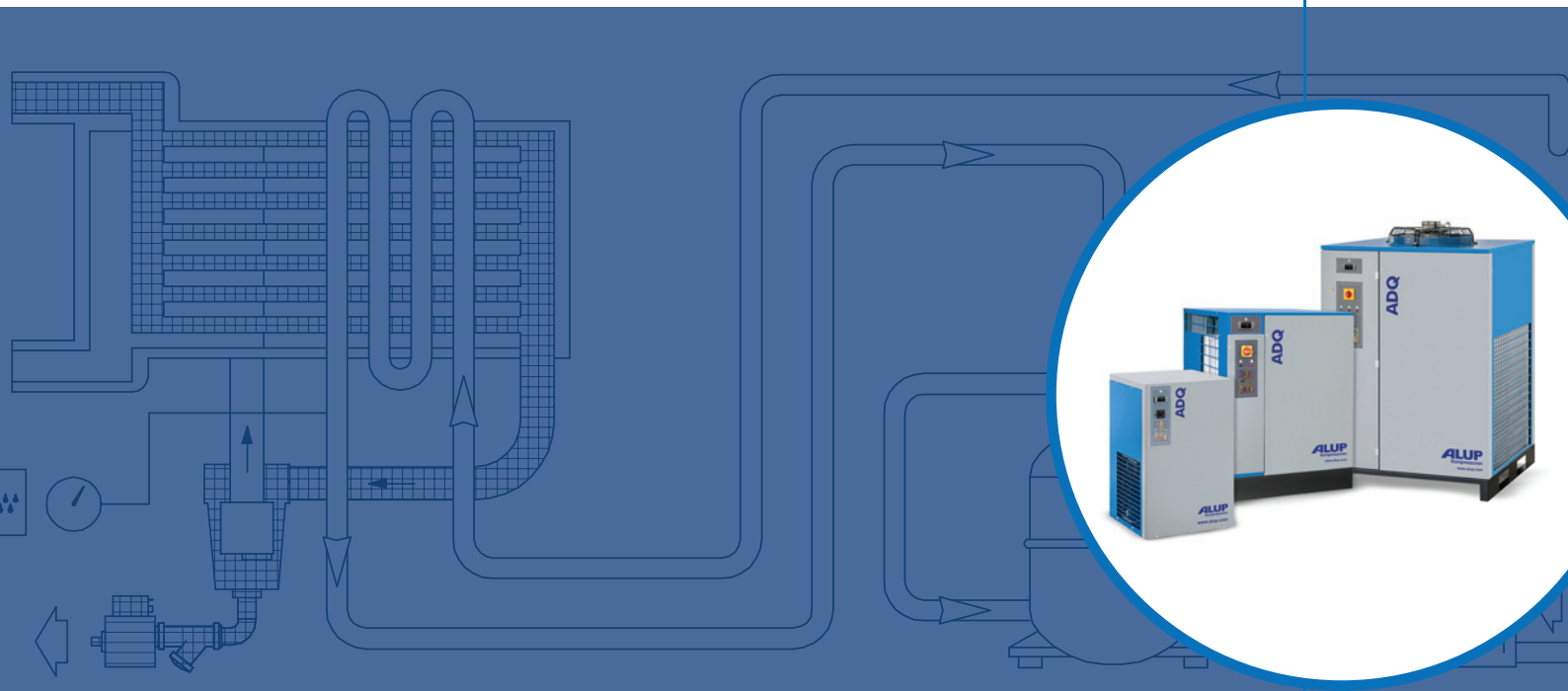
ADQ
Refrigeration dryers



ADQ 21-5040

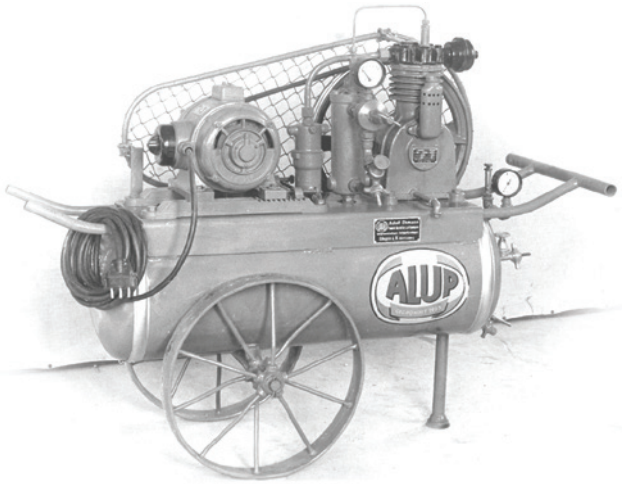
ALUP Kompressoren

ALUP's heritage

Founded in Germany in 1923, the company derives its name of the automotive products that were manufactured in the Köngen' mechanical workshop where ALUP came into existence: Auto-LUft-Pumpen. Only two years later, the first range of piston compressors was being developed, whilst in 1980 rotary screw compressors were added to the product offer.

Over time, experience grew and innovation prospered, leading to today's high quality product portfolio. As such, the name ALUP Kompressoren has become synonymous with innovative technology blended with a strong sense of tradition.

Today, ALUP Kompressoren is still operating out of its home town Köngen, where everything started in 1923.



Driven by technology Designed by experience

Discover what happens when a passion for technology is fused with hands-on industrial experience. Designs evolve towards more practical installation and maintenance, giving you the freedom to focus on your job. Product ranges include the exact machine you need, with the right options for your performance needs. Return on investment is ensured, while your carbon footprint shrinks. And, because we stay close to our customers, we're one step ahead when your needs change.

The range that meets your requirements

During the compression process, a compressor turns humidity in the intake air into condensate. This will cause wear and corrosion to the compressed air network and downstream equipment. The results are costly interruptions to production and reduction in the efficiency and service life of the equipment used. Refrigeration dryers prevent these negative consequences, condensing the water in the air and removing it.

Clean and dry air brings you value

- Protect the air network from corrosion, rust and leakages.
- Improve final product quality.
- Boost productivity.
- Reduce maintenance costs.
- Prolong the life span of your air network and pneumatic tools.

User-friendly operation

- Refrigeration technology is straightforward and requires little maintenance.
- Quick air quality check via dew point display.
- Compatible with any compressor technology and complying with over 95% of the industrial applications (reaching a PDP of maximum +3°C at reference conditions).

Easy installation

- Very compact design.
- Easily installed, also in limited spaces thanks to the small footprint.
- Easy and fast installation of the filters and by-pass option.

Environmental friendly refrigerant gases

- Lowest possible environmental impact.
- Use of R134a, R410A and R452A refrigerant gas.
- No impact on the ozone layer.
- Gas R410A benefits:
  - Low Global Warming Potential (GWP).
  - Energy saving by use of rotary refrigerant compressor.

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The highest standards

Boost your productivity

- Quality components ensure low pressure drop, stable pressure dew point and efficient cooling.
- Clean and dry compressed air increases the overall productivity of your operations.

Cost-efficient solution

- None or very little maintenance required.
- Very low energy consumption and high energy saving due to low pressure drops throughout the system.

Easy installation and access

- Compact design, small footprint and simple layout.
- Extremely easy to install.

User-friendly operation

- Straightforward control panel with easy access to all the electrical components.
- Easy reading from dew point display indicating all relevant information.

1. **Refrigerant compressor** driven by an electric motor, cooled using refrigerant fluid and protected against thermal overload.
2. **Refrigerant condenser** air-cooled and with a large exchange surface for high thermal exchange.
3. **Motor-driven fan** for the condenser cooling air flow.
4. **Air-air exchanger** with high thermal exchange and low load losses.
5. **Air/refrigerant evaporator** with high thermal exchange and low leakage rates.
6. **Condensate separator** for high efficiency.
7. **Hot gas bypass valve** controls the refrigerant capacity under all load conditions preventing any formation of ice within the system.
8. **Control panel** indicating all relevant information.
9. **Free contacts** as standard for the range ADQ 600-5040 for a:
   - Remote start/stop
   - Remote general alarm
   - Remote drain alarm

Personalized for you: features and options

PDP display

The operation of the ADQ dryer is monitored by an electronic controller indicating all relevant information:

Technical details

- Status of the refrigerant dryer and fan.
- Dew point display.

Alarm display

- Alarm about high or low dew point.
- Fan probe failure (ADQ 72-462).
- Service warning.

Control panel with free contact (on request) for a:

- PDP alarm.
- High refrigerant temperature.
- Fan probe failure.

Standard features (for ADQ 600-5040)

Free potential contacts for a:

- General alarm:
  -High/low PDP alarm
  - High-refrigerant temperature
  - Probe failures
  - High-pressure switch
  - Electrical failure
- Drain alarm
- Remote start / stop

Intelligent capacitive drain discharge

The full refrigerant dryer range is equipped with a level-controlled condensate drain, using electronic level sensors to discharge only condensate without wasting any compressed air. This grants you the following benefits:

- Only water is discharged, no compressed air.
- Energy saving.
- No noise and environmentaly friendly.

Available options (for ADQ 21-110)

Bypass valve and filter support*

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

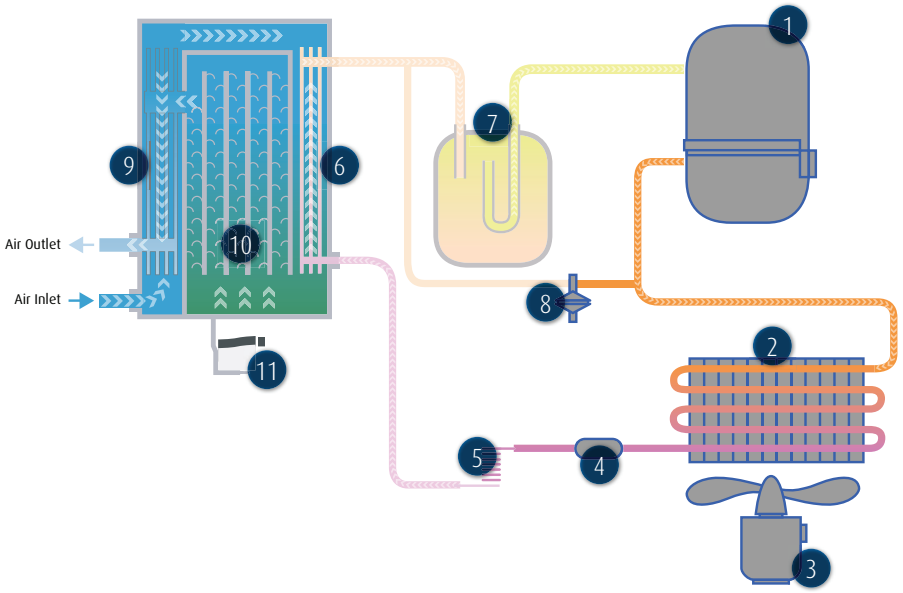
Filter support*

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.

Air drying principle

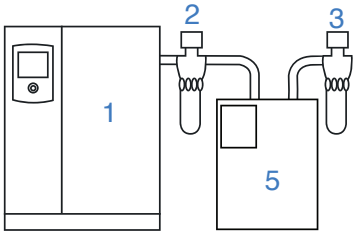
For many companies in today's competitive global market, the treatment of compressed air is not an option, but a necessity in view of operating costs and increased production efficiency. Based on an efficient and simple technology, refrigeration dryers represent the preferred solution for the majority of these applications. As a result the water from the air condenses and can be removed and a pressure dew point of +3°C can be reached at reference conditions.



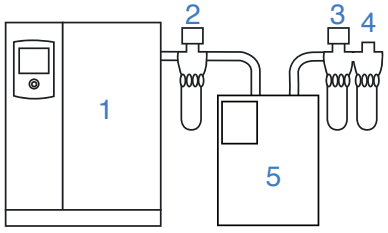
- Air inlet
- Primary condensate flow
- Secondary condensate flow
- Air outlet
- Refrigerant gas/liquid mixture
- Low pressure, cool refrigerant gas
- High pressure, hot refrigerant gas
- High pressure, refrigerant liquid
- Low pressure refrigerant liquid

1. Refrigerant compressor
2. Refrigerant condenser
3. Fan
4. Refrigerant filter
5. Capillary tube
6. Air/refrigerant heat exchanger
7. Liquid separator
8. Hot gas by-pass valve
9. Air/air heat exchanger
10. Condensate separator
11. Automatic condensate drain

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)

1. Compressor with after cooler
2. G filter
3. C filter
4. V filter
5. Refrigerant dryer.

Vertical receiver is always recommended.

Technical data

TYPE	Max. Working Pressure		Air Treatment Capacity			Motor Power		Inlet/outlet Connections	Dimensions			Weight	
	bar	psi	l/1'	m³/h	cfm	W	V/Hz/Ph	Gas/DN	A	B	C	Kg.	Refrigerant gas
ADQ 21	16	232	350	21	12,4	130	230/50/1	3/4" M	493	350	450	19	R134a
ADQ 36	16	232	600	36	21,2	164	230/50/1	3/4" M	493	350	450	19	R134a
ADQ 51	16	232	850	51	30,0	190	230/50/1	3/4" M	493	350	450	20	R134a
ADQ 72	16	232	1200	72	42,4	266	230/50/1	3/4" M	493	350	450	25	R134a
ADQ 110	16	232	1825	110	64,4	284	230/50/1	3/4" M	493	350	450	27	R134a
ADQ 141	14	203	2350	141	83,0	674	230/50/1	1" F	498	370	764	44	R134a
ADQ 180	14	203	3000	180	106	716	230/50/1	1" F	498	370	764	44	R134a
ADQ 216	14	203	3600	216	127	660	230/50/1	1" 1/2 F	558	460	789	53	R410A
ADQ 246	14	203	4100	246	145	663	230/50/1	1" 1/2 F	558	460	789	60	R410A
ADQ 312	14	203	5200	312	184	835	230/50/1	1" 1/2 F	558	460	789	65	R410A
ADQ 390	14	203	6500	390	230	1016	230/50/1	1" 1/2 F	588	580	899	80	R410A
ADQ 462	14	203	7700	462	272	1136	230/50/1	1" 1/2 F	588	580	899	80	R410A
ADQ 600	14	203	10000	600	353	1319	400/50/3	2" F	898	735	962	128	R410A
ADQ 720	14	203	12000	720	424	1631	400/50/3	2" F	898	735	962	146	R410A
ADQ 900	14	203	15000	900	530	1889	400/50/3	2" F	898	735	962	158	R410A
ADQ 1080	14	203	18000	1080	636	2110	400/50/3	2" F	898	735	962	165	R410A
ADQ 1440	14	203	24000	1440	848	3260	400/50/3	3" M	1083	1020	1526	325	R410A
ADQ 1800	14	203	30000	1800	1060	3890	400/50/3	3" M	1083	1020	1526	335	R410A
ADQ 2100	14	203	35000	2100	1237	4750	400/50/3	3" M	1083	1020	1526	350	R410A
ADQ 2700	14	203	45000	2700	1589	6715	400/50/3	DN 125	1121	1020	1526	380	R452A
ADQ 3000	14	203	50000	3000	1766	6800	400/50/3	DN 125	2099	1020	1535	550	R452A
ADQ 4200	14	203	70000	4200	2472	10200	400/50/3	DN 125	2099	1020	1535	600	R452A
ADQ 5040	14	203	84000	5040	2966	12300	400/50/3	DN 125	2099	1020	1535	650	R452A

[1] Reference conditions:
- Operating pressure: 7 bar (100 psi).
- Operating temperature: 35°C.
- Room temperature: 25°C.
- Pressure dew point: +3°C (+/- 1).
- Available in different voltages and frequency values.

Limit conditions:
- Max. operating pressure: 16 bar (232 psi) (ADQ 21 up to 110)
  14 bar (203 psi) (ADQ 141 up to 5040)
- Operating temperature: 55°C.
- Minimum/maximum room temperature: +5°C/+45°C.

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	45								
	A	**1,00**	0,92	0,84	0,80	0,74	(ADQ 21 up to 462)							
		1,00	0,91	0,81	0,72	0,62	(ADQ 600 up to 5040)							
Operating temperature	°C	30	**35**	40	45	50	55							
	B	1,24	**1,00**	0,82	0,69	0,58	0,45	(ADQ 21 up to 462)						
		1,00	**1,00**	0,82	0,69	0,58	0,49	(ADQ 600 up to 5040)						
Operation pressure	bar	5	6	**7**	8	9	10	11	12	13	14	15	16	
	C	0,90	0,96	**1,00**	1,03	1,06	1,08	1,10	1,12	1,13	1,15	1,16	1,15	(ADQ 2 up to 46)
		0,90	0,97	**1,00**	1,03	1,05	1,07	1,09	1,11	1,12	1,15	-	-	(ADQ 60 up to 504)

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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DRIVEN BY TECHNOLOGY DESIGNED BY EXPERIENCE

CONTACT YOUR LOCAL ALUP KOMPRESSOREN REPRESENTATIVE.

ORIGINAL PART

Care. Trust. Efficiency.

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.

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