

# PASSIVE VENTILATION

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**HENSEL**

## WHAT ARE THE REASONS FOR LARGE TEMPERATURE DIFFERENCES?

### Climate/Weather

- A hot day followed by a cool night
- Weather change
- Monsoons in tropical and subtropical regions

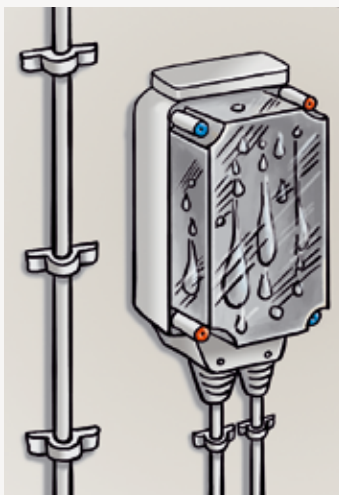
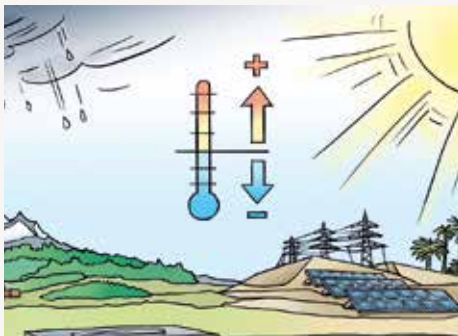
### Operating conditions

Different operating times of the installed units  
-> phases with a lot of power loss (waste heat)  
alternate with phases without operation (e.g. day/night)

### Place of use

Outdoor applications: e.g. in the field of photovoltaics, water and waste water management, waste management, petrol stations and pipelines, telecommunications, mining and the building materials industry, etc.

Indoor applications: e.g. near large gates, in car washes and laundry rooms, in agriculture, in cement, glass and ceramic factories, in power stations/power distribution, etc.



## What are the consequences of large temperature differences?

Especially for housings with a high degree of protection and thus high impermeability and low airflow between inside and outside.

Warm air can absorb more water or water vapour than cold air. If the temperature in the housing drops, humidity is released at the condensation point in the form of condensation, which collects on the colder inner walls or built-in devices. The greater the temperature difference inside and outside the housing, the greater the risk of condensation.

## There is a pressure difference between the inside of the housing and the environment.

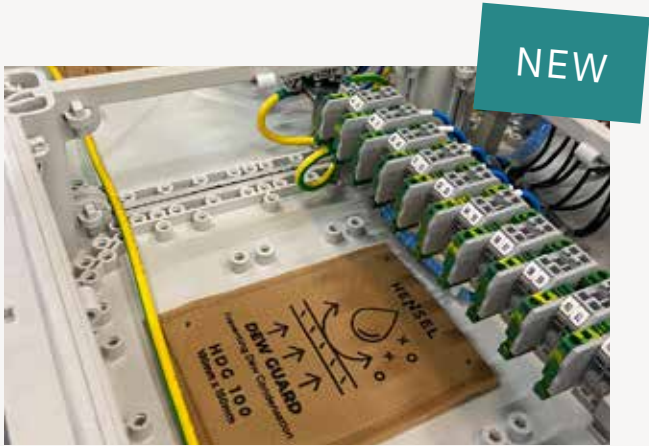
Due to the resulting negative pressure in housings with a high degree of protection, outside air with humidity is sucked in because housings are not gas-tight.

If the temperature in the housing drops or if the air in the housing is completely saturated with water vapor, the humidity condenses and forms condensation on the inner walls and/or the built-in devices.

In addition, the temperature changes can have an impact on the units and thus shorten their service life.

# HENSEL SOLUTIONS FOR OPERATIONAL SAFETY IN THE EVENT OF CONDENSATION

Provisions for water drainage should be made where condensation can occur within cable and piping systems and condensate can collect. Systems and accessories specially developed for this purpose by Hensel, which keep the inside of the housing dry and thus ensure the smooth and safe functioning of the electrical installation, provide a remedy.



## Dew guard

Absorbs moisture without any saturation, even in high humidity, provided the right sizes are used. Absorbency of 0.8g (H<sub>2</sub>O) / 1g (product) @25 deg C / IP65 and 95% relative humidity or higher. Can be used for a long period of time thanks to its humidity absorption / release function. In case insufficient numbers are used and the Dew Guard is wet and saturated, it can be dried in sunlight and put back in use.



## LES pressure compensation element

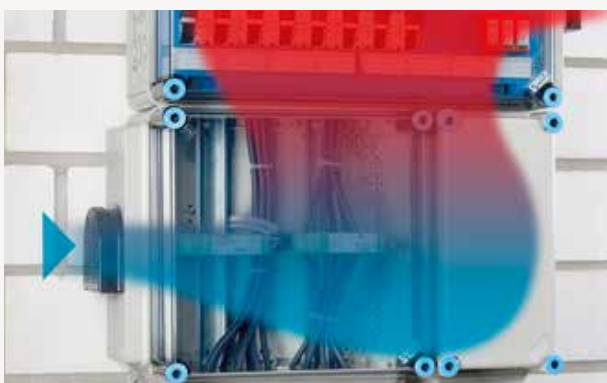
to reduce condensation and accumulation by equalising pressure. Prevents humid air from being sucked in from outside due to negative pressure. For pre-embossing M40 / M20 . Protection class IP 54



## Combination ventilation gland KBM / KBS

reduce condensation that can form due to rapid temperature changes or intense sunlight, among other things, via a climate membrane in housings with a high degree of protection .

Protection class IP 66 / IP 67



## Ventilation flange Mi / FP

for ventilating ENYSTAR and Mi distributors at extremely high internal temperatures and where there is a risk of condensation . Protection class IP 44



## Protective canopy Mi / FP

provides protection against rain, snow and ice as well as condensation . Protection class IP 65

# HENSEL SOLUTIONS FOR OPERATIONAL SAFETY IN THE EVENT OF CONDENSATION



## DEW GUARD

Type	Width x Depth (mm)	Temperature range
HDG 050	50 x 75 mm	- 30 °C to 90 °C
HDG 075	75 x 100 mm	- 30 °C to 90 °C
HDG 100	100 x 150 mm	- 30 °C to 90 °C
HDG 150	150 x 150 mm	- 30 °C to 90 °C



## COMBINATION VENTILATION GLANDS

Type	Thread	Sealing range	Protection class
KBM 20	M20 X 1,5	Ø 6 - 13 mm	IP 66 /67
KBM 25	M25 X 1,5/7	Ø 9 - 17 mm	IP 66 /67
KBM 32	M32 X 1,5	Ø 13 - 21 mm	IP 66 /67
KBM 40	M40 X 1,5	Ø 16 - 28 mm	IP 66 /67



## PRESSURE COMPENSATION

Type	Thread	max. housing volume	Protection class
BM 20G	M20 x 1,5	28 l	IP 54
BM 40G	M40 x 1,5	122 l	IP 54



## SEALING PLUG

Type	Length
VSF 13	22 mm
VSF 21	30 mm



## VENTILATION FLANGES (Mi BF 44 / FP BF 18 / FP BF 27 / FP BF 36)

Protection class	Suitable for box wall
IP 44	300 mm
	180/270/360 mm (FP)



## PROTECTIVE CANOPY

Type	Suitable for box wall (mm)	Height (mm)	Width x Depth (mm)
Mi DB 01	-	-	74 x 245 mm
Mi DB 15	150	60 mm	150 x 245 mm
Mi DB 30	300	60 mm	300 x 245 mm
FP DB 27	270	60 mm	270 x 245 mm
FD DB 36	360	60 mm	360 x 245 mm



## MOUNTING FRAME

Type	Width x Depth (mm)
FP MS 1	up to 810 x 1260 mm
Mi MS 2	up to 900 x 1200 mm

### Hensel Electric India Pvt. Ltd.

35, Kunnam Village  
Sunguvarchathram - Walajabad Road  
Sriperumbudur- 631 604  
Kanchipuram Dist, Tamil Nadu

Tel : + 91 44 6712 7700  
Fax : + 91 44 6712 7724  
info@hensel-electric.in  
hensel.in

**HENSEL**