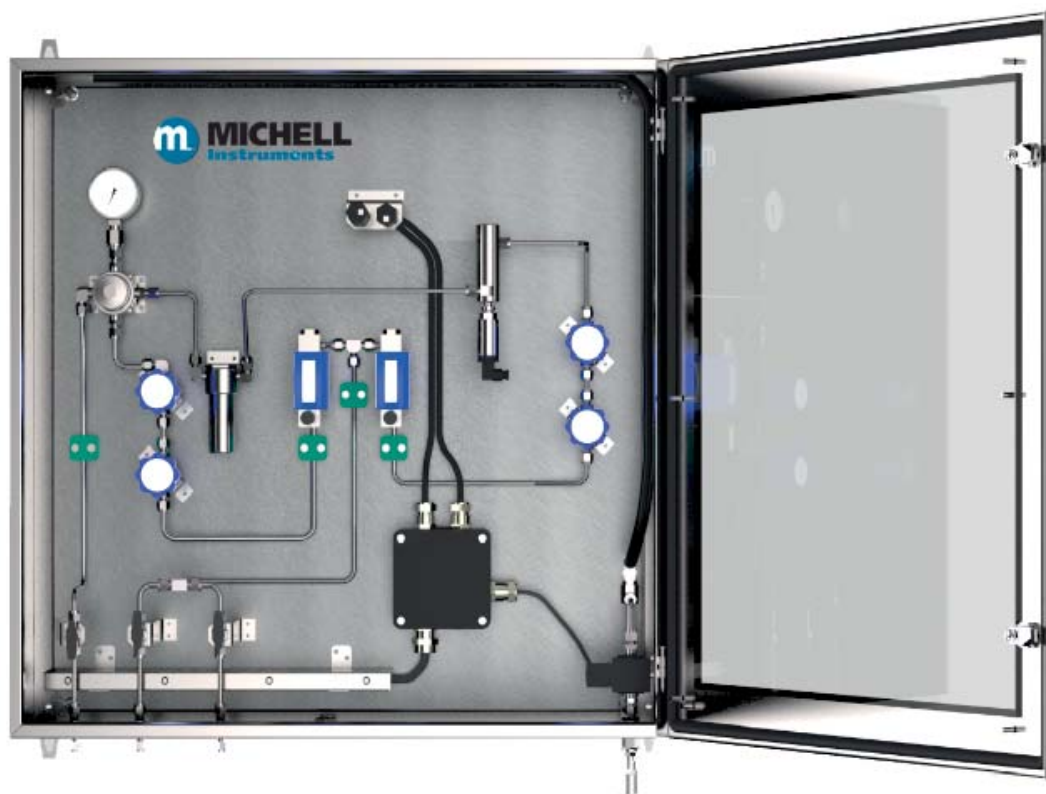


ES70 Sampling System

Sample extraction, handling and conditioning techniques are of critical importance to assure optimal performance and reliability of all analysers which accurately quantify specific components within a process gas or liquid composition. With a wide variety of options required for pressure and flow control, filtration, isolation and sample temperature control, it can be difficult to see what is really required to get maximum performance from your analysers in any given application.



Highlights

- Indoor panel or outdoor enclosure mounting options
- Process connection via 6mm or 1/4" tube fittings
- High quality components, stainless steel tubing and fittings
- Sample inlet pressure up to 138 barg
- Flexible filtration options
- Choice of transmitter, flow and pressure control
- Comprehensive documentation options with BS EN 10204 3.1 certification and NACE MR0175 available

Applications

- Natural gas production, processing & transmission
- Biomethane gas production
- Fiscal metering of gas
- LNG production processing and receiving terminals
- Hydrocarbon refinery processing
- Catalyst protection
- Polymer production
- CNG production
- Heat treating furnaces
- Petrochemical process liquids



ES70 Sampling System

Our ES70 series sample systems provide a choice of indoor or outdoor compatibility, sensor mount selection, along with a wide range of features to facilitate regulation of pressure and flow and the removal of contaminants. This enables the system to deliver a properly conditioned sample to the analyser for reliable measurements and trouble-free operation. The optional integrated bypass system increases transport speed of the sample while reducing wastage. Each high quality sample system is constructed from 316 stainless steel components, with BS EN 10204 3.1 material certificates and compliance to MR 0175/ISO 15156 available on request.

The ES70 series is designed to simplify sample system configuration by providing a set of choices for all requirements, such as panel or enclosure mount, filtering, upstream and downstream pressure and flow control etc. This provides a quick and simple method to choose all the required components suitable for the application requirements.

System Designs

Michell Instruments has over 40 years of experience providing dew-point and moisture measurement solutions. We also design and manufacture a broad range of sampling systems for a wide spectrum of industries.

Our sampling system designs ensure that dew-point and moisture measurements can be performed in the most suitable conditions. The ES70 sampling systems can be supplied in various configurations and are designed to be used in conjunction with other Michell products, as follows:

- Easidew PRO XP Transmitter
- Easidew PRO I.S. Transmitter (with or without optional field display)
- Promet I.S. (with or without pressure transmitter)
- Liquidew I.S.

Process connections are available with either 6mm or 1/4" tube fittings.

High Quality Materials

To ensure continuous and reliable dew-point or moisture measurement, it is important that the transmitter is exposed to stable conditions of the sample being monitored.

The ES70 sampling system utilises high quality 316 stainless steel components which provide the optimum response to moisture changes in the process.

Mounting Variants

Depending on the application, the sampling system can be supplied in 5 variations:

- Mounted on an open panel for indoor systems
- Mounted in an Outdoor Enclosure, IP66/NEMA4X rated, with or without window, 304 grade stainless steel
- Mounted in an Outdoor Enclosure, IP66/NEMA4X rated, with or without window, 316 stainless steel



Filtration and Fast Loop Flexibility

If the sample contains impurities it is crucial to remove the contaminants before they reach the sensing device. A fast-loop bypass flow arrangement can also be included to reduce sample flow response time lag and to enable the filter to be drained automatically of any potential hydrocarbon liquids and hydrates formed. The ES70 system can be supplied with various filtration and fast loop options;

- Particulate Filter: 5 micron stainless steel mesh
- Coalescing Filter with manual drain
- Combined coalescing/oleophobic membrane with continuous drain flow (fast loop) - with single stage regulation & glass tube (20 barg rated) or armoured flow meter (130 barg rated) with integral flow metering valve.
- Combined coalescing/oleophobic membrane with continuous drain flow (fast loop) - with Two Stage Regulation & Armoured flow meter (130 barg rated) with integral flow metering valve.

Pressure and Flow Control Options

Various options are available for management of pressure and flow within the sampling system;

- Upstream and Downstream, single stage or two stage pressure regulation, with a choice of gauges.
- Downstream flow metering with a choice of glass tube or armoured flow meters

Enclosure Environmental Control

Sampling systems fitted within enclosures may need heating to maintain a constant temperature environment of at least 10°C above the highest envisaged dew point temperature independent of surrounding temperature variations. Similarly, the enclosure temperature may need to be controlled when ambient temperatures rise in summer months.

- Electrical heating with a choice of fixed and variable thermostats
- Vortex Cooling (instrument air required)

Documentation Packages

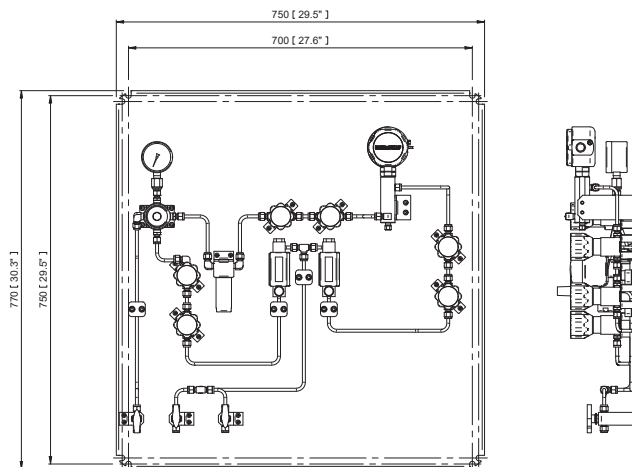
Michell provides soft copy 'as built' drawings and hazardous area certificates, hard copies of calibration certificates, pressure leak test certificates (as applicable), a packing checklist and the relevant manuals. Customers can also choose to select other standard documentation lists, as well as duplicate documentation packs and material certification (EN10204-3.1 certification and NACE MR0175 conformity). If you require additional documentation with your system, please contact us for more information.

System Customisation

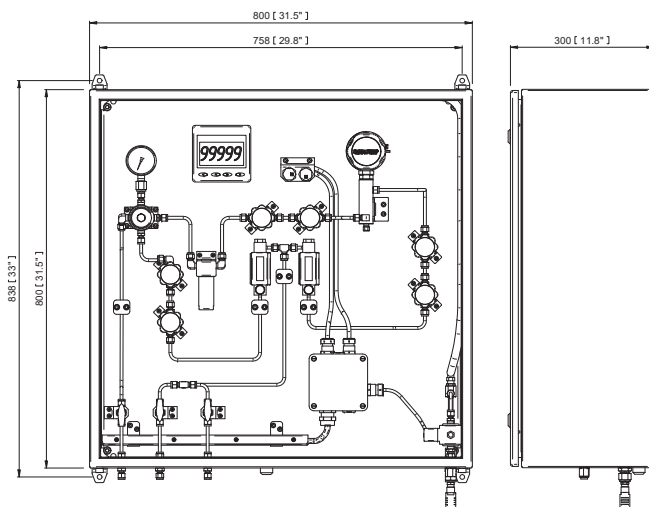
If the ES70 sampling system does not meet your particular application requirements, we have a specialised design and manufacturing facility to cover your requirements. Your Michell office or authorised distributor will be pleased to discuss your specific application and installation requirements.

Dimensions

Indoor



Outdoor



Dew-Point Sampling

Technical Specifications

Electrical Specifications	
Supply voltage (sensor)	14 to 28 V DC
Supply voltage (sampling system)	240VAC or 110VAC
Operating temperature	
ES70 fitted with monitor	0 to +50°C
ES70 without monitor	-20 to +60°C
Gas Operating Inlet Pressure	138 barg maximum
Gas Flow rate	1 – 5 nl/min
Liquid Operating Inlet Pressure	50 barg maximum
Liquid Flow rate	Min 0.01 l/min, max 10 l/min 0.1 to 0.3 l/min recommended
Mechanical Specifications	
Process connections and materials	Inlet/outlet process connections via 6mm or 1/4" tube fittings, 316 SS
Gas wetted parts	Transmitter sample block, filter housing and fittings, 316 SS
Dimensions	Indoor panel: 750 x 750 x 2mm Outdoor: 800 x 800 x 300mm
Dew Point Measurement Specifications *	See chosen sensor datasheets

*For all other specifications refer to the Easidew/Liquidew/Promet datasheets, available from your local Michell Instruments representative or visit www.michell.com/uk

Related Products



MDM300 Hygrometer
With Panel Mount
Sampling System



QMA601
Process Moisture
Analyzer

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Michell Instruments adopts a continuous development programme which sometimes necessitates specification changes without notice.
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