



05 Thermal Management

Cooling Units

| | |
|--|-----|
| Vertical, Slim Fit..... | 502 |
| Vertical, SpectraCool Narrow..... | 506 |
| Vertical, SpectraCool Indoor SS..... | 508 |
| Vertical, CUVN..... | 510 |
| Vertical, T-Series..... | 512 |
| Outdoor, CUON..... | 514 |
| Outdoor, SpectraCool with advanced corrosion protection..... | 516 |
| Roof, CUH..... | 518 |
| Thermoelectric coolers, TE..... | 520 |

Vortex

| | |
|---|-----|
| Vortex Cooler, BP..... | 522 |
| High Temperature Vortex Cooler, HT..... | 526 |
| Accessories..... | 528 |

Air-Water Heat Exchangers

| | |
|--------------------|-----|
| Vertical, PWS..... | 530 |
| Roof, PWD..... | 532 |

Hazardous Location Cooling

| | |
|--|-----|
| Hazardous Location Cooling Units, NHZ..... | 534 |
| Hazardous Location Vortex, VHL..... | 536 |

Ventilation

| | |
|--------------------------------------|-----|
| Vertical, EF / EFP / EFA / EFAP..... | 538 |
| Roof, RFU / REU..... | 550 |

Heating & Anticondensation

| | |
|--|-----|
| Heaters, EGK / EHG / ECH / ECHT..... | 558 |
| Fanheaters, EGL / EHV / ECR..... | 561 |
| Pressure compensation, EDA / EDAS..... | 564 |
| Drain Plug, DWP / PDV..... | 566 |

Control

| | |
|----------------------------|-----|
| Thermostat, EFR / ETR..... | 568 |
| Hygrostat, ETF..... | 572 |

Hazardous Location Heating

| | |
|-------------------------------------|-----|
| Heaters, DAHHL, HLHEAT..... | 574 |
| Thermostats, HLTSTAT, HLHERMNC..... | 575 |

Thermal Management Cooling units Slim Fit indoor cooling unit

IP54



Description:

The Slim Fit indoor air conditioner has extensive features and options. The units have an attractive design that also help optimize the air flow. The units are delivered with a smart controller. The standard unit has three mounting options: Surface, partial recess and fully recess mount, that are easy to change. The air conditioners are available for a cooling range from 300 W to 4000 W. All units are equipped with active condensate management with a heater strip. The factory thermostat setting is 35 °C.

Type of connection:

Terminal block.

Material:

Galvanized steel powder coated. Aesthetic designed plastic cover to optimize air flow.

Temperature limits inside:

+20 °C... + 55 °C

Temperature limits outside:

+10 °C... + 55 °C

Protection:

IP54 | TYPE 12

Finish:

Powder Coat Semi-textured RAL 7035 Light Grey Standard.



Dimensional table | Slim Fit indoor cooling unit

IP54

| H | W | D | Cooling capacity L35L35 (W) | Cooling capacity L35L50 (W) | Max power consumption L35/L35 (W at 50/60Hz) | Item no. |
|------|-----|-----|-----------------------------|-----------------------------|--|--------------|
| 550 | 280 | 140 | 370/420 | 190/230 | 270/300 | S060316G031 |
| 550 | 280 | 140 | 370/420 | 190/230 | 300/320 | S060326G031 |
| 550 | 280 | 140 | 370/420 | 190/230 | 270/300 | S060316G041* |
| 550 | 280 | 140 | 370/420 | 190/230 | 300/320 | S060326G041* |
| 550 | 280 | 206 | 550/640 | 320/380 | 450/480 | S060526G031 |
| 550 | 280 | 206 | 550/640 | 320/380 | 450/470 | S060516G031 |
| 550 | 280 | 206 | 550/640 | 320/380 | 450/470 | S060516G041* |
| 550 | 280 | 206 | 550/640 | 320/380 | 450/480 | S060526G041* |
| 950 | 400 | 259 | 1300/1380 | 900/1000 | 810/1010 | S101016G031 |
| 950 | 400 | 259 | 1300/1380 | 900/1000 | 670/800 | S101026G031 |
| 950 | 400 | 259 | 1300/1380 | 900/1000 | 750/960 | S101046G031 |
| 950 | 400 | 259 | 1300/1380 | 900/1000 | 810/1010 | S101016G041* |
| 950 | 400 | 259 | 1300/1380 | 900/1000 | 670/800 | S101026G041* |
| 950 | 400 | 259 | 1300/1380 | 900/1000 | 750/960 | S101046G041* |
| 950 | 400 | 259 | 1800/1880 | 1300/1380 | 850/1040 | S101516G031 |
| 950 | 400 | 259 | 1800/1880 | 1300/1380 | 850/1040 | S101526G031 |
| 950 | 400 | 259 | 1800/1880 | 1300/1380 | 930/1130 | S101546G031 |
| 950 | 400 | 259 | 1800/1880 | 1300/1380 | 850/1040 | S101516G041* |
| 950 | 400 | 259 | 1800/1880 | 1300/1380 | 850/1040 | S101526G041* |
| 950 | 400 | 259 | 1800/1880 | 1300/1380 | 930/1130 | S101546G041* |
| 1580 | 400 | 259 | 2200/2400 | 1820/1900 | 930/1090 | S162016G031 |
| 1580 | 400 | 259 | 2200/2400 | 1820/1900 | 940/1140 | S162026G031 |
| 1580 | 400 | 259 | 2200/2400 | 1820/1900 | 900/1180 | S162046G031 |
| 1580 | 400 | 259 | 2200/2400 | 1820/1900 | 930/1090 | S162016G041* |
| 1580 | 400 | 259 | 2200/2400 | 1820/1900 | 940/1140 | S162026G041* |
| 1580 | 400 | 259 | 2200/2400 | 1820/1900 | 900/1180 | S162046G041* |
| 1580 | 400 | 259 | 2680/2800 | 2200/2300 | 1230/1420 | S162516G031 |
| 1580 | 400 | 259 | 2680/2800 | 2200/2300 | 1320/1650 | S162526G031 |
| 1580 | 400 | 259 | 2680/2800 | 2200/2300 | 1150/1510 | S162546G031 |
| 1580 | 400 | 259 | 2680/2800 | 2200/2300 | 1230/1420 | S162516G041* |
| 1580 | 400 | 259 | 2680/2800 | 2200/2300 | 1320/1650 | S162526G041* |
| 1580 | 400 | 259 | 2680/2800 | 2200/2300 | 1150/1510 | S162546G041* |
| 1580 | 500 | 340 | 4000/4500 | 3050/3450 | 1543/2073 | S164046G031 |
| 1580 | 500 | 340 | 4000/4500 | 3050/3450 | 1543/2073 | S164046G041* |

IP54

| Power supply (V/ph/Hz) | Max. Nominal current (A) | Starting current (A) | Noise level (dB) | Weight (kg) | Item no. |
|------------------------------|--------------------------|----------------------|------------------|-------------|--------------|
| 115 / 1 / 50-60 | 4/3.8 | 13/13 | 68 | 13 | S060316G031 |
| 230 / 1 / 50-60 | 1,8/1,7 | 6/6/ | 68 | 13 | S060326G031 |
| 115 / 1 / 50-60 | 4/3.8 | 13/13 | 68 | 13 | S060316G041* |
| 230 / 1 / 50-60 | 1,8/1,7 | 6/6/ | 68 | 13 | S060326G041* |
| 230 / 1 / 50-60 | 2,6/2,9 | 9/10 | 68 | 15 | S060526G031 |
| 115 / 1 / 50-60 | 6,5/6,1 | 21/20 | 68 | 15 | S060516G031 |
| 115 / 1 / 50-60 | 6,5/6,1 | 21/20 | 68 | 15 | S060516G041* |
| 230 / 1 / 50-60 | 2,6/2,9 | 9/10 | 68 | 15 | S060526G041* |
| 115 / 1 / 50-60 | 9,6/10,2 | 32/34 | 71 | 39 | S101016G031 |
| 230 / 1 / 50-60 | 4,1/5,5 | 14/18 | 71 | 39 | S101026G031 |
| 400 / 1 / 50... 460 / 1 / 60 | 2,1/2,4 | 7/8 | 71 | 45 | S101046G031 |
| 115 / 1 / 50-60 | 9,6/10,2 | 32/34 | 71 | 39 | S101016G041* |
| 230 / 1 / 50-60 | 4,1/5,5 | 14/18 | 71 | 39 | S101026G041* |
| 400 / 1 / 50... 460 / 1 / 60 | 2,1/2,4 | 7/8 | 71 | 45 | S101046G041* |
| 115 / 1 / 50-60 | 9,6/10,2 | 32/34 | 73 | 43 | S101516G031 |
| 230 / 1 / 50-60 | 5,1/6,7 | 17/22 | 73 | 43 | S101526G031 |
| 400 / 3 / 50... 460 / 3 / 60 | 2,1/2,4 | 7/8 | 73 | 43 | S101546G031 |
| 115 / 1 / 50-60 | 9,6/10,2 | 32/34 | 73 | 43 | S101516G041* |
| 230 / 1 / 50-60 | 5,1/6,7 | 17/22 | 73 | 43 | S101526G041* |
| 400 / 3 / 50... 460 / 3 / 60 | 2,1/2,4 | 7/8 | 73 | 43 | S101546G041* |
| 115 / 1 / 50-60 | 11,1/12,5 | 37/41 | 70 | 68 | S162016G031 |
| 230 / 1 / 50-60 | 5,7/7,2 | 19/24 | 70 | 68 | S162026G031 |
| 400 / 3 / 50... 460 / 3 / 60 | 2,2/2,6 | 7/9 | 70 | 68 | S162046G031 |
| 115 / 1 / 50-60 | 11,1/12,5 | 37/41 | 70 | 68 | S162016G041* |
| 230 / 1 / 50-60 | 5,7/7,2 | 19/24 | 70 | 68 | S162026G041* |
| 400 / 3 / 50... 460 / 3 / 60 | 2,2/2,6 | 7/9 | 70 | 68 | S162046G041* |
| 115 / 1 / 50-60 | 16,1/16,9 | 53/56 | 72 | 70 | S162516G031 |
| 230 / 1 / 50-60 | 8,0/10,1 | 26/33 | 72 | 70 | S162526G031 |
| 400 / 3 / 50... 460 / 3 / 60 | 3,2/3,4 | 11/11 | 72 | 70 | S162546G031 |
| 115 / 1 / 50-60 | 16,1/16,9 | 53/56 | 72 | 70 | S162516G041* |
| 230 / 1 / 50-60 | 8,0/10,1 | 26/33 | 72 | 70 | S162526G041* |
| 400 / 3 / 50... 460 / 3 / 60 | 3,2/3,4 | 11/11 | 72 | 70 | S162546G041* |
| 400 / 3 / 50... 460 / 3 / 60 | 4,2/4,4 | 14/15 | 72 | 92 | S164046G031 |
| 400 / 3 / 50... 460 / 3 / 60 | 4,2/4,4 | 14/15 | 72 | 92 | S164046G041* |

*Includes a comm-board for remote access control



Thermal Management Cooling units SpectraCool Narrow Compact Indoor

IP54



Description:

SpectraCool Narrow Compact indoor is the air conditioning solution for the smaller enclosures that requires an AC unit. Units have an active condensate management. Cleanable, reusable aluminium mesh filter protects coils for maximum cooling performance. The mechanical thermostat is inside the unit. The factory setting is 27 °C.

Type of connection:

Terminal block.

Material:

Galvanized steel powder coated. Note: The items made in stainless steel, are manufactured from stainless steel AISI 304.

Temperature limits inside:

+22 °C ... +45 °C.

Temperature limits outside:

-40 °C ... +55 °C.

Protection:

IP54 | TYPE 12.

Finish:

RAL 7035 for the galvanized steel versions.



Dimensional table | SpectraCool Narrow Compact Indoor

IP54

| H | W | D | Cooling capacity L35/L35 (W) | Cooling capacity L55/L55 (W) | Max power consumption (W at 50/60Hz) | Item no. |
|-----|-----|-----|------------------------------|------------------------------|--------------------------------------|--------------|
| 419 | 191 | 160 | 237/280 | 270/281 | 330/345 | N160126G050 |
| 419 | 191 | 160 | 278/278 | 240/240 | 360/403 | N160116G050 |
| 531 | 254 | 251 | 571/645 | 586/637 | 805 | N210226G050 |
| 531 | 254 | 251 | 571/645 | 586/637 | 700/805 | N210216G050 |
| 419 | 191 | 160 | 237/280 | 270/281 | 330/345 | N160126G051* |
| 419 | 191 | 160 | 278/278 | 240/240 | 360/403 | N160116G051* |
| 531 | 254 | 251 | 571/645 | 586/637 | 805 | N210226G051* |
| 531 | 254 | 251 | 571/645 | 586/637 | 700/805 | N210216G051* |

| Power supply (V/ph/Hz) | Max. Nominal current (A) | Starting current (A) | Noise level (dB) | Weight (kg) | Item no. |
|------------------------|--------------------------|----------------------|------------------|-------------|--------------|
| 230 / 1 / 50-60 | 1,5/1,5 | 3,3/3,1 | 63 | 12 | N160126G050 |
| 115 / 1 / 50-60 | 3,6/3,5 | 8,0/9,2 | 63 | 12 | N160116G050 |
| 230 / 1 / 50-60 | 3,5/3,5 | 7,6 | 66 | 25 | N210226G050 |
| 115 / 1 / 50-60 | 7,0/7,0 | 19 | 66 | 25 | N210216G050 |
| 230 / 1 / 50-60 | 1,5/1,5 | 3,3/3,1 | 63 | 12 | N160126G051* |
| 115 / 1 / 50-60 | 3,6/3,5 | 8,0/9,2 | 63 | 12 | N160116G051* |
| 230 / 1 / 50-60 | 3,5/3,5 | 7,6 | 66 | 25 | N210226G051* |
| 115 / 1 / 50-60 | 7,0/7,0 | 19 | 66 | 25 | N210216G051* |

*Made in stainless steel

Thermal Management Cooling units

SpectraCool Indoor/Outdoor G-Series SS

IP56 | TYPE 4X



Description:

SpectraCool Indoor G-Series in stainless steel is the air conditioning solution for rugged factory environments. Units have an active condensate management. Cleanable, reusable aluminium mesh filter protects coils for maximum cooling performance. The mechanical thermostat is inside the unit. The factory setting is 27 °C.

Type of connection:

Terminal block.

Material:

Stainless steel type 304.

Temperature limits inside:

+22 °C ... +45 °C.

Temperature limits outside:

-40 °C ... +55 °C.

Protection:

IP56 | TYPE 4X.

Finish:

Brushed stainless steel.



Dimensional table | SpectraCool Indoor/Outdoor G-Series SS

IP56 | TYPE 4X

| H | W | D | Cooling capacity L35/L35 (W) | Cooling capacity L55/L55 (W) | Max power consumption (W at 50/60Hz) | Item no. |
|--------|--------|--------|---------------------------------|---------------------------------|--|-------------|
| 726.2 | 432.1 | 284 | 967/1000 | 1084 | 465/1055 | G280416G051 |
| 726.2 | 432.1 | 258.6 | 1260/1364 | 1347/1435 | 1058/1334 | G280426G051 |
| 726.2 | 432.1 | 258.6 | 1267/1364 | 1347/1435 | 680/874 | G280446G051 |
| 726.2 | 432.1 | 258.6 | 1641/1758 | 1757/1874 | 1138,5/1311 | G280616G051 |
| 726.2 | 432.1 | 258.6 | 1641/1758 | 1757/1874 | 1058/1334 | G280626G051 |
| 726.2 | 432.1 | 258.6 | 1481/1666 | 1581/1757 | 680/874 | G280646G051 |
| 1338 | 435 | 296 | 1758/1992 | 2139/2403 | 1250/1415 | G520816G051 |
| 1338 | 435 | 296 | 1758/1992 | 2139/2403 | 1250/1415 | G520826G051 |
| 1338 | 435 | 296 | 2168/2402 | 2578/2871 | 806/957 | G520846G051 |
| 1338 | 435 | 296 | 2900/3135 | 3516/3662 | 2100/2427 | G521216G051 |
| 1338 | 435 | 296 | 2900/3135 | 3516/3662 | 1830/2130 | G521226G051 |
| 1338 | 435 | 296 | 2900/3135 | 3252/3516 | 910/1106 | G521246G051 |
| 1465.4 | 530.10 | 388.10 | 4689/5275 | 5129/5744 | 4508/5106 | G572026G051 |
| 1465.4 | 530.10 | 388.10 | 5656/6272 | 6272/6857 | 2400/3128 | G572046G051 |

| Power supply (V/ph/Hz) | Max. Nominal current (A) | Starting current (A) | Noise level (dB) | Weight (kg) | Item no. |
|------------------------------|--------------------------|----------------------|------------------|-------------|-------------|
| 115 / 1 / 50-60 | 10,4/10,1 | 36,2 | 68 | 38 | G280416G051 |
| 230 / 1 / 50-60 | 4,6/5,8 | 17,7 | 68 | 38 | G280426G051 |
| 400 / 3 / 50... 460 / 3 / 60 | 1,7/1,9 | 7,7 | 68 | 38 | G280446G051 |
| 115 / 1 / 50-60 | 9,9/11,4 | 36,2 | 68 | 38 | G280616G051 |
| 230 / 1 / 50-60 | 4,6/5,8 | 17,7 | 68 | 38 | G280626G051 |
| 400 / 3 / 50... 460 / 3 / 60 | 1,7/1,9 | 7,7 | 68 | 38 | G280646G051 |
| 115 / 1 / 50-60 | 11,2/12,3 | 48 | 68 | 58.10 | G520816G051 |
| 230 / 1 / 50-60 | 5,6/7,0 | 27 | 68 | 58.10 | G520826G051 |
| 400 / 3 / 50... 460 / 3 / 60 | 3,1/3,2 | 16 | 68 | 62.60 | G520846G051 |
| 115 / 1 / 50-60 | 16,1/21,0 | 57 | 68 | 59.40 | G521216G051 |
| 230 / 1 / 50-60 | 9,1/10,6 | 38 | 68 | 59.40 | G521226G051 |
| 400 / 3 / 50... 460 / 3 / 60 | 3,6/3,5 | 16 | 68 | 64 | G521246G051 |
| 230 / 1 / 50-60 | 19,6/22,2 | 63 | 74,1 | 89 | G572026G051 |
| 400 / 3 / 50... 460 / 3 / 60 | 6,0/6,8 | 27 | 74,1 | 89 | G572046G051 |

Thermal Management Cooling units

Vertical mounted cooling units | CUVN

IP 54 | TYPE 12



Description:

High performance cooling unit for vertical installation. The unit is external mounted, in order to maximize the space inside the enclosure. The air conditioners cover a cooling range from 360 W to 5950 W. Common to all models is the self cleaning condenser coil, which eliminates the necessity for an air filter and therefore avoiding standard maintenance. The cooling capacity for specific conditions are indicated in the diagrams. All models above 1000 W are equipped with condensation dissipator. Digital display is installed on all models above 500W. Ozone friendly refrigerant R134a.

Type of connection:

Terminal included.

Material:

Galvanized steel powder coated. Note: The items ending in "SS" are manufactured from stainless steel AISI 304. Stainless steel AISI 316 is available on request.

Temperature limits inside:

+25 °C to +45 °C.

Temperature limits outside:

+20 °C to +55 °C.

Protection:

IP 54 | TYPE 12.

Finish:

RAL 7035 for the galvanized steel versions.

Pack quantity:

One unit.



Dimensional table | CUVN

IP 54 | TYPE 12

| H | W | D | Cooling capacity L35L35 (W) | Cooling capacity L35L50 (W) | Power consumption L35L50 (W) | Power supply (V/ph/Hz) | Item no. |
|------|-----|-----|-----------------------------|-----------------------------|------------------------------|-----------------------------|-------------|
| 443 | 324 | 206 | 360 - 380 | 220 - 240 | 220 | 230 / 1 / 50 - 60 | CUVN03602 |
| 642 | 313 | 223 | 550 - 580 | 390 | 310 - 340 | 230 / 1 / 50 - 60 | CUVN05502 |
| 642 | 313 | 223 | 850 - 900 | 620 - 700 | 420 - 600 | 230 / 1 / 50 - 60 | CUVN08502 |
| 912 | 410 | 248 | 1050 - 1150 | 840 - 890 | 510 - 650 | 230 / 1 / 50 - 60 | CUVN10502 |
| 912 | 410 | 248 | 1500 - 1600 | 1200 - 1280 | 750 - 825 | 230 / 1 / 50 - 60 | CUVN15002 |
| 1005 | 409 | 263 | 1500 | 1200 | 890 | 400 - 3 - 50 / 460 - 3 - 60 | CUVN15004 |
| 1005 | 409 | 263 | 2100 - 2200 | 1750 - 1850 | 1120 - 1240 | 230 / 1 / 50 - 60 | CUVN21002 |
| 1005 | 409 | 263 | 2100 | 1800 | 1200 | 400 - 3 - 50 / 460 - 3 - 60 | CUVN21004 |
| 1217 | 511 | 347 | 3000 - 3150 | 2400 - 2600 | 1370 - 1510 | 230 / 1 / 50 - 60 | CUVN30002 |
| 1217 | 511 | 347 | 3000 | 2500 | 1510 | 400-3-50 / 460-3-60 | CUVN30004 |
| 1217 | 511 | 347 | 4000 - 4100 | 3000 - 3300 | 1730 - 1950 | 230 / 1 / 50 - 60 | CUVN40502 |
| 1217 | 511 | 347 | 4050 | 3260 | 1950 | 400 - 3 - 50 / 460 - 3 - 60 | CUVN40504 |
| 1405 | 554 | 404 | 5950 | 4850 | 2670 - 3600 | 400 - 3 - 50 / 460 - 3 - 60 | CUVN59504 |
| 443 | 324 | 206 | 360 - 380 | 220 - 240 | 190 - 220 | 230 / 1 / 50-60 | CUVN03602SS |
| 642 | 313 | 223 | 550 - 580 | 410 - 430 | 310 - 340 | 230 / 1 / 50 - 60 | CUVN05502SS |
| 642 | 313 | 223 | 850 - 900 | 620 - 700 | 420 - 600 | 230 / 1 / 50 - 60 | CUVN08502SS |
| 912 | 410 | 248 | 1050 - 1150 | 840 - 890 | 510 - 650 | 230 / 1 / 50 - 60 | CUVN10502SS |
| 912 | 410 | 248 | 1500 - 1600 | 1200 - 1280 | 750 - 825 | 230 / 1 / 50 - 60 | CUVN15002SS |
| 1005 | 409 | 263 | 1500 | 1200 | 890 | 400 - 3 - 50 / 460 - 3 - 60 | CUVN15004SS |
| 1005 | 409 | 263 | 2100 - 2200 | 1750 - 1850 | 1120 - 1240 | 230 / 1 / 50 - 60 | CUVN21002SS |
| 1005 | 409 | 263 | 2100 | 1800 | 1200 | 400 - 3 - 50 / 460 - 3 - 60 | CUVN21004SS |
| 1217 | 511 | 347 | 3000 - 3150 | 2400 - 2600 | 1370 - 1510 | 230 / 1 / 50 - 60 | CUVN30002SS |
| 1217 | 511 | 347 | 3000 | 2500 | 1510 | 400 - 3 - 50 / 460 - 3 - 60 | CUVN30004SS |
| 1217 | 511 | 347 | 4000 - 4100 | 3000 - 3300 | 1730 - 1950 | 230 / 1 / 50 - 60 | CUVN40502SS |
| 1217 | 511 | 347 | 4050 | 3260 | 1950 | 400 - 3 - 50 / 460 - 3 - 60 | CUVN40504SS |
| 1405 | 554 | 404 | 5950 | 4850 | 2670 - 3600 | 400 - 3 - 50 / 460 - 3 - 60 | CUVN59504SS |

| Max. running current (A) | Starting current (A) | Pre-fuse (A) | Noise level (dB) | Weight (kg) | Item no. |
|--------------------------|----------------------|--------------|------------------|-------------|-------------|
| 1.7 | 9.8 | 15 | 55 | 18.89 | CUVN03602 |
| 2.1 | 7.5 | 15 | 61 | 25.56 | CUVN05502 |
| 3.9 | 20 | 15 | 64 | 30 | CUVN08502 |
| 3.6 | 18 | 15 | 65 | 48.89 | CUVN10502 |
| 4.5 | 28 | 15 | 65 | 51.11 | CUVN15002 |
| 2.37 | 20 | 15 | 65 | 53.33 | CUVN15004 |
| 6.3 | 34 | 15 | 69 | 53.33 | CUVN21002 |
| 3.62 | 22 | 15 | 69 | 53.33 | CUVN21004 |
| 8 | 35 | 15 | 69 | 83.33 | CUVN30002 |
| 4.85 | 19 | 15 | 69 | 88.89 | CUVN30004 |
| 8.3 | 35 | 15 | 70 | 88.89 | CUVN40502 |
| 5.96 | 19 | 15 | 70 | 94.44 | CUVN40504 |
| 8.11 | 53 | 15 | 73.5 | 111.11 | CUVN59504 |
| 1.7 | 9.8 | 15 | 55 | 18.89 | CUVN03602SS |
| 2.1 | 15 | 15 | 61 | 25.56 | CUVN05502SS |
| 3.9 | 20 | 15 | 64 | 30 | CUVN08502SS |
| 3.6 | 18 | 15 | 65 | 48.89 | CUVN10502SS |
| 4.5 | 28 | 15 | 65 | 51.11 | CUVN15002SS |
| 2.37 | 20 | 15 | 65 | 53.33 | CUVN15004SS |
| 6.3 | 34 | 15 | 69 | 53.33 | CUVN21002SS |
| 3.62 | 22 | 15 | 69 | 53.33 | CUVN21004SS |
| 8 | 35 | 15 | 69 | 83.33 | CUVN30002SS |
| 4.85 | 19 | 15 | 69 | 88.89 | CUVN30004SS |
| 8.3 | 35 | 15 | 70 | 88.89 | CUVN40502SS |
| 5.96 | 19 | 15 | 70 | 94.44 | CUVN40504SS |
| 8.11 | 53 | 15 | 73.5 | 111.11 | CUVN59504SS |

Note: The items ending in "SS" are manufactured from stainless steel AISI 304. Stainless steel AISI 316 is available on request.

Thermal Management Cooling units T-Series outdoor air conditioner

IP56 | TYPE 4, 4X



Description:

The T-Series outdoor air conditioner has a proven robust design for rugged environments. All standard models are equipped with head pressure control for low ambient operation, compressor heater, coated condenser coil, malfunction switch, thermostat and heater package. The unit is designed for a compact footprint and equipped with easy-mount flanges for simple installation. It is delivered with a cleanable, reusable aluminium mesh filter. Non stainless steel versions are equipped with a heater as standard. All units are equipped with a reliable mechanical thermostat for mounting on the side of an enclosure. Factory thermostat setting for cooler is 27 °C . The factory setting for heater is 13 °C.

Type of connection:

1,8 Meter cord with NEMA 5-15 plug.

Material:

Galvanized steel powder coated or Stainless steel.

Temperature limits inside:

+20 °C ... +55 °C.

Temperature limits outside:

-40 °C ... +55 °C.

Protection:

IP56 | TYPE 4X.

Finish:

RAL 7035 light-grey, semi-textured powder-coat paint standard. SS version is not painted.



Dimensional table | T-Series outdoor air conditioner

IP56 | TYPE 4, 4X

| H | W | D | Cooling capacity L35/L35 (W) | Cooling capacity L55/L55 (W) | Max power consumption L35/L35 (W at 50/60Hz) | Item no. |
|------|-----|-----|------------------------------|------------------------------|---|--------------|
| 400 | 191 | 160 | 278 | 240 | 360/403 | T150116G150 |
| 400 | 191 | 160 | 237/280 | 270/281 | 330/345 | T150126G150 |
| 508 | 254 | 251 | 571/645 | 586/637 | 700/805 | T200216G150 |
| 508 | 254 | 251 | 571/645 | 586/637 | 805 | T200226G150 |
| 737 | 432 | 287 | 1025/1143 | 1157/1245 | 1163/1222 | T290416G150 |
| 737 | 432 | 287 | 1025/1143 | 1157/1245 | 1587/1564 | T290426G150 |
| 1092 | 400 | 279 | 1611/1729 | 1857/1957 | 1058/989 | T430616G150 |
| 1092 | 400 | 279 | 1600/1713 | 1910/1985 | 1012/874 | T430626G150 |
| 1092 | 400 | 279 | 1740/1965 | 2193/2407 | 1196/1242 | T430826G150 |
| 1092 | 400 | 279 | 1875/2080 | 2326/2528 | 1196/1288 | T430816G150 |
| 1092 | 400 | 279 | 2245/2460 | 2832/3015 | 1829/2289 | T431016G150 |
| 1092 | 400 | 279 | 2478/2589 | 2941/3126 | 2070 | T431026G150 |
| 1270 | 483 | 281 | 2725/2945 | 2939/3516 | 1804/2139 | T501226G150 |
| 1346 | 533 | 330 | 4640/5300 | 5418/5987 | 3105/3703 | T531926G150 |
| 400 | 191 | 160 | 278 | 240 | 360/403 | T150116G152* |
| 400 | 191 | 160 | 237/280 | 270/281 | 330/345 | T150126G104* |
| 508 | 254 | 251 | 571/645 | 586/637 | 700/805 | T200216G155* |
| 508 | 254 | 251 | 571/645 | 586/637 | 805 | T200226G103* |
| 737 | 432 | 287 | 1025/1143 | 1157/1245 | 1163/1222 | T290416G159* |
| 737 | 432 | 287 | 1025/1143 | 1157/1245 | 1587/1564 | T290426G161* |
| 1092 | 400 | 279 | 1611/1729 | 1857/1957 | 1058/989 | T430616G102* |
| 1092 | 400 | 279 | 1600/1713 | 1910/1985 | 1012/874 | T430626G159* |
| 1092 | 400 | 279 | 1740/1965 | 2193/2407 | 1196/1242 | T430826G108* |
| 1092 | 400 | 279 | 1875/2080 | 2326/2528 | 1196/1288 | T430816G153* |
| 1092 | 400 | 279 | 2245/2460 | 2832/3015 | 1829/2289 | T431016G102* |
| 1092 | 400 | 279 | 2478/2589 | 2941/3126 | 2070 | T431026G104* |
| 1270 | 483 | 281 | 2725/2945 | 2939/3516 | 1804/2139 | T501226G125* |
| 1346 | 533 | 330 | 4640/5300 | 5418/5987 | 3105/3703 | T531926G109* |

| Power supply (V/ph/Hz) | Max. Nominal current (A) | Starting current (A) | Noise level (dB) | Weight (kg) | Item no. |
|------------------------|--------------------------|----------------------|------------------|-------------|--------------|
| 115 / 1 / 50-60 | 3,6/3,5 | 8,0/9,2 | 63 | 12 | T150116G150 |
| 230 / 1 / 50-60 | 1,5/1,5 | 3,3/3,1 | 63 | 12 | T150126G150 |
| 115 / 1 / 50-60 | 7,0/7,0 | 19 | 66 | 25 | T200216G150 |
| 230 / 1 / 50-60 | 3,5/3,5 | 7,6 | 66 | 25 | T200226G150 |
| 115 / 1 / 50-60 | 13,8/12,8 | 48 | 67 | 49 | T290416G150 |
| 230 / 1 / 50-60 | 6,9/6,8 | 23 | 67 | 49 | T290426G150 |
| 115 / 1 / 50-60 | 9,2/8,6 | 57,2 | 65,7 | 57 | T430616G150 |
| 230 / 1 / 50-60 | 4,4/3,8 | 27 | 65,7 | 57 | T430626G150 |
| 230 / 1 / 50-60 | 5,2/5,4 | 27 | 65,7 | 57 | T430826G150 |
| 115 / 1 / 50-60 | 10,4/11,2 | 48,3 | 65,7 | 57 | T430816G150 |
| 115 / 1 / 50-60 | 15,9/19,9 | 57 | 73,3 | 57 | T431016G150 |
| 230 / 1 / 50-60 | 9 | 38 | 73,3 | 57 | T431026G150 |
| 230 / 1 / 50-60 | 8,2/9,3 | 38 | 68 | 75 | T501226G150 |
| 230 / 1 / 50-60 | 13,5/16,1 | 54 | 76 | 90 | T531926G150 |
| 115 / 1 / 50-60 | 3,6/3,5 | 8,0/9,2 | 63 | 12 | T150116G152* |
| 230 / 1 / 50-60 | 1,5/1,5 | 3,3/3,1 | 63 | 12 | T150126G104* |
| 115 / 1 / 50-60 | 7,0/7,0 | 19 | 66 | 25 | T200216G155* |
| 230 / 1 / 50-60 | 3,5/3,5 | 7,6 | 66 | 25 | T200226G103* |
| 115 / 1 / 50-60 | 13,8/12,8 | 48 | 67 | 49 | T290416G159* |
| 230 / 1 / 50-60 | 6,9/6,8 | 23 | 67 | 49 | T290426G161* |
| 115 / 1 / 50-60 | 9,2/8,6 | 57,2 | 65,7 | 57 | T430616G102* |
| 230 / 1 / 50-60 | 4,4/3,8 | 27 | 65,7 | 57 | T430626G159* |
| 230 / 1 / 50-60 | 5,2/5,4 | 27 | 65,7 | 57 | T430826G108* |
| 115 / 1 / 50-60 | 10,4/11,2 | 48,3 | 65,7 | 57 | T430816G153* |
| 115 / 1 / 50-60 | 15,9/19,9 | 57 | 73,3 | 57 | T431016G102* |
| 230 / 1 / 50-60 | 9 | 38 | 73,3 | 57 | T431026G104* |
| 230 / 1 / 50-60 | 8,2/9,3 | 38 | 68 | 75 | T501226G125* |
| 230 / 1 / 50-60 | 13,5/16,1 | 54 | 76 | 90 | T531926G109* |

*Items are manufactured from stainless steel



Thermal Management

Cooling units

Outdoor | CUON

IP 55 | TYPE 4, 4X



Description:

High performance cooling unit for vertical installation. CUON is the air conditioning solution for critical environments, when the air conditioner is installed outdoors. The unit is external mounted in order to maximize space inside the enclosure. Common to all models is the self cleaning condenser coil, which eliminates the necessity for an air filter, avoiding standard maintenance. The thermostat is inside the unit and is adjustable between 25 °C and 45 °C with the Electronic Key-Pad (CUK01), which is available as an accessory. The factory setting is 35 °C. The cooling unit can also be supplied with a mechanically adjustable thermostat upon request. Ozone friendly refrigerant R134a.

Type of connection:

Terminal included.

Material:

Galvanized steel powder coated. The items ending in "SS" are manufactured from stainless steel AISI 304. Stainless steel AISI 316 is available on request.

Temperature limits inside:

+25 °C to +45 °C.

Temperature limits outside:

-40 °C to +55 °C.

Protection:

IP 55 | TYPE 4, 4X.

Finish:

RAL 7035 for the galvanized steel versions.



Dimensional table | CUON

IP 55 | TYPE 4, 4X

| H | W | D | Cooling capacity L35L35 (W) | Cooling capacity L35L50 (W) | Power consumption L35L50 (W) | Power supply (V/ph/Hz) | Item no. |
|------|-----|-----|-----------------------------|-----------------------------|------------------------------|-----------------------------|-------------|
| 634 | 314 | 235 | 550 - 580 | 410 - 430 | 320 - 390 | 230 / 1 / 50 - 60 | CUON05502 |
| 634 | 314 | 235 | 850 - 900 | 620 - 700 | 420 - 600 | 230 / 1 / 50 - 60 | CUON08502 |
| 906 | 410 | 272 | 1100 - 1150 | 840 - 890 | 510 - 650 | 230 / 1 / 50 - 60 | CUON10502 |
| 906 | 410 | 272 | 1500 - 1600 | 1200 - 1280 | 750 - 825 | 230 / 1 / 50 - 60 | CUON15002 |
| 999 | 409 | 286 | 1500 | 1200 | 890 | 400 - 3 - 50 / 460 - 3 - 60 | CUON15004 |
| 996 | 409 | 286 | 2100 - 2200 | 1750 - 1850 | 1120 - 1240 | 230 / 1 / 50 - 60 | CUON21002 |
| 996 | 409 | 286 | 2100 | 1800 | 1200 | 400-3-50 / 460-3-60 | CUON21004 |
| 1211 | 511 | 356 | 4000 - 4100 | 3000 - 3300 | 1730 - 1950 | 230 / 1 / 50 - 60 | CUON40502 |
| 1211 | 511 | 356 | 4050 | 3260 | 1950 | 400 - 3 - 50 / 460 - 3 - 60 | CUON40504 |
| 634 | 314 | 235 | 550 - 580 | 410 - 430 | 320 - 390 | 230 / 1 / 50 - 60 | CUON05502SS |
| 634 | 314 | 235 | 850 - 900 | 620 - 700 | 420 - 600 | 230 / 1 / 50 - 60 | CUON08502SS |
| 906 | 410 | 272 | 1100 - 1150 | 840 - 890 | 510 - 650 | 230 / 1 / 50 - 60 | CUON10502SS |
| 906 | 410 | 272 | 1500 - 1600 | 1200 - 1280 | 750 - 825 | 230 / 1 / 50 - 60 | CUON15002SS |
| 999 | 409 | 286 | 1500 | 1200 | 890 | 400 - 3 - 50 / 460 - 3 - 60 | CUON15004SS |
| 999 | 409 | 286 | 2100 - 2200 | 1750 - 1850 | 1120 - 1240 | 230 / 1 / 50 - 60 | CUON21002SS |
| 999 | 409 | 286 | 2100 | 1800 | 1200 | 400 - 3 - 50 / 460 - 3 - 60 | CUON21004SS |
| 1211 | 511 | 356 | 4000 - 4100 | 3000 - 3300 | 1730 - 1950 | 230 / 1 / 50 - 60 | CUON40502SS |
| 1211 | 511 | 356 | 4050 | 3260 | 1950 | 400 - 3 - 50 / 460 - 3 - 60 | CUON40504SS |

| Max. running current (A) | Starting current (A) | Pre-fuse (A) | Noise level (dB) | Weight (kg) | Item no. |
|--------------------------|----------------------|--------------|------------------|-------------|-------------|
| 2.1 | 7.5 | 15 | 61 | 25.56 | CUON05502 |
| 3.9 | 20 | 15 | 64 | 30 | CUON08502 |
| 3.6 | 18 | 15 | 65 | 48.89 | CUON10502 |
| 5.2 | 28 | 15 | 65 | 51.11 | CUON15002 |
| 2.37 | 20 | 15 | 65 | 53.33 | CUON15004 |
| 6.3 | 34 | 15 | 69 | 53.33 | CUON21002 |
| 3.62 | 22 | 15 | 69 | 53.33 | CUON21004 |
| 8.3 | 35 | 15 | 70 | 88.89 | CUON40502 |
| 5.96 | 19 | 15 | 70 | 94.44 | CUON40504 |
| 2.1 | 7.5 | 15 | 61 | 25.56 | CUON05502SS |
| 3.9 | 20 | 15 | 64 | 30 | CUON08502SS |
| 3.6 | 18 | 15 | 65 | 48.89 | CUON10502SS |
| 5.2 | 28 | 15 | 65 | 51.11 | CUON15002SS |
| 2.37 | 20 | 15 | 65 | 53.33 | CUON15004SS |
| 6.3 | 34 | 15 | 69 | 53.33 | CUON21002SS |
| 3.62 | 22 | 15 | 69 | 53.33 | CUON21004SS |
| 8.3 | 35 | 15 | 70 | 88.89 | CUON40502SS |
| 5.96 | 19 | 15 | 70 | 94.44 | CUON40504SS |

Note: The items ending in "SS" are manufactured from stainless steel AISI 304. Stainless steel AISI 316 is available on request.



Thermal Management Cooling units

SpectraCool with advanced corrosion protection

N-series IP54 | Type 4X; G-series IP56 | Type 4X.



Description:

SpectraCool with advanced corrosion system is the air conditioning solution for environments that are exposed to harsh, corrosive, chemical elements. Units have an active condensate management. Cleanable, reusable aluminium mesh filter protects coils for maximum cooling performance. The mechanical thermostat is inside the unit. The factory setting is 27 °C.

Type of connection:

Terminal block.

Material:

Stainless steel 316. Two levels of corrosion protection: Level 1 - Protective coatings on all exposed copper tubing and solder joints, condenser coil and thermostat. Level 2 - All protective coatings in Level 1 plus a coated evaporator coil. Foam wrap added over protective coatings on thermostat. (Level 2 is available on request).

Temperature limits inside:

+22 °C ... +45 °C.

Temperature limits outside:

-40 °C ... +55 °C.

Protection:

N-series IP54 | TYPE 4X; G-series IP56 | TYPE 4X.

Finish:

No 4 brushed 316 stainless steel.



Dimensional table | SpectraCool with advanced corrosion protection

N-series IP54 | Type 4X; G-series IP56 | Type 4X.

| H | W | D | Cooling capacity L35L35 (W) | Cooling capacity L55/L55 (W) | Max power consumption (W at 50/60Hz) | Item no. |
|--------|--------|--------|--------------------------------|---------------------------------|---|-------------|
| 419 | 191 | 160 | 226/278 | NA/240 | 360/403 | N160116G102 |
| 419 | 191 | 160 | 237/280 | 270/281 | 330-345 | N160126G102 |
| 531 | 254 | 251 | 571/645 | 586/637 | 700/805 | N210216G102 |
| 531 | 254 | 251 | 571/645 | 586/637 | 805 | N210226G102 |
| 726.2 | 432.1 | 284 | 967/1000 | NA/1084 | 465/1055 | G280416G102 |
| 726.2 | 432.1 | 258.6 | 1260/1364 | 1347/1435 | 465/1055 | G280426G102 |
| 726.2 | 432.1 | 258.6 | 1267/1364 | 1347/1435 | 985/1199 | G280446G102 |
| 726.2 | 432.1 | 258.6 | 1641/1758 | 1757/1874 | 1138,5/1311 | G280616G102 |
| 726.2 | 432.1 | 258.6 | 1641/1758 | 1757/1874 | 1058/1334 | G280626G102 |
| 726.2 | 432.1 | 258.6 | 1481/1666 | 1581/1757 | 985/1199 | G280646G102 |
| 1338 | 435 | 296 | 1758/1992 | 2139/2403 | 1250/1415 | G520816G102 |
| 1338 | 435 | 296 | 1758/1992 | 2139/2403 | 1250/1415 | G520826G102 |
| 1338 | 435 | 296 | 2168/2402 | 2578/2871 | 806/957 | G520846G102 |
| 1338 | 435 | 296 | 2900/3135 | 3516/3662 | 2100/2427 | G521216G102 |
| 1338 | 435 | 296 | 2900/3135 | 3516/3662 | 1830/2130 | G521226G102 |
| 1338 | 435 | 296 | 2540/2861 | 3064/3397 | 1610/2005 | G521246G102 |
| 1465.4 | 530.10 | 388.10 | 4689/5275 | 5129/5744 | 4508/5106 | G572026G102 |
| 1465.4 | 530.10 | 388.10 | 5656/6272 | 6272/6857 | 4017/5043 | G572046G102 |

| Power supply (V/ph/Hz) | Max. Nominal current (A) | Starting current (A) | Noise level (dB) | Weight (kg) | Item no. |
|------------------------------|--------------------------|----------------------|------------------|-------------|-------------|
| 115 / 1 / 50-60 | 3,8/3,7 | 8,0/9,2 | 63 | 12 | N160116G102 |
| 230 / 1 / 50-60 | 1,6/1,6 | 3,3/3,1 | 63 | 12 | N160126G102 |
| 115 / 1 / 50-60 | 7,2/7,2 | 19 | 66 | 25 | N210216G102 |
| 230 / 1 / 50-60 | 3,6/3,6 | 7,6 | 66 | 25 | N210226G102 |
| 115 / 1 / 50-60 | 10,6 | 36,2 | 68 | 38 | G280416G102 |
| 230 / 1 / 50-60 | 5,8 | 17,7 | 68 | 38 | G280426G102 |
| 400 / 3 / 50,,, 460 / 3 / 60 | 1,7/1,9 | 7,7 | 68 | 38 | G280446G102 |
| 115 / 1 / 50-60 | 10,1/11,6 | 36,2 | 68 | 38 | G280616G102 |
| 230 / 1 / 50-60 | 4,7/5,9 | 17,7 | 68 | 38 | G280626G102 |
| 400 / 3 / 50,,, 460 / 3 / 60 | 1,7/1,9 | 7,7 | 68 | 38 | G280646G102 |
| 115 / 1 / 50-60 | 11,4/12,5 | 48 | 68 | 58.10 | G520816G102 |
| 230 / 1 / 50-60 | 5,7/7,1 | 27 | 68 | 58.10 | G520826G102 |
| 400 / 3 / 50,,, 460 / 3 / 60 | 3,1/3,2 | 16 | 68 | 62.60 | G520846G102 |
| 115 / 1 / 50-60 | 16,3/21,2 | 57 | 68 | 59.40 | G521216G102 |
| 230 / 1 / 50-60 | 9,2/10,7 | 38 | 68 | 59.40 | G521226G102 |
| 400 / 3 / 50,,, 460 / 3 / 60 | 3,2/3,5 | 20 | 68 | 64 | G521246G102 |
| 230 / 1 / 50-60 | 16,7 / 22,3 | 63 | 74,1 | 89 | G572026G102 |
| 400 / 3 / 50,,, 460 / 3 / 60 | 6,0/ 6,8 | 27 | 74,1 | 89 | G572046G102 |

Thermal Management

Cooling units

Roof mounting cooling unit | CUH

IP 54



Description:

High performance cooling unit for roof mounting, the air conditioners cover a cooling capacity range from 600 W to 3800 W. Condensation management system, which prevents all condensation from penetrating into the enclosure. All models are equipped with a condensation dissipator, from 1400 W up to 3800 W units. Easy installation, with a quick release mounting frame. Common to all models is the self cleaning condenser coil, which eliminates the necessity for an air filter, avoiding standard maintenance. All models are equipped with digital display. The cooling capacity for specific conditions are indicated in the diagrams. Ozone friendly refrigerant R134a.

Type of connection:

Spring-type terminal included.

Material:

Mild steel powder coated.

Temperature limits inside:

+25 °C to +45 °C.

Temperature limits outside:

+20 °C to +55 °C.

Protection:

IP54.

Finish:

RAL 7035.

Pack quantity:

One unit.



Dimensional table | CUH

IP 54

| H | W | D | Cooling capacity L35L35 (W) | Cooling capacity L35L50 (W) | Power consumption L35L50 (W) | Power supply (V/ph/Hz) | Item no. |
|-----|-----|-----|-----------------------------|-----------------------------|------------------------------|-----------------------------|----------|
| 335 | 600 | 325 | 600 | 510 | 411 | 230 / 1 / 50 - 60 | CUH06002 |
| 335 | 600 | 325 | 900 | 760 | 630 | 230 / 1 / 50 - 60 | CUH09002 |
| 450 | 600 | 400 | 1400 | 1170 | 950 | 230 / 1 / 50 - 60 | CUH14002 |
| 450 | 600 | 400 | 2000 | 1700 | 1200 | 230 / 1 / 50 - 60 | CUH20002 |
| 480 | 800 | 450 | 3800 | 2700 | 1550 | 400 - 3 - 50 / 460 - 3 - 60 | CUH38004 |

| Max. running current (A) | Starting current (A) | Pre-fuse (A) | Side cabinet fan flow (m³/h) | Noise level (dB) | Weight (kg) | Item no. |
|--------------------------|----------------------|--------------|------------------------------|------------------|-------------|----------|
| 3 | 16 | 4 | 575 | 63 | 32.15 | CUH06002 |
| 4 | 15 | 6 | 575 | 67 | 335 | CUH09002 |
| 5.5 | 17 | 8 | 575 | 58 | 51.95 | CUH14002 |
| 7 | 22 | 10 | 860 | 62 | 55.15 | CUH20002 |
| 3.5 | 7 | 8 | 1450 | 77 | 82.90 | CUH38004 |

Thermal Management

Cooling units

Thermoelectric coolers

IP65 | TYPE 4, 4X



Description:

Our compact, low-profile coolers utilize the Peltier effect for cooling of small indoor and outdoor enclosures. No condensers, compressors, or filters are required, making the unit a reliable solution for demanding environments with low maintenance requirements.

Type of connection:

Terminal block.

Material:

Heat Sink, Anodized Aluminium. Shroud, Galvanized steel alternatively stainless steel.

Temperature limits:

-40 °C ... +55 °C.

Protection:

IP65 | TYPE 4, 4X.

Finish:

Powder Coat RAL 7035 Light Grey Standard. Stainless steel No.4 Brushed finish.



Dimensional table | Thermoelectric coolers

IP65 | TYPE 4, 4X

| H | W | D | Nominal cooling watts | Input DC Voltage | Power consumption L35/L35 (W) | Item no. |
|-----|-----|-----|-----------------------|------------------|-------------------------------|-------------|
| 230 | 123 | 176 | 52 | 24 | 89 | TE090624020 |
| 236 | 128 | 176 | 52 | 24 | 89 | TE090624010 |
| 236 | 128 | 176 | 52 | 24 | 89 | TE090624011 |
| 300 | 153 | 188 | 94 | 24 | 162 | TE121024020 |
| 305 | 157 | 189 | 94 | 24 | 162 | TE121024010 |
| 305 | 157 | 189 | 94 | 24 | 162 | TE121024011 |
| 300 | 153 | 188 | 94 | 48 | 162 | TE121048020 |
| 305 | 157 | 189 | 94 | 48 | 162 | TE121048010 |
| 400 | 180 | 184 | 166 | 24 | 295 | TE162024020 |
| 405 | 187 | 185 | 166 | 24 | 295 | TE162024010 |
| 405 | 187 | 185 | 166 | 24 | 295 | TE162024011 |
| 400 | 180 | 184 | 166 | 48 | 295 | TE162048020 |
| 405 | 187 | 185 | 166 | 48 | 295 | TE162048010 |

| Rated current (A) (55 C/55 C) | Feature | Weight (kg) | Item no. |
|-------------------------------|------------------------|-------------|-------------|
| 4,4 | Without shroud | 2.70 | TE090624020 |
| 4,4 | Painted shroud | 3.60 | TE090624010 |
| 4,4 | Stainless Steel shroud | 3.60 | TE090624011 |
| 8,5 | Without shroud | 3.90 | TE121024020 |
| 8,5 | Painted shroud | 5 | TE121024010 |
| 8,5 | Stainless Steel shroud | 5 | TE121024011 |
| 4,4 | Without shroud | 3.90 | TE121048020 |
| 4,4 | Painted shroud | 5 | TE121048010 |
| 14,7 | Without shroud | 6.70 | TE162024020 |
| 14,7 | Painted shroud | 8.40 | TE162024010 |
| 14,7 | Stainless Steel shroud | 8.40 | TE162024011 |
| 7,6 | Without shroud | 6.70 | TE162048020 |
| 7,6 | Painted shroud | 8.40 | TE162048010 |

Thermal Management

Vortex Range

Vortex cooler | BP

IP 66 | TYPE 4X



Description:

Compact, reliable and low cost way to cool and purge enclosures. It produces cold air from compressed air, with no moving parts. The easy mounting through a standard electrical knockout makes this solution especially suitable to be installed even when the enclosures are already in the field. For a continuous Vortex operating, relative humidity inside the enclosure is maintained below 45%, no moisture condenses inside the enclosure (the enclosure must be sealed). Most TYPE 4 and 4X units include a silencer to minimize the noise. The coolers must be installed vertically to maintain the protection degree.

Material:

Internal Vortex tube manufactured in stainless steel. External cover, BP TYPE 12 in plastic and aluminium, BP TYPE 4 in aluminium, and 4X in stainless steel.

Protection:

Depending on type, up to IP66 | TYPE 4X.

Pack quantity:

Vortex cooler with mounting accessories.



Dimensional table | BP

IP 66 | TYPE 4X

IP 54 | TYPE 12, Aluminium

| H | Cooling Capacity (W) | Air flow (l/min) | Noise (dB) | Silencer included | Low pressure relief valve | Installation cut-out diam. (mm) | Air inlet | Weight (kg) | Item no. |
|-----|----------------------|------------------|------------|-------------------|---------------------------|---------------------------------|-----------|-------------|----------|
| 131 | 162 | 227 | 78 | No | No | 22 | 1/8" | 0.20 | BP4008 |
| 203 | 293 | 425 | 87 | No | No | 29 | 1/4" | 0.35 | BP4015 |
| 203 | 586 | 850 | 88 | No | No | 29 | 1/4" | 0.35 | BP4030 |
| 203 | 820 | 1133 | 93 | No | No | 29 | 1/4" | 0.35 | BP4040 |

IP 66 | TYPE 4, Aluminium

| H | Cooling Capacity (W) | Air flow (l/min) | Noise (dB) | Silencer included | Low pressure relief valve | Installation cut-out diam. (mm) | Air inlet | Weight (kg) | Item no. |
|-----|----------------------|------------------|------------|-------------------|---------------------------|---------------------------------|-----------|-------------|----------|
| 126 | 162 | 227 | 78 | No | Yes | 33 | 1/8" | 0.35 | BP4608 |
| 185 | 293 | 425 | 73 | Yes | Yes | 48 | 1/4" | 0.45 | BP4615 |
| 185 | 586 | 850 | 74 | Yes | Yes | 48 | 1/4" | 0.50 | BP4630 |
| 185 | 820 | 1133 | 78 | Yes | Yes | 48 | 1/4" | 1 | BP4640 |

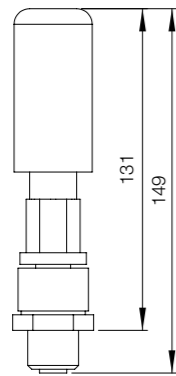
IP 66 | TYPE 4X, Stainless steel

| H | Cooling Capacity (W) | Air flow (l/min) | Noise (dB) | Silencer included | Low pressure relief valve | Installation cut-out diam. (mm) | Air inlet | Weight (kg) | Item no. |
|-----|----------------------|------------------|------------|-------------------|---------------------------|---------------------------------|-----------|-------------|----------|
| 126 | 162 | 227 | 78 | No | Yes | 33 | 1/8" | 0.35 | BP4608SS |
| 185 | 293 | 425 | 73 | Yes | Yes | 48 | 1/4" | 0.45 | BP4615SS |
| 185 | 586 | 850 | 74 | Yes | Yes | 48 | 1/4" | 2.25 | BP4630SS |
| 185 | 820 | 1133 | 78 | Yes | Yes | 48 | 1/4" | 1 | BP4640SS |

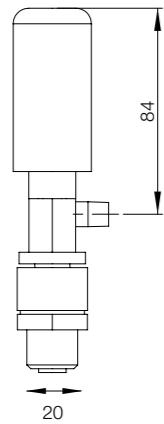
Cooling capacity is calculated with pressured air being 20 °C and having 7-bar pressure.

BP 4008

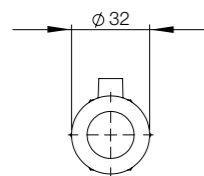
Front view



Side view

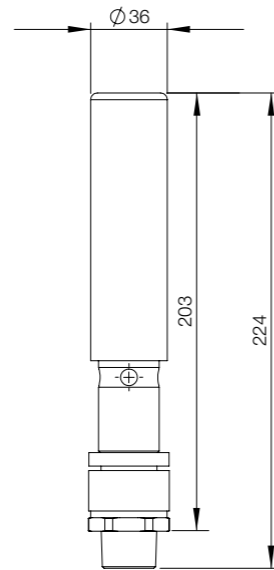


Top view

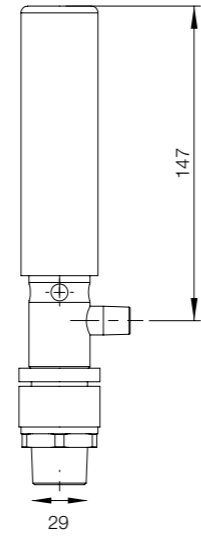


BP4015 / BP4030 / BP4040

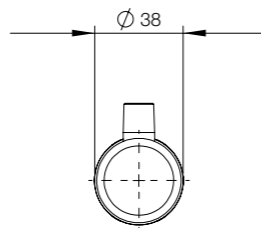
Front view



Side view

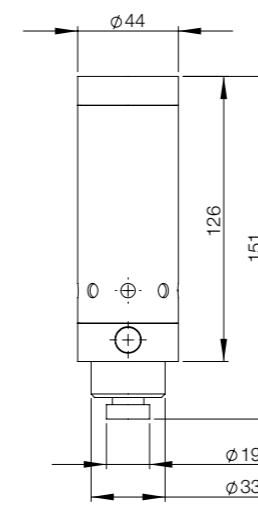


Top view



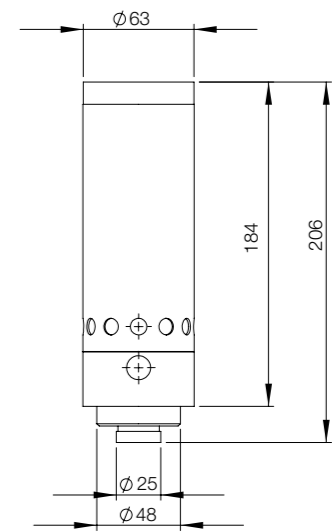
BP4608 / BP4608SS

Front view



BP4615 / BP4630 / BP4640
BP4615SS / BP4630SS / BP4640SS

Front view



Thermal Management Vortex Range High temperature vortex cooler | HT

IP 66 | TYPE 4X



Description:

Compact and reliable way to cool enclosures. It produces cold air from compressed air, with no moving parts. The easy mounting, through a standard electrical knockout, makes this solution especially suitable to be installed, even when the enclosures are already in the field. For a continuous Vortex operating, relative humidity inside the enclosure is maintained at approximately 45%, no moisture condenses inside the enclosure (the enclosure must be sealed). Suitable even for ambient temperatures up to 93 °C, the internal components can withstand these high temperatures, and includes a silencer to minimize the noise. The coolers must be installed vertically to maintain the protection degree.

Material:

Internal vortex tube manufactured in stainless steel. External cover, BP TYPE 12 in plastic and aluminium, BP TYPE 4 in aluminium, and TYPE 4X in stainless steel.

Protection:

Depending on type, up to IP 66 | TYPE 4X.

Pack quantity:

Vortex cooler with mounting accessories.



Dimensional table | HT

IP 66 | TYPE 4X

IP 66 | TYPE 4, Aluminium

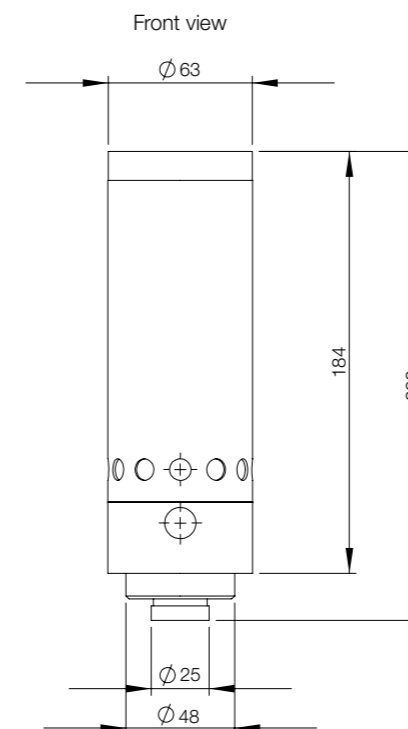
| H | Cooling Capacity (W) | Air flow (l/min) | Noise (dB) | Silencer included | Low pressure relief valve | Installation cut-out diam. (mm) | Air inlet | Weight (kg) | Item no. |
|-----|----------------------|------------------|------------|-------------------|---------------------------|---------------------------------|-----------|-------------|----------|
| 184 | 293 | 425 | 73 | Yes | Yes | 48 | 1/4" | 1.20 | HT4615 |
| 184 | 586 | 850 | 74 | Yes | Yes | 48 | 1/4" | 0.85 | HT4630 |
| 184 | 820 | 1133 | 78 | Yes | Yes | 48 | 1/4" | 15 | HT4640 |

IP 66 | TYPE 4X, Stainless steel

| H | Cooling Capacity (W) | Air flow (l/min) | Noise (dB) | Silencer included | Low pressure relief valve | Installation cut-out diam. (mm) | Air inlet | Weight (kg) | Item no. |
|-----|----------------------|------------------|------------|-------------------|---------------------------|---------------------------------|-----------|-------------|----------|
| 184 | 293 | 425 | 73 | Yes | Yes | 48 | 1/4" | 1.20 | HT4615SS |
| 184 | 586 | 850 | 74 | Yes | Yes | 48 | 1/4" | 0.85 | HT4630SS |
| 184 | 820 | 1133 | 78 | Yes | Yes | 48 | 1/4" | 2.30 | HT4640SS |

Cooling capacity is calculated with pressured air being 20 °C and having 7-bar pressure.

Dimensional drawing | HT



Thermal Management

Vortex Range

Accessories

Air distribution kit, BPA

Description: Flexible vinyl tube used to direct the cold air for circulation, or to hot spots. Tube connector, end plug, and adhesive clips to hold the tube are included. Holes may be drilled or cut ("V" shaped) in the tube, if the end plug is used at least 6 3.2 mm diameter holes must be made to avoid excessive back pressure on the cooler.

Delivery: BPA01 includes 1.2 m of tube, 4 fixation clips, connector and end plug. BPA02 includes 2.4 m of tube, 8 fixation clips, connector and end plug.



| For | Item no. |
|------------------------------|----------|
| BP 4 x 08 | BPA01 |
| BP/HT 4 x 15; 4 x 30; 4 x 40 | BPA02 |

Thermostat kit, BPT

Description: Brass solenoid valve and thermostat that limit the flow of compressed air to only when cooling is needed. The thermostat is factory set at 35 °C, but adjustable to any other temperature. The thermostat mounts in a 22 mm diameter hole, and it may be mounted through the enclosure wall or on a bracket inside the enclosure. The thermostatically controlled vortex cooler saves compressed air, and it is recommended where heat load fluctuates and continual purge is not required.

Voltage: 240 V and 50 Hz. Other voltages on request.

Delivery: Thermostat with mounting bracket, and solenoid valve.



| For | Item no. |
|----------------------|----------|
| BP/HT 4 x 08; 4 x 15 | BPT14 |
| BP/HT 4 x 30; 4 x 40 | BPT38 |

Air regulator kit, PLFR

Description: Air pressure regulator with pressure dial, and manometer to adjust the air pressure. It filters condensated water and particles (>5µ). Maximum inlet pressure 13 bar, and at max pressure maximum temperature: 40 °C. Connection 1/4".

Delivery: Air pressure regulator and water trap.



| Item no. |
|----------|
| PLFR1/4 |

Connection 3/8" on request.

Silencer Vortex, BPS

Description: To reduce the noise from the vortex cooler. It mounts directly to the nozzle of the vortex cooler, inside the enclosure. It reduces around 15% the vortex cooler noise.

Delivery: Silencer.

| Item no. |
|----------|
| BPS4902 |



Side mounting kit, BPF

Description: The side mounting kits make mounting on the side of an electrical enclosure possible when there is limited space on the top. The side mounting kit maintains the TYPE / IP rating. They mount in a standard electrical knockout.

Material: Aluminium in BPF9001 and 9002, and stainless steel 303 in BFP9003 and 9004.

Pack quantity: 1 piece.

| For | Item no. |
|---------------------------|----------|
| BP4008 | BPF9001 |
| BP4015, 4030, 4040 | BPF9002 |
| BP4608 | BPF9003 |
| BP4615, 4630, 4640 and HT | BPF9004 |



Thermal Management

Air-Water heat exchangers Range

Air / Water heat exchanger | PWS

IP 55



Description:

For vertical installation. Additional work is not required to the cutout to guarantee the IP. Integrated thermostat and solenoid valve for temperature control, and temperature monitoring with alarm contact. The thermostat is adjustable between 8 °C and 50 °C, factory setting 35 °C. Maximum permissible operating pressure of 10 bar. The cooling capacity for specific conditions are indicated in the diagrams. Water inlet temperature between 1 °C up to 35 °C.

Type of connection:

Spring-type terminal included with plug for electrical connection, 13 mm hose nozzle for water pipe connections.

Material:

Housing made of galvanized steel powder coated. Heat exchanger manufactured from copper pipe, with aluminium fins.

Ambient temperature range:

+1 °C to +70 °C.

Protection:

IP 55 towards the electrical enclosure.

Finish:

RAL 7035.

Pack quantity:

One unit.



Dimensional table | PWS

IP 55

| H | W | D | Cooling Capacity 200 l/h - W10/ A35 (W) | Power W10/A35 (W) | Current W10/ A35 (A) | Pre fuse T (A) | Item no. |
|-----|-----|-----|---|----------------------|-------------------------|----------------|-----------|
| 500 | 200 | 100 | 600 | 68 / 70 | 0.35 / 0.38 | 4 | PWS7062R5 |
| 500 | 200 | 150 | 950 | 82 / 84 | 0.35 / 0.40 | 4 | PWS7102R5 |
| 950 | 400 | 115 | 1500 | 125 / 182 | 0.55 / 0.75 | 4 | PWS7152R5 |
| 950 | 400 | 190 | 3150 | 295 / 385 | 1.30 / 1.70 | 6 | PWS7332R5 |

| Starting current W10/A35 (A) | Unimpeded airflow (m³/h) | Operating voltage | Noise (dB) | Frequency (Hz) | Weight (kg) | Item no. |
|---------------------------------|-----------------------------|-------------------|------------|----------------|-------------|-----------|
| 1.50 / 1.80 | 440 | 230V 50/60Hz | ≤48 | 50 / 60 | 6.65 | PWS7062R5 |
| 1.70 / 1.95 | 570 | 230V 50/60Hz | ≤48 | 50 / 60 | 8.33 | PWS7102R5 |
| 2 / 2 | 850 | 230V 50/60Hz | 53 | 50 / 60 | 23.33 | PWS7152R5 |
| 5.80 / 6.60 | 1670 | 230V 50/60Hz | 54 | 50 / 60 | 25.56 | PWS7332R5 |



Thermal Management

Air-Water heat exchangers Range

Air / Water heat exchanger | PWD

IP 55



Description:

For roof installation. Additional work is not required to the cutout to guarantee the IP. Integrated thermostat and solenoid valve for temperature control. The thermostat is adjustable between 8 °C and 50 °C, factory setting 35 °C. Maximum permissible operating pressure of 10 bar. The cooling capacity for specific conditions are indicated in the diagrams. Water inlet temperature between 1 °C to 35 °C.

Type of connection:

3.5 m cable 3 × 0.75 mm² for electrical connection. 13 mm hose nozzle for water pipe connections.

Material:

Housing manufactured from galvanized steel, powder coated. Heat exchanger manufactured from copper pipe, with aluminium fins.

Ambient temperature range:

+1 °C to +70 °C.

Protection:

IP 55 towards the electrical enclosure.

Finish:

RAL 7035.

Pack quantity:

One unit.

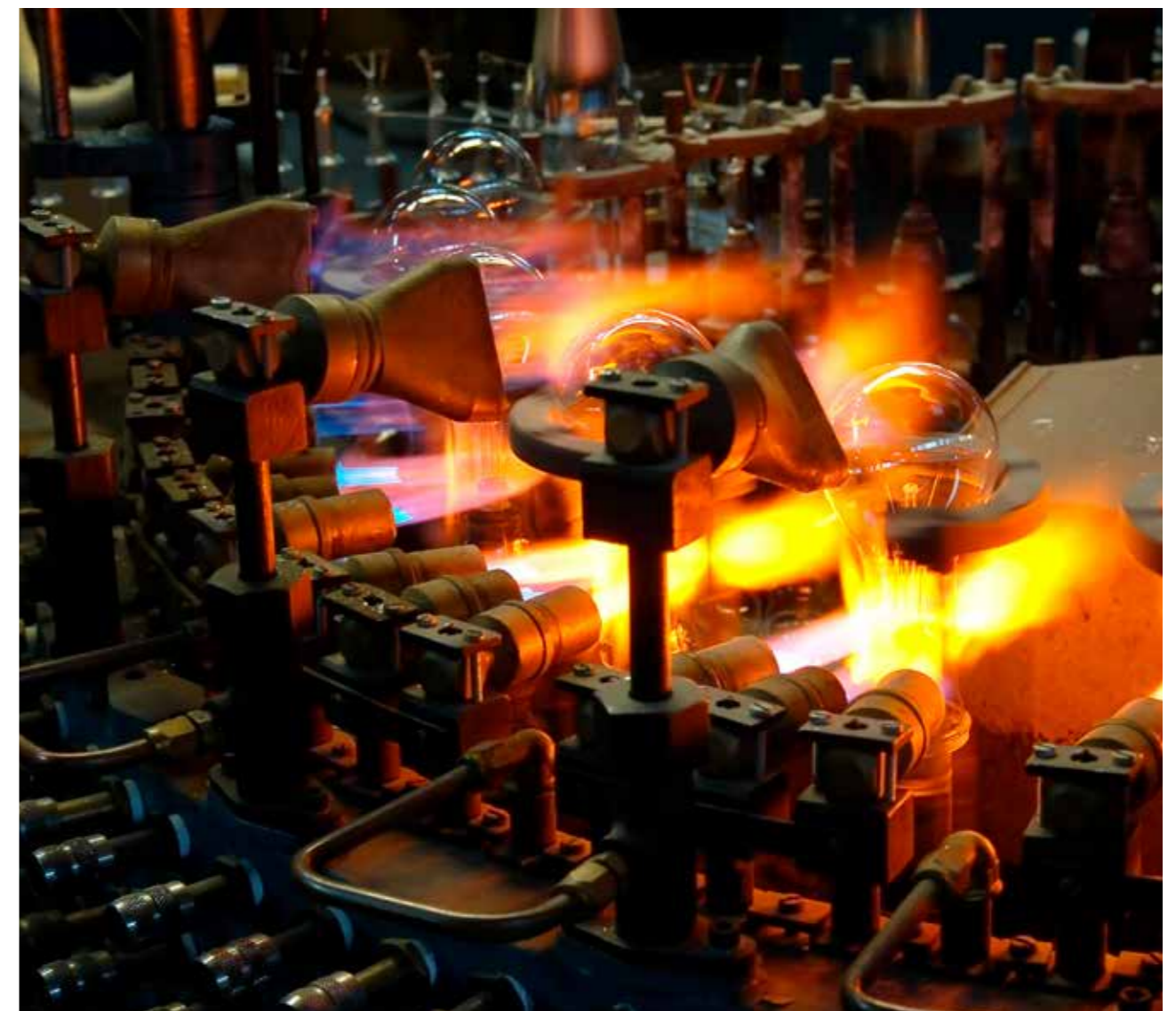


Dimensional table | PWD

IP 55

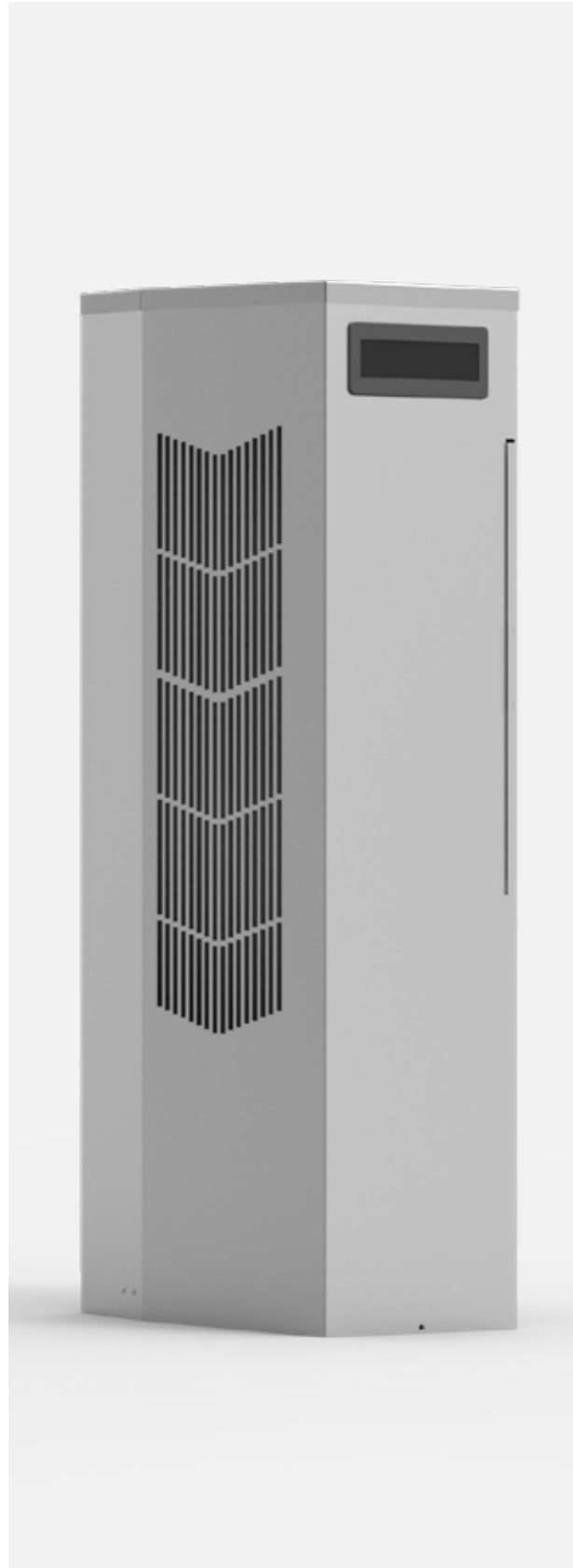
| H | W | D | Cooling Capacity 400 l/h - W10/A35 (W) | Power W10/A35 (W) | Current W10/A35 (A) | Pre fuse T (A) | Item no. |
|-----|-----|-----|---|-------------------|---------------------|----------------|-----------|
| 140 | 600 | 390 | 2150 | 85 / 100 | 0.40 | 6 | PWD5302R5 |
| 190 | 720 | 465 | 3400 | 115 / 165 | 0.84 | 6 | PWD5402R5 |

| Starting current W10/ A35 (A) | Unimpeded airflow (m ³ /h) | Noise (dB) | Frequency (Hz) | Weight (kg) | Item no. |
|----------------------------------|--|------------|----------------|-------------|-----------|
| 4 | 500 | 54 | 50 / 60 | 23.33 | PWD5302R5 |
| 3 | 720 | 64 | 50 / 60 | 33.33 | PWD5402R5 |



Thermal Management Hazardous Locations Cooling Hazardous location cooling units | NHZ

IP 56 | Type 4, 4X.



Description:

SpectraCool Hazardous Location is the air conditioning solution engineered specifically for hazardous location cooling, not rebuilt from light industrial air conditioners. It features an attractive design with no heavy cast enclosure and minimal use of visible fasteners. Thanks to its narrow sizing, it can accommodate 12 in (300 mm) deep cabinets. SpectraCool Hazardous Location does not require purge and pressurized system. Units have a corrosion resistant coating on ambient side components for Type 4X models. R134a earth-friendly refrigerants. Easy-mount flanges for simple installation.

Material:

Type 4X models: Stainless steel 316L.

Operating temperature:

-40 to + 55 °C (+52 °C for NHZ28 Series and NHZ43 Series 115 V).

Type of connection:

Terminal block.

Protection:

IP 56 | Type 4, 4X.

Approvals:

CE, cULus listed File No. E469720.; Class 1 Div 2 Groups A, B, C, D T4A

Scope of delivery:

Active condensate management with heater strip. Compressor heater. Head pressure control. Power-off relay for door switch and other system requirements. Malfunction switch. Cleanable, reusable aluminium mesh filter to protect coils from extremely dusty and dirty atmospheres. Dust resistant coils for filterless operation in most environments. Digital temperature control on the enclosure side.

Dimensional table | NHZ

IP 56 | Type 4, 4X.

| H | W | D | Weight (kg) | Cooling capacity 35 °C/35 °C at 50 Hz (W) | Cooling capacity 55 °C/55 °C at 50 Hz (W) | Item no. |
|------|-----|-----|-------------|---|---|---------------|
| 1092 | 292 | 356 | 63 | 2517 | 2945 | NHZ431246G400 |
| 1092 | 292 | 356 | 58 | 2628 | 2915 | NHZ431226G400 |
| 1092 | 292 | 356 | 58 | 2777 | 3103 | NHZ431216G400 |
| 915 | 292 | 356 | 52 | 2014 | 2277 | NHZ360846G400 |
| 915 | 292 | 356 | 48 | 1950 | 2306 | NHZ360826G400 |
| 915 | 292 | 356 | 48 | 2058 | 2405 | NHZ360816G400 |
| 915 | 292 | 356 | 47 | 1633 | 1553 | NHZ360646G400 |
| 915 | 292 | 356 | 45 | 1512 | 1603 | NHZ360626G400 |
| 915 | 292 | 356 | 45 | 1439 | 1637 | NHZ360616G400 |
| 711 | 292 | 356 | 44 | 1086 | 1250 | NHZ280446G400 |
| 711 | 292 | 356 | 38 | 1086 | 1250 | NHZ280426G400 |
| 711 | 292 | 356 | 38 | 1100 | 1150 | NHZ280416G400 |

| Max. power consumption at 50 Hz (W) | Power supply (V/ph/Hz) | Max. Nominal current (A) | Starting current (A) | Noise level at 1.5 meters (dBA) | Item no. |
|-------------------------------------|------------------------|--------------------------|----------------------|---------------------------------|---------------|
| 1294 | 400-460 / 3 / 50-60 | 3.4 | 16 | 69.6 | NHZ431246G400 |
| 1802 | 230 / 1 / 50-60 | 8.7 | 38 | 68.4 | NHZ431226G400 |
| 1620 | 115 / 1 / 50-60 | 15.1 | 57 | 68.4 | NHZ431216G400 |
| 1327 | 400-460 / 3 / 50-60 | 3 | 16 | 66 | NHZ360846G400 |
| 1265 | 230 / 1 / 50-60 | 5.5 | 27 | 66 | NHZ360826G400 |
| 1206 | 115 / 1 / 50-60 | 11.2 | 48.3 | 66 | NHZ360816G400 |
| 691 | 400-460 / 3 / 50-60 | 1.7 | 8.1 | 68.2 | NHZ360646G400 |
| 908 | 230 / 1 / 50-60 | 4.5 | 23 | 66.7 | NHZ360626G400 |
| 911 | 115 / 1 / 50-60 | 9.1 | 39.2 | 66.9 | NHZ360616G400 |
| 972 | 460 / 1 / 50-60 | 2.4 | 12.5 | 65.5 | NHZ280446G400 |
| 972 | 230 / 1 / 50-60 | 4.9 | 24.5 | 65.5 | NHZ280426G400 |
| 930 | 110-115 / 1 / 50-60 | 10.2 | 40 | 66.1 | NHZ280416G400 |

For painted galvanized steel Type 4 models, stainless steel Type 4X offshore models and remote access control models, please contact your local nVent HOFFMAN sales representative.

Thermal Management Hazardous Locations Cooling Hazardous Location Vortex A/C | VHL

Class I, Div. 2, Groups A, B, C, D; Class II, Div. 2, Groups F, G; Class III. Type 4, 4X.



Description:

Compact, reliable and low-cost solution to cool enclosures. With almost no moving parts, the device uses compressed air to produce cooling. When properly sized for the application, the HazLoc Vortex A/C will maintain the internal enclosure temperature between 24 to 38 °C (75 to 100 °F). The mechanical thermostat will regulate an internal valve to minimize compressed air usage and maintain enclosure temperatures within the range specified. Through continuous operation relative humidity inside the enclosure is maintained low, thus minimising the risk of condensation. The easy mounting through a standard cable hole makes this solution especially suitable to be installed even when the enclosures are already in the field. Top, side, and front mount allows for versatile installation in confined areas. Quieter operation with noise level of 60 to 75 dB.

Material:

Polycarbonate and stainless steel exterior with aluminium and brass internal components.

Operating temperature:

Approved for a 75 °F (80 °C) maximum ambient temperature in Class I, Div. 2; Class II, Div. 2; and Class III areas.

Protection:

Maintains Type 4, 4X.

Approvals:

cULus Classified. Class I, Div. 2, Groups A through D; Class II, Div. 2, Groups F, G; and Class III locations (when used with an approved purge/pressurization system); File No. E364567.

Pack quantity:

1 piece, supplied with five-micron, automatic drain compressed air: filter, cold ducting kit, cold air muffler, and check valve.

Note:

The HazLoc Vortex A/C shall only be used in conjunction with a properly sized enclosure purge and pressurization system that must be able to vent the additional air introduced by the HazLoc Vortex A/C. The purge and pressurization system must be selected and supplied by the end user.

Dimensional table | VHL

Class I, Div. 2, Groups A, B, C, D; Class II, Div. 2, Groups F, G; Class III. Type 4, 4X.

| H | W | D | Weight (kg) | Noise level (dB) | Cooling Capacity (W) | Compressed air consumption (SLPM) | Item no. |
|-----|-----|-----|-------------|------------------|----------------------|-----------------------------------|----------|
| 203 | 121 | 137 | 3 | 60 | 264 | 425 | VHL09160 |
| 203 | 121 | 137 | 3 | 66 | 440 | 708 | VHL15160 |
| 203 | 121 | 137 | 3,1 | 72 | 733 | 991 | VHL25160 |
| 164 | 240 | 141 | 5,2 | 75 | 1465 | 1982 | VHL50160 |

| Use with VHL model capacity | Description | Item no. |
|-----------------------------|----------------------|----------|
| 440 W | Air filter, 5-micron | VAAF15 |
| 733 W | Air filter, 5-micron | VAAF25 |
| 1465 W | Air filter, 5-micron | VAAF50 |
| 440 W | Oil filter | VCOF17 |
| 1465 W | Oil filter | VCOF25 |
| 264 W | Generator kit | VAGK09 |
| 440 W | Generator kit | VAGK15 |
| 733 and 1465 W | Generator kit | VAGK25 |
| All models | Cold air ducting kit | VHLDK |

Thermal Management Ventilation Range High flow filter fan | EF

IP 54 | TYPE 12



Description:

Filter fan for forced ventilation. nVent HOFFMAN filter fans save time on installation as they are installed with a click-in system without screws. The hinged front cover can be easily opened for quick and easy filter replacement. The airflow direction and the connection position can easily be changed.

Material:

Front cover manufactured from injection-moulded thermoplastic, self-extinguishing, UL94V0.

Temperature range:

-40 °C to +55 °C.

Protection:

IP 54 | TYPE 12.

Finish:

RAL 7035.

Pack quantity:

One fan with filter.



Dimensional table | EF

IP 54 | TYPE 12

230 V AC, 50/60 Hz

| Unimpeded airflow (m³/h) | EF+EFA Air flow (m³/h) | Filter mat (EN779) | Filtration efficiency (%) | Service life L10 (40°C)(h) | Bearing type | Noise (dB) | Item no. |
|--------------------------|------------------------|--------------------|---------------------------|----------------------------|--------------|------------|----------|
| 19/24 | 12/14 | G4 | >90 | 52.500 | Sleeve | 33 | EF100R5 |
| 61/67 | 44/50 | G4 | >90 | 37.500 | Sleeve | 44 | EF200R5 |
| 98/108 | 73/80 | G4 | >90 | 37.500 | Sleeve | 40 | EF220R5 |
| 125/138 | 93/102 | G4 | >90 | 40.000 | Ball | 40 | EF250R5 |
| 223/247 | 201/223 | G4 | >90 | 40.000 | Ball | 42 | EF300R5 |
| 480/480 | 370/370 | G3 | 80-90 | 40.000 | Ball | 54 | EF500R5 |
| 640/653 | 445/445 | G3 | 80-90 | 40.000 | Ball | 63 | EF600R5 |
| 845/875 | 560/625 | G3 | 80-90 | 40.000 | Ball | 66 | EF700R5 |

230 V AC, 50/60 Hz

| Cut-out (mm) | Weight (kg) | Connection | Current (A) | Power (W) | Fuse (A) | Item no. |
|--------------|-------------|----------------|-------------|-----------|----------|----------|
| 92 x 92 | 0.55 | 310 mm cable | 0.07/0.06 | 12/11 | 6 | EF100R5 |
| 125 x 125 | 0.80 | Terminal strip | 0.12/0.18 | 19/18 | 6 | EF200R5 |
| 177 x 177 | 1.05 | Terminal strip | 0.12/0.18 | 19/18 | 6 | EF220R5 |
| 223 x 223 | 1.45 | Spring type | 0.12/0.10 | 18/17 | 6 | EF250R5 |
| 223 x 223 | 1.90 | Spring type | 0.32/0.26 | 45/39 | 6 | EF300R5 |
| 291 x 291 | 3.85 | Spring type | 0.30/0.36 | 80/100 | 6 | EF500R5 |
| 291 x 291 | 4.05 | Spring type | 0.51/0.66 | 120/160 | 6 | EF600R5 |
| 291 x 291 | 4.50 | Spring type | 0.59/0.88 | 140/197 | 6 | EF700R5 |

115 V AC, 50/60Hz

| Unimpeded airflow (m³/h) | EF+EFA Air flow (m³/h) | Filter mat (EN779) | Filtration efficiency (%) | Service life L10 (40°C)(h) | Bearing type | Noise (dB) | Item no. |
|--------------------------|------------------------|--------------------|---------------------------|----------------------------|--------------|------------|-------------|
| 19/24 | 12/14 | G4 | >90 | 55.000 | Sleeve | 33 | EF100-115R5 |
| 61/67 | 44/50 | G4 | >90 | 40.000 | Sleeve | 44 | EF200-115R5 |
| 98/108 | 73/80 | G4 | >90 | 40.000 | Sleeve | 40 | EF220-115R5 |
| 125/138 | 93/102 | G4 | >90 | 42.500 | Ball | 43 | EF250-115R5 |
| 223/247 | 201/223 | G4 | >90 | 40.000 | Ball | 46 | EF300-115R5 |
| 480/480 | 370 | G3 | 80-90 | 40.000 | Ball | 52 | EF500-115R5 |
| 640/653 | 445 | G3 | 80-90 | 40.000 | Ball | 64 | EF600-115R5 |
| 845/875 | 625 | G3 | 80-90 | 40.000 | Ball | 69 | EF700-115R5 |

115 V AC, 50/60Hz

| Cut-out (mm) | Weight (kg) | Connection | Current (A) | Power (W) | Fuse (A) | Item no. |
|--------------|-------------|----------------|-------------|-----------|----------|-------------|
| 92 x 92 | 0.55 | 310 mm cable | 0.15/0.15 | 12/11 | 6 | EF100-115R5 |
| 125 x 125 | 0.80 | Terminal strip | 0.24/0.23 | 20/20 | 6 | EF200-115R5 |
| 177 x 177 | 1.05 | Terminal strip | 0.24/0.23 | 20/20 | 6 | EF220-115R5 |
| 223 x 223 | 1.45 | Spring type | 0.25/0.25 | 18/17 | 6 | EF250-115R5 |
| 223 x 223 | 1.90 | Spring type | 0.50/0.50 | 40/40 | 6 | EF300-115R5 |
| 291 x 291 | 3.85 | Spring type | 0.66/0.80 | 75/90 | 6 | EF500-115R5 |
| 291 x 291 | 4.10 | Spring type | 0.96/1.40 | 110/160 | 6 | EF600-115R5 |
| 291 x 291 | 4.50 | Spring type | 1.23/1.71 | 140/195 | 6 | EF700-115R5 |

24 V DC

| Unimpeded airflow (m³/h) | EF+EFA Air flow (m³/h) | Filter mat (EN779) | Filtration efficiency (%) | Service life L10 (40°C)(h) | Bearing type | Noise (dB) | Item no. |
|--------------------------|------------------------|--------------------|---------------------------|----------------------------|--------------|------------|------------|
| 19/24 | 12/14 | G4 | >90 | 70.000 | Ball | 33 | EF100-24R5 |
| 61/67 | 44/50 | G4 | >90 | 62.500 | Ball | 44 | EF200-24R5 |
| 98/108 | 73/80 | G4 | >90 | 62.500 | Ball | 40 | EF220-24R5 |
| 125/138 | 93/102 | G4 | >90 | 70.000 | Ball | 40 | EF250-24R5 |
| 223/247 | 201/223 | G4 | >90 | 80.000 | Ball | 42 | EF300-24R5 |

24 V DC

| Cut-out (mm) | Weight (kg) | Connection | Current (A) | Power (W) | Fuse (A) | Item no. |
|--------------|-------------|--------------|-------------|-----------|----------|------------|
| 92 x 92 | 0.25 | 310 mm cable | 0.10 | 2.40 | 6 | EF100-24R5 |
| 125 x 125 | 0.45 | 310 mm cable | 0.21 | 5.00 | 6 | EF200-24R5 |
| 177 x 177 | 0.70 | 310 mm cable | 0.21 | 5.00 | 6 | EF220-24R5 |
| 223 x 223 | 1.40 | Spring type | 0.20 | 4.70 | 6 | EF250-24R5 |
| 223 x 223 | 1.45 | Spring type | 0.50 | 12.00 | 6 | EF300-24R5 |

Thermal Management Ventilation Range Outdoor filter fan | EFP

IP 55 | TYPE 12



Description:

Filter fan for forced ventilation. nVent HOFFMAN filter fans save time on installation as they are installed with a click-in system without screws. The hinged front cover can be easily opened for quick and easy filter replacement. The airflow direction and the connection position can easily be changed. The new filter mat gives higher air flow and longer life, with a low pressure drop, because of special construction. The UV resistance of the housing makes it the best option for outdoor applications.

Material:

Front cover manufactured from injection-moulded thermoplastic, self-extinguishing, UL94V0. UV resistance.

Temperature range:

-40 °C to +55 °C.

Protection:

IP 55 | TYPE 12.

Finish:

RAL 7035.

Pack quantity:

One fan with filter.



Dimensional table | EFP

IP 55 | TYPE 12

230 V, 50/60 Hz

| Unimpeded airflow (m³/h) | EFP+EFA Air flow (m³/h) | Filter mat (EN779) | Filtration efficiency (%) | Service life L10 (40°C)(h) | Bearing type | Noise (dB) | Item no. |
|--------------------------|-------------------------|--------------------|---------------------------|----------------------------|--------------|------------|----------|
| 56/64 | 40/46 | G4 | >90 | 37.500 | Sleeve | 44 | EFP200R5 |
| 100/110 | 55/64 | G4 | >90 | 37.500 | Sleeve | 40 | EFP220R5 |
| 145/160 | 109/113 | G4 | >90 | 40.000 | Ball | 40 | EFP250R5 |
| 233/265 | 180/207 | G4 | >90 | 40.000 | Ball | 42 | EFP300R5 |
| 505/505 | 380/380 | G4 | >90 | 40.000 | Ball | 54 | EFP500R5 |
| 770/785 | 490/501 | G4 | >90 | 40.000 | Ball | 63 | EFP600R5 |
| 925/950 | 570/625 | G4 | >90 | 40.000 | Ball | 66 | EFP700R5 |

230 V, 50/60 Hz

| Cut-out (mm) | Weight (kg) | Connection | Current (A) | Power (W) | Fuse (A) | Item no. |
|--------------|-------------|----------------|-------------|-----------|----------|----------|
| 125 x 125 | 0.80 | Terminal strip | 0.12/0.18 | 19/18 | 6 | EFP200R5 |
| 177 x 177 | 1.05 | Terminal strip | 0.12/0.18 | 19/18 | 6 | EFP220R5 |
| 223 x 223 | 1.45 | Spring type | 0.12/0.10 | 18/17 | 6 | EFP250R5 |
| 223 x 223 | 1.95 | Spring type | 0.32/0.26 | 45/39 | 6 | EFP300R5 |
| 291 x 291 | 3.90 | Spring type | 0.35/0.45 | 80/100 | 6 | EFP500R5 |
| 291 x 291 | 4.10 | Spring type | 0.53/0.72 | 120/160 | 6 | EFP600R5 |
| 291 x 291 | 4.55 | Spring type | 0.62/0.86 | 140/197 | 6 | EFP700R5 |

115 V AC, 50/60Hz

| Unimpeded airflow (m³/h) | EFP+EFA Air flow (m³/h) | Filter mat (EN779) | Filtration efficiency (%) | Service life L10 (40°C)(h) | Bearing type | Noise (dB) | Item no. |
|--------------------------|-------------------------|--------------------|---------------------------|----------------------------|--------------|------------|--------------|
| 56/64 | 40/46 | G4 | >90 | 40.000 | Sleeve | 44 | EFP200-115R5 |
| 100/110 | 55/64 | G4 | >90 | 40.000 | Sleeve | 40 | EFP220-115R5 |
| 145/160 | 109/113 | G4 | >90 | 42.500 | Ball | 43 | EFP250-115R5 |
| 233/265 | 180/207 | G4 | >90 | 40.000 | Ball | 46 | EFP300-115R5 |
| 505/505 | 380/380 | G4 | >90 | 40.000 | Ball | 52 | EFP500-115R5 |
| 770/785 | 490/501 | G4 | >90 | 40.000 | Ball | 64 | EFP600-115R5 |
| 925/950 | 570/625 | G4 | >90 | 40.000 | Ball | 69 | EFP700-115R5 |

115 V AC, 50/60Hz

| Cut-out (mm) | Weight (kg) | Connection | Current (A) | Power (W) | Fuse (A) | Item no. |
|--------------|-------------|----------------|-------------|-----------|----------|--------------|
| 125 x 125 | 0.80 | Terminal strip | 0.24/0.23 | 20/20 | 6 | EFP200-115R5 |
| 177 x 177 | 1.05 | Terminal strip | 0.24/0.23 | 20/20 | 6 | EFP220-115R5 |
| 223 x 223 | 1.45 | Spring type | 0.25/0.25 | 18/17 | 6 | EFP250-115R5 |
| 223 x 223 | 1.90 | Spring type | 0.50/0.50 | 40/40 | 6 | EFP300-115R5 |
| 291 x 291 | 3.90 | Spring type | 0.66/0.80 | 75/90 | 6 | EFP500-115R5 |
| 291 x 291 | 4.10 | Spring type | 0.96/1.40 | 110/160 | 6 | EFP600-115R5 |
| 291 x 291 | 4.55 | Spring type | 1.23/1.71 | 140/195 | 6 | EFP700-115R5 |

24 Volt AC, 50/60 HZ

| Unimpeded airflow (m³/h) | EFP+EFA Air flow (m³/h) | Filter mat (EN779) | Filtration efficiency (%) | Service life L10 (40°C)(h) | Bearing type | Noise (dB) | Item no. |
|--------------------------|-------------------------|--------------------|---------------------------|----------------------------|--------------|------------|----------------|
| 56/64 | 40/46 | G4 | >90 | 62.500 | Ball | 44 | EFP200-24VACR5 |

24 Volt AC, 50/60 HZ

| Cut-out (mm) | Weight (kg) | Current (A) | Power (W) | Fuse (A) | Item no. |
|--------------|-------------|-------------|-----------|----------|----------------|
| 125 x 125 | 0.50 | 0.21 | 5 | 6 | EFP200-24VACR5 |

Thermal Management Ventilation Range Accessories

Exhaust filter, EFA

Description: Exhaust filter to be used for natural ventilation, or for forced ventilation working with filter fans EF. nVent HOFFMAN exhaust filters save us time because are installed with a click-in system without screws. The hinged front cover can be easily opened for quick and easy filter replacement.

Material: Front cover made of injection-moulded thermoplastic, self-extinguishing, UL94V0.

Temperature range: -40 °C to +55 °C.

Protection: IP 54 | TYPE 12.

Finish: RAL 7035.

Approvals: CE, EAC, cRUus_UL Recognized.

Pack quantity: One exhaust filter.



| Filter mat (EN779) | Filtration efficiency (%) | Cut-out (mm) | Depth | Item no. |
|--------------------|---------------------------|--------------|-------|--------------|
| G4 | >90 | 92 x 92 | 19 | EFA100R5 |
| G4 | >90 | 125 x 125 | 26 | EFA200R5 |
| G4 | >90 | 177 x 177 | 34 | EFA220R5 |
| G4 | >90 | 223 x 223 | 38 | EFA250-300R5 |
| G3 | >90 | 291 x 291 | 39 | EFA500-700R5 |

Exhaust filter, outdoor version, EFAP

Description: Exhaust filter to be used for natural ventilation, or for forced ventilation working with filter fans EFP. nVent HOFFMAN exhaust filters save us time because are installed with a clickin system without screws. The hinged front cover can be easily opened for quick and easy filter replacement. The new filter mat gives longer life with a low pressure drop because of special construction.

Material: Front cover made of injection-moulded thermoplastic, self-extinguishing, UL94V0. UV resistance.

Temperature range: -40 °C to +55 °C.

Protection: IP 55 | TYPE 12.

Finish: RAL 7035.

Approvals: CE, EAC, cRUus_UL Recognized.

Pack quantity: One exhaust filter.



| Filter mat (EN779) | Filtration efficiency (%) | Cut-out (mm) | Item no. |
|--------------------|---------------------------|--------------|---------------|
| G4 | >90 | 125 x 125 | EFAP200R5 |
| G4 | >90 | 177 x 177 | EFAP220R5 |
| G4 | >90 | 223 x 223 | EFAP250-300R5 |
| G4 | >90 | 291 x 291 | EFAP500-700R5 |

Standard filter mat IP54, EFM

Description: To replace the standard filter supplied with the filter fans EF and the exhaust filters EFA. It is recommended to replace the filter each year or sooner depending on the environment.

Temperature range: -40 °C to +55 °C.

Pack quantity: 5 pieces.



| Filter mat (EN779) | For | Item no. |
|--------------------|-----------------|------------|
| G4 | EF/EFA 100 | EFM100 |
| G4 | EF/EFA 200 | EFM200 |
| G4 | EF/EFA 220 | EFM220 |
| G4 | EF/EFA 250, 300 | EFM250-300 |
| G3 | EF/EFA 500, 700 | EFM500-700 |

Replacement filter mat IP55, EFMP

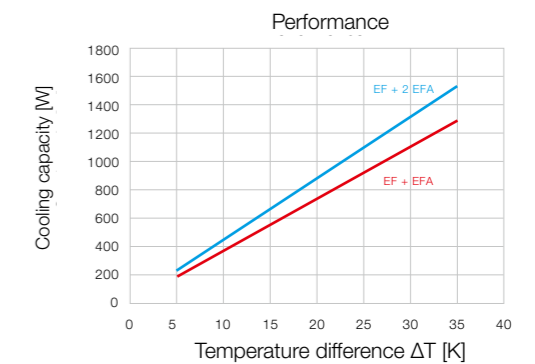
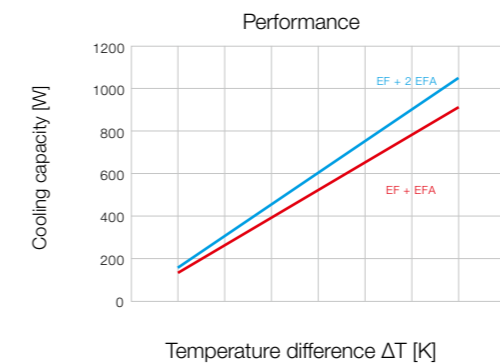
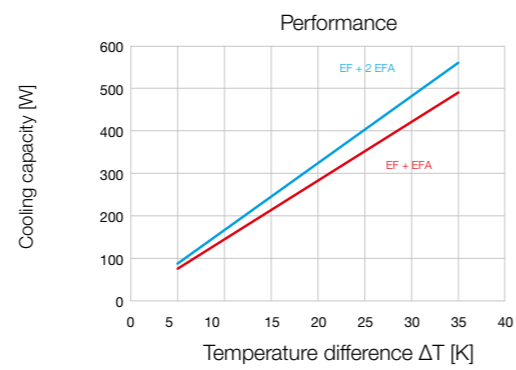
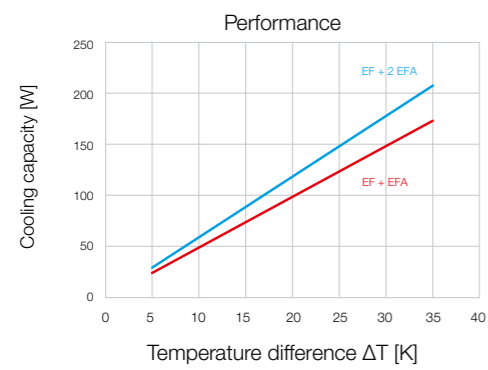
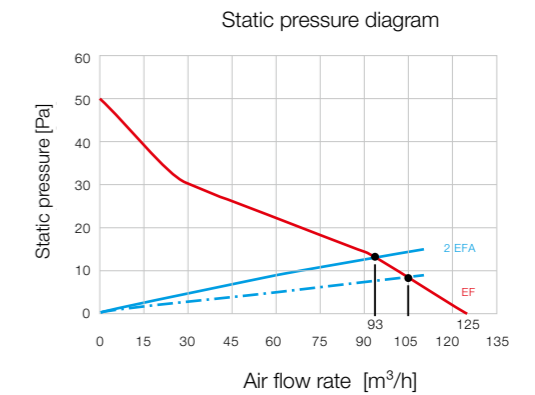
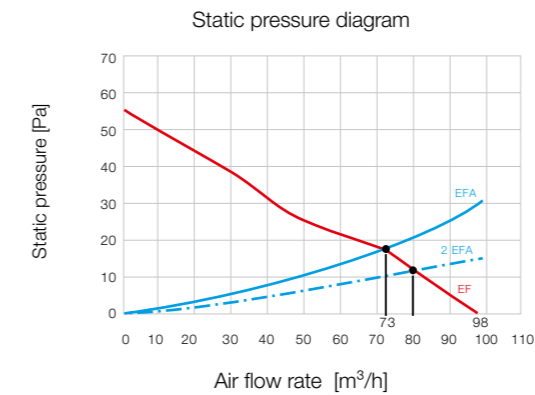
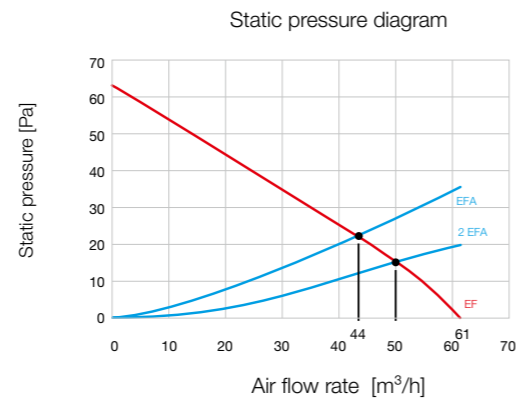
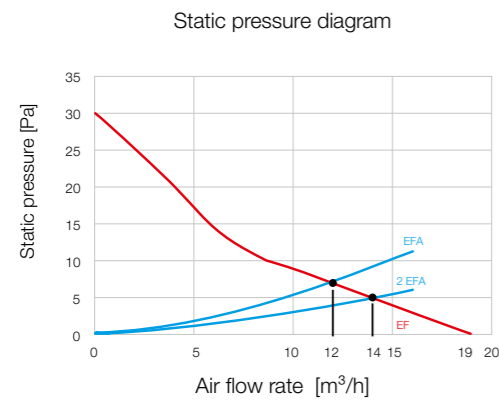
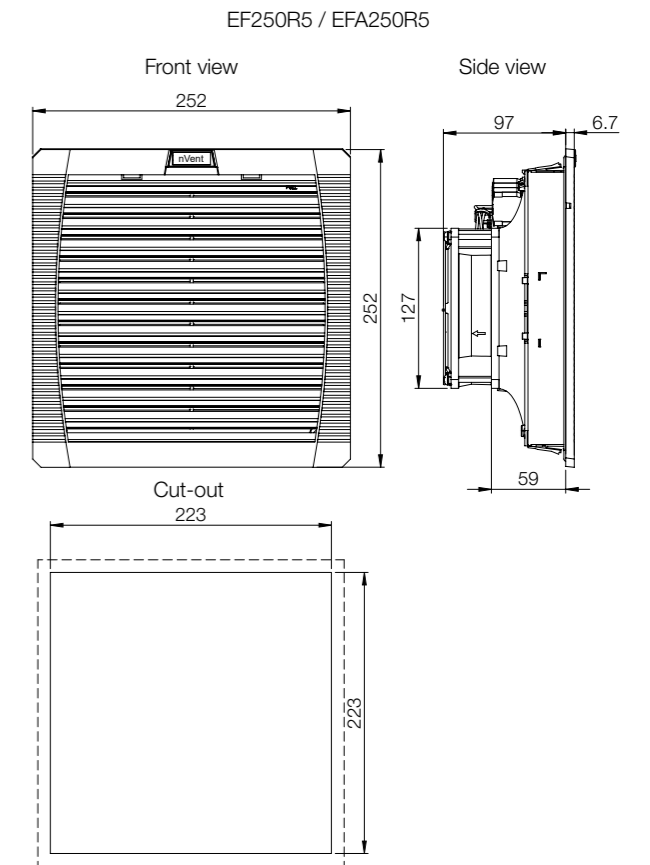
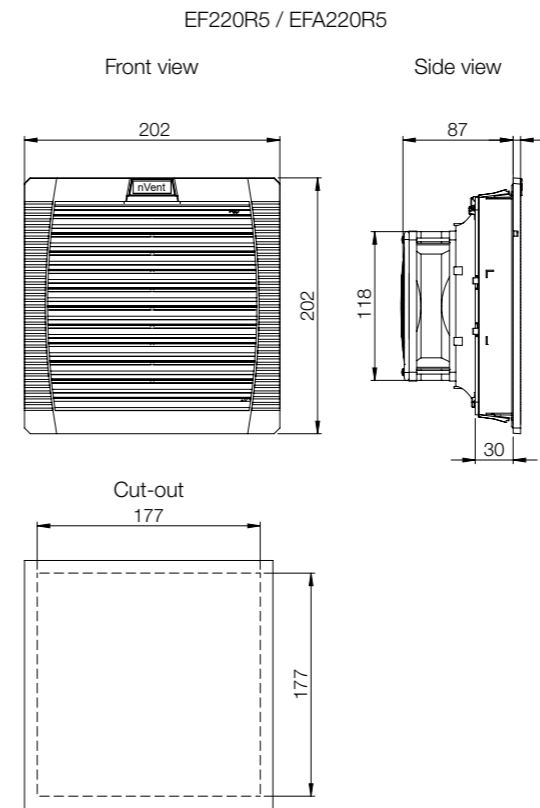
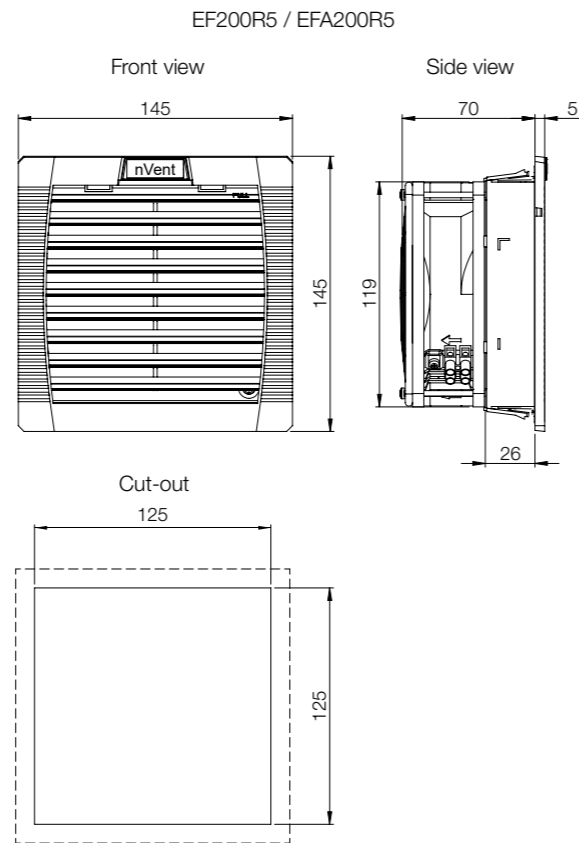
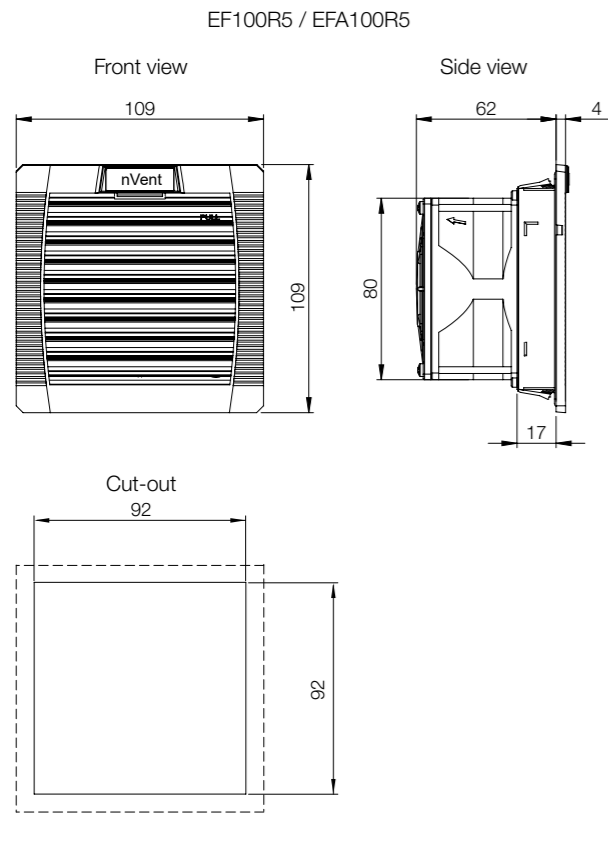
Description: To replace the standard filter supplied with the filter fans EFP and the exhaust filters EFAP. It is recommended to replace the filter each year or sooner depending on the environment.

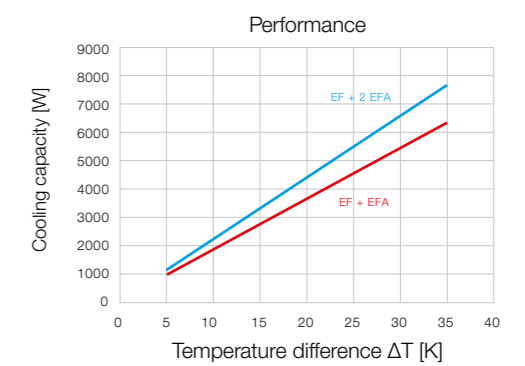
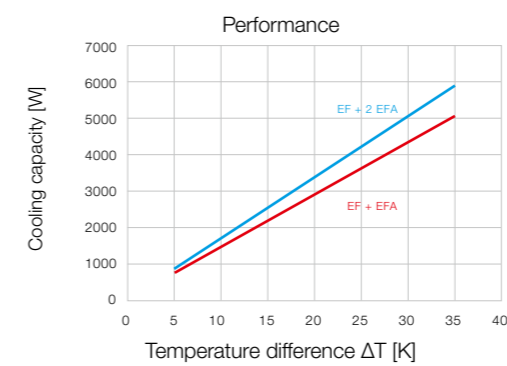
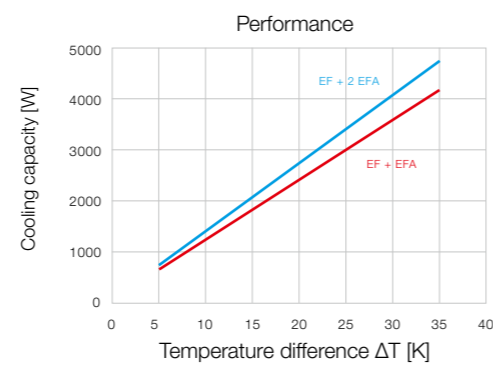
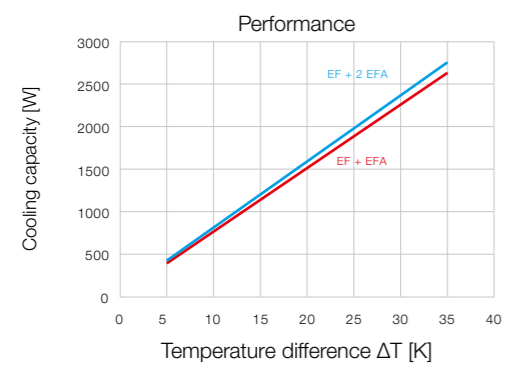
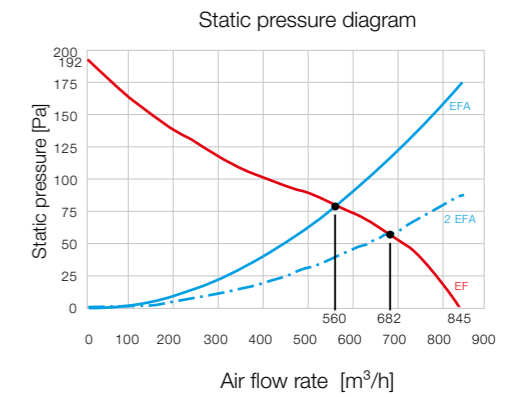
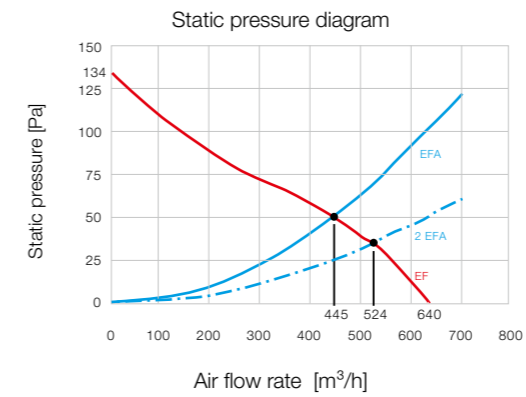
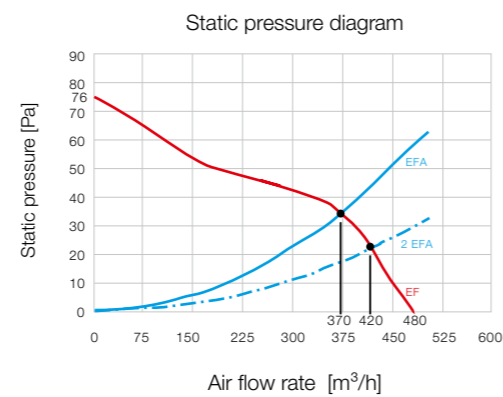
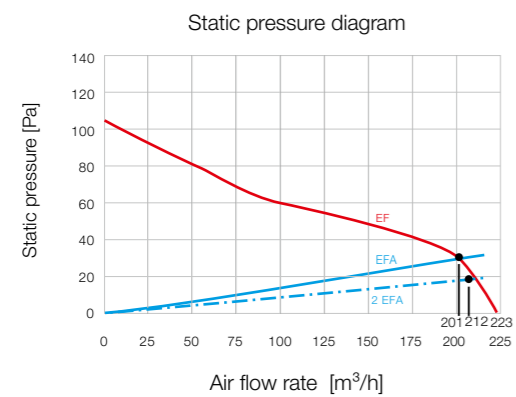
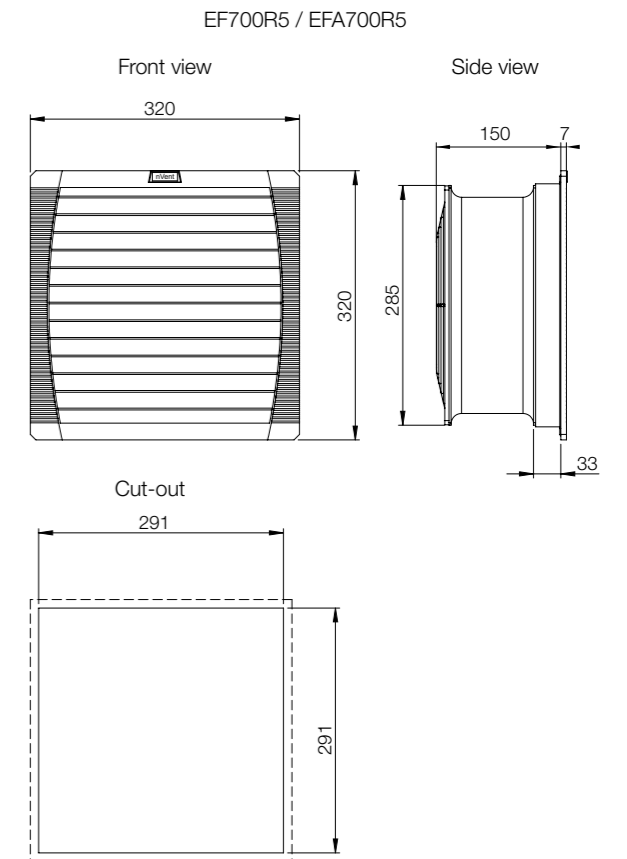
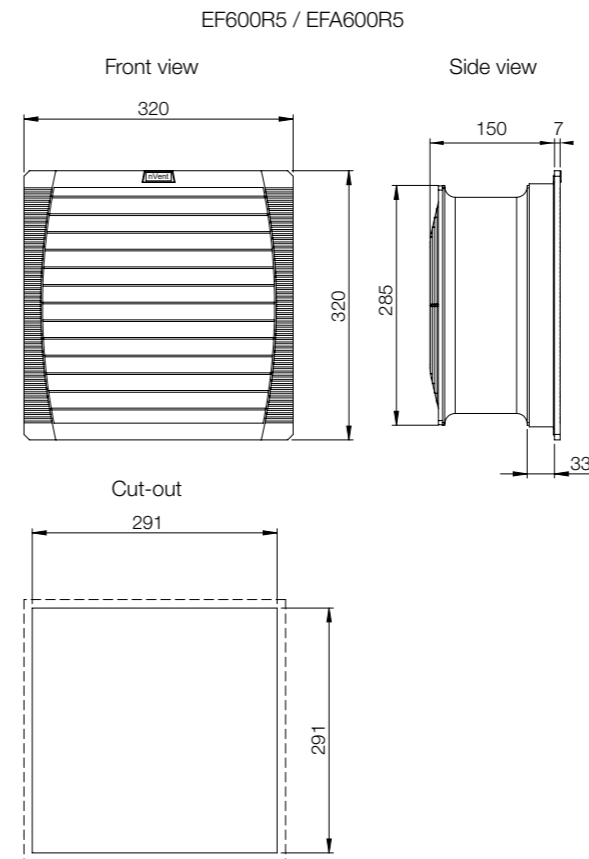
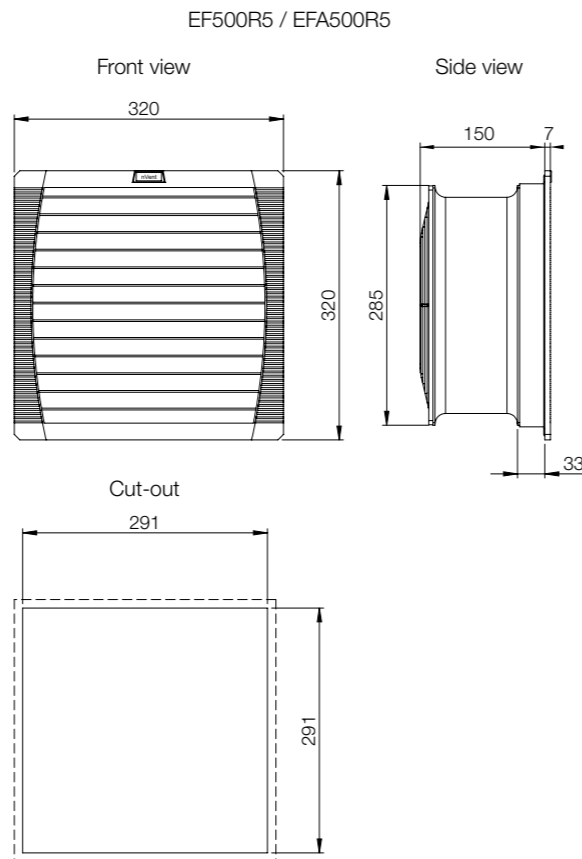
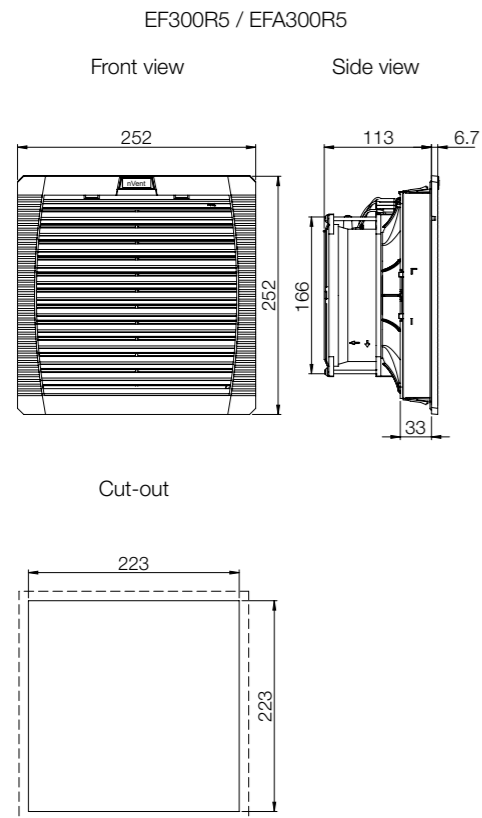
Temperature range: -40 °C to +55 °C.

Pack quantity: 5 pieces.

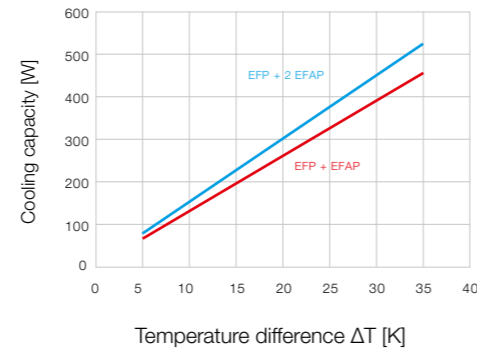
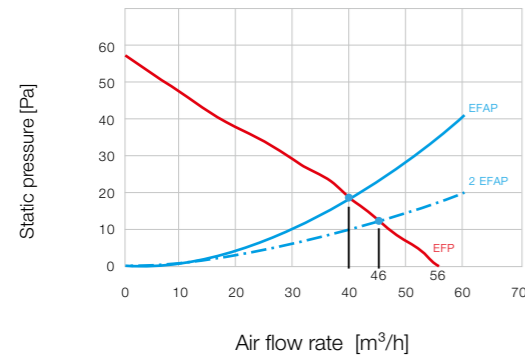


| Filter mat (EN779) | For | Item no. |
|--------------------|----------------------|-------------|
| G4 | EFP/EFAP 200 | EFMP200 |
| G4 | EFP/EFAP 220 | EFMP220 |
| G4 | EFP/EFAP 250/300 | EFMP250-300 |
| G4 | EFP/EFAP 500/600/700 | EFMP500-700 |

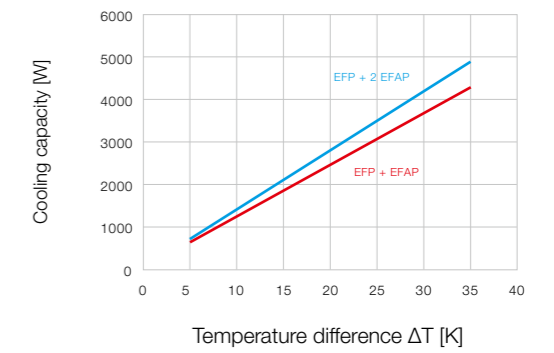
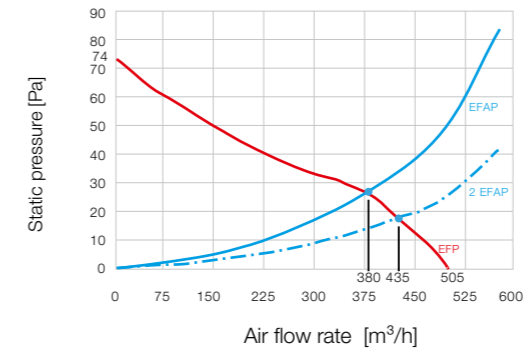




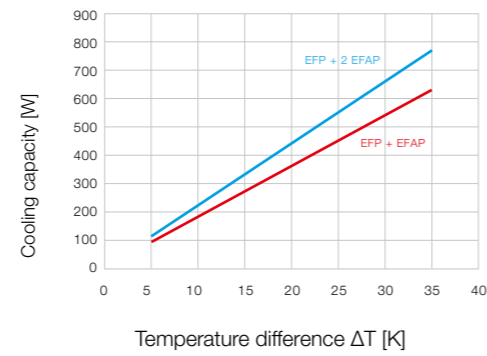
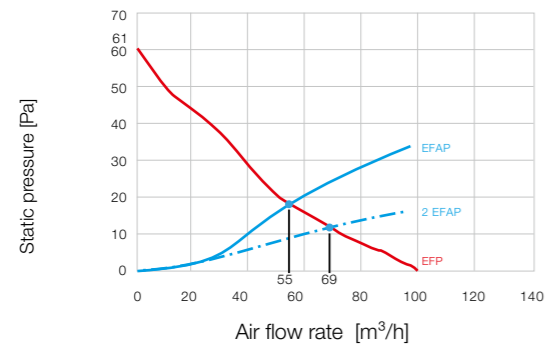
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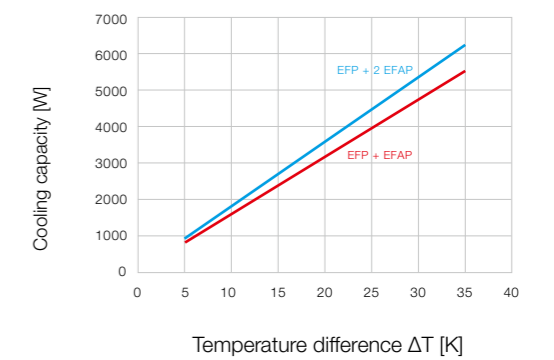
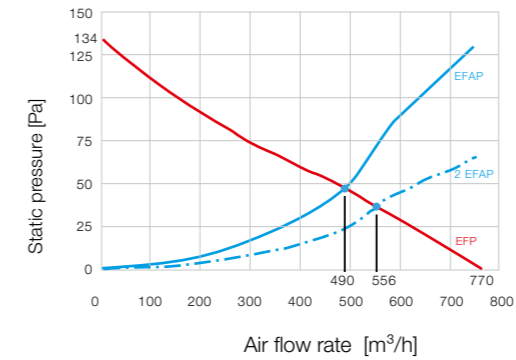
EFP500R5 / EFAP500-700R5



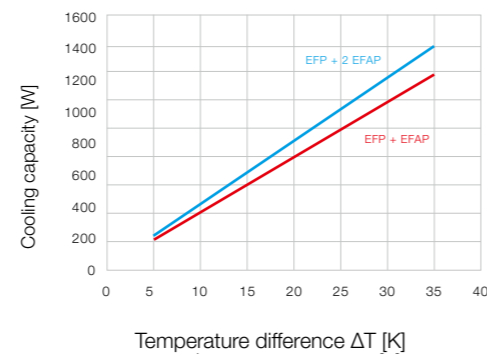
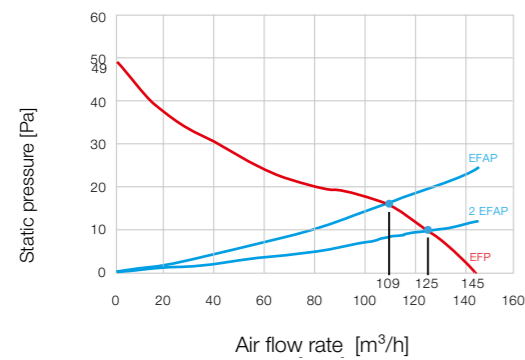
EFP220R5 / EFAP220R5



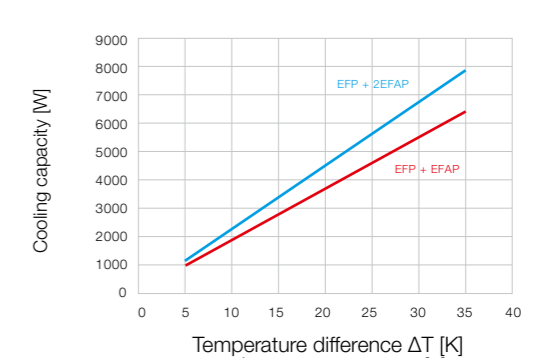
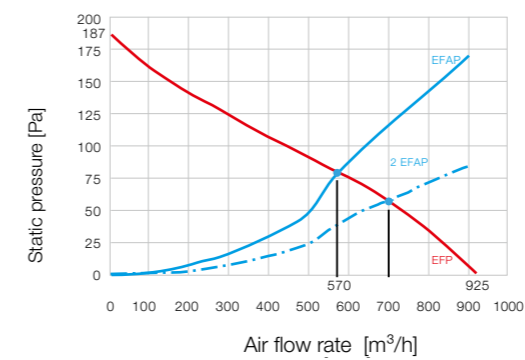
EFP600R5 / EFAP500-700R5



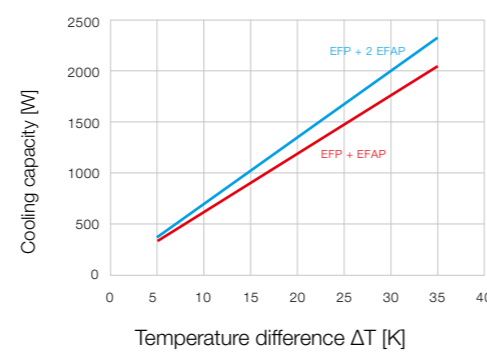
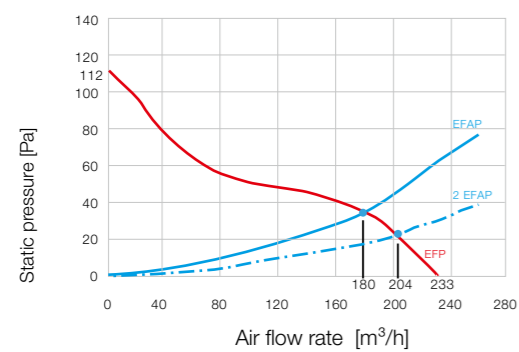
EFP250R5 / EFAP250-300R5



EFP700R5 / EFAP500-700R5



EFP300R5 / EFAP250-300R5



Thermal Management Ventilation Range

Roof fan unit | RFU



Description:

Roof fan unit for mounting on the top of the enclosure providing forced ventilation. The unit is easily installed with a quick fastening system, and the required cutout is the same for the different air flow.

Material:

Painted mild steel, and injection-moulded thermoplastic (ABS-FR) self extinguishing, UL94V0.

Temperature range:

-15 °C to +55 °C.

Type of connection:

Terminal strip.

Finish:

RAL 7035.

Pack quantity:

One roof fan unit.



Dimensional table | RFU

230 V, 50/60 Hz

| Unimpeded airflow (m³/h) | RFU+EFA Air flow (m³/h) | Filter mat (EN779) | Filtration efficiency (%) | Service life L10 (40°C)(h) | Bearing type | Noise (dB) | Item no. |
|--------------------------|-------------------------|--------------------|---------------------------|----------------------------|--------------|------------|------------|
| 500 | 268 | No filter mat | No filter mat | 50.000 | Ball | 67 | RFU5003R5 |
| 700 | 427 | No filter mat | No filter mat | 40.000 | Ball | 69 | RFU7003R5 |
| 1000 | 582 | No filter mat | No filter mat | 40.000 | Ball | 77 | RFU10003R5 |
| 350 | 242 | G4 | >90 | 50.000 | Ball | 67 | RFU5005R5 |
| 550 | 370 | G4 | >90 | 40.000 | Ball | 69 | RFU7005R5 |
| 750 | 500 | G4 | >90 | 40.000 | Ball | 77 | RFU10005R5 |

230 V, 50/60 Hz

| IP | Cut-out (mm) | Weight (kg) | Connection | Current (A) | Power (W) | Fuse (A) | Item no. |
|----|--------------|-------------|----------------|---------------|-----------|----------|------------|
| 33 | 291 x 291 | 5.55 | Terminal strip | 4 x 0.20/0.20 | 4 x 28/29 | 6 | RFU5003R5 |
| 33 | 291 x 291 | 6.15 | Terminal strip | 0.35/0.45 | 80/100 | 6 | RFU7003R5 |
| 33 | 291 x 291 | 6.45 | Terminal strip | 0.53/0.72 | 120/160 | 6 | RFU10003R5 |
| 54 | 291 x 291 | 5.55 | Terminal strip | 4 x 0.20/0.20 | 4 x 28/29 | 6 | RFU5005R5 |
| 54 | 291 x 291 | 6.30 | Terminal strip | 0.35/0.45 | 80/100 | 6 | RFU7005R5 |
| 54 | 291 x 291 | 4.78 | Terminal strip | 0.53/0.72 | 120/160 | 6 | RFU10005R5 |

115 V AC, 50/60Hz

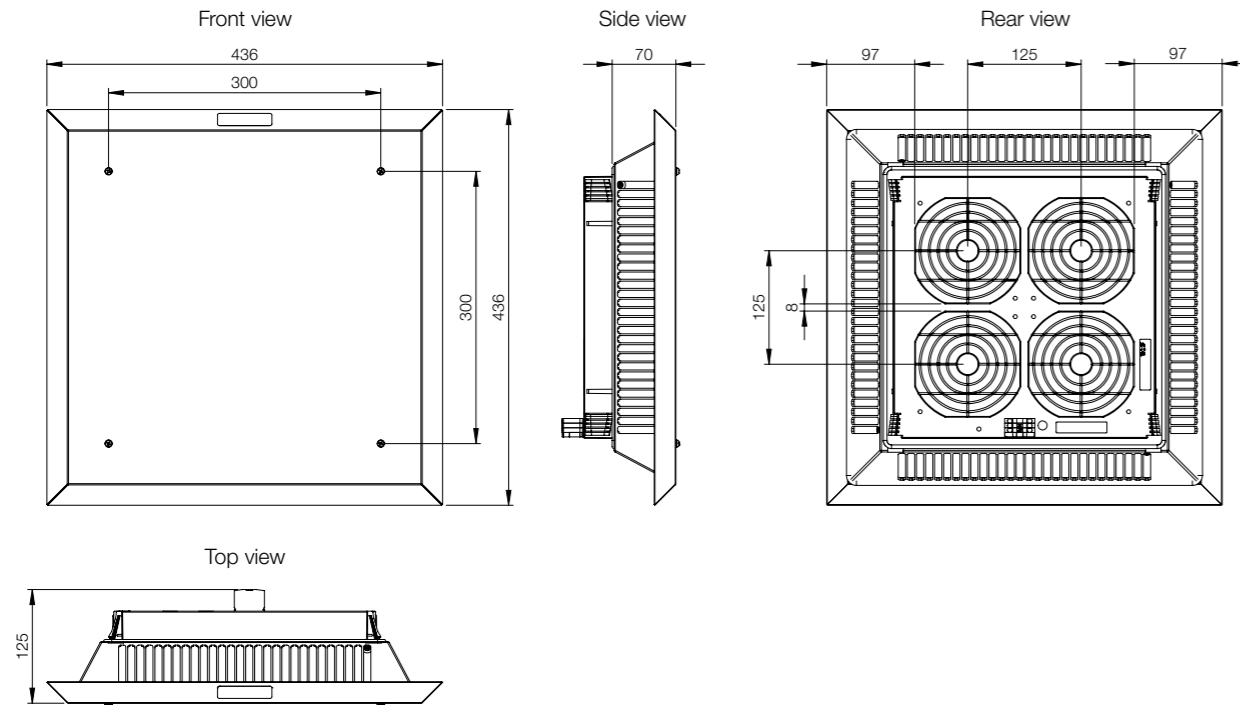
| Unimpeded airflow (m³/h) | RFU+EFA Air flow (m³/h) | Filter mat (EN779) | Filtration efficiency (%) | Service life L10 (40°C)(h) | Bearing type | Noise (dB) | Item no. |
|--------------------------|-------------------------|--------------------|---------------------------|----------------------------|--------------|------------|------------|
| 500 | 268 | No filter mat | No filter mat | 50.000 | Ball | 67 | RFU5013R5 |
| 700 | 427 | No filter mat | No filter mat | 40.000 | Ball | 69 | RFU7013R5 |
| 1000 | 582 | No filter mat | No filter mat | 40.000 | Ball | 77 | RFU10013R5 |
| 350 | 242 | G4 | >90 | 50.000 | Ball | 67 | RFU5015R5 |
| 550 | 370 | G4 | >90 | 40.000 | Ball | 69 | RFU7015R5 |
| 750 | 500 | G4 | >90 | 40.000 | Ball | 77 | RFU10015R5 |

115 V AC, 50/60Hz

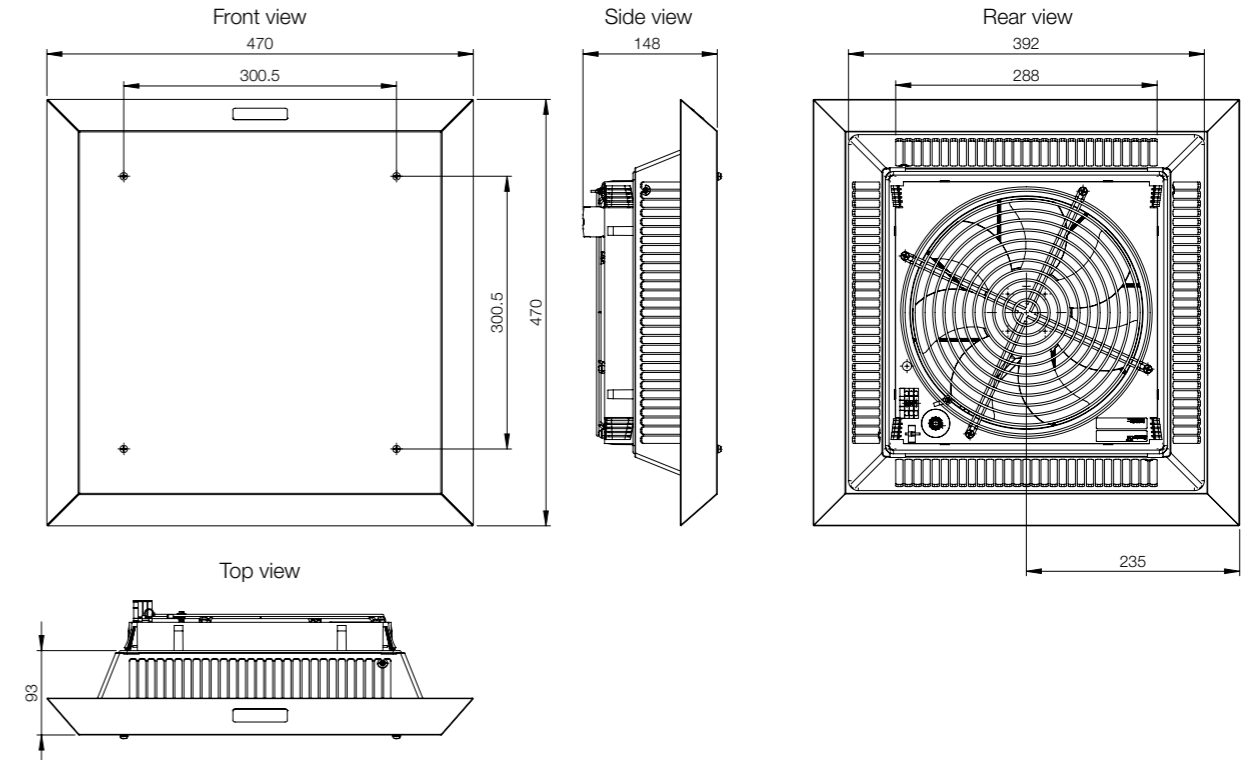
| IP | Cut-out (mm) | Weight (kg) | Connection | Current (A) | Power (W) | Fuse (A) | Item no. |
|----|--------------|-------------|----------------|---------------|-----------|----------|------------|
| 33 | 291 x 291 | 5.60 | Terminal strip | 4 x 0.30/0.30 | 4 x 29/24 | 6 | RFU5013R5 |
| 33 | 291 x 291 | 4.56 | Terminal strip | 0.66/0.80 | 75/90 | 6 | RFU7013R5 |
| 33 | 291 x 291 | 4.78 | Terminal strip | 0.96/1.40 | 110/160 | 6 | RFU10013R5 |
| 54 | 291 x 291 | 5.33 | Terminal strip | 4 x 0.30/0.30 | 4 x 29/24 | 6 | RFU5015R5 |
| 54 | 291 x 291 | 4.56 | Terminal strip | 0.66/0.80 | 75/90 | 6 | RFU7015R5 |
| 54 | 291 x 291 | 4.78 | Terminal strip | 0.96/1.40 | 110/160 | 6 | RFU10015R5 |

(1) The value in the table is for the combination RFU + EFA500-700R5.

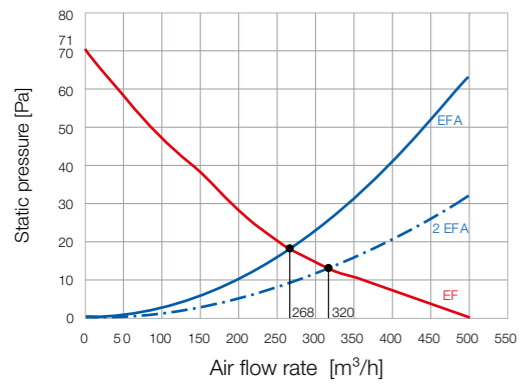
RFU5003R5 / RFU5005R5
RFU5013R5 / RFU5015R5



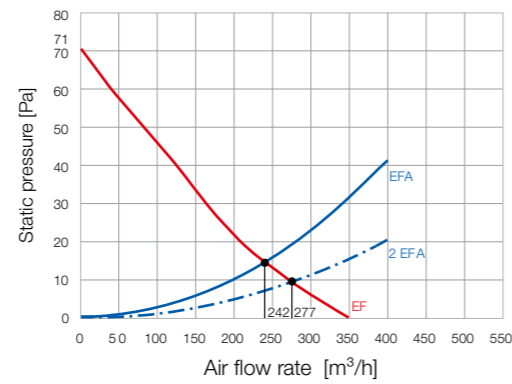
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RFU7013R5 / RFU7015R5



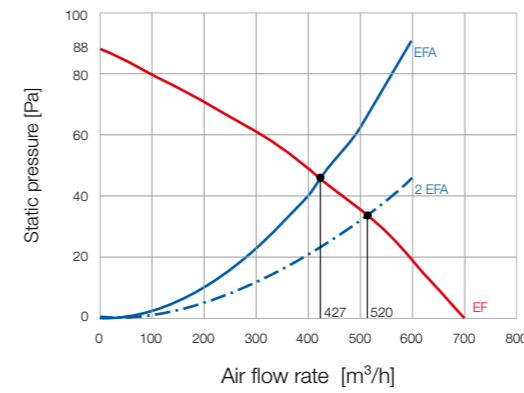
RFU5003R5 / RFU5013R5
Static pressure diagram



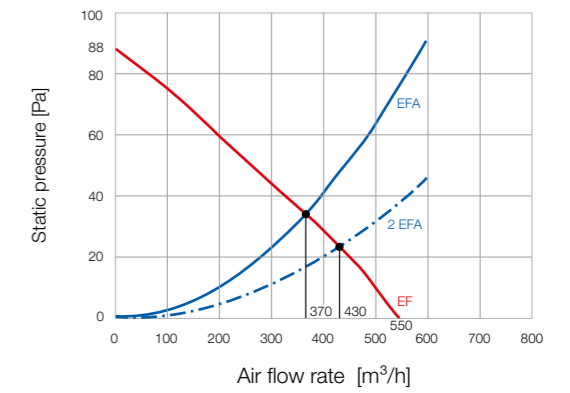
RFU5005R5 / RFU5015R5
Static pressure diagram



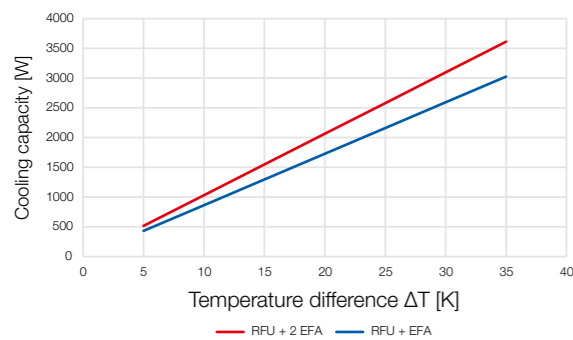
RFU7003R5 / RFU7013R5
Static pressure diagram



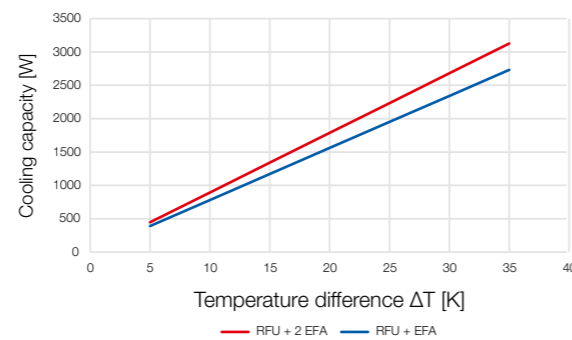
RFU7005R5 / RFU7015R5
Static pressure diagram



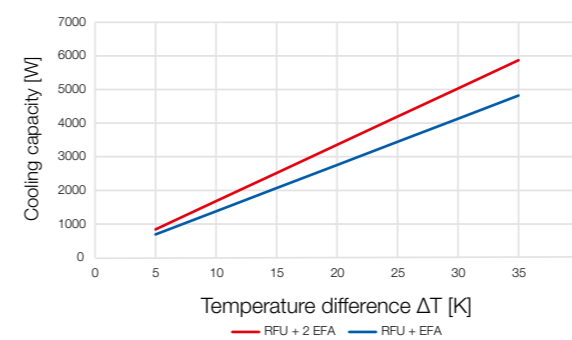
Performance



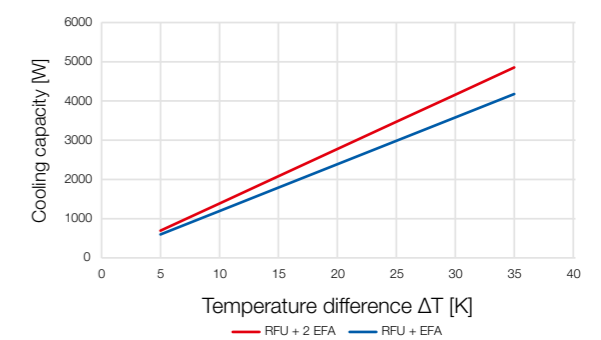
Performance

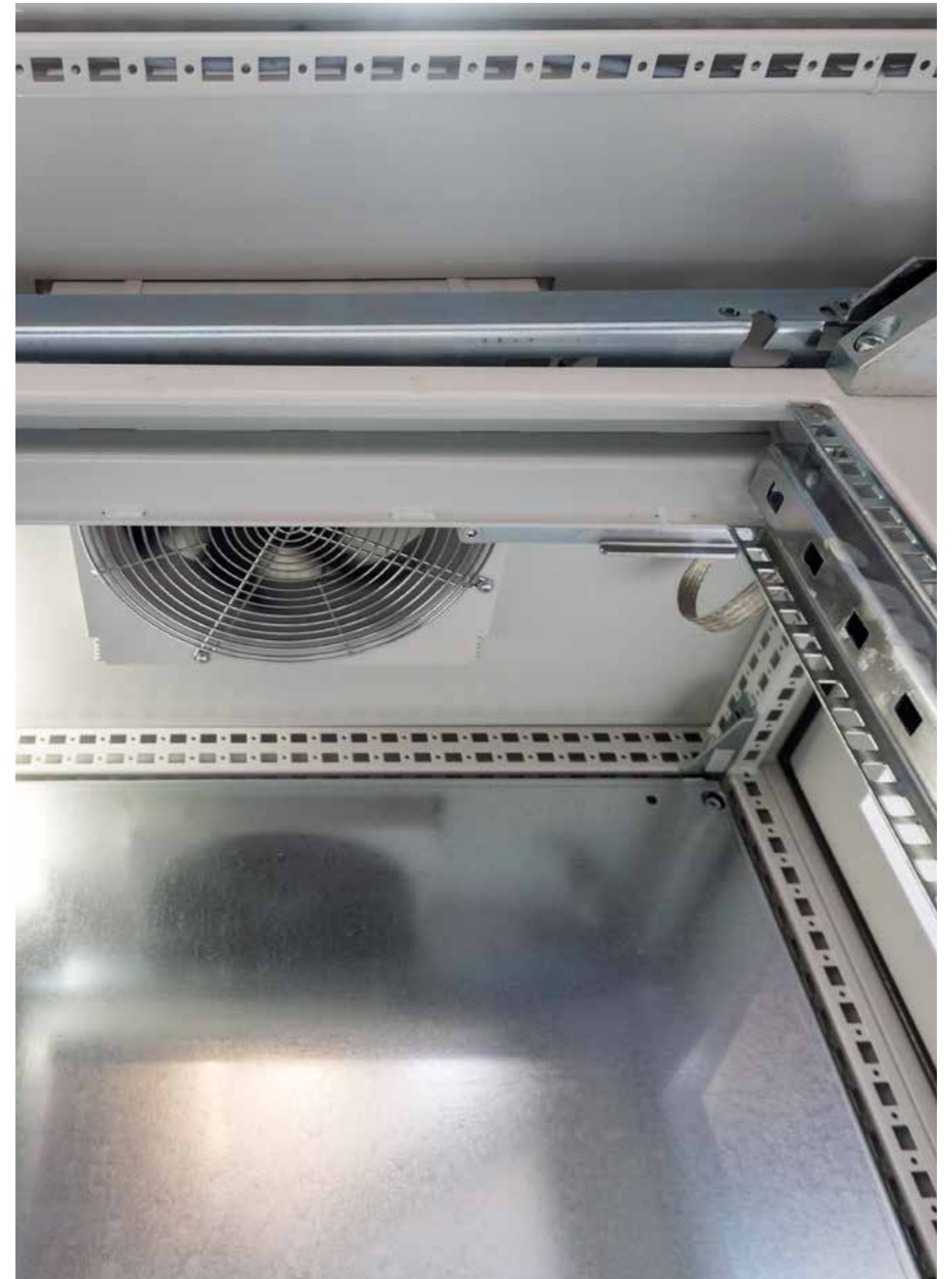
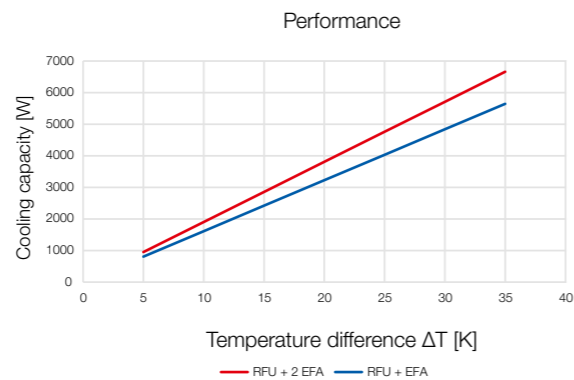
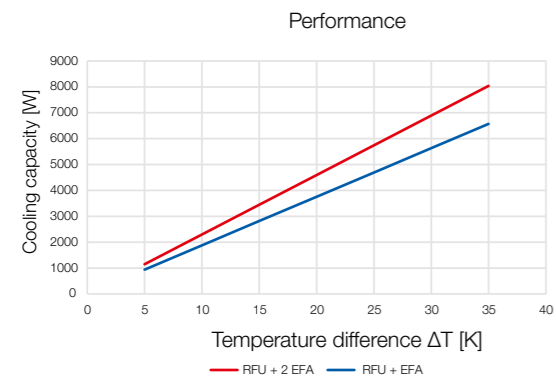
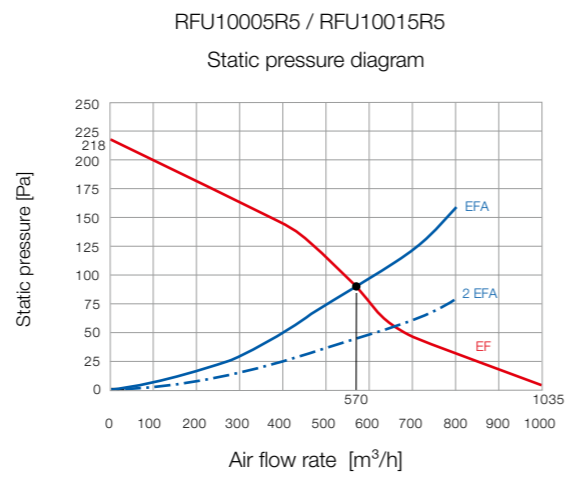
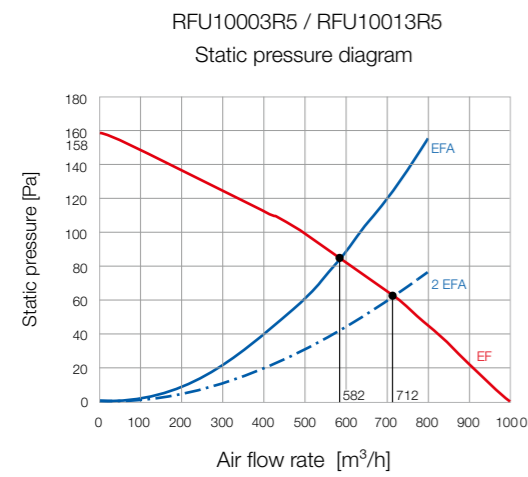
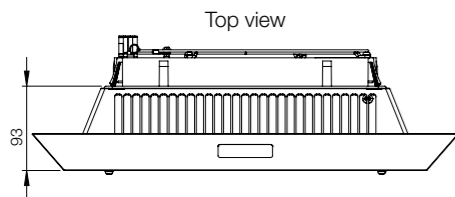
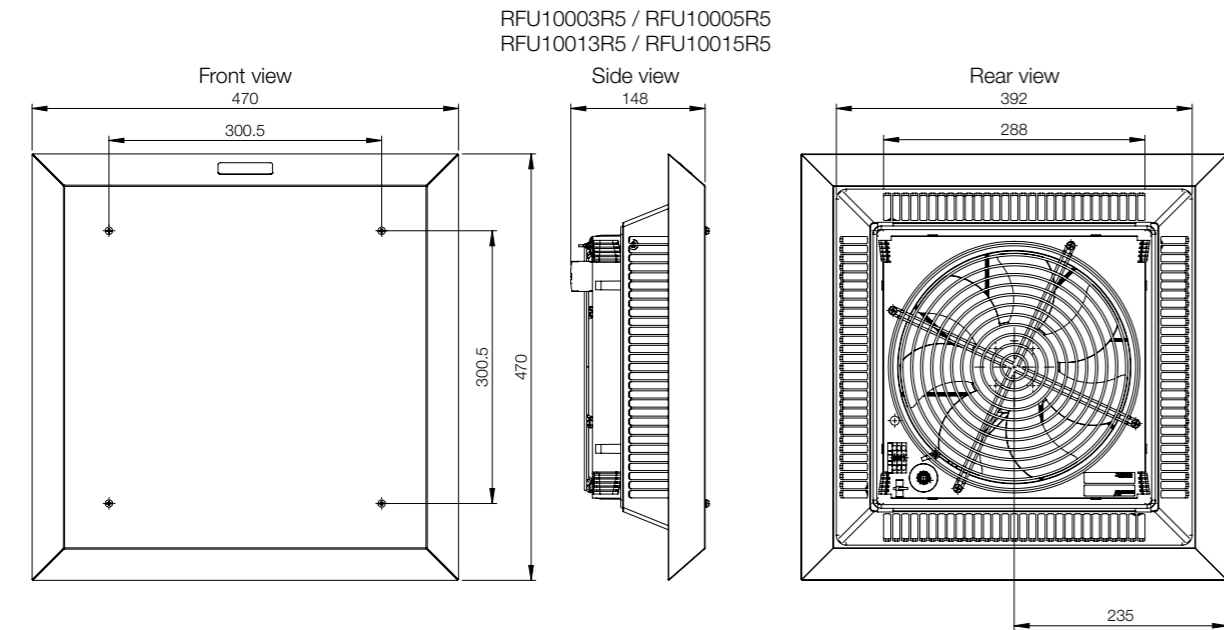


Performance



Performance





Thermal Management Ventilation Range Roof | REU



Description:

Roof exhaust unit for mounting on the top of the enclosure, providing natural ventilation. The unit is easily installed with a quick fastening system. Filtration efficiency of >90% for the IP 54 unit (REU05R5).

Material:

Painted mild steel, and injection-moulded thermoplastic (ABS-FR) self extinguishing, UL94V0.

Temperature range:

-15 °C to +55 °C.

Protection:

IP 33 No filtermat, IP54. Filtermat.

Finish:

RAL 7035 structured powder coating.

Pack quantity:

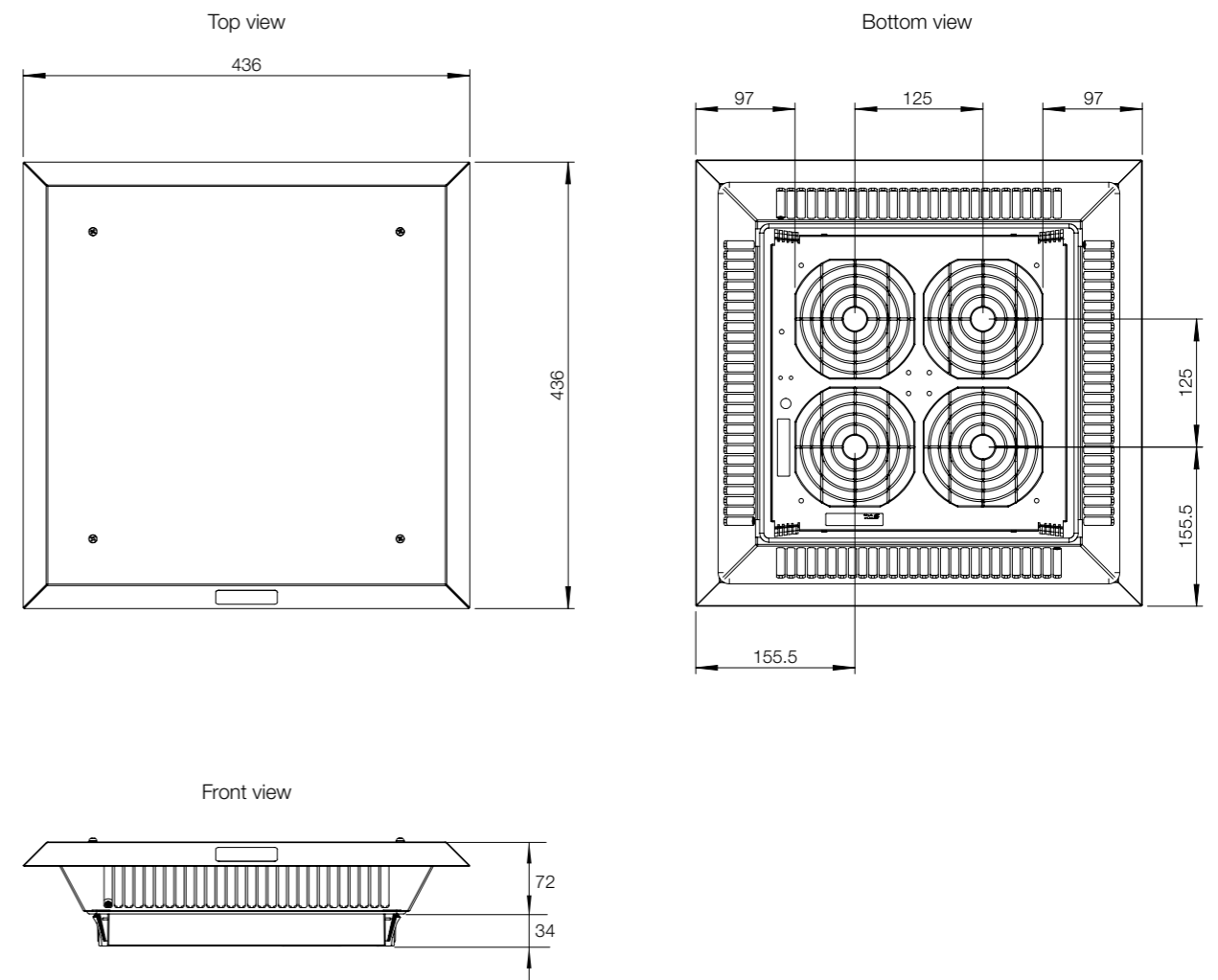
One roof exhaust unit.



Dimensional table | REU

| Filter mat (EN779) | Filtration efficiency (%) | IP | Cut-out (mm) | Weight (kg) | Item no. |
|--------------------|---------------------------|----|--------------|-------------|----------|
| No filter mat | No filter mat | 33 | 291 × 291 | 3.35 | REU03R5 |
| G4 | >90 | 54 | 291 × 291 | 3.40 | REU05R5 |

Dimensional drawing | REU



Thermal Management

Heating & Anticondensation Range

Accessories

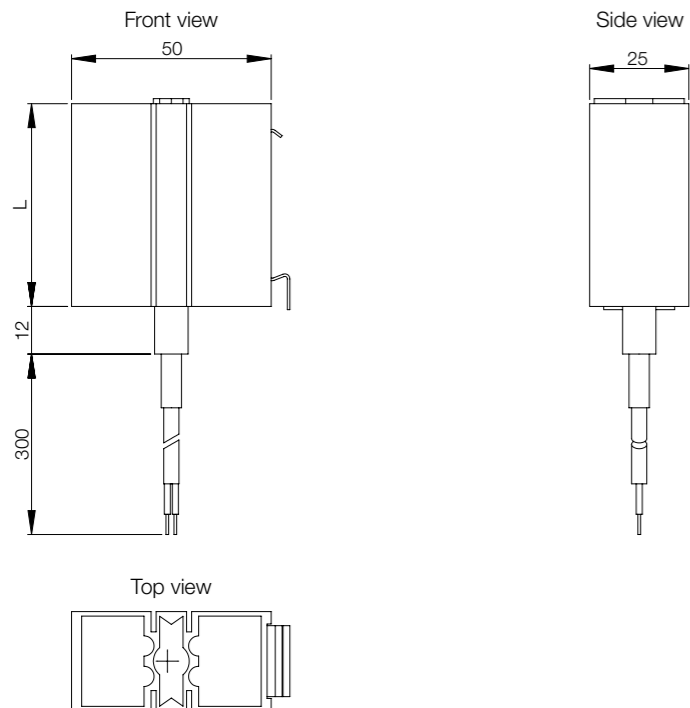
Anti condensation small heater, EGK

- Description:** Small semiconductor heater to be fixed in vertical position to prevent condensation. Mounting clip for 35 mm DIN rail (EN60715). For UL version please contact nVent HOFFMAN.
- Heating element:** PTC resistor.
- Material:** Plastic, and anodised aluminium profile.
- Operating temperature:** -45 °C to +70 °C. The heating capacity is for ambient temperature 20 °C.
- Connection:** 3 × 0.5 mm² (300 mm) silicon cable. For UL heaters 3XAWG20 (300 mm) cable.
- Protection:** IP 44, Class I (earthed).
- Approvals:** CE, EAC.
- Pack quantity:** 1 piece.



| Capacity (W) | Starting current (A) | L (mm) | Voltage (V) | Weight (kg) | Item no. |
|--------------|----------------------|--------|-----------------|-------------|----------|
| 10 | 1.0 | 52 | 120-240 V AC/DC | 0.15 | EGK010 |
| 20 | 2.5 | 60 | 120-240 V AC/DC | 0.15 | EGK020 |
| 30 | 3.0 | 70 | 120-240 V AC/DC | 0.15 | EGK030 |

* The min / max voltage values for 120-240 V heaters are 110 / 265 V, operating with voltages below 140 V AC/DC reduces heating performance by approx. 10%.

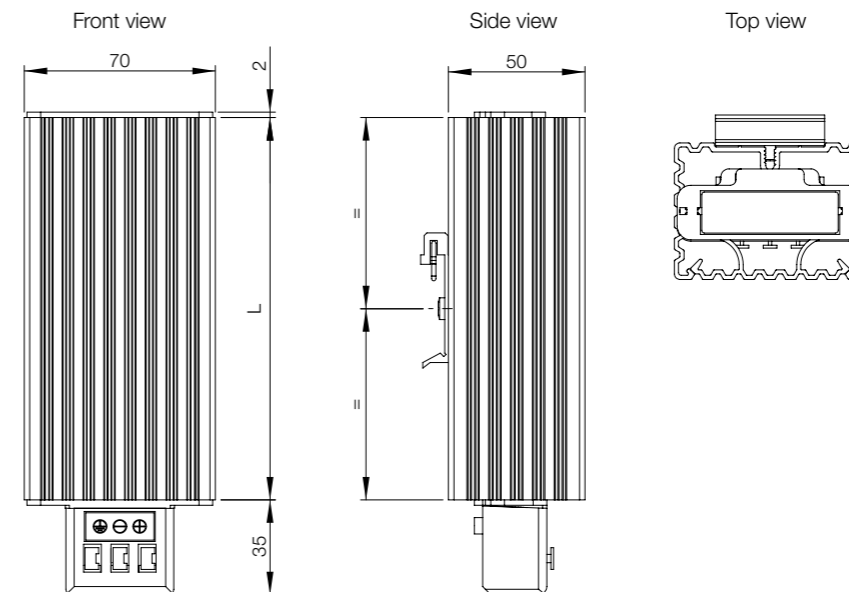


Anti condensation large heater, EHG

- Description:** Large heater to be fixed preferably in vertical position to prevent condensation. Mounting clip for 35 mm DIN rail (EN60715).
- Heating element:** PTC resistor, self regulating and temperature limiting.
- Material:** Plastic, and anodised aluminium profile.
- Operating temperature:** -40 °C to +70 °C. The heating capacity is for ambient temperature 20 °C.
- Connection:** Plug terminal connection (2 × 0.5-2.5 mm²), available on request with connecting cable (500 mm).
- Protection:** IP 20 supplied with terminals. IP 44 on request (supplied with cable).
- Approvals:** CE, EAC, cULus_UL Listed.
- Pack quantity:** 1 piece.



| Capacity (W) | Starting current (A) | L (mm) | Voltage (V) | Weight (kg) | Item no. |
|--------------|----------------------|--------|--------------------------|-------------|----------|
| 15 | 1.1 | 65 | 110 - 250 V AC, 50/60 Hz | 0.25 | EHG015 |
| 30 | 1.2 | 65 | 110 - 250 V AC, 50/60 Hz | 0.25 | EHG030 |
| 45 | 1.8 | 65 | 110 - 250 V AC, 50/60 Hz | 0.30 | EHG045 |
| 60 | 2.5 | 140 | 110 - 250 V AC, 50/60 Hz | 0.45 | EHG060 |
| 75 | 4.5 | 140 | 110 - 250 V AC, 50/60 Hz | 0.55 | EHG075 |
| 100 | 5.0 | 140 | 110 - 250 V AC, 50/60 Hz | 0.55 | EHG100 |
| 150 | 7.5 | 215 | 110 - 250 V AC, 50/60 Hz | 0.80 | EHG150 |



Thermal Management

Heating & Anticondensation Range

Accessories

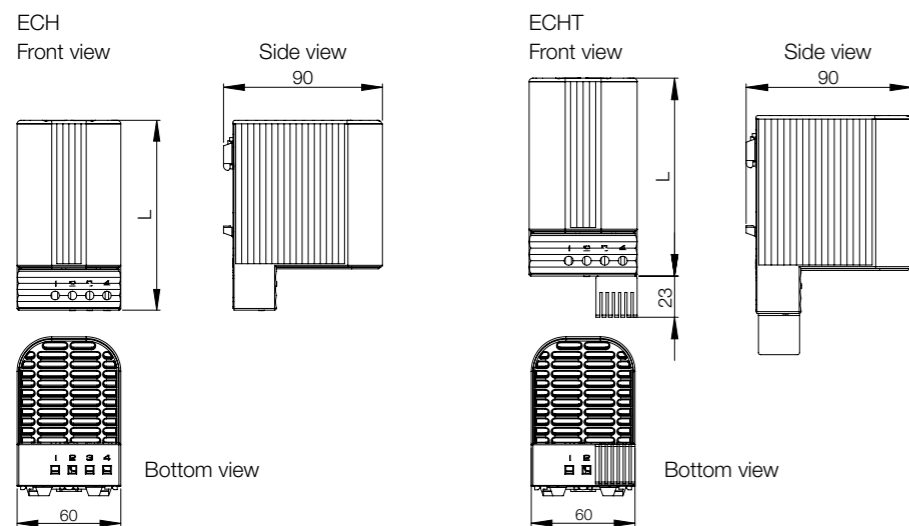
Compact heater, ECH(T)

- Description:** Double insulated vertical heater to prevent condensation. Mounting clip for 35 mm DIN rail (EN60715). Touch-safe heater, the temperatures of the housing are kept under 80 °C except upper protective grille. The heater with thermostat (ECHT) includes a plug-in thermostat therefore it does not require additional wiring, starting temperature of 5 °C, and switch-off temperature of 15 °C.
- Heating element:** PTC resistor, temperature limiting.
- Material:** Plastic according to UL94 V-0.
- Operating temperature:** -45 °C to +70 °C. The heating capacity is for ambient temperature 20 °C.
- Connection:** Pole terminal 2.5 mm², torque 0.8 Nm max.
- Protection:** IP 20, Class II (double insulated).
- Approvals:** CE, EAC.
- Finish:** Black.
- Pack quantity:** 1 piece.



| Heating Capacity (W) | Starting current (A) | L (mm) | Voltage (V) | Weight (kg) | Item no. |
|----------------------|----------------------|--------|--------------|-------------|----------|
| 50 | 2.5 | 110 | 120-240 V AC | 0.35 | ECH50 |
| 100 | 4.5 | 110 | 120-240 V AC | 0.35 | ECH100 |
| 150 | 8.0 | 150 | 120-240 V AC | 0.50 | ECH150 |
| 50 | 2.5 | 110 | 120-240 V AC | 0.35 | ECHT50 |
| 100 | 4.5 | 110 | 120-240 V AC | 0.35 | ECHT100 |
| 150 | 8.0 | 150 | 120-240 V AC | 0.50 | ECHT150 |

Voltage range: min. 110V - max 265 V. Operating below 140 V AC reduces performance by approx. 10%

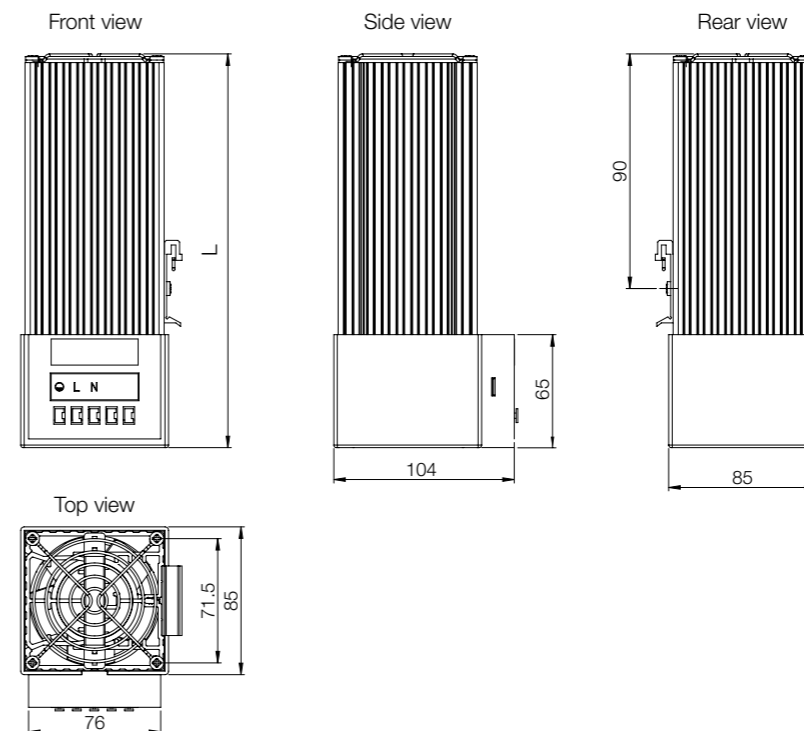


Fan Heater, EGL

- Description:** Heater with fan to be fixed as desired, but preferably in vertical position to prevent condensation. The fan assists the natural convection for fast distribution of the heat in large enclosures. Mounting clip for 35 mm DIN rail (EN60715).
- Heating element:** PTC resistor, self regulating and temperature limiting.
- Fan life:** 50.000 h at 25 °C.
- Material:** Plastic, and anodised aluminium profile.
- Operating temperature:** -40 °C to +70 °C. The heating capacity is for ambient temperature 20 °C.
- Connection:** Plug terminal connection (2 x 0.5-2.5 mm²).
- Protection:** IP 20, Class I (earthed).
- Approvals:** CE, EAC, cULus_UL Listed.
- Pack quantity:** 1 piece.



| Capacity (W) | Starting current (A) | L (mm) | Voltage (V) | Weight (kg) | Item no. |
|--------------|----------------------|--------|--------------------|-------------|-------------|
| 250 | 2.2 | 187 | 120 V AC, 50/60 Hz | 1.20 | EGL250UL115 |
| 250 | 1.1 | 187 | 230 V AC, 50/60 Hz | 1.20 | EGL250UL230 |
| 400 | 3.6 | 227 | 120 V AC, 50/60 Hz | 1.30 | EGL400UL115 |
| 400 | 1.8 | 227 | 230 V AC, 50/60 Hz | 1.40 | EGL400UL230 |



Thermal Management

Heating & Anticondensation Range

Accessories

Fan Heater, EHV

- Description:** High performance space saving fan heater to prevent condensation. The fan assists the natural convection for fast distribution of the heat in large enclosures. Mounting clip for 35 mm DIN rail (EN60715). Temperature safety cut-out to protect against overheating in case of fan failure, automatic reset.
- Heating element:** High performance cartridge.
- Material:** Plastic according to UL94 V-0, and die-cast aluminium.
- Fan life:** 50.000 h at 25 °C.
- Operating temperature:** -45 °C to +70 °C.
- Connection:** 3-pole screw connector 2.5 mm².
- Protection:** IP 20, Class I (earthed).
- Approvals:** CE, EAC.
- Pack quantity:** 1 piece.

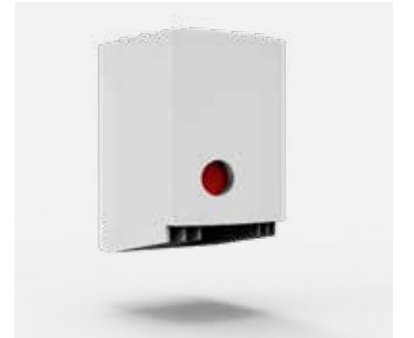


| Capacity (W) | Air flow m ³ /h | Voltage (V) | Item no. |
|--------------|----------------------------|-------------------|----------|
| 100 | 35 | 230 V AC 50/60 HZ | EHV100 |
| 150 | 35 | 230 V AC 50/60 HZ | EHV150 |
| 200 | 108 | 230 V AC 50/60 HZ | EHV200 |
| 300 | 108 | 230 V AC 50/60 HZ | EHV300 |
| 400 | 108 | 230 V AC 50/60 HZ | EHV400 |

Voltage (V): 120 V AC on request.

Fan heater, ECR

- Description:** High performance heater to prevent condensation. The fan assists the natural convection for a better heat distribution. Double insulated. Mounting clip for 35 mm DIN rail (EN60715). Temperature safety cut-out to protect against overheating in case of fan failure, automatic reset. Thermostat control lamp.
- Material:** Plastic according to UL94 V-0.
- Setting range:** 0 °C to +60 °C.
- Heating element:** PTC resistor, temperature limiting.
- Fan life:** 50.000 h at 25 °C.
- Operating temperature:** -45 °C to +70 °C.
- Connection:** 2 pole clamp 2.5 mm², torque 0.8 Nm max.
- Protection:** IP 20, Class II (double insulated).
- Approvals:** CE, EAC.
- Finish:** Light grey.
- Pack quantity:** 1 piece.

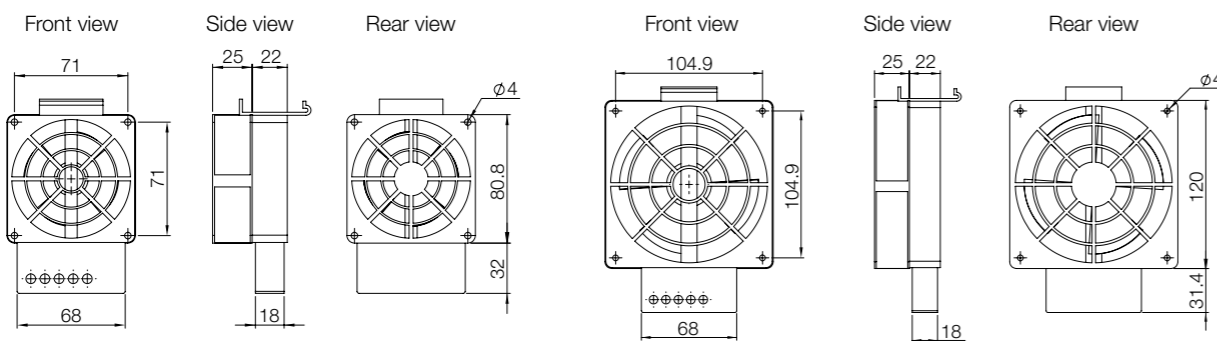


| Capacity (W) | Starting current (A) | Voltage (V) | Weight (kg) | Item no. |
|--------------|----------------------|------------------------|-------------|----------|
| 550 | 13.0 | 220-240 V AC, 50/60 Hz | 1.05 | ECR550 |

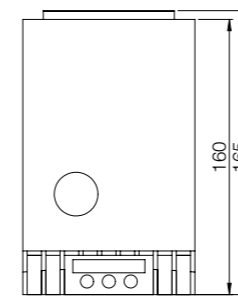
Voltage (V): 100-120 V AC on request.

EHV100 / EHV150

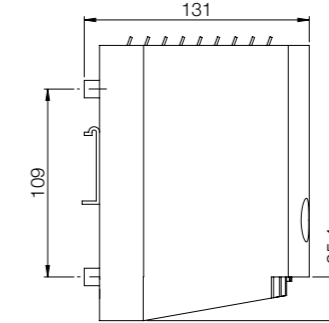
EHV200 / EHV300 / EHV400



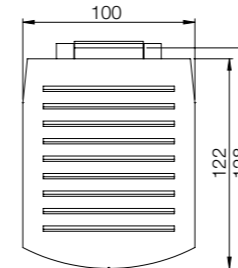
Front view



Side view



Top view



Thermal Management

Heating & Anticondensation Range

Accessories

Pressure compensation, EDA

- Description:** It compensates the pressure with high IP. In the enclosures pressure differentials can occur during extreme temperature variations, when this happens there is risk of dust and humidity inside the enclosure. Even with a slight overpressure, a waterproof membrane inside the plug allows air and humidity to leave the enclosure. In the opposite direction, it only allows dry air into the enclosure. Mounting with thread M40x1.5 with nut, recommended torque of 5 Nm (max. 10 Nm). For optimal pressure compensation we recommend to use two devices on opposite sides towards the top of the enclosure. Air permeability of 1200 l/h at a pressure difference of min. 70 mbar.
- Material:** Plastic. Sealing gasket NBR.
- Operating temperature:** -35 °C to +70 °C.
- Machining required:** Round hole 40.5 mm diameter. Depth in the enclosure of approximately 16 mm.
- Protection:** IP 66 / IP X9K.
- Approvals:** CE.
- Finish:** Light grey.
- Pack quantity:** 1 piece.



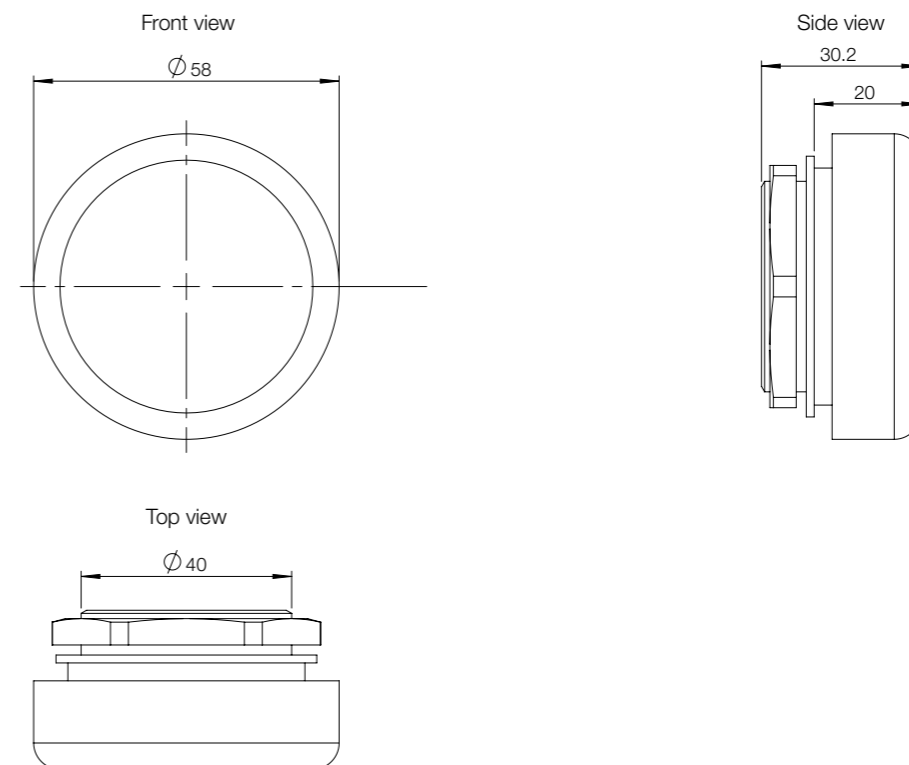
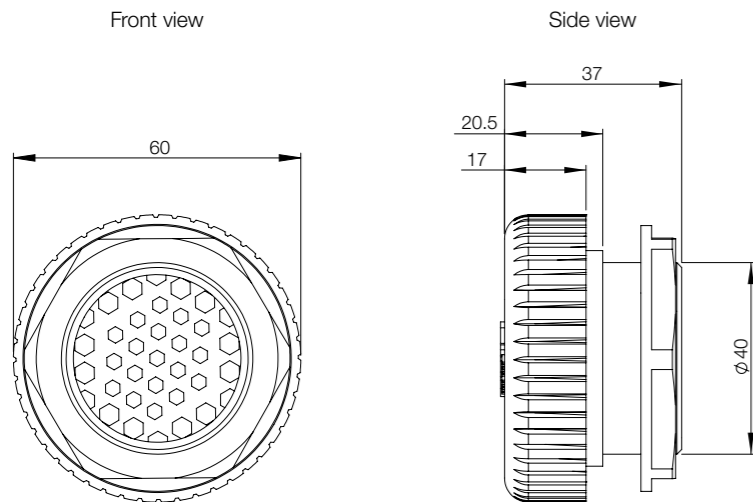
| Item no. |
|----------|
| EDA40 |

Stainless steel pressure compensation plug, EDAS

- Description:** It compensates the pressure with high IP. In the enclosures pressure differentials can occur during extreme temperature variations, when this happens there is risk of dust and humidity inside the enclosure. Even with a slight overpressure, a waterproof membrane inside the plug allows air and humidity to leave the enclosure. In the opposite direction, it only allows dry air into the enclosure. Mounting with thread M40x1.5 with nut, recommended torque of 5 Nm (max. 10 Nm). For optimal pressure compensation we recommend to use two devices on opposite sides towards the top of the enclosure. Air permeability of 1200 l/h at a pressure difference of min. 70 mbar.
- Material:** AISI 303 stainless steel. Sealing gasket NBR.
- Operating temperature:** -45 °C to +80 °C.
- Machining required:** Round hole 40.5 mm diameter. Depth in the enclosure of approximately 9 mm.
- Protection:** IP 66 / IP X9K.
- Approvals:** CE.
- Finish:** Stainless steel.
- Pack quantity:** 1 piece.



| Item no. |
|----------|
| EDAS40 |



Thermal Management

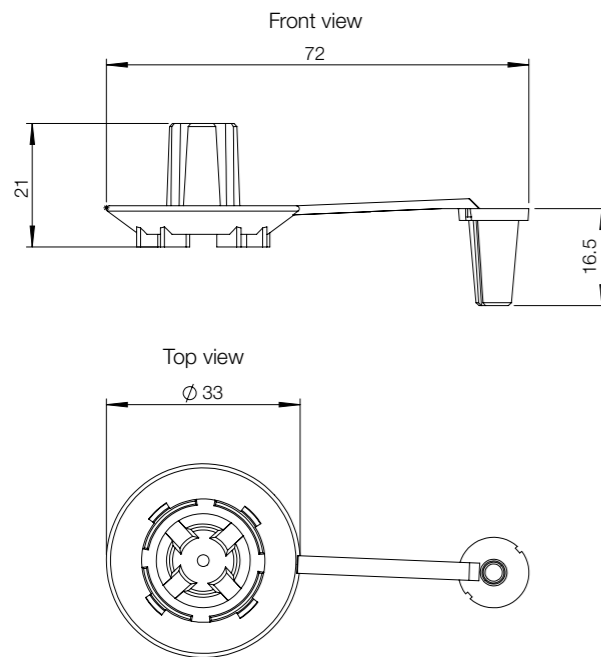
Heating & Anticondensation Range

Accessories

Drain plug, DWP

- Description:** Drain plug to remove condensation water. Easy to install. Fits material thicknesses up to 4 mm. Protection degree IP 44.
- Material:** Rubber.
- Machining required:** Round hole 11 mm diameter.
- Pack quantity:** 10 pieces.

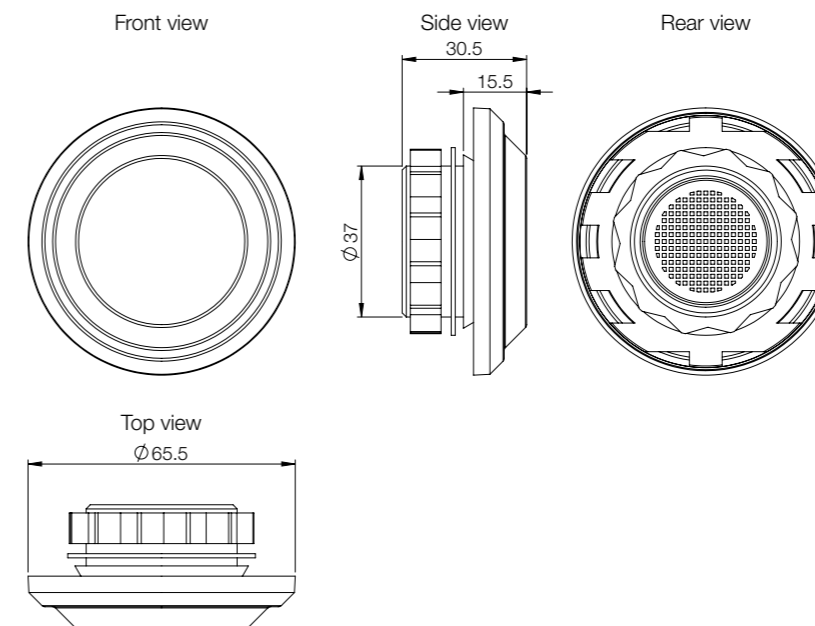
| Item no. |
|----------|
| DWP02 |



Pressure compensation plug, PVD

- Description:** It gives a controlled change in pressure. In the enclosures pressure differentials can occur during extreme temperature variations, when this happens there is risk of dust and humidity inside the enclosure. Mounting with a PG29 thread with nut, recommended torque of 5 Nm (max. 10 Nm). For optimal pressure compensation we recommend to use two devices on opposite sides towards the top of the enclosure. Sealing gasket NBR. Weather proof and UV light resistant according to UL746(f1). Air interface of approximately of 1.5 cm².
- Material:** Plastic according to UL94 V-0. Sealing gasket NBR.
- Operating temperature:** -45 °C to +70 °C.
- Machining required:** Round hole 37 mm diameter.
- Protection:** IP 55.
- Finish:** Light grey.
- Pack quantity:** 2 pieces.

| Weight (kg) | Item no. |
|-------------|----------|
| 0.10 | PVD02 |



Thermal Management Control Range Accessories

Fix Thermostat, EFR

- Description:** Pre-set thermostats to manage temperature in panels. Sensor element thermostatic bimetal. Red one (EFR202) with a normally closed contact for regulating heaters. Blue one (EFR201) with a normally opened contact for regulating cooling devices or signal devices. Mounting clip for 35 mm DIN rail (EN 60715).
- Material:** Plastic according to UL94 V-0.
- Switch capacity:** 250V AC, 5 (1.6) A. 120 V AC, 10 (2) A. 24 V DC, 30 W. Value in brackets for inductive load. Max. starting current of 16 A (AC) for 10 seconds.
- Operating temperature:** -40 °C to +80 °C.
- Service life:** > 100,000 cycles.
- Connection:** 2 pole terminal for 2.5 mm², torque 0.8 Nm max.
- Protection:** IP 20.
- Approvals:** CE, EAC, cULus_UL Listed.
- Finish:** Light grey.
- Pack quantity:** 1 piece.



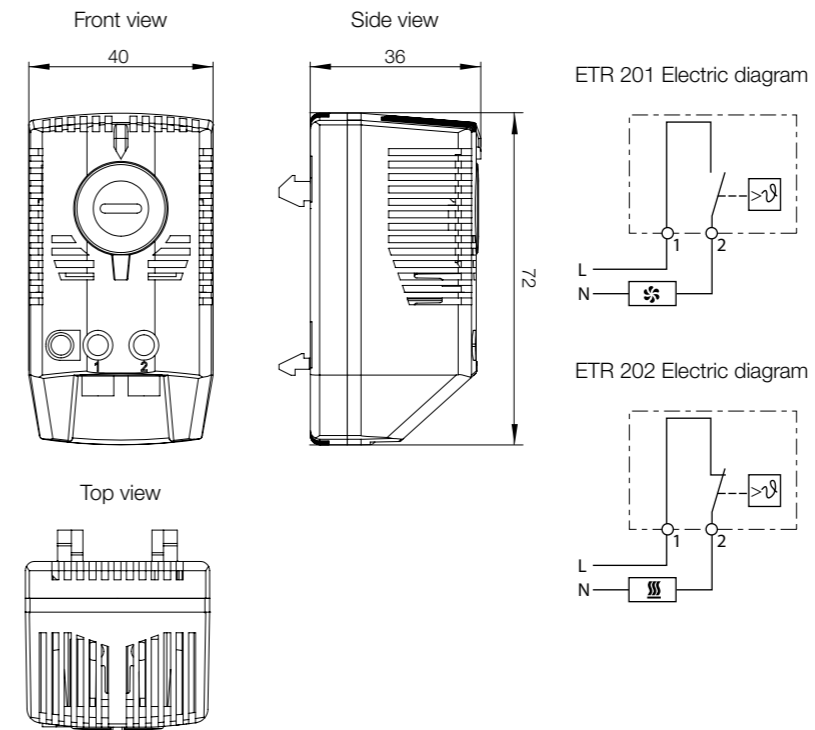
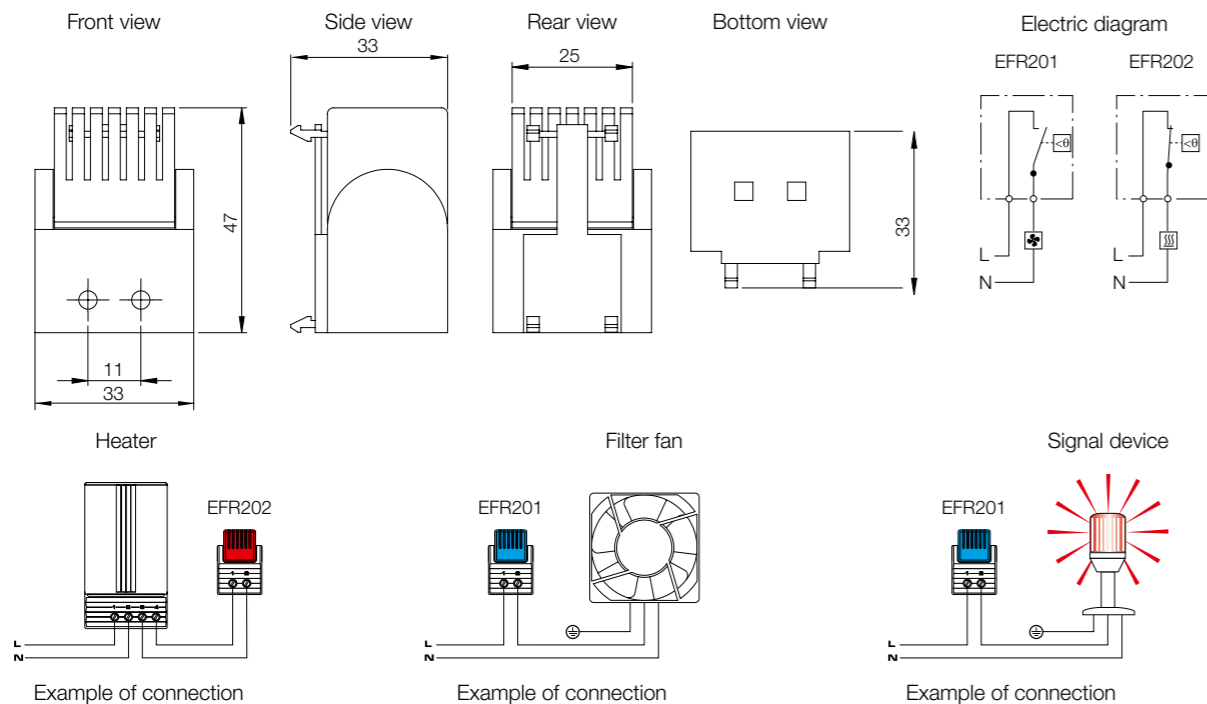
| Description | Switch on temperature (°C) | Switch off temperature (°C) | Item no. |
|-------------------------|----------------------------|-----------------------------|----------|
| Normally opened contact | +35 | +25 | EFR201 |
| Normally closed contact | +5 | +15 | EFR202 |

Thermostat, ETR

- Description:** Thermostat with NC/NO contacts to manage temperature in panels. ETR202 with a normally closed contact for regulating heaters. ETR201 with a normally open contact for regulating cooling devices or signal devices. Sensor element thermostatic bimetal. Mounting clip for 35 mm DIN rail (EN 60715).
- Material:** Plastic according to UL94 V-0.
- Setting range:** 0 °C to +60 °C. Switching temperature difference less than 7 °K, and switching point tolerance ±4 °K.
- Switch capacity:** 240 V AC, 10(2) A. 120 V AC, 15(2) A. 24 V DC, 30 W. Value in brackets for inductive load.
- Operating temperature:** -20 °C to +80 °C.
- Service life:** > 100,000 cycles.
- Connection:** Screw terminal for cable (0.5 to 2.5 mm²).
- Protection:** IP 20.
- Approvals:** CE, EAC, cULus_UL Listed.
- Finish:** RAL 7035.
- Pack quantity:** 1 piece.



| Description | Item no. |
|-------------------------|----------|
| Normally opened contact | ETR201 |
| Normally closed contact | ETR202 |



Thermal Management

Heating & Anticondensation Range

Accessories

Thermostat, ETR200

- Description:** Thermostat with changeover contact to manage any kind of device, heater or cooling. Sensor element thermostatic bimetal. Mounting clip for 35 mm DIN rail (EN 60715).
- Material:** Plastic according to UL94 V-0.
- Setting range:** 0 °C to +60 °C. Switching temperature difference less than 3 °K, and switching point tolerance ± 3 °K.
- Switch capacity:** NC contact, 100-250 V AC, 10(2) A. NO contact, 100-250 V AC, 5(2) A, for 230 V AC operation only. 24 V DC, 30 W. Value in brackets for inductive load.
- Operating temperature:** -40 °C to +80 °C.
- Service life:** > 100,000 cycles.
- Connection:** Screw terminal for cable (0.5 to 2.5 mm²).
- Protection:** IP 20.
- Approvals:** CE, EAC, cULus_UL Listed.
- Finish:** RAL 7035.
- Pack quantity:** 1 piece.



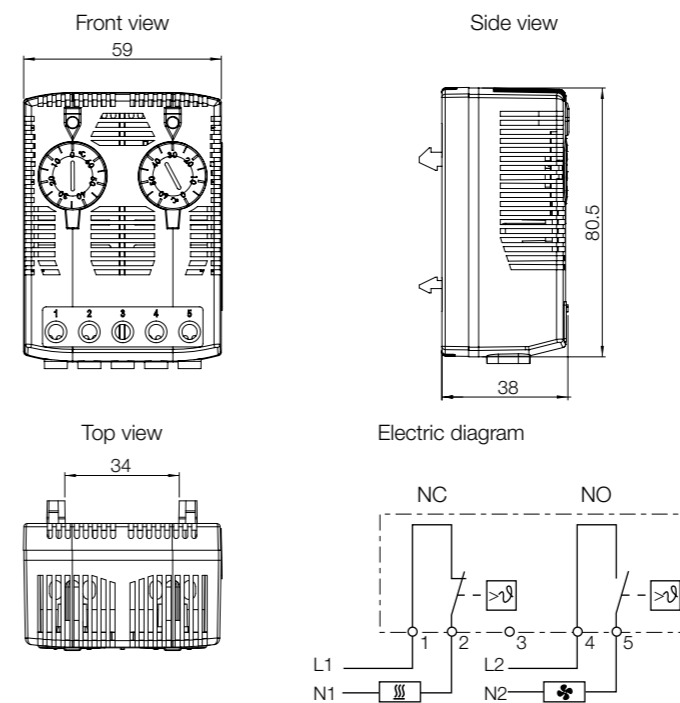
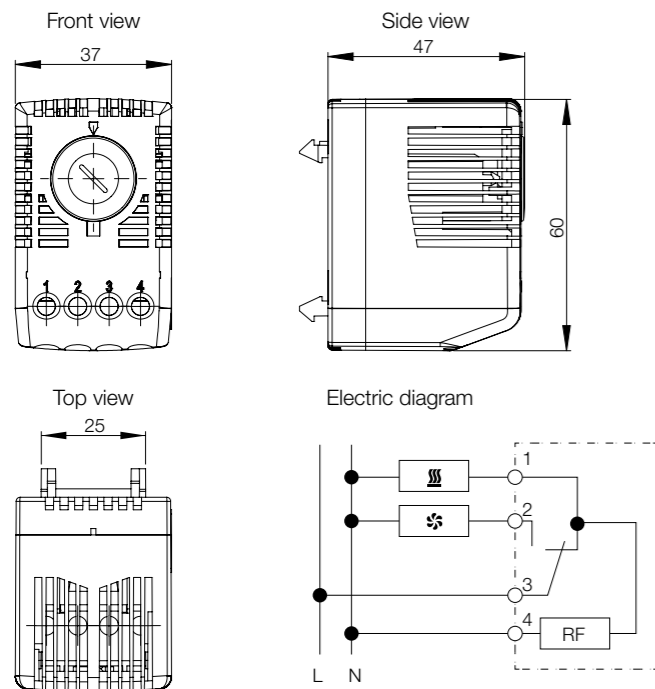
| Item no. |
|----------|
| ETR200 |

Dual Thermostat, ETR203

- Description:** Device with two independent thermostats, unlike thermostats with changeover contacts, connected devices can be switched in different temperature ranges. One thermostat with a normally closed contact for regulating heaters, and one with a normally opened contact for regulating cooling devices or signal devices. Sensor element thermostatic bimetal. Mounting clip for 35 mm DIN rail (EN 60715).
- Material:** Plastic according to UL94 V-0.
- Setting range:** 0 °C to +60 °C. Switching temperature difference less than 7 °K, and switching point tolerance ± 4 °K.
- Switch capacity:** 240 V AC, 10(2) A. 120 V AC, 15(2) A. 24 V DC, 30 W. Value in brackets for inductive load.
- Operating temperature:** -40 °C to +80 °C.
- Service life:** > 100,000 cycles.
- Connection:** Screw terminal for cable (0.5 to 2.5 mm²).
- Protection:** IP 20.
- Approvals:** CE, EAC, cULus_UL Listed.
- Finish:** RAL 7035.
- Pack quantity:** 1 piece.



| Item no. |
|----------|
| ETR203 |



Thermal Management

Heating & Anticondensation Range

Accessories

Hygrostat, ETF200

- Description:** Mechanical hygrostat designed to control heaters when the pre-set or fixed relative humidity is exceeded. The relative humidity must be kept above the dew point to prevent condensation and corrosion inside the enclosure. Mounting clip for 35 mm DIN rail (EN 60715).
- Material:** Plastic according to UL94 V-0
- Switch capacity:** 250 V AC, 5 A. DC, 20 W, (30 W ETF2000).
- Operating temperature:** 0 °C to +60 °C.
- Service life:** > 50,000 cycles.
- Connection:** 2 pole terminal for 2.5 mm².
- Protection:** IP 20.
- Approvals:** CE, EAC, cULus_UL Listed.
- Finish:** RAL 7035.
- Pack quantity:** 1 piece.



| Description | Weight (kg) | Setting range | Item no. |
|----------------------|-------------|---------------|----------|
| Pre-set hygrostat | 0.05 | 65% | ETF200 |
| Adjustable hygrostat | 0.05 | 40% to 90% | ETF2000 |

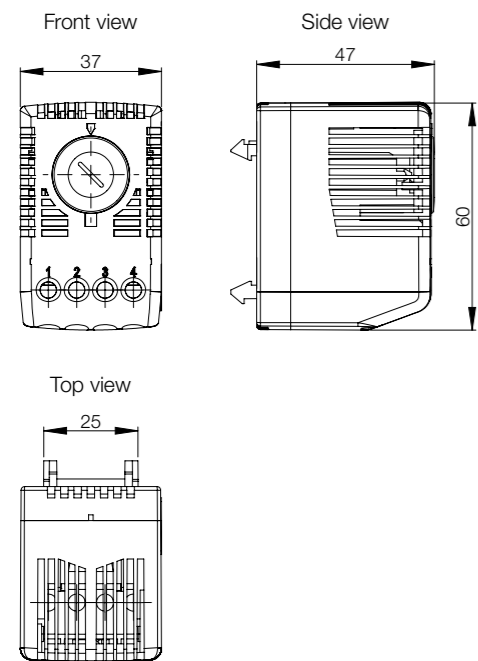
Electronic thermostat / hygrostat, ETF300

- Description:** Electronic hygrostat-thermostat monitors the relative humidity and the temperature independently of each other, and it manages heaters and filter fans to prevent condensation and corrosion inside the enclosure. Mounting clip for 35 mm DIN rail (EN 60715).
- Setting range:** 0 °C to +60 °C, and 40 to 90% R.H.
- Material:** Plastic according to UL94 V-0.
- Switch capacity:** 240 V AC, 8(3) A. 120 V AC, 8(3) A. 24 V DC, 4 A. Value in brackets for inductive load.
- Operating temperature:** -20 °C to +60 °C.
- Service life:** 50,000 cycles.
- Connection:** Pole terminal for 2.5 mm².
- Protection:** IP 20.
- Approvals:** CE, EAC, cULus_UL Listed.
- Finish:** RAL 7035.
- Pack quantity:** 1 piece.

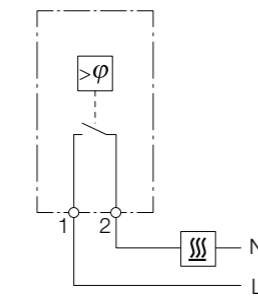


| Voltage (V) | Frequency (Hz) | Item no. |
|-------------|----------------|-----------|
| 230 V AC | 50/60 | ETF300 |
| 115 V AC | 50/60 | ETF300120 |

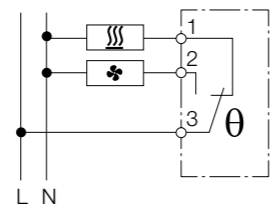
ETF200 / ETF2000



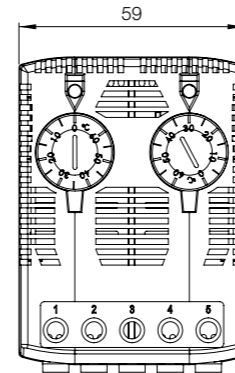
ETF200 Electric diagram



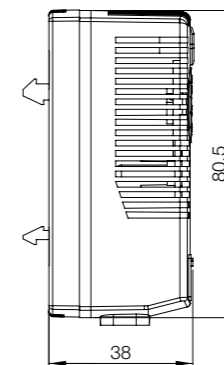
ETF2000 Electric diagram



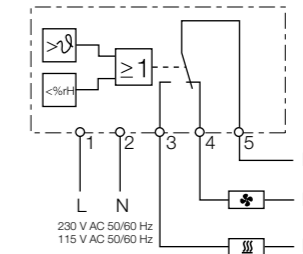
Front view



Side view



Electric diagram



Thermal Management

Hazardous Location Heating

Accessories

Hazardous location heaters, DAHHL

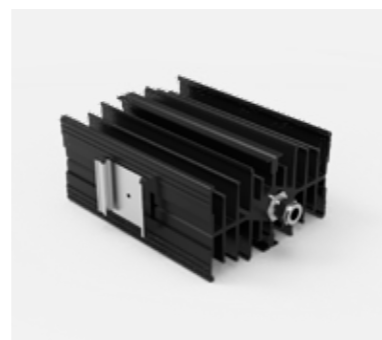
- Description:** 50 W and 80 W models can be mounted directly to manifolds, measuring or analysing instruments, control valves, and similar equipment. 200 W, 300 W, 400 W, 600 W models are finned heaters that heat the area by transferring the heat from the heater to surrounding air, creating a convection current.
- Material:** Black anodized aluminium.
- Heating element:** Conductive and convective heating types available.
- Operating temperature:** Provides freeze protection down to -60 °C (-76 °F). Maximum temperature 150 °C (302 °F).
- Approvals:** ATEX, IECEx; II2G Ex d IIC T3 / II2 D Ex Td A21 IP 65 T200 C; NEC CSA us; Class I, Div 1 Groups A, B, C, D / Class II Div 1 Groups E, F, G
- Pack quantity:** 1 piece.
- Note:** A thermostat, range HLTSTAT, is required for 400 W and 600 W models. It is sold separately as an accessory.



| Heating Power (W) | H | W | D | Weight (kg) | Heating type | Power regulation | Temperature classification | Rated voltage (VAC/VDC) | Item no. |
|-------------------|-----|-----|----|-------------|--------------|------------------|----------------------------|-------------------------|------------|
| 50 | 190 | 40 | 30 | 0,5 | Conduction | Self limiting | T4 | 110/265 | DAHHL501AC |
| 80 | 190 | 40 | 30 | 0,5 | Conduction | Self limiting | T3 | 110/265 | DAHHL801AC |
| 200 | 225 | 229 | 60 | 3,95 | Convection | Self limiting | T3 | 110/265 | DAHHL200AC |
| 300 | 325 | 229 | 60 | 5,65 | Convection | Self limiting | T3 | 110/265 | DAHHL300AC |
| 400 | 225 | 229 | 60 | 3,95 | Convection | Constant power | T3 | 108/132 | DAHHL4001A |
| 400 | 225 | 229 | 60 | 3,95 | Convection | Constant power | T3 | 207/253 | DAHHL4002A |
| 600 | 325 | 229 | 60 | 5,65 | Convection | Constant power | T3 | 108/132 | DAHHL6001A |
| 600 | 325 | 229 | 60 | 5,65 | Convection | Constant power | T3 | 207/253 | DAHHL6002A |

Hazardous location heaters, HLHEAT

- Description:** Large convection surface. DIN clip for mounting. Maintenance-free. Surface temperature T4 135 °C when mounted vertically.
- Material:** Extruded aluminium heat sink. Black anodized.
- Heating element:** High-performance heating cartridge (element).
- Connection:** Connection cable: Si HF-JZ 3 x AWG 18 x 3.3 ft (0.75 mm² x 1 m).
- Protection:** IP 65
- Approvals:** Conformity Certificate LCIE (Laboratoire Central des Industries Electriques); LCIE 01 ATEX 6073; EEx d IIC T4/II 2 GD, IP 6x T135 °C
- Pack quantity:** 1 piece.



| Heating Power (W) | H | W | D | Heating type | Temperature classification | Rated voltage (VAC) | Item no. |
|-------------------|-----|-----|----|--------------|----------------------------|---------------------|-----------|
| 100 | 180 | 118 | 69 | Convection | T4 135 °C | 110-120 | HLHEAT100 |

Hazardous location thermostats, HLTSTAT

- Description:** The thermostat closes the circuit when the temperature is below the setpoint and opens it when the temperature is above the setpoint.
- Material:** Seawater-proof aluminium, black anodized.
- Operating temperature:** -60 to +60 °C. Maximum permissible operating temperature range at normal rating: -60 to +150 °C.
- Connection:** 1 m long silicone cable, notch and oil resistant, 3x AWG16; Ø 9.4 mm.
- Protection:** IP 66 / IP 68 (1bar/30min).
- Approvals:** PTB 03 ATEX 1136 X; II 2 G Ex db IIC T6; II 2 D Ex tb IIIC T80 °C; IECEx PTB 07.0054X; CSA 1655545 (LR43674); Cl. I, Grp. ABCD T6; Cl. II Grp. EFG
- Pack quantity:** 1 piece.



| Switch On/Off | H | W | D | Weight (kg) | Temperature classification | Rated voltage (VAC/VDC) | Max Current (A) | Item no. |
|----------------------|----|----|----|-------------|----------------------------|-------------------------|-----------------|------------|
| TON 20 °C/TOFF 28 °C | 89 | 41 | 30 | 28 | T6 | 0-275 V | 10 | HLTSTAT20C |
| TON 10 °C/TOFF 18 °C | 89 | 41 | 30 | 28 | T6 | 0-275 V | 10 | HLTSTAT10C |

Hazardous location thermostats, HL THERMNC

- Description:** The thermostat closes the circuit when the temperature is below the setpoint and opens it when the temperature is above the setpoint. Thermostatic bimetallic sensor element. One-pole contact opens with rising temperature. Compact design. High switching capacity. Small hysteresis (switching difference). Long service life (greater than 100,000 cycles). Set temperature. Mounting bracket and DIN clip for mounting.
- Material:** Black anodized aluminium.
- Switch capacity:** at 250VAC: 4A resistive; 1A ind. (cos φ = 0.6).
- Connection:** Si HF - JZ 3 x AWG 18 x 3.3 ft (0.75 mm² x 1 m).
- Protection:** IP 65.
- Approvals:** Conformity Certificate LCIE (Laboratoire Central des Industries Electriques); LCIE 01 ATEX 6074; EEx d IIC T6/II 2 GD, IP 6x T85 °C.
- Pack quantity:** 1 piece.



| Switch On/Off | Temperature classification | Rated voltage (VAC/VDC) | Item no. |
|---------------------|----------------------------|-------------------------|------------|
| TON 4 °C/TOFF 25 °C | 85 °C | 250/100 | HL THERMNC |