molstic™ hi flow

P/N 401663

molbloc™ Mounting System

INSTRUCTION SHEET

FLUKE® Calibration

DESCRIPTION

molstics provide an engineered solution to the practical issues of mounting a molbloc, connecting a gas supply, regulating the pressure and connecting the device to be tested. Highest quality components are integrated into a convenient, compact assembly.

molstic, hi flow (P/N 401663) is designed for use with the 1E5 molbloc at flows up to 100 slm. It does not accommodate any other size molblocs.

A gas supply is connected using a quick connector. A 2 micron filter protects the downstream components. Then, an adjustable (0 kPa/0 psig to 700 kPa/100 psig) regulator sets molbloc upstream pressure and protects the molbox transducers against accidental overpressure. A bellows shut-off valve, just before the molbloc, allows the gas supply upstream of the molbloc to be shut-off. A connection and a vertically adjustable DUT platform are provided downstream of the molbloc for mounting a device under test or the optional metering valve kit.

START UP

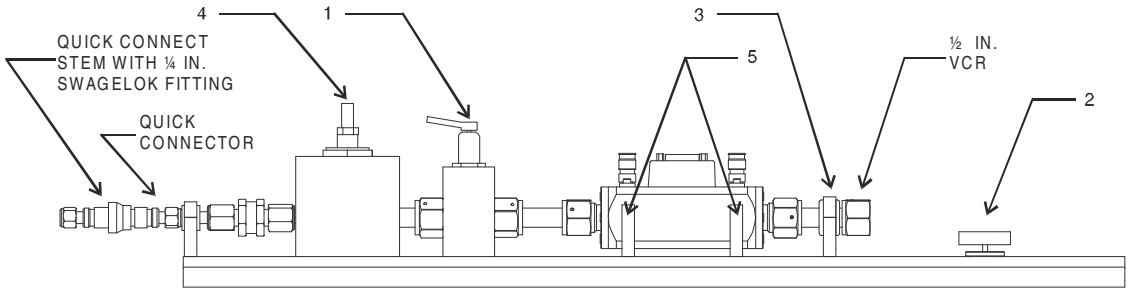
Starting up a molstic requires connecting a gas pressure supply, adjusting the pressure regulator if necessary, and connecting the device or system to be tested downstream of the molbloc.

❶ **Connect the gas supply:** Connect a gas supply to the quick connector stem (1/4 in. SWG®, NUPRO® SS-QC4-D-400). Ideally, inlet supply pressure is regulated to approximately 760 kPa (110 psig). In no case should the supply exceed 1 MPa (150 psig). Note: **Be sure the molstic isolation valve (1) is closed** (handle down) before connecting the quick connector stem to the quick connector. Do not connect or disconnect the quick connector with a pressure greater than 1.5 MPa (200 psi) on either side.

❷ **Install the molbloc:** Install the molbloc onto the molstic (see molbloc INSTALLATION below).

❸ **Adjust the pressure regulator:** The molstic is delivered with the pressure regulator set to 270 kPa absolute (40 psia) (about 165 kPa gauge (26 psig)), the most common molbloc upstream pressure setting. Depending on the molbloc's pressure dependent calibration type, a different molbloc upstream pressure setting may be needed (see the molbloc calibration report). To adjust the regulator, cap the pressure downstream of the molbloc. Open the molbloc isolation valve (1). Read the molbloc upstream pressure using the [P&T] function of the molbox (see the molbox Operation and Maintenance Manual). Adjust the molbloc upstream pressure to the desired value by inserting a screwdriver into the regulator stem (4) and rotating the adjustment screw until the desired pressure is set. Note: **The regulator is NOT self venting.** If desired, once the desired pressure is set, lock the regulator stem by tightening the jam nut on the stem.

❹ **Install the MFC/device under test:** The downstream connection is 1/2 in. VCR. If desired, install the 1/2 in. to 1/4 in. VCR adaptor provided in the molstic accessories. For DUT fittings other than VCR, use the appropriate adaptor (not supplied). If desired, install the DUT platform (2) to assure that the DUT is at the correct height for alignment with the molstic downstream fitting (see DUT PLATFORM INSTALLATION AND OPERATION below). If you have a metering valve option for manual flow control, install it here. The metering valve option requires use of the 1/2 in. to 1/4 in. adaptor.



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molbloc INSTALLATION

❶ Loosen the interconnecting nipple clamp (3) so that the nipple can move freely in its rubber grommet. Move the nipple away from the molbloc cradles to allow maximum room for molbloc insertion.

❷ Place the molbloc in the molstic molbloc cradles (be sure flow orientation is correct). Check that no debris is under molbloc.

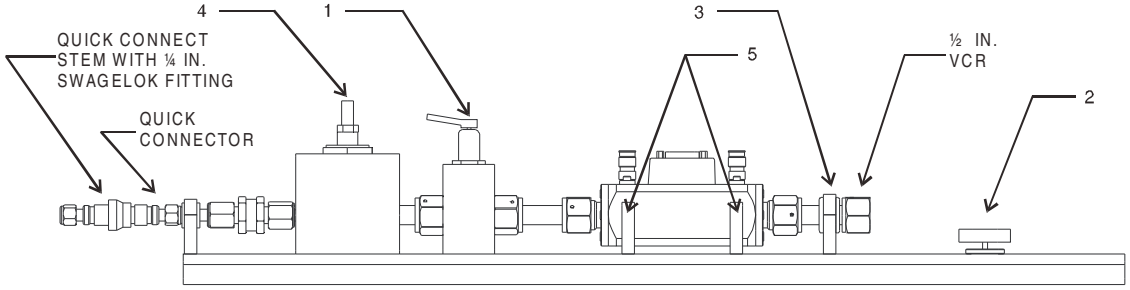
❸ Connect and tighten the upstream (valve side) molbloc VCR connection using a soft O-ring and following the procedure provided in Document 560009 (Recommendations for molbloc Installation) supplied with the molbloc.

❹ Pull the interconnecting nipple towards the molbloc downstream connection. Connect and tighten the downstream molbloc VCR connection using a soft O-ring and following the procedure provided in Document 560009 (Recommendations for molbloc Installation) supplied with the molbloc.

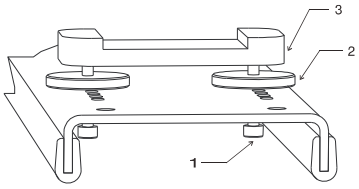
❺ Tighten the interconnecting nipple clamp (3) until the nipple is secure (5 N/m max).

❻ Connect the molbloc to the molbox and leak check the system.

❼ To remove a molbloc from the molstic, reverse the procedure. Break the downstream molbloc VCR connector and pull the interconnecting nipple away from the bloc. Break the upstream molbloc VCR connector. Remove the molbloc.



DUT PLATFORM INSTALLATION AND OPERATION



❶ Insert socket cap screws (1) through two parallel mounting holes in the molstic base corresponding to the desired DUT platform position.

❷ Thread thumbwheels (2) onto screws (1) to about half way up the screw.

❸ Using a 4 mm Allen wrench, tighten the screws (1) into the DUT platform (3). Tighten until snug, do NOT overtighten.

❹ Rotate thumbwheels (2) to position the DUT platform at the desired height so that the DUT fitting aligns with the molstic downstream fitting.

MAINTENANCE AND RECOMMENDATIONS

- **Filter:** The molstic filter is a sealed 2 micron pleated mesh filter (NUPRO SS-4FW-VCR-2). It can be cleaned by backflushing. To backflush, it must be removed from the molstic. When removing, cleaning and installing the filter, the metallic VCR gaskets (NUPRO SS-4-VCR-2-GR) must be replaced and all manufacturers' recommendations followed.
- **Handling:** molstic should not be picked up or carried by its components. Always handle the molstic by its base.