DRYPOINT RA® III

The powerhouse among refrigeration dryers

Intuitive. Innovative. Convincing.

The future of
refrigeration drying

BEKO

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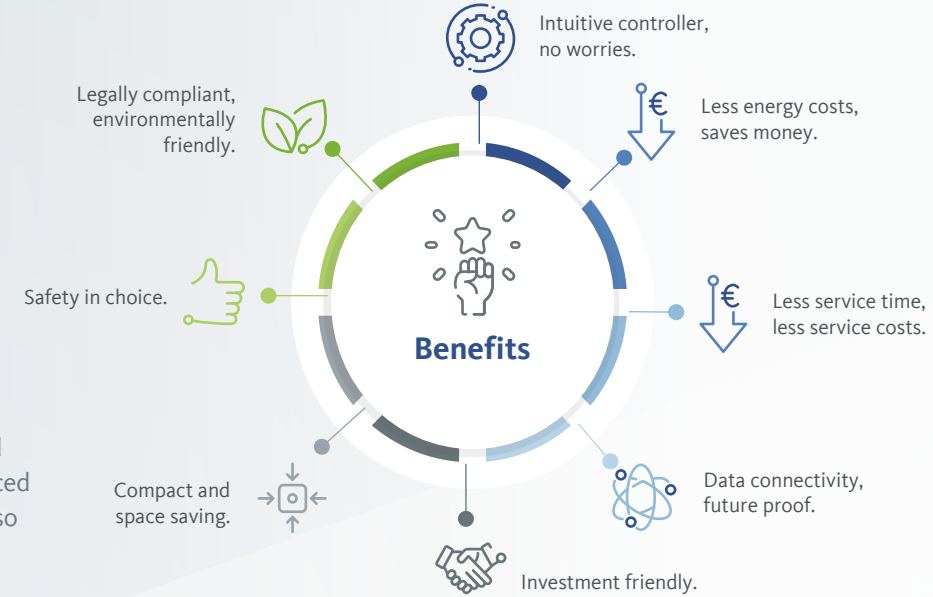
DRYPOINT® RA III

BEKO TECHNOLOGIES is pioneering new standards in user-friendliness, reliability, and efficiency with this cutting-edge refrigeration dryer.

Featuring an innovative heat exchanger design, a patented hot gas bypass valve, a stable dew point, and the integrated **BEKOMAT®** condensate drain, the **DRYPOINT® RA III** represents a new era in advanced refrigeration dryers. The modern design with rounded corners not only adds a contemporary touch but also facilitates a compact and space-saving installation.



Why choose the **DRYPOINT® RA III ?**

» **Wide Model Range**
From 20 m³/h to an impressive 3,000 m³/h, we offer the perfect solution to meet every demand, ensuring stable performance under any circumstances.

» **Intuitive IIoT-Enabled Controls**
Our intuitive, user-friendly controls with Industrial Internet of Things (IIoT) capabilities based on Modbus RTU make monitoring and managing the drying process effortless.

» **Innovative Heat Exchanger Design**
Redefining efficiency with a unique design that minimizes pressure drop.

» **Energy-Saving Compressors**
Optimum compressor dimensioning in the refrigeration circuit ensures energy-efficient performance.

» **Microchannel Condenser and Hot Gas Bypass Valve**
Innovative and perfectly synchronized components ensure even more efficient, smooth and safe operation.

» **Environmentally Friendly Refrigerant**
Contributing to a sustainable future with ozone- and environmentally-friendly refrigerant (R513A).

» **Compact Design**
Space-saving and easily accessible – ideal for efficient service.

» **Integrated BEKOMAT® Condensate Drain**
Ensuring smooth and reliable condensate removal with zero compressed air loss.

Innovative and impressive details: Even lower energy costs and enhanced sustainability

Our decades of expertise in refrigeration drying technology guarantee robust appliances, a high level of energy savings, reliability, a long service life and a fast return on investment. With the **DRYPOINT® RA III BEKO** TECHNOLOGIES sets new standards in terms of user-friendliness, reliability and efficiency.

Compact Design for safety and efficiency

Our unique and modern design featuring rounded bottom corners not only enhances the appliance's visual appeal but also enhances workplace safety. The compact frame design, paired with a horizontally oriented heat exchanger, enables space-saving installation.

Practice-oriented and service-friendly

We've prioritized easy accessibility for maintenance tasks, incorporating generous flaps in the housing, a service-friendly arrangement of components, and advanced controls. These enhancements not only streamline work for service technicians but also ensure optimal functionality.

Sustainable thanks to modern refrigerants

The **DRYPONT® RA III** refrigeration dryers use eco-friendly R513a refrigerant, with low GWP and ASHRAE A1 classification for non-flammability, alongside zero ozone depletion potential (ODP). Achieving a 33% reduction in refrigerant quantity underscores our dedication to sustainability.

Intuitive: user-friendly and future-proof controls

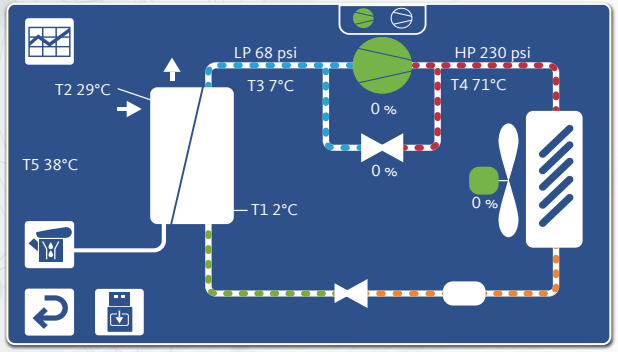
In day-to-day operation, a safe and simple operation of our refrigeration dryers is crucial for user satisfaction.

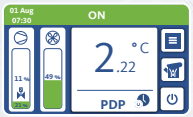
The modern control units - be it the **Touch controller** with color display or the **LED controller** - are characterized by intuitive operation and a wide range of practical information and setting options.

These innovative control units offer **IIOT** connectivity and make the **DRYPOINT® RA III** future-proof. With their intuitive operation and numerous retrievable information and setting options, they guarantee complete ease of use.

Touch controller at a glance

- **User-friendly operation:**
  The modern touchscreen control is easy to use and intuitive.
- **Future-proof with connectivity options:**
  The **Touch controller** is future-proofed with various connectivity options, including **Modbus RTU**.
- **Clearly legible display:**
  Temperature, pressure and other operating data are clearly shown on the display.
- **Clear alarm messages:**
  Clear and descriptive alarm messages with time and date stamps make servicing easier.
- **Event reports:**
  The ability to download event reports provides additional transparency and support for monitoring and analysis.





LED controller at a glance

» **Large-format LED display:**
The **LED controller** has a large-format **LED** display for clear control.

» **Simple operation:**
Operation is effortless thanks to familiar icons that enable simple and intuitive handling.

» **Wide range of alarm options:**
Various selectable alarms are displayed directly on the control unit to alert you to important events.

» **Integrated test function for BEKOMAT®:**
The integrated test function makes it easy to check the **BEKOMAT®** condensate drain.

» **IIOT capability with Modbus RTU:**
Thanks to the integrated **Modbus RTU**, the **LED controller** is **IIOT-capable**, which enables easy integration into modern Industry 4.0 systems.

Wide range of products for every need

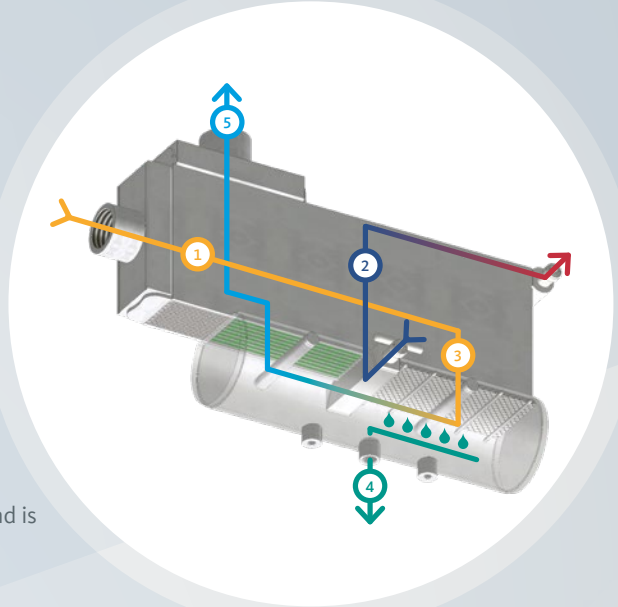
Functionality in detail

The heart of all **DRYPOINT® RA** refrigeration dryers is the state-of-the-art heat exchanger.

The efficient counter-flow process enables optimum heat exchange across the entire section.

The streamlined, laminar air flow through the condenser and the calming zone in the demister ensure ideal condensation of the moisture with minimal compressed air losses. The collected condensate is discharged reliably and without loss via the integrated **BEKOMAT®** condensate drain.

The refrigeration is generated and transported by extremely efficient refrigeration compressors and environmentally friendly refrigerants. In this way, we not only guarantee optimum drying conditions, but also focus on sustainability and environmental protection.



1. Pre-cooling:
Saturated, warm compressed air enters the system and is pre-cooled in the air-to-air heat exchanger.

2. Cooling to the dew point:
The compressed air is cooled to the required pressure dew point in the air/refrigerant heat exchanger with microchannels.

3. Effective condensation:
Water droplets are separated in the large condensate collection chamber and the reduced speed prevents re-swirling. The demister cleans itself by gravity and its vertical alignment.

4. Condensate drainage:
The accumulated condensate is drained from the dryer via a **BEKOMAT®** condensate drain without any loss of compressed air.

5. Efficient air dehumidification:
The cold and dried compressed air leaves the device via an air-to-air heat exchanger, which reduces the relative humidity and at the same time recovers up to 60% of the cooling capacity.

Additional advantages of the 3rd generation **DRYPOINT® RA** refrigeration dryers

Patented hot gas bypass valve for maximum reliability

Our 3rd generation **DRYPOINT® RA** units are equipped with a patented hot gas bypass valve that has been specially developed for refrigeration drying. This innovative technology ensures constant dew point stability from 0 to 100% compressed air load, without the risk of freezing. Thanks to this valve, no additional adjustments are required and maximum long-term reliability is guaranteed.

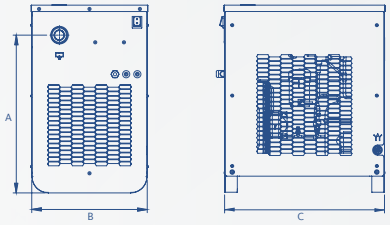
Unique microchannel capacitor for optimized performance

Our highly optimized microchannel condenser is used in all appliances from 370 m³/h onwards. This unique component not only increases the performance of the unit, but also improves the reliability of the design and ensures that the desired dew point is precisely maintained. In addition, it contributes to improved overall cooling efficiency, resulting in a reduction in the required compressor size and therefore further energy savings.

Integrated BEKOMAT® condensate drain prevents compressed air losses

Our **DRYPOINT® RA III** features the global standard for condensate drainage - the integrated **BEKOMAT®** condensate drain. This not only contributes to the legendary zero compressed air loss operation, but is also easily accessible. The quick and easy replacement of individual parts reduces maintenance costs, while the high reliability and 8,000-hour maintenance interval increase uptime.

Technical data



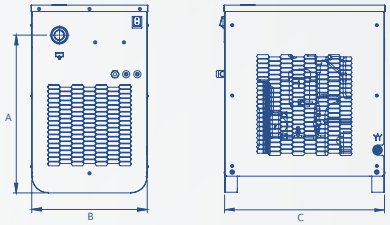
Operating conditions	
Max. compressed air inlet temperature	+70 °C
Min. ...max. operating pressure RA 20 – RA 3000	4 ... 16 bar [g]
Min. ... max. ambient temperature	+2 ... +50 °C

Reference conditions according to DIN / ISO 7183	
Volume flow in m³/h at	+20 °C
Operating pressure	7 bar [g]
Compressed air inlet temparature	+35 °C
Cooling air temparature	+25 °C
Inlet humidity	saturated
Pressure dew point	+3 °C

Electrical connection	
RA 20 – RA 330	230 Vac, 1 Ph, 50 ... 60 Hz
RA 370 – RA 960	230 Vac, 1 Ph, 50 Hz
RA 1080 – RA 3000	400 Vac, 3 Ph, 50 Hz

DRYPOINT® RA III	20 AC	35 AC	50 AC	70 AC	110 AC	135 AC
Volume flow (m³/h) at +3 °C	21	33	51	72	108	138
Power consumption (kW)	0.12	0.19	0.2	0.3	0.32	0.54
Operating pressure (bar, min/max)	4/16	4/16	4/16	4/16	4/16	4/16
Pressure loss (Δp bar)	0.03	0.06	0.06	0.11	0.04	0.06
Air connection	1/2"	1/2"	1/2"	1/2"	1"	1"
Control system	LED	LED	LED	LED	LED	LED
Capacitor	Copper tube	Copper tube	Copper tube	Copper tube	Copper tube	Copper tube
Dimensions						
A (mm)	590	590	590	590	590	590
B (mm)	365	365	365	365	365	365
C (mm)	505	505	505	505	505	505
Weight (kg)	30	31	32	36	40	43
Refrigerant	R513A	R513A	R513A	R513A	R513A	R513A
Refrigerant quantity (Kg)	0.14	0.16	0.2	0.24	0.28	0.35
GWP	631	631	631	631	631	631
CO_2 equivalent (Kg)	88.3	101.0	126.2	151.4	176.7	220.9
Order ref.	4059803	4059805	4059808	4059809	4059810	4059811

Technical data



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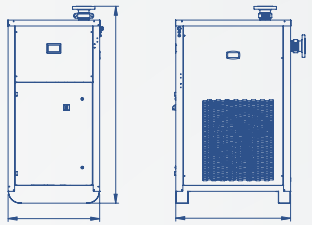
Cooling air temparature	+25 °C
Inlet humidity	saturated
Pressure dew point	+3 °C

Electrical connection	
RA 20 – RA 330	230 Vac, 1 Ph, 50 ... 60 Hz
RA 370 – RA 960	230 Vac, 1 Ph, 50 Hz
RA 1080 – RA 3000	400 Vac, 3 Ph, 50 Hz

DRYPOINT® RA III	190 AC	240 AC	330 AC	370 AC	490 AC	630 AC
Volume flow (m³/h) at +3 °C	186	240	330	372	486	630
Power consumption (kW)	0.55	0.56	0.95	1	1.4	1.4
Operating pressure (bar, min/max)	4/16	4/16	4/16	4/16	4/16	4/16
Pressure loss (Δp bar)	0.05	0.06	0.04	0.05	0.04	0.05
Air connection	1 1/4"	1 1/4"	1 1/2"	1 1/2"	2"	2"
Control system	LED	LED	LED	LED	LED	LED
Capacitor	Copper tube	Copper tube	Copper tube	Microchannel	Microchannel	Microchannel
Dimensions						
A (mm)	690	690	690	1130	1130	1130
B (mm)	435	435	435	625	625	625
C (mm)	630	630	630	755	755	755
Weight (kg)	58	59	66	106	119	125
Refrigerant	R513A	R513A	R513A	R513A	R513A	R513A
Refrigerant quantity (Kg)	0.38	0.45	0.47	0.8	0.8	0.8
GWP	631	631	631	631	631	631
CO_2 equivalent (Kg)	239.8	284.0	296.6	504.8	504.8	504.8
Order ref.	4059813	4059825	4059826	4059827	4059828	4059269

Technical data



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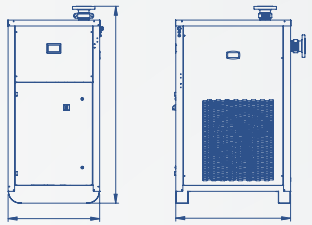
Min. ... max. ambient temperature	+2 ... +50 °C

Reference conditions according to DIN / ISO 7183	
Volume flow in m³/h at	+20 °C
Operating pressure	7 bar [g]
Compressed air inlet temparature	+35 °C
Cooling air temparature	+25 °C
Inlet humidity	saturated
Pressure dew point	+3 °C

Electrical connection	
RA 20 – RA 330	230 Vac, 1 Ph, 50 ... 60 Hz
RA 370 – RA 960	230 Vac, 1 Ph, 50 Hz
RA 1080 – RA 3000	400 Vac, 3 Ph, 50 Hz

DRYPOINT® RA III	750 AC	870 AC	960 AC	1080 AC	1300 AC	1490 AC	1900 AC	2400 AC	3000 AC
Volume flow (m³/h) at +3 °C	750	870	960	1080	1260	1500	1900	2400	3000
Power consumption (kW)	1.7	1.8	1.8	1.9	1.9	2.2	2.9	3.9	6.1
Operating pressure (bar, min/max)	4/16	4/16	4/16	4/16	4/16	4/16	4/16	4/16	4/16
Pressure loss (Δp bar)	0.04	0.05	0.06	0.07	0.09	0.06	0.09	0.09	0.13
Air connection	2 1/2"	2 1/2"	2 1/2"	DN80	DN80	DN80	DN80	DN100	DN100
Control system	LED	LED	LED	Touch	Touch	Touch	Touch	Touch	Touch
Capacitor	Microchannel	Microchannel	Microchannel	Microchannel	Microchannel	Microchannel	Microchannel	Microchannel	Microchannel
Dimensions									
A (mm)	1552	1552	1552	1552	1552	1865	1865	1865	1865
B (mm)	776	776	776	776	776	957	957	957	957
C (mm)	973	973	973	973	973	1006	1006	1006	1006
Weight (kg)	212	212	213	260	267	328	299	373	374
Refrigerant	R513A	R513A	R513A	R513A	R513A	R513A	R513A	R513A	R513A
Refrigerant quantity (Kg)	1.3	1.3	1.3	1.35	1.6	2	2	2.7	2.7
GWP	631	631	631	631	631	631	631	631	631
CO_2 equivalent (Kg)	820.3	820.3	820.3	851.9	1,009.6	1,262.0	1,262.0	1,703.7	1,703.7
Order ref.	4059834	4059835	4059836	4059830	4059829	4059831	4059837	4059832	4059833

Technical data



Operating conditions	
Max. compressed air inlet temperature	+70 °C
Min. ...max. operating pressure RA 20 – RA 3000	4 ... 16 bar [g]
Min. ... max. ambient temperature	+2 ... +50 °C

Reference conditions according to DIN / ISO 7183	
Volume flow in m³/h at	+20 °C
Operating pressure	7 bar [g]
Compressed air inlet temparature	+35 °C
Cooling air temparature	+25 °C
Inlet humidity	saturated
Pressure dew point	+3 °C

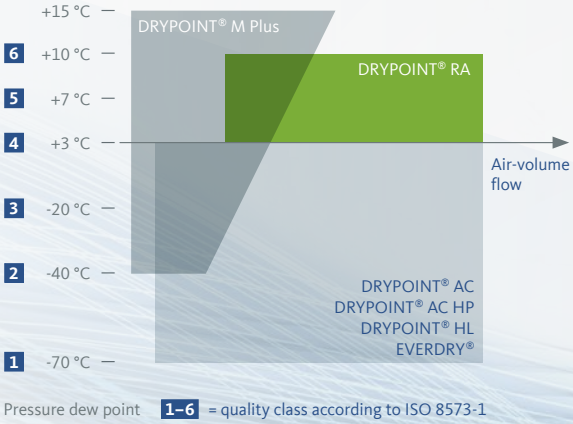
Electrical connection (Other voltage ratings on request)	
RA 750– RA 960	230 Vac, 1 Ph, 50 Hz
RA 1080 – RA 3000	400 Vac, 3 Ph, 50 Hz

DRYPOINT® RA III	750 WC	870 WC	960 WC	1080 WC	1300 WC	1490 WC	1900 WC	2400 WC	3000 WC
Volume flow (m³/h) at +3 °C	750	870	960	1080	1260	1500	1900	2400	3000
Power consumption (kW)	1.5	1.6	1.7	1.7	2	2.5	2.5	3.4	3.4
Operating pressure (bar, min/max)	4/16	4/16	4/16	4/16	4/16	4/16	4/16	4/16	4/16
Pressure loss (Δp bar)	0.04	0.05	0.06	0.07	0.09	0.06	0.09	0.09	0.13
Air connection	2 1/2"	2 1/2"	2 1/2"	DN80	DN80	DN80	DN80	DN100	DN100
Control system	LED	LED	LED	Touch	Touch	Touch	Touch	Touch	Touch
Capacitor	Microchannel	Microchannel	Microchannel	Microchannel	Microchannel	Microchannel	Microchannel	Microchannel	Microchannel
Dimensions									
A (mm)	1552	1552	1552	1552	1552	1865	1865	1865	1865
B (mm)	776	776	776	776	776	957	957	957	957
C (mm)	973	973	973	973	973	1006	1006	1006	1006
Weight (kg)	224	224	225	270	277	343	314	388	389
Refrigerant	R513A	R513A	R513A	R513A	R513A	R513A	R513A	R513A	R513A
Refrigerant quantity (Kg)	1.6	1.6	1.6	1.7	2	2.5	2.5	3.4	3.4
GWP	631	631	631	631	631	631	631	631	631
CO_2 equivalent (Kg)	1,009.6	1,009.6	1,009.6	1,072.7	1,262.0	1,577.5	1,577.5	2,145.4	2,145.4
Order ref.	4059914	4059916	4059917	4059921	4059922	4059920	4059994	4060011	4059923

The right solutions for every need and every requirement

Moisture in the form of condensate poses a permanent threat to operational processes in compressed air networks. An important criterion for selecting a compressed air dryer is the desired degree of drying, the air volume flow and the quality class. Our extensive range of refrigeration, membrane and adsorption dryers optimally meets all requirements. We thus cover a wide range of drying degrees and quality classes and can achieve pressure dew points between +15 and -70 °C.

The use of refrigeration dryers as a proven technology for economical compressed air drying has been state of the art for many years: Drying takes place by cooling the compressed air temperature, whereby the entrained water vapor condenses and is discharged in the form of water.



Pressure dew point **1–6** = quality class according to ISO 8573-1

That is **BEKO** TECHNOLOGIES:

- Founded in 1982 by Berthold Koch
- Independent and family-owned until today and also in the future
- Headquarters in Neuss, Germany
- Production facilities in Germany, USA, India and China
- Worldwide, customer-oriented sales organisation
- High quality standards and living values

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