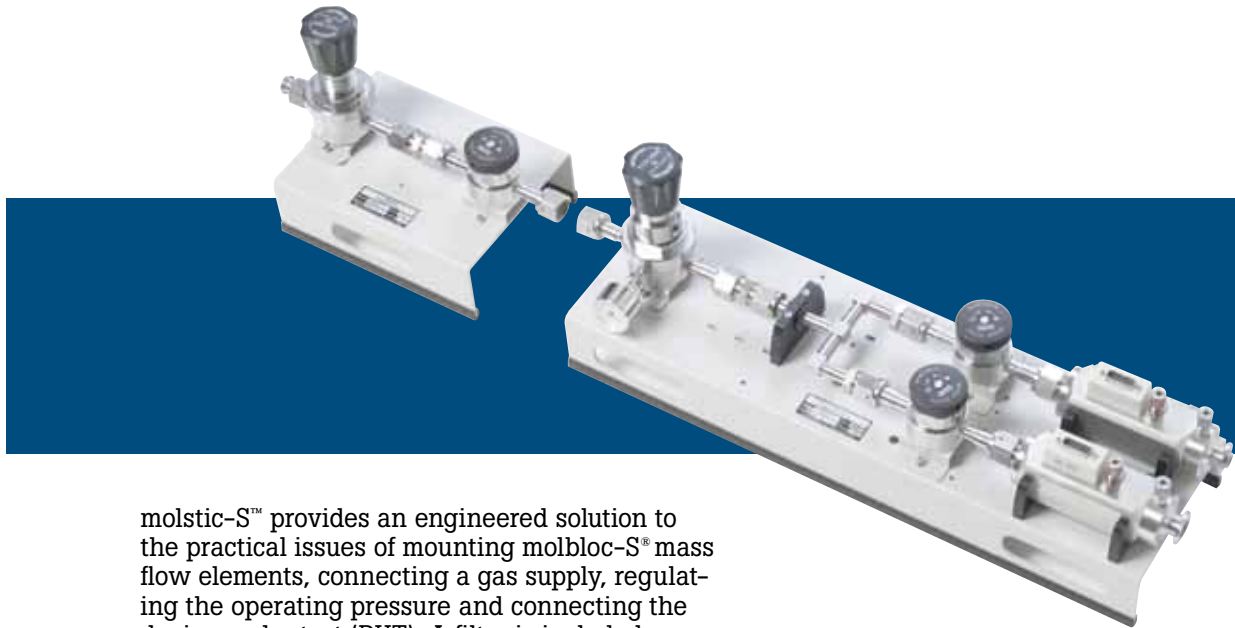


# molstic-S™

## Mounting System for molbloc-S®

### Mass Flow Elements

## Technical Data



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 inch 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 inch or 1/4 inch system plumbing sizes. The 1/4 inch size is dedicated to the molbloc-S elements designated 1E2-S and lower, and the 1/2 inch 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 inch 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.

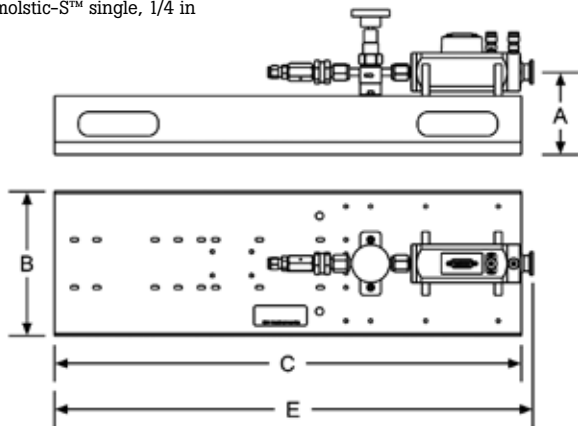
Devices that are to be calibrated at atmospheric pressure are generally installed downstream of the molbloc-S. molstic-S is built modularly in order to provide this flexibility.

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.

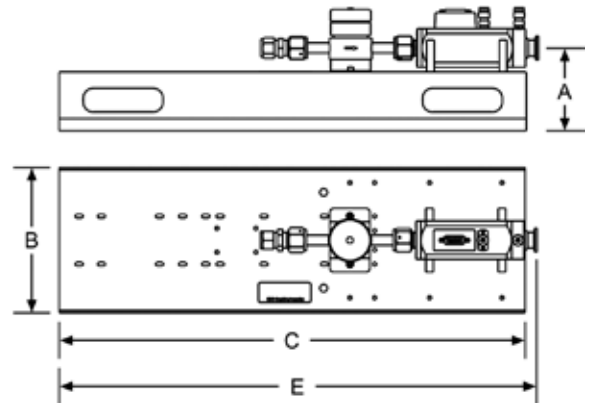
An optional back pressure regulator can be installed on the molstic-S to provide control of an upstream DUT's downstream pressure.

# Configurations

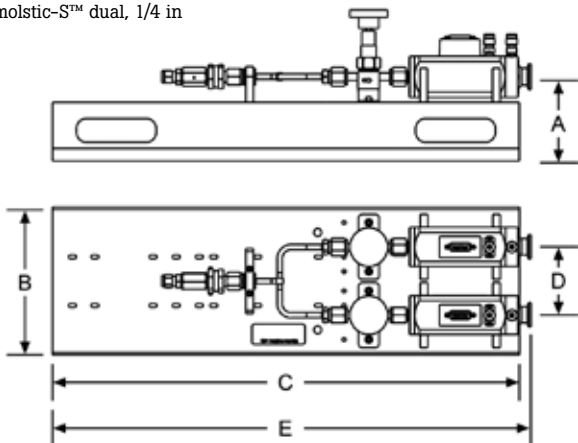
molstic-S™ single, 1/4 in



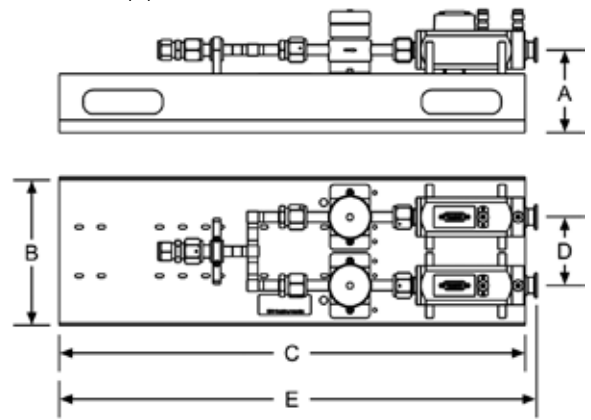
molstic-S™ single, 1/2 in



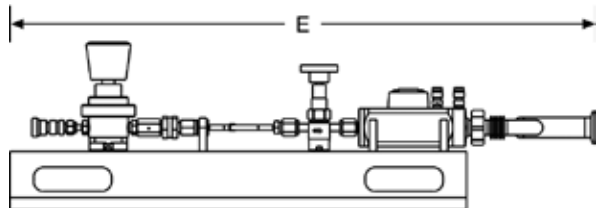
molstic-S™ dual, 1/4 in



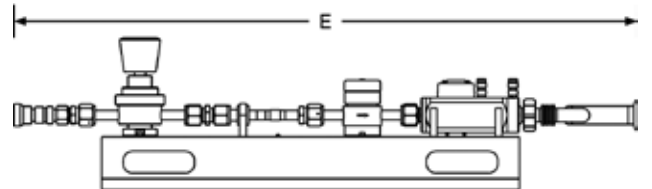
molstic-S™ dual, 1/2 in



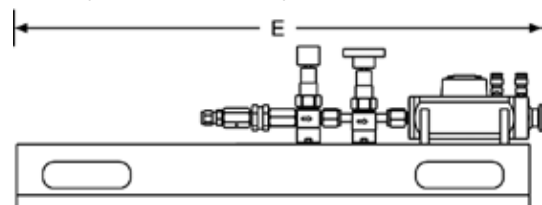
molstic-S dual, 1/4 in with regulator and tee options



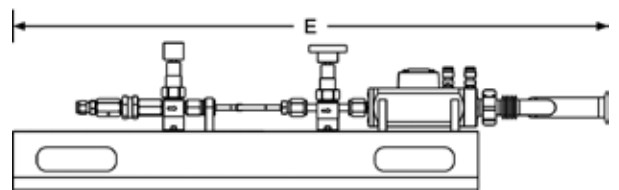
molstic-S dual, 1/2 in with regulator and tee options



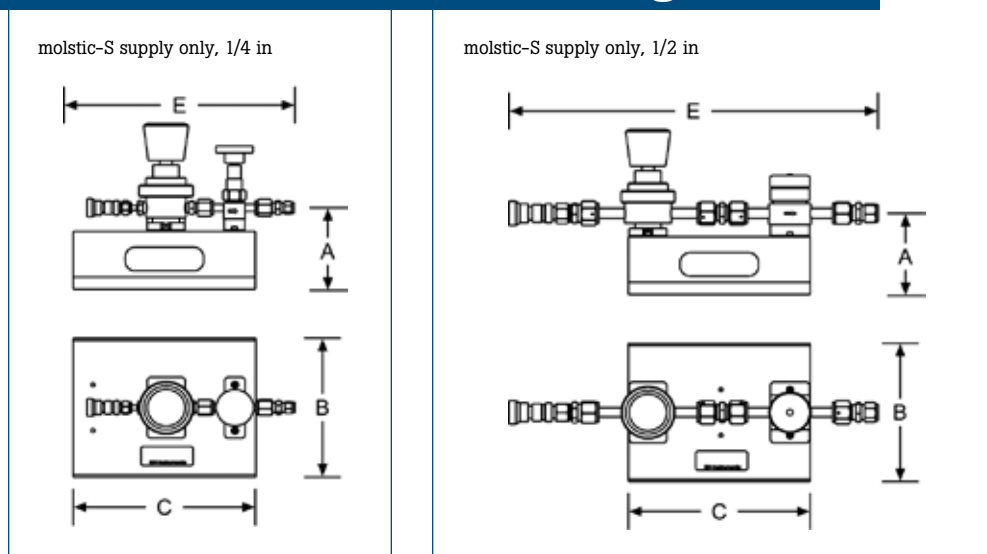
molstic-S single, 1/4 in with metering valve option



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



## Configurations



### Configuration notes

- Each molstic-S comes with 50 centimeters (20 inches) 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 inch molstic-S platforms are designed to be used with the molbloc-S elements designated 1E2-S and lower. The 1/2 inch molstic-S platforms are designed for use with the 2E2-S through 2E3-S elements. P/N 401935 replaces the 1/2 inch molbloc-S inlet flange of the higher flow elements so that they can be used on the 1/4 inch 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 inch molbloc-S inlet flange of the lower flow molblocs so that they can be used on the 1/2 inch molstic-S. This is only recommended for 1E2-S molbloc-S element.

## Dimensions

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

### Typical “upstream DUT” 1/2 inch includes supply only, adjustable DUT stand and molstic-S with back pressure regulator option



## Ordering information

### Model

**molstic-S, Single, 1/4 in** For use with single molbloc-S, 1E2-S and lower  
**molstic-S, Single 1/2 in** For use with single molbloc-S, 2E2-S thru 2E3-S  
**molstic-S, Dual, 1/4 in** For use with two molbloc-S, 1E2-S and lower  
**molstic-S, Dual, 1/2 in** For use with two molbloc-S, 2E2-S thru 2E3-S  
**molstic-S Supply Only, 1/4 in** Upstream regulation platform, 1/4 in  
**molstic-S Supply Only, 1/2 in** Upstream regulation platform, 1/2 in

### Options

**Regulator, 1/4 in** Installed on 1/4 in molstic-S for downstream DUTs  
**Regulator, 1/2 in** Installed on 1/2 in molstic-S for downstream DUTs  
**Back Pressure Regulator, 1/4 in** Installed on 1/4 in molstic-S for control of upstream pressure  
**Back Pressure Regulator, 1/2 in** Installed on 1/2 in molstic-S for control of upstream pressure  
**Metering Valve, Low, 1/4 in** Installed on 1/4 in molstic-S for metering flows up to 20 slm  
**Metering Valve, Mid, 1/4 in** Installed on 1/4 in molstic-S for metering flows up to 100 slm

### Accessories

**Regulator, for molstics-S, 1/4 in** Upgrade adds upstream pressure regulator to 1/4 in molstic-S  
**Regulator, for molstics-S, 1/2 in** Upgrade adds upstream pressure regulator to 1/2 in molstic-S  
**Back Pressure Regulator, for molstics-S, 1/4 in** Upgrade adds back pressure regulator to 1/4 in molstic-S  
**Back Pressure Regulator, for molstics-S, 1/2 in** Upgrade adds back pressure regulator to 1/2 in molstic-S  
**PK-MOL-S-VAC, dwn V ac Connect, Mid/low** Accessories to interconnect vacuum pump to molbloc-S, or downstream tee assembly (P/N 401884)  
**VA-MOL-S, V ac Pump Kit, Low, Std** Vacuum pump kit for 250 slm (up to 5E2-S)  
**VA-MOL-S, V ac Pump Kit, Mid, Std** Vacuum pump kit for 1000 slm (up to 5E3-S)  
**VA-MOL-S, V ac Pump Kit, Mid, PFPE** Vacuum pump kit for 1000 slm (up to 5E3-S), special cleaning/oil  
**Tee assembly, for molbloc-S, downstream** Connects output of two molbloc-S elements for A+B, or common vacuum connection  
**Metering Valve Kit, molstic-S, 1/4 in, low** Kit installs on 1/4 in molstic-S for metering flows up to 20 slm  
**Metering Valve Kit, molstic-S, 1/4 in, mid** Kit installs on 1/4 in molstic-S for metering flows up to 100 slm  
**DUT stand, adjustable 3 in x 3 in** adjustable platform for vertical alignment of DUT  
**End Flange Kit, for molbloc-S, 1/4 in VCR** 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** Replaces 1/4 in molbloc-S inlet flange for use on 1/2 in molstic-S (recommended for 1E2-S only)

### Accessories (Adapter kits)

**PK-MOL-KF16-1/4SWG**, Converts 6 mm ISO-KF Style vacuum flange to 1/4 in Swagelok  
**PK-MOL-KF16-3/8SWG**, Converts 16 mm ISO-KF Style vacuum flange to 3/8 in Swagelok  
**PK-MOL-KF16-1/4VCR**, Converts 16 mm ISO-KF Style vacuum flange to 1/4 in male VCR  
**PK-MOL-KF16-1/2VCR**, Converts 16 mm ISO-KF Style vacuum flange to 1/2 in male VCR  
**PK-MOL-KF16-1/4FNPT**, Converts 16 mm ISO-KF Style vacuum flange to 1/4 in female NPT  
**PK-MOL-KF16-1/4MNPT**, Converts 16 mm ISO-KF Style vacuum flange to 1/4 in male NPT  
**PK-MOL-KF16-1/2MNPT**, Converts 16 mm ISO-KF Style vacuum flange to 1/2 in male NPT  
**PK-MOL-KF25-1/4SWG**, Converts 25 mm ISO-KF Style vacuum flange to 1/4 in Swagelok  
**PK-MOL-KF25-3/8SWG**, Converts 25 mm ISO-KF Style vacuum flange to 3/8 in Swagelok  
**PK-MOL-KF25-1/2SWG**, Converts 25 mm ISO-KF Style vacuum flange to 1/2 in Swagelok  
**PK-MOL-KF25-3/4SWG**, Converts 25 mm ISO-KF Style vacuum flange to 3/4 in Swagelok  
**PK-MOL-KF25-1/4VCR**, Converts 25 mm ISO-KF Style vacuum flange to 1/4 in male VCR  
**PK-MOL-KF25-1/2VCR**, Converts 25 mm ISO-KF Style vacuum flange to 1/2 in male VCR  
**PK-MOL-KF25-1/4FNPT**, Converts 25 mm ISO-KF Style vacuum flange to 1/4 in female NPT  
**PK-MOL-KF25-1/2FNPT**, Converts 25 mm ISO-KF Style vacuum flange to 1/2 in female NPT  
**PK-MOL-KF25-3/4FNPT**, Converts 25 mm ISO-KF Style vacuum flange to 3/4 in female NPT  
**PK-MOL-KF25-1FNPT**, Converts 25 mm ISO-KF Style vacuum flange to 1 in female NPT  
**PK-MOL-KF25-1/4MNPT**, Converts 25 mm ISO-KF Style vacuum flange to 1/4 in male NPT  
**PK-MOL-KF25-1/2MNPT**, Converts 25 mm ISO-KF Style vacuum flange to 1/2 in male NPT  
**PK-MOL-KF25-3/4MNPT**, Converts 25 mm ISO-KF Style vacuum flange to 3/4 in male NPT  
**PK-MOL-KF25-1MNPT**, Converts 25 mm ISO-KF Style vacuum flange to 1 in male NPT  
**PK-MOL-KF40-1/2SWG**, Converts 40 mm ISO-KF Style vacuum flange to 1/2 in Swagelok  
**PK-MOL-KF40-3/4SWG**, Converts 40 mm ISO-KF Style vacuum flange to 3/4 in Swagelok  
**PK-MOL-KF40-1SWG**, Converts 40 mm ISO-KF Style vacuum flange to 1 in Swagelok  
**PK-MOL-KF40-1/2FNPT**, Converts 40 mm ISO-KF Style vacuum flange to 1/2 in female NPT  
**PK-MOL-KF40-3/4FNPT**, Converts 40 mm ISO-KF Style vacuum flange to 3/4 in female NPT  
**PK-MOL-KF40-1FNPT**, Converts 40 mm ISO-KF Style vacuum flange to 1 in female NPT  
**PK-MOL-KF40-1/2MNPT**, Converts 40 mm ISO-KF Style vacuum flange to 1/2 in male NPT  
**PK-MOL-KF40-3/4MNPT**, Converts 40 mm ISO-KF Style vacuum flange to 3/4 in male NPT  
**PK-MOL-KF40-1MNPT**, Converts 40 mm ISO-KF Style vacuum flange to 1 in male NPT

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