

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.



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Thermal Management

Dimensional table | EF

IP 54 | TYPE 12

230 V AC, 50/60 Hz

Unimpeded airflow (m³/h)	EF+FEA Air flow (m³/h)	Filter mat (EN779)	Filtration efficiency (%)	Service life L10 (40°C)(h)	Bearing type	Noise (dB)	Item no.
19/24	12/14	G4	>90	52,500	Sleeve	33	EF100R5
61/67	44/50	G4	>90	37,500	Sleeve	44	EF200R5
98/108	73/80	G4	>90	37,500	Sleeve	40	EF220R5
125/138	93/102	G4	>90	40,000	Ball	40	EF250R5
223/247	201/223	G4	>90	40,000	Ball	42	EF300R5
480/480	370/370	G3	80-90	40,000	Ball	54	EF500R5
640/653	445/445	G3	80-90	40,000	Ball	63	EF600R5
845/875	560/625	G3	80-90	40,000	Ball	66	EF700R5

230 V AC, 50/60 Hz

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

115 V AC, 50/60Hz

Unimpeded airflow (m³/h)	EF+FEA Air flow (m³/h)	Filter mat (EN779)	Filtration efficiency (%)	Service life L10 (40°C)(h)	Bearing type	Noise (dB)	Item no.
19/24	12/14	G4	>90	55,000	Sleeve	33	EF100-115R5
61/67	44/50	G4	>90	40,000	Sleeve	44	EF200-115R5
98/108	73/80	G4	>90	40,000	Sleeve	40	EF220-115R5
125/138	93/102	G4	>90	42,500	Ball	43	EF250-115R5
223/247	201/223	G4	>90	40,000	Ball	46	EF300-115R5
480/480	370	G3	80-90	40,000	Ball	52	EF500-115R5
640/653	445	G3	80-90	40,000	Ball	64	EF600-115R5
845/875	625	G3	80-90	40,000	Ball	69	EF700-115R5

115 V AC, 50/60Hz

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

24 V DC

Unimpeded airflow (m³/h)	EF+FEA Air flow (m³/h)	Filter mat (EN779)	Filtration efficiency (%)	Service life L10 (40°C)(h)	Bearing type	Noise (dB)	Item no.
19/24	12/14	G4	>90	70,000	Ball	33	EF100-24R5
61/67	44/50	G4	>90	62,500	Ball	44	EF200-24R5
98/108	73/80	G4	>90	62,500	Ball	40	EF220-24R5
125/138	93/102	G4	>90	70,000	Ball	40	EF250-24R5
223/247	201/223	G4	>90	80,000	Ball	42	EF300-24R5

24 V DC

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

Thermal Management Ventilation Range Outdoor filter fan | EFP

IP 55 | TYPE 12



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

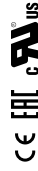
Material:
Front cover manufactured from injection-moulded thermoplastic, self-extinguishing, UL94V0. UV resistance.

Temperature range:
-40 °C to +55 °C.

Protection:
IP 55 | TYPE 12.

Finish:
RAL 7035.

Pack quantity:
One fan with filter.



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Thermal Management

Dimensional table | EFP

IP 55 | TYPE 12

230 V, 50/60 HZ		Filter mat (EN779)	Filtration efficiency (%)	Service life L10 (40°C)(h)	Bearing type	Noise (dB)	Item no.
Unimpeded airflow (m³/h)	EFP+EFA Air flow (m³/h)						
56/64	40/46	G4	>90	37,500	Sleeve	44	EFP200RS
100/110	55/64	G4	>90	37,500	Sleeve	40	EFP220RS
145/160	109/113	G4	>90	40,000	Ball	40	EFP250RS
233/265	180/207	G4	>90	40,000	Ball	42	EFP300RS
505/505	380/380	G4	>90	40,000	Ball	54	EFP500RS
770/785	490/501	G4	>90	40,000	Ball	63	EFP600RS
925/950	570/625	G4	>90	40,000	Ball	66	EFP700RS

230 V, 50/60 HZ

Cut-out (mm)	Weight (kg)	Connection	Current (A)	Power (W)	Fuse (A)	Item no.
125 x 125	0.80	Terminal strip	0.12/0.18	19/18	6	EFP200RS
177 x 177	1.05	Terminal strip	0.12/0.18	19/18	6	EFP220RS
223 x 223	1.45	Spring type	0.12/0.10	18/17	6	EFP250RS
223 x 223	1.95	Spring type	0.32/0.26	45/39	6	EFP300RS
291 x 291	3.90	Spring type	0.35/0.45	80/100	6	EFP500RS
291 x 291	4.10	Spring type	0.53/0.72	120/160	6	EFP600RS
291 x 291	4.55	Spring type	0.62/0.86	140/197	6	EFP700RS

115 V 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	40,000	Sleeve	44	EFP200-11SR5
100/110	55/64	G4	>90	40,000	Sleeve	40	EFP220-11SR5
145/160	109/113	G4	>90	42,500	Ball	43	EFP250-11SR5
233/265	180/207	G4	>90	40,000	Ball	46	EFP300-11SR5
505/505	380/380	G4	>90	40,000	Ball	52	EFP500-11SR5
770/785	490/501	G4	>90	40,000	Ball	64	EFP600-11SR5
925/950	570/625	G4	>90	40,000	Ball	69	EFP700-11SR5

115 V AC, 50/60 HZ

Cut-out (mm)	Weight (kg)	Connection	Current (A)	Power (W)	Fuse (A)	Item no.
125 x 125	0.80	Terminal strip	0.24/0.23	20/20	6	EFP200-11SR5
177 x 177	1.05	Terminal strip	0.24/0.23	20/20	6	EFP220-11SR5
223 x 223	1.45	Spring type	0.25/0.25	18/17	6	EFP250-11SR5
223 x 223	1.90	Spring type	0.50/0.50	40/40	6	EFP300-11SR5
291 x 291	3.90	Spring type	0.66/0.80	75/90	6	EFP500-11SR5
291 x 291	4.10	Spring type	0.96/1.40	110/160	6	EFP600-11SR5
291 x 291	4.55	Spring type	1.23/1.71	140/195	6	EFP700-11SR5

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	EFP200-24VACRS

24 Volt AC, 50/60 HZ

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

Thermal Management Ventilation Range Accessories

Exhaust filter, EFA

Description:

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

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

Temperature range: -40 °C to +55 °C.

Protection: IP 54 | TYPE 12.

Finish: RAL 7035.

Approvals: CE, EAC, cRUus, UL Recognized.

Pack quantity: One exhaust filter.

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

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



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 click-in system without screws. The hinged front cover can be easily opened for quick and easy filter replacement. The new filter mat gives longer life with a low pressure drop because of special construction.

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

Temperature range: -40 °C to +55 °C.

Protection: IP 55 | TYPE 12.

Finish: RAL 7035.

Approvals: CE, EAC, cRUus, UL Recognized.

Pack quantity: One exhaust filter.

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

Replacement filter mat IP55, EFP

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.

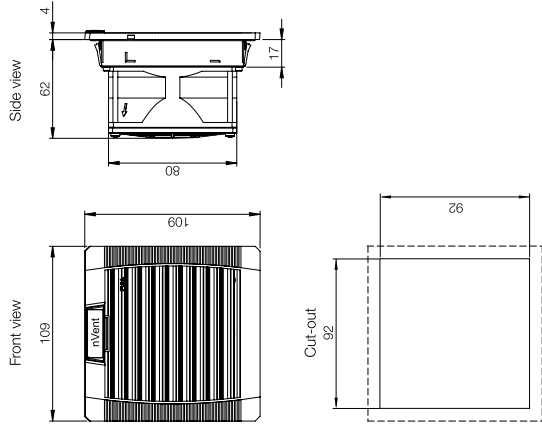
Pack quantity: 5 pieces.

Filter mat (EN779)	For	Item no.
G4	EFP/EFAP 200	EFPMP200
G4	EFP/EFAP 220	EFPMP220
G4	EFP/EFAP 250/300	EFPMP250-300
G4	EFP/EFAP 500/600/700	EFPMP500-700

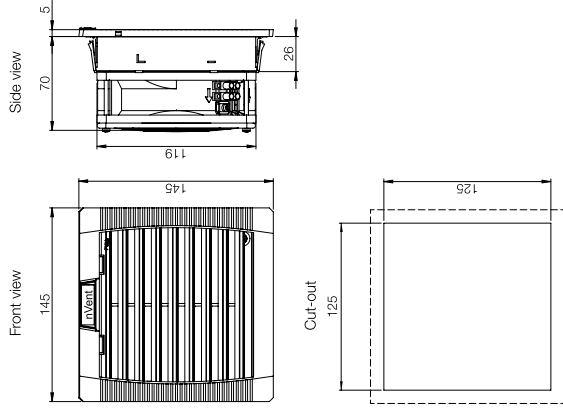


Dimensional drawing | EF/EFA

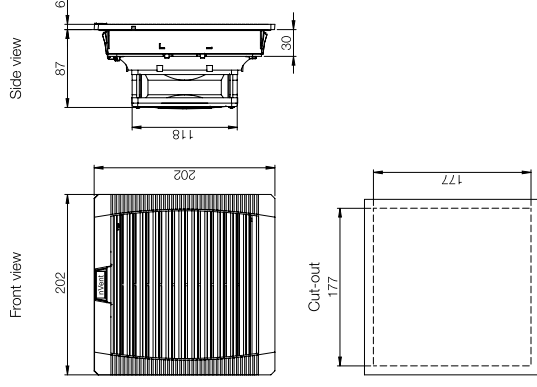
EF100R5 / EFA100R5



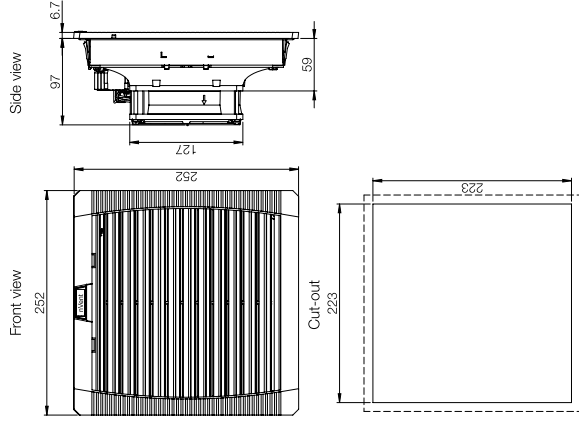
EF200R5 / EFA200R5



EF220R5 / EFA220R5



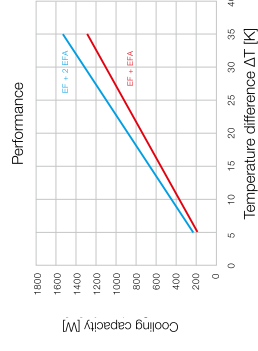
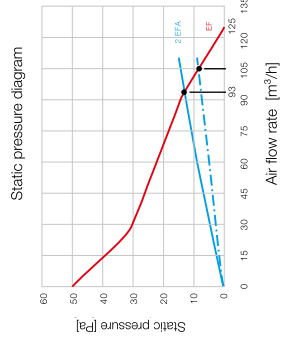
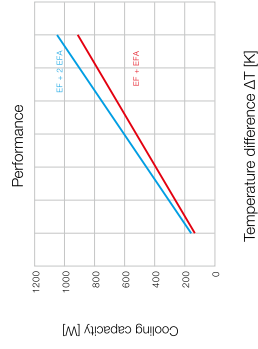
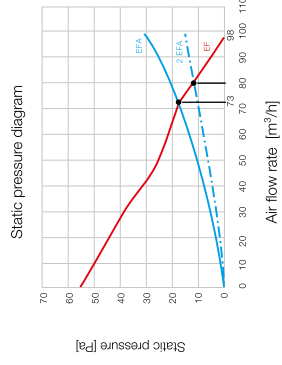
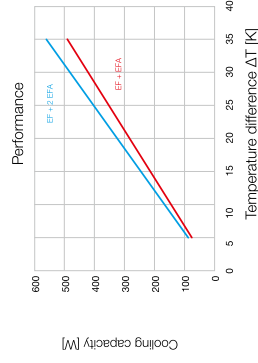
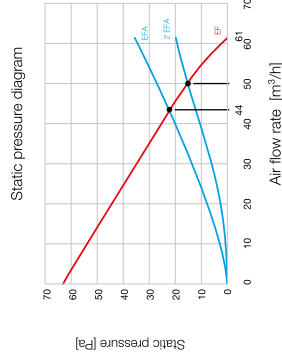
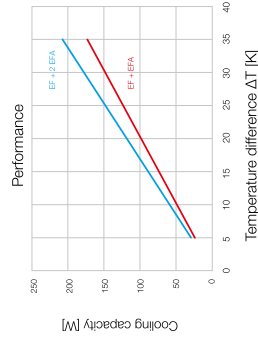
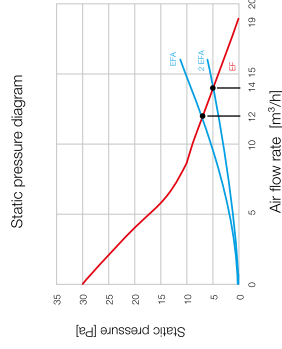
EF250R5 / EFA250R5



Dimensional drawing | EF/EFA

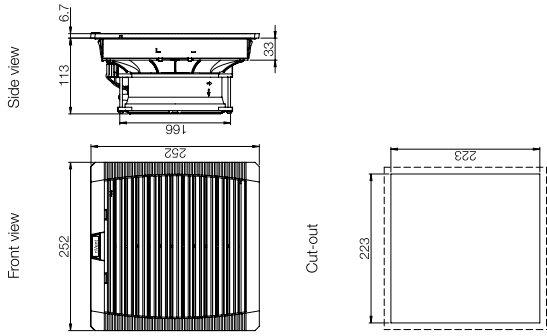
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Thermal Management

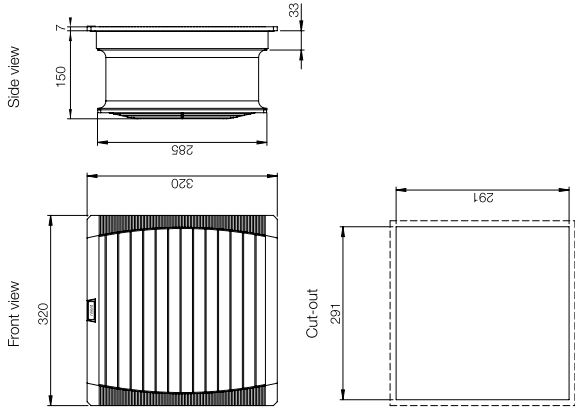


Dimensional drawing | EF/EFA

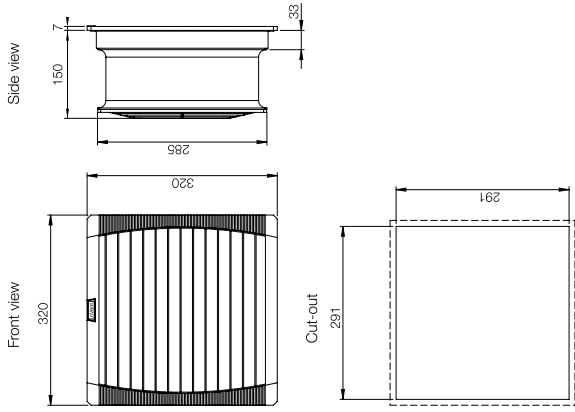
EF300R5 / EFA300R5



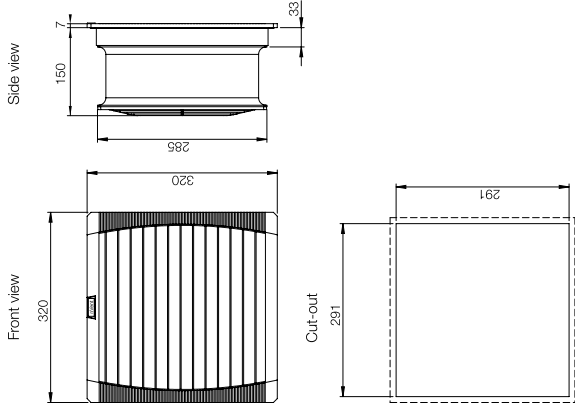
EF500R5 / EFA500R5



EF600R5 / EFA600R5



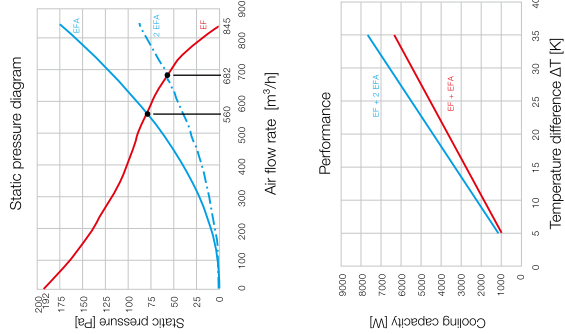
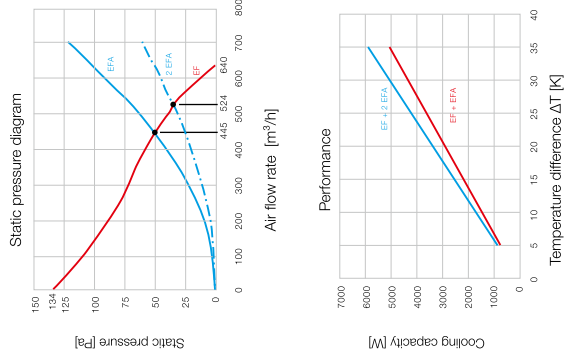
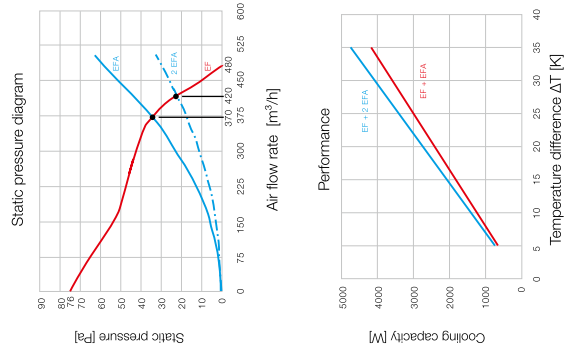
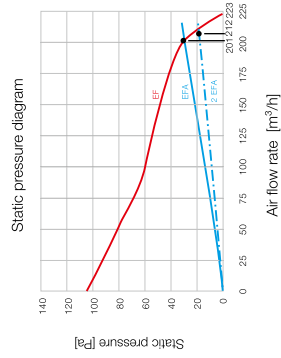
EF700R5 / EFA700R5



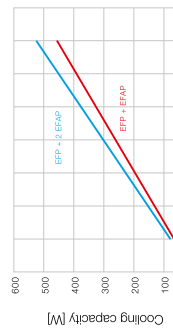
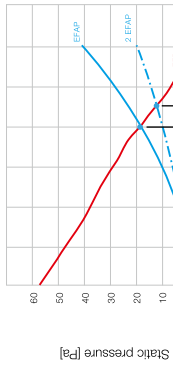
Dimensional drawing | EF/EFA

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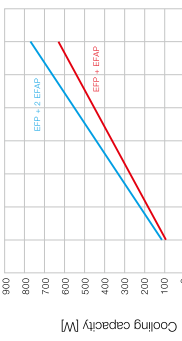
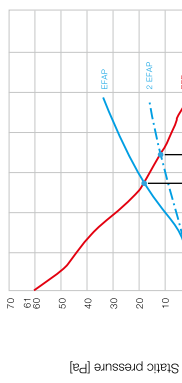
Thermal Management



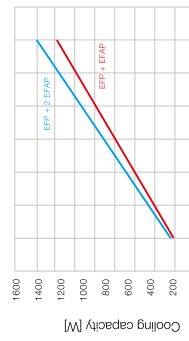
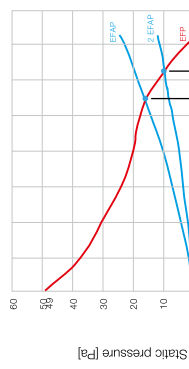
EFP200R5 / EFAP200R5



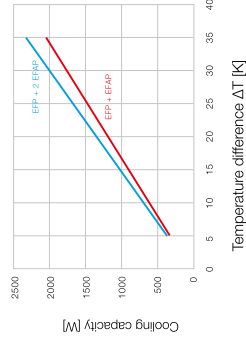
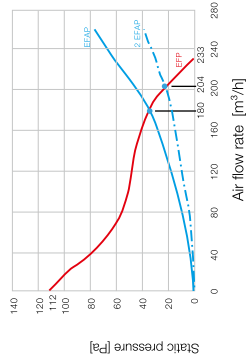
EFP220R5 / EFAP220R5



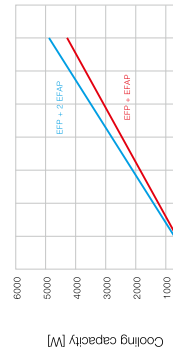
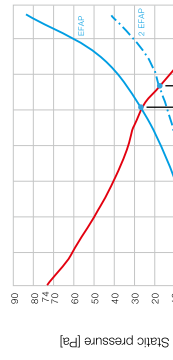
EFP250R5 / EFAP250-300R5



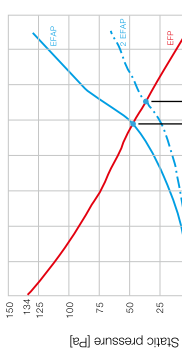
EFP300R5 / EFAP250-300R5



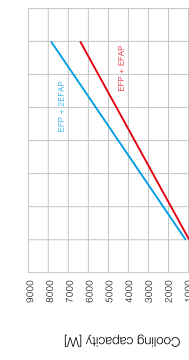
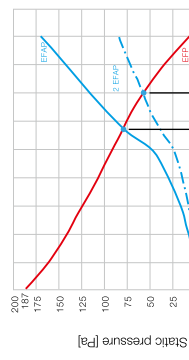
EFP500R5 / EFAP500-700R5



EFP600R5 / EFAP500-700R5



EFP700R5 / EFAP500-700R5



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.

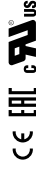
Material:
Painted mild steel, and injection-moulded thermoplastic (ABS-FR) self extinguishing, UL94V0.

Temperature range:
-15 °C to +55 °C.

Type of connection:
Terminal strip.

Finish:
RAL 7035.

Pack quantity:
One roof fan unit.



Dimensional table | RFU

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Thermal Management

230 V, 50/60 Hz		RFU+EFA Air flow (m³/h)	Filter mat (EN779)	Filtration efficiency (%)	Service life L10 (40°C)(h)	Bearing type	Noise (dB)	Item no.
Unimpeded airflow (m³/h)	500	268	No filter mat	No filter mat	50,000	Ball	67	RFU5003RS
	700	427	No filter mat	No filter mat	40,000	Ball	69	RFU7003RS
	1000	582	No filter mat	No filter mat	40,000	Ball	77	RFU10003RS
	350	242	G4	>90	50,000	Ball	67	RFU5005RS
	550	370	G4	>90	40,000	Ball	69	RFU7005RS
	750	500	G4	>90	40,000	Ball	77	RFU10005RS

230 V, 50/60 Hz		Cut-out (mm)	Weight (kg)	Connection	Current (A)	Power (W)	Fuse (A)	Item no.
IP	33	291 x 291	5.55	Terminal strip	4 x 0.20/0.20	4 x 28/29	6	RFU5003RS
	33	291 x 291	6.15	Terminal strip	0.35/0.45	80/100	6	RFU7003RS
	33	291 x 291	6.45	Terminal strip	0.53/0.72	120/160	6	RFU10003RS
	54	291 x 291	5.55	Terminal strip	4 x 0.20/0.20	4 x 28/29	6	RFU5005RS
	54	291 x 291	6.30	Terminal strip	0.35/0.45	80/100	6	RFU7005RS
	54	291 x 291	4.78	Terminal strip	0.53/0.72	120/160	6	RFU10005RS

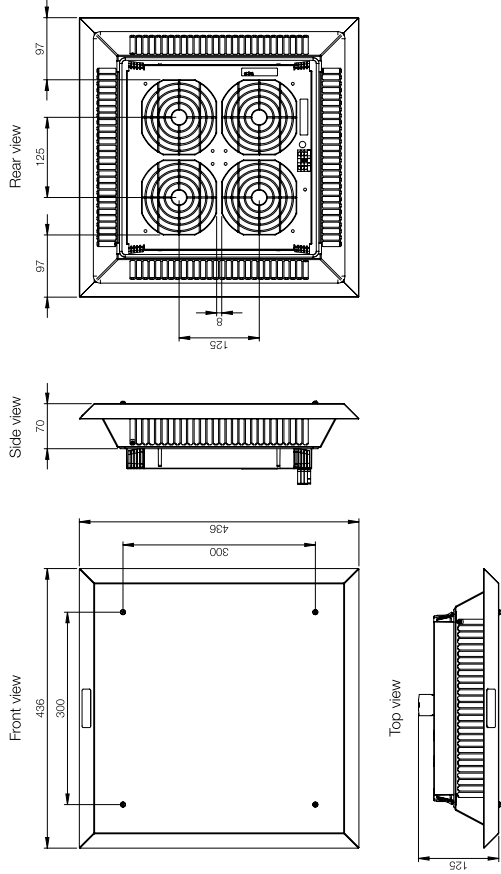
115 V AC, 50/60Hz		RFU+EFA Air flow (m³/h)	Filter mat (EN779)	Filtration efficiency (%)	Service life L10 (40°C)(h)	Bearing type	Noise (dB)	Item no.
Unimpeded airflow (m³/h)	500	268	No filter mat	No filter mat	50,000	Ball	67	RFU5013RS
	700	427	No filter mat	No filter mat	40,000	Ball	69	RFU7013RS
	1000	582	No filter mat	No filter mat	40,000	Ball	77	RFU10013RS
	350	242	G4	>90	50,000	Ball	67	RFU5015RS
	550	370	G4	>90	40,000	Ball	69	RFU7015RS
	750	500	G4	>90	40,000	Ball	77	RFU10015RS

115 V AC, 50/60Hz		Cut-out (mm)	Weight (kg)	Connection	Current (A)	Power (W)	Fuse (A)	Item no.
IP	33	291 x 291	5.60	Terminal strip	4 x 0.30/0.30	4 x 29/24	6	RFU5013RS
	33	291 x 291	4.56	Terminal strip	0.66/0.80	75/90	6	RFU7013RS
	33	291 x 291	4.78	Terminal strip	0.96/1.40	110/160	6	RFU10013RS
	54	291 x 291	5.33	Terminal strip	4 x 0.30/0.30	4 x 29/24	6	RFU5015RS
	54	291 x 291	4.56	Terminal strip	0.66/0.80	75/90	6	RFU7015RS
	54	291 x 291	4.78	Terminal strip	0.96/1.40	110/160	6	RFU10015RS

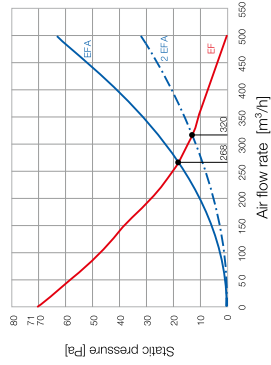
(1) The value in the table is for the combination RFU + EFA500-700RS.

Dimensional drawing | RFU

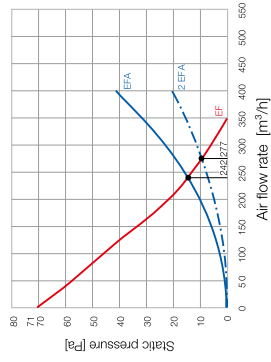
RFU5003R5 / RFU5005R5
RFU5013R5 / RFU5015R5



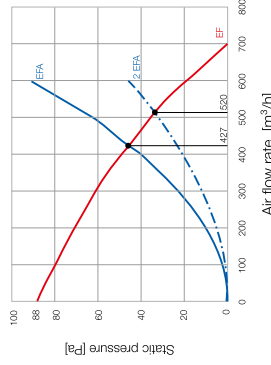
RFU5003R5 / RFU5013R5
Static pressure diagram



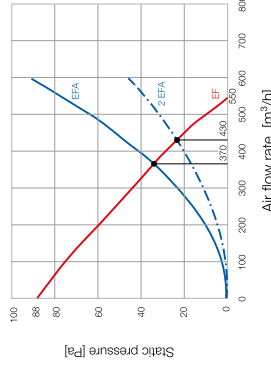
RFU5005R5 / RFU5015R5
Static pressure diagram



RFU7003R5 / RFU7013R5
Static pressure diagram



RFU7005R5 / RFU7015R5
Static pressure diagram

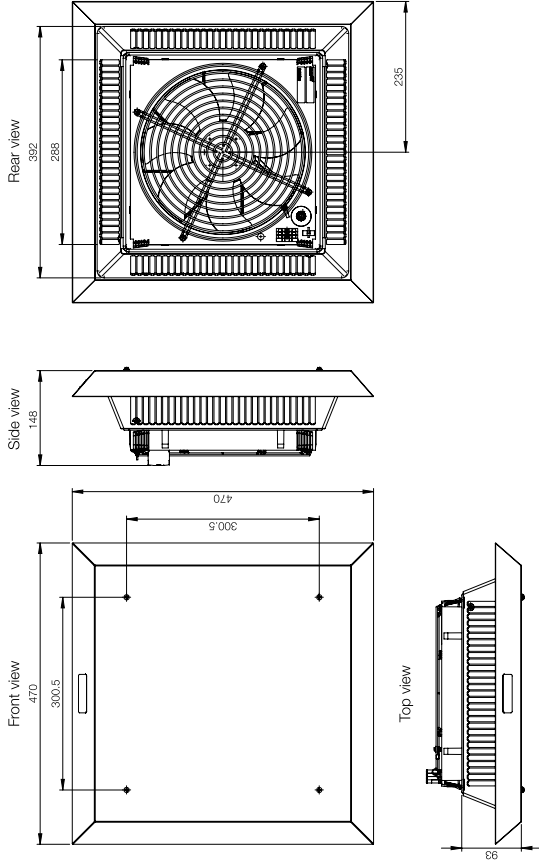


Dimensional drawing | RFU

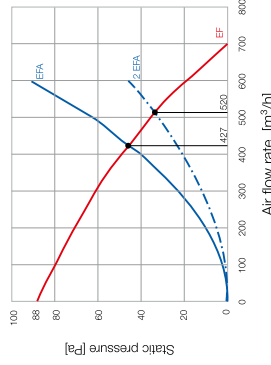
05

Thermal Management

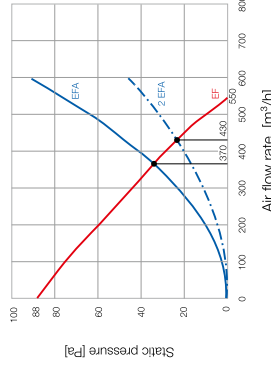
RFU7003R5 / RFU7005R5
RFU7013R5 / RFU7015R5



RFU7003R5 / RFU7013R5
Static pressure diagram

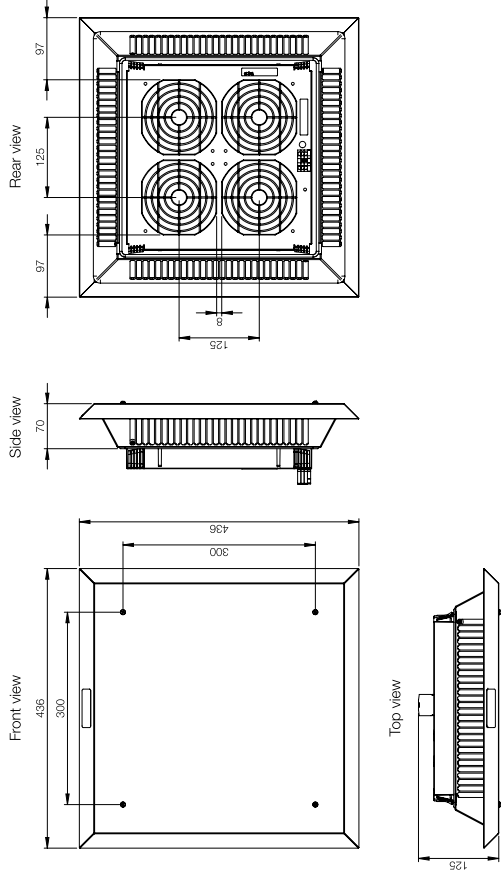


RFU7005R5 / RFU7015R5
Static pressure diagram

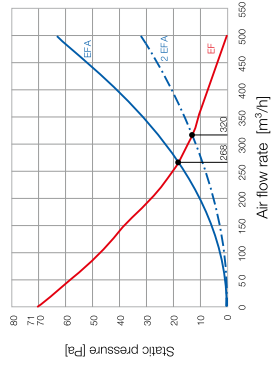


Dimensional drawing | RFU

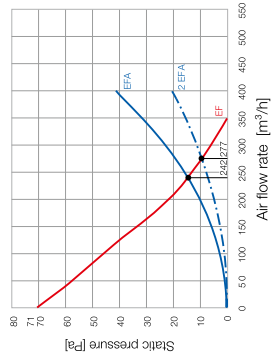
RFU5003R5 / RFU5005R5
RFU5013R5 / RFU5015R5



RFU5003R5 / RFU5013R5
Static pressure diagram



RFU5005R5 / RFU5015R5
Static pressure diagram

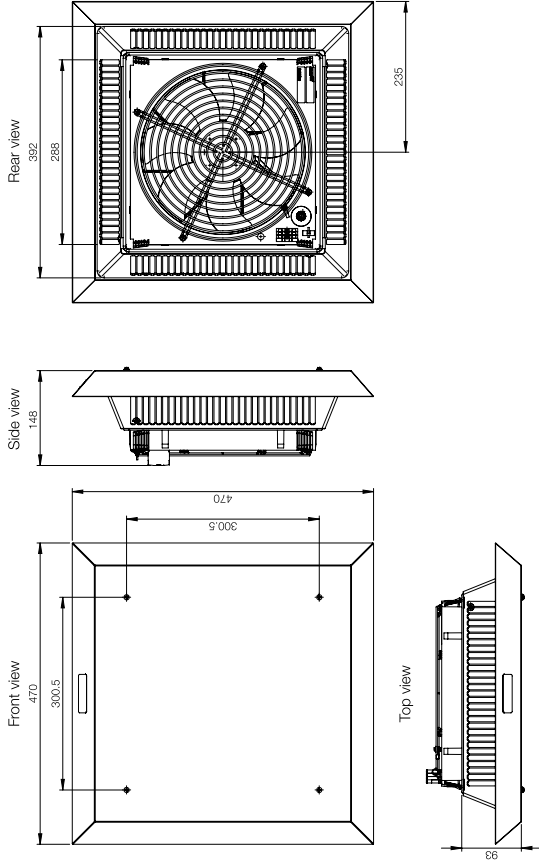


Dimensional drawing | RFU

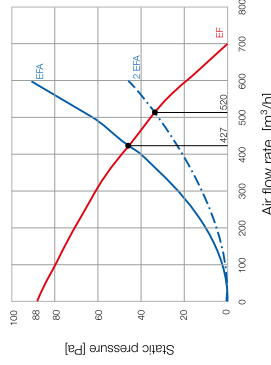
05

Thermal Management

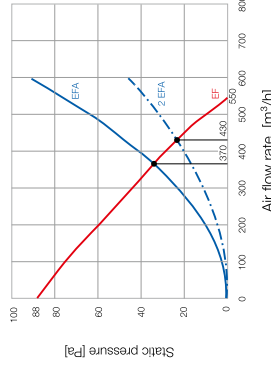
RFU7003R5 / RFU7005R5
RFU7013R5 / RFU7015R5



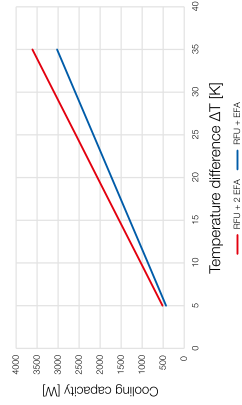
RFU7003R5 / RFU7013R5
Static pressure diagram



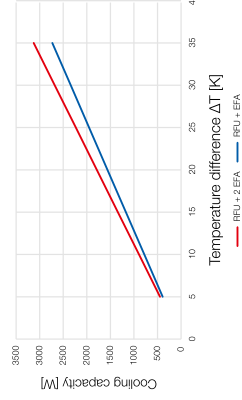
RFU7005R5 / RFU7015R5
Static pressure diagram



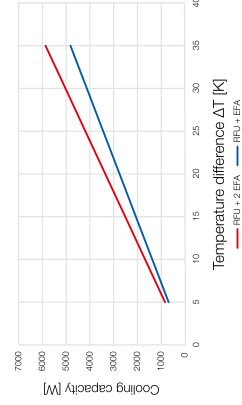
Performance



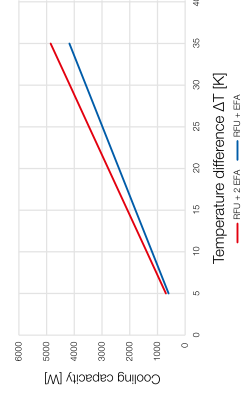
Performance



Performance



Performance

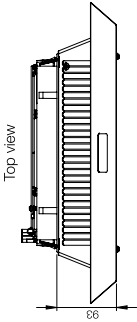
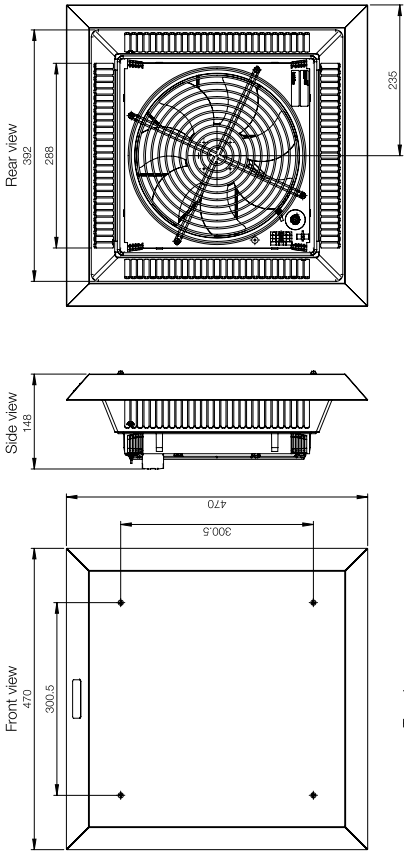


Dimensional drawing | RFU

05

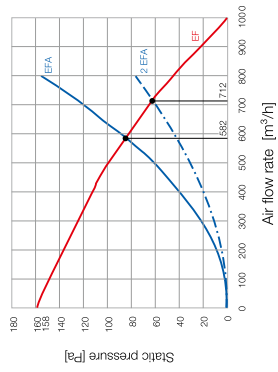
Thermal Management

RFU10003R5 / RFU10005R5
RFU10013R5 / RFU10015R5



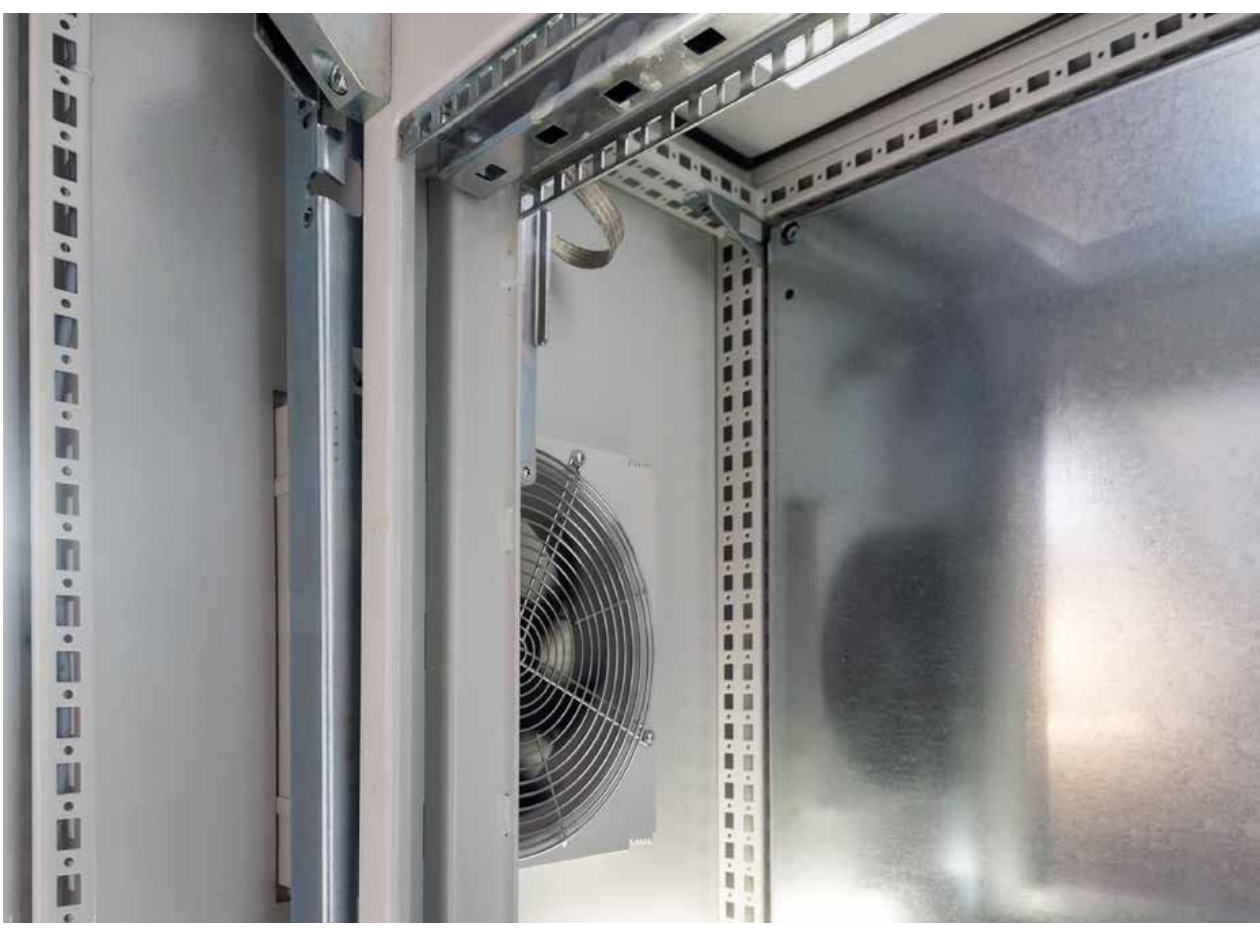
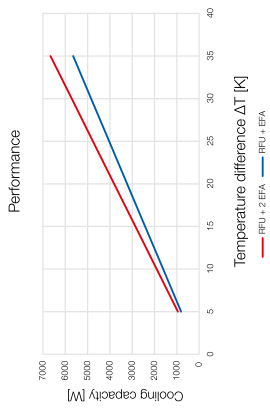
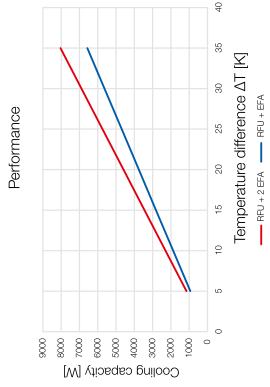
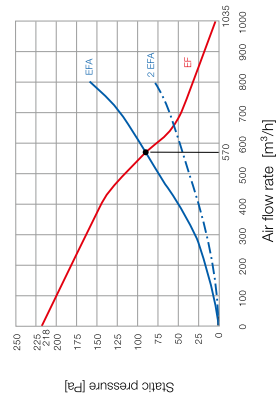
RFU10003R5 / RFU10013R5

Static pressure diagram



RFU10005R5 / RFU10015R5

Static pressure diagram



Thermal Management Ventilation Range Roof | REU



05

Thermal Management

Dimensional table | REU

Filter mat (EN779)	Filtration efficiency (%)	IP	Cut-out (mm)	Weight (kg)	Item no.
No filter mat	No filter mat	33	291 x 291	3.35	REU03RS
64	>90	54	291 x 291	3.40	REU05RS

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 (REU05RS).

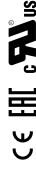
Material:
Painted mild steel, and injection-moulded thermoplastic (ABS-FR) self extinguishing, UL94V0.

Temperature range:
-15 °C to +55 °C.

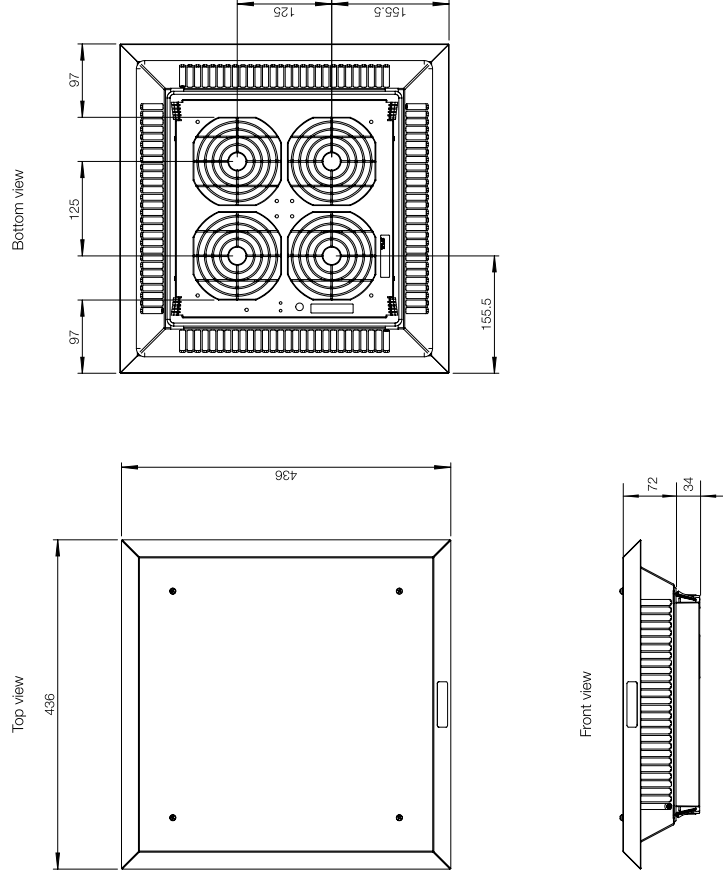
Protection:
IP 33 No filtermat, IP54, Filtermat.

Finish:
RAL 7035 structured powder coating.

Pack quantity:
One roof exhaust unit.



Dimensional drawing | REU



Thermal Management Heating & Anticondensation Range Accessories

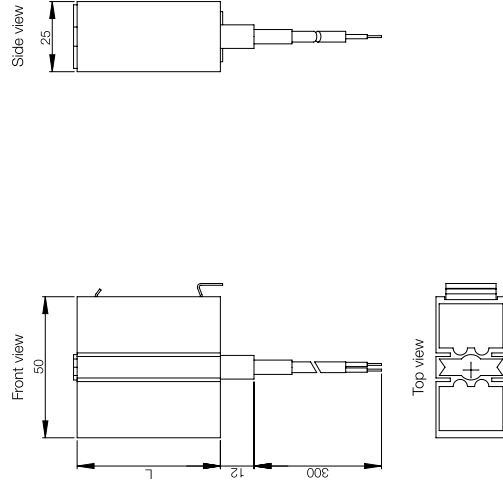
Anti condensation small heater, EGK



- 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 x 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%.

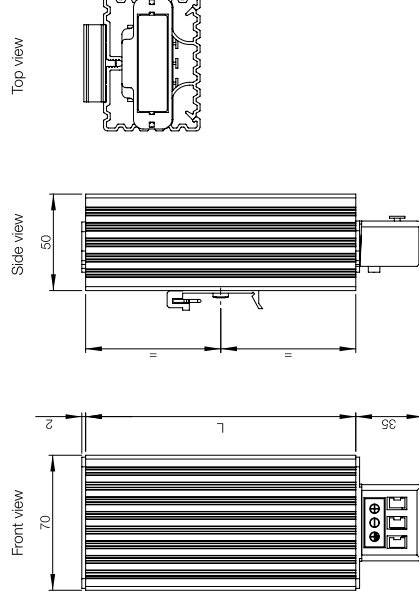


Anti condensation large heater, EHG



- 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 x 0.5-2.5 mm²), available on request with connecting cable (500 mm).
- Protection:** IP 20 supplied with terminals. IP 44 on request (supplied with cable).
- Approvals:** CE, EAC, cULus, UL Listed.
- Pack quantity:** 1 piece.

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



Thermal Management Heating & Anticondensation Range Accessories

Compact heater, ECH(T)



Description: Double insulated vertical heater to prevent condensation. Mounting clip for 35 mm DIN rail (EN60715). Touch-safe heater, the temperatures of the housing are kept under 80 °C except upper protective grille. The heater with thermostat (ECHT) includes a plug-in thermostat therefore it does not require additional wiring, starting temperature of 5 °C, and switch-off temperature of 15 °C.

Heating element: PTC resistor, temperature limiting.

Material: Plastic according to UL94 V-0.

Operating temperature: -45 °C to +70 °C. The heating capacity is for ambient temperature 20 °C.

Connection: Pole terminal 2,5 mm², torque 0,8 Nm max.

Protection: IP 20, Class II (double insulated).

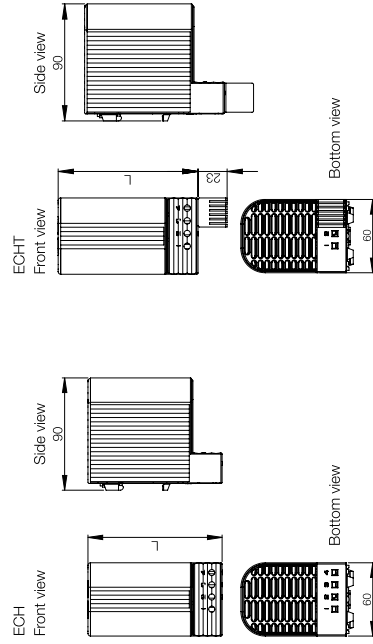
Approvals: CE, EAC.

Finish: Black.

Pack quantity: 1 piece.

Heating Capacity (W)	Starting current (A)	L (mm)	Voltage (V)	Weight (kg)	Item no.
50	2,5	110	120-240 V AC	0,35	ECH50
100	4,5	110	120-240 V AC	0,35	ECH100
150	8,0	150	120-240 V AC	0,50	ECH150
50	2,5	110	120-240 V AC	0,35	ECHT50
100	4,5	110	120-240 V AC	0,35	ECHT100
150	8,0	150	120-240 V AC	0,50	ECHT150

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



Fan Heater, EGL



Description: Heater with fan, to be fixed as desired, but preferably in vertical position to prevent condensation. The fan assists the natural convection for fast distribution of the heat in large enclosures. Mounting clip for 35 mm DIN rail (EN60715).

Heating element: PTC resistor, self regulating and temperature limiting.

Fan life: 50.000 h at 25 °C.

Material: Plastic, and anodised aluminium profile.

Operating temperature: -40 °C to +70 °C. The heating capacity is for ambient temperature 20 °C.

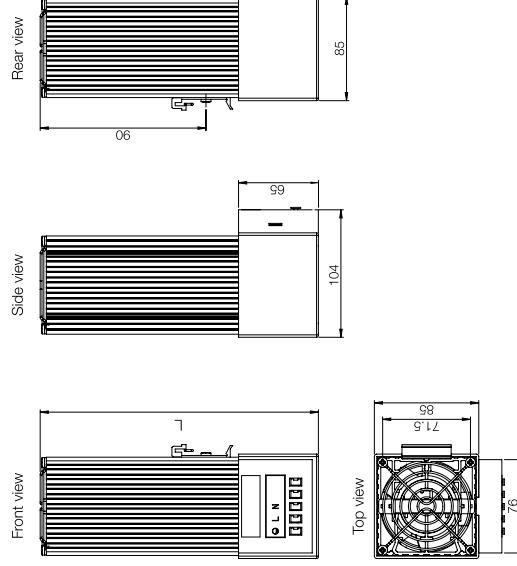
Connection: Plug terminal connection (2 x 0,5/2,5 mm²).

Protection: IP 20, Class I (earthed).

Approvals: CE, EAC, cULus, UL Listed.

Pack quantity: 1 piece.

Capacity (W)	Starting current (A)	L (mm)	Voltage (V)	Weight (kg)	Item no.
250	2,2	187	120 V AC, 50/60 Hz	1,20	EGL250UL115
250	1,1	187	230 V AC, 50/60 Hz	1,20	EGL250UL230
400	3,6	227	120 V AC, 50/60 Hz	1,30	EGL400UL115
400	1,8	227	230 V AC, 50/60 Hz	1,40	EGL400UL230



Thermal Management Heating & Anticondensation Range Accessories

Fan Heater, EHV



Description: High performance space saving fan heater to prevent condensation. The fan assists the natural convection for fast distribution of the heat in large enclosures. Mounting clip for 35 mm DIN rail (EN60715). Temperature safety cut-out to protect against overheating in case of fan failure, automatic reset.

Heating element: High performance cartridge.

Material: Plastic according to UL94 V-0, and die-cast aluminium.

Fan life: 50,000 h at 25 °C.

Operating temperature: -45 °C to +70 °C.

Connection: 3-pole screw connector 2.5 mm².

Protection: IP 20, Class I (earthed).

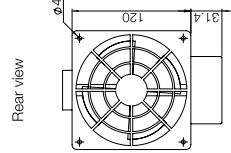
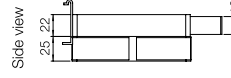
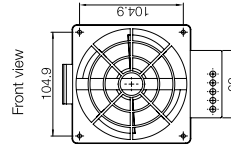
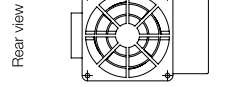
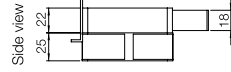
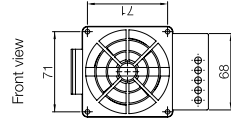
Approvals: CE, EAC.

Pack quantity: 1 piece.

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

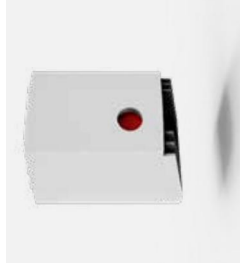
Voltage (V): 120 V AC on request

EHV100 / EHV150



EHV200 / EHV300 / EHV400

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.

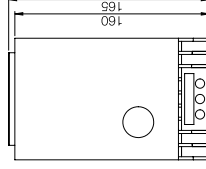
Finish: Light grey.

Pack quantity: 1 piece.

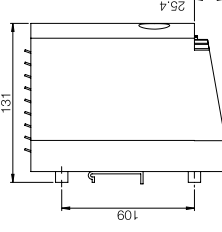
Capacity (W)	Starting current (A)	Voltage (V)	Weight (kg)	Item no.
550	13.0	220-240 V AC, 50/60 Hz	1.05	ECR550

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

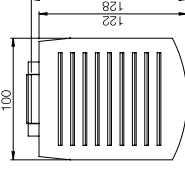
Front view



Side view



Top view



Thermal Management Heating & Anticondensation Range Accessories

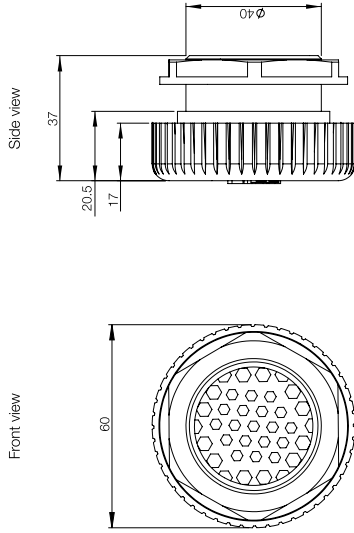
Pressure compensation, EDA



Description: It compensates the pressure with high IP. In the enclosures pressure differentials can occur during extreme temperature variations, when this happens there is risk of dust and humidity inside the enclosure. Even with a slight overpressure, a waterproof membrane inside the plug allows air and humidity to leave the enclosure. In the opposite direction, it only allows dry air into the enclosure. Mounting with thread M40x1.5 with nut, recommended torque of 5 Nm (max. 10 Nm). For optimal pressure compensation we recommend to use two devices on opposite sides towards the top of the enclosure. Air permeability of 1200 l/h at a pressure difference of min. 70 mbar.

Material: Plastic. Sealing gasket NBR.
Operating temperature: -35 °C to +70 °C.
Machining required: Round hole 40.5 mm diameter. Depth in the enclosure of approximately 16 mm.
Protection: IP 66 / IP X9K.
Approvals: CE.
Finish: Light grey.
Pack quantity: 1 piece.

Item no.	EDA40
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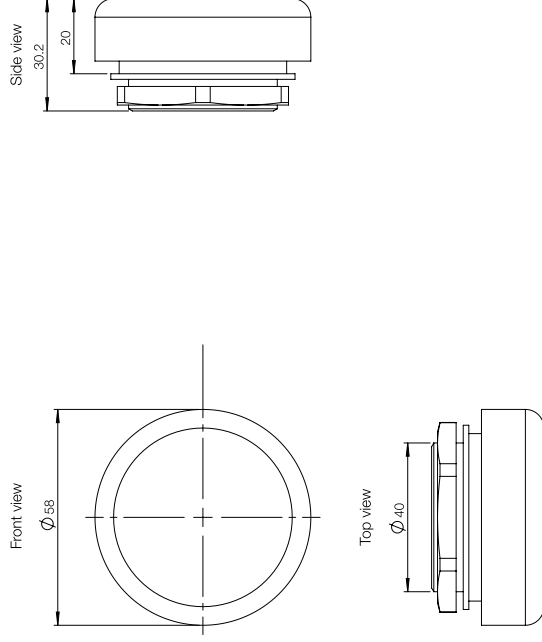
Stainless steel pressure compensation plug, EDAS



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
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Thermal Management Heating & Anticondensation Range Accessories

Drain plug, DWP



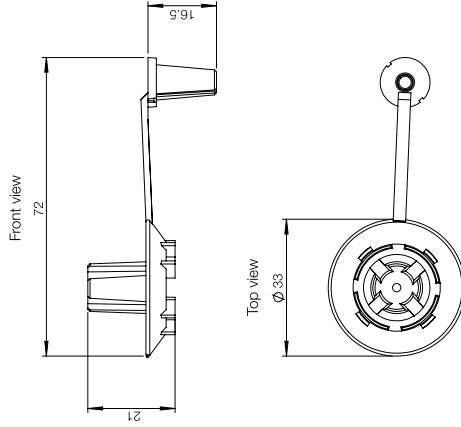
Description: Drain plug to remove condensation water. Easy to install. Fits material thicknesses up to 4 mm. Protection degree IP 44.

Material: Rubber.

Machining required: Round hole 11 mm diameter.

Pack quantity: 10 pieces.

Item no.	DWP02
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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.

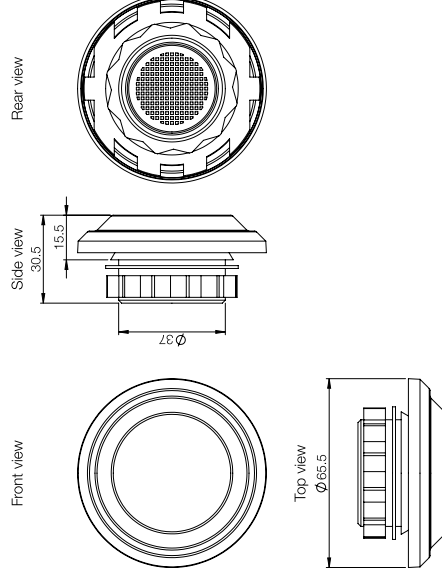
Machining required: Round hole 37 mm diameter.

Protection: IP 55.

Finish: Light grey.

Pack quantity: 2 pieces.

Weight (kg)	0.10
Item no.	PVD02



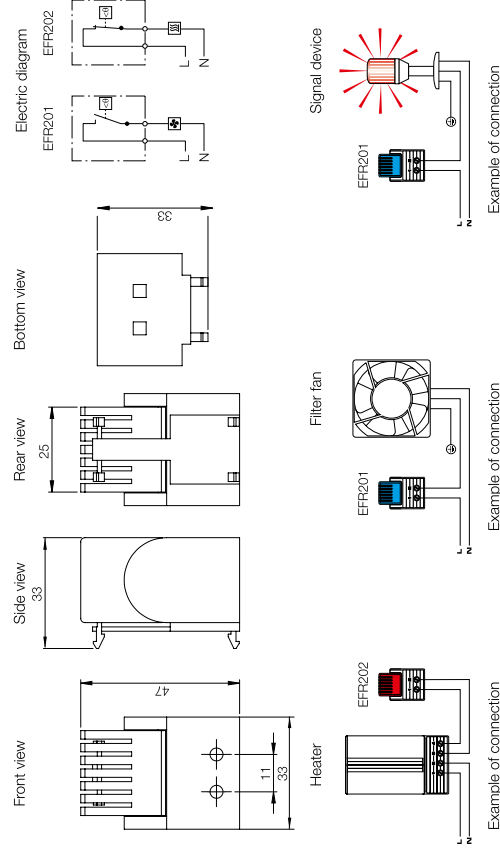
Thermal Management Control Range Accessories

Fix Thermostat, EFR

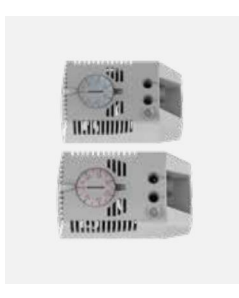


- Description:** Pre-set thermostats to manage temperature in panels. Sensor element thermostatic bimetal. Red one (EFR202) with a normally closed contact for regulating heaters. Blue one (EFR201) with a normally opened contact for regulating cooling devices or signal devices. Mounting clip for 35 mm DIN rail (EN 60715).
- Material:** Plastic according to UL94-V-0.
- Switch capacity:** 250V AC, 5 (1/6) A, 120 V AC, 10 (2) A, 24 V DC, 30 W. Value in brackets for inductive load. Max. starting current of 16 A (AC) for 10 seconds.
- Operating temperature:** -40 °C to +80 °C.
- Service life:** > 100,000 cycles.
- Connection:** 2 pole terminal for 2.5 mm², torque 0.8 Nm max.
- Protection:** IP 20.
- Approvals:** CE, EAC, cULus, UL Listed.
- Finish:** Light grey.
- Pack quantity:** 1 piece.

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

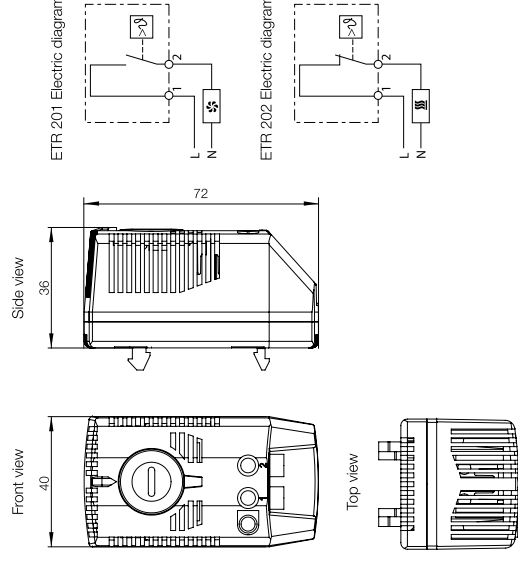


Thermostat, ETR



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

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



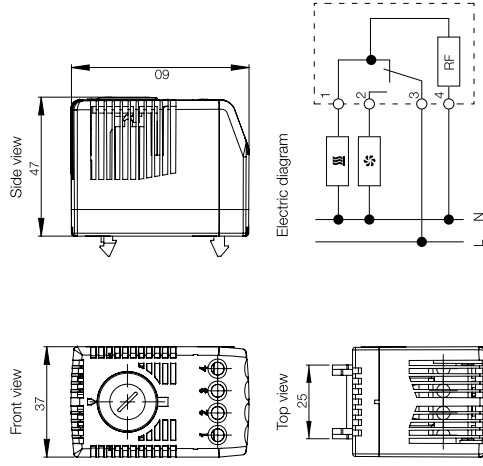
Thermal Management Heating & Anticondensation Range Accessories

Thermostat, ETR200



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

Item no.
ETR200

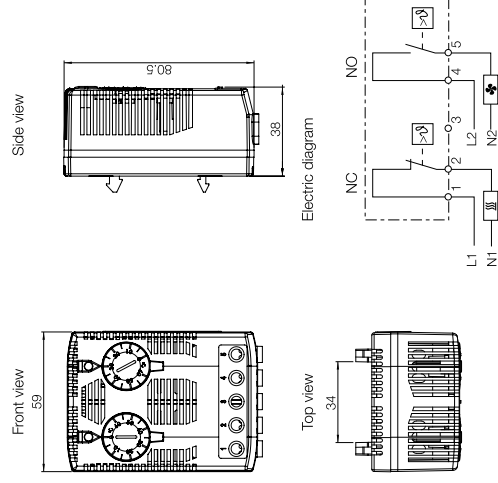


Dual Thermostat, ETR203



- 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, LUL 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.

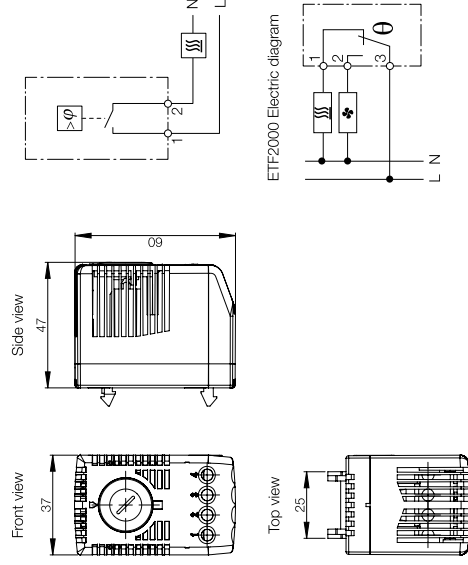
Approvals: CE, EAC, cULus, LUL Listed.

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



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.

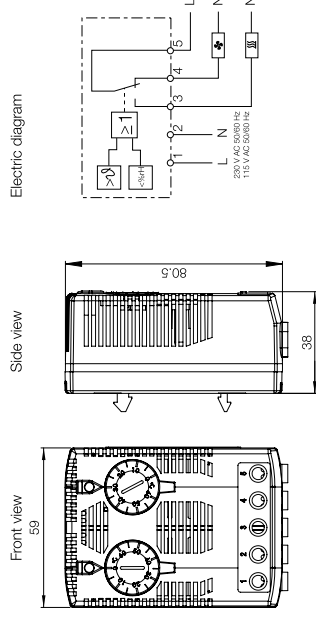
Protection: IP 20.

Approvals: CE, EAC, cULus, LUL 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



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.

Black anodized aluminium.

Material:

Conductive and convective heating types available.

Heating element:

Provides freeze protection down to -60 °C (-76 °F). Maximum

Operating temperature:

temperature 150 °C (302 °F).

Approvals:

ATEX, IECEx, IIG-Ex d IIC T3 / II 2 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: SJ HF-JZ 3 x AWG 18 x 3.3 ft (0.75 mm² x 1 m).

Protection:

IP 65

Approvals:

Conformity Certificate LOIE (Laboratoire Central des Industries Electriques); LOIE 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 (1 bar/30min).

Approvals:

PTB 03 ATEX 1136 X; II 2 G Ex db IIC T6; II 2 D Ex db IIC T80 °C; IECEx PTB 07.0054X; CSA 165594S (UR43674); 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, HLTHERMNC

Description:

The thermostat closes the circuit when the temperature is below the setpoint and opens it when the temperature is above the setpoint. Thermostatic bimetallic sensor element. One-pole contact opens with rising temperature. Compact design. High switching capacity. Small hysteresis (switching difference). Long service life (greater than 100,000 cycles). Set temperature. Mounting bracket and DIN clip for mounting.

Material:

Black anodized aluminium.

Switch capacity:

at 250VAC: 4A resistive; 1A ind. (cos φ = 0.6).

Connection:

SJ HF-JZ 3 x AWG 18 x 3.3 ft (0.75 mm² x 1 m).

Protection:

IP 65.

Approvals:

Conformity Certificate LOIE (Laboratoire Central des Industries Electriques); LOIE 01 ATEX 6074; EEx d IIC T6/II 2 GD, IP 6x T85 °C.

Pack quantity:

1 piece.

Switch On/Off	H	W	D	Temperature classification	Rated voltage (VAC/VDC)	Item no.
TON 4 °C/TOFF 25 °C				85 °C	250/100	HLTHERMNC