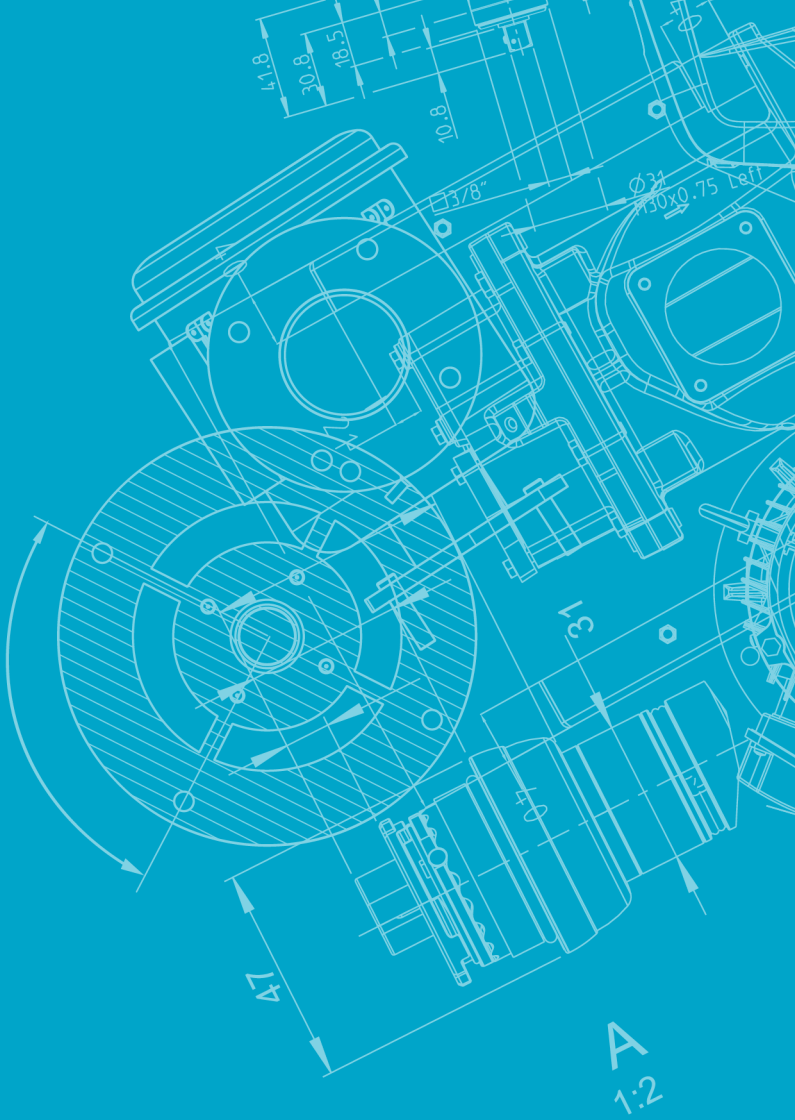
Desiccant air dryers for superior productivity

BD+ / XD+ / CD+ / AD+ series



Content

Complete protection for your application

Dry and clean compressed air is essential for a broad range of industrial applications. Yet it must be produced reliably, energy-efficiently and cost-effectively. Atlas Copco's desiccant dryers protect your systems and processes. Their robust design ensures they operate with total reliability and deliver a constant, stable dewpoint in full load conditions and even during a temporary overload.

Protecting your reputation and production

Compressed air is always saturated. When it cools, moisture causes costly damage. Atlas Copco desiccant dryers remove this risk with pressure dew points as low as -70°C/-94°F, preventing system failures, downtime, and expensive repairs.

Highest reliability

Reaching pressure dewpoint down to -40°C/°F or lower at 100% load conditions.

- A proven, durable design for the switching valves significantly improves the dryer lifetime.
- An advanced control and monitoring system ensures production efficiency.

Maximum energy efficiency

Our desiccant dryers deliver maximum efficiency with ultra-low pressure drop, smart dew point control, and adjustable settings to cut energy costs. Blower-heated models feature SmartCycle technology for big savings even at partial load. Reliable sustainable performance in one solution.

Designed for optimum reliability

BD 360^{+} – 3500^{+}

In-house developed switching valves

● Our in-house valves are tested under extensive endurance conditions to ensure reliable operation.

Galvanized piping with flanged connections

● Galvanized piping prevents corrosion, and flanged connections create stable, **service-friendly** joints that reduce the risk of leaks and unplanned downtime.

Long-life silica gel desiccant

● Multi layer desiccant bed protects the active desiccant from liquid moisture, preventing damage and helping the dryer deliver stable drying performance over time.
● Pressure dewpoint of **-40°C/-40°F** as standard (-70°C/-94°F as option) ensures moisture is reliably removed from the compressed air, protecting downstream equipment from corrosion, freezing, and moisture-related failures.

Smart Cycle control algorithm

● Ensures stable dryer operation even at **flows as low as 10 %** of design capacity, reducing unnecessary switching and wear to support long-term reliability.

BD HA – BD with a heat accumulator

Energy efficient heat recovery for BD+ dryers

● It comes with **a third vessel filled** with basalt which captures residual heat from the cooling air.
● This additional vessel stabilizes regeneration air temperature, reducing thermal stress on components and supporting reliable operation over time.
● **Fully air-cooled design** avoids reliance on cooling water, eliminating water-related risks and improving operational reliability in large dryer installations.
● **A smart bypass valve** prevents condensation and avoids desiccant preloading with ambient humidity, making it especially suited for the BD3500+ zero purge, where no closed-loop option exists.

XD 550^{+} – 3600^{+}

Heaters (only for G version with guaranteed dew point)

● **Stainless steel** heaters with controlled heat distribution and triple overheat protection ensure safe, reliable operation over long service life.

Drying towers

● Generously sized towers with stainless steel internals ensure **stable drying** and allow safe, easy inspection and servicing.

Stainless steel coolers

● **Corrosion-resistant** coolers with accessible design ensure reliable moisture separation and long-term durability.

Designed for optimum reliability

CD 360-1600+

Vessel design
● Optimized vessel sizing for lower air speed and lower pressure drop ensuring a longer lifetime for the desiccant.

Advanced control and monitoring system
● IP54 electrical enclosure improves reliability and safety. Continuous monitoring ensures dependable operation.

Up-sized silencers with integrated safety valves
● Prevent back-pressure to improve purge efficiency. Integrated safety valves protect against clogging and reduce noise.

PDP controller
● Accurate pressure dew point control. Ensures consistent drying performance.

Open silencer
● Zero back-pressure during purge for high energy efficiency.Robust design with excellent sound attenuation

High quality desiccant
● −40 °C PDP standard, −70 °C optional.Extra desiccant ensures stable performance under harsh conditions.

AD 360+ – 1260+

Smart Cycle control
● Ensures stable dryer operation at changing load conditions, reducing unnecessary switching and component wear.

Advanced control and monitoring
● Elektronikon® Touch controller with real-time monitoring. IP54 enclosure ensures reliable and safe operation.

Low pressure drop design
● Generously sized vessels and piping support stable airflow and help maintain a consistent pressure dew point at full load.

High-quality desiccant
● High adsorption capacity ensures stable PDP down to −40 °C. Long lifetime with high drying efficiency.

Switching valves
● In-house developed and endurance tested for reliability. Tight sealing prevents leakage.

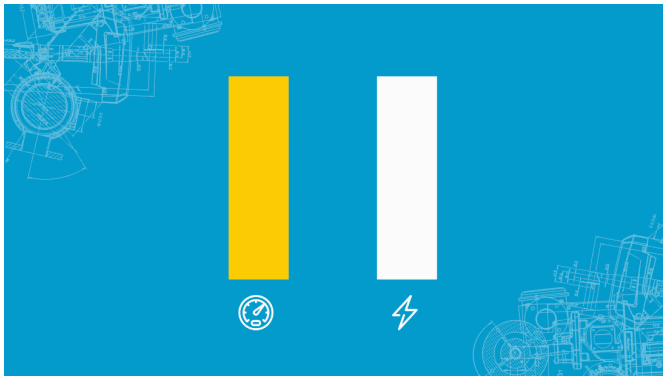
Electric heater
● Low watt density design avoids hot spots.

Superior energy efficiency

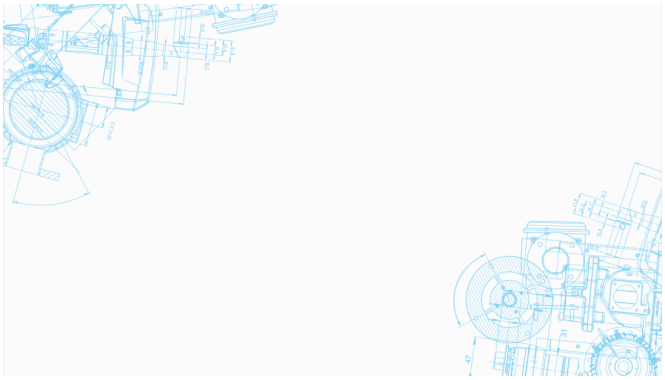
A dryer's energy consumption mainly goes to internal pressure drops and the regeneration process. The key for designing desiccant dryers is therefore to keep the pressure drop as low as possible, and to develop technologies that allow regeneration to be as efficient as possible. Atlas Copco's dryers are designed to have a very low internal pressure drop below 0.2 bar/2.9 psi, and provide the most efficient regeneration process.

Low pressure drop saves energy and reduces operating costs

Atlas Copco's BD+, XD+, CD+, and, AD+ desiccant dryers incorporate state-of-the-art energy management control with built-in Dewpoint Dependent Switching. This makes the dryers more efficient, leading to energy savings of up to 90%, depending on installation and usage. The principle is simple. Although the regeneration time remains constant, the delay before switching from one tower to the other is controlled via the dew point sensor. As soon as the target dew point is reached, the dryer cycle that was on hold will resume by switching to the dry tower. Delaying cycles in this way leads to major energy savings. This occurs when operating conditions are lower than reference, or the flow fluctuates below maximum nominal load.



Save energy and reduce operating costs



Efficient regeneration

Different models for your needs

Our **AD 360+ – 3500+** range is a strong choice for applications with medium to high yearly running hours, where stable performance and lower energy consumption at partial load are key.

Our **CD 360+ – 1600+** range offers the most efficient heatless drying solution for low running hours, using **dewpoint dependent switching** and a low-pressure-drop design to minimize purge air use and energy consumption.

Our **BD 360+ – 3500+** blower-heated dryer range features a highly energy-efficient design, combining **ZeroPurge cooling** options, **Smart Cycle control**, and low-watt-density stainless steel heaters to deliver significant energy savings, especially at high yearly running hours.

Our **XD 550+ – 3600+** range is a heat of compression dryer designed for oil-free compressors, using recovered compressor heat and **dewpoint dependent switching** to deliver exceptional energy efficiency at both low and high yearly running hours.

BD Heat Accumulator option for higher energy efficiency

Heat accumulator technology

● Reuses stored regeneration heat to reduce energy consumption by **up to 18 % per cycle (versus open loop)**, especially beneficial for high-runtime applications.

Reduced heater load

● Pre-heated regeneration air lowers heater operating time, cutting overall energy consumption.

Optimized for high running hours

● The HA design delivers consistent energy savings in applications with continuous or high annual operating hours.

It’s all about efficiency, reliability and connectivity

Energy management system

Our central controllers can efficiently regulate all connected machines to reduce energy consumption as much as possible while keeping the pressure stable.

- Knowing all machine operating points in real-time
- VSD machines operate in their sweet spots and fixed speed machines have the lowest possible unload time, resulting in the highest possible efficiency and uptime of the entire installation.
- A much smaller pressure band can be achieved, which brings with it a very high energy-saving potential.
- Ensuring that the most energy efficient machine constellation is always running
- Optimizer 4.0 and Equalizer 4.0 PRO

An ISO50001 complaint Energy Management System will lower your production cost significantly and achieve the lowest Total Cost of Ownership!

Get connected for the future

All machines and equipment are interconnected and continuously sending their data to a centralized SCADA, DCS or Cloud platform via a secure LAN network.

Maximized reliability

- Central controllers reduce the load/unload and start/stop cycles as much as possible, resulting in a long-lasting and reliable machine
- The overall running hours of the compressors, blowers and dryers are reduced as much as possible
- The equalization of the running hours allows the machines to age together and share the load

The EXTENDER +

This device is used along with an Atlas Copco central controller, allowing to maximize the Optimization in the Utility Room.

Characteristics:

- Allows **the dynamic control of dryers**, gas generators, valves and cooling systems.
- Add- on module for the Optimizer 4.0 or Equalizer 4.0 PRO
- Reduce the energy consumption & CO2 footprint
- Minimizes the running hours and maintenance cost
- Redundant machine setup
- Enables smart controls for the complete utility room

Complete solution providing the lowest life cycle costs

Smart AIR Solutions are a complete air or gas solution designed to provide our customers with the lowest life cycle costs for their equipment. Smart AIR solutions combine compressors, blowers and boosters with quality air solutions fully optimized to operate together in the most efficient and reliable way.

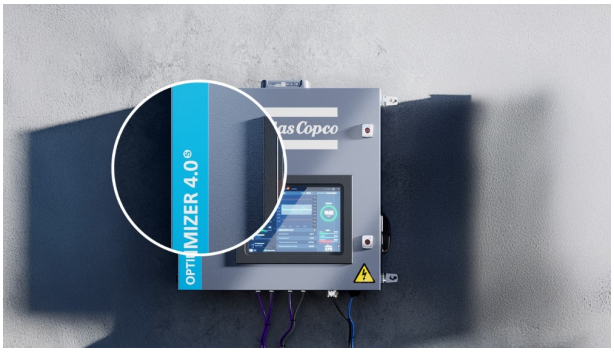
1 Compressors

Often people buy the same size compressor, but to optimize the system it's better to make a combination of different size compressors, technologies and controls.

2 Central controller

Having a central controller reduces the average pressure band. It also reduces the operating pressure of your machines.

• By reducing the pressure by 1 bar (or 14.5 psi), your energy usage lowers by 7%.
• By reducing the pressure by 1 bar (or 14.5 psi) decreases air leakages by 13%.
Multiple embedded functions in the Optimizer 4.0 in which pressure, capacity and speed can be regulated.
A = Net pressure
B = Average pressure
C = Min. system pressure



3 Integrated dryers

Our full feature concept offers an integrated dryer in the compressor. This has additional benefits, reducing installation cost, time and complexity, having dryers controlled together with the compressors, reducing connecting pipes, hence the chance of leakages and extra pressure drops. Another key benefit is the space savings that a full feature machine brings.

4 Air receiver

A correctly sized air receiver brings both energy efficiency and system reliability. It allows a narrow pressure band and limits the un-& offload cycles to reduce stress on element bearings and other internal components.

5 Air treatment portfolio

Atlas Copco has a wide air treatment portfolio that matches your needs. Our portfolio ranges from removing water, oil and dust from your compressed air to generating Oxygen and Nitrogen on site.

Optimize your system

Scope of supply

Air circuit	Switching valves and check valves
	Galvanised in- and outlet piping
	In- and outlet air flanges
	Insulated heater pipe and connection pipe to vessels
	Sonic nozzle
Connections	DIN-flanges
	ANSI-flanges
Electrical components	Pre-mounted electrical control panel
	Elektronikon control and monitoring system with SMARTLINK and SmartCycle technology*
	IP54 protected
	Voltage free contacts for remote alarm and warning signals
	Pressure dewpoint sensor and control (optional for CD+ with basic control and BD+)
Framework	Base frame with forklift slots
	Lifting lugs
Mechanical approval	CE approval
	ASME approval

** SmartCycle technology available on BD+ dryers only*

Options

Options	CD+	AD+	BD+	XD+
	360+ – 1600+	360+ – 1260+	360+ – 3500+	550+ – 3600+
Maximum working pressure 14.5 bar(e)/210 psig	•	•	•	–
PDP sensor and control	• = Basic control ✓ = Elektronikon control	•	•	✓
2nd PDP read out	–	•	•	•
-70°C/-94°F pressure dewpoint	•	•	•	–
Pressure relief valves	•	✓	✓	✓
High inlet temperature variant	•	•	•	–
High ambient temperature variant	–	•	•	•
Dryer tower insulation	–	•	•	•
Optimized purge nozzle, for the actual working pressure	•	•	•	–
Blower inlet filter	–	–	•	–
External pilot air connection for low pressure inlet	–	•	•	–
Single inlet	–	–	–	•
Heat accumulator (Only on BD 1600+ – 3500+)	–	–	•	–
Blower inlet silencer (Only on BD 1600+ – 3500+)	–	–	•	–

✓ = *Standard*
• = *Optional*
– = *Not available*

Technical specifications

Heatless desiccant dryers CD+

Specifications

Type	Inlet flow FAD 7bar(e)/ 100psig			Pressure drop		Inlet/outlet connections		Recommended pre-filter		After-filter
	l/s	m³/hr	cfm	bar	psi	DIN	ANSI	Oil-injected air	Oil free air	
CD 360+	360	1296	762	0.15	2.18	DN80	3"	UD 430+/380+ InPASS	PD 430+/380+ InPASS	DDp 430+/380+ InPASS
CD 480+	480	1727	1018	0.15	2.18	DN80	3"	UD 525+/510+ InPASS	PD 525+/510+ InPASS	DDp 525+/510+ InPASS
CD 630+	630	2268	1336	0.15	2.18	DN80	3"	UD 630+	UD 630+	DDp 630+
CD 970+	970	3492	2056	0.15	2.18	DN100	4"	UD 1050+T	PD 1050+T	DDp 1050+T
CD 1260+	1260	4536	2671	0.15	2.18	DN100	4"	UD 1260+T	PD 1260+T	DDp 1260+T
CD 1600+	1600	5760	3392	0.18	2.61	DN150	6"	UD 1600+F	DD 1600+F	DDp 1600+F

*Recommended pre-filters and after-filters are sold separately.

Dimensions

Type	Dimensions						Weight	
	mm			inch			kg	lbs
	L	W	H	L	W	H		
CD 360+	1776	1088	2537	69.9	42.8	99.9	950	2095
CD 480+	1776	1088	2537	69.9	42.8	99.9	1030	2271
CD 630+	1884	1091	2592	74.2	43.0	102.0	1310	2889
CD 970+	2359	1259	2655	92.9	49.6	104.5	2120	4675
CD 1260+	2472	1259	2637	97.3	49.6	103.8	2600	5733
CD 1600+	2693	1428	2576	106.0	56.2	101.4	3700	8159

Heatless desiccant dryers AD+

Specifications

Type	Inlet flow FAD			Average power consumption	Pressure drop		Inlet/outlet connections		Recommended pre-filter		After-filter
	l/s	m3/hr	cfm	kW	bar	psi	DIN	ANSI	Oil-injected air	Oil-free air	
AD 360+	360	1296	763	6.5	0.18	2,6	DN80	3"	UD 430+/380+ InPASS	PD 430+/380+ InPASS	DDp 430+/380+ InPASS
AD 480+	480	1728	1017	8.6	0.18	2,6	DN80	3"	UD 525+/510+ InPASS	PD 525+/510+ InPASS	DDp 525+/510+ InPASS
AD 630+	630	2268	1335	11.3	0.18	2,6	DN80	3"	UD 630+	PD 630+	DDp 630+
AD 970+	970	3492	2055	17.4	0.18	2,6	DN100	4"	UD 1050+T	UD 1050+T	UD 1050+T
AD 1260+	1260	4536	2670	22.6	0.18	2,6	DN100	4"	UD 1260+T	PD 1260+T	DDp 1260+T

*Recommended pre-filters and after-filters are sold separately.

Dimensions

Type	Dimensions						Weight	
	mm			inch			kg	lbs
	L	W	H	L	W	H		
AD 360+	1776	1004	2585	69,9	39,5	101,8	1663	3666
AD 480+	1776	1004	2585	69,9	39,5	101,8	1733	3821
AD 630+	1884	1004	2707	74,2	39,5	106,6	2130	4696
AD 970+	2359	1158	2717	92,9	45,6	107,0	3060	6746
AD 1260+	2382	1716	2701	93,8	67,6	106,3	3660	8069

Blower heated desiccant dryers BD+

Specifications

Type	Inlet flow FAD 7bar(e)/ 100psig			Avg. power	Pressure drop (excl. filters)		Inlet/outlet connections		Recommended pre-filter		After-filter
	l/s	m³/hr	cfm	kW	bar	psi	DIN	ANSI	Oil-injected air	Oil-free air	
BD 360+	360	1296	763	10.9	0.18	2.6	DN80	3"	UD 430+/380+ InPASS	PD 430+/380+ InPASS	DDp 430+/380+ InPASS
BD 480+	480	1727	1017	13.3	0.18	2.6	DN80	3"	UD 525+/510+ InPASS	PD 525+/510+ InPASS	DDp 525+/510+ InPASS
BD 630+	630	2268	1335	17.8	0.18	2.6	DN80	3"	UD 630+	UD 630+	DDp 630+
BD 970+	970	3492	2055	27.0	0.18	2.6	DN100	4"	UD 1050+T	PD 1050+T	DDp 1050+T
BD 1260+	1260	4536	2670	37.5	0.18	2.6	DN100	4"	UD 1260+T	PD 1260+T	DDp 1260+T
BD 1600+	1600	5760	3390	55.3	0.18	2.6	DN150	6"	UD 1600+F	PD 1600+F	DDp 1600+F
BD 2100+	2100	7560	4450	68.1	0.18	2.6	DN150	6"	UD 2100+F	PD 2100+F	DDp 2100+F
BD 2500+	2500	9000	5297	82.4	0.2	2.9	DN150	6"	UD 2500+F	PD 2500+F	DDp 2500+F
BD 3500+	3500	12,600	7416	111.9	0.2	2.9	DN200	8"	UD 3500+F	PD 3500+F	DDp 3500+F

*Recommended pre-filters and after-filters are sold separately.

Dimensions

Type	Dimensions						Weight	
	mm			inch			kg	lbs
	L	W	H	L	W	H		
BD 360+	1776	960	2585	69.9	37.8	101.8	1734	3822
BD 480+	1776	960	2571	69.9	37.8	101.2	1810	3991
BD 630+	1884	948	2708	74.2	37.3	106.6	2205	4860
BD 970+	2359	1000	2717	92.9	37.3	107.0	3164	6976
BD 1260+	2382	1715.6	2701	93.8	67.5	106.3	3738	8242
BD 1600+	3049	2738	2587	120	107.8	101.9	5431	11,973
BDHA 1600+	3049	3521	2587	120	138.6	101.9	7900	17417
BD 2100+	3099	2763	2576	122	108.8	101.4	6162	13,585
BDHA 2100+	3099	3607	2576	122	142	101.4	8650	19070
BD 2500+	3506	3001	2627	138	118.1	103.4	7334	16,169
BDHA 2500+	3506	4128	2627	138	162.5	103.4	10585	23,336
BD 3500+	3748	3183	2974	147.6	125.3	117.1	9409	20,743
BDHA 3500+	3748	4188	2974	147.6	164.9	117.1	12770	28,153

Heat of compression desiccant dryers XD+

Specifications

Type	Inlet flow FAD			Avg. power		Pressure drop (excl. filters)		Inlet/outlet connections		Recommended pre-filter
	l/s	m³/hr	cfm	kW	hp	bar	psi	DIN	ANSI	After-filter
										1 µm 0.1 ppm
XD 550+	550	1980	1166	3.4	4.59	0.39	5.655	80	3"	DDp630+
XD 850+	850	3060	1802	5.1	6.9	0.39	5.655	100	4"	DDp860+T
XD 1100+	1100	3960	2332	6.5	8.8	0.39	5.655	100	4"	DDp1260+T
XD 1400+	1400	5040	2968	8.4	11.3	0.35	5.075	150	6"	DDp1600+F
XD 1800+	1800	6480	3819	10.8	14.6	0.35	5.075	150	6"	DDp2100+F
XD 2200+	2200	7920	4664	13.2	17.8	0.35	5.075	150	6"	DDp2500+F
XD 3000+	3000	10,800	6360	18.0	24.3	0.35	5.075	200	8"	DDp3000+F
XD 3600+	3600	12,960	7632	21.6	29.2	0.35	5.075	200	8"	DDp4000+F

*Recommended pre-filters and after-filters are sold separately.

Dimensions

Type	Dimensions						Weight	
	mm			inch			kg	lbs
	L	W	H	L	W	H		
XD 550+	1884	1589	2612	74.2	62.6	103	2196	4876
XD 850+	2359	1936	2752	92.9	76.2	108	3320	7371
XD 1100+	2473	1936	2734	97.4	76.2	108	3835	8515
XD 1400+	4120	2290	2556	162	90.2	101	5921	13,146
XD 1800+	4120	2292	2560	162	90.2	101	6550	14,543
XD 2200+	4120	2292	2680	162	90.2	105.51	7365	16,353
XD 3000+	5617	2724	2866	221	107	112.83	9531	21,162
XD 3600+	5617	2724	2866	221	107	112.83	10,390	23,069


BD 630+
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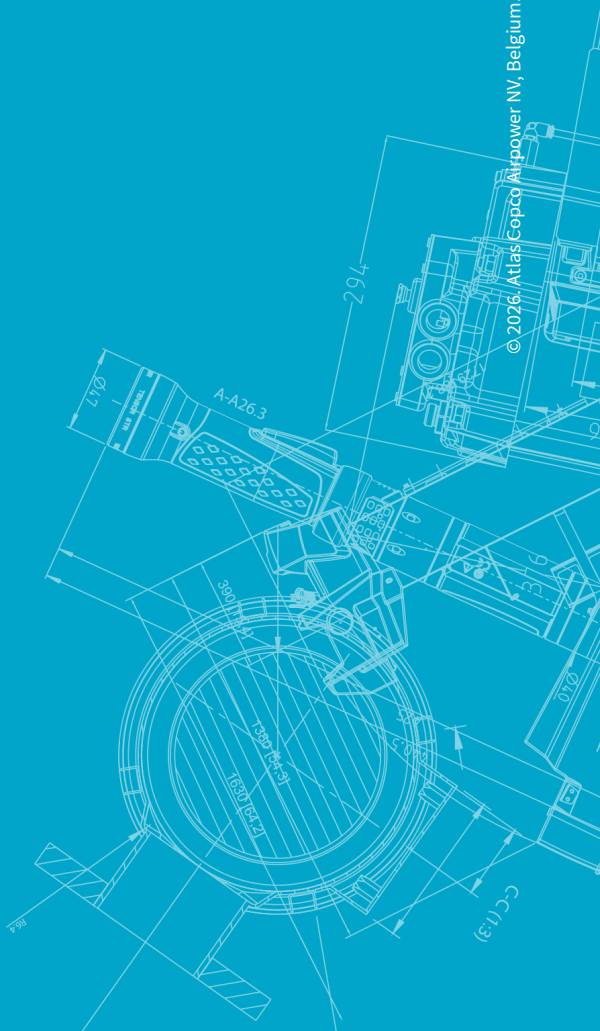

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