

Rittal – The System.

Faster – better – everywhere.

Digital Brochure

ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES

FRIEDHELM LOH GROUP

www.rittal.ca



Rittal – The System.

Faster – better – everywhere.



Filter mats

for blower fans

Made of chopped-fiber mat with a progressive construction.
 Temperature-resistant to 212°F, self-extinguishing category F1 to DIN 53 438.
 Dust-laden air side: Open structure.
 Clean air side: Closed structure.
 Reliable filtering of virtually all types of dust from a particle size of 10 µm.

Material:

- Chemical fibers

For blower fans/front outlet grilles, 2U	H x W x D inches (mm)	Packs of	Model No.
3144.000/3145.000	3 x 17 x 1 (85 x 425 x 8)	5 pc(s).	3177.000



Filter Mats

for

- Cooling units
- Air/air heat exchangers

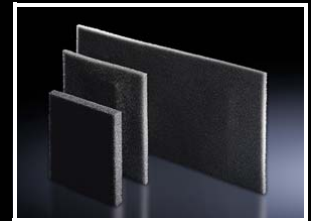
Cooling units are low-maintenance and are supplied without filter mats. Filter mats may be used for extreme conditions.

Material:

- Open-celled polyurethane foam
- Exceptional physical and mechanical properties
- Temperature-resistant: From -40°F to +176°F
- Thickness: 10 mm

For cooling units	H x W x D inches (mm)	Packs of	Model No.
3302.300/3302.310	4 x 7 x 0.4 (95 x 190 x 10)	3 pc(s).	3286.110
3302.../3303.../3361...	8 x 10 x 0.4 (200 x 265 x 10)	3 pc(s).	3286.300
3304.../3305.../3328.../3329.../3332.../3366...	11 x 14 x 0.4 (268 x 344 x 10)	3 pc(s).	3286.400
3273.../3382.../3383.../3384.../3385.../3359...	10 x 21 x 0.4 (255 x 530 x 10)	3 pc(s).	3286.500
3386.../3387...	12 x 28 x 0.4 (300 x 720 x 10)	3 pc(s).	3286.600

For air/air heat exchangers	H x W x D inches (mm)	Packs of	Model No.
3126.100/3126.115	8 x 10 x 0.4 (200 x 265 x 10)	3 pc(s).	3286.300
3127.100/3127.115/3128.100/3128.115/3129.100/3129.115/3130.100/3130.115	11 x 14 x 0.4 (268 x 344 x 10)	3 pc(s).	3286.400



Filter Systems



Metal Filters

When cooling units are used in dusty and oily environments, it is advisable to use washable metal filters.

If air or steam condenses on the metal surfaces, any particles present will adhere to the metal. These filters can easily be washed out with water or grease-dissolving solvents.

Material:

- Aluminum
- Thickness: 10 mm

Note:

- For 3334.660, 3335.880 and 3335.890, two metal filters are required

For cooling units	H x W x D inches (mm)	Packs of	Model No.
3302.300/3302.310	4 x 7 x 0.4 (95 x 190 x 10)	1 pc(s).	3286.120
3302.100/3302.110/3302.200/3303. . . /3361. . . .	8 x 10 x 0.4 (200 x 265 x 10)	1 pc(s).	3286.310
3304. . . /3305. . . /3328. . . /3329. . . /3332. . . /3366. . . .	11 x 14 x 0.4 (268 x 344 x 10)	1 pc(s).	3286.410
3273. . . /3382. . . /3383. . . /3384. . . /3385. . . /3359. . . .	10 x 21 x 0.4 (255 x 530 x 10)	1 pc(s).	3286.510
3386. . . /3387. . . .	12 x 28 x 0.4 (300 x 720 x 10)	1 pc(s).	3286.610
For climate control door/section door	H x W x D inches (mm)	Packs of	Model No.
3300.040/3300.050/3300.060/3300.070/3300.080/ 3300.090/3300.110/3300.120	3 x 17 x 0.4 (78 x 425 x 10)	1 pc(s).	3284.210
For air/air heat exchangers	H x W x D inches (mm)	Packs of	Model No.
3126.100/3126.115	8 x 10 x 0.4 (200 x 265 x 10)	1 pc(s).	3286.310
3127.100/3127.115/3128.100/3128.115/3129.100/ 3129.115/3130.100/3130.115	11 x 14 x 0.4 (268 x 344 x 10)	1 pc(s).	3286.410
For chillers	H x W x D inches (mm)	Packs of	Model No.
3318.600/3318.610/3319.600/3319.610/3334.660	10 x 21 x 0.4 (255 x 530 x 10)	1 pc(s).	3286.510
3320.600/3334.600	22 x 20 x 0.3 (558 x 500 x 8)	1 pc(s).	3286.520
3335.790/3335.830	32 x 24 x 0.8 (800 x 600 x 20)	1 pc(s).	3286.550
3335.840/3335.850/3335.880	41 x 24 x 0.8 (1050 x 600 x 20)	1 pc(s).	3286.530
3335.860/3335.870/3335.890	41 x 39 x 0.8 (1035 x 1000 x 20)	1 pc(s).	3286.540
3360.100/.250	11 x 14 x 0.4 (268 x 344 x 10)	1 pc(s).	3286.410

Spare Filter Mats

Made of chopped-fiber mat with a progressive construction.

Temperature resistant to +212°F, self-extinguishing category F1 to DIN 53 438.

Dust-laden air side: Open structure.

Clean air side: Closed structure.

Reliable filtering of virtually all types of dust from a particle size of 10 µm.

For thermoelectric coolers	Material	H x W x D inches (mm)	Filter class to DIN EN 779	Packs of	Model No.
3201.200/3201.300	Chemical fibers	4 x 4 x 0.3 (90 x 106 x 8)	G2	5 pc(s).	3201.050

For filter fans	Material	H x W x D inches (mm)	Filter class to DIN EN 779	Packs of	Model No.
3237. . . .	Chemical fibers	4 x 4 ¹⁾ x 0.4 (89 x 89 ¹⁾ x 10)	G2	5 pc(s).	3321.700
				50 pc(s).	3321.705
3238. . . .		5 x 5 x 0.5 (120 x 120 x 12)	G2	5 pc(s).	3322.700
				50 pc(s).	3322.705
3239. . . .		7 x 7 x 0.7 (173 x 173 x 17)	G3	5 pc(s).	3171.100
				50 pc(s).	3171.105
3240. . . ./3241. . . .	9 x 9 x 0.7 (221 x 221 x 17)	G3	5 pc(s).	3172.100	
			50 pc(s).	3172.105	
3243. . . ./3244. . . ./3245. . . .	11 x 11 x 0.7 (289 x 289 x 17)	G3	5 pc(s).	3173.100	
			50 pc(s).	3173.105	

For filter holders	Material	H x W x D inches (mm)	Filter class to DIN EN 779	Packs of	Model No.
3175.000	Chemical fibers	10 x 13 x 0.7 (242 x 338 x 17)	G2	3 pc(s).	3174.000

For EMC filter fans	Material	H x W x D inches (mm)	Filter class to DIN EN 779	Packs of	Model No.
3237. . . .	Copper/nickel/ chrome-coated chemical fibers	4 x 4 x 0.4 (92 x 92 x 10)	G2	5 pc(s).	3237.066
3238. . . .		5 x 5 x 0.5 (125 x 125 x 12)	G2	5 pc(s).	3238.066
3239. . . .		7 x 7 x 0.7 (178 x 178 x 17)	G3	5 pc(s).	3239.066
3240. . . ./3241. . . .		9 x 9 x 0.7 (226 x 226 x 17)	G3	5 pc(s).	3240.066
3243. . . ./3244. . . ./3245. . . .		12 x 12 x 0.7 (294 x 294 x 17)	G3	5 pc(s).	3243.066

¹⁾ Octagonal

Fine Filter Mats

for filter fans

Made of chopped-fiber mat with a progressive construction.

Temperature resistant to +212°F, self-extinguishing category F1 to DIN 53 438.

Dust-laden air side: Open structure.

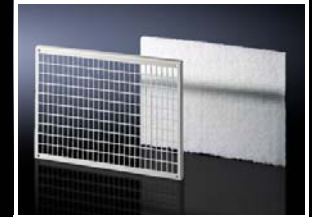
Clean air side: Closed structure.

Reliable filtering of virtually all types of dust from a particle size below 10 µm.

Material:

– Chemical fibers

For filter fans	H x W x D inches (mm)	Filter class to DIN EN 779	Packs of	Model No.
3238. . . .	5 x 5 x 0.5 (120 x 120 x 12)	F5/M5	5 pc(s).	3238.055
3239. . . .		F5/M5	5 pc(s).	3181.100
3240. . . ./3241. . . .	9 x 9 x 0.5 (221 x 221 x 12)	F5/M5	5 pc(s).	3182.100
3243. . . ./3244. . . ./3245. . . .	11 x 11 x 0.5 (289 x 289 x 12)	F5/M5	5 pc(s).	3183.100



Climate Control Accessories

Filter Systems



Outlet Filters

For ventilation by convection, an outlet filter can be installed in the upper and lower sections of the enclosure.

Material:

- ABS, material resistance to UL 94-5VA

Color:

- RAL 7035

Protection category IP to IEC 60 529:

- IP 54 incl. filter mat

Supply includes:

- Filter mat

Dimensions H x W x D inches (mm)	Model No.	
	Standard	EMC
5 x 5 x 0.6 (116.5 x 116.5 x 16)	3237.200	3237.060
6 x 6 x 0.9 (148.5 x 148.5 x 24)	3238.200	3238.060
8 x 8 x 0.9 (204 x 204 x 24)	3239.200	3239.060
10 x 10 x 1.0 (255 x 255 x 25)	3240.200	3240.060
13 x 13 x 1.0 (323 x 323 x 25)	3243.200	3243.060



Accessories:

- Spare filter mats, see page 307
- Fine filter mats, see page 307
- Hose-proof hood, see page 308
- Blanking cover, see page 308



Hose-Proof Hood

for a higher protection category

Easy cleaning thanks to external, food-safe silicone seal.

Material:

- Stainless steel/carbon steel
- Silicone

Protection category IP to IEC 60 529:

- IP 56 when fitted over a filter fan/outlet filter with filter mat

Protection category NEMA:

- NEMA Type 12 with 3237.080
- NEMA Type 1, 12, 3, 4, 4X with 3238.080, 3239.080, 3240.080, 3243.080
- NEMA Type 1, 12, 3R with 3245.080

Stainless steel

For filter fan/ outlet filter	Dimensions H x W x D inches (mm)	Model No.
3237. . . .	9 x 6 x 2 (230 x 150 x 40)	3237.080
3238. . . .	10 x 7 x 2 (245 x 176 x 55)	3238.080
3239. . . .	13 x 9 x 2 (330 x 233 x 55)	3239.080
3240. . . ./3241. . . .	15 x 11 x 3 (390 x 282 x 85)	3240.080
3243. . . ./3244. . . .	19 x 14 x 4 (480 x 350 x 110)	3243.080
3245. . . .	19 x 14 x 6 (480 x 350 x 160)	3245.080

Carbon steel, RAL 7035

For filter fan/ outlet filter	Dimensions H x W x D inches (mm)	Model No.
3237. . . .	9 x 6 x 2 (230 x 150 x 40)	3237.085
3238. . . .	10 x 7 x 2 (245 x 176 x 55)	3238.085
3239. . . .	13 x 9 x 2 (330 x 233 x 55)	3239.085
3240. . . ./3241. . . .	15 x 11 x 3 (390 x 282 x 85)	3240.085
3243. . . ./3244. . . .	19 x 14 x 4 (480 x 350 x 110)	3243.085



Blanking Cover

If existing mounting cut-outs for filter fans/outlet filters need to be closed to achieve a higher protection category, the filter mat of the filter fan/outlet filter can simply be replaced with a blanking cover; welding or other mechanical modification of the enclosure is not necessary.

Material:

- Closed-cell polyethylene foam

Color:

- Anthracite

Protection category IP to IEC 60 529:

- IP 54

For filter fan/outlet filter	Packs of	Model No.
3237. . . .	2 pc(s).	3237.020
3238. . . .	2 pc(s).	3238.020
3239. . . .	2 pc(s).	3239.020
3240. . . ./3241. . . .	2 pc(s).	3240.020
3243. . . ./3244. . . ./3245. . . .	2 pc(s).	3243.020



Filter Holder

for roof ventilation

The use of a filter mat is required in order to increase the protection category of the roof vent 3148.007.

Material:

- Carbon steel

Protection category IP to IEC 60 529:

- IP 44

Supply includes:

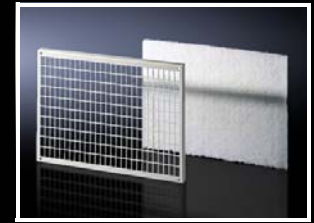
- Filter holder including filter mat

H x W x D inches (mm)	Model No.
10 x 13 x 0.6 (244 x 340 x 15)	3175.000



Accessories:

- Spare filter mat, see page 307



Enclosure Internal Fan

for TS

To prevent hot-spots and support the air routing of active enclosure climate control components. Adjustable in two axes. Mounted on the TS 8 frame section. Several fans can be cascaded using the quick-release terminal strip.

Supply includes:

- Complete unit with radial fan ready for connection
- Snap-on pivot device
- Assembly components

Technical details:

Available on the Internet

Air throughput (unimpeded air flow) cfm (m³/h)	Rated power BTU (W)	Rated current A	Rated voltage V, ~, Hz	Model No.
94 (160)	65/61(19.0/18.0)	0.12/0.11	230, 1~, 50/60	3108.100
94 (160)	65/61(19.0/18.0)	0.24/0.23	115, 1~, 50/60	3108.115
94 (160)	12 (3.5)	0.15	24 V (DC)	3108.024



Mini-Fan

Compact DC fan for housings and component cooling in housings.

Technical specifications:

- Rated operating voltage: 24 V (DC)
- Rated power: 1 W
- Air throughput (unimpeded air flow): 21 m³/h
- Noise pressure level (unimpeded air flow): 20 dB (A)
- Operating temperature range: -4°F...+158°F

Dimensions H x W x D inches (mm)	Packs of	Model No.
2 x 2 x 1 (60 x 60 x 25.4)	1 pc(s).	3236.124

Supply includes:

- Fans
- Assembly screws
- Contact protection guard (2 pcs)



Integrated Louvers

For ventilation by convection, easily retro-fitted using 4 screws.

Material:

- Carbon steel

Color:

- RAL 7035

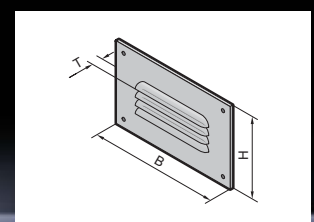
Supply includes:

- Assembly components

H x W x D inches (mm)	Packs of	Model No.
4 x 6 x 1 (110 x 160 x 8)	4 pc(s).	2541.235
4 x 8 x 1 (100 x 210 x 8)	4 pc(s).	2542.235
4 x 13 x 1 (110 x 330 x 8)	4 pc(s).	2543.235

Technical details:

Available on the Internet



Climate Control Accessories

Air Routing



Air Duct System

for roof-mounted variants: Cooling units and air/water heat exchangers

Cold air can be routed directly to specific areas of the enclosure using the air duct system. This eliminates the risk of air short circuits due to self-ventilated installed devices.

The dimensions of the shallow duct are H x W x D 1500 x 229 x 29 mm, and can be shortened to the required length.

Material:

- Flame-resistant plastic to DIN 4102/B1

Color:

- RAL 7035

Supply includes:

- Shallow duct, compensating hose

Note:

- Do not direct cold air straight at active components
- When using the ducting system, the performance of the cooling unit may be reduced, depending on the application in question



Also required:

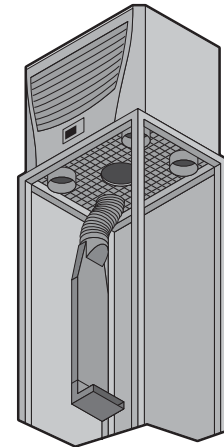
- TS support strips, see page 525
- Air duct adapter 3286.840 (for units 3359... / 3382...), see page 310



Accessories:

- Deflector 90°, see page 310
- Stoppers, see page 312
- Shallow duct extension, see page 311

For unit	Packs of	Model No.
3209... / 3210... / 3273... / 3359... / 3382... / 3383... / 3384... / 3385...	1 pc(s).	3286.870
3386... / 3387...	1 pc(s).	3286.970



Air Duct Adapter

for air duct system and shallow air duct system

as a connection between the cooling unit (air inlet opening) and the air duct system. Suitable for roof-mounted cooling units 3359.XXX, 3382.XXX.

Material:

- ABS

Color:

- RAL 9005

Packs of	Model No.
1 pc(s).	3286.840

Deflector, 90°

for air duct system

For targeted air deflection at the end of the shallow duct.

Color:

- RAL 7035

Packs of	Model No.
1 pc(s).	3286.990

Shallow Air Duct System

for roof-mounted options:

Cooling unit and air/water heat exchangers suitable for TS 8 enclosures with widths of 800 mm or more and depths of 600 mm or more

Cold air can be routed directly to specific areas of the enclosure using the air duct system. This eliminates the risk of air short circuits due to self-ventilated installed devices.

The dimensions of the shallow duct are H x W x D 1500 x 229 x 29 mm, and can be shortened to the required length.

Material:

- Flame-resistant plastic to DIN 4102/B1

Color:

- RAL 7035

Supply includes:

- Shallow duct
- Adapter
- Compensating piece
- Deflector, 90°

Note:

- Do not direct cold air straight at active components
- When using the ducting system, the performance of the cooling unit may be reduced, depending on the application in question
- Cannot be used in combination with quick-change frame, see page 320



Also required:

- TS support strips, see page 525



Accessories:

- Deflector 90°, see page 310
- Stoppers, see page 312
- Shallow duct extension, see page 311

For unit	Packs of	Model No.
3209.../3210.../3273.../3383.../3384.../3385...	1 pc(s).	3286.850

Shallow Duct Extension

Extension kit for air duct system and shallow air duct system for width, depth or height length extensions in TS 8 enclosures.

Material:

- Flame-resistant plastic to DIN 4102/B1

Packs of	Model No.
1 pc(s).	3286.860

Supply includes:

- Shallow duct 1500 mm
- Connecting piece



Climate Control Accessories

Air Routing



Stoppers

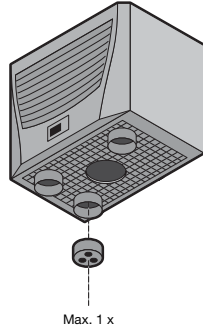
for roof-mounted cooling units and air/water heat exchangers

To cover unneeded cold air outlets.

Material:

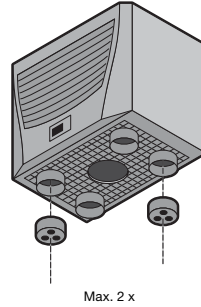
– Polyurethane foam

For units	Diameter inches (mm)	Max. number of stoppers per unit	Packs of	Model No.
3359.../3382....	3 (80)	1	2 pc(s).	3286.780
3209.../3210.../3273.../3383.../3384.../3385....	4 (100)	2	2 pc(s).	3286.880
3386.../3387....	6 (150)	1	2 pc(s).	3286.980



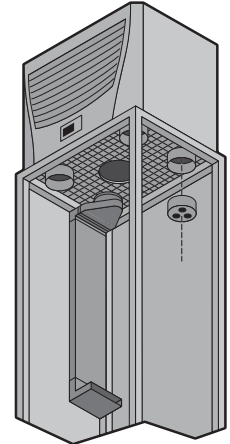
Max. 1 x

3359.../3382.../
3386.../3387....



Max. 2 x

3209.../3210.../3383.../
3384.../3385.../3273....



Air Diverter

For use with wall-mounted cooling units. For targeted air routing of the cold air in a downward direction. Especially well-suited for densely-packed electrical components in the lower section of the enclosure.

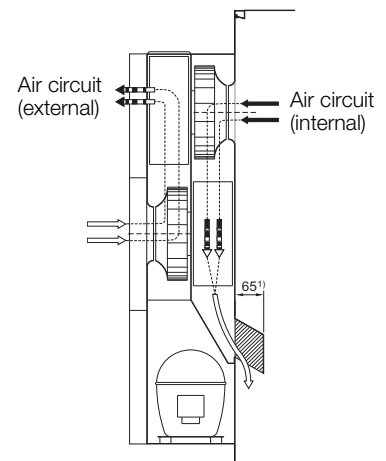
Material:

– Carbon steel

Color:

– RAL 7035

For units	Model No.
3304.../3305....	3213.310
3328.../3329....	3213.320
3332....	3213.330¹⁾



¹⁾ 115 mm with 3213.330

Water Distribution

Electric Condensate Evaporator

For external mounting on enclosures. For use with all cooling units and air/water heat exchangers (wall-mounted).

Compatible with multiple voltages for international use.

Evaporation performance:

- At 230 V: 3.5 l/d
- At 115 V: 3.0 l/d

Color:

- RAL 7035

Supply includes:

- Electric condensate evaporator, ready to connect

Width inches (mm)	Rated operating voltage V, ~, Hz	Model No.
11 (280)	115 – 230, 1~, 50/60	3301.500
16 (400)	115 – 230, 1~, 50/60	3301.505

Technical details:

Available on the Internet



Condensate Collecting Bottle

For mounting on the enclosure. For use with all cooling units and air/water heat exchangers.

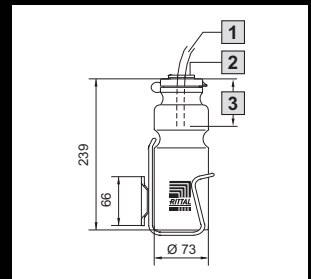
- Safety overflow at the side
- Capacity approximately 0.75 l

- 1** Condensate drain hose
- 2** Membrane grommet
- 3** Max. 70 mm

Packs of	Model No.
1 pc(s).	3301.600

Supply includes:

- Condensate collecting bottle
- Bottle holder
- Mounting accessories



Condensate Hose

For the discharge and transfer of condensate. For connecting to cooling units and air/water heat exchangers.

Material:

- PVC, transparent

For units	Hose length inches (m)	Material thickness Ø mm	Model No.
3201. . . .	196 (5)	6 x 1	3301.606
3212. . . ./3302. . . ./3303. . . ./3361. . . .	394 (10)	10 x 1.5	3301.610
3209. . . ./3210. . . ./3214.100/3215.100/3216.480/3273. . . ./3304. . . ./3305. . . ./3328. . . ./3329. . . ./3332. . . ./3359. . . ./3363. . . ./3364. . . ./3366. . . ./3373. . . ./3374. . . ./3375. . . ./3377. . . ./3378. . . ./3382. . . ./3383. . . ./3384. . . ./3385. . . ./3386. . . ./3387. . . ./	394 (10)	12 x 2	3301.612



Climate Control Accessories

Water Distribution



Flow Regulator Valve

For use with air/water heat exchangers, especially if more than one heat exchanger ($n > 1$) is used in the cooling water circuit. The correctly set valve ensures the same quantity of cooling medium for all equipment. The valve is also used for hydraulic balancing.

Setting range:

– 3 to 12 l/min

Material:

– Brass

Version	Packs of	Model No.
$\frac{3}{4}$ " x $\frac{1}{2}$ " for volume flow control	1 pc(s).	3301.930
$\frac{3}{4}$ " x $\frac{3}{4}$ " for volume flow control	1 pc(s).	3301.940



Fitting G $\frac{3}{8}$ "

The G $\frac{3}{8}$ " internal threaded adapter can be used to create fixed piping on the air/water heat exchanger for both the inlet and return.

Material:

– Brass

For air/water heat exchangers	Version	Packs of	Model No.
3209. . . /3210. . . / 3363. . . /3364. . . / 3373. . . /3374. . . / 3375. . .	G $\frac{3}{8}$ " Internal thread	2 pc(s).	3201.900



Cooling Medium for chillers

Ready-mixed

Chillers – with the exception of chillers for oil and emulsion – are exclusively suitable for cooling water or a water-glycol mixture.

As well as protecting against frost, this cooling medium also serves to inhibit bacterial growth and provide optimum corrosion protection.

Supply includes:

- 10 l canister
- 25 l canister

Cooling medium	Antifreeze/ water mixture	Container gallons (l)	Model No.
Outdoor	1 : 2	2.64 (10)	3301.950
		6.6 (25)	3301.955
Standard	1 : 4	2.64 (10)	3301.960
		6.6 (25)	3301.965

Digital Enclosure Internal Temperature Display and Thermostat

For installation in the enclosure door or wall.

Technical specifications:

- 2 voltage ranges for 100 – 230 V, 50/60 Hz and 24 – 60 V (DC)
- Depth: 100 mm
- Three-digit, 7-segment display
- Option of switching between °C/°F
- Temperature range: +41°F...+131°F
- With 1.80 m long NTC sensor
- Two relay outputs as change-over contact and normally open contact (max. contact load 230 V, 6 A)
- Freely selectable switching hysteresis
- The freely selectable setpoints can be adjusted using the membrane keyboard on the front, setting range: +41°F...+131°F

Packs of	Model No.
1 pc(s).	3114.200

- Display and switching accuracy ±2 K
- The minimum and maximum recorded temperatures are stored until it is reset

Color:

- RAL 7035



Digital Enclosure Internal Temperature Display and Thermostat

Integrated into a patch panel 1 U

Including cable attachment for connection cable and label holder.

Technical specifications:

- 2 voltage ranges for 100 – 230 V, 50/60 Hz and 24 – 60 V (DC)
- Depth: 100 mm
- Three-digit, 7-segment display
- Option of switching between °C/°F
- Temperature range: +41°F...+131°F
- With 1.80 m long NTC sensor
- Two relay outputs as change-over contact and normally open contact (max. contact load 230 V, 6 A)
- Freely selectable switching hysteresis
- The freely selectable setpoints can be adjusted using the membrane keyboard on the front, setting range: +41°F...+131°F

Packs of	Model No.
1 pc(s).	7109.035

- Display and switching accuracy ±2 K
- The minimum and maximum recorded temperatures are stored until it is reset

Color:

- RAL 7035



Enclosure Internal Thermostat

Suitable for controlling filter fan units, heaters and heat exchangers. This thermostat can also be used as a signal generator for monitoring the internal enclosure temperature.

Technical specifications:

- Bi-metal controller as a temperature-sensitive element with thermal feedback
- Contact population: Single-pole change-over contact as a quick-break contact
- Permissible contact load:
 - Category 5 – 3 (heating)
 - AC 10 (4)¹⁾ A,
 - DC = max. 30 W
 - Category 5 – 4 (cooling)
 - AC 5 (4)¹⁾ A,
 - DC = max. 30 W
- ¹⁾ = Inductive load at cos φ = 0.6
- Setting range: +41°F...+140°F
- Weight: approx. 105 g
- Dimensions: 71 x 71 x 33.5 mm
- Switching hysteresis: approx. 1 K ± 0.8 K

Rated operating voltage V, ~	Model No.
230, 115, 1~, 60, 48, 24	3110.000
60/48/24 (DC)	

- Flexible mounting on a vertical or horizontal 35 mm support rail to EN 50 022, snap fastening in the TS/SE enclosure section or on the mounting plate using the supplied adapter

Color:

- RAL 7035



Accessories:

- Bottom-mounted adapter, see page 316



Climate Control Accessories

Control/Regulation



Hygrostat

The hygrostat switches on the heater and/or fan when a preset relative humidity in the enclosure is exceeded.

The relative humidity is raised above the dew point and condensation on assemblies or electronic components is avoided.

Technical specifications:

- Contact population: Single-pole change-over contact as a quick-break contact
- Permissible contact load:
 - AC ~ 5 (0.2)¹⁾ A
 - DC = max. 20 W
 - ¹⁾ = Inductive load at $\cos \phi = 0.6$
- Setting range: 50 – 100% relative humidity
- Weight: approx. 100 g
- Dimensions: 71 x 71 x 33.5 mm
- Switching hysteresis: approx. 4%
- Flexible mounting on a vertical or horizontal 35 mm support rail to EN 50 022, snap fastening in the TS/SE enclosure section or on the mounting plate using the supplied adapter

Rated operating voltage V, ~	Model No.
24 – 230, 1~ 12 – 75 (DC)	3118.000

Color:

- RAL 7035



Accessories:

- Bottom-mounted adapter, see page 316



Bottom-Mounted Adapter

for enclosure internal thermostat 3110.000 and hygrostat 3118.000

Bottom-mounted adapter with mounting option for screwed cable glands, for targeted cable infeed from appropriate equipment such as filter fan units and enclosure heaters. In conjunction with screwed cable glands, it also provides strain relief.

Color:

- RAL 7035

Packs of	Model No.
1 pc(s).	3110.200



Speed Control EC

Control unit

Temperature-dependent speed control for EC filter fans to reduce noise and save energy. The fan function can also be monitored.

- Activation and monitoring of up to 4 EC filter fans (Caution: EC filter fans are not compatible with speed control 3120.200!)
- Rated operating voltage: 100 – 250 V
- Mounted on top-hat rail
- Temperature setting range: 41°F...131°F
- External temperature sensor for monitoring the actual temperature
- Status LED for displaying the operating condition
- Alarm relay for signaling overtemperature, fan fault, line disconnection and sensor failure

For EC filter fans	Model No.
3240.500/3241.500/3243.500/ 3244.500/3245.XXX	3235.440

Supply includes:

- NTC sensor, length 1.80 m

Speed Control EC

Speed control sensor

NTC sensor for the temperature-dependent speed control of EC filter fans to reduce noise and save energy. Controlled via an EC filter fan.

Technical specifications:

- Rated voltage: 10 – 12 V (DC) (supplied via EC filter fan)
- Input current: 1 mA
- Output current: 0.1 mA
- Operating temperature range: -13°F...+176°F
- Cable length: 3 m
- Control characteristic: Fixed setpoint at 95°F, with linear control range between +95°F (maximum speed 100%) and +68°F (minimum speed 10%)

For EC filter fans	Model No.
3240.500/3241.500/3243.500/ 3244.500/3245.XXX	3235.450

Protection category IP to IEC 60 529:

- IP 40

Supply includes:

- Sensor and cable (length 3 m)



Speed Control

Temperature-dependent speed control for filter fans, air/air heat exchangers, rack-mounted fans and blower fans to reduce noise and save energy in part-load operation.

Technical specifications:

- For mounting on a 35 mm support rail DIN EN 50 022
- Dimensions (H x W x D): 90.5 x 105 x 60.2 mm
- Rated operating voltage: 100 – 230 V (AC)
- Setting range: +68°F...+131°F
- Phase cross-over with microcontroller
- Maximum fan output 300 W or 2 A

Packs of	Model No.
1 pc(s).	3120.200

Supply includes:

- Speed control
- NTC sensor, length 1.80 m

Note:

- Only suitable for use with single-phase AC motors and equipment
- Not suitable for EC motors



Interface Board

for units with an e-Comfort controller

The interface board is an extension for cooling units with an e-Comfort controller. In this way it is possible, e.g. to monitor a master/slave combination of up to 10 cooling units. Control is achieved via standardized interfaces: RS232 (DB9) or RS485, one PLC interface (DB9). The extension board is built into a 1 U plastic housing.

A voltage supply of 24 V (DC) is required. This can be provided from an external source via a Kycon connector.

Packs of	Model No.
1 pc(s).	3124.200

Supply includes:

- Interface board integrated into plastic box
- H x W x D: 44 (1 U) x 136 x 129
- Serial SUB-D cable, 1.50 m

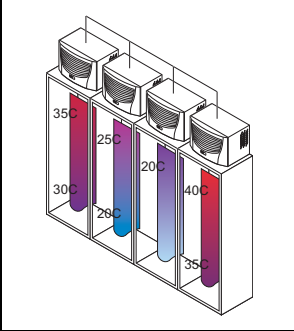
Technical details:

Available on the Internet



Climate Control Accessories

Control/Regulation



SK BUS System

Master/slave cable

The SK BUS system is used to enable communication between multiple cooling units and air/water heat exchangers with an e-Comfort controller. Based on a master/slave set-up similar to that required in complex bayed enclosure systems for optimum operating conditions.

Technical description:

- The master-slave configuration facilitates common activation and deactivation via door limit switches, parallel activation and deactivation via a temperature setpoint, and common collective fault signals and temperature logging, thereby eliminating the need for intricate wiring.

For cooling units and air/water heat exchangers	Model No.
	3124.100

Supply includes:

- 3 m shielded interface cable
- Operating instructions for programming the cooling units

Note:

- $n_B = n_K - 1$
- n_B : Number of order units (SK bus system)
- n_K : Number of cooling units to be linked

Technical details:

Available on the Internet



SK BUS System

Master/slave adapter

Parallel operation of up to 5 thermoelectric coolers for increased cooling output or for redundancy.

Supply includes:

- Adapter incl. master connection cable
- Assembly components

For thermoelectric coolers	Model No.
3201.200/3201.300	3201.070



Also required:

- CAN bus connection cable, 1 x RJ 45 per slave, see page 371



Toroidal Transformer

Primary connection 115 V/400 V

Technical specifications:

- Power 110 VA
- Primary connection 3500 mm long
- Secondary connection 1500 mm long
- Dimensions H x W x D: 123 x 105 x 55 mm
- For mounting on a 35 mm support rail DIN EN 50 022
- Voltage tolerance $\pm 10\%$

Supply includes:

- Assembly components for mounting on top-hat rail

For air/water heat exchangers	Primary connection V, 1~, Hz	Secondary connection V, 1~, Hz	Model No.
3363.X0X 3364.X0X 3214.100 3215.100	115, 1~, 50/60	230, 1~, 50/60	3201.970
3363.X0X 3364.X0X 3212.230 3214.100 3215.100	400, 2~, 50/60	230, 1~, 50/60	3201.960

Mounting Accessories

Roof Plates TS

For mounting:

- Roof-mounted cooling units
- Air/water heat exchangers
- Roof-mounted fans
- Vent attachment TS

The cut-outs in the roof plate are arranged so that the roof-mounted cooling units are centered on the enclosure.

Material:

- Carbon steel

Color:

- RAL 7035

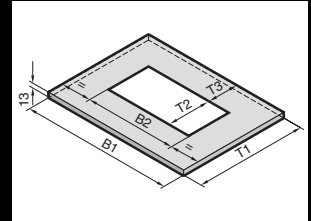
Supply includes:

- Assembly components

For enclosures W x D inches (mm)	For mounting	B1 inches (mm)	B2 inches (mm)	T1 inches (mm)	T2 inches (mm)	T3 inches (mm)	Model No.
32 x 24 (800 x 600)	3382.../3359.../ 3149.4.../3149.8...	30 (767.5)	19 (475)	22 (567.5)	10 (260)	5 (129.3)	8801.320
24 x 24 (600 x 600)	3209.../3383.../ 3210.../3384.../ 3273.../3385.../ 8801.380	22 (567.5)	19 (490)	22 (567.5)	15 (390)	2 (61.3)	8801.310¹⁾
32 x 24 (800 x 600)		30 (767.5)	19 (490)	22 (567.5)	15 (390)	2 (61.3)	8801.330
47 x 24 (1200 x 600)		46 (1167.5)	19 (490)	22 (567.5)	15 (390)	2 (61.3)	8801.350
32 x 24 (800 x 600)	3386.../3387...	30 (767.5)	27 (692)	22 (567.5)	15 (392)	2 (57.8)	8801.340²⁾

¹⁾ When mounting the cooling units, there may be a collision with the transportation eyebolts of the enclosure; for this reason, roof mounting screws are supplied loose with the roof plates

²⁾ Attachment is from the inside using metal brackets and retaining clamps



Vent Attachment TS

For passive ventilation with complicated air flow routing, to match the roofs for roof-mounted cooling units.

Color:

- RAL 7035

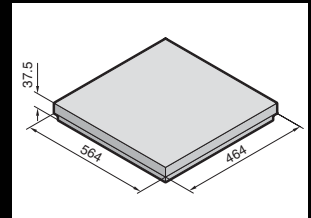
Protection category IP to IEC 60 529:

- IP 43

Supply includes:

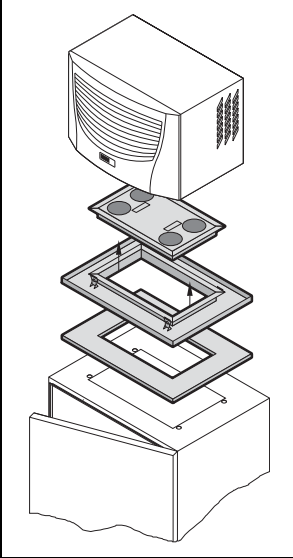
- Assembly components

For roof plates with cut-out inches (mm)	Model No.
19 x 15 (490 x 390)	8801.380



Climate Control Accessories

Mounting Accessories



Quick-Change Frame

for roof-mounted cooling units

The quick-change frame is more than just an alternate frame. Together with the seal, the lower part of the frame is screw-fastened to the enclosure. In this way, it is possible to install and remove the plug-in cooling unit with the upper part of the alternate frame previously mounted on the cooling unit with quick-release fasteners. During servicing work, this means shorter assembly times and so minimized downtime. Thanks to its integral drainage trough, the quick-change frame offers effective protection from the ingress of oil into the enclosure in oily environments.

Material:

- Carbon steel

Color:

- RAL 7035

Supply includes:

- Quick-change frame
- Seal
- Quick-release fasteners

For roof-mounted cooling units	Model No.
3359. . . . /3382. . . .	3286.700

Guide Frame

For Vario rack-mounted fan

Supply includes:

- Connector and fitted connection cable (3 m)
- Mounting bracket for optional attachment to the 19" (482.6 mm) design
- Assembly components

For Vario rack-mounted fan	Model No.
3350.230/3351.230/3352.230	3355.100
3352.500	3357.100

Therm Software

The Therm software package calculates all the climate control requirements. A user-friendly interface guides the operator to the most suitable, correctly dimensioned climate control component. All evaluations are closely based on the requirements of IEC/TR 60 890 AMD 1/02.95 and DIN 3168 for cooling units.

Therm is a calculation program for enclosure climate control

- Improved user guidance via tabs and simple selection menus
- Express and expert versions
- Configurator for recooling systems
- Heat loss calculator
- Internet updates
- Fast and thorough determination of climate control requirements
- Easy calculation of the required actual cooling output, as well as any upgrades or enhancements to the switchgear
- Documentation after calculation

Supply includes:

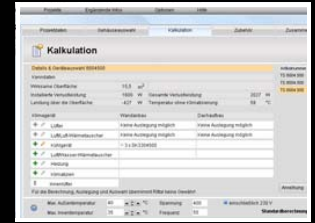
- CD-ROM, in 19 languages

Note:

- A quick version of the Therm software is available as a free app

Note:

Download from the Rittal website



RiDiag II

For the diagnosis, maintenance and long-term data capture of TopTherm units with an e-Comfort controller. RiDiag logs equipment data and prepares an error list. RiDiag also offers the option of displaying and setting the device's operating parameters. The logging of measurement data can be tracked in real time in the form of a diagram.

Supply includes:

- CD-ROM, in 6 languages
- Connection cable

Packs of	Model No.
1 pc(s).	3159.100

