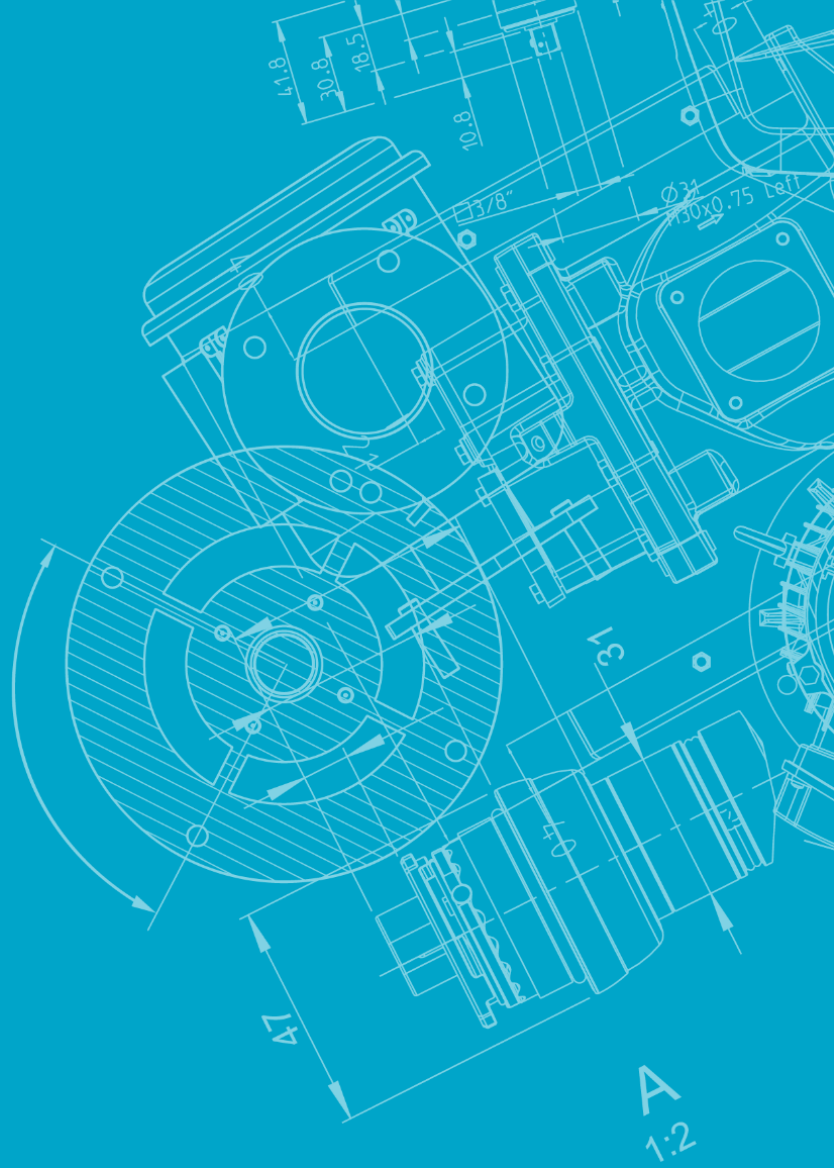


Atlas Copco

Oil-free rotary tooth compressor

ZT 30-50 VSD+ (FF)





Contents

1

Cover

3

Features

9

Smart AIR solutions

10

Options

11

Oil & air flows

12

Specifications 8.6
bar

14

Specifications 10 bar

16

Back cover

Engineered to enhance your profits

To ensure the success of your business, you need to guarantee consistent quality while minimizing your overheads. A ZT 30-50 VSD+ compressor keeps you on track by delivering a reliable supply of clean, dry air with the lowest possible energy consumption for your operation. To cut running costs even further, every component is optimized for long life and easy servicing.



ZT 30-50 VSD+ FF iMD



1 Advanced Elektronik® monitoring system

- Touch screen operating system with numerous control and monitoring features.
- Embedded control algorithms enhance efficiency and reliability.

2 Soundproof canopy

- Sound insulation allows for installation in most working environments.
- No need for a separate compressor room.

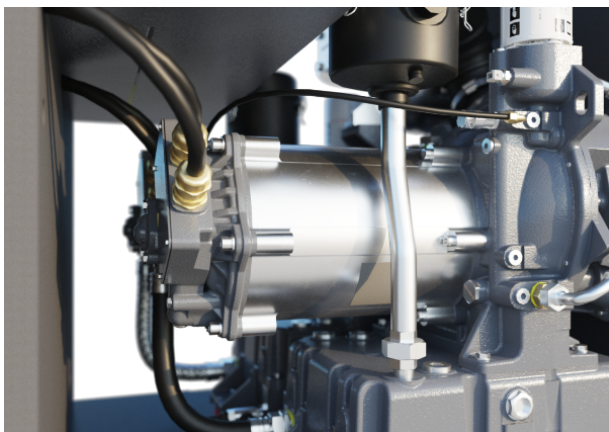
3 NEOS Next frequency converters

- In-house designed NEOS Next frequency converters ensure stable operation up to 50°C/122°F.
- IP54 grade protection for reliability even in harsh conditions.
- NEOS Next contains the main frequency drive for the drive motor plus an auxiliary drive for the cooling fan and dryer.
- Two NEOS Next frequency converters are combined with two IE5 ultra-premium efficient permanent magnet motors to optimize load distribution at every running condition.
- ZT 30-50 VSD+ compressors can range between 28 and 100% of their maximum capacity (turn down 72%), ensuring stable net pressures and maximum energy savings.



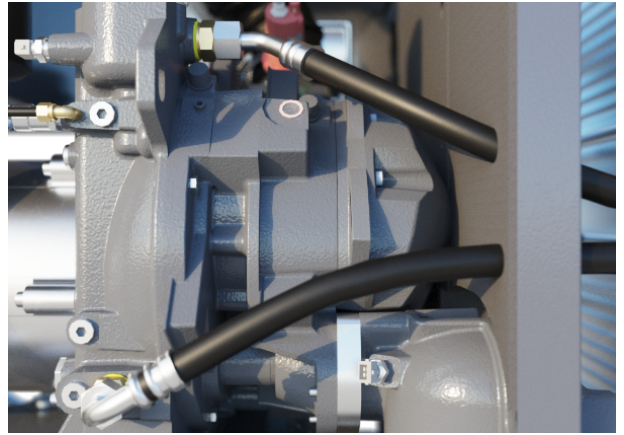
4 Mechanical drive system

- Two direct coupled permanent magnet drive motors for the low- and high-pressure elements, each with its own frequency converter.
- Oil-cooled motors with IP66 grade protection grade and proven performance in the field.
- Optimized intercooler pressure for the complete speed range for premium reliability and efficiency.



5 Oil-free tooth element

- Proven reliability and durability.
- Most efficient element in this power range of oil-free compressors.



6 Integrated dryer

- Reduces energy consumption of the integrated air treatment in light load conditions.
- Improved water separation.
- More stable Pressure Dew Point (PDP).



7 Reliable cooling

- Air-cooled oil coolers, intercooler, and aftercooler.
- Frequency-controlled fan optimizes cooling for all running conditions.
- Oil cooling shields permanent magnet motors from the environment and makes them more robust.



8 Plug & play package

- Complete solution for easy installation and maintenance.
- No unnecessary interlinking of extra components.
- Reduced risk of downtime. SD+ is designed for easy installation and maintenance. No unnecessary interlinking of extra components, so no extra risk for downtime.

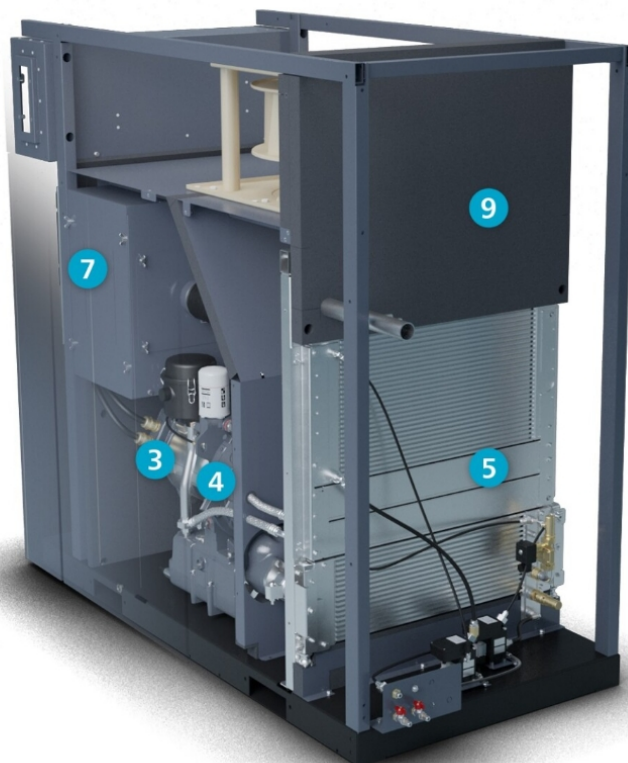
9 Compact design

- Designed to have the smallest possible footprint.
- The Pack version without integrated dryer is the most compact of all.
- The Full Feature version with integrated ID refrigerant dryer and IMD rotary drum dryer saves considerable space and installation work compared to similar freestanding dryers.

10 Low maintenance

- Components strategically placed for ease of access.
- Oil-lubricated motor bearings do not require re-greasing.

ZT 30-50 VSD+



1 Soundproof canopy

- Sound insulation allows for installation in most working environments.
- No need for a separate compressor room.

2 NEOS Next frequency converters

- In-house designed NEOS Next frequency converters ensure stable operation up to 50°C/122°F.
- IP54 grade protection for reliability even in harsh conditions.
- NEOS Next contains the main frequency drive for the drive motor plus an auxiliary drive for the cooling fan and dryer.
- Two NEOS Next frequency converters are combined with two IE5 ultra-premium efficient permanent magnet motors to optimize load distribution at every running condition.
- ZT 30-50 VSD+ compressors can range between 28 and 100% of their maximum capacity (turn down 72%), ensuring stable net pressures and maximum energy savings.

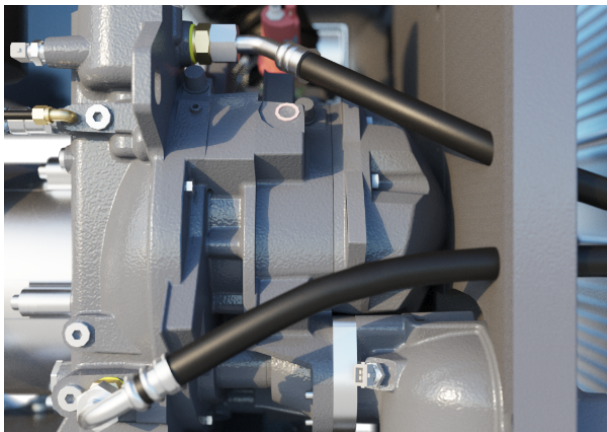


3 Permanent magnet motor

A proven design with a direct coupled permanent magnet drive motor for low- and high-pressure element, each with their own frequency converter. Oil cooled permanent magnet motors with IP66 protection grade that have stood the test of time in other product ranges in real field conditions. Optimization of intercooler pressure for the complete speed range. That is premium reliability combined with premium efficiency.

4 Oil-free tooth element

- Proven reliability and durability.
- Most efficient element in this power range of oil-free compressors.



5 Reliable cooling

- Air-cooled oil coolers, intercooler, and aftercooler.
- Frequency-controlled fan optimizes cooling for all running conditions.
- Oil cooling shields permanent magnet motors from the environment and makes them more robust.



6 Advanced Elektronikon® monitoring system

- Touch screen operating system with numerous control and monitoring features.
- Embedded control algorithms enhance efficiency and reliability.

7 Plug & play package

- Complete solution for easy installation and maintenance.
- No unnecessary interlinking of extra components.
- Reduced risk of downtime.

8 Compact design

- Designed to have the smallest possible footprint.
- The Pack version without integrated dryer is the most compact of all.
- The Full Feature version with integrated ID refrigerant dryer and IMD rotary drum dryer saves considerable space and installation work compared to similar freestanding dryers.

9 Low maintenance

- Components strategically placed for ease of access.
- Oil-lubricated motor bearings do not require re-greasing.

Smart AIR solutions

With the ZT 30-50 VSD+ compressor range, Atlas Copco provides a total solution for superior performance and transparent costs. The fully integrated, ready-to-use package includes the internal piping, coolers, motor, lubrication, and control system. The Full Feature version even integrates an ID refrigerant or IMD adsorption dryer for impeccable results. Installation is fault-free, commissioning time is low, and no external instrument air is required. You simply plug and run.



Options for every application

The standard ZT 30-50 VSD+ package can be customized with a range of optional features to tailor its performance for different production environments.

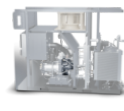
Anchor pads	Integrated refrigerant dryer (ID)
ANSI flanges	Integrated MD dryer (iMD) for moisture sensitive applications
High ambient variant for warm regions (50°C ambient temperature)	Dryer bypass
Flanged inlet	Silicone-free rotor (for MD) for deeper dewpoints
Main power isolator switch	Anti condensation heaters
IT variant (IEC variants only)	MD heater for deeper dewpoints
Test certificate	Fast Acting Fuse



iMD ¹



MD heater ²



Silicon-free rotor ³



High ambient variant ⁴



Further customisation ⁵

¹ For moisture sensitive applications you can opt for the integrated rotary drum dryer (iMD) that ensures negative pressure dew points at reference conditions and saves on footprint and installation costs.

² For deeper dewpoints you can opt for the optional MD heater that further increases the regeneration temperature to lower the pressure dew point.

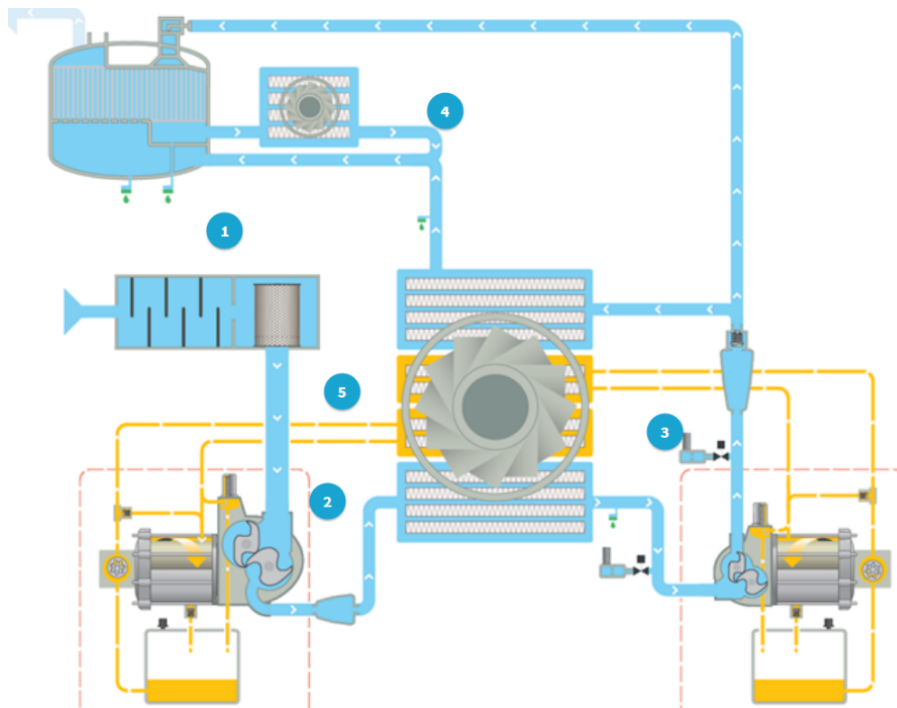
³ For applications like paint shops, we offer an optional silicon-free rotor to match the requirements.

⁴ For warm regions our VSD+ unit with high ambient version is designed to run trouble-free round the clock at a 50°C ambient temperature, with the frequency drive also designed for 50°C without any derating.

⁵ With a dedicated customization team, we can further tailor our units to your requirements.

Please note that the availability of the option depends on the chosen configuration.

Oil and air flows: your step-by-step guide



Legend:

1. Inlet & filtration
2. First compression & cooling
3. Second compression & cooling
4. Integrated dryer
5. Oil flow

Inlet & filtration

The air (represented by the light blue flow) is drawn into the compressor through the inlet filter, where it is cleaned. Then it passes through the throttle valve with its integrated blow off valve which takes care of the load unload regulation. The air then continues to the compression stage.

First compression & cooling

The air pressure is raised to an intermediate pressure, after which the air is cooled down in the intercooler. Next it passes through a moisture separation system before entering the high pressure stage.

Second compression & cooling

In the high pressure stage, the pressure is brought to the final pressure. The air at the outlet of the high pressure stage passes via the pulsation damper with integrated check valve to the aftercooler. Here it is cooled down and moisture is separated and evacuated. The compressed air leaves the compressor through the outlet connection flange.

Integrated dryer

The cooled wet compressed air is mixed with 40% of the cooled regeneration air and enters the dryer. The dry compressed air with guaranteed dew point is now ready for use in your application.

Oil flow

The oil path within the compressor is represented by the yellow flow. The oil pump sucks oil from the oil sump and pumps it through the oil cooler and the high efficiency filter. This delivers cool, clean oil to the bearings, the gears, and the compressor's element jackets. Note that oil never comes into contact with the air. This ensures completely oil-free air for your process.

Specifications 8.6 bar

Specifications ZT 30-50 VSD 8.6 bar (Metric)

TYPE	Working pressure		Free Air Delivery		Power rating	Noise level
		bar(e)	l/s	m ³ /min	kW	dB(A)
ZT 30 VSD+ - 8.6	Minimum	4	40.4 - 95.5	2.42 - 5.73	30	66
	Effective	7	39.9 - 93.6	2.36 - 5.62		
	Maximum	8.6	37.9 - 74.8	2.28 - 4.49		
ZT 37 VSD+ - 8.6	Minimum	4	40.4 - 112.6	2.42 - 6.75	37	69
	Effective	7	39.9 - 110.1	2.36 - 6.61		
	Maximum	8.6	37.9 - 95.6	2.28 - 5.74		
ZT 45 VSD+ - 8.6	Minimum	4	40.4 - 135.8	2.42 - 8.15	45	68
	Effective	7	39.3 - 132.3	2.36 - 7.94		
	Maximum	8.6	37.9 - 118.2	2.28 - 7.09		
ZT 50 VSD+ - 8.6	Minimum	4	40.4 - 153.7	2.42 - 9.22	50	70
	Effective	7	39.3 - 147.0	2.36 - 8.82		
	Maximum	8.6	47.2 - 144.5	2.83 - 8.67		

Specifications ZT 30-50 VSD 8.6 bar (Imperial)

TYPE	Working pressure		Free Air Delivery		Power rating	Noise level
		psig	l/s	cfm	Hp	dB(A)
ZT 30 VSD+ - 8.6	Minimum	58	40.4 - 95.5	85.5 - 202.3	40	66
	Effective	102	39.9 - 93.6	83.2 - 198.3		
	Maximum	125	37.9 - 74.8	80.3 - 158.4		
ZT 37 VSD+ - 8.6	Minimum	58	40.4 - 112.6	85.5 - 238.5	50	69
	Effective	102	39.9 - 110.1	83.2 - 223.4		
	Maximum	125	37.9 - 95.6	80.3 - 202.6		
ZT 45 VSD+ - 8.6	Minimum	58	40.4 - 135.8	85.5 - 287.7	60	68
	Effective	102	39.3 - 132.3	83.2 - 280.2		
	Maximum	125	37.9 - 118.2	80.3 - 250.5		
ZT 50 VSD+ - 8.6	Minimum	58	40.4 - 153.7	85.5 - 325.6	67	70
	Effective	102	39.3 - 147.0	83.2 - 311.5		
	Maximum	125	47.2 - 144.5	100.0 - 306.1		

Weight ZT 30-50 VSD 8.6 bar (Metric)

TYPE	Weight (kg)		
	Pack	Full Feature (iMD)	Full feature (iD)
ZT 30 VSD+	1350	1610	1504
ZT 37 VSD+			
ZT 45 VSD+	1373	1646	1531
ZT 50 VSD+			

Weight ZT 30-50 VSD 8.6 bar (Imperial)

TYPE	Weight (lbs)		
	Pack	Full Feature (iMD)	Full feature (iD)
ZT 30 VSD+	2976	3549	3316
ZT 37 VSD+			
ZT 45 VSD+	3027	3629	3375
ZT 50 VSD+			

Dimensions ZT 30-50 VSD 8.6 bar (Metric)

TYPE	Length	Width	Height
	mm		
ZT 30-50 VSD+	2005	967	1889
ZT 30-50 VSD+ (FF)	2440		

Dimensions ZT 30-50 VSD 8.6 bar (Imperial)

TYPE	Length	Width	Height
	inch		
ZT 30-50 VSD+	79	38	74
ZT 30-50 VSD+ (FF)	88		

Data may vary for other operating modes, versions and conditions. Consult Atlas Copco for details.

Data and specifications are subject to change without prior notice.

Specifications 10 bar

Specifications ZT 30-50 VSD+ 10 bar (Metric)

TYPE	Working pressure		Free Air Delivery		Power rating	Noise level
		bar(e)	l/s	m ³ /min	kW	dB(A)
ZT 30 VSD+ - 10.0	Minimum	4	40.4 - 95.5	2.42 - 57.3	30	66
	Effective	9	37.7 - 71.7	2.3 - 43.0		
	Maximum	10	36.9 - 64.8	2.2 - 38.9		
ZT 37 VSD+ - 10.0	Minimum	4	40.4 - 112.6	2.4 - 67.5	37	69
	Effective	9	37.7 - 92.5	2.3 - 55.5		
	Maximum	10	36.9 - 84.9	2.2 - 50.9		
ZT 45 VSD+ - 10.0	Minimum	4	40.4 - 135.8	2.4 - 81.5	45	68
	Effective	9	37.7 - 112.5	2.3 - 67.5		
	Maximum	10	36.9 - 96.9	2.2 - 58.1		
ZT 50 VSD+ - 10.0	Minimum	4	40.4 - 153.7	2.4 - 92.2	50	70
	Effective	9	37.7 - 141.0	2.3 - 84.6		
	Maximum	10	36.9 - 130.5	2.2 - 78.3		

Specifications ZT 30-50 VSD+ 10 bar (Imperial)

TYPE	Working pressure		Free Air Delivery		Power rating	Noise level
		psig	l/s	cfm	Hp	dB(A)
ZT 30 VSD+ - 10.0	Minimum	58	40.4 - 95.5	85.5 - 202.3	40	66
	Effective	130	37.7 - 71.7	79.8 - 151.9		
	Maximum	145	36.9 - 64.8	78.1 - 137.3		
ZT 37 VSD+ - 10.0	Minimum	58	40.4 - 112.6	85.5 - 238.5	50	69
	Effective	130	37.7 - 92.5	79.8 - 196.1		
	Maximum	145	36.9 - 84.9	78.1 - 179.9		
ZT 45 VSD+ - 10.0	Minimum	58	40.4 - 135.8	85.5 - 287.7	60	68
	Effective	130	37.7 - 112.5	79.8 - 238.4		
	Maximum	145	36.9 - 96.9	78.1 - 205.3		
ZT 50 VSD+ - 10.0	Minimum	58	40.4 - 153.7	85.5 - 325.6	67	70
	Effective	130	37.7 - 141.0	79.8 - 298.7		
	Maximum	145	36.9 - 130.5	78.1 - 276.5		

Weight ZT 30-50 VSD 10 bar (Metric)

TYPE	Weight (kg)		
	Pack	Full Feature (iMD)	Full Feature (iD)
ZT 30 VSD+ - 10.0	1350	1610	1504
ZT 37 VSD+ - 10.0			
ZT 45 VSD+ - 10.0	1373	1646	1531

TYPE	Weight (kg)		
	Pack	Full Feature (iMD)	Full Feature (iD)
ZT 50 VSD ⁺ - 10.0			

Dimensions ZT 30-50 VSD 10 bar (Imperial)

TYPE	Weight (lbs)		
	Pack	Full Feature (iMD)	Full Feature (iD)
ZT 30 VSD ⁺ - 10.0	2976	3549	3316
ZT 37 VSD ⁺ - 10.0			
ZT 45 VSD ⁺ - 10.0	3027	3629	3375
ZT 50 VSD ⁺ - 10.0			

Dimensions ZT 30-50 VSD 10 bar (Metric)

TYPE	Length	Width	Height
	mm		
ZT 30-50 VSD+	2005	967	1889
ZT 30-50 VSD+ (FF)	2440		

Dimensions ZT 30-50 VSD 10 bar (Imperial)

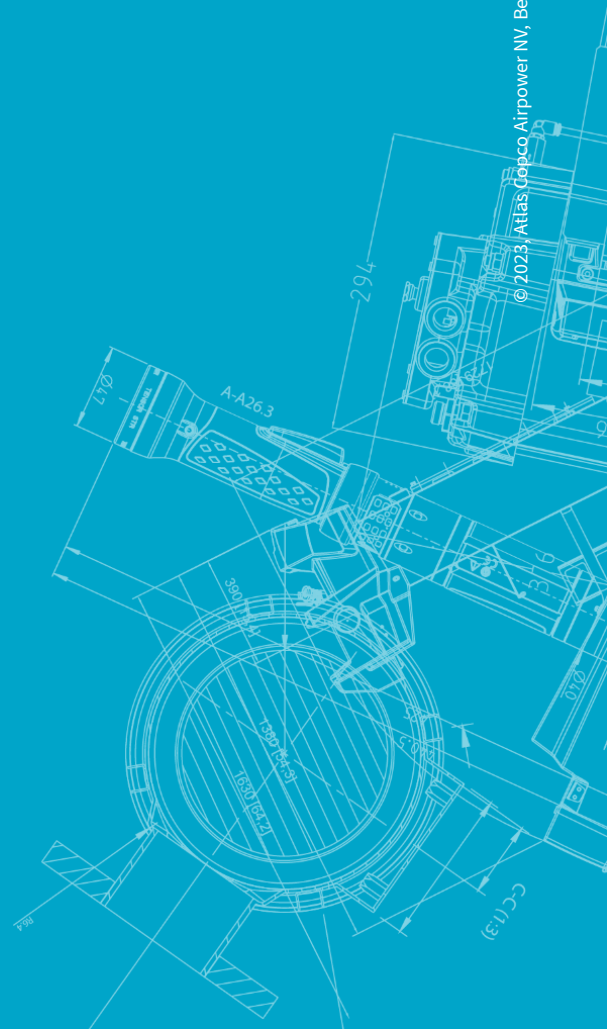
TYPE	Length	Width	Height
	inch		
ZT 30-50 VSD+	79	38	74
ZT 30-50 VSD+ (FF)	88		



Atlas Copco AB
(publ) SE-105 23 Stockholm, Sweden
Phone: +46 8 743 80 00
Reg. no: 556014-2720



WWW.ATLASCOPCO.COM



© 2023, Atlas Copco Airpower NV, Belgium. All rights reserved. Designs and specifications are subject to change without notice or obligation. Read all safety instructions in the manual before usage.