. In addition, the outlet of the two molbloc-S elements can be plumbed in parallel using the downstream tee assembly (P/N 401884) in order to obtain additional flow range capacity when using a two-channel molbox1.

A key benefit of its modular design is that molstic-S can be used for testing devices in either the upstream or downstream position. The optional, adjustable DUT stand (P/N 401934) accommodates large DUTs that do not fit on the molstic-S.

molstic-S is available in either 1/2 in. or 1/4 in. system plumbing sizes. The 1/4 in. size is dedicated to the molbloc-S elements



designated 1E2-S and lower, and the 1/2 in. size is for the 2E2-S through 2E3-S elements.

All molstic-S platforms come with integrated flow shut-off/metering valves. This allows for system leak testing and provides a means of flow control (if required by DUT type). Optional high resolution metering valve kits are available for use with the 1/4 in. molstic-S in order to obtain finer flow control capability.

MOLSTIC-S USAGE

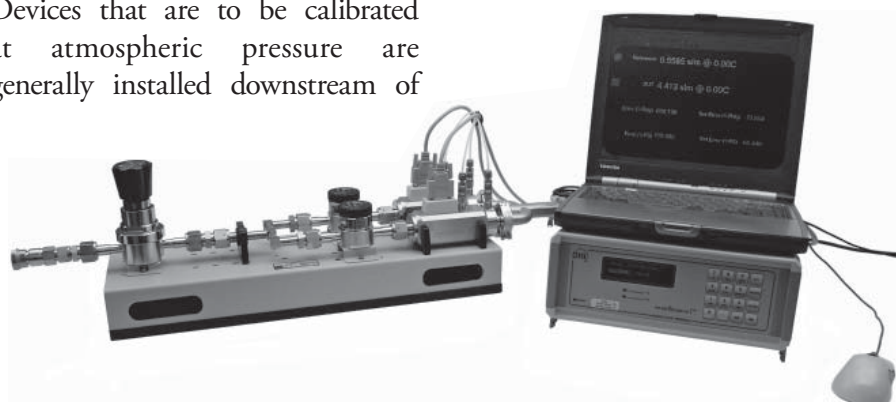
Because molbloc-S operates in the critical flow regime, test devices that have flow control capability must be installed upstream of the molbloc-S in order to control flow.

Devices that are to be calibrated at atmospheric pressure are generally installed downstream of

the molbloc-S. molstic-S is built modularly in order to provide this flexibility.

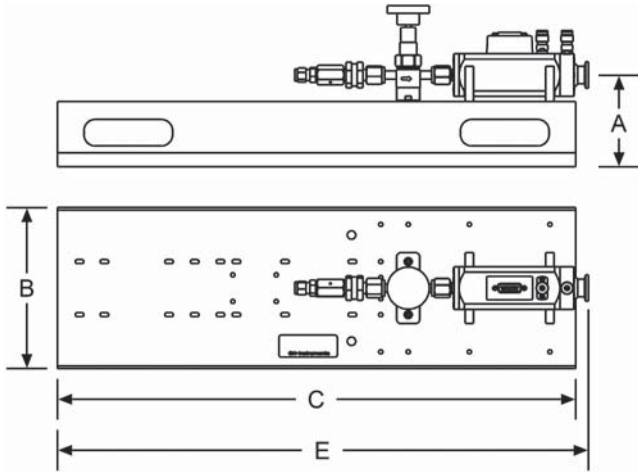
Inlet gas supply pressure regulation is vitally important in order to protect the molbox pressure transducers. Therefore, it is recommended that the molstic-S Supply Only molstic be used upstream of test devices that have flow control capability and that the Pressure Reducing Regulator option be installed on the molstic-S when calibrating devices that operate at atmospheric pressure.

An optional Back Pressure Regulator can be installed on the molstic-S to provide control of an upstream DUT's downstream pressure.

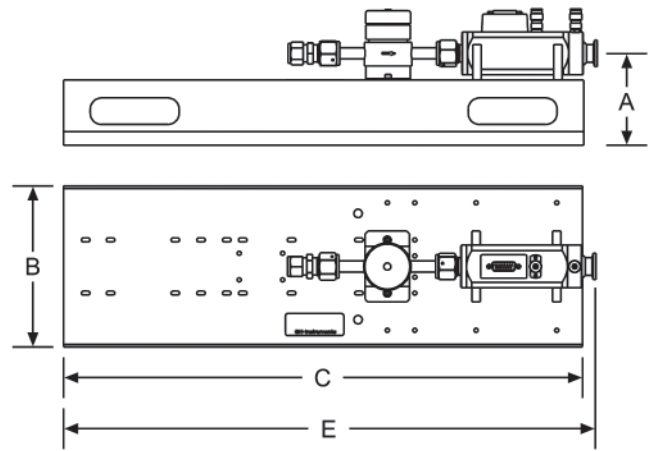


CONFIGURATIONS

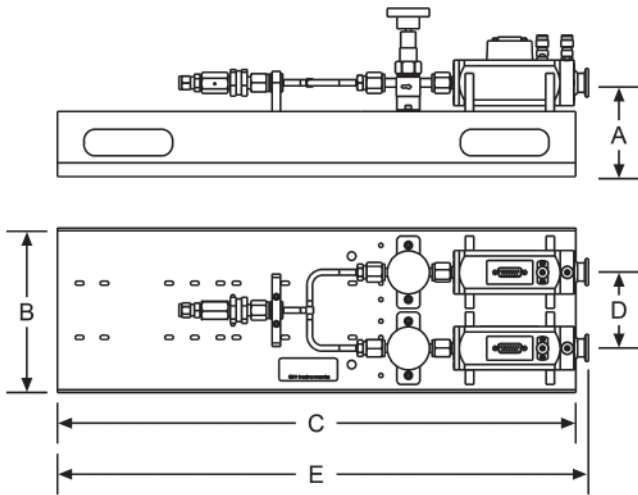
molstic-S™ single, 1/4 in.



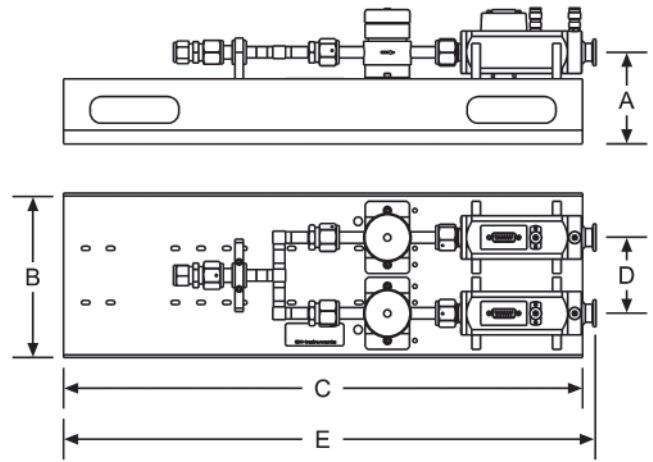
molstic-S™ single, 1/2 in.



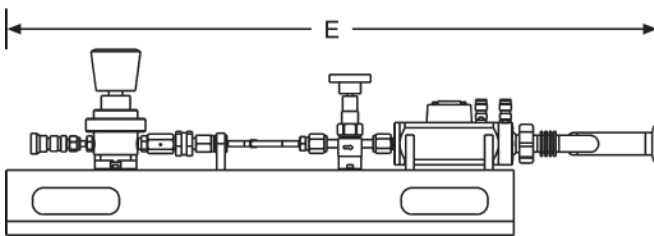
molstic-S™ dual, 1/4 in.



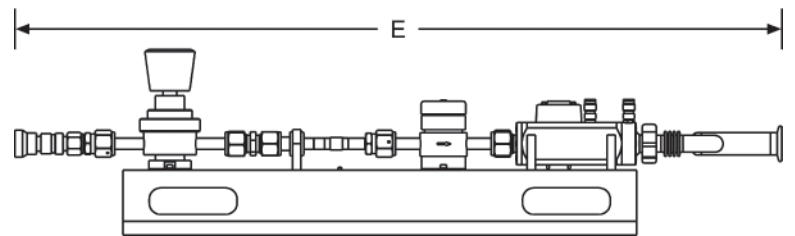
molstic-S™ dual, 1/2 in.



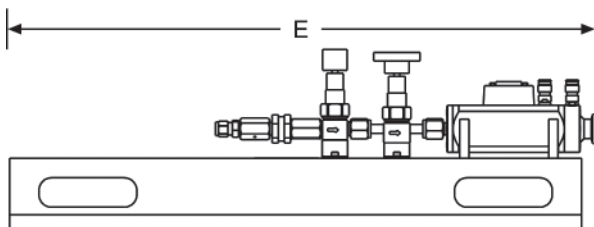
**molstic-S dual, 1/4 in.
with regulator and tee options**



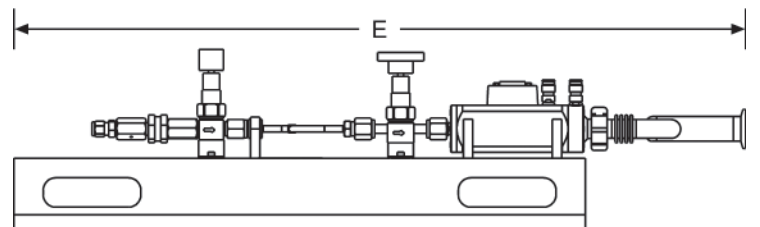
**molstic-S dual, 1/2 in.
with regulator and tee options**



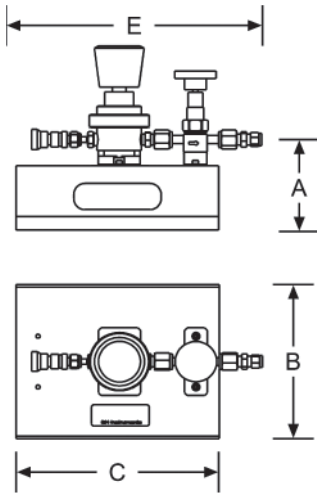
**molstic-S single, 1/4 in.
with metering valve option**



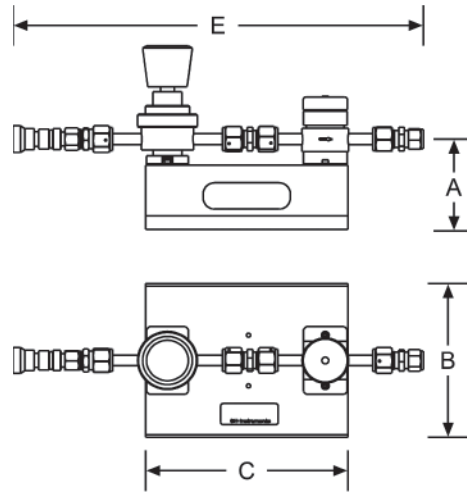
**molstic-S dual, 1/4 in.
with metering valve and tee options**



molstic-S supply only, 1/4 in.



molstic-S supply only, 1/2 in.



DIMENSIONS

molstic-S	A	B	C	D	E
molstic-S single, 1/4 in.	103.5 (4)	182 (7)	590 (23)	--	600 (23.6)
molstic-S single, 1/2 in.	103.5 (4)	182 (7)	590 (23)	--	600 (23.6)
molstic-S dual, 1/4 in.	103.5 (4)	182 (7)	590 (23)	84 (3.3)	600 (23.6)
molstic-S dual, 1/2 in.	103.5 (4)	182 (7)	590 (23)	84 (3.3)	600 (23.6)
dual, 1/4 in. w/regulator & tee	103.5 (4)	182 (7)	590 (23)	84 (3.3)	750 (29.5)
dual, 1/2 in. w/regulator & tee	103.5 (4)	182 (7)	590 (23)	84 (3.3)	875 (34.5)
single, 1/4 in. w/metering valve	103.5 (4)	182 (7)	590 (23)	--	600 (23.6)
dual, 1/4 w/metering valve & tee	103.5 (4)	182 (7)	590 (23)	84 (3.3)	875 (34.5)
supply only, 1/4 in.	103.5 (4)	182 (7)	232 (09)	--	280 (11.0)
supply only, 1/2 in.	103.5 (4)	182 (7)	232 (09)	--	471 (18.5)

mm (in.)

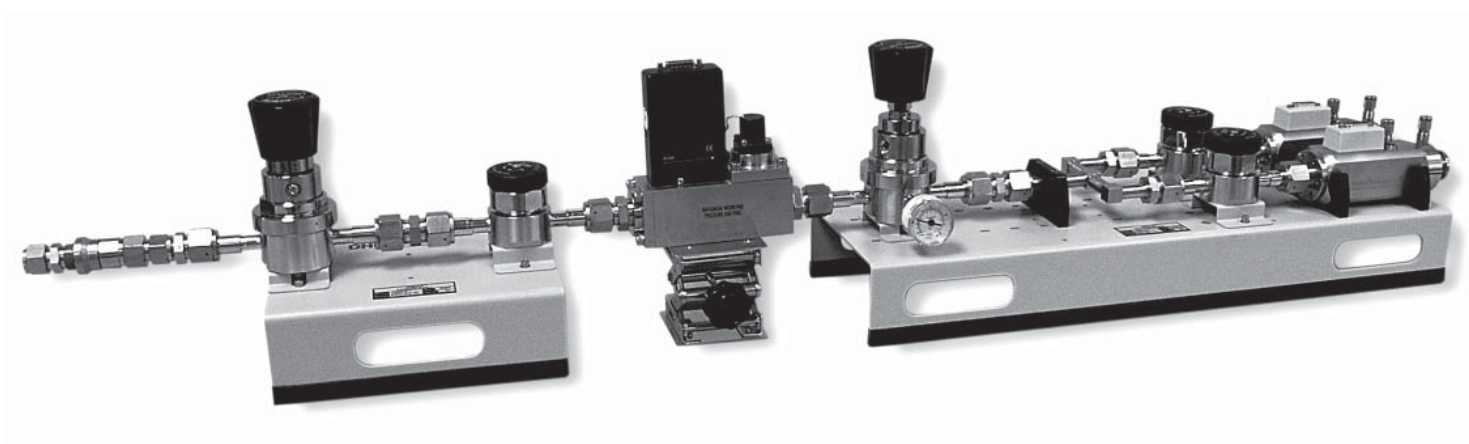
CONFIGURATION NOTES

- Each molstic-S comes with 50 cm of clear PFA tubing in order to provide versatility in the connection of the device under test (DUT) and inlet supply plumbing.
- All molstic-S platforms come with integrated flow shut-off/metering valves. This allows for system leak testing and provides a means of flow control (if required by DUT type).
- The 1/4 in. molstic-S platforms are designed to be used with the molbloc-S elements designated 1E2-S and lower. The 1/2 in. molstic-S platforms are designed for use with the 2E2-S through 2E3-S

elements. P/N 401935 replaces the 1/2 in. molbloc-S inlet flange of the higher flow elements so that they can be used on the 1/4 in. molstic-S. This is only recommended for 2E2-S molbloc-S element with either calibration type, or the 5E2-S with the LP calibration.

- P/N 401936 replaces the 1/4 in. molbloc-S inlet flange of the lower flow molblocs so that they can be used on the 1/2 in. molstic-S. This is only recommended for 1E2-S molbloc-S element.

**Typical “upstream DUT” 1/2 in.
includes Supply Only, adjustable DUT stand and molstic-S
with Back Pressure Regulator option**



molstic-S

ORDERING INFORMATION

DESIGNATOR	PART NO.	DESCRIPTION
molstic-S, single, 1/4 in.	FAM0009-01-1	For use with single molbloc-S, 1E2-S and lower
molstic-S, single 1/2 in.	FAM0009-01-2	For use with single molbloc-S, 2E2-S thru 2E3-S
molstic-S, dual, 1/4 in.	FAM0009-01-3	For use with two molbloc-S, 1E2-S and lower
molstic-S, dual, 1/2 in.	FAM0009-01-4	For use with two molbloc-S, 2E2-S thru 2E3-S
molstic-S supply only, 1/4 in.	401876	Upstream regulation platform, 1/4 in.
molstic-S supply only, 1/2 in.	401877	Upstream regulation platform, 1/2 in.

INSTALLED OPTIONS

DESIGNATOR	PART NO.	DESCRIPTION
Regulator, 1/4 in.	03-2	Installed on 1/4 in. molstic-S for downstream DUTs
Regulator, 1/2 in.	03-3	Installed on 1/2 in. molstic-S for downstream DUTs
Back Pressure Regulator, 1/4 in.	03-4	Installed on 1/4 in. molstic-S for control of upstream pressure
Back Pressure Regulator, 1/2 in.	03-5	Installed on 1/2 in. molstic-S for control of upstream pressure
Metering valve, low, 1/4 in.	04-2	Installed on 1/4 in. molstic-S for metering flows up to 20 slm
Metering valve, mid, 1/4 in.	04-3	Installed on 1/4 in. molstic-S for metering flows up to 100 slm

OTHER ACCESSORIES

DESIGNATOR	PART NO.	DESCRIPTION
Regulator, for molstics-S, 1/4 in.	401880	Upgrade adds upstream pressure regulator to 1/4 in. molstic-S
Regulator, for molstics-S, 1/2 in.	401881	Upgrade adds upstream pressure regulator to 1/2 in. molstic-S
Back Pressure Regulator, for molstics-S, 1/4 in.	402075	Upgrade adds back pressure regulator to 1/4 in. molstic-S
Back Pressure Regulator, for molstics-S, 1/2 in.	402103	Upgrade adds back pressure regulator to 1/2 in. molstic-S
PK-MOL-S-VAC, dwn vac connect, mid/low	401882	Accessories to interconnect vacuum pump to molbloc-S, or downstream tee assembly (P/N 401884)
VA-MOL-S, vac pump kit, low, std	401982	Vacuum pump kit for 250 slm (up to 5E2-S)
VA-MOL-S, vac pump kit, mid, std	401940	Vacuum pump kit for 1000 slm (up to 5E3-S)
VA-MOL-S, vac pump kit, mid, PFPE	401883	Vacuum pump kit for 1000 slm (up to 5E3-S), special cleaning/oil
Tee assembly, for molbloc-S, downstream	401884	Connects output of two molbloc-S elements for A+B, or common vacuum connection
Metering valve kit, molstic-S, 1/4 in., low	401885	Kit installs on 1/4 in. molstic-S for metering flows up to 20 slm
Metering valve kit, molstic-S, 1/4 in., mid	401666	Kit installs on 1/4 in. molstic-S for metering flows up to 100 slm
DUT stand, adjustable	401934	3 in. x 3 in. adjustable platform for vertical alignment of DUT
End flange kit, for molbloc-S, 1/4 in. VCR	401935	Replaces 1/2 in. molbloc-S inlet flange for use on 1/4 in. molstic-S (recommended for 2E2-S only)
End flange kit, for molbloc-S, 1/2 in. VCR	401936	Replaces 1/4 in. molbloc-S inlet flange for use on 1/2 in. molstic-S (recommended for 1E2-S only)
PK-MOL-KF16-1/4SWG, adaptor kit	401890	Converts 16 mm ISO-KF Style vacuum flange to 1/4 in. Swagelok
PK-MOL-KF16-3/8SWG, adaptor kit	401891	Converts 16 mm ISO-KF Style vacuum flange to 3/8 in. Swagelok
PK-MOL-KF16-1/4VCR, adaptor kit	401892	Converts 16 mm ISO-KF Style vacuum flange to 1/4 in. male VCR
PK-MOL-KF16-1/2VCR, adaptor kit	401893	Converts 16 mm ISO-KF Style vacuum flange to 1/2 in. male VCR
PK-MOL-KF16-1/4FNPT, adaptor kit	402005	Converts 16 mm ISO-KF Style vacuum flange to 1/4 in. female NPT
PK-MOL-KF16-1/4MNPT, adaptor kit	402006	Converts 16 mm ISO-KF Style vacuum flange to 1/4 in. male NPT
PK-MOL-KF16-1/2MNPT, adaptor kit	402007	Converts 16 mm ISO-KF Style vacuum flange to 1/2 in. male NPT
PK-MOL-KF25-1/4SWG, adaptor kit	401894	Converts 25 mm ISO-KF Style vacuum flange to 1/4 in. Swagelok
PK-MOL-KF25-3/8SWG, adaptor kit	401895	Converts 25 mm ISO-KF Style vacuum flange to 3/8 in. Swagelok
PK-MOL-KF25-1/2SWG, adaptor kit	401986	Converts 25 mm ISO-KF Style vacuum flange to 1/2 in. Swagelok
PK-MOL-KF25-3/4SWG, adaptor kit	401987	Converts 25 mm ISO-KF Style vacuum flange to 3/4 in. Swagelok
PK-MOL-KF25-1/4VCR, adaptor kit	401896	Converts 25 mm ISO-KF Style vacuum flange to 1/4 in. male VCR
PK-MOL-KF25-1/2VCR, adaptor kit	401897	Converts 25 mm ISO-KF Style vacuum flange to 1/2 in. male VCR
PK-MOL-KF25-1/4FNPT, adaptor kit	401988	Converts 25 mm ISO-KF Style vacuum flange to 1/4 in. female NPT
PK-MOL-KF25-1/2FNPT, adaptor kit	401989	Converts 25 mm ISO-KF Style vacuum flange to 1/2 in. female NPT
PK-MOL-KF25-3/4FNPT, adaptor kit	401990	Converts 25 mm ISO-KF Style vacuum flange to 3/4 in. female NPT
PK-MOL-KF25-1FNPT, adaptor kit	401991	Converts 25 mm ISO-KF Style vacuum flange to 1 in. female NPT
PK-MOL-KF25-1/4MNPT, adaptor kit	401992	Converts 25 mm ISO-KF Style vacuum flange to 1/4 in. male NPT
PK-MOL-KF25-1/2MNPT, adaptor kit	401993	Converts 25 mm ISO-KF Style vacuum flange to 1/2 in. male NPT
PK-MOL-KF25-3/4MNPT, adaptor kit	401994	Converts 25 mm ISO-KF Style vacuum flange to 3/4 in. male NPT
PK-MOL-KF25-1MNPT, adaptor kit	401995	Converts 25 mm ISO-KF Style vacuum flange to 1 in. male NPT
PK-MOL-KF40-1/2SWG, adaptor kit	401996	Converts 40 mm ISO-KF Style vacuum flange to 1/2 in. Swagelok
PK-MOL-KF40-3/4SWG, adaptor kit	401997	Converts 40 mm ISO-KF Style vacuum flange to 3/4 in. Swagelok
PK-MOL-KF40-1SWG, adaptor kit	401998	Converts 40 mm ISO-KF Style vacuum flange to 1 in. Swagelok
PK-MOL-KF40-1/2FNPT, adaptor kit	401999	Converts 40 mm ISO-KF Style vacuum flange to 1/2 in. female NPT
PK-MOL-KF40-3/4FNPT, adaptor kit	402000	Converts 40 mm ISO-KF Style vacuum flange to 3/4 in. female NPT
PK-MOL-KF40-1FNPT, adaptor kit	402001	Converts 40 mm ISO-KF Style vacuum flange to 1 in. female NPT
PK-MOL-KF40-1/2MNPT, adaptor kit	402002	Converts 40 mm ISO-KF Style vacuum flange to 1/2 in. male NPT
PK-MOL-KF40-3/4MNPT, adaptor kit	402003	Converts 40 mm ISO-KF Style vacuum flange to 3/4 in. male NPT
PK-MOL-KF40-1MNPT, adaptor kit	402004	Converts 40 mm ISO-KF Style vacuum flange to 1 in. male NPT

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