

Dehydrating breathers

FOR OIL INSULATED TRANSFORMERS



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HAMP's dehydrating breathers are used to prevent the moisture in the air from coming into contact with the transformer oil since this reduces the oil's insulation capacity.

The air is drawn into the transformer when loads or temperatures decrease, passing through a plexiglass container filled with silica gel dehumidifying agent. The dehydrating breather is equipped with an oil trap, which prevents the exterior air from remaining in continual contact with the silica gel.

The dehydrating breather is available in several sizes and is designed to be used within one year intervals between replacement or regeneration of the dehumidifying agent. This however is dependent on the operating conditions and humidity.

The moisture absorption capacity of the silica gel is about 10 percent by weight. The colour is orange when dry. As moisture is absorbed, the colour intensity decreases from orange to colourless.

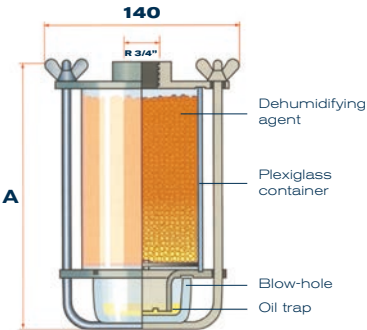


TYPE 4101

Type	For transformers with max kg oil	Weight kg		A mm
		Unit	Silica Gel	
4101-A	1000	0,6	0,25	140
4101-B	2000	0,7	0,5	205
4101-C	4000	0,9	1,0	325

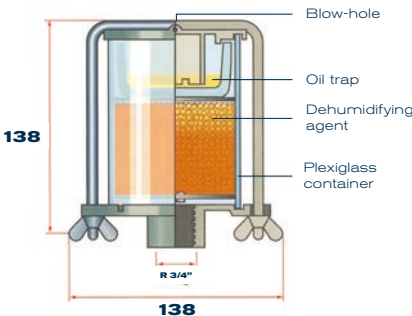
Mounting and maintenance instructions

1. Screw the dehydrating breather onto the pipe underneath the expansion tank.
2. Loosen the wing nuts a few turns in order to enable the plexiglass container of the dehumidifying agent to be removed sideways.
3. Remove the oil trap and fill the glass bowl with transformer oil up to the level mark. The oil for this can be tapped off from the test valve on the expansion tank.
4. Check that both gaskets are correctly located, and fit the container. Tighten the wing nuts firmly, to ensure good sealing.



TYPE 4170

Type	For transformers with max kg oil	Weight kg	
		Unit	Silica Gel
4170	800	0,35	0,18



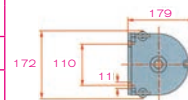
Mounting and maintenance instructions

1. The dehydrating breather is designed for top mounting. Screw it onto the expansion tank filling hole.
2. Loosen the wing nuts a few turns so that the plexiglass container with its cover can be removed sideways.
3. Fill the plexiglass container with silica gel up to the oil trap support.
4. Remove the oil trap, and fill the glass bowl with transformer oil up to the level mark. The oil can then be tapped off from the test valve on the expansion tank.
5. Check that both gaskets are correctly located, and fit the container. Tighten the wing nuts firmly, to ensure good sealing.



TYPE 4130-2, 4130-4, 4140

Type	For transformers with max kg oil	Weight kg		A mm
		Unit	Silica Gel	
4130-2	8000	2,7	2	319
4130-4	16 000	3,5	4	515
4140	32 000	5,7	8	916



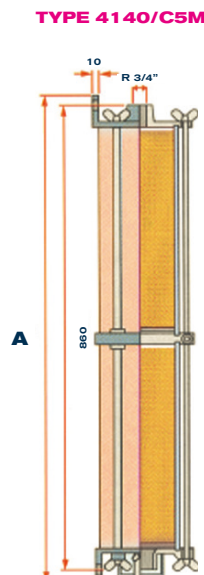
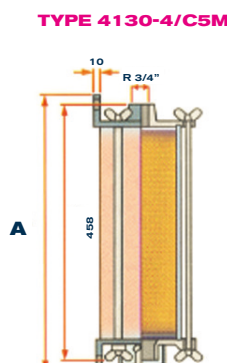
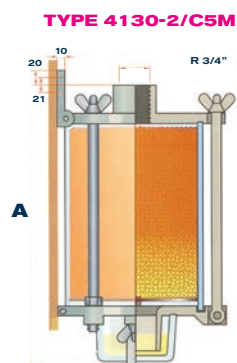
TYPE C5M-OFF SHORE

Dehydrating breathers produced for offshore use in marine climates in accordance with ISO-standard ISO 12499-2 and ISO 9223.

Type	For transformers with max kg oil	Weight kg		A mm
		Unit	Silica Gel	
4130-2C5M	8 000	2,7	2	319
4130-4C5M	16 000	3,5	4	515
4140-C5M	32 000	5,7	8	916

Mounting and maintenance instructions 4130-2, 4130-4, 4140 och C5M

1. Screw the dehydrating breather onto the pipe underneath the expansion tank. The cover has a location flange. With types 4130-4 and 4140 the base also has a location flange.
2. Loosen the three upper wing nuts a few turns and then lower the front retainer bolt. Remove the plexiglass container and fill it with silica gel.
3. Check that both gaskets are correctly located, and fit the container. Tighten the wing nuts firmly, to ensure good sealing.
4. Remove the oil trap bowl by loosening the wing nut on the underneath and turning the retainer forwards 90 degrees. Fill with transformer oil up to the level mark on the oil trap.
5. Make sure the oil does not moisten the silica gel as this will destroy the gel.





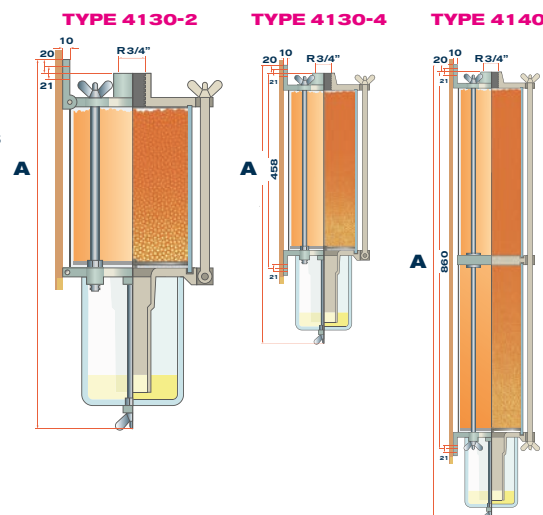
TYPE SO

Dehydrating breathers produced with an extra-large oil trap, manufactured for use in applications where the transformer risks being put through quick and intense fluctuations in terms of strain.

Type	For transformers with max kg oil	Weight kg		A mm
		Unit	Silica Gel	
4130-2SO	8 000	2,9	2	428
4130-4SO	16 000	3,7	4	624
4140-SO	32 000	5,9	8	1 025

Mounting and maintenance instructions

1. Screw the dehydrating breather onto the pipe underneath the expansion tank. The cover has a location flange. With types 4130-4 and 4140 the base also has a location flange.
2. Loosen the three upper wing nuts a few turns and then lower the front retainer bolt. Remove the plexiglass container and fill it with silica gel.
3. Check that both gaskets are correctly located, and fit the container. Tighten the wing nuts firmly, to ensure good sealing.
4. Remove the oil trap bowl by loosening the wing nut on the underneath and turning the retainer forwards 90 degrees. Fill with transformer oil up to the level mark on the oil trap.
5. Make sure the oil does not moisten the silica gel as this will destroy the gel.



ADAPTER FLANGES

Adapter flanges produced in two separate versions. These adapter flanges are manufactured to easily replace older devices with those made by HAMP. The smaller flange has a 65 millimeter bore diameter and is best suited for use in the small, type 4101, dehydrating breather. The larger flange uses four bolts with a 90 millimeter bore diameter, this flange is manufactured for use in the larger dehydrating breathers type 4130-2, 4130-4 and 4140. The stainless R3/4"- R3/4" transition is used with both flanges.



SILICA GEL

Trockenperlen orange

Trockenperlen orange silica gel is an environmentally friendly dehumidifying agent free of heavy metals. The indicator shifts from orange to colourless after about 6 percent water absorption. Saturated silica gel can be dried and reused. It should be dried at a temperature between 120 °C and 160 °C. HAMP supplies silica gel in 4 kg containers.



HAMP IS YOUR ELECTRIC POWER SPECIALIST.

Since 1959 we have been supplying quality products and services to companies in the electric power field. We are a secure company offering reliable deliveries, personal commitment and sound competence. We are proud of this record.

From HAMP you can rely on getting the right products when you need them. And with our experience and curiosity about possible future products we can customize solutions to suit your needs.

We can, for instance, supply flexible connections, resistors, dehydrating breathers and other transformer accessories. We are in addition the agent of Reinhausen products as well as the Reinhausen partner for service and maintenance of tap changers in Sweden, Norway and Finland.

Our customers are to be found in Europe, Asia, Africa and the USA.

We look forward to hearing from you!