

DSS70A Portable Sampling System and Sampling Cells for DM70



The DSS70A provides a compact solution for field checking dewpoint where direct measurement is difficult. Typical applications for the sampling system are metal treatment and plastics drying processes.

DSS70A portable sampling system

The DSS70A is designed to provide dewpoint sampling flexibility for the DM70 hand-held dewpoint meter. For processes at atmospheric pressure, a battery powered pump is used to extract a gas sample. For pressurized processes up to 20 bar, the sample is measured at process pressure and then reduced to atmospheric pressure for venting or re-direction, bypassing the pump. In all cases, the sample gas passes through a filter to remove particulate contamination before measurement. Flow through the system is controlled and monitored with a needle valve and flow meter.

The DSS70A is easily connected to an appropriate sample point with tubing (typically 1/4" or 6 mm). The measured dewpoint must be below ambient temperature to avoid condensation in the system. Gas

temperatures higher than +40 °C (+104 °F) should be cooled with a short PTFE (included in the DSS70A system) or stainless steel tube prior to entering the DSS70A.

Sampling cells for pressurized processes

The DM70 can easily be connected to pressurized processes. In addition to direct pipeline installation, a variety of sampling cell options are available for gas sampling.

The DSC74 sampling cell is the recommended choice. It has a variety of connection adapters that allow several different ways of installation. The quick connector with a leak screw allows a very fast connection for compressed air lines. Additionally, two thread adapters are available for the inlet port.

The DSC74B is a two-pressure sampling cell, which enables measurements in both process and

ambient pressure. This sampling cell is especially suitable for dewpoint measurements in SF₆ gas with the DMP74C probe.

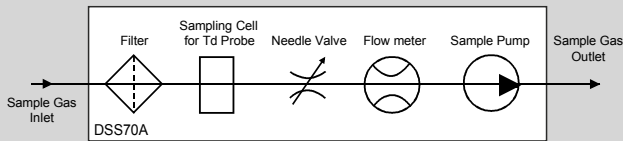
The DMT242SC is a basic sampling cell. The DMT242SC2 is a sampling cell supplied with welded Swagelok connectors for sampling in a 1/4" pipeline.



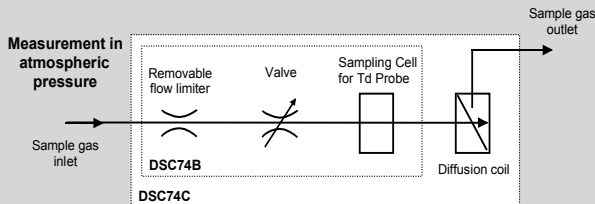
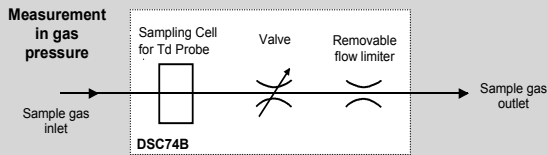
The sampling cells (from the left) DMT242SC2, DMT242SC and DSC74 can be used to connect the DM70 to sample gas flow. The DSC74B (right) is a two-pressure sampling cell that can be used for measurements in either pressurized or ambient pressure. The cooling/venting coil is included in the DSC74C sample cell, but is an option for all sampling cells.

Technical data

DSS70A Sampling System and DSC74B/C Sampling Cells



The DSS70A sampling system includes a filter to clean the dirty sample gas and a needle valve to control the sample flow rate with the flow meter. A sample pump is used to generate a sample flow from processes at ambient pressure.



The DSC74B sampling cell enables the measurement of the sampled gas either in gas pressure up to 10 bar or in atmospheric pressure depending on the gas inlet and outlet. The DSC74C is like the DSC74B but with an additional coil to avoid back diffusion, the effect of surrounding moisture, in dewpoint measurements in atmospheric pressure.

Sampling cells technical data

DSC74	sampling cell for pressurized gases
pressure limit	1 MPa (10 barg, 145 psig)
DSC74B	two pressure sampling cell
pressure limit	1 MPa (10 barg, 145 psig)
DSC74C	DSC74B with DMCOIL cooling/venting coil

DMCOIL	cooling/venting coil
DMT242SC	sampling cell
pressure limit	10 MPa (100 barg, 1450 psig)
DMT242SC2	sampling cell with Swagelok connectors
pressure limit	4 MPa (40 barg, 580 psig)
Material for all sampling cells	stainless steel AISI316

DSS70A sampling system Operating conditions

Operating gases	air, N ₂ and other non-toxic, inert gases
Dewpoint range	-70 °C ... Tamb (-76 °F ... Tamb)
Inlet/outlet connection	1/4" Swagelok
Operating temperature	
ambient temperature	0 ... +40 °C (32 ... +104 °F)
Process gas temperature	
with PTFE tube at +20 °C (+68 °F)	max. +200 °C (+392 °F)
(included in the DSS70A)	
with stainless steel tube	specification according to stainless steel tube specification
Maximum gas temperature at inlet	+40 °C (+104 °F)
Operating pressure	
with pump	0.6 ... 1.2 bara (8.7 ... 17.4 psia)
pump disconnected	0 ... 20 bara (0 ... 290 psia)

General

Battery operation time for pump	8 h continuous use
	battery can be recharged using DM70 charger
Filter	7 mm inline filter cartridge 1/4" Swagelok SS-4F-7 (spare part order no. 210801)
Materials	
wetted parts	Stainless steel
carrying case	ABS plastic
Case size (W x D x H)	430 x 330 x 100 mm
Weight	5.5 kg (12 lbs)

Electromagnetic compatibility

EN61326-1, Generic Environment.

VAISALA

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