

MICROFILTRATION - Technical Data

MLP 53 – PRESSURE HOLD TEST (60/40 IPA/WATER)- HYDROFIL

- 1) Wet 'O' rings with water and install **HYDROFIL** cartridge in the housing.

NOTE :

Pressure Hold Test values reported here applies to filter cartridges wetted with **60/40 by volume Isopropyl alcohol (IPA) water solution**. It is also acceptable to use another compatible liquid (with surface tension less than 26 dyne/cm), although the test pressure must be corrected for the surface tension differences.

- 2) Wet filter Cartridge as described in Wetting Procedure (See MLP 52).
- 3) Drain housing (upstream and downstream of filter cartridge).
- 4) With the wetted Cartridge positioned in the housing, connect housing **inlet** to a regulated source of clean compressed air (or other suitable test gas such as nitrogen), see fig 1.
- 5) Open gas valve slowly so as to pressurise filter assembly to 200 mbar, hold pressure for 30 seconds to allow excess test solution to drain.
- 6) Continue to increase the gas pressure slowly until the required test value is reached. Allow test pressure to stabilise for 5 minutes.
- 7) Re-adjust pressure if necessary. Then isolate the pressure source from the filter housing.

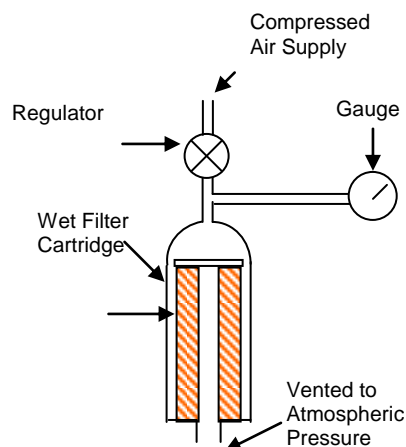


fig 1

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- 8) Record decay in pressure on upstream side of the filter cartridge over an Interval of 10 minutes.
- 9) The drop in pressure permitted (pressure decay) can be calculated according to the general gas equation (at constant temperature) as follows:-

$$P = \frac{V_o \times t \times P_o}{V_G + V_E + V_S}$$

P	=	Pressure drop in mbar after test time: t.
V _o	=	Gas diffusion in ml/min.
t	=	Test time in minutes.
P _o	=	Atmospheric pressure = 1000mbar.
V _G	=	Upstream housing volume with installed cartridge (s) in ml.
V _E	=	Volume of the upstream (inlet) line up to the shut of valve in ml.
V _S	=	Volume of the gas tubing in ml.

- 10) Maximum Permissible Diffusion Values (V_o).

125mm	(5") Cartridge-	5ml/min
250mm	(10") Cartridge	- 10ml/min
500mm	(20") Cartridge	- 20ml/min
750mm	(30") Cartridge	- 30ml/min
1000mm	(40") Cartridge	- 40ml/min

PRODUCT CODE	PORE SIZE RATING	TEST PRESSURE	
		bar	psi
H10	0.1	1.9	28
H20	0.2	1.0	14.5
H45	0.45	0.65	9.4

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NOTE :

Most integrity test failures are due to incomplete wetting of the filter cartridge rather than a defect in the filter membrane itself. Therefore, If a failure occurs, re-wet the cartridge and repeat test.

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