

DRYPOINT RA eco

energy competence



Drying

Where technology
meets responsibility

Compressed air refrigeration dryer - DRYPOINT RA eco

The greatest savings come from the energy that we don't use





Respect for the environment

Using natural resources while respecting their origins: That's how we define our responsibility when using air for your processes. We develop technologies and processes that support environmentally friendly production methods. This is how **eco** came about. It's a concept geared toward keeping an eye on potential implications for the environment and consuming energy in a way that generates the maximum economic benefits while respecting the environment, with no compromise on technical functionality.

We combine technology with respect and awareness for the environment and help you **live responsibly**.

DRYPOINT® RA eco Advantages at a glance

+ Energy efficient and economical

No loss of compressed air thanks to efficient condensate drainage with BEKOMAT®

Minimal pressure loss through flow-optimised heat exchanger design

Ultra-low energy consumption thanks to balanced refrigerant compressor technology

+ Safe and reliable

Efficient condensate discharge through integrated demister

Controlled condensate drainage with BEKOMAT®

Optimum safeguards for cooling cycle

+ Simple to use

Clear overview of operating status

Continuous monitoring of condensate drainage

Clear alarm signals

Prompt maintenance and service information

+ eco benefits

Power consumption adjusted in line with changes to drying requirements

Optimum use of operating resources

Saves energy with fluctuating volume flows

Active contribution to sustainability





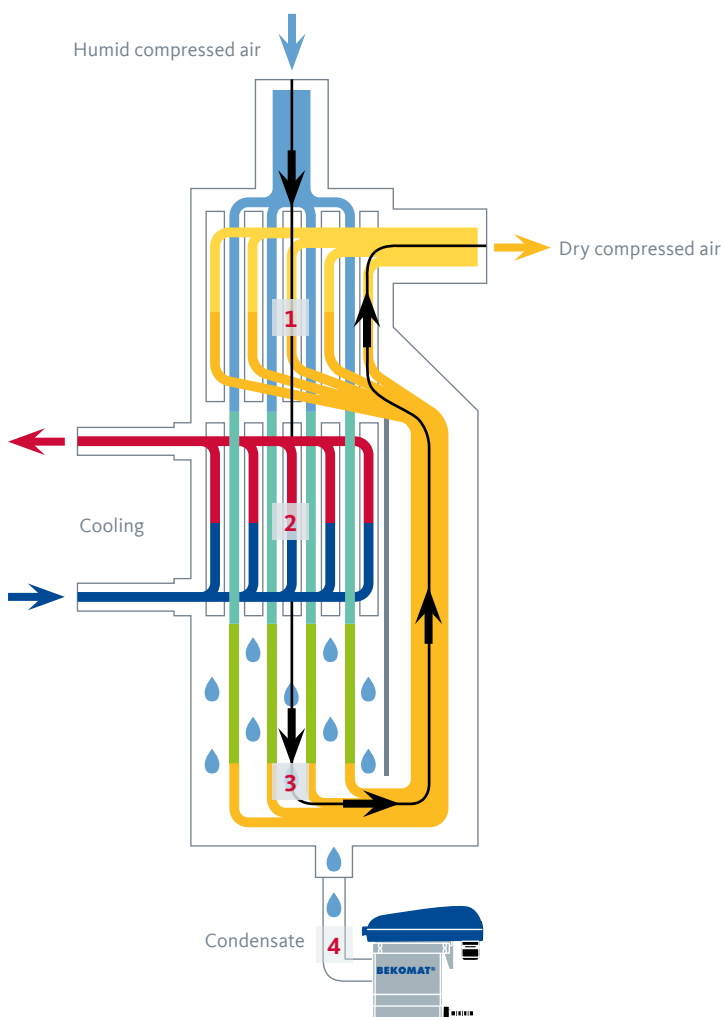
Live responsibly: Intelligent technology always one step ahead

Refrigeration drying is considered the most efficient way of drying compressed air. Standard dryers are usually designed to meet requirements at maximum output, even though volume flow, temperature and pressure can vary widely in practice. Put simply, refrigeration dryers designed in this way waste energy.

The DRYPOINT® RA eco refrigeration dryers offer maximum flexibility, from the smallest volumes to peak output. In doing so, this new generation of refrigeration dryers combines the pursuit of economical operation and responsibility for the environment. The array of technical features ensures that pressure loss, compressed air loss and energy consumption can be reduced to an absolute minimum.

Energy consumption can be tailored precisely to fluctuating compressed air levels or changes to ambient conditions. Compared to conventional refrigeration dryers, the DRYPOINT® RA eco can therefore save up to 80% of operating costs when running at partial loads.

DRYPOINT® RA eco is designed on the basis of proven technology and has made major steps forward when it comes to resource efficiency. The area of application is where compressed-air systems and products have to be safely protected from condensate and pollutants. The drying process takes place by cooling the air, and the condensate generated as a result is drained off by the integrated BEKOMAT® system without any loss of compressed air. In doing so, the DRYPOINT® RA eco only uses as much energy as required for the drying process, cutting costs and reducing the impact on the environment.



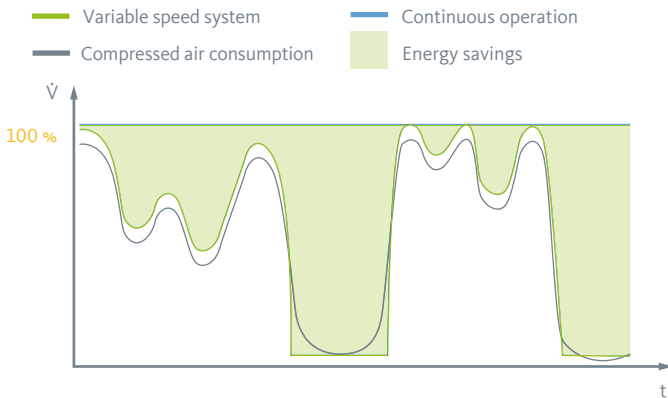
Tried-and-tested system, intelligent controls

Warm compressed air, saturated with water vapour, is pre-cooled in the air/air heat exchanger (1) when entering the refrigeration dryer. This reduces the required cooling capacity of the downstream air/refrigerant heat exchanger (2).

Gravitational force maintains particularly high droplet-separation capacity of nearly 99% in the extremely large condensate collection chamber. Corresponding recirculation reduces flow velocity considerably and prevents the re-entrainment of already separated droplets (3).

Before being discharged from the DRYPOINT® RA eco, the dry, cooled compressed air is reheated in the air/air heat exchanger (1) and relative humidity is reduced substantially. In this process, up to 60% of the cooling capacity is recovered. The intelligent, needs-based regulation of the cooling cycle means that the DRYPOINT® RA eco saves additional energy and is even more efficient.

The accumulated condensate is discharged through the integrated, level-controlled BEKOMAT® condensate drain with no loss of compressed air and can subsequently be processed using processing systems such as the ÖWAMAT® oil-water separation system or the BEKOSPLIT® emulsion-splitting plant (4).



Energy consumption of DRYPOINT® RA eco (variable speed system)

Systematic energy savings

The expansion of our range of refrigeration dryers with the addition of the DRYPOINT RA® eco means that compressed-air drying can be optimally tailored to specific requirements: in applications where conditions remain stable, DRYPOINT RA® is first choice. With fluctuating volume flow, DRYPOINT RA® eco can deliver optimum results while reducing the consumption of resources.

The greatest savings come from the energy that we don't use.

DRYPOINT® RA eco refrigeration dryer is available in two different systems for varying performance:

- » For volume flows < 1,000 m³/h, the DRYPOINT RA® eco works as a cycling dryer, which shuts off the refrigerant compressor when it is not required.
- » For volume flows > 1,000 m³/h, the DRYPOINT RA® eco regulates the speed of the refrigerant compressor and the ventilator. This way, system capacity can be increased and reduced at the touch of a button as and when required.

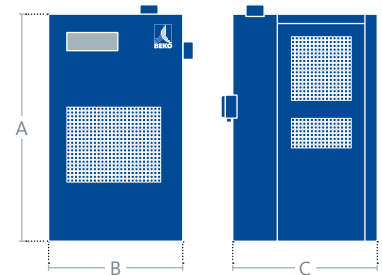
Responsibility starts with the smaller things. Our awareness of our responsibilities is hard-wired for many of us when it comes to energy consumption at home. However, saving energy in industrial environments is more complex. In DRYPOINT® RA eco, we have developed a product that “thinks” one step ahead. Energy is regulated in line with actual needs and can be saved while delivering the same level of productivity.



DRYPOINT® RA eco



Model	Air volume flow m³/h, 3 °C	Electrical connection	Power consumption kW	Pressure loss bar	Air connection	A mm	B mm	C mm
RA 20 eco	21	230 VAC 50 ... 60 Hz 1 Ph	0.16	0.02	G ½ BSP-F	740	345	420
RA 35 eco	33		0.18	0.03	G ½ BSP-F	740	345	420
RA 50 eco	51		0.22	0.08	G ½ BSP-F	740	345	420
RA 70 eco	72		0.23	0.11	G ½ BSP-F	740	345	420
RA 110 eco	108		0.31	0.13	G 1 BSP-F	740	345	420
RA 135 eco	138		0.46	0.17	G 1 BSP-F	740	345	420
RA 190 eco	186	230 VAC 50 Hz 1 Ph	0.69	0.15	G 1¼ BSP-F	825	485	455
RA 240 eco	240		0.75	0.19	G 1¼ BSP-F	825	485	455
RA 330 eco	330		0.70	0.15	G 1¼ BSP-F	885	555	580
RA 370 eco	372		0.84	0.18	G 1 ½ BSP-F	885	555	580
RA 490 eco	486		0.98	0.09	G 2 BSP-F	975	555	625
RA 630 eco	630		1.10	0.13	G 2 BSP-F	975	555	625
RA 750 eco	750		1.45	0.07	G 2½ BSP-F	1105	665	725
RA 870 eco	870		1.52	0.13	G 2½ BSP-F	1105	665	725
RA 960 eco	960		1.73	0.15	G 2 ½ BSP-F	1105	665	725



Reference conditions in accordance with DIN/ISO 7183

- > Volume flow based on 20°C at 1 bar
- > Operating pressure 7 bar
- > Compressed-air inlet temperature 35°C
- > Cooling air temperature 25°C
- > Pressure dew point 3°C
- > All models equipped as standard with a BE-KOMAT® condensate drain
- > Water-cooled versions RA 1300 – RA 8800 available on request

On request:

- > Electrical connection other versions available
- > Pressure <4 bar available

The air volume flows from 21 up to 8832 m³/h listed in the table above apply only to the reference conditions described in DIN ISO7183

Should operating conditions differ, please apply correction factors

RA 1300 eco	1260	400 VAC 50 Hz 3 Ph	2.75	0.21	DN80 - PN16	1465	790	1000
RA 1800 eco	1800		3.30	0.19	DN80 - PN16	1465	790	1000
RA 2200 eco	2208		3.80	0.26	DN80 - PN16	1465	790	1000
RA 2400 eco	2400		4.60	0.21	DN100 - PN16	1750	1135	1205
RA 2900 eco	2900		4.70	0.14	DN100 - PN16	1750	1135	1205
RA 3600 eco	3600		6.10	0.20	DN100 - PN16	1750	1135	1205
RA 4400 eco	4416		6.90	0.26	DN100 - PN16	1750	1135	1205
RA 5400 eco	5400		8.74	0.20	DN150 - PN16	1810	1300	1750
RA 6600 eco	6624		11.23	0.26	DN150 - PN16	1810	1300	1750
RA 7200 eco	7200		11.75	0.20	DN200 - PN16	1870	1400	2200
RA 8800 eco	8832		17.47	0.26	DN200 - PN16	1870	1400	2200

Operating pressure (bar)	4	5	6	7	8	10	12	14
Correction factor	0.77	0.86	0.93	1.00	1.05	1.14	1.21	1.27

Compressed-air inlet temperature (°C)	25	30	35	40	45	50	55	60	65	70
RA 20 – RA 960	1.27	1.21	1.00	0.84	0.70	0.57	0.48	0.42	on request	
RA 1300 – RA 8800	1.26	1.20	1.00	0.81	0.68	0.57	0.46	0.38	on request	

Ambient temperature (°C)	25	30	35	40	45	50
RA 20 – RA 960	1.00	0.96	0.91	0.85	0.76	0.64
RA 1300 – RA 8800	1.00	0.95	0.93	0.85	0.73	0.58

Example: Nominal volume flow: 2,500 m³/h relating to the following operating parameters

Operating pressure	10 bar, g	Correction factor 1 = 1.14
Compressed-air inlet temperature	40 °C	Correction factor 2 = 0.81
Ambient temperature	30 °C	Correction factor 3 = 0.95

Minimal volume flow – nominal volume flow / (F1*F2*F3) => 2,500 m³/h / (1.14*0.81*0.95) = 2,850 m³/h

Selected dryer: RA 2900 eco at 2,900 m³/h

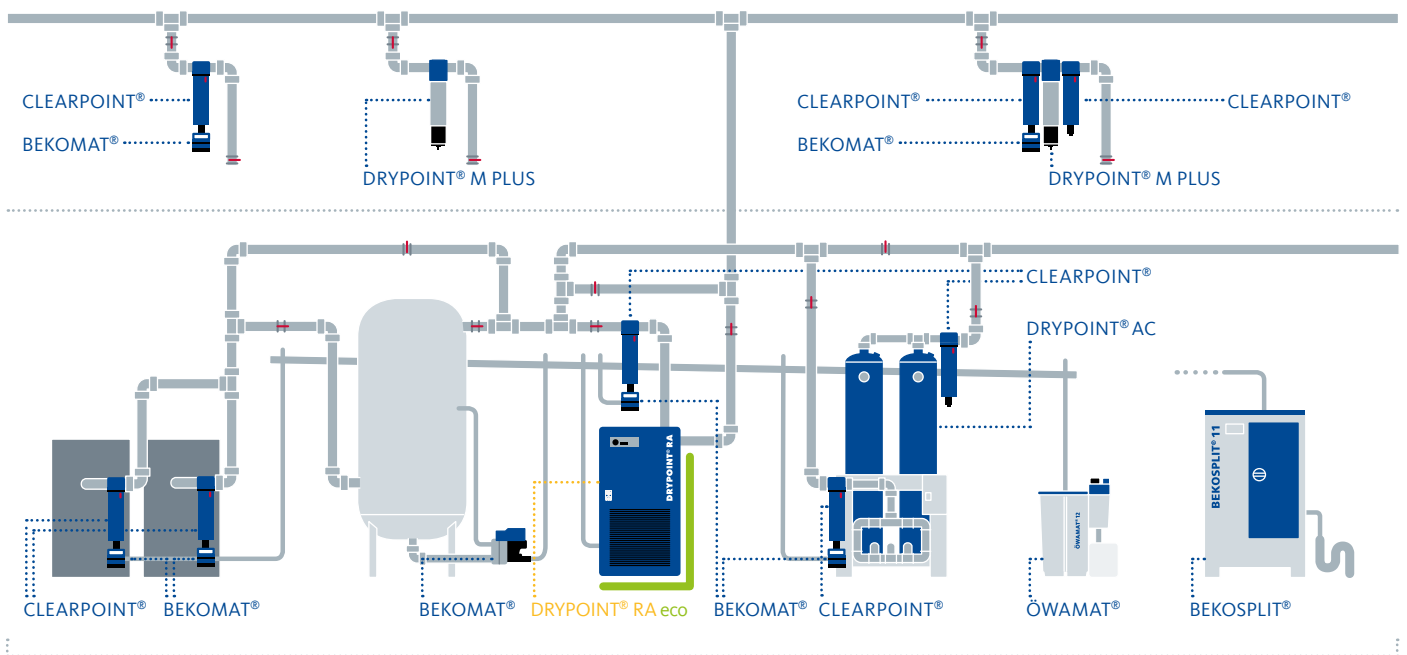
No specifications listed here constitute product characteristics in the sense of the German Civil Code (BGB)



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



Our fields of competence



Drying | DRYPOINT® | EVERDRY®

Significantly reduced operating costs with the application-optimized DRYPOINT® refrigerant, adsorption, and membrane dryers and the EVERDRY® heat-regenerated adsorption dryers.



Filtration | CLEARPOINT®



Condensate technology BEKOMAT® | ÖWAMAT® | BEKOSPLIT®



Service



Measurement technology METPOINT®



Process technology BEKOBLIZZ® | BEKOKAT®



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