



BEKO Products

BEKOMAT®



Condensate drainage



# Economic efficiency is a question of quality

Level-controlled condensate drainage without compressed-air losses





## Save resources, increase efficiency: the BEKOMAT® principle

During compressed-air generation and processing, the optimum quality for the respective application should be achieved. The most important target is to remove contaminations and humidity from the compressed air, as these can lead to quality deteriorations, failures, or even to a loss of production or to products which cannot be used.

### Loss-free condensate drainage

The generation and processing of compressed air always involves the formation of condensate which, in most cases, contains oil, is contaminated with dirt particles and disperses over the entire compressed-air network. A system problem which can cause costs

and damage. In addition, condensate does not accumulate regularly but varies depending on the climate, temperature, season, time of day or on the capacity utilisation of the compressor.

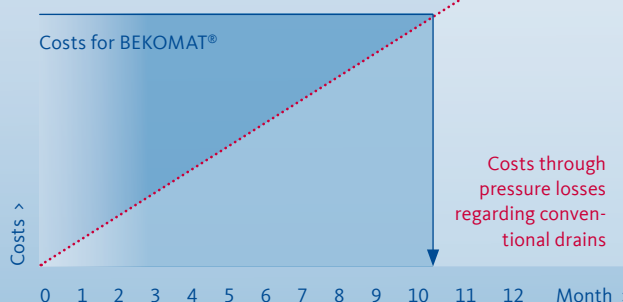
### The amount is the criterion

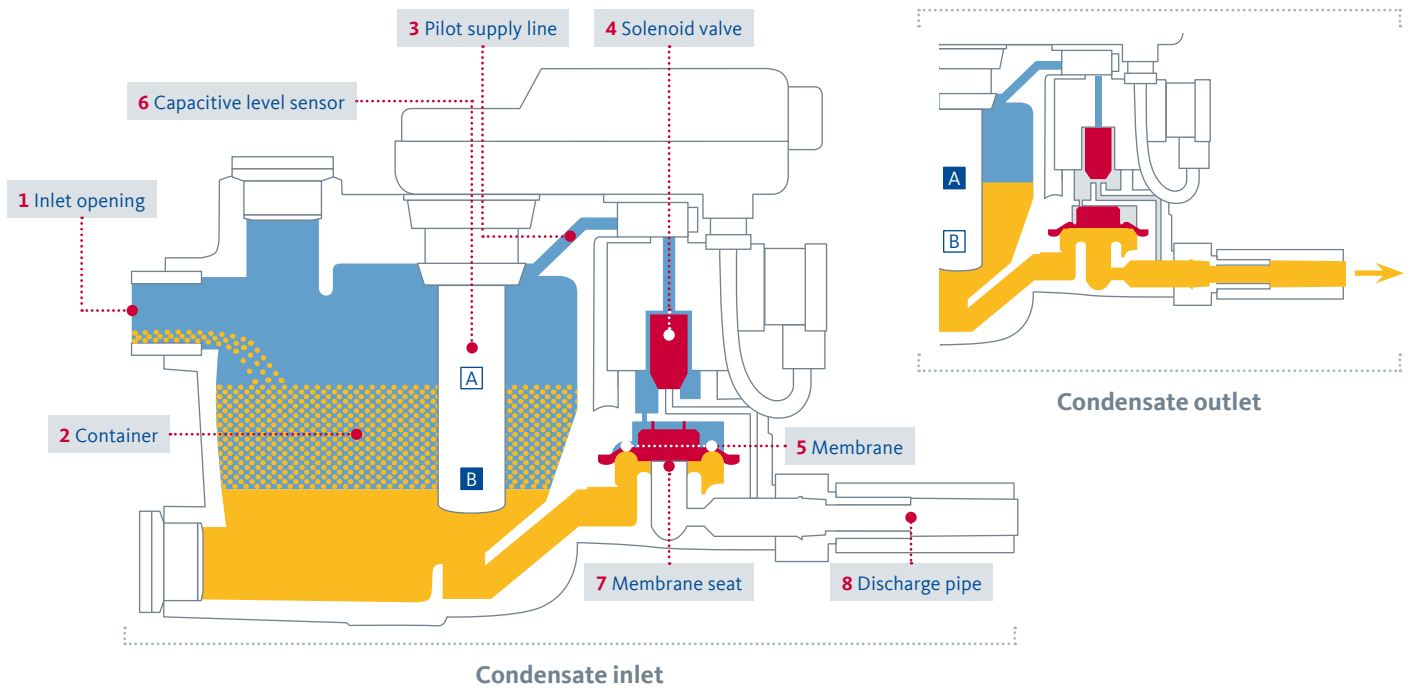
Unnecessary costs and damages during the generation of compressed air can only be avoided by amount-adjusted condensate drainage. BEKOMAT® condensate drains therefore function with a capacitive sensor. The intelligent electronics prevent compressed-air losses and minimise the energy input. For this reason, the BEKOMAT® often pays off within half a year already, compared with units with time-controlled drain valves.



### Economic efficiency in new dimensions

Sometimes, the costs for the compressed-air energy consumption account for up to 20% of the operational energy expenses. Here, BEKOMAT® offers a clear cost-saving potential.





## Level-controlled condensate drainage: the operating principle of BEKOMAT®

The condensate trickles through the inlet opening (1) and collects in the container (2). First, the valve is closed as, via the pilot supply line (3) and the solenoid valve (4), pressure compensation above the membrane (5) is effected. The larger surface area above the membrane results in a high closing force. The membrane seat remains closed and leak-proof.

When the container is filled with condensate, so that the capacitive level sensor (6) signals at the maximum point, the solenoid valve switches over and the area above the membrane is ventilated. As a result of the decreasing pressure above the membrane, the latter lifts off the membrane seat (7) and the overpressure in the housing forces the condensate into the discharge pipe (8).

More than

2

million  
worldwide

**BEKOMAT®**  
condensate drains



With a total of two million units sold since its presentation in 1982, the electronically level-controlled BEKOMAT® condensate drain now achieved another international top mark.



BEKOMAT® standard units



BEKOMAT® special units

## In use everywhere: BEKOMAT® types and applications

Condensates can be aggressive, pollutant-loaded or they can contain oil. The BEKOMAT® range of products offers the right solution for every case of application. All model variants can be adapted to every customary supply voltage. The control elements and the control itself are impermeable to splash water, in accordance with IP 65 or IP 55.

### BEKOMAT® standard units BEKOMAT® 12, 13, 14, 16 and 20

#### Compressors

In the aftercooler of the compressor, approximately 60 per cent of the condensate accumulates.

#### Tank

More than 10 per cent of the condensate accumulates at the tank.

#### Dryer

Refrigeration dryers separate up to 25 per cent of the condensate. Therefore, effective drying is only possible with a condensate drainage which is just as effective.

#### Filter

BEKOMAT® 20 FM with filter management, which was especially developed for the monitoring of the filter service life, automatically determines the replacement of the filter.

### BEKOMAT® special units BEKOMAT® 3, 6, 8 and 9

#### Multistage compressors

If the condensate from the intercoolers is not reliably drained in multistage compressors, it will reach the next compressor stage. BEKOMAT® LA/LP prevents damage through “drop attacks”, condensate build-up and water hammers.

#### Vacuum

Especially employable for condensate drainage in vacuum or pressureless systems at operating pressures from 0.1 to 1.8 bar (abs.).

#### Hazardous areas

BEKOMAT® special units are also available for the application in hazardous areas (II 2G EEX ib IIB T4/explosion class II B, temperature class T4) where ignition sources need to be prevented. Permissible fluids are ethane, methane, town gas, diesel fuel, ethylene, propane, fuel oil and compressor oil.

#### Stainless-steel versions

For the drainage of particularly aggressive condensates, the BEKOMAT® is also available as a stainless-steel version.

Further information on BEKOMAT® special units is available in the form of brochures and data sheets.



## A plus for sustainability: the BEKOMAT® by comparison

If a float drain becomes leaky, the leakages will sum up to more than 700 Euro per annum. Compressed-air losses also occur when employing solenoid valves, as these do not discharge the condensate according to the demand but in a time-controlled manner. Expensively produced compressed air therefore escapes into the environment without being used when the valve

opens, in particular during the cold season. In contrast, the electronic level-control of BEKOMAT® guarantees discharge without any loss of compressed air. This not only saves energy, and thus costs, but also CO<sub>2</sub> emissions which would otherwise occur during the generation of energy — a win-win situation both for the user and the environment.

### **+** Process-safe, reliable and efficient: the BEKOMAT® advantages at a glance

No unnecessary  
compressed-air losses

The sensor registers any type  
of condensate

Low-maintenance

Drainage adapted to  
condensate quantity

Dirt-resistant

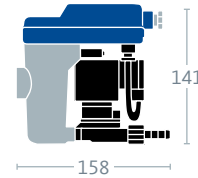
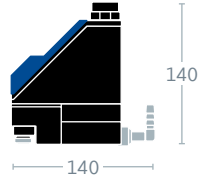
Fully automatic monitoring

More than two million installed BEKOMAT® units ensure reliable and cost-effective condensate drainage throughout the world.





## BEKOMAT® standard units 20 | 12



Dimensions in mm

Model	20	20 FM*	12	12 CO	12 CO PN 63
Max. compressor performance (m³/min)	5	(5)	8	8	8
	4	(4)	6.5	6.5	6.5
	2.5	(2.5)	4	4	4

Max. dryer performance (m³/min)	10	(10)	16	16	16
	8	(8)	13	13	13
	5	(5)	8	8	8

Max. filter performance (m³/min)	50	50	80	80	80
	40	40	65	65	65
	25	25	40	40	40

Min. working pressure (bar)	0.8	0.8	0.8	0.8	1.2
Max. working pressure (bar)	16	16	16	16	63
Weight (kg)	0.7	0.7	0.8	0.8	0.9
Field of application	a/b	a/b	a	a/b	a/b
Use	Special drain for separators and filters (also suitable for other drainage points)			Suitable for all drainage points	

### Connections

Inlet	1x G ½ / 1x G ¾	1x G ½ / 1x G ¾	1x G ½	1x G ½	1x G ½
Outlet (hose connector)	1x G ¼	1x G ¼	1x G ¾	1x G ¾	1x G ¾
Outlet (hose di)	8–10 mm	8–10 mm	10–13 mm	10–13 mm	13 mm

\* BEKOMAT® 20 FM with filter management and potential-free contact

CO: hard-coated | PN: design for operating pressures above 16 bar (PN 63: up to 63 bar) | a: oil-containing condensate | b: oil-free, often aggressive condensate

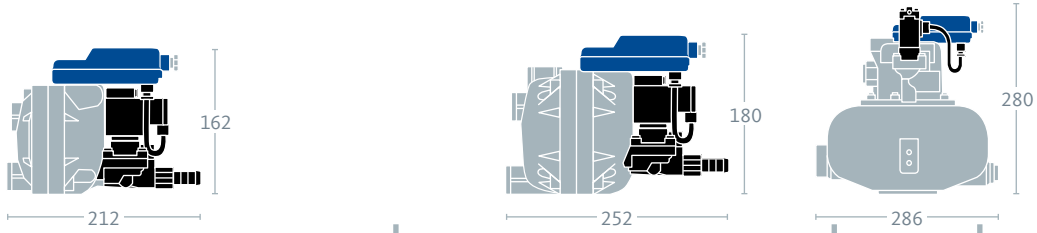
BEKOMAT® is designed for a region by means of the three climatic zones:

- e.g. Northern Europe, Canada, Northern USA, Central Asia
- e.g. Central and Southern Europe, Central America
- South-East Asian coastal regions, Oceania, Amazon and Congo region

**Temperature range:** +1 to +60 °C | BEKOMAT® 12, 13, 14, 16 employable down to -25 °C with a heating system and insulation according to good professional practice



# BEKOMAT® standard units 13 | 14 | 16



13	13 CO	13 CO PN 25	13 CO PN 40	14	14 CO	14 CO PN 25	16 CO	Model
35	35	35	35	150	150	150	1700	Max. compressor performance (m³/min)
30	30	30	30	130	130	130	1400	
20	20	20	20	90	90	90	1000	
70	70	70	70	300	300	300	3400	Max. dryer performance (m³/min)
60	60	60	60	260	260	260	2800	
40	40	40	40	180	180	180	2000	
350	350	350	350	1500	1500	1500		Max. filter performance (m³/min)
300	300	300	300	1300	1300	1300		
200	200	200	200	900	900	900		

0.8	0.8	1.2	1.2	0.8	0.8	1.2	0.8	Min. working pressure (bar)
16	16	25	40	16	16	25	16	Max. working pressure (bar)
2.0	2.0	2.2	2.2	2.9	2.9	3.1	5.9	Weight (kg)
a	a/b	a/b	a/b	a	a/b	a/b	a/b	Field of application
Suitable for all drainage points								Use

## Connections

2x G ½	2x G ½	2x G ½	2x G ½	3x G ¾	3x G ¾	3x G ¾	2x G ¾ / 1x G 1	Inlet
1x G ½	1x G ½	1x G ¾	1x G ¾	1x G ½	1x G ½	1x G ¾	1x G ½	Outlet (hose connector)
13 mm	13 mm	13 mm	13 mm	13 mm	13 mm	13 mm		Outlet (hose di)

**CO:** hard-coated | **PN:** design for operating pressures above 16 bar (**PN 25:** up to 25 bar | **PN 40:** up to 40 bar)  
**a:** oil-containing condensate | **b:** oil-free, often aggressive condensate



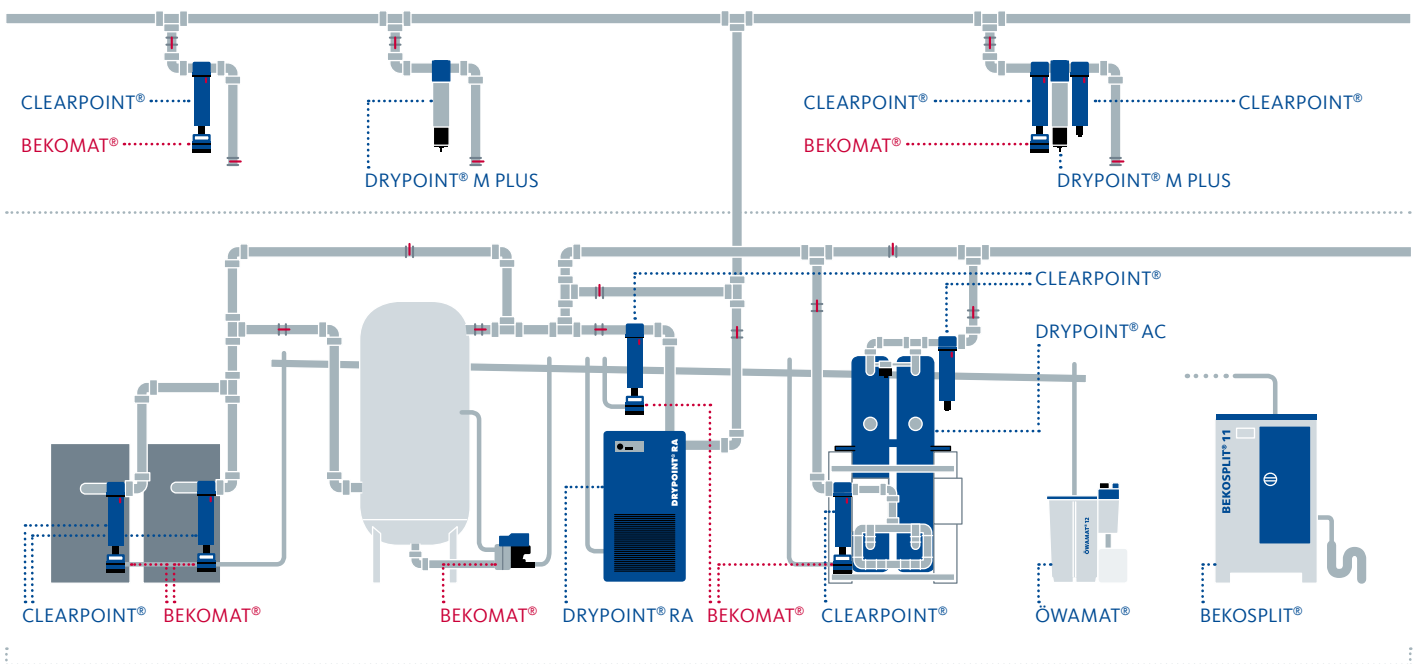
For minimum time requirements during installation and maintenance, EKOMAT® 31/32 (with elbow connector for a smooth connection) and 33 units (with condensate receiver tank) are additionally available. Thanks to the integrated service unit, complete replacement of all wearing parts and components under pressure is possible with just one movement.

For more information, simply request our brochure or get informed online at [www.beko.de](http://www.beko.de).

## Quality with a system. Worldwide

We at **BEKO TECHNOLOGIES** develop, manufacture and distribute products and systems for an optimised compressed-air and compressed gas quality throughout the world. From the processing of compressed air and compressed gas through filtration and drying, via the proven condensate technology to instruments for the quality supervision and measurement. From the small compressed-air application to demanding process technology.


Since its founding, **BEKO** has continuously given decisive impulses to compressed-air technology. Our pathbreaking ideas have exerted considerable influence on the development. In order to keep this going, more than 10% of our employees work in the field of innovation. With this potential and with our personal commitment, we at **BEKO** stand for trend-setting technologies, products and services.





## The product categories

 **Condensate drainage | BEKOMAT®**

BEKOMAT® condensate drains for the electronically level-controlled drainage of condensate in the compressed-air / compressed-gas network operate without unnecessary compressed-air losses and at minimum energy costs.

 **Condensate processing**  
ÖWAMAT® | BEKOSPLIT®

 **Filtration | CLEARPOINT®**

 **Drying | DRYPOINT®**

 **Compressed-air distribution**  
BEKOFLOW®

 **Measurement technology**  
METPOINT®

 **Process technology**  
BEKOBLIZZ® | BEKOKAT®



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