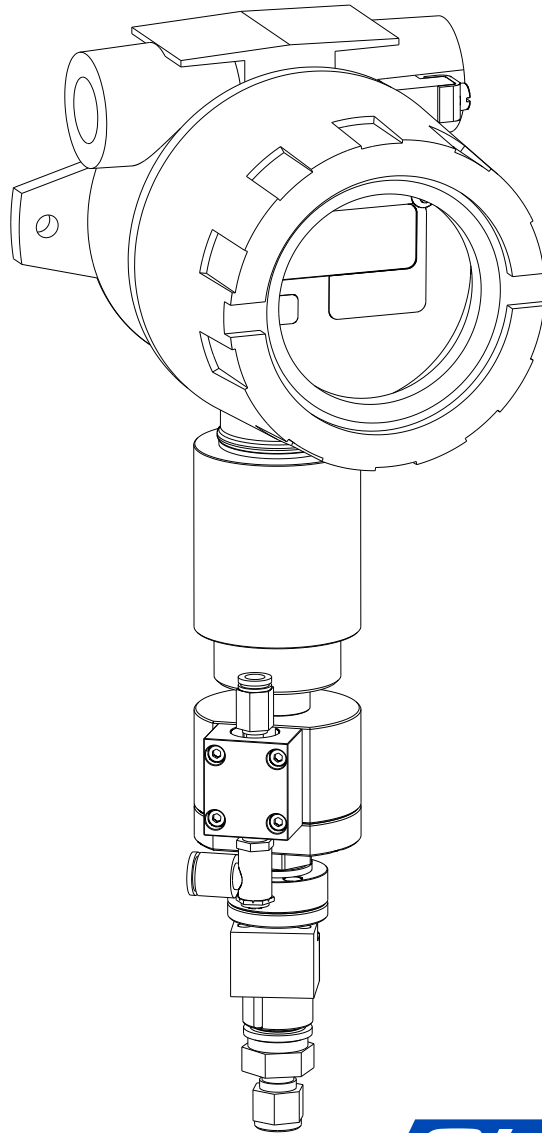


EMS SERIES SAMPLE MODULE USER INFORMATION



VERSION 2



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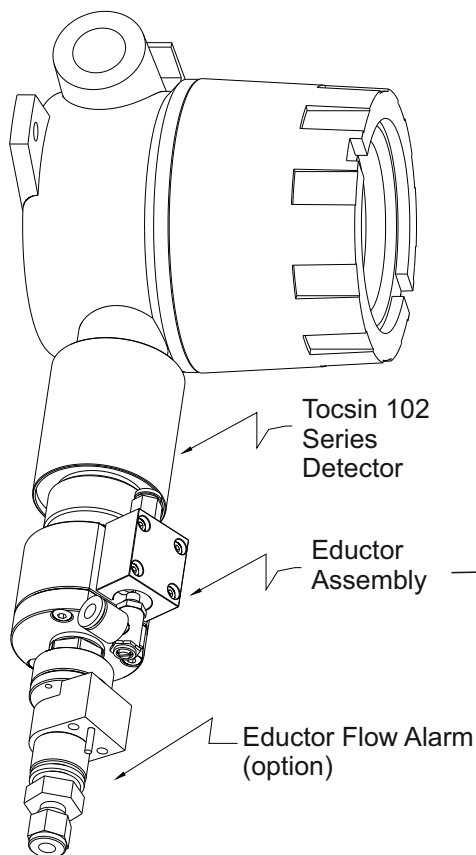
EMS-V2



Introduction

The Eductor Modular Sampler (EMS) can be added to any standard Tocsin 102 series gas detector. The basic EMS screws mounts to the detector using the accessory mounting thread. Compressed air is used to generate a flow using a patented venturi system. The induced flow does not impinge directly on the detector face but follows a path that ensures any particulate matter is directed away from the detector face allowing only the gas stream to be sampled. This ensures freedom from contamination, a long detector life and excellent response time to the gas flow. The ejected gas stream is diluted by the air supply making it safer to handle and if necessary can be tubed away. The unit has no moving parts this ensuring minimum maintenance and maximum reliability. As a further accessory a low flow detect alarm unit can be added as a further safeguard to both detect low flow from tube blockages or loss of flow due to failure of the air supply. Accessories are available for trace heating, sample cooling, probe ends etc

The unit is simple and efficient making minimum use of an air supply.



Note that since the air supply mixes with the sample gas stream after analysis the condition of the air supply is not critical. Normal precautions should be taken to limit oil and water in the supplied compressed air. Compressed air usage will vary according to the set flow rate. a regulator should be fitted to ensure a constant supply pressure.

Eductor Performance

Supply Pressure	Eductor Flow
5 PSIG	0.5L/Min
10 PSIG	0.8L/Min
15 PSIG	1.5L/Min
20 PSIG	2.0L/Min

Typical air consumption 4.5L/Min at 12 PSIG

Figures are tabulated with 30M of 4mm bore tubing. Do not exceed 30M of sample line. When installing sample lines ensure samples run uphill with no catch points where condensed vapour could accumulate

Materials of construction for the EMS module 316 Stainless Steel. The flow fail monitor is PEEK G45. Materials are chosen for corrosion and chemical resistance.

EMS Module screws and seals to the accessory thread provided on the front of all Oliver IGD Tocsin 102 series detectors.

Regulated Air Supply, Typically 12-15PSIG. Note this is a standard compressed air line supply with no special requirements.

For correct operation the EMS and detector module assembly must be mounted within 10 degrees of vertical.

System vent. Note that the vent is a mix of sample gas and compressed air and so should be vented to a safe 'outside' location

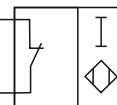
A flow restrictor is provided as part of the EMS unit. This is normally left fully open (anti-clockwise). The restrictor is only used to balance performance where a number of EMS units are fitted to one regulated air supply.

Sample inlet. This is a 1/4" OD Swagelok compression fitting.

**!! IMPORTANT !!
USE A COUNTER WRENCH WHEN
MAKING CONNECTION TO AVOID
STRIPPING THE MATING THREAD ON
THE FLOW SWITCH BODY**

L+ BN 5-27 V DC

L- BU 0V DC



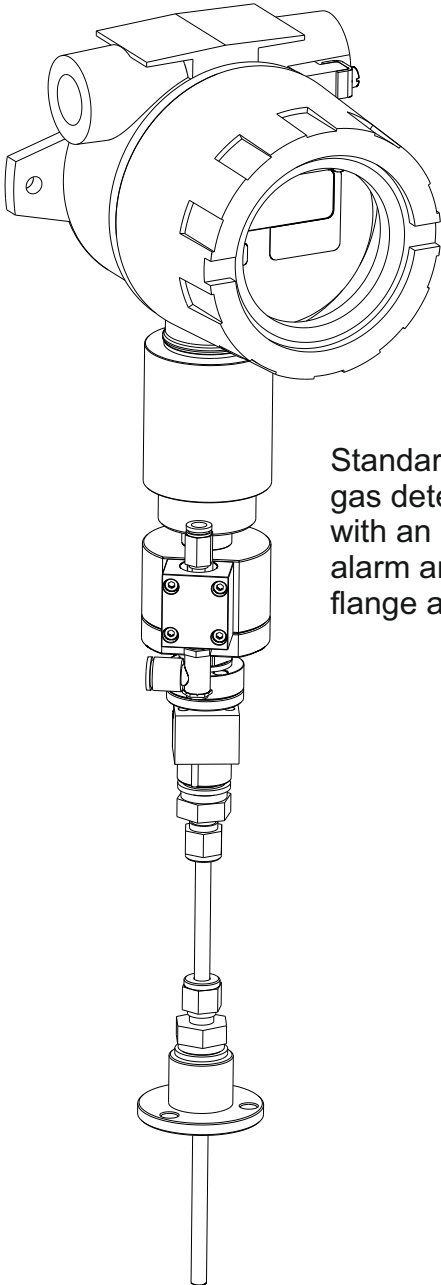
Standard
Connection
Symbol

Note when connected as an ATEX device an approved barrier device must be used.

If used as a mA transmitter then for 24V DC two wire operation normal flow will be indicated by 4mA and flow failure by a signal in excess of 20mA.

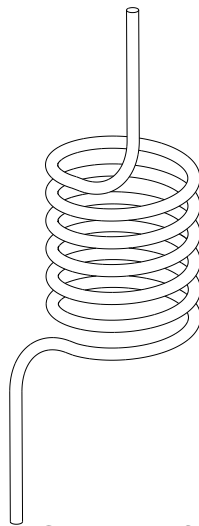
Installations and accessories

In Practice the Eductor Modular Sampler system provides a simple, robust and maintenance free solution to applications that require a sample to be extracted for gas detection. In practice the application of the device may require the use of additional accessories. Some of the available options are shown below.



Standard Tocsin 102 Series gas detector shown fitted with an EMS sampler, flow alarm and sample probe-flange assembly

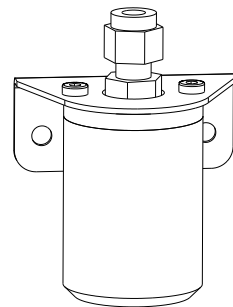
The Sample Flange -Probe Assembly PN 5923001 is typically used to sample from applications such as glove boxes, enclosures, dryers, Ovens etc



When Sampling from higher temperature processes the pre-cooler coil module can be fitted to protect the sampler from excessive temperatures, The unit can be used in conjunction with other accessories such as the same Flange Probe assy. Part Number 5078301

IMPORTANT

When making installations in potentially flammable atmospheres, detectors and junction boxes must fulfil requirements under ATEX and meet the required area classification. Refer to Oliver IGD Tocsin 102 series detector and JB3 Junction box manuals and literature for further details.



EOL Filer Module, Part Number 5923701. When sampling down long sample lines (up to 30M) the sample line itself may need protection from ingress of unwanted material. The End Of Line filter module can be used in such circumstances to provide both a defined sample/anchor point for the line end and filter the incoming sample.