



# 05 Thermal Management

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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 L35L35 (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 L35L35 (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

05

Thermal Management

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	Stainles Steel shroud	3.60	TE090624011
8,5	Without shroud	3.90	TE121024020
8,5	Painted shroud	5	TE121024010
8,5	Stainles 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	Stainles 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	Instalation 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	Instalation 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

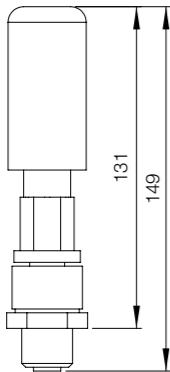
IP 66 | TYPE 4X, Stainless steel

H	Cooling Capacity (W)	Air flow (l/min)	Noise (dB)	Silencer included	Low pressure relief valve	Instalation 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

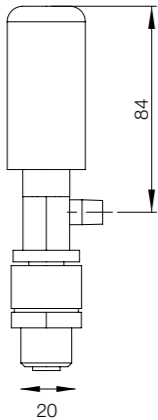
Cooling capacity is calculated with pressured air being 20 °C and having 7-bar pressure.

BP 4008

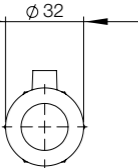
Front view



Side view

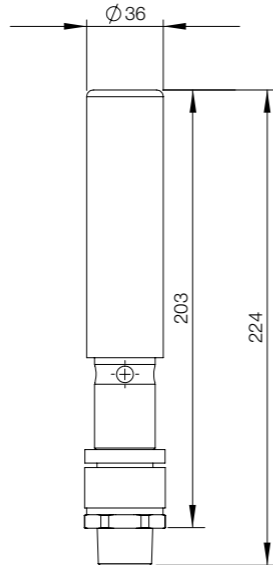


Top view

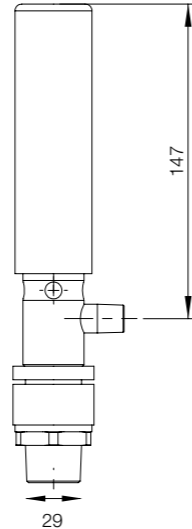


BP4015 / BP4030 / BP4040

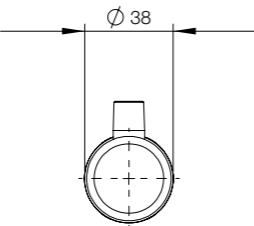
Front view



Side view

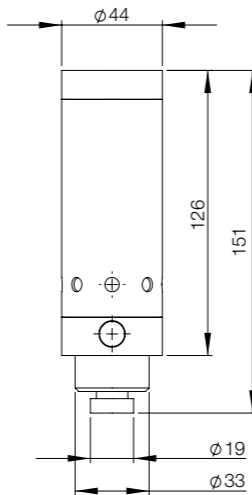


Top view



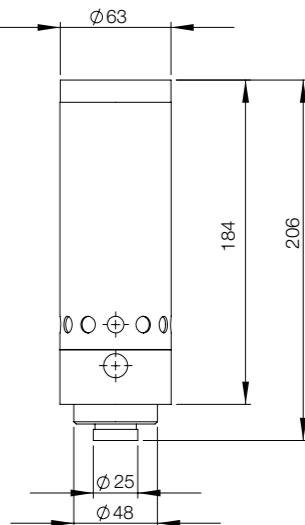
BP4608 / BP4608SS

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 aproximately 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

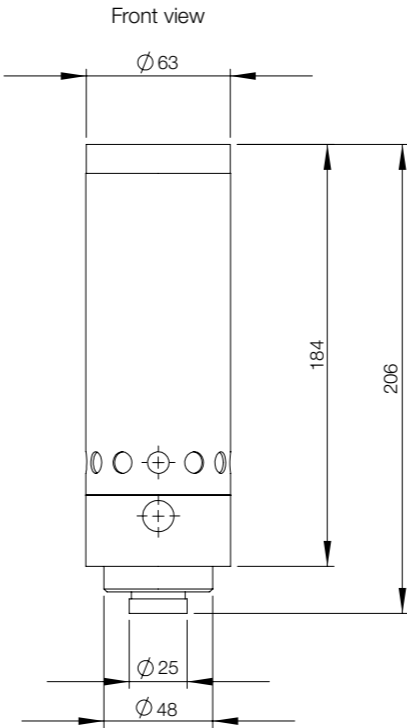
H	Cooling Capacity (W)	Air flow (l/min)	Noise (dB)	Silencer included	Low pressure relief valve	Instalation cut-out diam. (mm)	Air inlet	Weight (kg)	Item no.
184	293	425	73	Yes	Yes	48	1/4"	1.20	HT4615
184	586	850	74	Yes	Yes	48	1/4"	0.85	HT4630
184	820	1133	78	Yes	Yes	48	1/4"	15	HT4640

IP 66 | TYPE 4X, Stainless steel

H	Cooling Capacity (W)	Air flow (l/min)	Noise (dB)	Silencer included	Low pressure relief valve	Instalation 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 × 08	BPA01
BP/HT 4 × 15; 4 × 30; 4 × 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 × 08; 4 × 15	BPT14
BP/HT 4 × 30; 4 × 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 mm<sup>2</sup> 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.

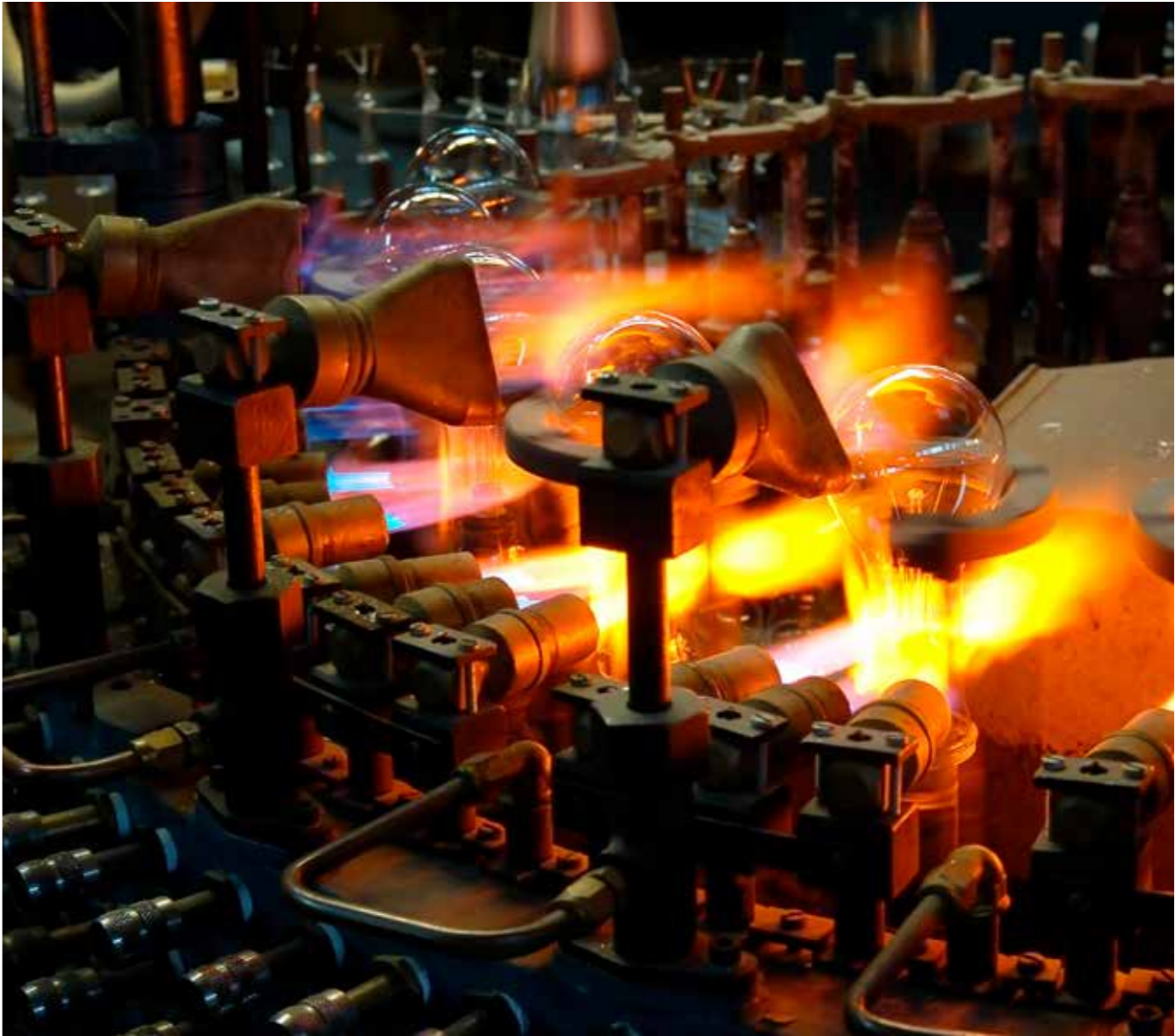


Dimensional table | PWD

IP 55

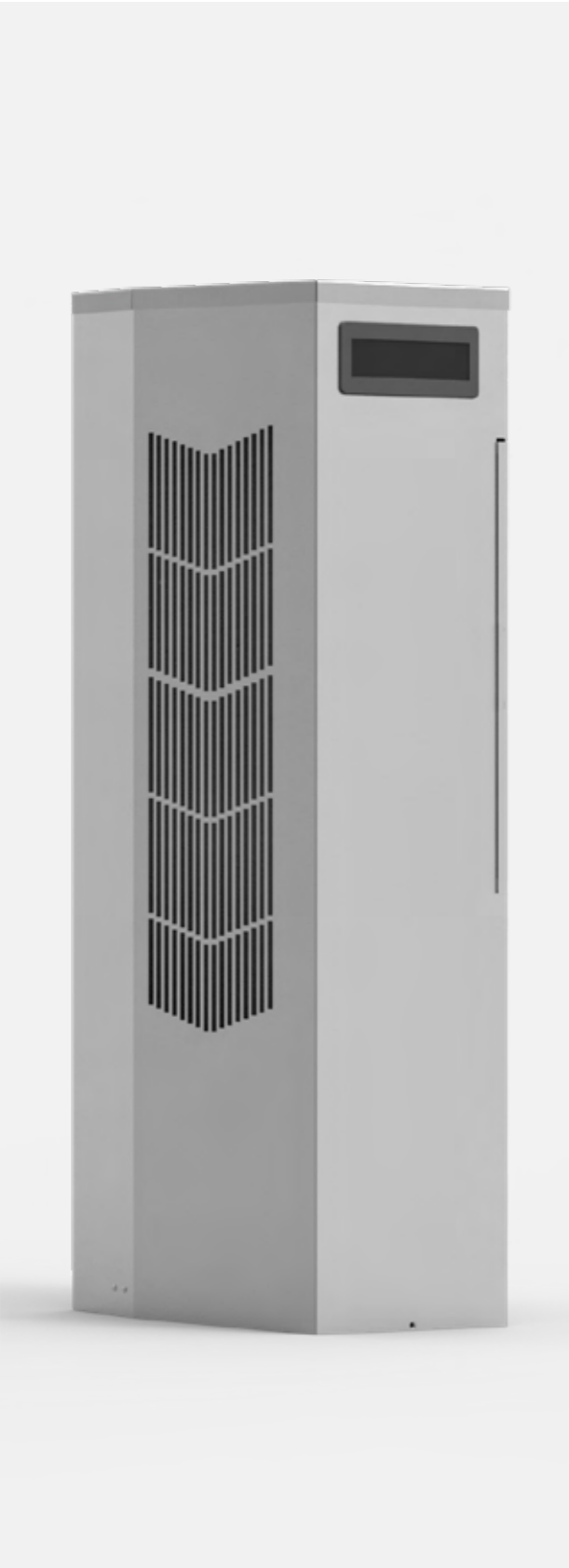
H	W	D	Cooling Capacity 400 l/h - W10/A35 (W)	Power W10/A35 (W)	Current W10/A35 (A)	Pre fuse T (A)	Item no.
140	600	390	2150	85 / 100	0.40	6	PWD5302R5
190	720	465	3400	115 / 165	0.84	6	PWD5402R5

Starting current W10/A35 (A)	Unimpeded airflow (m³/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 × 92	0.55	310 mm cable	0.07/0.06	12/11	6	EF100R5
125 × 125	0.80	Terminal strip	0.12/0.18	19/18	6	EF200R5
177 × 177	1.05	Terminal strip	0.12/0.18	19/18	6	EF220R5
223 × 223	1.45	Spring type	0.12/0.10	18/17	6	EF250R5
223 × 223	1.90	Spring type	0.32/0.26	45/39	6	EF300R5
291 × 291	3.85	Spring type	0.30/0.36	80/100	6	EF500R5
291 × 291	4.05	Spring type	0.51/0.66	120/160	6	EF600R5
291 × 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 × 92	0.55	310 mm cable	0.15/0.15	12/11	6	EF100-115R5
125 × 125	0.80	Terminal strip	0.24/0.23	20/20	6	EF200-115R5
177 × 177	1.05	Terminal strip	0.24/0.23	20/20	6	EF220-115R5
223 × 223	1.45	Spring type	0.25/0.25	18/17	6	EF250-115R5
223 × 223	1.90	Spring type	0.50/0.50	40/40	6	EF300-115R5
291 × 291	3.85	Spring type	0.66/0.80	75/90	6	EF500-115R5
291 × 291	4.10	Spring type	0.96/1.40	110/160	6	EF600-115R5
291 × 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 × 92	0.25	310 mm cable	0.10	2.40	6	EF100-24R5
125 × 125	0.45	310 mm cable	0.21	5.00	6	EF200-24R5
177 × 177	0.70	310 mm cable	0.21	5.00	6	EF220-24R5
223 × 223	1.40	Spring type	0.20	4.70	6	EF250-24R5
223 × 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 × 125	0.80	Terminal strip	0.12/0.18	19/18	6	EFP200R5
177 × 177	1.05	Terminal strip	0.12/0.18	19/18	6	EFP220R5
223 × 223	1.45	Spring type	0.12/0.10	18/17	6	EFP250R5
223 × 223	1.95	Spring type	0.32/0.26	45/39	6	EFP300R5
291 × 291	3.90	Spring type	0.35/0.45	80/100	6	EFP500R5
291 × 291	4.10	Spring type	0.53/0.72	120/160	6	EFP600R5
291 × 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 × 125	0.80	Terminal strip	0.24/0.23	20/20	6	EFP200-115R5
177 × 177	1.05	Terminal strip	0.24/0.23	20/20	6	EFP220-115R5
223 × 223	1.45	Spring type	0.25/0.25	18/17	6	EFP250-115R5
223 × 223	1.90	Spring type	0.50/0.50	40/40	6	EFP300-115R5
291 × 291	3.90	Spring type	0.66/0.80	75/90	6	EFP500-115R5
291 × 291	4.10	Spring type	0.96/1.40	110/160	6	EFP600-115R5
291 × 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 × 125	0.50	0.21	5	6	EFP200-24VACR5

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 × 92	19	EFA100R5
G4	>90	125 × 125	26	EFA200R5
G4	>90	177 × 177	34	EFA220R5
G4	>90	223 × 223	38	EFA250-300R5
G3	>90	291 × 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 × 125	EFAP200R5
G4	>90	177 × 177	EFAP220R5
G4	>90	223 × 223	EFAP250-300R5
G4	>90	291 × 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

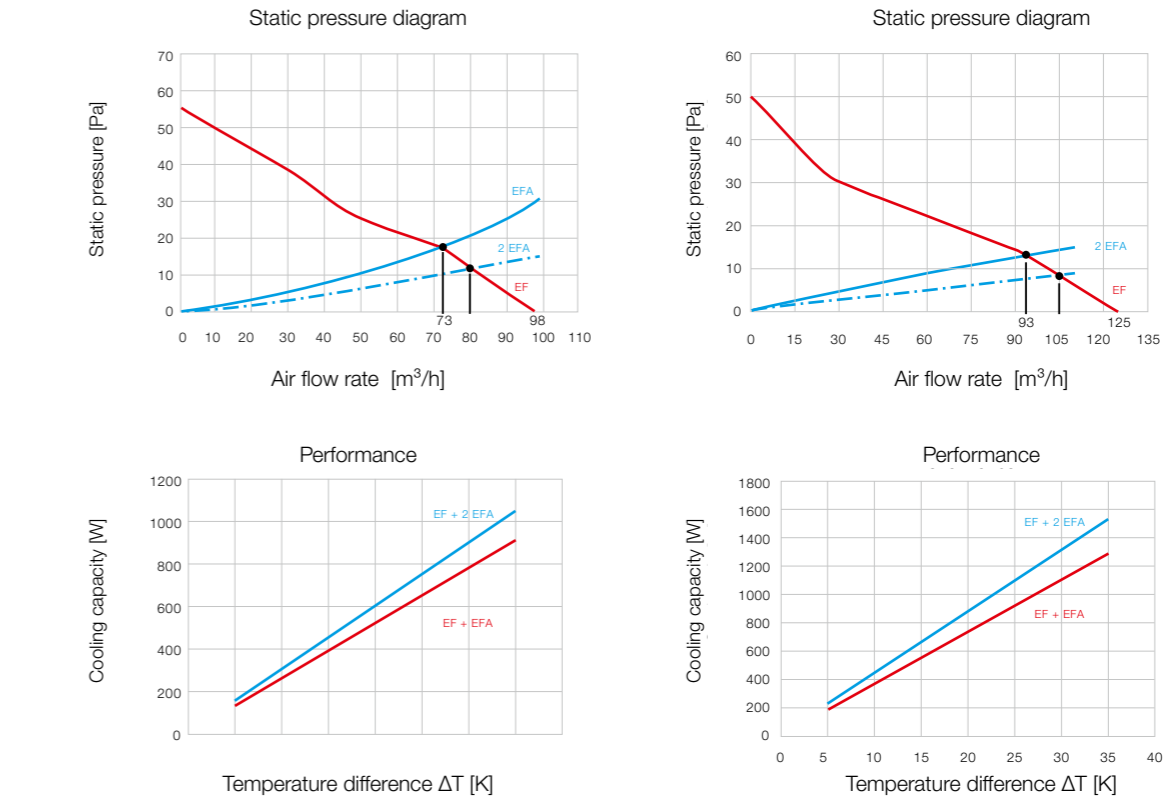
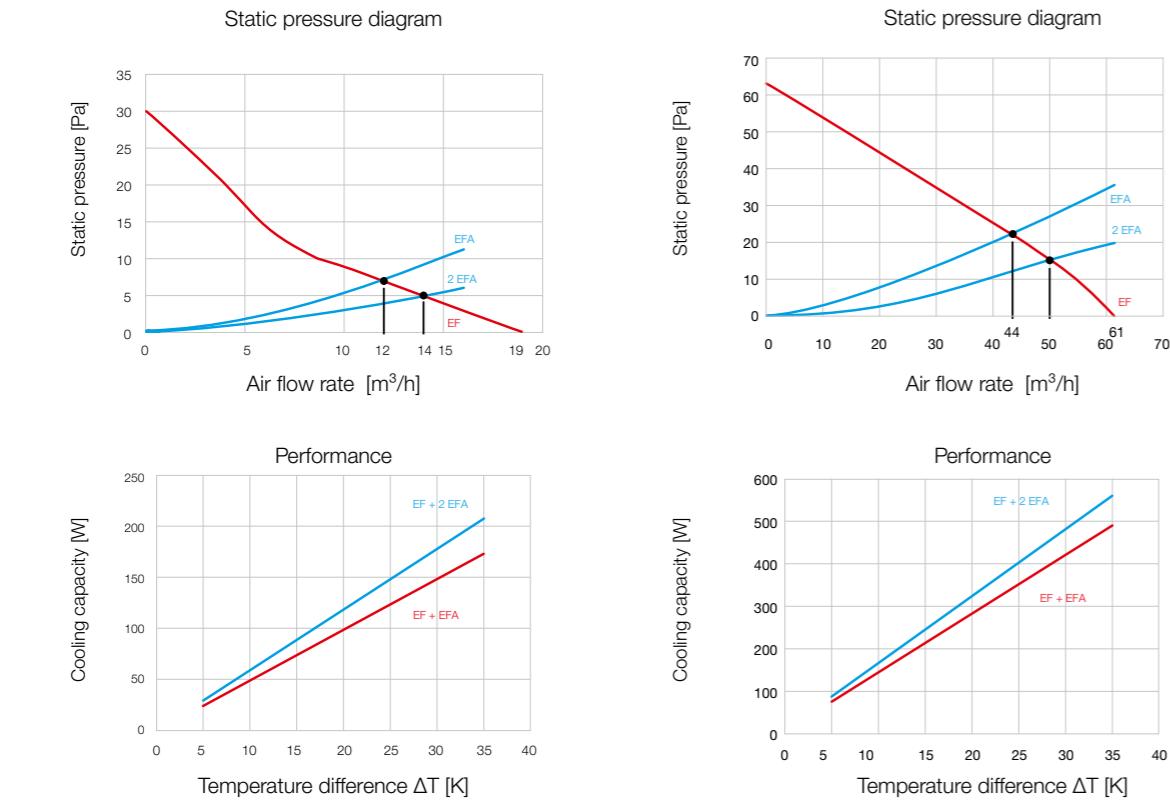
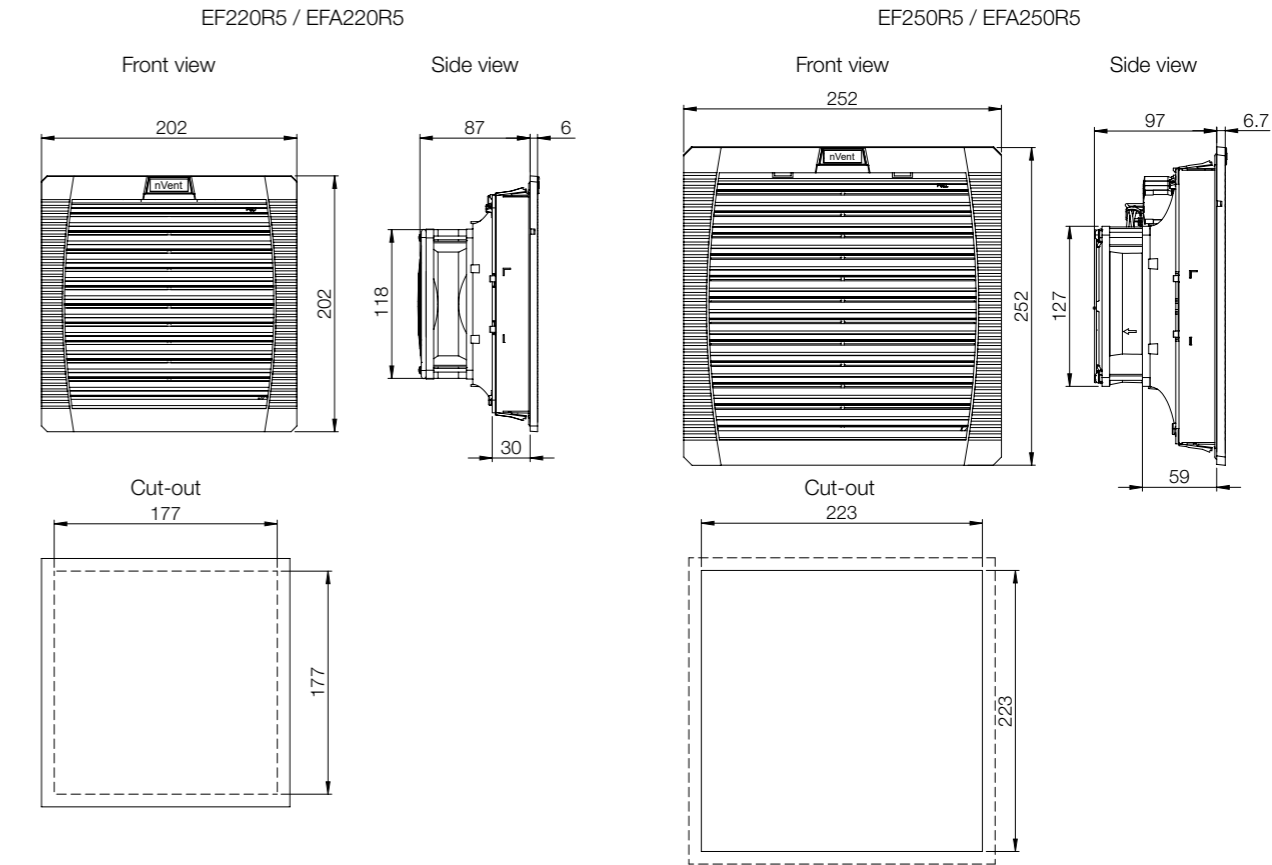
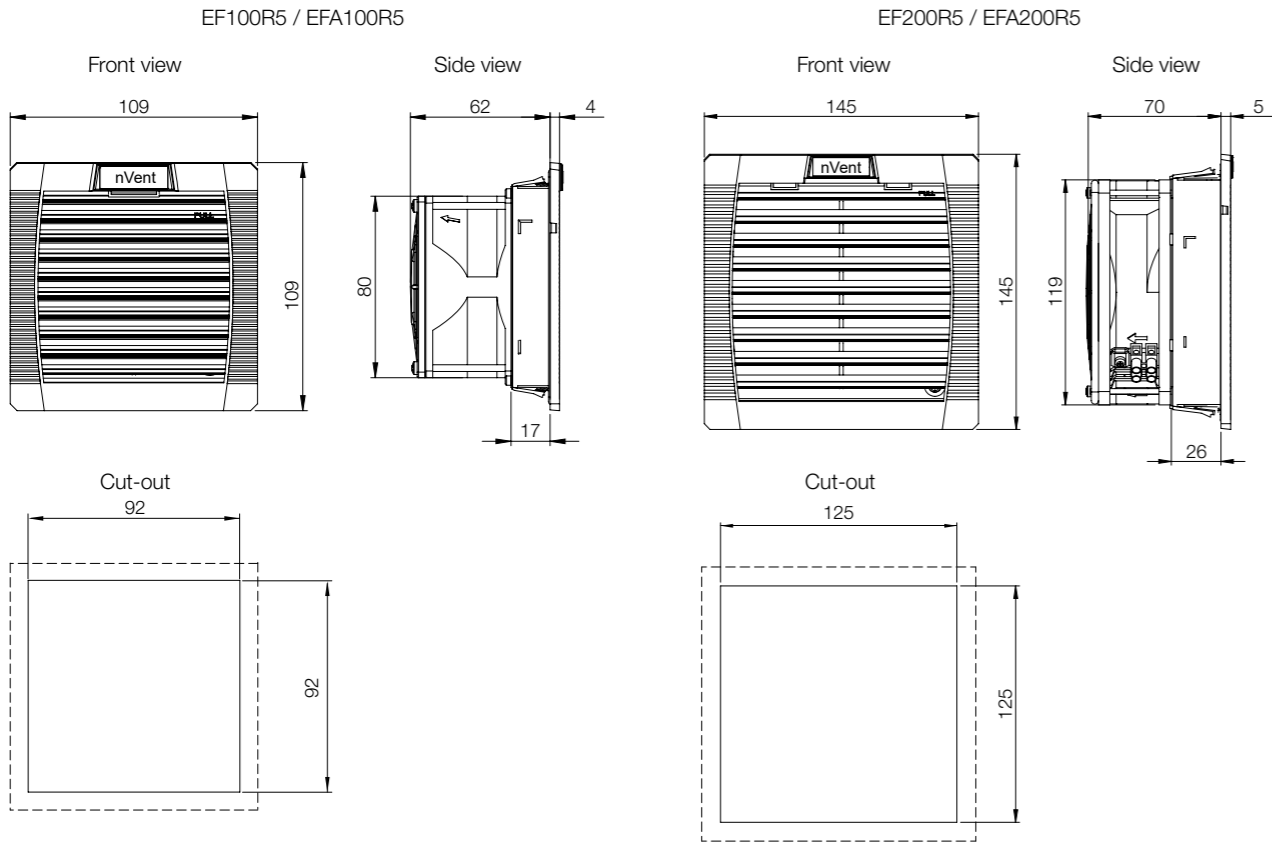
**Description:** To replace the standard filter supplied with the filter fans EFP and the exhaust filters EFAP. It is recommended to replace the filter each year or sooner depending on the environment.

**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



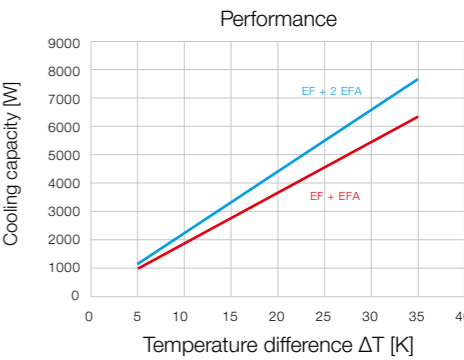
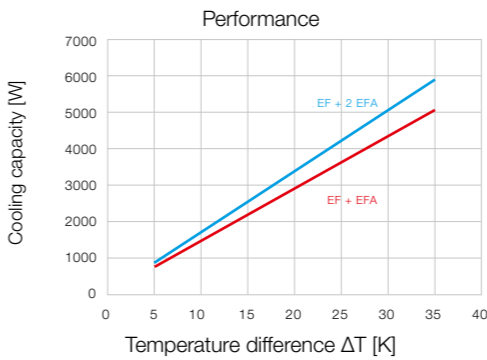
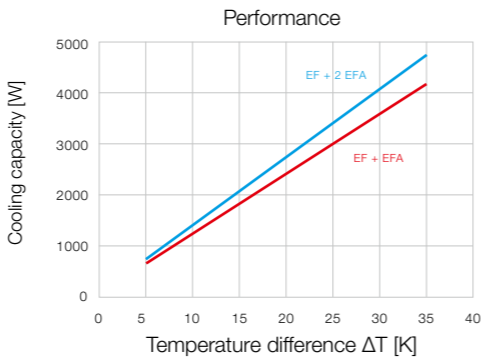
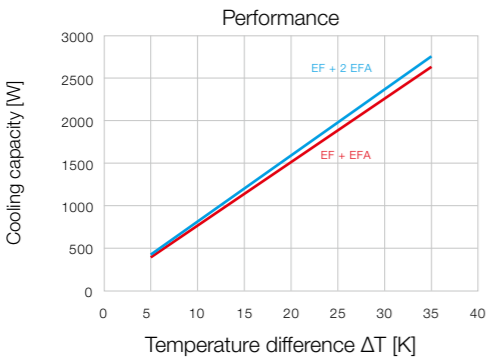
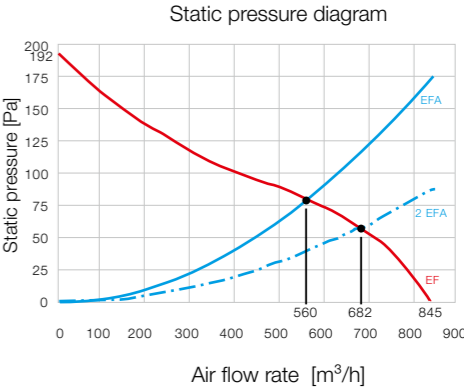
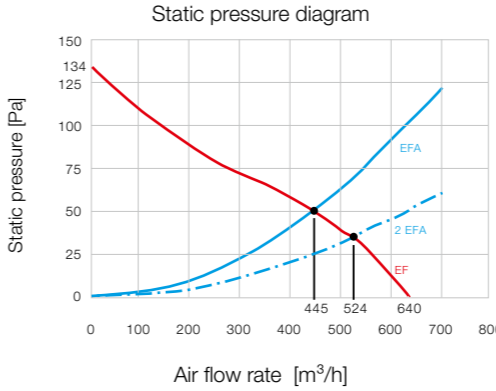
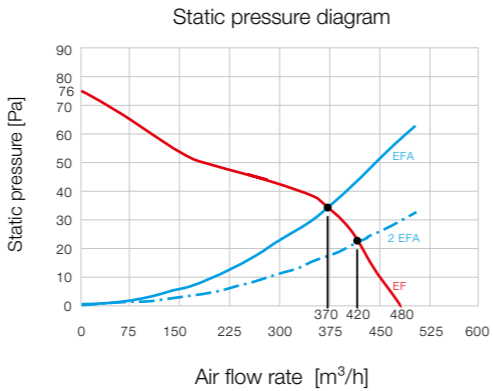
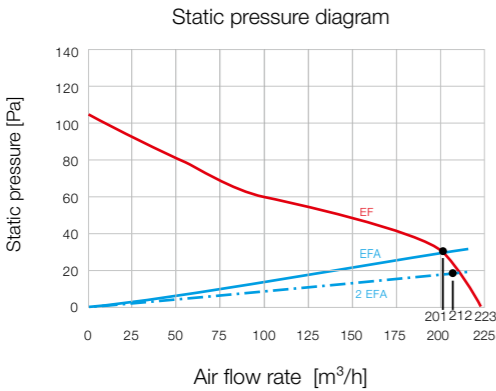
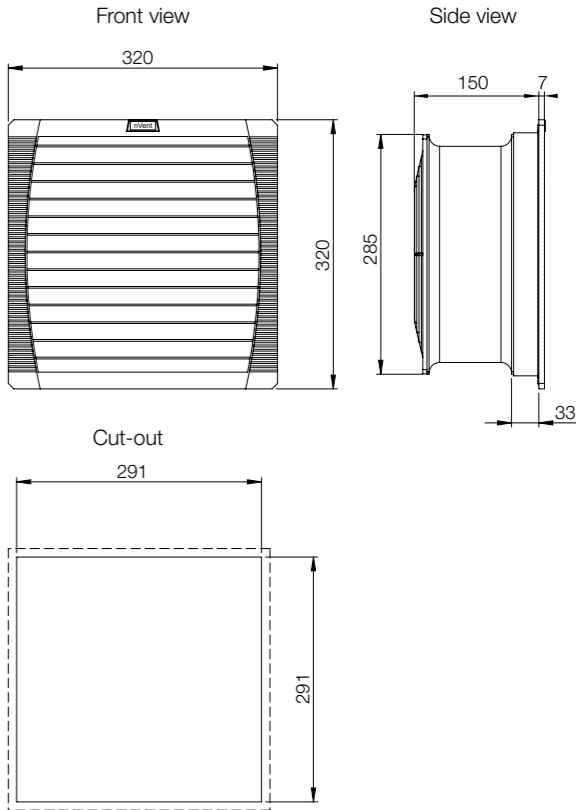
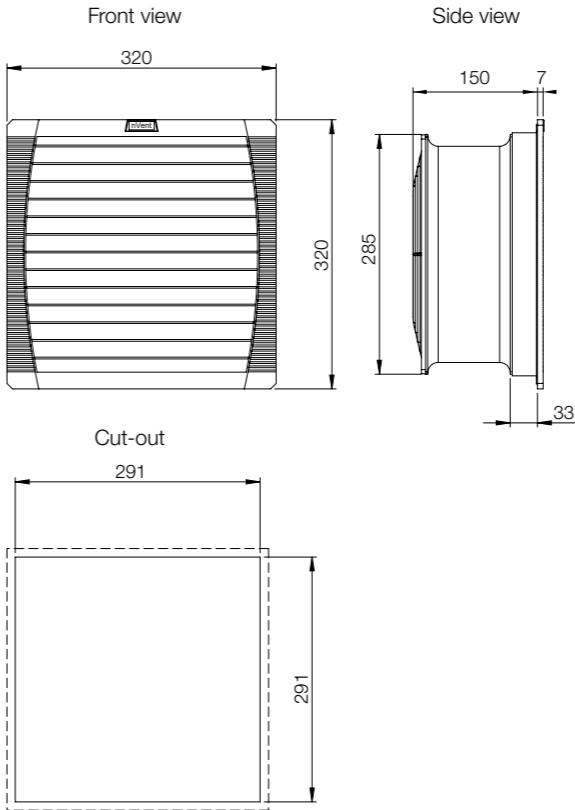
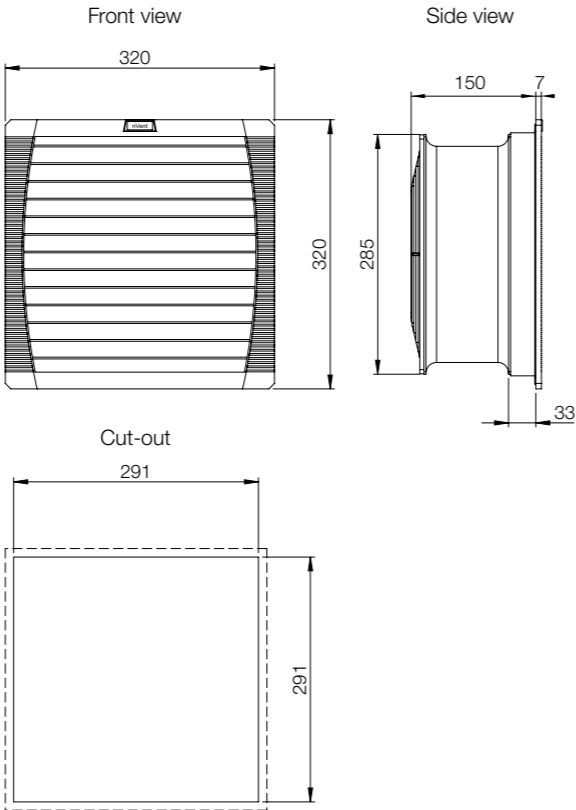
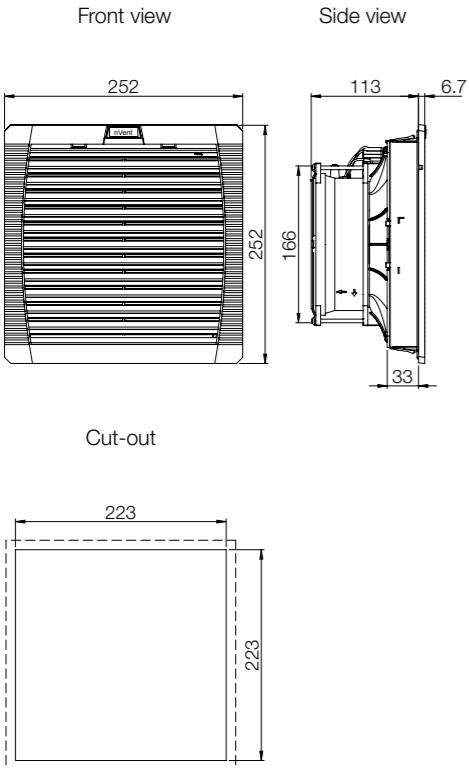


EF300R5 / EFA300R5

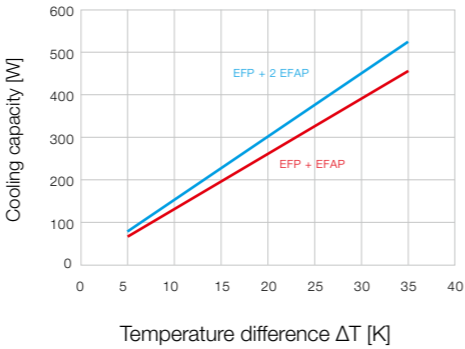
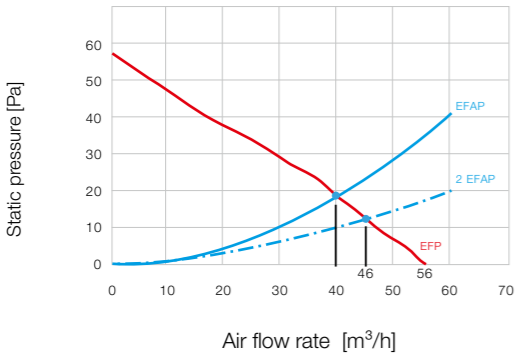
EF500R5 / EFA500R5

EF600R5 / EFA600R5

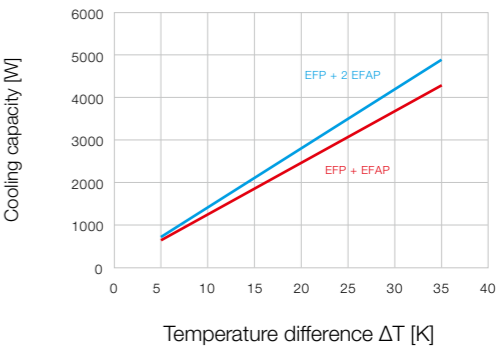
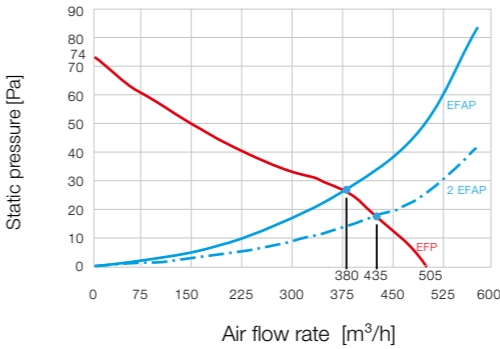
EF700R5 / EFA700R5



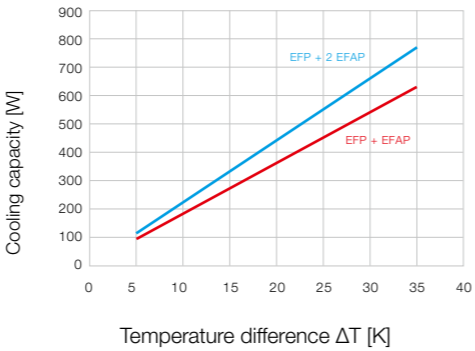
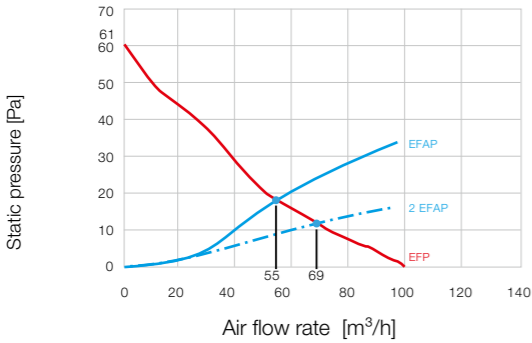
EFP200R5 / EFAP200R5



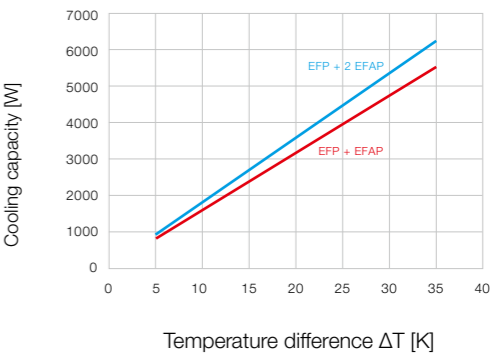
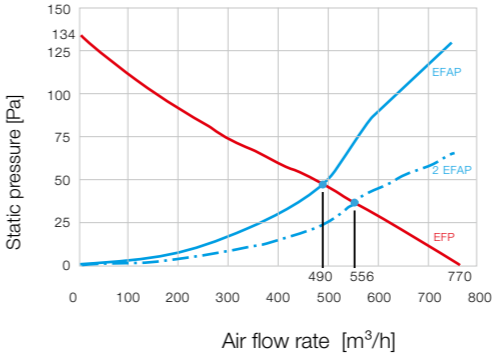
EFP500R5 / EFAP500-700R5



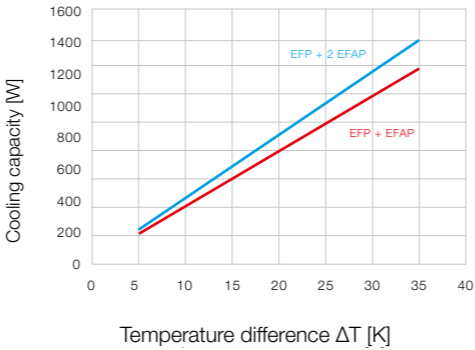
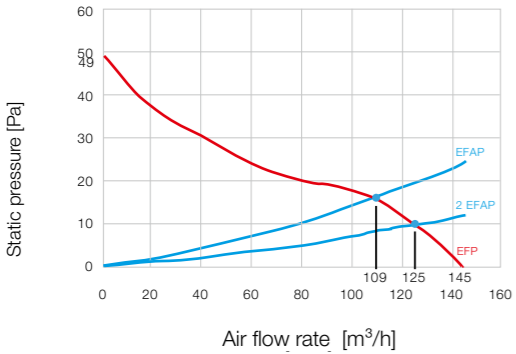
EFP220R5 / EFAP220R5



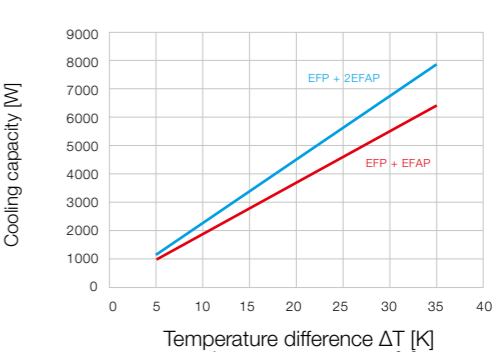
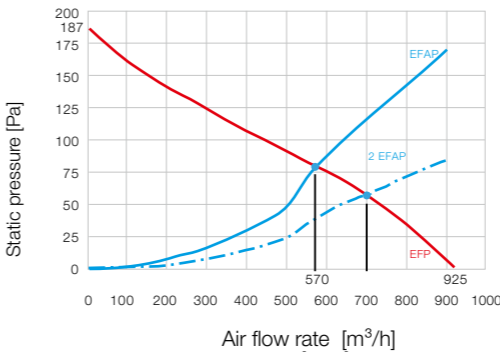
EFP600R5 / EFAP500-700R5



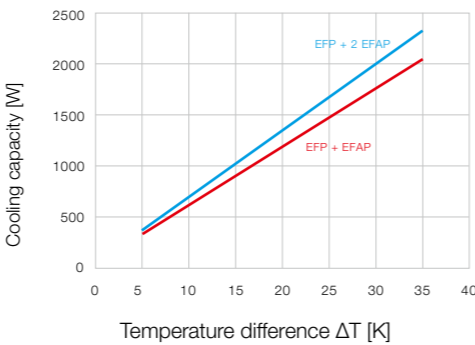
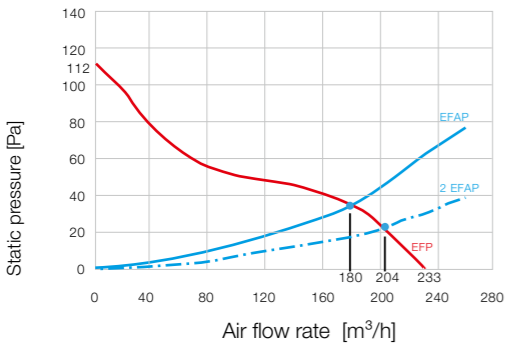
EFP250R5 / EFAP250-300R5



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

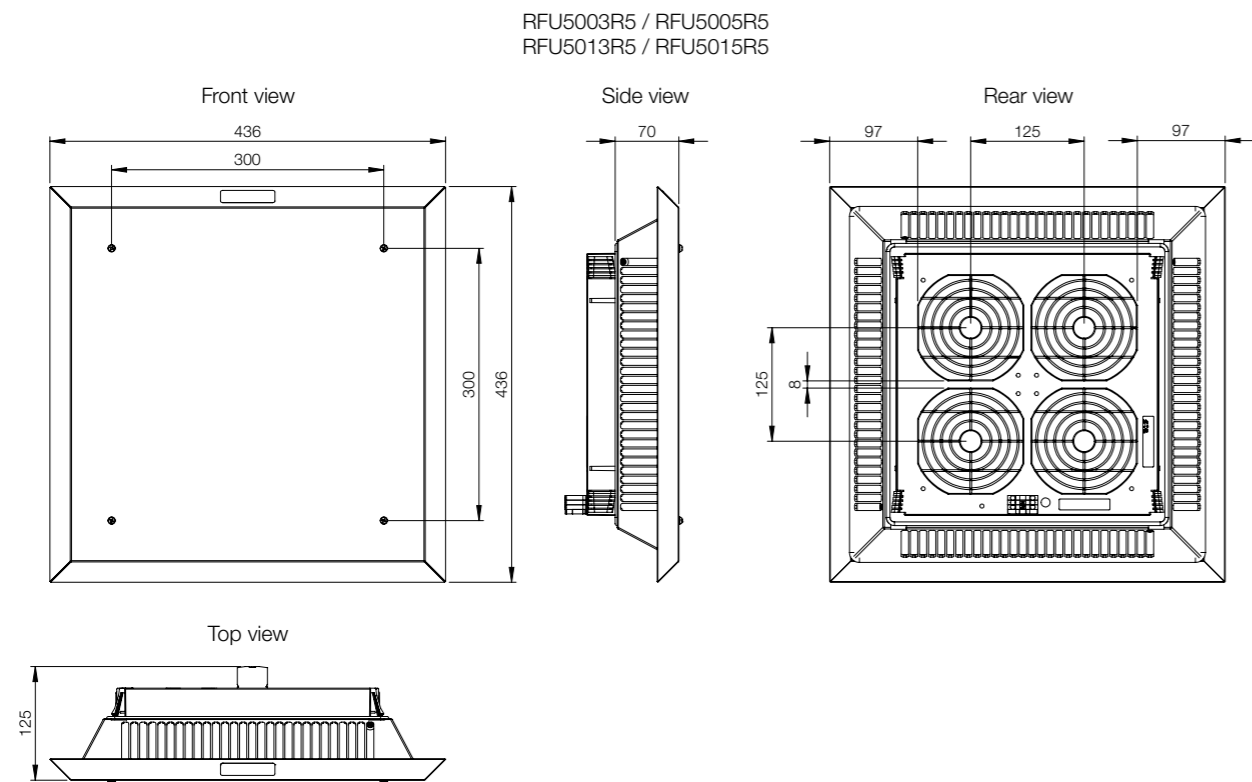
Unimpeded airflow (m³/h)	RFU+EFA Air flow (m³/h)	Filter mat (EN779)	Filtration efficiency (%)	Service life L10 (40°C)(h)	Bearing type	Noise (dB)	Item no.
500	268	No filter mat	No filter mat	50.000	Ball	67	RFU5013R5
700	427	No filter mat	No filter mat	40.000	Ball	69	RFU7013R5
1000	582	No filter mat	No 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

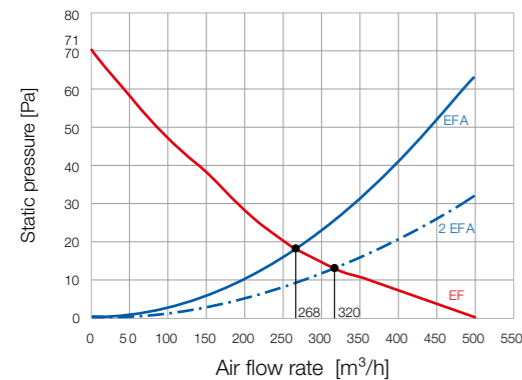
IP	Cut-out (mm)	Weight (kg)	Connection	Current (A)	Power (W)	Fuse (A)	Item no.
33	291 x 291	5.60	Terminal strip	4 x 0.30/0.30	4 x 29/24	6	RFU5013R5
33	291 x 291	4.56	Terminal strip	0.66/0.80	75/90	6	RFU7013R5
33	291 x 291	4.78	Terminal strip	0.96/1.40	110/160	6	RFU10013R5
54	291 x 291	5.33	Terminal strip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

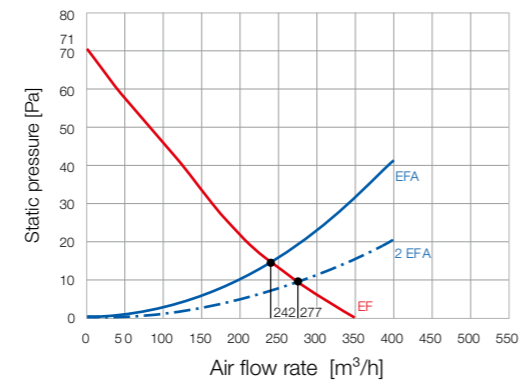
Dimensional drawing | RFU



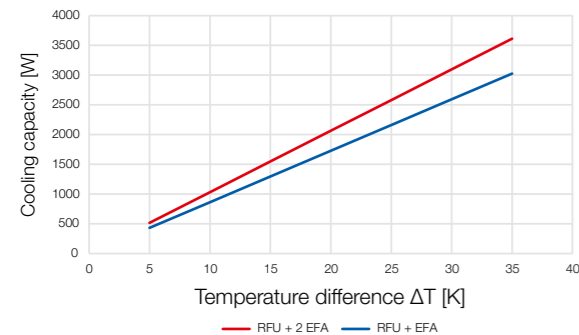
RFU5003R5 / RFU5013R5  
Static pressure diagram



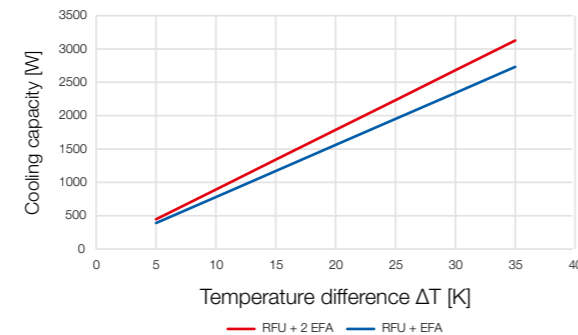
RFU5005R5 / RFU5015R5  
Static pressure diagram



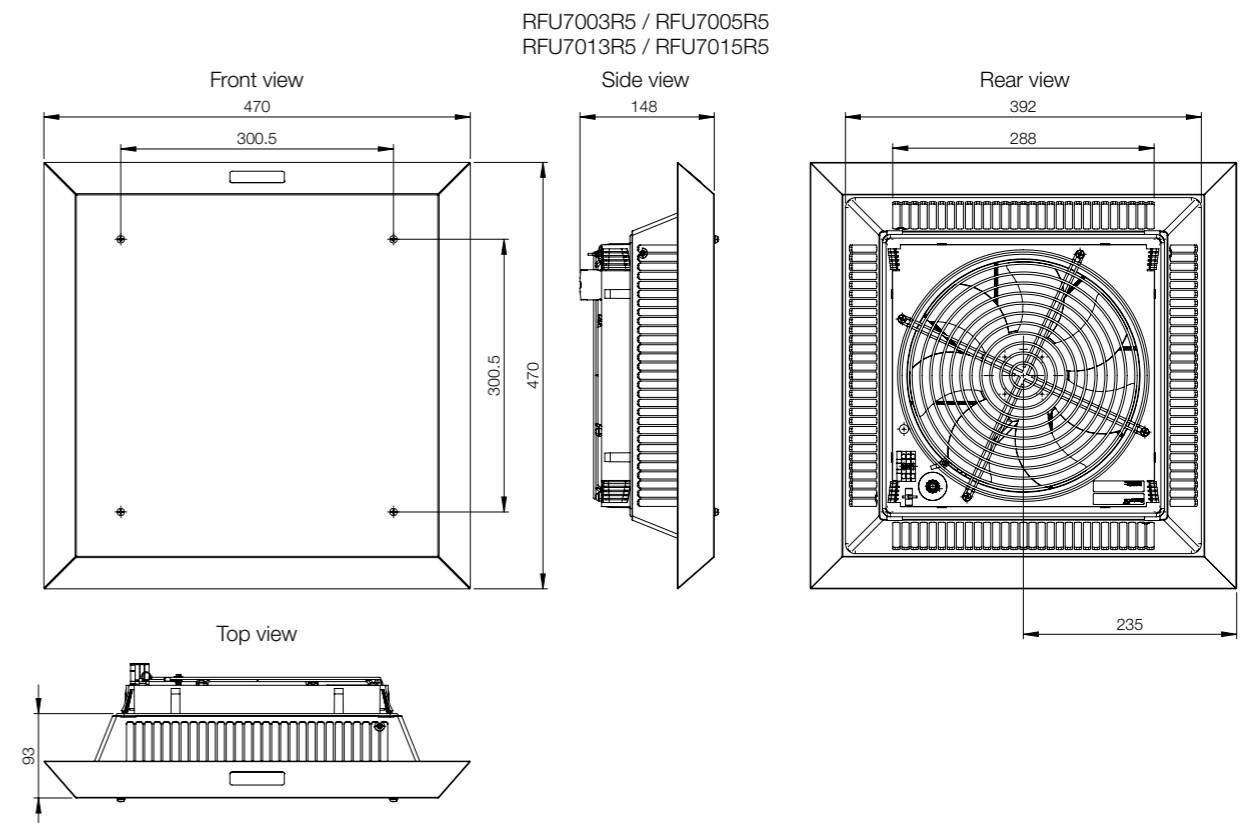
Performance



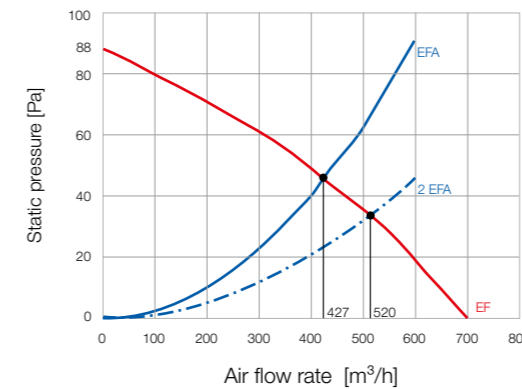
Performance



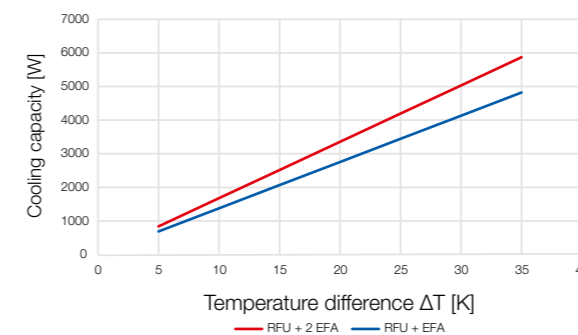
Dimensional drawing | RFU



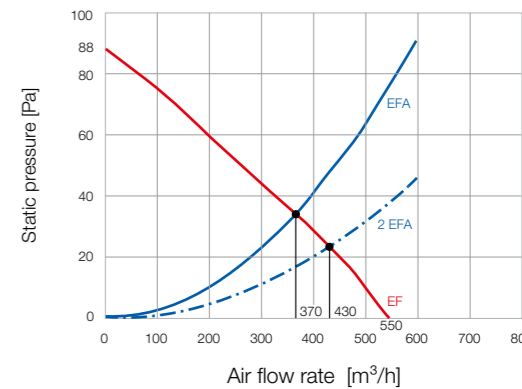
RFU7003R5 / RFU7013R5  
Static pressure diagram



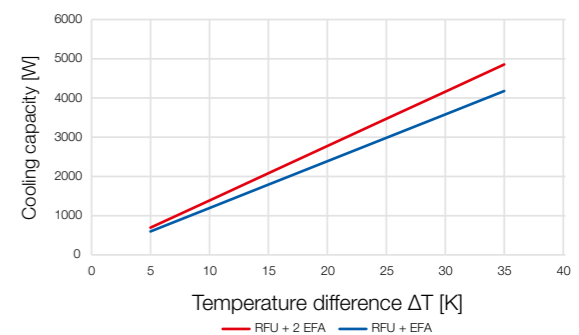
Performance

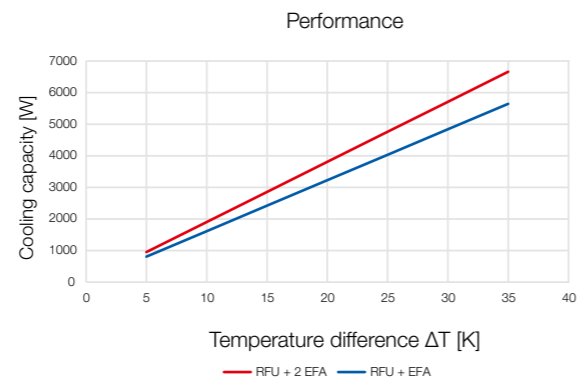
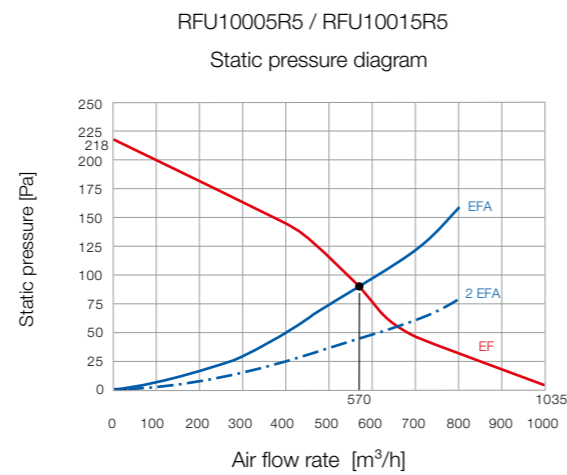
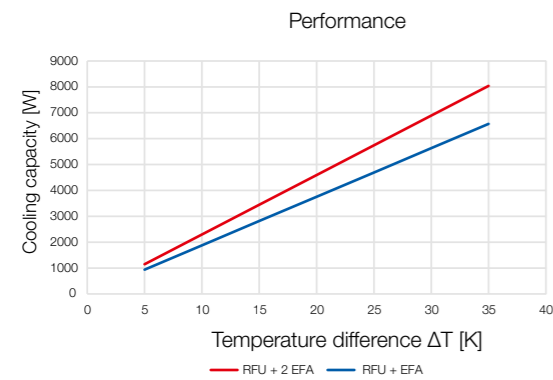
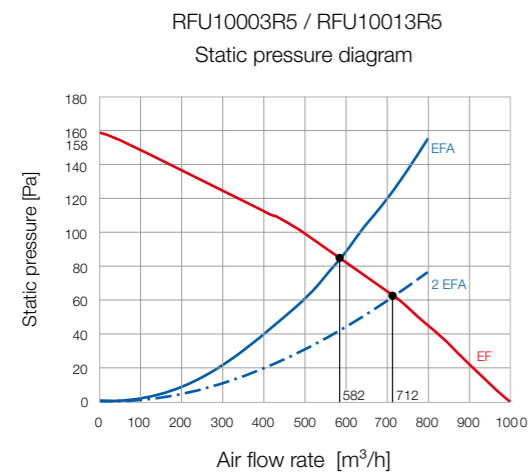
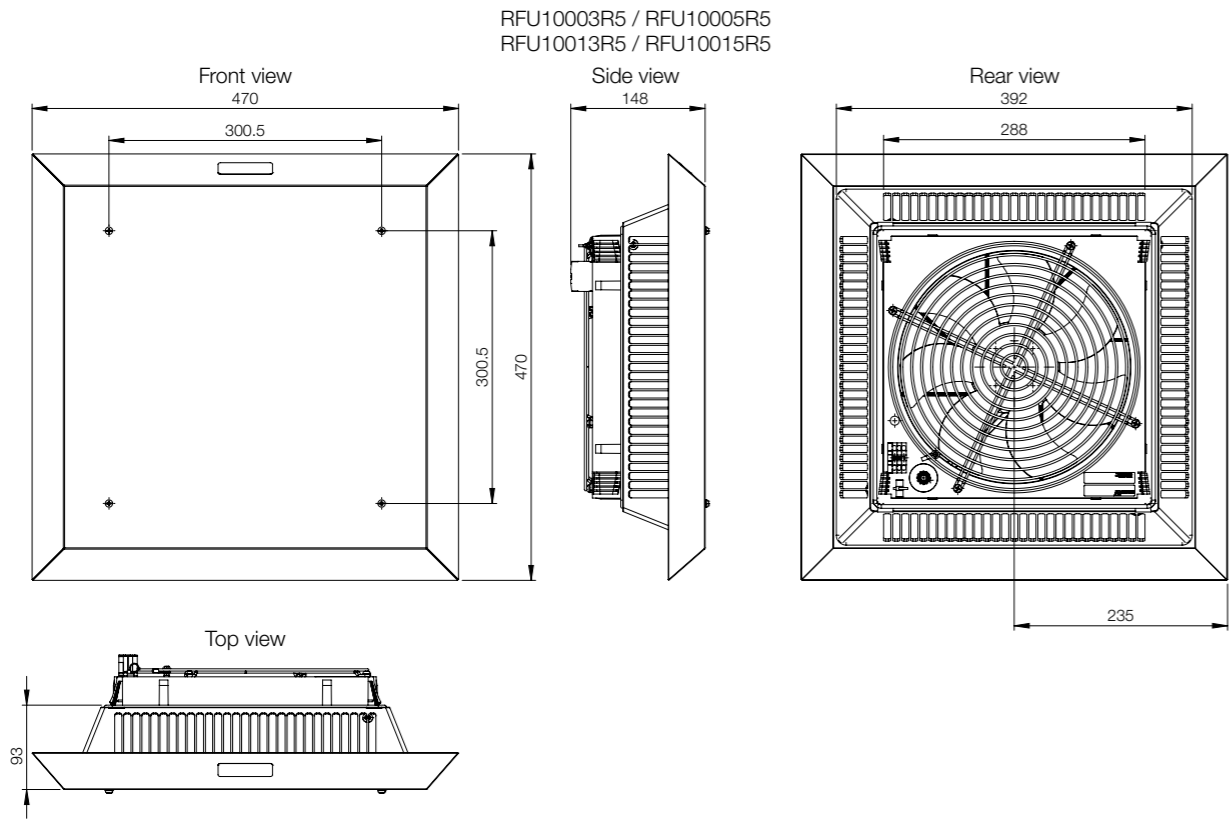


RFU7005R5 / RFU7015R5  
Static pressure diagram



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.

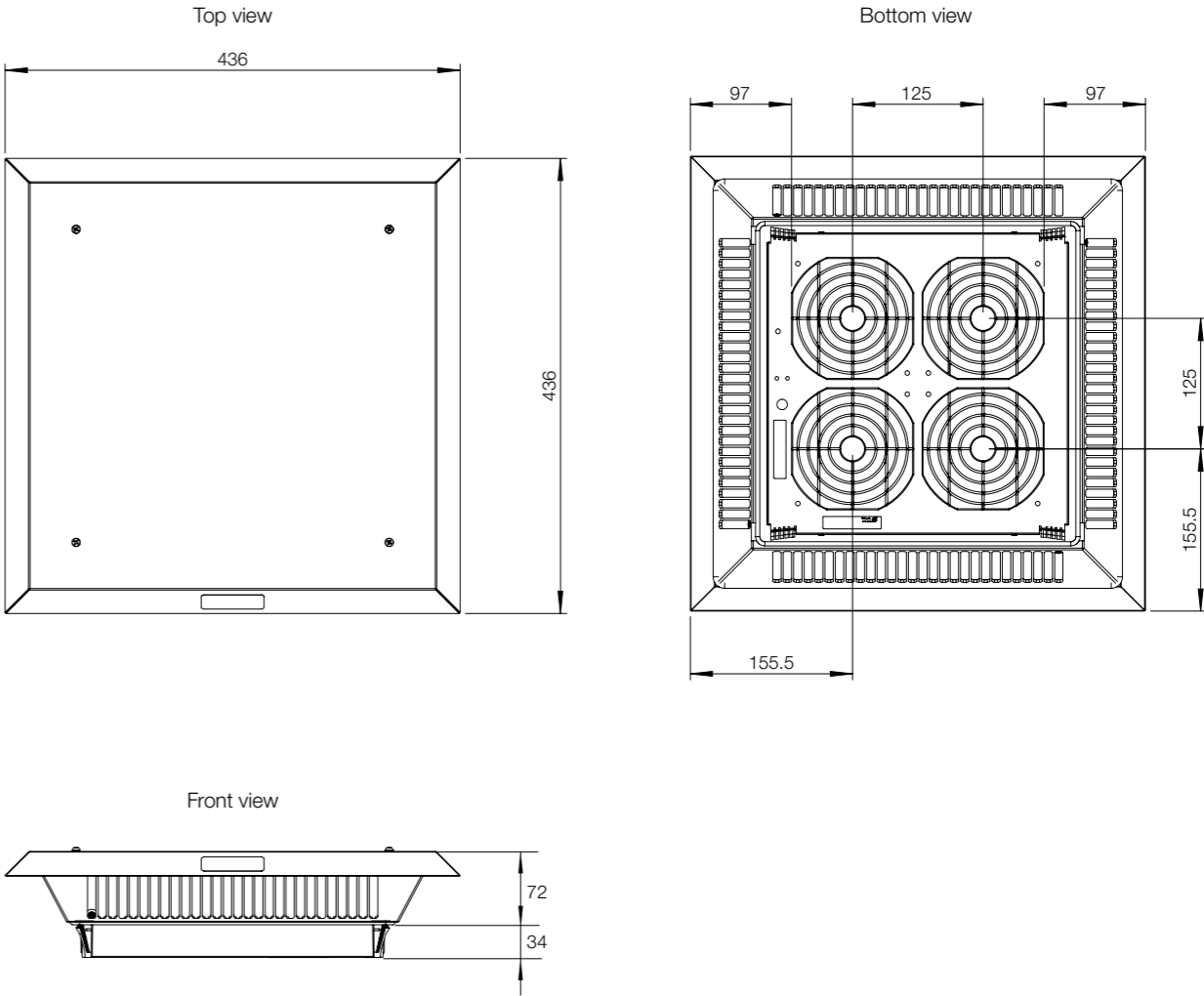
**Pack quantity:**  
One roof exhaust unit.



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:

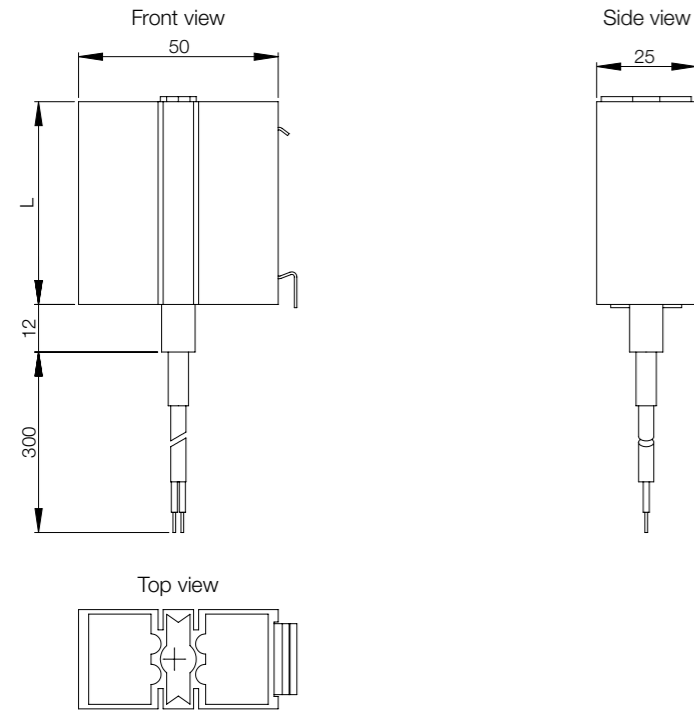
CE, EAC.
- Pack quantity:

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:

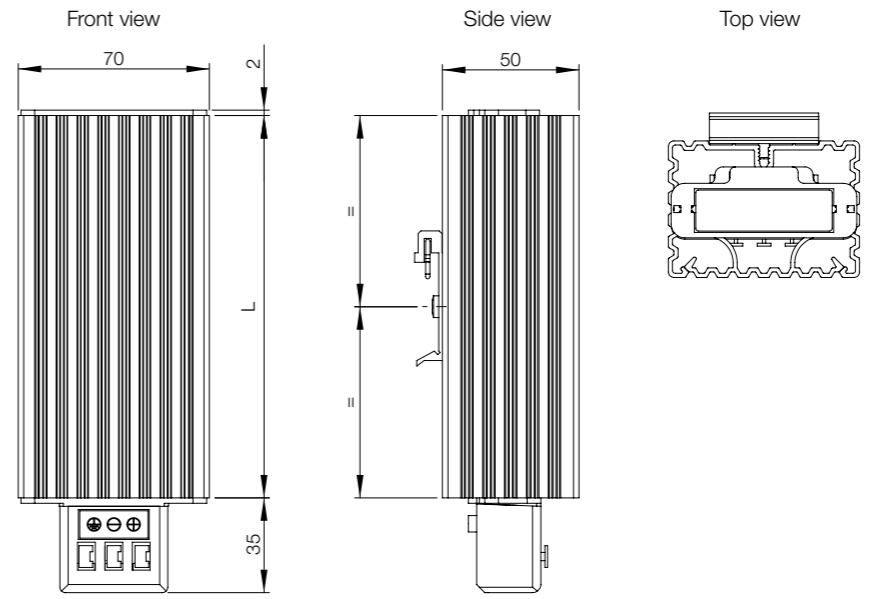
IP 20 supplied with terminals. IP 44 on request (supplied with cable).
- Approvals:

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

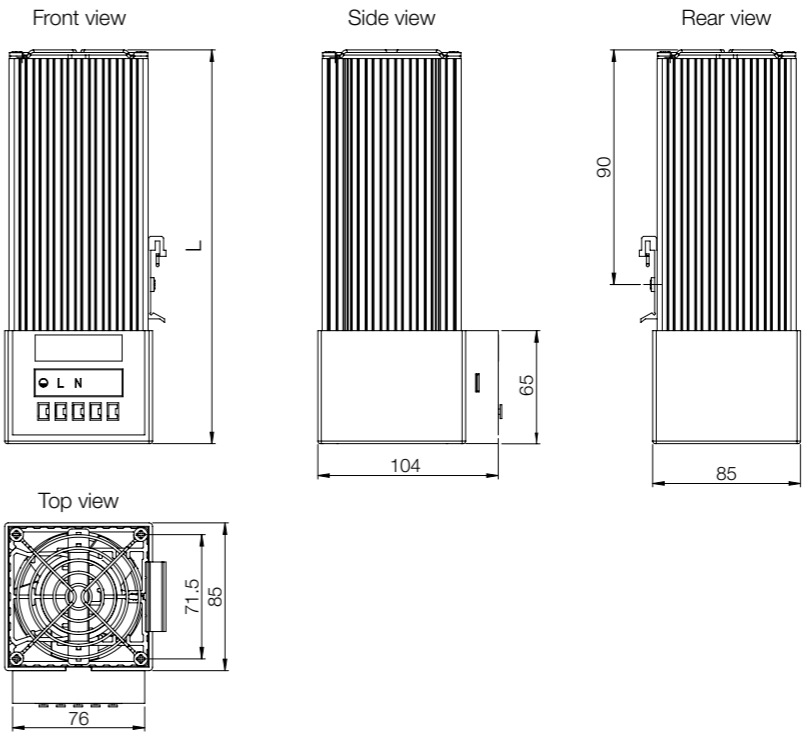
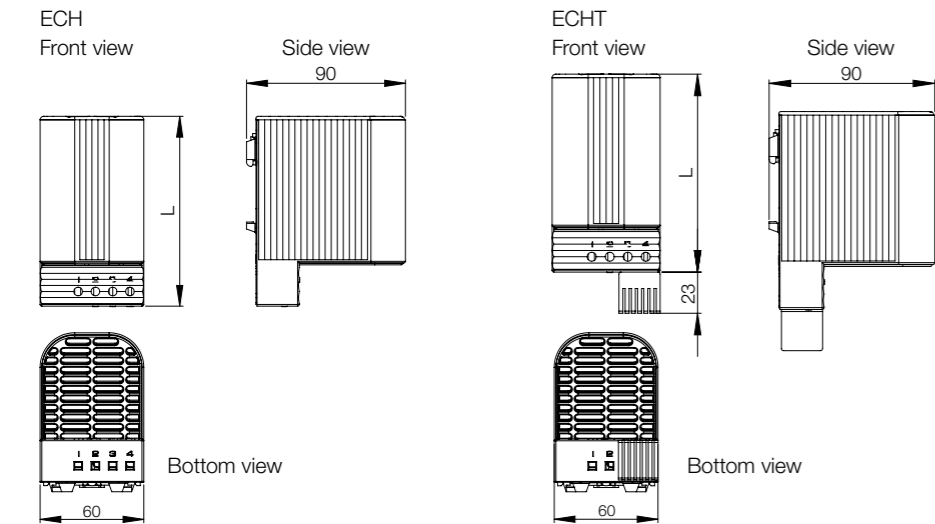
Voltage range: min. 110V - max 265 V. Operating below 140 V AC reduces performance by approx. 10%



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 × 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 m³/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:

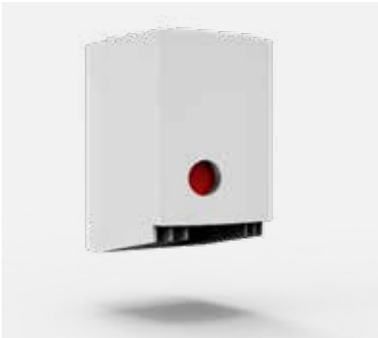
2 pole clamp 2.5 mm², torque 0.8 Nm max.
- Protection:

IP 20, Class II (double insulated).
- Approvals:

CE, EAC.
- Finish:

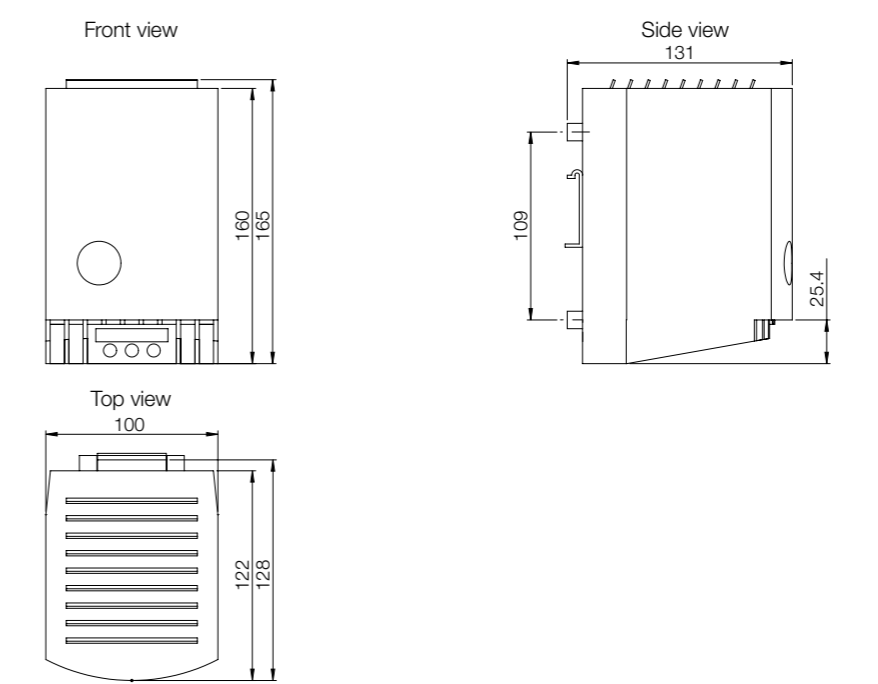
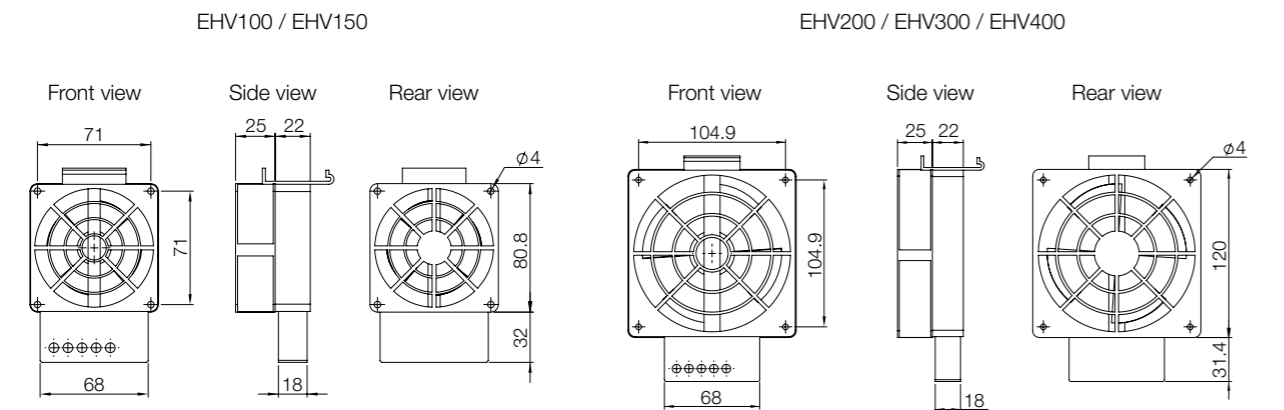
Light grey.
- Pack quantity:

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.



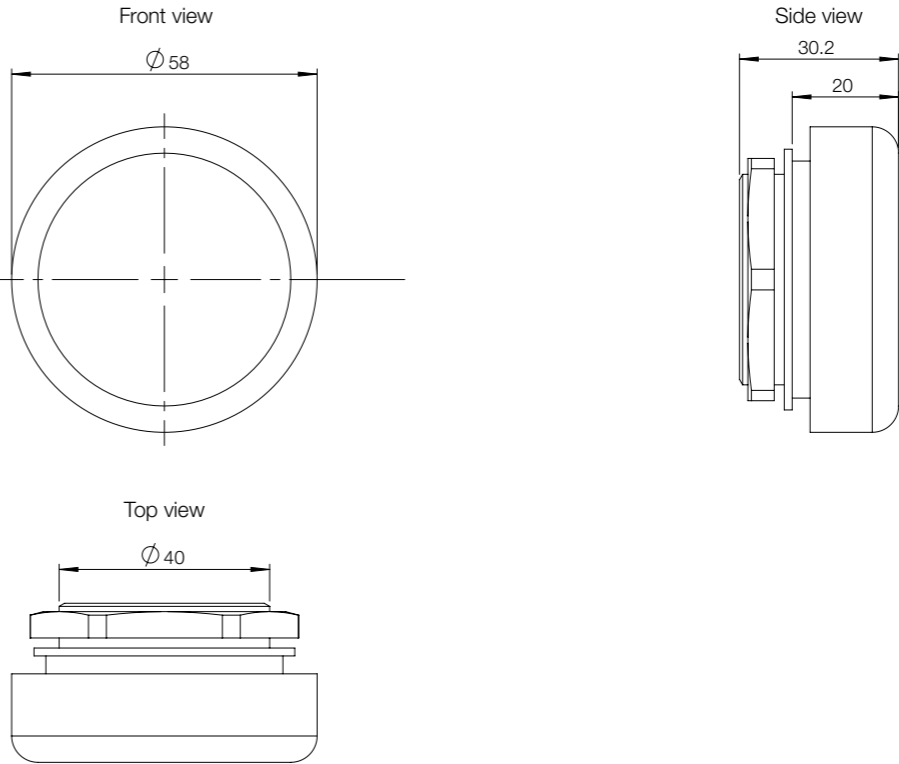
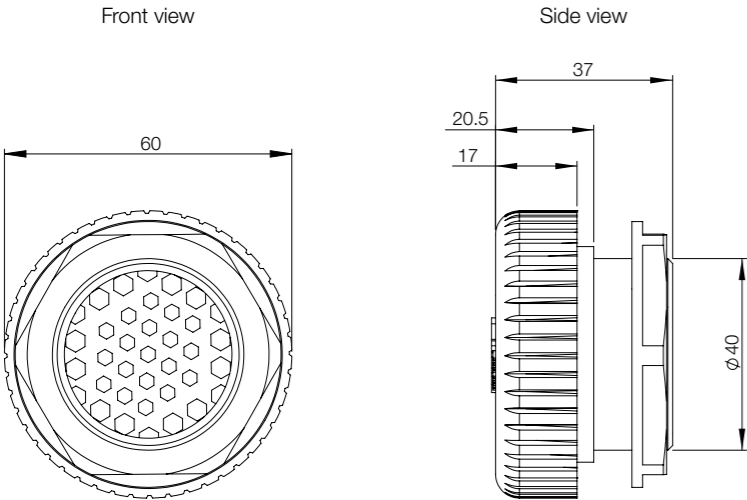
Pressure compensation, EDA

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	



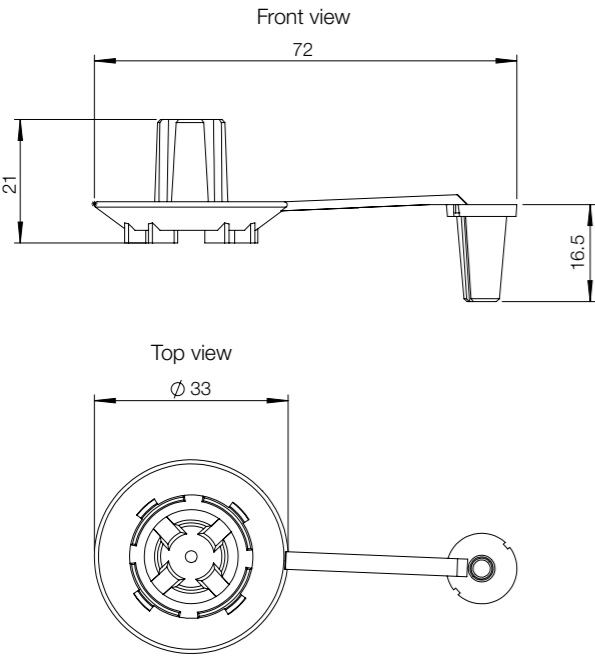
Stainless steel pressure  
compensation plug, EDAS

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	



Drain plug, DWP

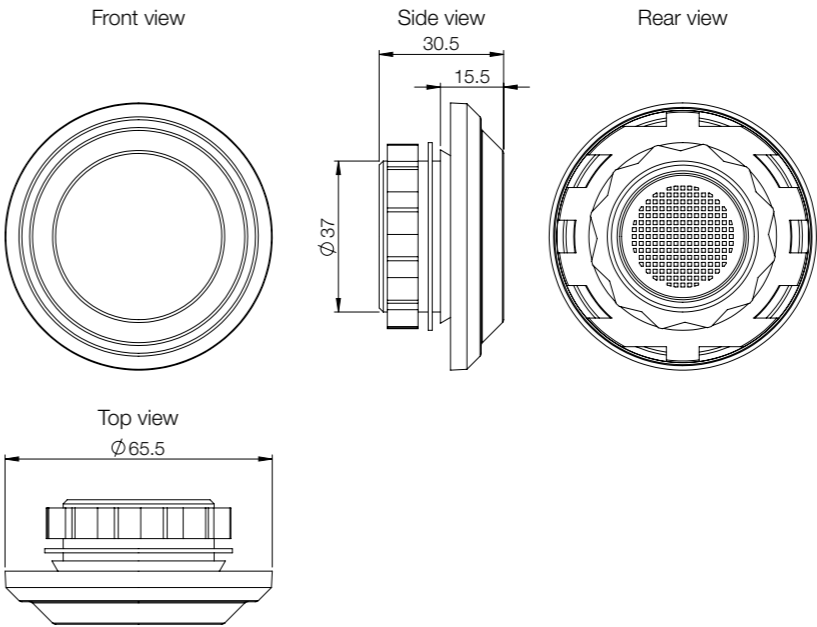
Description:	Drain plug to remove condensation water. Easy to install. Fits material thicknesses up to 4 mm. Protection degree IP 44.
Material:	Rubber.
Machining required:	Round hole 11 mm diameter.
Pack quantity:	10 pieces.
Item no. DWP02	



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.

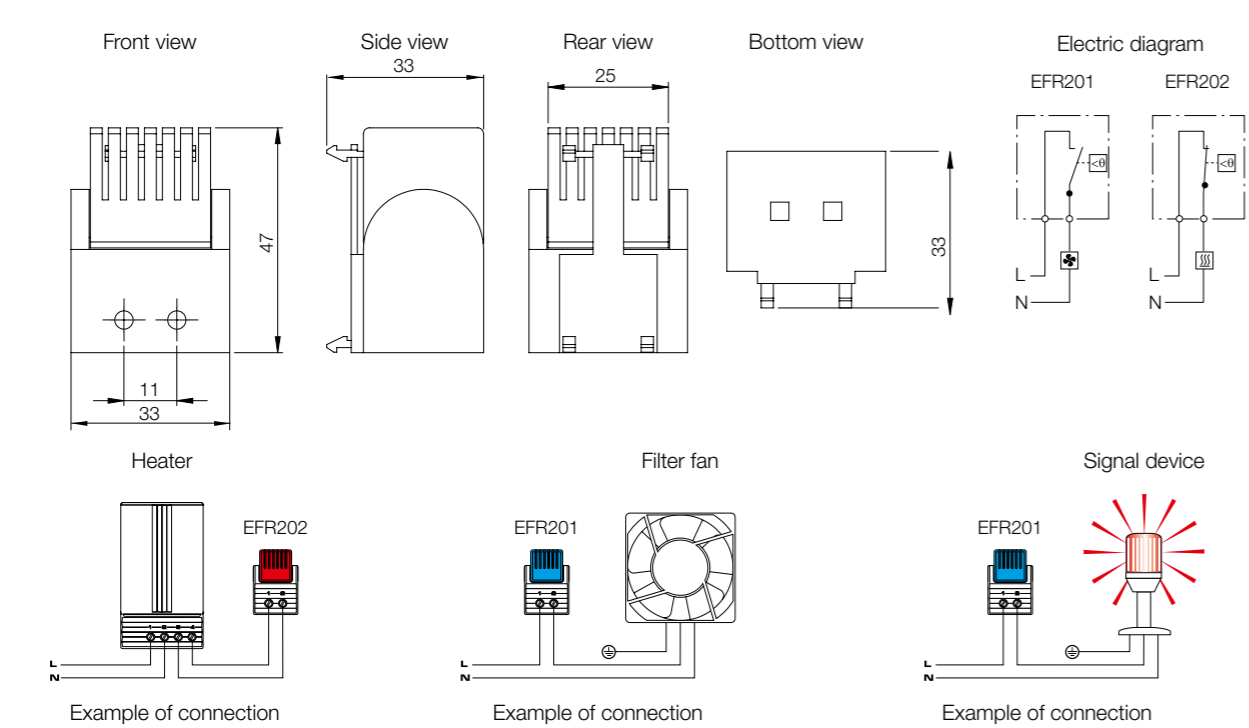
Weight (kg)	Item no.
0.10	PVD02



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.

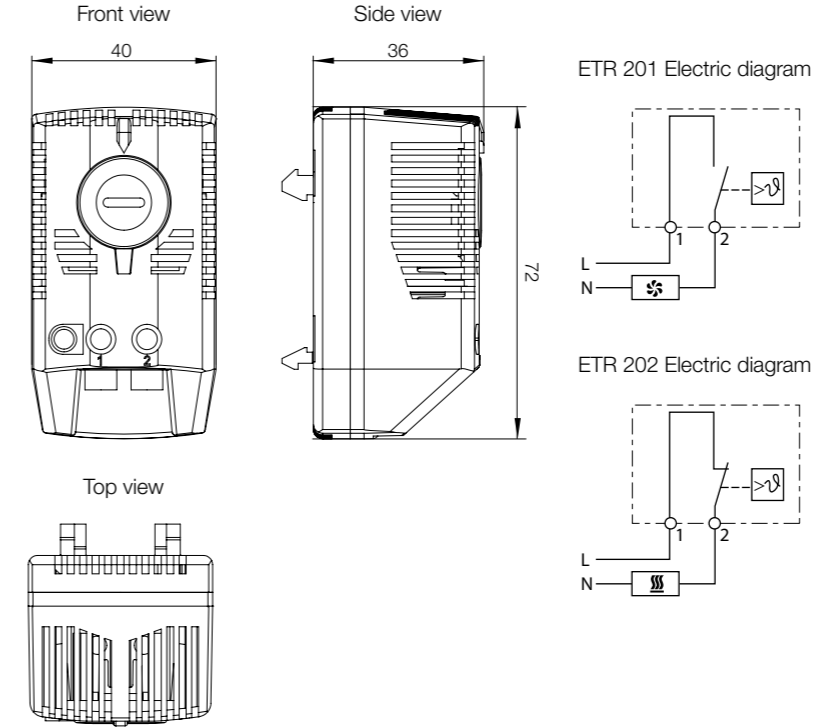
Description	Switch on temperature (°C)	Switch off temperature (°C)	Item no.
Normally opened contact	+35	+25	EFR201
Normally closed contact	+5	+15	EFR202



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

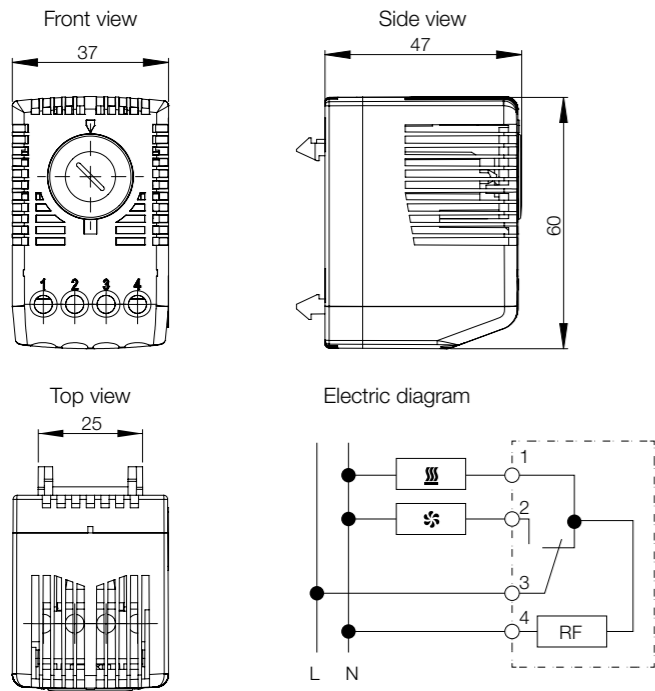


Thermal Management  
Heating & Anticondensation Range  
Accessories

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.

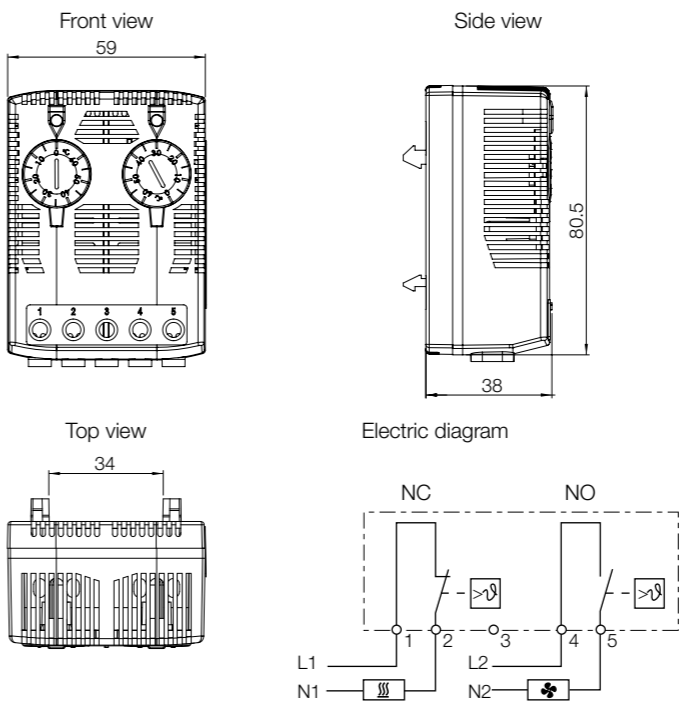
Item no.
ETR200



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.

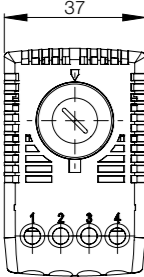


Description	Weight (kg)	Setting range	Item no.
Pre-set hygrostat	0.05	65%	ETF200
Adjustable hygrostat	0.05	40% to 90%	ETF2000

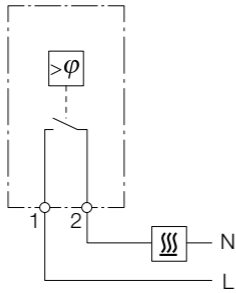
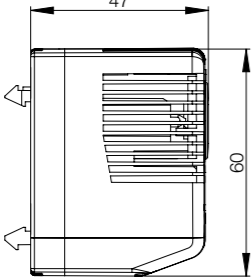
ETF200 / ETF2000

ETF200 Electric diagram

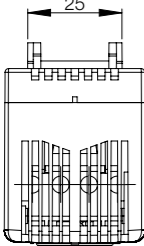
Front view



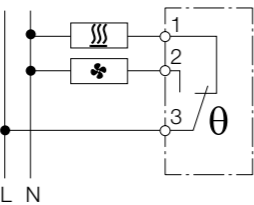
Side view



Top view



ETF2000 Electric diagram



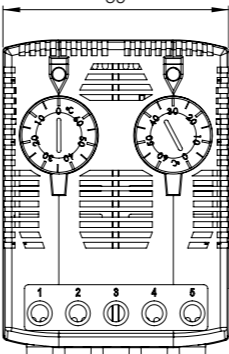
Electronic thermostat / hygrostat, ETF300

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.

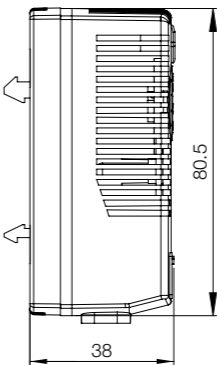


Voltage (V)	Frequency (Hz)	Item no.
230 V AC	50/60	ETF300
115 V AC	50/60	ETF300120

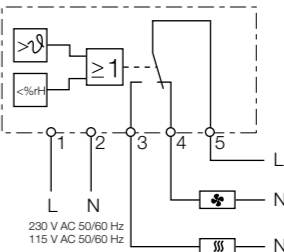
Front view



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, HLHERMNC

**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 f = 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	HLHERMNC