

BECAUSE  
IMPROVEMENT  
NEVER  
STOPS



ADQ 21-7200  
REFRIGERANT DRYERS

# STRONG PERFORMANCE IN QUALITY AIR

You need a dryer to produce the quality air that safeguards your production. It must also be reliable and keep your operational costs low. The ALUP ADQ 21-7200 is the premium refrigerant dryer that delivers on all your requirements. Efficient, powerful and environmentally friendly, the ADQ gives you that best-in-class ALUP performance you count on every day.



## 1 EASY INSTALLATION & OPERATION

- Compatible with any compressor technology.
- Compact footprint saves valuable floor space.
- Easy installation with simple standard connections.
- Refrigeration technology requires little maintenance.
- Easy-to-use controller allows performance monitoring.

## 2 RELIABLE & EFFICIENT PERFORMANCE

- Eliminates liquid water from your air system.
- Helps reduce your power consumption.
- Robust and suitable for many conditions and applications.

## 3 MINIMAL ENVIRONMENTAL FOOTPRINT

- High dryer efficiency lowers CO<sub>2</sub> emissions.
- Low refrigerant gas load.
- R513A and R410A refrigerant gas are compliant with the strictest regulations.
- No impact on the ozone layer.

# ADQ 21-1080



## PERFORMANCE

- As low as Class -;4; - according to ISO 8573-1:2010.
- Low pressure drop, below 0.2 bar/2.9 psi.
- Robust and proven components.
- Smallest footprint and simple layout ensure easy installation.
- Very little maintenance required.
- Lowest operating power consumption.

## NO-LOSS DRAIN

The ADQ comes as standard with a robust drain, specifically developed for demanding refrigerant dryer applications. Because it discharges condensate only when needed, no valuable compressed air is wasted and condensate is purged properly.

## ENGINEERING

- REFRIGERANT COMPRESSOR:** Driven by an electric motor, cooled with refrigerant fluid and protected against thermal overload.
- REFRIGERANT CONDENSER:** Air-cooled and with a large exchange surface for high thermal exchange.
- MOTOR-DRIVEN FAN:** For the condenser cooling air flow.
- 3-IN-1 HEAT EXCHANGER:** With high-efficiency operation to minimize pressure drop and footprint.
- HOT GAS BYPASS VALVE:** Controls the refrigerant capacity under all load conditions to prevent ice formation in the system.
- CONTROL PANEL:** Monitors performance and displays all relevant information.
- FREE CONTACTS:** As standard for the ADQ 600-1080 for remote start/stop and general alarm.



## YOUR PARTNER IN SUSTAINABILITY

We only have this one planet. That is why sustainability guides everything we do at ALUP. The innovations we develop and the products we build are geared toward reducing your energy consumption and your CO<sub>2</sub> footprint, and helping the environment all of us share. Supporting your sustainable operation is our number one priority.



## OPTIONS ADQ 21-110

### BYPASS VALVE AND FILTER SUPPORT\*

Allows the system to operate using the filters during maintenance or malfunction of the dryer, thus avoiding any downtime.

### FILTER SUPPORT\*

Allows two filters to be installed on the rear side of the dryer, reducing overall dimensions and installation costs.

\* Filters are not included in the option.

# ADQ 1440-7200



## PERFORMANCE

- As low as Class -;4; - according to ISO 8573-1:2010.
- Low pressure drop, typically below 0.2 bar/2.9 psi.
- High-efficiency dryer reduces CO<sub>2</sub> emissions.
- Best-in-class microchannel refrigerant condenser lowers gas charge, and therefore your carbon footprint.
- Refrigerant R410A is CFC-free and has zero ozone depletion potential (ODP).



## COMPACT SIZE

Thanks to its sophisticated evaporator and condenser design, the new ADQ is surprisingly small to fit in the tightest spaces.

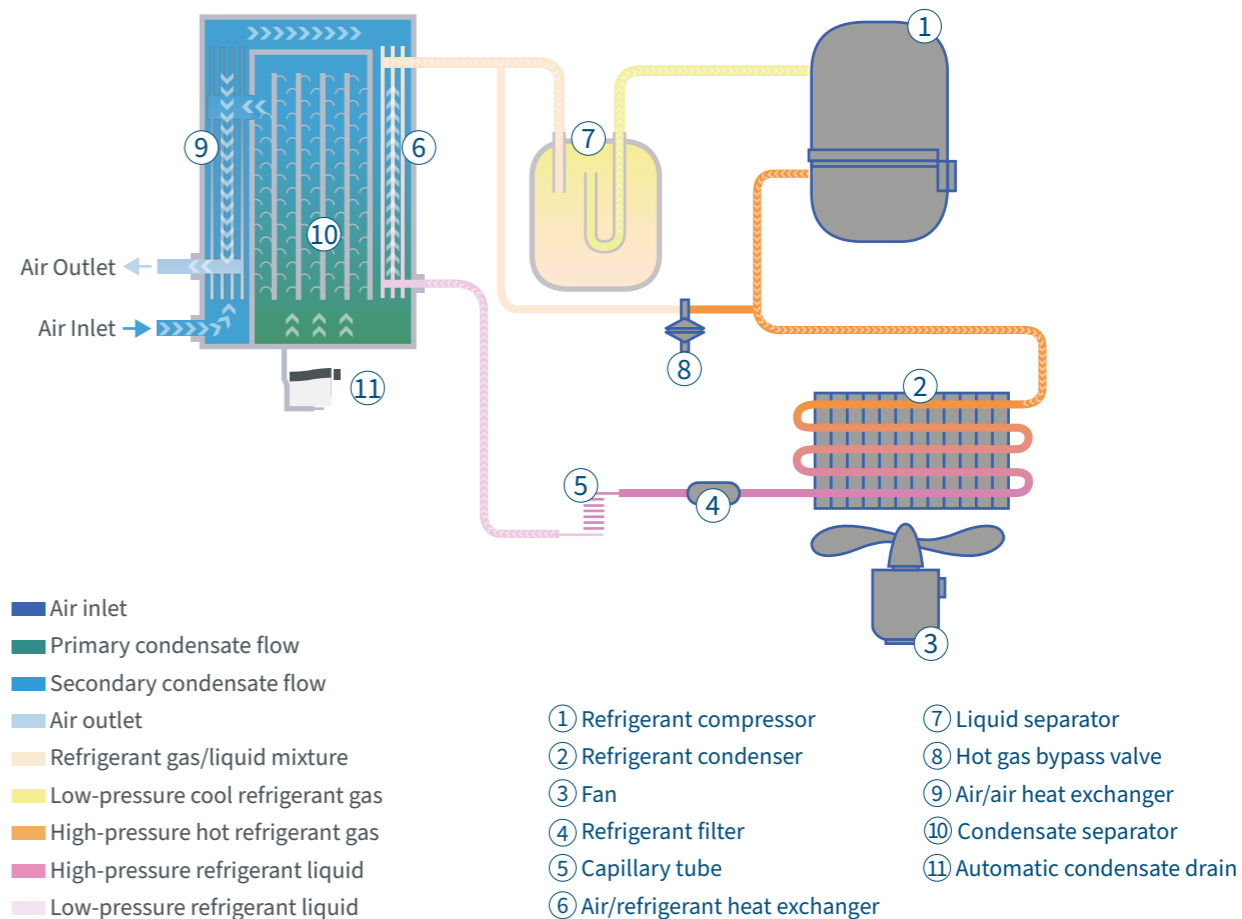
## ENGINEERING

- SCROLL REFRIGERANT COMPRESSOR:** Scroll technology delivers a stable performance with industry-leading efficiency and COP.
- REFRIGERANT CONDENSER:** Microchannel design ensures a smaller physical and environmental footprint.
- AIR-AIR EXCHANGER:** Designed for high thermal exchange and low load losses.
- AIR/REFRIGERANT EVAPORATOR:**
  - 1 for ADQ 1440-4200, 2 for ADQ 5040-7200.
  - Up to 25% lower pressure drop.
  - Reduces dryer size.
- HOT GAS BYPASS VALVE:** Controls the refrigerant capacity under all load conditions to prevent ice formation.
- CONTROL PANEL:** Ensures easy, advanced control and monitoring.
- FREE CONTACTS:** Allow for remote start/stop, general alarm and drain alarm.

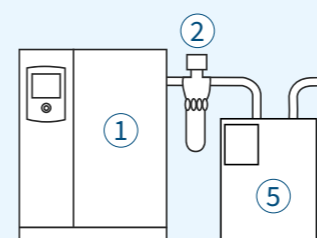


# REFRIGERANT AIR DRYERS: WORKING PRINCIPLE

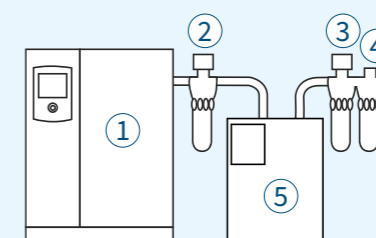
Refrigerant dryers use the same working principle as air conditioning units, cooling the air with a heat exchanger, a refrigerant circuit and a compressor. Thanks to their efficient and simple technology, refrigerant dryers are the preferred solution for most compressed air applications.



## TYPICAL INSTALLATIONS



High-quality air with reduced dew point (air purity to ISO 8573-1: class 1:4:2)



High-quality air with reduced dew point and oil concentration (air purity to ISO 8573-1: class 1:4:1)

- Compressor with aftercooler
- G filter
- C filter
- V filter
- Refrigerant dryer

Vertical receiver is always recommended.

## DO I REALLY NEED A COMPRESSED AIR DRYER?

The short answer: yes, you really do. The air that surrounds us naturally contains water vapors. When that air is compressed, the concentration of these water vapors increases. For example, a 15kW compressor can generate 1.3 liters per hour of excess water and moisture. If this moisture is not removed, it can compromise your entire air system. A dryer protects your air network and equipment, as well as your final products from corrosion and contamination.

# TECHNICAL SPECIFICATIONS

Model	Max. working pressure		Air treatment capacity			Power consumption		Inlet/outlet connections	Dimensions			Weight	Refrigerant gas
	bar	psi	l/min	m³/h	cfm	W	V/Hz/Ph		A mm	B mm	C mm		
ADQ 21	16	232	350	21	12,4	130	230/50/1	3/4" M	493	350	450	19	R513A
ADQ 36	16	232	600	36	21,2	164	230/50/1	3/4" M	493	350	450	19	R513A
ADQ 51	16	232	850	51	30	190	230/50/1	3/4" M	493	350	450	20	R513A
ADQ 72	16	232	1200	72	42,4	266	230/50/1	3/4" M	493	350	450	25	R513A
ADQ 110	16	232	1825	110	64,4	284	230/50/1	3/4" M	493	350	450	27	R513A
ADQ 141	14	203	2350	141	83	674	230/50/1	1" F	497	370	764	44	R513A
ADQ 180	14	203	3000	180	106	716	230/50/1	1" F	497	370	764	44	R513A
ADQ 216	14	203	3600	216	127	631	230/50/1	1" 1/2 F	557	460	789	62	R410A
ADQ 246	14	203	4100	246	145	705	230/50/1	1" 1/2 F	557	460	789	60	R410A
ADQ 312	14	203	5200	312	184	905	230/50/1	1" 1/2 F	557	460	789	62	R410A
ADQ 390	14	203	6500	390	230	969	230/50/1	1" 1/2 F	587	580	899	82	R410A
ADQ 462	14	203	7700	462	272	1124	230/50/1	1" 1/2 F	587	580	899	82	R410A
ADQ 600	14	203	10000	600	353	1540	400/50/3	2" F	1070	805	962	145	R410A
ADQ 720	14	203	12000	720	424	1980	400/50/3	2" F	1070	805	962	158	R410A
ADQ 900	14	203	15000	900	530	2010	400/50/3	2" 1/2 F	1070	805	962	165	R410A
ADQ 1080	14	203	18000	1080	636	2770	400/50/3	2" 1/2 F	1070	805	962	164	R410A
ADQ 1440	14	203	24000	1440	848	3500	400/50/3	3" M	1005	1132	1399	230	R410A
ADQ 1800	14	203	30000	1800	1059	3690	400/50/3	3" M	1005	1121	1596	325	R410A
ADQ 2100	14	203	35000	2100	1236	4550	400/50/3	3" M	1005	1121	1596	338	R410A
ADQ 2700	14	203	45000	2700	1589	6097	400/50/3	DN 100	1005	1121	1826	390	R410A
ADQ 3000	14	203	50000	3000	1766	6540	400/50/3	DN 100	1005	1531	1826	462	R410A
ADQ 3740	14	203	62400	3744	2204	7100	400/50/3	DN 100	1005	1531	1826	508	R410A
ADQ 4200	14	203	70000	4200	2472	7290	400/50/3	DN 100	1005	1531	1826	508	R410A
ADQ 5040	14	203	84000	5040	2966	8260	400/50/3	DN 150	1979	1455	1826	810	R410A
ADQ 5940	14	203	99000	5940	3496	10200	400/50/3	DN 150	1979	1455	1826	815	R410A
ADQ 7200	14	203	120000	7200	4238	12180	400/50/3	DN 150	1979	1455	1833	900	R410A

Reference conditions:  
 - Operating pressure: 7 bar (100 psi)  
 - Operating temperature: 35°C  
 - Room temperature: 25°C  
 - Pressure dew point: +4°C +/- 1  
 - Available in different voltages and frequency values.

Operating limit conditions:  
 - Max. operating pressure:  
 16 bar (232 psi) (ADQ 21 up to 110)  
 14 bar (203 psi) (ADQ 141 up to 7200)  
 - Max. inlet temperature: 55°C (60°C for ADQ 600-7200)  
 - Min./Max. ambient temperature: +5°C; 43°C (+5°C; 46°C for ADQ 600-7200)

**Correction factors to be used for site conditions outside of normal reference conditions (1) stated above = A x B x C**

Room temperature	°C	25	30	35	40	43	46
<b>A</b>		1	0.91	0.81	0.72	0.67	0.62

Operating temperature	°C	25	30	35	40	46	50	55	60
<b>B</b>		1.1	1.05	1	0.82	0.69	0.58	0.49	0.42

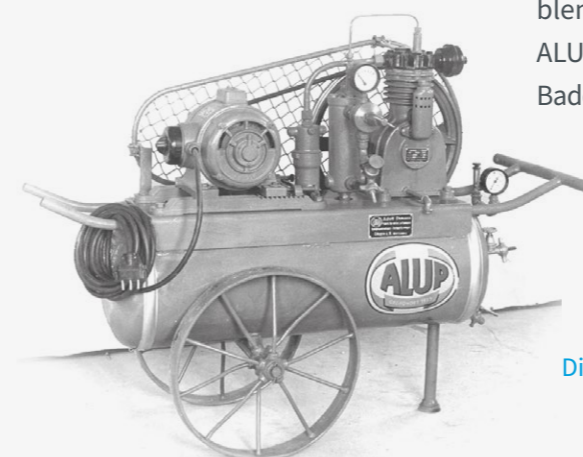
Operating pressure	bar	6	7	8	10	13	14	15	16
<b>C</b>		0.97	1	1.03	1.07	1.12	1.15	1.16	1.17

The new flow rate value can be obtained by dividing the current or real flow rate by the correction related to the real operation conditions.



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## ALUP'S HERITAGE



Founded in Germany in 1923, ALUP derives its name from the automotive products that were manufactured in the mechanical workshop in Köngen where the company came into existence: Auto-Luft-Pumpen. ALUP developed its first piston compressor just two years later. In 1980, rotary screw compressors were added to its product range.

The experience and expertise the company gained each year, coupled with a spirit of innovation, has led to today's high-quality product offer. The name ALUP Kompressoren has become synonymous with innovative technology blended with a strong sense of tradition. To this day, ALUP Kompressoren is operating out of the heart of Baden-Württemberg, where it all began nearly a century ago.

### DRIVEN BY TECHNOLOGY, DESIGNED BY EXPERIENCE

Discover what happens when passion for technology meets hands-on industrial experience: Designs that are easier to install and maintain, allowing you to focus on your job. Our extensive product range features the right machine for you – including the options that meet your performance requirements perfectly. High energy efficiency ensures return on investment and reduces your carbon footprint. And, because customer proximity is one of our hallmarks, you will always be one step ahead when your needs change.



1923 1925

Founded in Germany

First piston compressor

1980

First rotary screw compressors

today

Innovative technology





Contact your local ALUP Kompressoren representative



### Care

Care is what service is all about: professional service by knowledgeable people, using high-quality original parts.

### Trust

Trust is earned by delivering on our promises of reliable, uninterrupted performance and long equipment lifetime.

### Efficiency

Equipment efficiency is ensured by regular maintenance. Efficiency of the service organization is how Original Parts and Service make the difference.



[www.alup.com](http://www.alup.com)

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