

BECAUSE  
IMPROVEMENT  
NEVER  
STOPS



AVSD 360-1080  
REFRIGERANT DRYERS

# AVSD: A REVOLUTION IN DRYER EFFICIENCY

The ALUP AVSD refrigerant dryers are making top quality air at previously unimaginable energy savings a reality. Their variable speed drive ensures that your dryer will only use the energy needed to match your compressed air demand. In addition to their unparalleled efficiency, they also deliver stable, high air purity and a small carbon footprint.

## 1 HIGHER PRODUCTION QUALITY AND RELIABILITY

- Increase your operational reliability by safeguarding downstream equipment, such as piping, receiver and machinery.
- Boost your output thanks to higher uptime and process optimization results by connecting to your compressor room communication protocol.
- Advanced controller and ICONS remote connectivity give you production insights, flexibility, efficiency and reliability.

## 2 UNMATCHED ENERGY SAVINGS

- Lower operational cost due to lower electricity bills and maintenance costs.
- Quick return on investment (ROI), as low as 1.5 year.

## 3 ENVIRONMENTALLY FRIENDLY

- Contribute to a CO<sub>2</sub>-neutral production process and greener society.
- Achieve your environmental goals.
- GWP gas regulation compliant.



## 4 SMART, COMPACT DESIGN

- Small footprint to fit on your production floor or in your utility room.
- Easy to move and to access for service.



### AVSD: STRENGTH IN NUMBERS

- Variable speed drive delivers up to **60% in energy savings**.
- ISO 8573-1:2010 **air purity Class 4** guaranteed, even in high ambient (**46°C**) temperatures.
- **Up to 65% less CO<sub>2</sub> emissions** in TEWI (Total Equivalent Warming Impact) compared to fixed speed dryers, up to **55%** less than thermal mass dryers currently on the market.
- Up to **33% smaller size** than thermal mass dryers.
- Available in **6 sizes** from **360 to 1080 m<sup>3</sup>/hr**.

# EXCEPTIONAL DRYER PERFORMANCE & QUALITY AIR

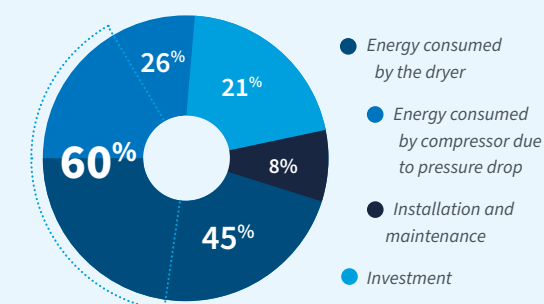


## IMPROVE YOUR OPERATIONAL RELIABILITY AND QUALITY

Installing an air dryer is the smart choice, as compressed air contains moisture that can damage your air system, your pneumatic equipment and your products. Unfortunately, not all refrigerant dryers give you reliable performance and air quality. With a guaranteed ISO 8573-1:2010 Class 4 air purity, the ALUP AVSD gives you protection and peace of mind. What is more, with the advanced Airlogic<sup>2</sup>T controller, you can monitor and control your AVSD to enhance its efficiency and reliability. And with an ICONS remote monitoring plan, you can optimize its operation even further.

## VSD: REDUCE YOUR TOTAL COST OF OWNERSHIP

By matching its power usage to your air demand, the AVSD can decrease your dryer energy consumption by up to 60%. In addition, the new ALUP VSD dryer also delivers indirect savings: Its patented heat exchanger reduces the pressure drop and therefore results in even lower operating costs. By drastically lowering your total cost of dryer ownership on these two fronts, the AVSD offers you a return on investment as quick as 1.5 year.



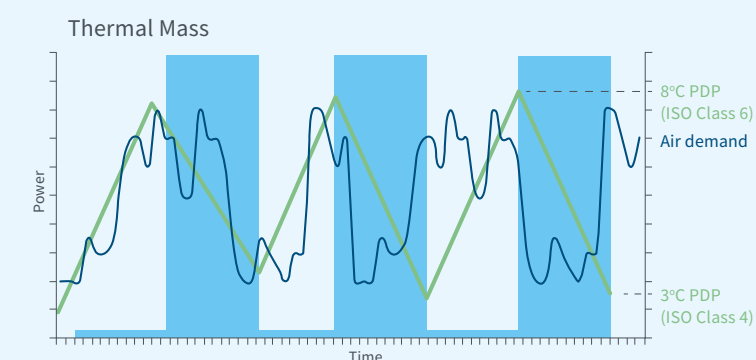
## ACHIEVE YOUR ENVIRONMENTAL GOALS

Sustainability is not a vague goal anymore; it has become a production KPI. The AVSD delivers a measurable contribution to your environmental and emission objectives with a low TEWI score (Total Equivalent Warming Impact). The dryer features the R410A refrigerant, which is GWP gas regulation compliant and has a zero-ozone depletion potential.

## THE SUPERIOR ALTERNATIVE TO THERMAL MASS

For many years, the most efficient dryers were the so-called thermal mass dryers, which run at full load to cool a thermal mass, then stop and rely on that mass for cooling before repeating the process. However, this process is inefficient as the dryer still needs to run at full load to cool the thermal mass. In addition, thermal mass dryers offer limited or no energy savings in high ambient temperatures.

Compared to thermal mass technology, VSD dryers offer real innovation and vastly superior energy savings. It is also important to point out that the dew point of VSD dryers stays consistently low. The result: A constant supply of high-quality air. The dew point of thermal mass compressors, however, rises and falls, which compromises air quality by up to 2 purity classes.







## ONE RELIABLE SOURCE FOR ALL YOUR COMPRESSED AIR NEEDS

ALUP stands ready to meet all of your compressed air needs: From the compressor ① itself and the new VSD dryer ② to line filters ③, oil-water separators ④, air receiver buffer storage ⑤, our own easy-to-install AIRnet piping system ⑥, and a central controller to manage the entire system ⑦. All of these products are available in the proven ALUP quality and each of them is built to last.

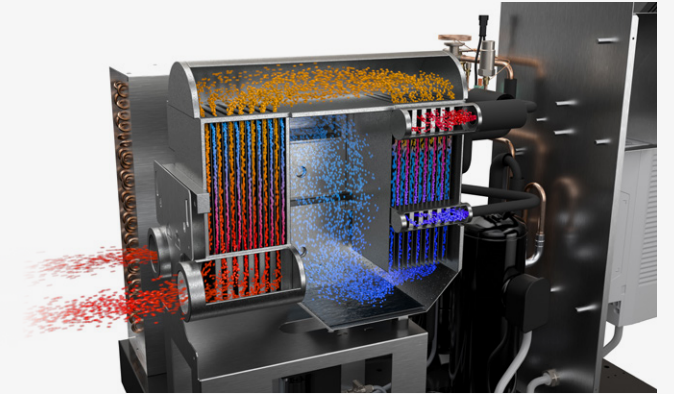
## A CLOSER LOOK AT THE AVSD

### REFRIGERANT COMPRESSOR WITH VSD INVERTER:

Matches its speed to your air demand to save on energy use and costs.

### HIGH-EFFICIENCY HEAT EXCHANGER:

Patented design with air-to-air side to reduce pressure drop.



### ZERO-LOSS DRAIN:

Features a level sensor to open the drain only when needed to prevent unnecessary loss of compressed air.

### SINGLE ELECTRICAL CONNECTION:

Ensures quick and easy installation.

**AIRLOGIC<sup>2</sup>T CONTROLLER:** with warning indications, dryer shutdown and maintenance scheduling. Also comes with ICONS remote monitoring to maximize your dryer performance and energy efficiency.

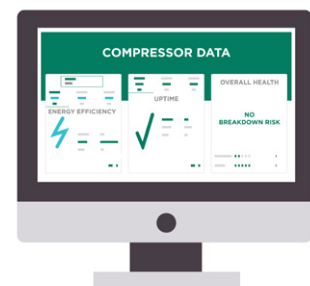
## ICONS

## INCREASED UPTIME, POWERED BY ICONS

Are you keeping an eye on your dryer's running parameters and service alerts? With an Intelligent CONnectivity System (ICONS), you get data and insights from your Airlogic<sup>2</sup>T controller delivered to your computer, tablet or smartphone. The result: no surprise breakdowns, no unforeseen costs:

- On-time maintenance to control costs and ensure a longer machine life.
- Potential problems are recognized before they can pose a threat to the continuity of your production.

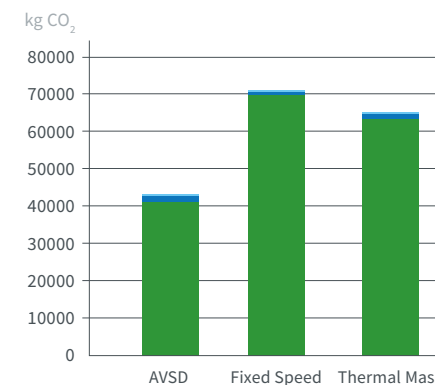
What is more, ICONS allows for truly proactive compressor and production management and optimization, with analyses and reports indicating potential energy savings and other enhancements.



## BETTER FOR THE ENVIRONMENT: A GOOD TEWI SCORE

The AVSD produces 65% less CO<sub>2</sub> emissions calculated in TEWI compared to fixed speed dryers, up to 55% less than thermal mass dryers currently on the market. But what does this TEWI score mean?

TEWI, short for Total Equivalent Warming Impact, is a measure that reflects the global warming impact of refrigerant equipment based on the emissions of greenhouse gases during the life-time of the equipment and the disposal of the operating fluids at the end. TEWI takes into account direct refrigerant emissions as well as indirect emissions produced through the energy consumed in operating the equipment.



### Indirect/Operations

AVSD 41340 kg CO<sub>2</sub>  
Fixed Speed 69960 kg CO<sub>2</sub>  
Thermal Mass 63600 kg CO<sub>2</sub>

### Direct Recovery

AVSD 1503 kg CO<sub>2</sub>  
Fixed Speed 802 kg CO<sub>2</sub>  
Thermal Mass 1224 kg CO<sub>2</sub>

### Direct Leaks

AVSD 226 kg CO<sub>2</sub>  
Fixed Speed 120 kg CO<sub>2</sub>  
Thermal Mass 184 kg CO<sub>2</sub>

**TEWI** = GWP (direct; refrigerant leaks and recovery/recycling) + GWP (indirect; operation)  
=  $(GWP \times m \times L_{\text{annual}} \times n) + GWP \times m \times (1 - \alpha_{\text{recovery}}) + (E_{\text{annual}} \times \beta \times n)$   
Where:  
GWP = Global Warming Potential of refrigerant, relative to CO<sub>2</sub> (GWP CO<sub>2</sub> = 1)  
L<sub>annual</sub> = Leakage rate per year (Units: kg)  
n = System operating life (Units: years)  
m = Refrigerant charge (Units: kg)  
 $\alpha_{\text{recovery}}$  = Recovery/recycling factor from 0 to 1  
E<sub>annual</sub> = Energy consumption per year (Units: kWh p.a.)  
 $\beta$  = Indirect emission factor (Units: kg CO<sub>2</sub> per kWh)

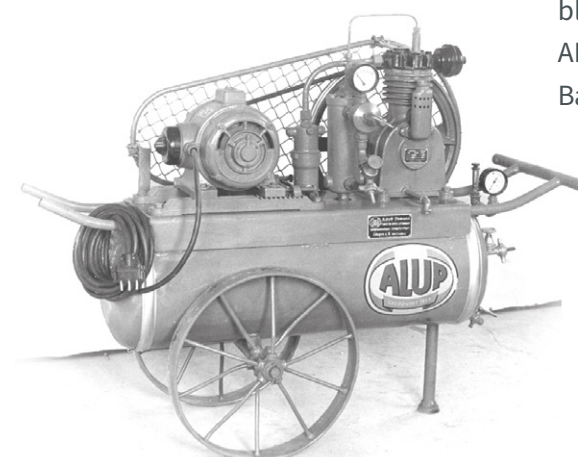
# TECHNICAL SPECIFICATIONS AVSD

Model	Maximum conditions at full flow Ambient (Inlet) Temp	Inlet flow for pressure dew point (PDP) of 3°C/37.4°F			Pressure drop at full flow		Power consumption		Max. working pressure		Compressed air connections (NPT for UL version)	Dimensions						Weight	
		°C	l/s	cfm	m³/hr	bar	psi	kW	hp	bar		psi	mm	in	mm	in	mm	in	kg
AVSD 360	46 (60)	100	212	360	0.16	2.3	0.66	0.90	14.5	210	G 1 1/2" F	805	31.69	962	37.87	1040	41	130	287
AVSD 500	46 (60)	140	297	500	0.11	1.6	1.04	1.41	14.5	210	G 2" F	805	31.69	962	37.87	1040	41	134	295
AVSD 650	46 (60)	180	381	650	0.18	2.6	1.54	2.09	14.5	210	G 2" F	805	31.69	962	37.87	1040	41	134	295
AVSD 790	46 (60)	220	466	790	0.14	2	1.77	2.41	14.5	210	G 2 1/2" F	805	31.69	962	37.87	1040	41	143	315
AVSD 940	46 (60)	260	551	940	0.1	1.5	1.9	2.58	14.5	210	G 2 1/2" F	805	31.69	962	37.87	1040	41	150	331
AVSD 1080	46 (60)	300	636	1080	0.18	2.6	2.64	3.59	14.5	210	G 2 1/2" F	805	31.69	962	37.87	1040	41	165	364

## 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.

Thermal Mass Dryers



#### REFERENCE CONDITIONS:

Ambient temperature: 25°C  
Compressed air inlet temperature: 35°C  
Working pressure: 7 bar (g)

#### LIMITATIONS:

Max. ambient temp: 46°C  
Min. ambient temp: 5°C  
Max. air inlet temp: 60°C  
Max. compressed air inlet pressure: 14.5 bar (g)

#### NOTES:

Refrigerant type: R410A

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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