

# AUTO-purge / CEM

## SEQUENCE OF OPERATIONS

**IDENTIFICATION CODE**

V-1,3	Pneumatically Piloted, 5-Way Valve, Static (low) Pressure
V-2,4	Pneumatically Piloted, 5-Way Valve, Total (high) Pressure
SV-1	Solenoid Operated 5-Way Valve
SV-2	Solenoid Operated 3-Way Valve
HV-1	Supply Air Shut Off Valve
PI-1	Gauge, Supply Air Pressure, 0-160 psig
FLTR-1	Filter Assembly
R-1	Purge Management Relay

**SEQUENCE OF OPERATIONS**

Automatic line purging interrupts airflow signal transmission at regular field selectable intervals and purges the sensing lines with up to 125 psig air for short periods. This periodic purging assists in maintaining the sensing orifices of the total and static pressure manifolds in a clean, unobstructed condition.

When valve V-1 & V-3 and V-2 & V-4 operate, the velocity pressure signal lines (C and D) to the flow transmitter are isolated, and high pressure purge air AS1 is routed to flow sensing lines (A and B). The high pressure purge air cleans the flow sensing orifices during the purge duration.

A selectable timing sequence provided by the purge management relay R-1 (located in the MASS-tron/CEM Enclosure) activates solenoid valves (SV-1 and SV-2) which shuttles the transmitter isolation valves (V-3 and V-4) and purge valves (V-1 and V-2). A simultaneous output signal hold corresponding to the last measured input is initiated by the transmitter and maintained until the purge cycle is complete.

At the end of the purge cycle the transmitter withdraws its purge signal, de-energizing SV-1 and SV-2 and causing valves V-3 & V-4 and V-1 & V-2 to reset after a short time delay to their normal position, thereby reconnecting the process sensing lines to the transmitter. After a short timed interval the transmitter signal hold is terminated and on-line signal processing resumes.

Note 1. For more details, see Purge Cycle Timing Diagram (SUB-M030).

**SCHEMATIC**

