BEKOMAT®

Condensate drainage

Economic efficiency is a question of quality

Level-controlled condensate drainage without compressed-air losses

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Save resources, increase efficiency: the BEKOMAT® principle

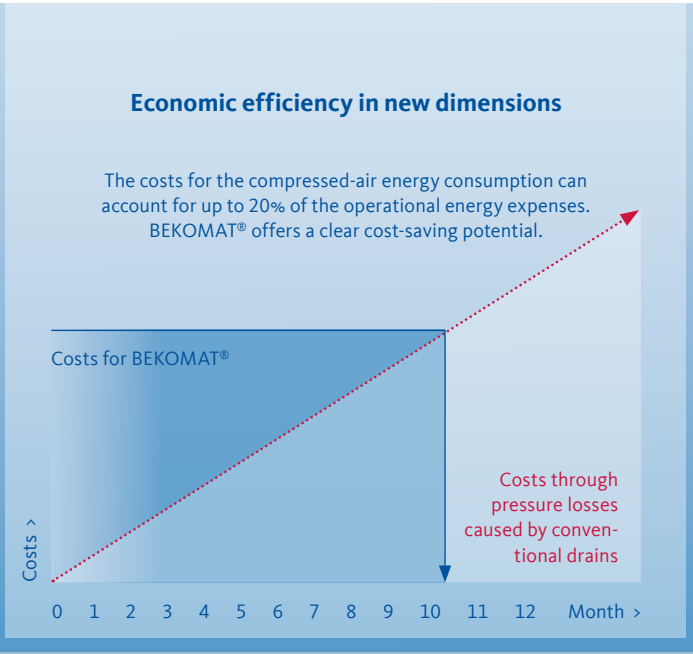
During compressed-air generation and processing, the optimum quality for the respective application should be achieved. The most important target is to remove contaminations and moisture from the compressed air, as these can lead to quality deteriorations, failures, production downtimes or even defective products.

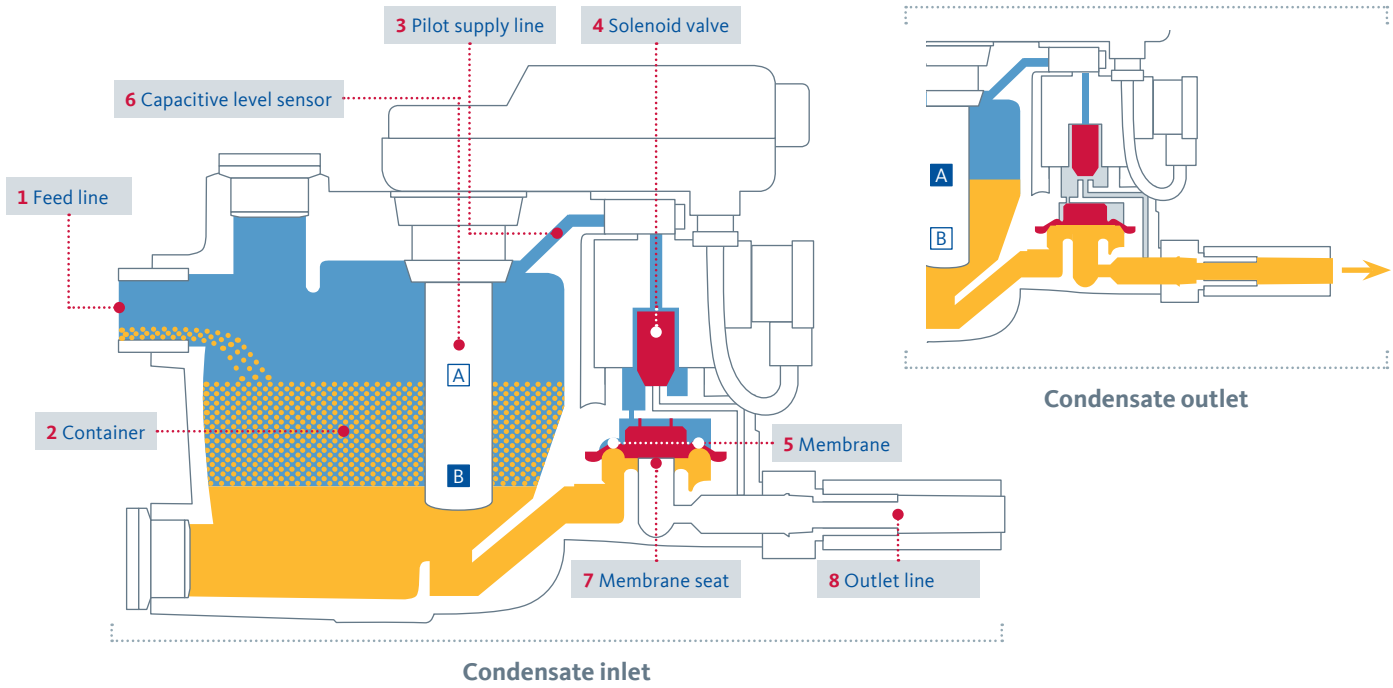
Condensate drainage without loss of compressed air

The generation and processing of compressed air always generates liquid condensate. In most cases this condensate contains oil and is contaminated with dirt particles. Condensate will also disperse 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

Costly damage to compressed air equipment and products can only be effectively minimised by installing automatic condensate drainage equipment. 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.





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

The condensate trickles through the feed line **(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 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 outlet line **(8)**.

BEKOMAT® standard units

BEKOMAT® special units

In use everywhere: BEKOMAT® types and applications

Condensates can be aggressive, contaminated 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 any common 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 in the tank.

Dryer
Refrigeration dryers separate up to 25 per cent of the condensate. Therefore, effective drying is only possible in combination with effective condensate drainage.

Filter
BEKOMAT® 20 FM with filter management, which was especially developed for the monitoring of the filter service life, automatically determines the point in time for replacing 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 flow through to the next compressor stage. BEKOMAT® LA/LP prevents damage through “drop attacks”, condensate build-up and water hammers.

Vacuum
Suitable 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.

Our brochures and datasheets provide additional information on the BEKOMAT special units.

A plus for sustainability: the BEKOMAT® by comparison

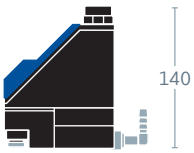
Once a float drain starts leaking, the leakages will sum up to more than 700 Euro per annum. Compressed-air losses also occur when using solenoid valves, as these do not discharge the condensate according to the demand but in a time-controlled manner. Expensively produced compressed air therefore escapes into the environment without being used when the valve opens, in particular during the cold season. On the contrary, 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_2 emissions which would otherwise occur during the generation of energy — a win-win situation both for the user and the environment.

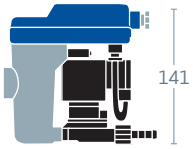
Process-safe, reliable and efficient: the BEKOMAT® advantages at a glance

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 three 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 (m^3/min)	5	(5)	8	8	8
	4	(4)	6.5	6.5	6.5
	2.5	(2.5)	4	4	4
Max. dryer performance (m^3/min)	10	(10)	16	16	16
	8	(8)	13	13	13
	5	(5)	8	8	8
Max. filter performance (m^3/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	1 x G ½ / 1 x G ¾	1 x G ½ / 1 x G ¾	1 x G ½	1 x G ½	1 x G ½
Outlet (hose connector)	1 x G ¼	1 x G ¼	1 x G ⅜	1 x G ⅜	1 x G ⅜
Outlet (hose di)	8 – 10 mm	8 – 10 mm	10 – 13 mm	10 – 13 mm	13 mm

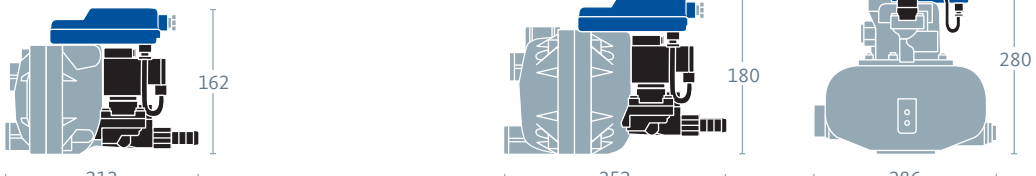
*BEKOMAT® 20 FM with filter management and potential-free contact
CO: hard-coated | **PN:** design for operating pressures above 16 bar (**PN 63:** up to 63 bar) | **a:** oil-containing condensate | **b:** oil-free, often aggressive condensate

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



Dimensions in mm

13	13 CO	13 CO PN 25	13 CO PN 40	13 CO PN 50	14	14 CO	14 CO PN 25	16 CO	Model
35	35	35	35	35	150	150	150	1700	Max. compressor performance (m^3/min)
30	30	30	30	30	130	130	130	1400	
20	20	20	20	20	90	90	90	1000	
70	70	70	70	70	300	300	300	3400	Max. dryer performance (m^3/min)
60	60	60	60	60	260	260	260	2800	
40	40	40	40	40	180	180	180	2000	
350	350	350	350	350	1500	1500	1500		Max. filter performance (m^3/min)
300	300	300	300	300	1300	1300	1300		
200	200	200	200	200	900	900	900		
0.8	0.8	1.2	1.2	1.2	0.8	0.8	1.2	0.8	Min. working pressure (bar)
16	16	25	40	40	16	16	25	16	Max. working pressure (bar)
2.0	2.0	2.2	2.2	2.2	2.9	2.9	3.1	5.9	Weight (kg)
a	a/b	a/b	a/b	a/b	a	a/b	a/b	a/b	Field of application
Suitable for all drainage points									Use

Connections

2 x G ½	2 x G ½	2 x G ½	2 x G ½	2 x G ½	3 x G ¾	3 x G ¾	3 x G ¾	2 x G ¾ / 1 x G 1	Inlet
1 x G ½	1 x G ½	1 x G ⅜	1 x G ⅜	1 x G ⅜	1 x G ½	1 x G ½	1 x G ⅜	1 x G ½	Outlet (hose connector)
13 mm	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 | **PN 50**: up to 50 bar)
a: oil-containing condensate | **b:** oil-free, often aggressive condensate

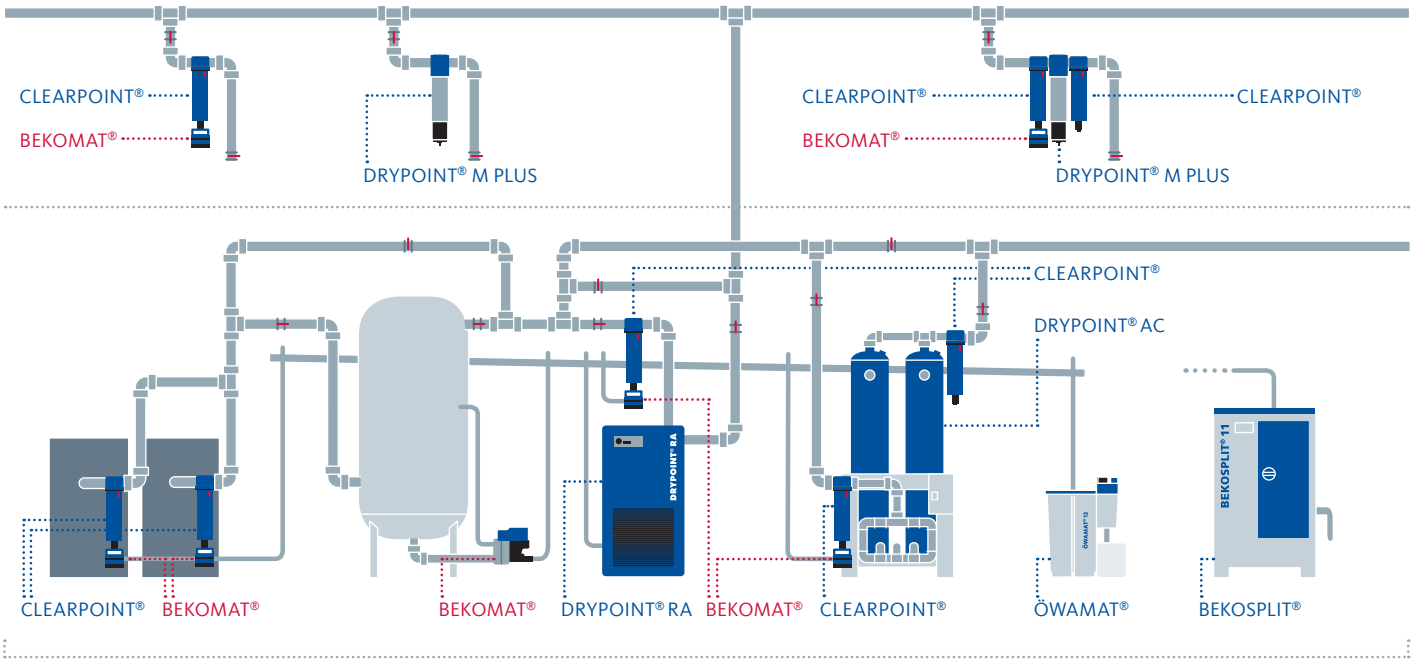
For minimum time requirements during installation and maintenance, BEKOMAT® 31U / 32U and 33U units (with condensate receiver tank) are additionally available.
The integrated service unit provides complete replacement of all wearing and pressurised parts with a flick of the wrist.

For more information, simply request our brochure or get informed online at **www.beko-technologies.com**.

Quality with a system. Worldwide

Here at **BEKO** TECHNOLOGIES, we develop, manufacture and sell products and systems for optimised compressed-air and compressed-gas quality worldwide. From the generation of compressed air and gases through to filtration and drying, from proven condensate technology through to quality-control instruments and measurement, and from simple compressed-air applications through to sophisticated process technology.

Since it was founded in 1982, **BEKO** TECHNOLOGIES has been a major driving force behind compressed-air technology. Our pioneering ideas have been instrumental in the development of this field. Thanks to this expertise and our personal commitment, we at **BEKO** TECHNOLOGIES stand for trailblazing technologies, products and services



The product & system 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®

Measurement technology
METPOINT®

Process technology
BEKOBLIZZ® | BEKOKAT®