

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18

STANDARD EXECUTIONS

- **GN 7404-AL**: aluminium body, glossy finish.
- **GN 7404-NI**: AISI 303 stainless steel body.

PROTECTIVE FILTER

AISI 304 stainless steel.

BREATHABLE MEMBRANE (OIL / WATER-REPELLENT)

Non-woven nylon with glass-fibre reinforced polyamide based (PA) technopolymer profile.

PACKING RING

NBR synthetic rubber.

MAXIMUM CONTINUOUS WORKING TEMPERATURE

100°C.

FEATURES AND APPLICATIONS

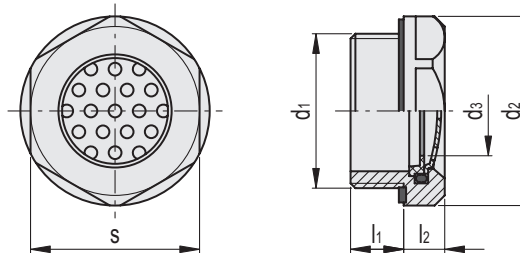
GN 7404 breathable membrane filters are used on machinery and equipment to guarantee the pressure balance between the internal and external environment. They prevent traces of dirt, oil or water vapour from entering inside and prevent also oil dripping into the surrounding area.

To prevent damage, the breathable membrane should not be completely drowned in oil or water and the correlation between the permeability volume of the air that can be achieved and the differential pressure should not exceed 1 bar.

For optimal operation, installation in a protected vertical position is recommended.

SPECIAL EXECUTIONS ON REQUEST

- Protective filters with holes different from the standard.
- Brass body.



GN 7404-AL

Code	Description	d1	d2	d3	l1	l2	s	Mesh size [µm]	Air permeability volume* [l/min]	⚖️
GN.41371	GN 7404-AL-M20X1,5-1,2	M20x1.5	26	10	8.5	7.5	23	1.2	11	11
GN.41374	GN 7404-AL-M26X1,5-1,2	M26x1.5	32	14	9	8	30	1.2	21	18
GN.41377	GN 7404-AL-M33X1,5-1,2	M33x1.5	40	20	11	8.5	36	1.2	34	26
GN.41361	GN 7404-AL-G1/2-1,2	G1/2	26	10	8.5	7.5	23	1.2	11	11
GN.41367	GN 7404-AL-G3/4-1,2	G3/4	32	14	9	8	30	1.2	21	18
GN.41364	GN 7404-AL-G1-1,2	G1	40	20	11	8.5	36	1.2	34	26

GN 7404-NI



Code	Description	d1	d2	d3	l1	l2	s	Mesh size [µm]	Air permeability volume* [l/min]	⚖️
GN.41372	GN 7404-NI-M20X1,5-1,2	M20x1.5	26	10	8.5	7.5	23	1.2	11	22
GN.41375	GN 7404-NI-M26X1,5-1,2	M26x1.5	32	14	9	8	30	1.2	21	41
GN.41378	GN 7404-NI-M33X1,5-1,2	M33x1.5	40	20	11	8.5	36	1.2	34	63
GN.41362	GN 7404-NI-G1/2-1,2	G1/2	26	10	8.5	7.5	23	1.2	11	24
GN.41368	GN 7404-NI-G3/4-1,2	G3/4	32	14	9	8	30	1.2	21	41
GN.41365	GN 7404-NI-G1-1,2	G1	40	20	11	8.5	36	1.2	34	61

* Values obtained with a differential pressure Δ 1 bar

BREATHABLE MEMBRANE STRUCTURE – MATERIALS

The breathable membranes use a non-woven nylon material as a substrate with a completely unordered structure. The minuscule pores of the membrane are created by fully saturating the fibers with an acrylic copolymer, which does not fill the gaps in the material.

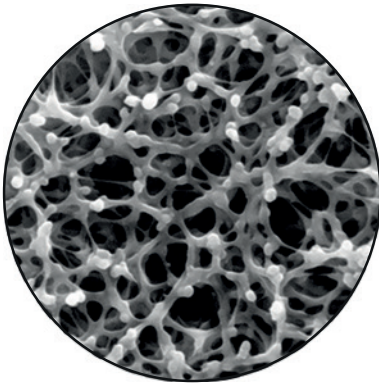
During manufacturing the material and process parameters affect the pore size, which can be between 0.2 and 10 µm.

Porometry can be used to determine the quality of the membrane.

This is a rating procedure which assesses, among other things, the size distribution of the membrane pores and the air permeability.

For comparison: the minimum mesh width of a filter manufactured using economically viable methods is 50 µm.

Below is a cross section image of a membrane enlarged under the microscope 2000 times.

**FUNCTIONALITY – SERVICE CONDITIONS – ASSEMBLY POSITION**

Thanks to the material types and structures, the breathable membranes are oil and water-repellent preventing the complete closure of the pores of their surface.

These properties are enhanced by assembling the membrane in an upright position.

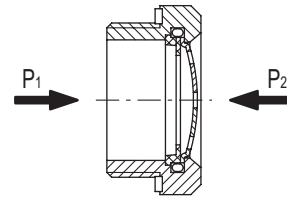
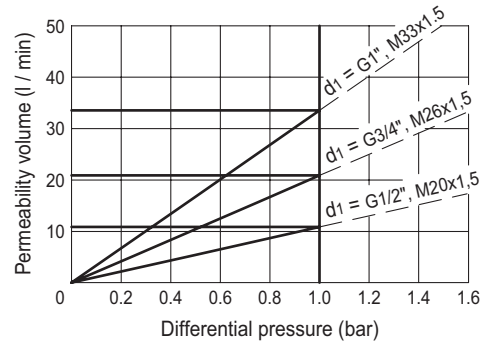
If the membrane is drowned in exceptional circumstances, small quantities of oil or water can be expelled through it due to the pressure differential. When normal conditions are restored, the oil and water flow down and the membrane becomes fully functional again.

TECHNICAL PARAMETERS

The maximum air permeability volume, the maximum differential pressure and a high value of internal pressure that must be discharged are all important conditions when using membranes.

There is a linear correlation between the air permeability volume which can be achieved and the differential pressure, which should not exceed 1 bar.

Air permeability volume dependent on differential pressure



Differential pressure:

$P_1 - P_2 \leq 1 \text{ bar}$

$P_2 - P_1 \leq 1 \text{ bar}$

Internal pressure (membrane tears):

$P_1 > 10 \text{ bar}$

$P_2 > 2 \text{ bar}$

RESISTANCE

Thermal: the membrane profile has not be used with temperatures exceeding 100 °C.

The membrane can resist up to 150 °C.

Chemistry: membranes are resistant to a wide range of chemicals frequently used in mechanical and automotive engineering, such as oils, fuels, organic solvents and alcohol.

If in doubt, run a tolerability test.

