



netec

Energy Technology

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Brine-to-Air Heat-Exchanger CWK 300-F-iso
for ventilation systems up to 300 cbm/h

Use: Preheating of cold fresh air to avoid icing inside ventilation systems with high efficient heat exchangers by ground heated brine. In hot season useable to pre-cool fresh air with grounds lower temperature. To avoid hygienically unwanted condense water effects, the outgoing air temperature must not be lower than +24 °C.

Construction: Thermally insulated body made of expanded polypropylene (EPP) with 5 to 12 cm insulation thickness. Heating grid with aluminum fins and copper pipes. Air channel connections for 160 mm metal pipes or 180 mm PS-pipes. Condense water outflow at the bottom side. Double filtering of the air through built-in G4 pre-filter and F7-fine filter with 2,89 m² filter area.

Power/ Dimensions: Max. use temperature: 80°C, brine pressure max: 1 MPa (10 bar). Heating power and air pressure drop depend on the airflow, air and fluid temperatures. For common air preheating from -12°C to 0°C with an +6°C warm brine following values are valid:

| air flow cbm/h | airside. press.drop - / +Filter | | brine flow l/h | brine side press.drop in heater kPa | Heat power W |
|-------------------|---------------------------------------|----|-------------------|--|-----------------|
| | Pa | Pa | | | |
| 150 | 6 | 10 | 340 | 3,7 | 710 |
| 200 | 9 | 13 | 420 | 4,7 | 870 |
| 250 | 12 | 19 | 490 | 5,6 | 1.020 |
| 300 | 18 | 27 | 570 | 12,0 | 1.200 |

Heat sources To heat up outer air from -12°C to +0°C out of our experience in northern Germany a ground pipe made of PE with inner diameter of 25 mm should be installed in minimally 1,5 m depth (better 2,0 m) . The length of the pipe should be minimally 50 % (better 75 %) of the airflow (f.e. 50 - 75 m pipe to heat up each 100 cbm/h airflow). Single pipes should not be longer then ca. 120 m. If more total length is needed, install two or more parallel pipes.

Sizes and Installation: Length 60,5 cm, width 60 cm, height 50 cm. Airflow horizontally only. Outgoing air pipes center position must be minimally 27 cm distanced from ceiling and 30 cm from next wall. Body is to be hanged up from ceiling with added thread rods and fixing set.

Maintenance Both sides can be opened for inspection, filter exchange and cleaning purpose.

Accessories: Netec modulating Brine Pump controller HTR2-2, ready for plug and play connection to Netec Pump- and Safety-Set PGR-2 with high efficiency pump. Replacement filters single or in economical five-packs.