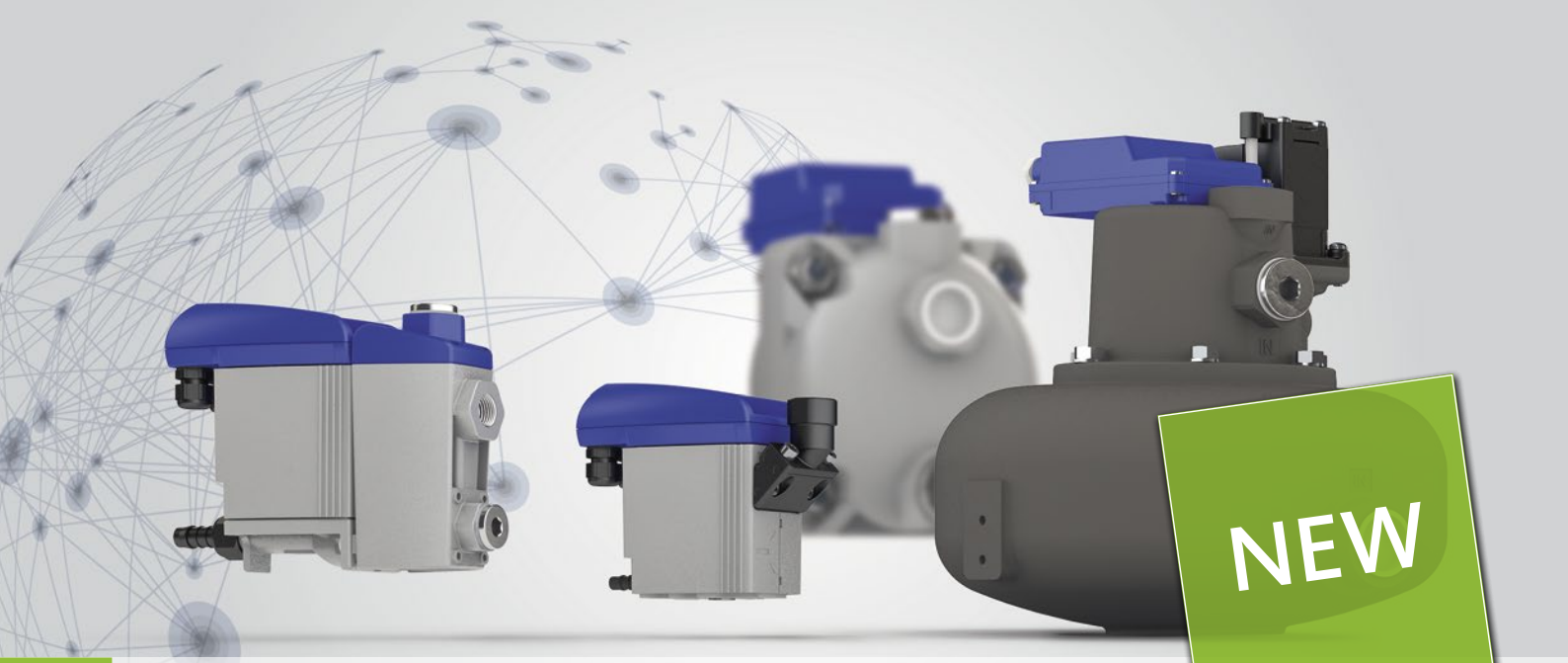



# Condensate technology | BEKOMAT® i4.0

## BEKOMAT® i4.0 - progressive fusion of proven condensate drainage & digitalization

During the processing of compressed air, the formation of condensate, mostly containing oil and contaminated with dirt particles, is unavoidable. To prevent malfunctions or even production downtimes, the condensate must be reliably discharged and without the loss of compressed air.

### Digitized process reliability

Our proven BEKOMAT® condensate drains have been known for decades for their operational reliability, durability and ease of installation as well as their efficiency, cost-effectiveness and environmental friendliness. Now we are going one step further and enhancing the well-known functionality with the advantages of the digital world - for the extended benefit of the user. The new BEKOMAT® i4.0 series meets the expectations placed on IIoT-capable systems: Networkability, remote monitoring, flexibility and, above all, progressiveness.
Important information, such as the current status or the time remaining until the next service, can thus be conveniently transmitted to a central control station. This increases process reliability and maintenance can be planned even more individually.

- **Digitization as standard**
  - Connectivity and advanced communication
  - Connection to RS485 interfaces in control rooms or suitable compressors, filters and dryers.
  - Fully automatic operation and monitoring
- **Easy installation & low maintenance**
  - Versatile connection option
  - Individual connection or in daisy chain topology with only one cable for data and power supply
- **Simple service**
  - Transmission of important details helps your service to act quickly and efficiently
- **No loss of compressed air during discharge**
  - Low operating costs
- **High reliability**
  - Durable, insensitive to dirt and robust
  - No emulsion formation thanks to large valve cross sections
  - No failure-prone mechanical components

**BEKOMAT® 16i CO / 12i / 13i / 14i**

**BEKOMAT® 32iU / 33iU**

Better through Responsibility

BEKO

# Efficient & reliable condensate drainage supplemented by communication & network capability: The new BEKOMAT® i4.0 series

The BEKOMAT® condensate drain was **BEKO** TECHNOLOGIES' first product and has since been built more than 5 million times. It revolutionized the market, because for the first-time condensate could be drained off without the loss of compressed air. It replaced solutions, such as float drains or time-controlled solenoid valves, which in the event of malfunctions, allowed valuable and unused compressed air to escape into the environment. Since then, the BEKOMAT® has been saving energy and thus costs as well as $CO_2$ emissions worldwide. Today, it is considered the industry standard for condensate drains. Now, advantages from digitalization are opening up completely new additional opportunities for the future, thus increasing process reliability even further.

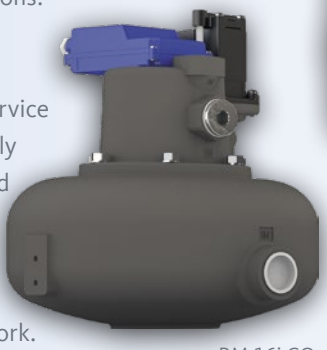
More than **5** million BEKOMAT® sold worldwide

### The standard devices for all operation ranges

Our extensive product portfolio offers optimal draining solutions for almost any compressor capacity, compressor type, almost any system pressure and operating conditions.

### BEKOMAT® with service concept

The BEKOMAT® series 32iU / 33iU with service concept is particularly maintenance-friendly and considerably reduces the time required for service. The BEKOMAT® is installed once, for maintenance only the service unit (incl. all wear and pressure parts) is exchanged without any new installation work.

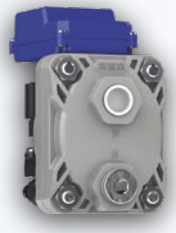


BM 16i CO

### RS485 interface enables integration into networks

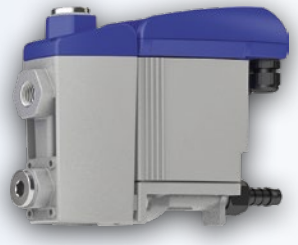
With the RS485 interface, status data of the BEKOMAT® i4.0 condensate drains can be transmitted to central control rooms.

BM 14i



BM 13i

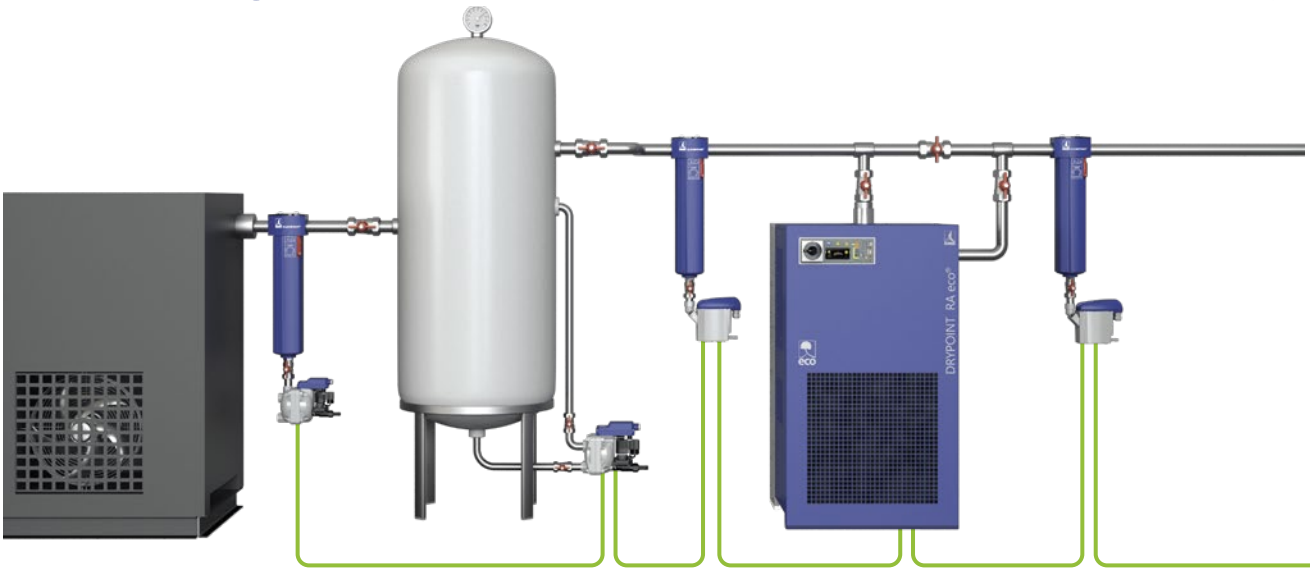
BM 12i



BM 33iU

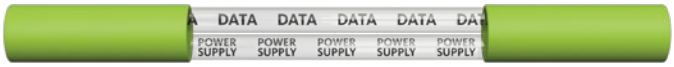
BM 32iU

## Networking of all BEKOMAT® condensate drains via daisy chain

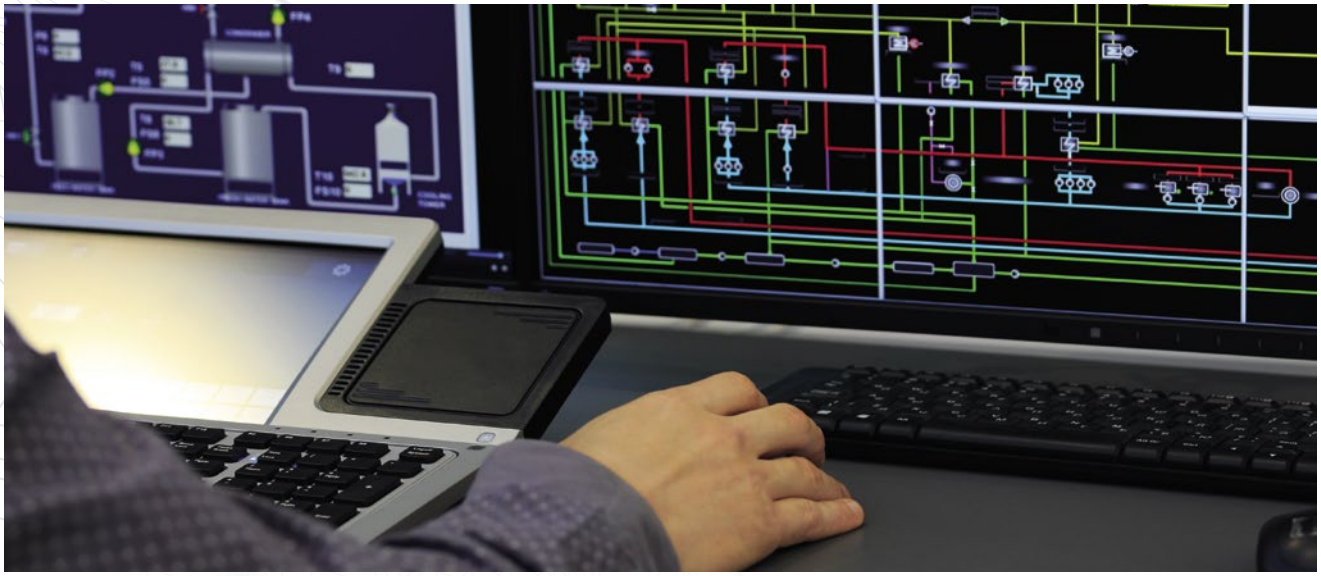


**Data transmission and power supply via only one cable**

The new BEKOMAT® i4.0 condensate drains require only one cable for power supply and data transmission. The clever daisy chain wiring method, in which the cable is looped through from one device to the next,




reduces the installation effort to a minimum and makes it possible to expand the system at any time.



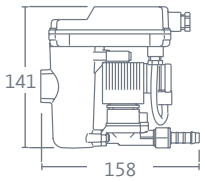
**Planning reliability with cost transparency**

Visualization of the performance and function data of all connected condensate drains in real time enables simple and intelligent condensate management. For example, the status messages enable important conclusions to be drawn about the overall system. Early warning and alarm signals allow targeted service measures to be initiated in good time before failures occur, and resources can be optimally planned. This increases process reliability and avoids costs due to failures and reworking.

# Continuous monitoring of operating parameters & status information with the BEKOMAT® i4.0 condensate drain

| PROPERTIES | ADVANTAGES |
|---|---|
| Operating hours counter | Required for a time-to-service calculation |
| Counter for switching cycles | Required for service life and time-to-service calculation |
| Remaining service time | Indicates the next maintenance based on time.<br>Counts down from 100 % to 0 % |
| Remaining switching cycles | Indicates next maintenance based on valve actuation count.<br>Counts down from 100 % to 0 % |
| Various error signals (error flags) | Various flags indicate the error states,<br>e.g. device not adjusted, hardware defective, alarm |
| Power supply of the electronics | Service can check for undervoltage / overvoltage |
| CPU temperature | Service can check for too low or too high temperature |
| Status ERROR LED | for process visualization and logging |
| Status TEST button and TEST input | for process visualization and logging |
| Status POWER LED | for process visualization and logging |

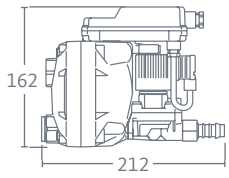
Dimensions in mm




Depth: 65
Depth: 146 (PN 63)

| Technical data | BEKOMAT® 12i | | BEKOMAT® 12i CO | | | BEKOMAT® 12i CO PN 63 | |
|---|---|---|---|---|---|---|---|
| max. compressor capacity* | ■ 8 m³/min \| ▲ 6,5 m³/min \| ● 4 m³/min | | | | | | |
| max. refrigeration dryer capacity* | ■ 16 m³/min \| ▲ 13 m³/min \| ● 8 m³/min | | | | | | |
| max. filter capacity* | ■ 80 m³/min \| ▲ 65 m³/min \| ● 40 m³/min | | | | | | |
| min. / max. operating pressure | 0.8 ... 16 bar (g) | | | | | 1.2 ... 63 bar (g) | |
| Material housing | Aluminium | | Aluminum, hard coated | | | | |
| Ambient temperature | +1 °C ... +60 °C | | | | | | |
| Condensate inlet | 1 x G½ (internal) [optional: NPT thread]. | | | | | | |
| Condensate drain | 1 x G⅜ (outside); hose nozzle, hose Ø = 13 mm (inside) | | | | | | |
| Operating voltage | 24 VDC ± 10 % | | | | | | |
| Condensate | oily condensate | | Oil-containing condensate / oil-free condensate | | | | |
| **Discharge capacity** | | | | | | | |
| Operating pressure bar (g) | 1 bar | 2 bar | 3 bar | 4 bar | 5 bar | 6 bar | > 7 bar |
| max. discharge volume (short-term)** l/h | 20 | 23 | 27 | | | 30 | |
| Ø - discharge volume l/h | 0.95 | 1.10 | 1.29 | | | 1.43 | |

Dimensions in mm




Depth: 93
Depth: 197 (PN 50)

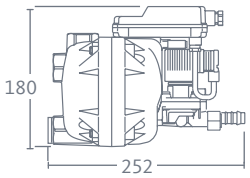
| Technical data | BEKOMAT® 13i | | BEKOMAT® 13i CO | | | BEKOMAT® 13i CO PN 50 | |
|---|---|---|---|---|---|---|---|
| max. compressor capacity* | ■ 35 m³/min \| ▲ 30 m³/min \| ● 20 m³/min | | | | | | |
| max. refrigeration dryer capacity* | ■ 70 m³/min \| ▲ 60 m³/min \| ● 40 m³/min | | | | | | |
| max. filter capacity* | ■ 350 m³/min \| ▲ 300 m³/min \| ● 200 m³/min | | | | | | |
| min. / max. operating pressure | 0.8 ... 16 bar (g) | | | | | 1.2 ... 25 bzw. 40 bzw. 50 bar (g) | |
| Material housing | Aluminium | | Aluminum, hard coated | | | | |
| Ambient temperature | +1 °C ... +60 °C | | | | | | |
| Condensate inlet | 2 x G½ (internal) [optional: NPT thread]. | | | | | | |
| Condensate drain | 1 x G½ (outside); hose nozzle, hose Ø = 13 mm (inside) | | | | | 1 x G⅜ (inside); hose nozzle, Hose Ø = 13 mm (inside) | |
| Operating voltage | 24 VDC ± 10 % | | | | | | |
| Condensate | oily condensate | | Oil-containing condensate / oil-free condensate | | | | |
| **Discharge capacity** | | | | | | | |
| Operating pressure bar (g) | 1 bar | 2 bar | 3 bar | 4 bar | 5 bar | 6 bar | > 7 bar |
| max. discharge volume (short-term)** l/h | 50 | 60 | 80 | 90 | 100 | 120 | |
| Ø - discharge volume l/h | 3.17 | 4.12 | 5 | 5.7 | 6.35 | 7.61 | |

* Further information on the climate zones (■ | ▲ | ●) on the reverse side.
** The short-term peak volume can only be achieved if the installation is correct according to the operating instructions. In case of doubt, an air equalization line is required.

| Technical data | BEKOMAT® 14i | BEKOMAT® 14i CO | BEKOMAT® 14i CO PN 25 |
|---|---|---|---|
| max. compressor capacity* | ■ 150 m³/min \| ▲ 130 m³/min \| ● 90 m³/min | | |
| max. refrigeration dryer capacity* | ■ 300 m³/min \| ▲ 260 m³/min \| ● 180 m³/min | | |
| max. filter capacity* | ■ 1500 m³/min \| ▲ 1300 m³/min \| ● 900 m³/min | | |
| min. / max. operating pressure | 0.8 ... 16 bar (g) | | 1.2 ... 25 bar (g) |
| Material housing | Aluminium | Aluminum, hard coated | |
| Ambient temperature | +1 °C ... +60 °C | | |
| Condensate inlet | 3 x G¾ (internal) [optional: NPT thread] | | |
| Condensate drain | 1 x G½ (outside); hose nozzle, hose Ø = 13 mm (inside) | | 1 x G⅜ (inside); hose nozzle, hose Ø = 13 mm (inside) |
| Operating voltage | 24 VDC ± 10 % | | |
| Condensate | oily condensate | Oil-containing condensate / oil-free condensate | |

| Discharge capacity | | | | | | | |
|---|---|---|---|---|---|---|---|
| Operating pressure bar (g) | 1 bar | 2 bar | 3 bar | 4 bar | 5 bar | 6 bar | > 7 bar |
| max. discharge volume (short-term)** l/h | 170 | 250 | | | 350 | | |
| Ø - discharge volume l/h | 29.10 | 31.74 | | | 33.33 | | |

Dimensions in mm

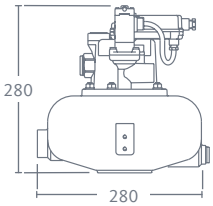



Depth: 120
Depth: 242 (PN25)

| Technical data | BEKOMAT® 16i CO |
|---|---|
| max. compressor capacity* | ■ 1700 m³/min \| ▲ 1400 m³/min \| ● 1000 m³/min |
| max. refrigeration dryer capacity* | ■ 3400 m³/min \| ▲ 2800 m³/min \| ● 2000 m³/min |
| max. filter capacity* | - \| - \| - |
| min. / max. operating pressure | 0.8 ... 16 bar (g) |
| Material housing | Aluminum, hard coated |
| Ambient temperature | +1 °C ... +60 °C |
| Condensate inlet | 2 x G¾ (internal), 1 x G1 (internal) [optional: NPT adapter] |
| Condensate drain | 1 x G½ (inside) |
| Operating voltage | 24 VDC ± 10 % |
| Condensate | Oil-containing condensate / oil-free condensate |

| Discharge capacity | | | | | | | |
|---|---|---|---|---|---|---|---|
| Operating pressure bar (g) | 1 bar | 2 bar | 3 bar | 4 bar | 5 bar | 6 bar | > 7 bar |
| max. discharge volume (short-term)** l/h | 950 | 1150 | 1400 | | 1700 | | |
| Ø - discharge volume l/h | 226 | 243 | 263 | | 274 | | |

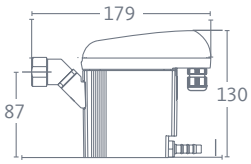
Dimensions in mm




Depth: 260

* Further information on the climate zones (■ | ▲ | ●) on the reverse side.
** The short-term peak volume can only be achieved if the installation is correct according to the operating instructions. In case of doubt, an air equalization line is required.

Dimensions in mm

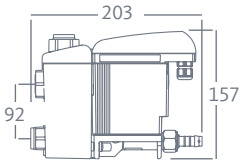



Depth: 73

| Technical data | BEKOMAT® 32iU |
|---|---|
| max. compressor capacity* | ■ 6 m³/min \| ▲ 5 m³/min \| ● 3,5 m³/min |
| max. refrigeration dryer capacity* | ■ 12 m³/min \| ▲ 10 m³/min \| ● 7 m³/min |
| max. filter capacity* | ■ 60 m³/min \| ▲ 50 m³/min \| ● 35 m³/min |
| min. / max. operating pressure | 0.8 ... 16 bar (g) [optional: 1.2 ... 16 bar (g)] |
| Material housing | Aluminum + plastic, glass fiber reinforced |
| Ambient temperature | +1 °C ... +70 °C |
| Condensate inlet | 1 x G½ (internal) [optional: NPT thread] |
| Condensate drain | 1 x G¼; hose nozzle, hose Ø = 10 mm (inside) |
| Operating voltage | 24 VDC ± 10 % |
| Condensate | Oil-containing condensate / oil-free condensate |

| Discharge capacity | | | | | | | |
|---|---|---|---|---|---|---|---|
| Operating pressure bar (g) | 1 bar | 2 bar | 3 bar | 4 bar | 5 bar | 6 bar | > 7 bar |
| max. discharge volume (short-term)** l/h | 10 | | | | | | |
| Ø - discharge volume l/h | 1.14 | | | | | | |

Dimensions in mm



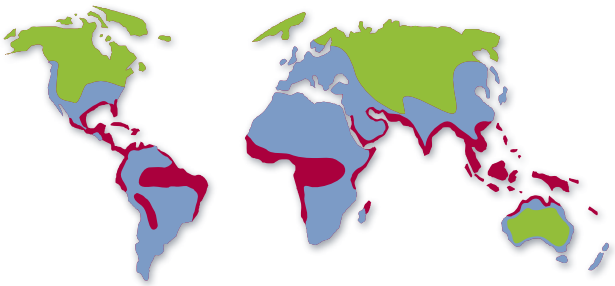

Depth: 73

| Technical data | BEKOMAT® 33iU | BEKOMAT® 33iU CO |
|---|---|---|
| max. compressor capacity* | ■ 12 m³/min \| ▲ 10 m³/min \| ● 7 m³/min | |
| max. refrigeration dryer capacity* | ■ 24 m³/min \| ▲ 20 m³/min \| ● 14 m³/min | |
| max. filter capacity* | ■ 120 m³/min \| ▲ 100 m³/min \| ● 70 m³/min | |
| min. / max. operating pressure | 0.8 ... 16 bar (g) [optional: 1.2 ... 16 bar (g)] | |
| Material housing | Aluminum + plastic, glass fiber reinforced | Aluminum, hard coated + plastic, glass fiber reinforced |
| Ambient temperature | +1 °C ... +70 °C | |
| Condensate inlet | 3 x G½ (internal) [optional: NPT thread] | |
| Condensate drain | 1 x G½; hose nozzle Ø = 13mm (inside) | |
| Operating voltage | 24 VDC ± 10 % | |
| Condensate | oily condensate | Oil-containing condensate / oil-free condensate |

| Discharge capacity | | | | | | | |
|---|---|---|---|---|---|---|---|
| Operating pressure bar (g) | 1 bar | 2 bar | 3 bar | 4 bar | 5 bar | 6 bar | > 7 bar |
| max. discharge volume (short-term)** l/h | 25 | | 33 | 40 | 45 | 50 | 60 |
| Ø - discharge volume l/h | 1.59 | | 2.06 | 2.51 | 2.85 | 3.17 | 3.8 |

* Further information on the climate zones (■ | ▲ | ●) on the reverse side.
** The short-term peak volume can only be achieved if the installation is correct according to the operating instructions. In case of doubt, an air equalization line is required.

# The climate - a key factor



Depending on the climate and temperature, differing amounts of condensate can form. For the BEKOMAT® models, we therefore quote the performance values based on three climate zones:

- ■ e.g. Northern Europe, Canada, Northern USA, Central Asia
- ▲ e.g. Central and Southern Europe, Central America
- ● e.g. Southeast Asian coastal regions, Oceania, Amazon and Congo regions

Temperature range: 1 to + 60 °C

**Customizing and Private Design**

In addition to our serial products, we also offer individual OEM versions. Beside the external design such as color, logo, labeling, etc., this includes in particular the integration of special features such as aftermarket protection against product piracy. We can also provide customized specifications, wiring, connections and technical details. Just contact us. We will be happy to advise you on this.


# Matching maintenance kit

As with all high-performance devices, the BEKOMAT® needs to be serviced from time to time. Our maintenance kits make this an easy task. If you require assistance, contact our service technicians, who are also qualified to examine and assess your entire compressed air system for further optimization.

| For BEKOMAT® | 12i | 12i CO | 12i CO PN63 | 13i | 13i CO | 13i CO PN50 | 14i | 14i CO | 14i CO PN25 | 16i CO |
|---|---|---|---|---|---|---|---|---|---|---|
| Wear parts kit | 2000049 | 2000049 | 2000748 | 2000067 | 2000067 | 2000366 | 2000731 | 2000731 | 2002556 | 4004566 |

# The service unit

As with all high-performance devices, the BEKOMAT® needs to be serviced from time to time. This is done with our service unit containing all the necessary wearing parts. If you require assistance, contact our service technicians, who are also qualified to examine and assess your entire compressed air system for further optimization.


| For BEKOMAT® | 32iU | 33iU | 33iU CO |
|---|---|---|---|
| Service-Unit | 4023571 | 4023633 | 4023635 |

# Do you have any further questions regarding the optimal treatment of your compressed air?

We have the answers! We offer efficient solutions for any type of processing chain. Please contact us with all your queries. We would be delighted to tell you more about our condensate treatment, filtration, drying, measuring and process technology, and our comprehensive services.

**Visit us on**

YouTube

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