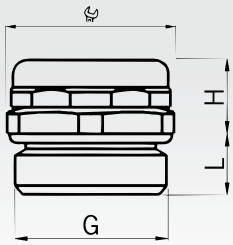
AGRO Pressure Balance Elements

Whether street lighting, railway vehicles or solar panels – all types of equipment must resist the effects of wind and weather, heat and rain. This applies to electronic and electrical enclosures also. Air pressure, temperature and humidity levels are constantly changing. Seals are never completely airtight. Many electrical enclosures are sealed against the ingress of water and dust (IP 68), but are not vapor-tight. As a result of warming, from either the sun's radiation or the enclosed electronics, pressure differences develop between the housing and its surrounding environment, which results in the transfer of air from one to the other. Air drawn into the housing carries moisture, which condenses when the temperature drops below the dew point. The water which is now trapped in the enclosure can lead to corrosion and equipment failures.

To prevent pressure differences, high humidity and condensation of water in the housing, constant balancing of pressure and exchange of air is needed. The use of AGRO pressure balance elements in electrical and electronic enclosures allows efficient pressure balance and ventilation, and if necessary, drainage.

AGRO Pressure balance elements



Material:	Polyamide/ Nickel-plated brass
O-ring:	NBR
Filter element	
Membrane:	PES (Polyethersulfone)
Filter disc:	Sintered bronze (Degree of filter: 40 µm)
Drainage element:	Stainless steel (1.4301)

Operation temperature	
Membrane:	-40°C / +110°C
Filter disc:	-50°C / +110°C
Drainage element:	-50°C / +110°C
Protection class	
Membrane:	IP 66 / IP 68 / IP 69K
Filter disc:	IP 55 / IP x9K
Drainage element:	IP 4x

Pressure balance element made of synthetic material

G	mm	H mm	L mm		Art. no.	
M12x1.5	17	9	10	-40°C / +100°C	**2445.12**	25

Available on request: Version in light grey RAL 7035

Pressure balance element with membrane

G	mm	H mm	L mm	Available on request: Stainless steel A2 or A4	Art. no.	
M12x1.5	18	9.5	8		**2450.12.34**	25
M16x1.5	18	9.5	8		**2450.17.34**	20
M20x1.5	22	10.0	8		**2450.20.34**	20

A special membrane of PES (polyethersulfone) has pores which are many hundreds of times bigger than water vapour molecules but thousands of times smaller than water droplets. It allows easy air exchange and thus ensures that the enclosed area remains dry. Its special structure makes this AGRO pressure balance element air-permeable but not water-permeable. The element is rated IP 68 at pressures of up to 0.8 bars. Its membrane is water-, oil- and dirt-repellent.

Pressure balance element with sinter filter

G	mm	H mm	L mm	Available on request: Stainless steel A2 or A4	Art. no.	
M12x1.5	18	9.5	8		**2450.12.32**	25
M16x1.5	18	9.5	8		**2450.17.32**	20
M20x1.5	22	10.0	8		**2450.20.32**	20

The coarser nature of the sinter disc's material allows greater air transfer. Extreme pressure and moisture fluctuations in very large housings can be easily balanced. The sinter disc protects against splashing of water and insects.

Drainage element with mesh

G	mm	H mm	L mm	Available on request: Stainless steel A2 or A4	Art. no.	
M12x1.5	18	9.5	10		**2450.12.36**	25
M16x1.5	18	9.5	10		**2450.17.36**	20
M20x1.5	22	10.0	10		**2450.20.36**	20

In applications where, due to environmental conditions, condensation of water is to be expected, drainage elements are used. A special stainless steel mesh allows water to drain away quickly, but protects the enclosed area from insects and dust particles larger than 0.2 mm. This element is typically located at a housing's lowest point.For optimal drainage, partially slotted counter nuts are available.

Lock nut for drainage element

G	mm	M mm	Art. no.	
M12x1.5	15	4.5	**8324.12**	25
M16x1.5	19	5.5	**8324.17**	20
M20x1.5	24	5.5	**8324.20**	20