

MODEL EN TECHNICAL SPECIFICATION



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1. MATRIX

Our rotary heat exchanger model EN is available in five different standard materials: two condensation materials and three hygroscopic/enthalpy materials.

Aluminum - A (Condensation)

The main use for an aluminum matrix is the transfer of temperature between the cold and the warm air-flow. Moisture transfer will take place only if condensation occurs.

Epoxy - E (Condensation)

The main use for an epoxy coated aluminum matrix is to protect the wheel from corrosive environments where an aluminum wheel would corrode easily otherwise. Heat and moisture transfer is as aluminum wheels.

Silica gel - D (Adsorption)

Our Silica Gel adsorption material is of high quality. The material consists of an aluminum core with a silica gel based coating that has a high moisture transfer capability. A small amount of surplus material might leave the matrix during the first time of usage. This will NOT affect the hygroscopic properties.

Molecular sieve- M (Adsorption)

For applications with high demand on odor free moisture transfer Heatex recommends a matrix coating with Molecular Sieve 3A (3 Angstrom), which only will transfer water molecules. Both corrugated and flat foils are coated with a molecular sieve. A small amount of surplus material might leave the matrix during the first time of usage. This will NOT affect the hygroscopic properties.

Hybrid - K (Enthalpy)

The matrix referred to as hybrid is a combination of a corrugated aluminum foil and a non-corrugated

foil with a silica gel based coating that has a high moisture transfer capability. The main use for a hybrid matrix is the enhanced moisture transfer compared to an aluminum matrix since moisture transfer will take place when the inlet moistures

are different as well as when condensation occurs. A small amount of surplus material might leave the matrix during the first time of usage. This will NOT affect the hybrid properties.

2. WELL HEIGHT

The wheel consists of two foils, one flat and one corrugated. The well height definition was standardized by the Eurovent organization and is defined as flat foil thickness plus total wave height (see picture below).



The corrugated foil comes in four different configurations:

Very High Efficiency

1.4 mm (0.055") well height, gives a high efficiency due to its large heat transferring surface but also a higher pressure drop due to its small channels. This configuration is available for aluminum, epoxy and hybrid.

High Efficiency

1.6 mm (0.063") well height, gives a high efficiency due to its large heat transferring surface but at a lower pressure drop. This configuration is available for all matrix materials.

Standard

1.8 mm (0.071") well height is our most common configuration due to its high efficiency and moderate pressure drop. This configuration is available for all matrix materials.

Low pressure drop

2.00 mm (0.079") well height offers almost the same efficiency as 1.8mm but with an even lower pressure drop. This configuration is available for all matrix materials.

3. WHEEL DEPTH

The EN rotor is available in three wheel depths. Standard depth is 200 mm (7.87"). The option to select depth 100 and 150 mm (3.94" and 5.91") is also available.

4. SPOKES AND GLUE

All wheels will be glued only and do not contain spokes. At the outer periphery, a few turns of aluminum will serve as wrapping. The option to have thicker wrapping with aluminum or aluzink is available.

5. HUB/BEARING

All wheel diameters will have a 40 mm (1.57") diameter aluminum hub that will function as bearing for vertical installation.



Standard Shaft

The length of a standard shaft is 20 mm (0.79") larger than the depth of the wheel. The diameter is 12 mm (0.49") and internal threads are made for M6x20. Other shaft lengths are optional.

Round Belt

The recommended round belt diameter is 6 mm (0.24").

6. TOLERANCES

The well height tolerance should be within ± 0.05 mm (0.00197").

Other tolerances according to key drawing i.e. diameter $+0/-4$ mm (+0 -0.157"), roundness 2 mm (0.079"), flatness 1 mm (0.039") and wheel depth ± 1 mm (0.039").

7. SUPPORT

For questions or other requirements regarding this product, please state order number, product name and message.

Heatex is available for support during office hours 8 am – 4.30 pm (GMT +1) on weekdays.