

# Rittal – The System.

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## ► Rittal TopTherm cooling units Generation “Blue e”



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# ▶ Cut costs with comprehensive energy efficiency

With effect from 31 December 2012, our entire range of cooling units with Basic controller (Model Nos. ending in .1XX and .2XX) in output categories ranging from 500 to 4000 W are being converted to the new “Blue e” generation of cooling units.

## Comprehensive economic analysis of a cooling unit over a 5-year period:

Energy costs account for almost 50% of the total cost of a cooling unit. As such, this area offers the greatest potential savings. Use Rittal “Blue e” technology and benefit from up to 45% energy savings over the entire life cycle.



## Benefits of “Blue e” technology in brief:

- Savings of **up to 45% energy consumption** with the same cooling output (ideally 70% compared with a conventional Rittal TopTherm Plus cooling unit in field trials).
- **Eco-mode control:** The evaporator coil fan cuts out as necessary, depending on the enclosure internal temperature.
- **Longer service life of components** in the enclosure and cooling units, because efficient components such as fans and compressors run at their optimum operating point.

## Sample energy saving calculation

Using the example of a 750 W cooling unit with a 5-day week in single-shift operation, this produces savings of 50% and 52% respectively of the annual energy consumption.

| Cooling unit     | Model No. SK | Design   | Useful cooling output W | COP (Coefficient of Performance) | Energy consumption kWh | Energy costs € |
|------------------|--------------|----------|-------------------------|----------------------------------|------------------------|----------------|
| Wall-mounted     | 3361.500     | “Blue e” | 750                     | 1.8                              | 707                    | 85             |
|                  | 3361.100     | Standard | 750                     | 1.6                              | 1402                   | 168            |
| Savings (annual) |              |          |                         | 0.2                              | 695                    | 83             |
| Savings (annual) |              |          |                         |                                  | 50%                    |                |
| Roof-mounted     | 3359.500     | “Blue e” | 750                     | 2.0                              | 779                    | 93             |
|                  | 3359.100     | Standard | 750                     | 1.4                              | 1626                   | 195            |
| Savings (annual) |              |          |                         | 0.7                              | 847                    | 102            |
| Savings (annual) |              |          |                         |                                  | 52%                    |                |

The energy savings calculator for “Blue e” cooling units is available at [www.rittal.com/com-en/energy\\_savings\\_calculator](http://www.rittal.com/com-en/energy_savings_calculator)

## Product recoding from Basic controller cooling units to “Blue e” cooling units

Cooling units with Basic controller are still available for ordering up until 30 November 2012.

### Wall-mounted cooling units

| Model No. SK<br>with Basic controller                          | Useful cooling output | Dimensions<br>W x H x D<br>mm | Voltage<br>V, Hz                         | Model No. SK<br>with Comfort controller                    |
|--|-----------------------|-------------------------------|--|--|
| 3303.100/.200  | 500 W                 | 280 x 550 x 210               | 230, 50/60                               | <b>3303.500/.600</b>                                       |
| 3303.110/.210  |                       |                               | 115, 50/60                               | <b>3303.510/.610</b>                                       |
| 3361.100/.200  | 750 W                 | 280 x 550 x 280               | 230, 50/60                               | <b>3361.500/.600</b>                                       |
| 3361.110/.210  |                       |                               | 115, 50/60                               | <b>3361.510/.610</b>                                       |
| 3361.140/.240  |                       |                               | 400, 2~, 50/60                           | <b>3361.540/.640</b>                                       |
| 3304.100/.200  | 1000 W                | 400 x 950 x 260               | 230, 50/60                               | <b>3304.500/.600</b>                                       |
| 3304.110/.210  |                       |                               | 115, 50/60                               | <b>3304.510/.610</b>                                       |
| 3304.140/.240  |                       |                               | 400, 3~, 50<br>460, 3~, 60               | <b>3304.540/.640</b>                                       |
| 3305.100/.200  | 1500 W                | 400 x 950 x 260               | 230, 50/60                               | <b>3305.500/.600</b>                                       |
| 3305.110/.210  |                       |                               | 115, 50/60                               | <b>3305.510/.610</b>                                       |
| 3305.140/.240  |                       |                               | 400, 3~, 50<br>460, 3~, 60               | <b>3305.540/.640</b>                                       |
| 3366.100/.200  | 1500 W                | 435 x 1590 x 205              | 230, 50/60                               | <b>3366.500/.600</b>                                       |
| 3366.110/.210  |                       |                               | 115, 50/60                               | <b>3366.510/.610</b>                                       |
| 3366.140/.240  |                       |                               | 400, 3~, 50<br>460, 3~, 60               | <b>3366.540/.640</b>                                       |
| 3328.100/.200  | 2000 W                | 400 x 1580 x 295              | 230, 50/60                               | <b>3328.500/.600</b>                                       |
| 3328.110/.210  |                       |                               | 115, 50/60                               | <b>3328.510/.610</b>                                       |
| 3328.140/.240  |                       |                               | 400, 3~, 50<br>460, 3~, 60               | <b>3328.540/.640</b>                                       |
| 3329.100/.200  | 2500 W                | 400 x 1580 x 295              | 230, 50/60                               | <b>3329.500/.600</b>                                       |
| 3329.110/.210  |                       |                               | 115, 50/60                               | <b>3329.510/.610</b>                                       |
| 3329.140/.240  |                       |                               | 400, 3~, 50<br>460, 3~, 60               | <b>3329.540/.640</b>                                       |
| 3332.140/.240  | 4000 W                | 500 x 1580 x 340              | 400, 3~, 50<br>460, 3~, 60               | <b>3332.540/.640</b>                                       |
| <b>NEMA 4x version</b>   |                       |                               |  |  |
| 3303.104/.114  | 500 W                 | 280 x 550 x 210               | 230, 50/60 / 115, 50/60                  | <b>3303.504/.514</b>                                       |
| 3304.104/.114/.144   | 1000 W                | 400 x 950 x 260               |  | 230, 50/60/<br>115, 50/60/<br>400, 3~, 50 +<br>460, 3~, 60 |
| 3305.104/.114/.144   | 1500 W                | 400 x 950 x 260               | <b>3305.504/.514 / .544</b>              |  |
| 3328.104/.114/.144   | 2000 W                | 400 x 1580 x 295              | <b>3328.504/.514 / .544</b>              |  |
| 3329.104/.114/.144   | 2500 W                | 400 x 1580 x 295              | <b>3329.504/.514 / .544</b>              |  |
| <b>Explosion-proof cooling unit version for zone 22 (dust)</b> |                       |                               |  |  |
| 3303.130   | 500 W                 | 280 x 550 x 200               | 230, 50/60                               | <b>3303.530</b>  |
| 3304.130/.160  | 1000 W                | 400 x 950 x 260               | 230, 50/60/<br>400, 3~, 50 + 460, 3~, 60 | <b>3304.530/.560</b>                                       |
| 3305.130/.160  | 1500 W                | 400 x 950 x 260               |  | <b>3305.530/.560</b>                                       |
| <b>Low vibration version</b>                                   |                       |                               |  |  |
| 3304.142   | 1000 W                | 400 x 950 x 260               | 400, 3~, 50 + 460, 3~, 60                | <b>3304.542</b>  |
| 3305.142   | 1500 W                | 400 x 950 x 260               | 400, 3~, 50 + 460, 3~, 60                | <b>3305.542</b>  |

Wall-mounted cooling units SK 3302.XXX with Basic controller will remain in the programme.

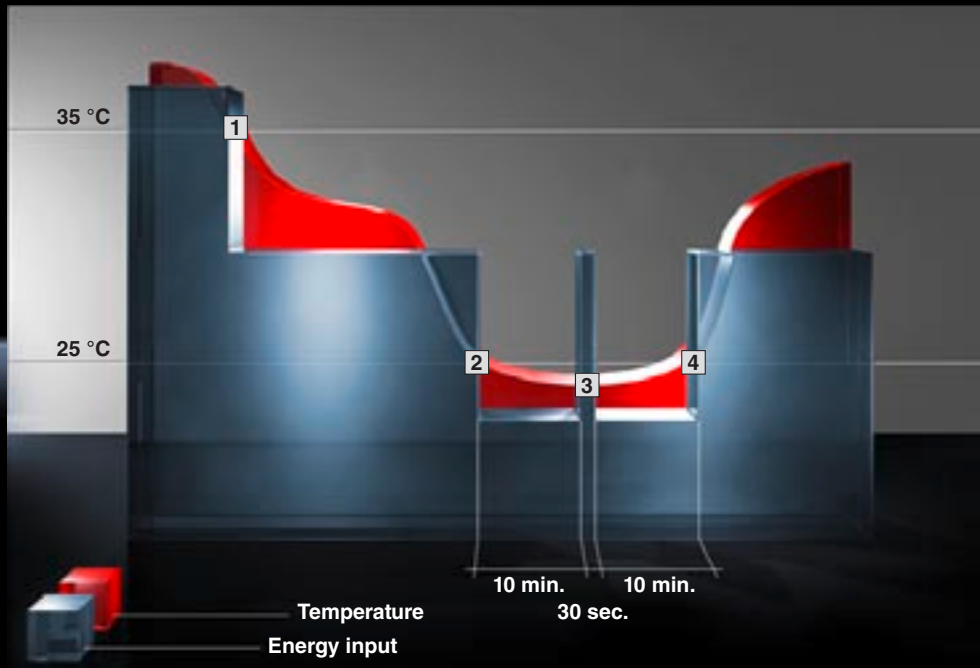
### Roof-mounted cooling units

| Model No. SK<br>with Basic controller | Useful cooling output | Dimensions<br>W x H x D<br>mm | Voltage<br>V, Hz           | Model No. SK<br>with Comfort controller |
|---------------------------------------|-----------------------|-------------------------------|----------------------------|---|
| 3382.100/.200                         | 500 W                 | 597 x 417 x 380               | 230, 50/60                 | <b>3382.500/.600</b>                    |
| 3382.110/.210                         |                       |                               | 115, 50/60                 | <b>3382.510/.610</b>                    |
| 3359.100/.200                         | 750 W                 | 597 x 417 x 380               | 230, 50/60                 | <b>3359.500/.600</b>                    |
| 3359.110/.210                         |                       |                               | 115, 50/60                 | <b>3359.510/.610</b>                    |
| 3359.140/.240                         |                       |                               | 400, 2~, 50/60             | <b>3359.540/.640</b>                    |
| 3383.100/.200                         | 1000 W                | 597 x 417 x 475               | 230, 50/60                 | <b>3383.500/.600</b>                    |
| 3383.110/.210                         |                       |                               | 115, 50/60                 | <b>3383.510/.610</b>                    |
| 3383.140/.240                         |                       |                               | 400, 2~, 50/60             | <b>3383.540/.640</b>                    |
| 3384.100/.200                         | 1500 W                | 597 x 417 x 475               | 230, 50/60                 | <b>3384.500/.600</b>                    |
| 3384.110/.210                         |                       |                               | 115, 50/60                 | <b>3384.510/.610</b>                    |
| 3384.140/.240                         |                       |                               | 400, 2~, 50/60             | <b>3384.540/.640</b>                    |
| 3385.100/.200                         | 2000 W                | 597 x 417 x 475               | 230, 50/60                 | <b>3385.500/.600</b>                    |
| 3385.110/.210                         |                       |                               | 115, 50/60                 | <b>3385.510/.610</b>                    |
| 3385.140/.240                         |                       |                               | 400, 2~, 50/60             | <b>3385.540/.640</b>                    |
| 3386.140/.240                         | 3000 W                | 796 x 470 x 580               | 400, 3~, 50<br>460, 3~, 60 | <b>3386.540/.640</b>                    |
| 3387.140/.240                         | 4000 W                | 796 x 470 x 580               | 400, 3~, 50<br>460, 3~, 60 | <b>3387.540/.640</b>                    |

The Model No. for the stainless steel version ends in .2XX or .6XX.  
For connection diagram, see the latest assembly instructions under [www.rittal.com](http://www.rittal.com).

# ► Permanently save energy with eco-mode control

Intelligent, targeted use of energy thanks to the new eco-mode control from Rittal. Cooling units in the “Blue e” generation help protect the environment whilst meeting industry’s future energy efficiency requirements today.



- 1 Cooling cuts out: The interior fan only runs to ensure air circulation inside the enclosure.
- 2 The interior fan is switched off.

- 3 The interior fan is switched on for 30 seconds every 10 minutes to briefly blend the air.
- 4 The interior fan is switched back on.

## How eco-mode control works:

- The evaporator coil fan cuts out as necessary, depending on the enclosure internal temperature, if the latter falls 10 °C below the set temperature.
- To measure the effective enclosure internal temperature, the fan runs for 30 seconds every 10 minutes.
- Eco-mode control may be deactivated via the display on the controller if required.

# ► Intelligent control with the Comfort system

Cooling units with Basic controller will be replaced by the new “Blue e” cooling units with Comfort controller, which offers efficient setting and reading. The enclosure internal temperature plus more than 20 alarm and error messages can now be displayed and read via the digital display.



Basic controller



Comfort controller

## Cooling units with Basic controller

### Display screen

- Visualisation of the operating status only via green or red LED display

### Control

- Tolerance of connected voltage +/- 10%
- Integral door operated switch function and start-up delay
- Anti-icing protection, motor monitoring
- Setting range +30 °C to +55 °C (setpoint is set on the potentiometer from outside)
- Switching hysteresis: 5 K
- Floating fault alarm relay (overtemperature message)

## | Cooling units with Comfort controller

- Digital display of the enclosure internal temperature
- Digital display of more than 20 error and alarm messages
- Keys for setting and reading

- Setting range +20 °C to +55 °C
- Switching hysteresis: 2 K – 10 K (factory setting 5 K)
- Two floating fault alarm relays (normally open contacts) with freely assignable system and alarm messages
- Condensate warning with roof-mounted cooling units
- Master/slave function for up to 10 units
- Storage of all system statuses in the log file
- Reading of all system messages via diagnosis software
- Integration into superordinate remote monitoring systems

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- Enclosures
- Power Distribution
- Climate Control
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