

AERZEN SCREW COMPRESSORS

AERZEN - DELTA TWIN - Two Stage Screw Compressors
Oil free compressed air technology



**AERZENER MASCHINENFABRIK
GMBH**

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The Customer Benefits Thanks to Technical Progress

Aerzener Maschinenfabrik have been manufacturing screw compressors since 1943.

As the Market Leader in Europe, the company is one of the oldest and largest manufacturers of twin shaft positive displacement compressors world-wide.

Based on technical expertise, experienced staff and a constant dialogue with customers, Aerzener Maschinenfabrik make innovative products. To maintain their success in the market place their products are designed to benefit the customer and support plant manufacturers.

Application Range of the DELTA TWIN

The new series DELTA TWIN is designed for the oil free compression of air and neutral gases. It is especially suitable for the production of industrial compressed air. The two stage units cover motor sizes from 75 to 200 kW and differential pressures up to 10.5 bars. They are available in water and air cooled formats and the volume flow range is from 500 m³/h up to 2.100 m³/h.

Examples for the application of Aerzen DELTA TWIN units:

compressed air technology

- foodstuff technology
- pneumatic industry
- medicine production
- beverage industry
- chemistry and process engineering
- medical industry
- breweries
- glass industry
- dairies
- control- and instrument air
- spray-coat plants
- surface technology
- manufacture of PET-bottles
- and also in many other branches



Construction and Installation

A low and high pressure oil free screw compressor air end forms the heart of the new DELTA TWIN.

Optimisation of the rotors and housing ensures an excellent efficiency of both air ends.

The air ends are driven by an Aerzen patented V-belt system. Over many years of trouble free operation in single stage compressor technology this driving conception has proved itself and become universally accepted. The driving motor is mounted on a hinged plate. The motors weight is used to obtain optimum belt tension at all times.

The construction of the new DELTA TWIN is divided into three groups:

- Electric motor and V- belt drive
- Compressor air ends
- Cooling

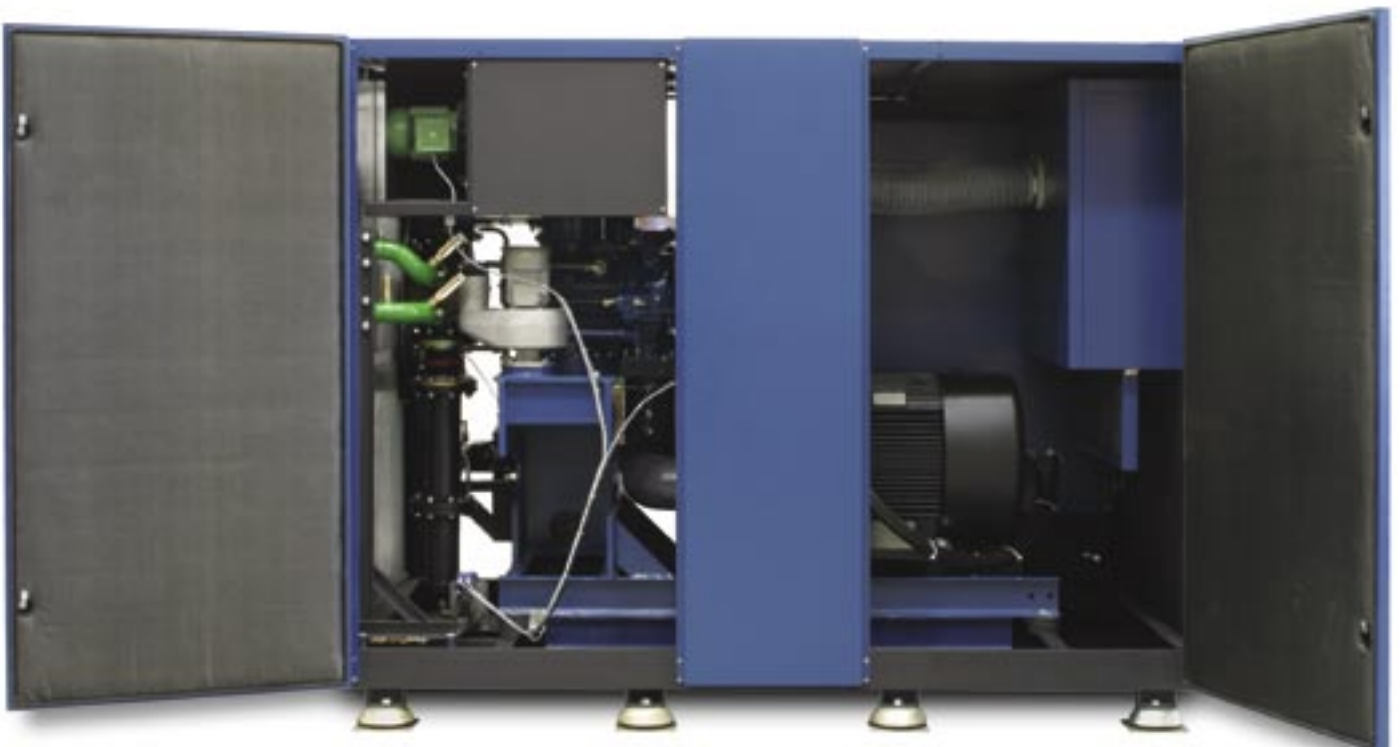
Therefore all component parts are easily accessible.

The units are available in water and air cooled formats.

As standard the water-cooled inter and after coolers are shell and tube heat exchangers. The air-cooled versions are aluminium honeycombed matrix coolers. For conditions which are more arduous. E.g. aggressive cooling water, alternative special materials are available.

The DELTA TWIN control system consists of an integrated text display, giving information on energy saving operation and maintenance requirements. A fault diagnosis signal system is also combined into the control.

DELTA TWIN units are supplied completely packaged - necessary for fast and easy installation and trouble - free commissioning.



Advantages for the Customer

- Larger volume flow by improved utilisation of the motor power.
- Optimal capacity to speed adjustment by belt drive (patented driving conception)
- Compact, space saving construction.
- Design of the unit allows easy access for maintenance
- All maintenance and service work carried out on site.
- Customer's special requirements possible through modifications.
- Low sound level
- Safe and reliable operation developed from six decades of experience in compressor construction.
- Excellent price to performance ratio

Delivery and Scope of Supply

- Aerzen screw compressor stages (low and high pressure) with upgraded drive shaft bearing suitable for "v" belt drive.
- Oil pressure lubrication incl. oil pump, oil filter, oil return valve and turbo filter.
- Base support with hinged motor mounting plate
- Belt drive with guard
- Electric motor
- Safety relief valve
- Non return valve
- Intercooler with condensate separator and automatic drain
- After cooler (condensate separator as option)
- Acoustic hood for internal installation complete with anti vibration mountings
- Switch cabinet with electrical connections and control
- Constant speed unloading device, incl. Suction throttle (automatically controlled)
- Intake filter

Modifications: Options

- Special materials for heat exchangers and pipe work.
- Special instrumentation resp.-control according to customer specification
- Additional inspections (hydrostatic pressure test, vibration, sound level)
- Special documentation
- Equipment according to national standards and stipulations
- Drive motors according to customer specification
- Container assembly for outdoor installation
- Air inlet filtering for acoustic hood
- Integrated frequency converter (75 kW / 90 kW)

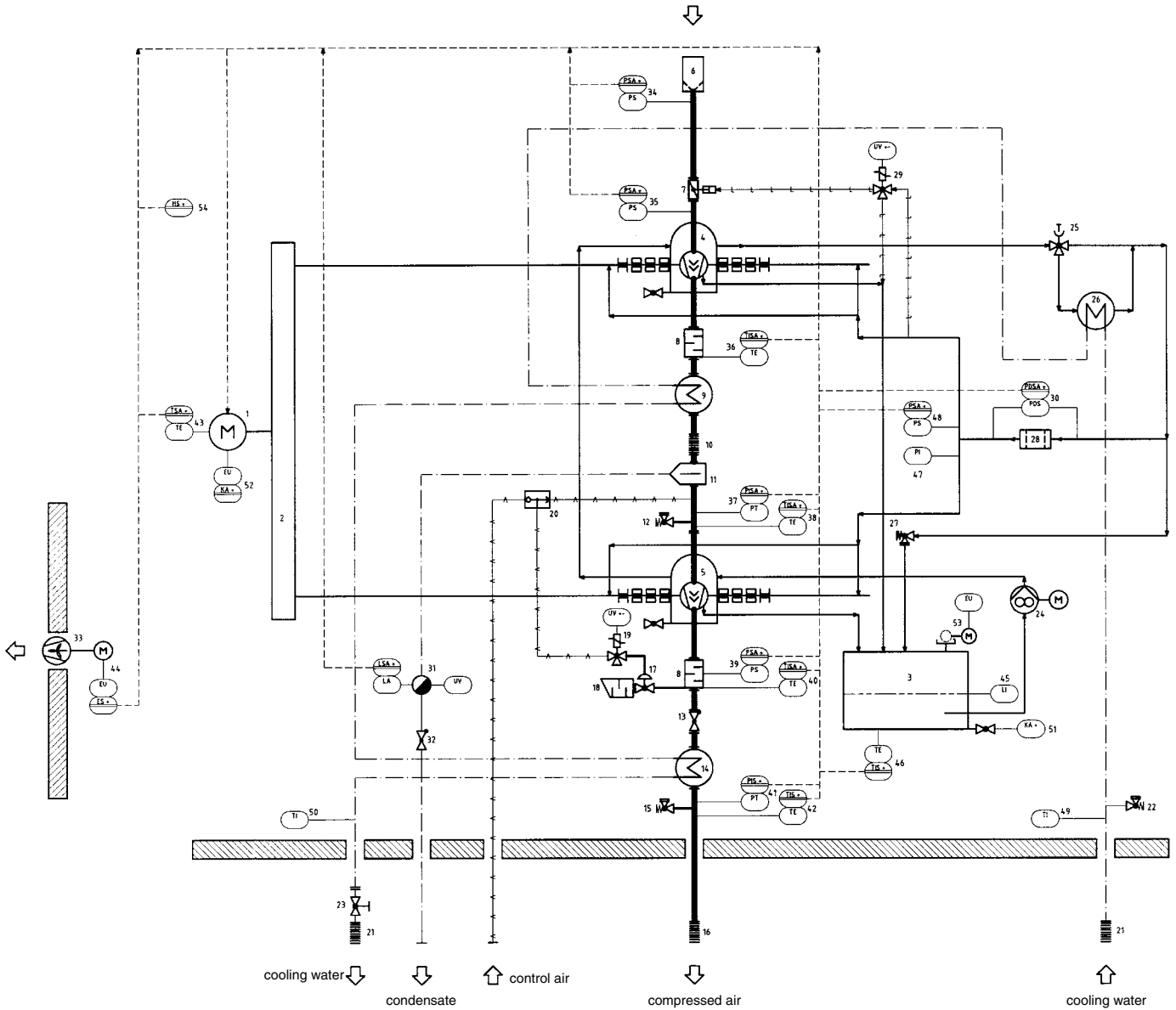
Accessories

- Refrigeration compressed air dryer
- Adsorption dryer
- Cyclone separator
- Compressed air filter
- Compressed air reservoir

For higher capacities or special applications (e.g. Ex protection, chemistry design etc) Units from our VMT series can be used)

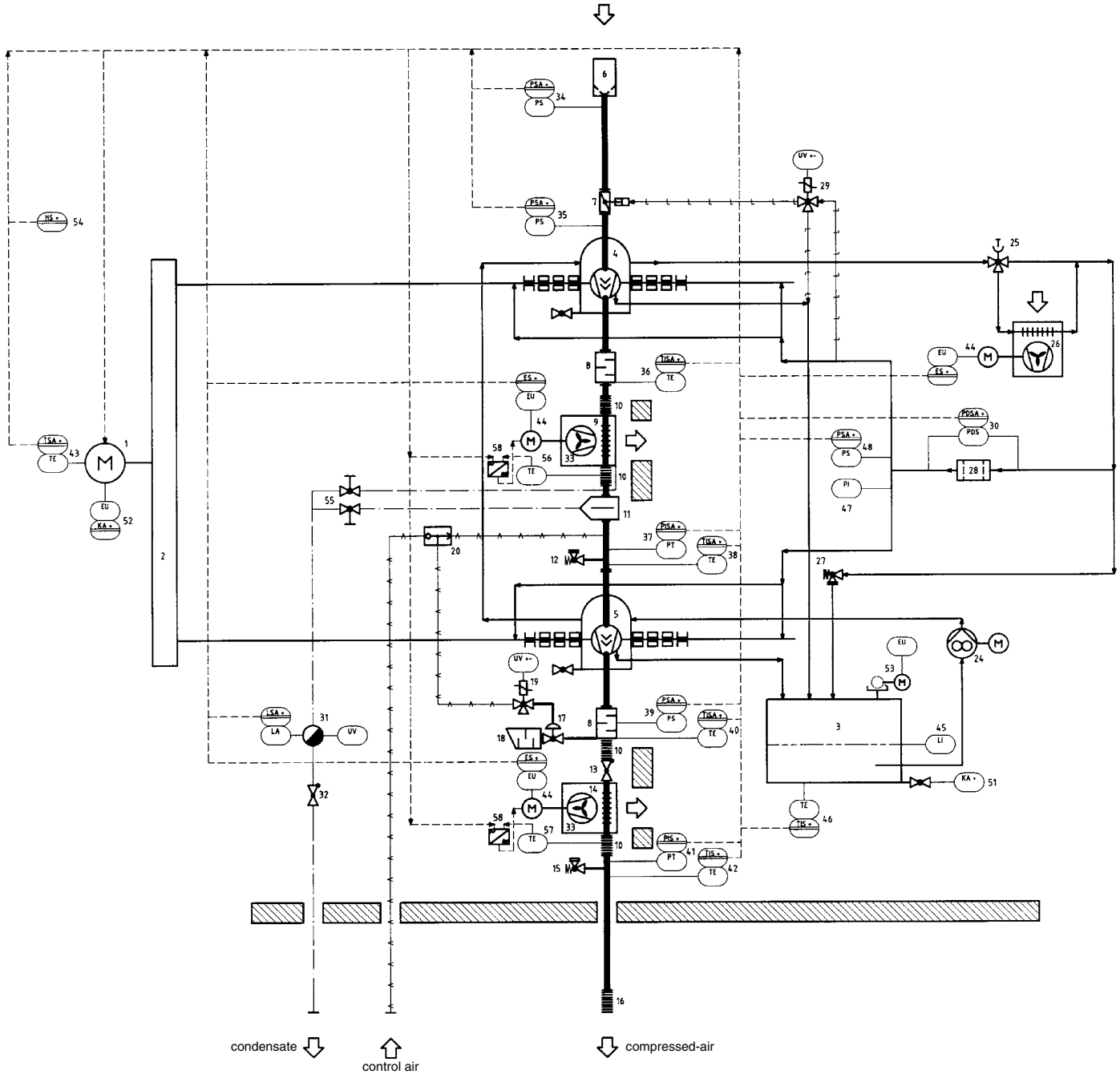


Flow chart DELTA TWIN, water-cooled design type DT ... WB



- | | | |
|--|--|---|
| <ul style="list-style-type: none"> 1 Driving motor 2 Belt drive 3 Oil reservoir 4 Compressor 1st stage low pressure 5 Compressor 2nd stage high pressure 6 Intake filter 7 Throttle flap 8 Sound absorbing connection chamber 9 Intermediate cooler 10 Compensator 11 Condensate separator 12 Safety relief valve 1st stage 13 Non-return valve 14 Aftercooler 15 Safety relief valve 2nd stage 16 Connection compensator compressed air 17 Vent valve 18 Blow-off silencer 19 Solenoid valve | <ul style="list-style-type: none"> 20 Pressure selecting relay 21 Connection compensator cooling water 22 Safety relief valve cooling water 23 Throttle shut-off valve cooling water 24 Oil pump 25 Oil temperature controller 26 Oil cooler 27 Oil pressure retaining valve 28 Oil filter 29 Solenoid valve 30 Oil filter monitoring 31 Condensate drain intermediate cooler 32 Non-return valve 33 Fan 34 Intake filter monitoring 35 Direction of rotation monitoring 36 Discharge temperature 1st stage 37 Intermediate pressure monitoring 38 Intake temperature 2nd stage | <ul style="list-style-type: none"> 39 Discharge pressure monitoring 40 Discharge temperature 2nd stage 41 Operating pressure sensor 42 Compressed-air outlet temperature 43 Motor temperate monitoring 44 Motor-overcurrent switch 45 Oil level indication 46 Oil temperature monitoring 47 Oil pressure indication 48 Oil pressure monitoring 49 Cooling water temperature at inlet 50 Cooling water temperature at outlet 51 Oil drain 52 Re-lubrication driving motor 53 Oil demister 54 Units-OFF |
|--|--|---|

Flow chart DELTA TWIN, air-cooled design type DT ... AB



- | | | |
|--|---|--|
| 1 Driving motor | 18 Blow-off silencer | 39 Discharge pressure monitoring |
| 2 Belt drive | 19 Solenoid valve | 40 Discharge temperature 2nd stage |
| 3 Oil reservoir | 20 Pressure selecting relay | 41 Operating pressure sensor |
| 4 Compressor 1st stage low pressure | 24 Oil pump | 42 Compressed-air outlet temperature |
| 5 Compressor 2nd stage high pressure | 25 Oil temperature controller | 43 Motor temperate monitoring |
| 6 Intake filter | 26 Oil cooler | 44 Motor-overcurrent switch |
| 7 Throttle flap | 27 Oil pressure retaining valve | 45 Oil level indication |
| 8 Sound absorbing connection chamber | 28 Oil filter | 46 Oil temperature monitoring |
| 9 Intermediate cooler | 29 Solenoid valve | 47 Oil pressure indication |
| 10 Compensator | 30 Oil filter monitoring | 48 Oil pressure monitoring |
| 11 Condensate separator | 31 Condensate drain intermediate cooler | 51 Oil drain |
| 12 Safety relief valve 1st stage | 32 Non-return valve | 52 Re-lubrication driving motor |
| 13 Non-return valve | 33 Fan | 53 Oil demister |
| 14 Aftercooler | 34 Intake filter monitoring | 54 Units-OFF |
| 15 Safety relief valve 2nd stage | 35 Direction of rotation monitoring | 55 Shut-off ball cock |
| 16 Connection compensator compressed air | 36 Discharge temperature 1st stage | 56 Temperature downstream of 1st stage |
| 17 Vent valve | 37 Intermediate pressure monitoring | 57 Temperature downstream of 2nd stage |
| | 38 Intake temperature 2nd stage | 58 Frequency converter for fan motor |

Performance data

DELTA TWIN		differential pressure		volume flow ²		nominal capacity main drive		fan motor water-cooled		air-cooled	
size	type of construction ¹	bar	psig	m ³ /h	cfm	kW	HP	kW	HP	kW	HP
DT 7/8	AB / WB	8	115	680	400	75	100	0,75	1,0	2 x 3,0 + 0,37	2 x 4,0 + 0,5
DT 7/10	AB / WB	10	150	560	330	75	100	0,75	1,0	2 x 3,0 + 0,37	2 x 4,0 + 0,5
DT 9/8	AB / WB	8	115	872	513	90	120	0,75	1,0	2 x 3,0 + 0,37	2 x 4,0 + 0,5
DT 9/10	AB / WB	10	150	742	437	90	120	0,75	1,0	2 x 3,0 + 0,37	2 x 4,0 + 0,5
DT 11/8	AB / WB	8	115	1125	662	110	150	0,75	1,0	2 x 3,0 + 0,37	2 x 4,0 + 0,5
DT 11/10	AB / WB	10	150	946	554	110	150	0,75	1,0	2 x 3,0 + 0,37	2 x 4,0 + 0,5
DT 13/8	AB / WB	8	115	1301	766	132	180	0,75	1,0	2 x 3,0 + 0,37	2 x 4,0 + 0,5
DT 13/10	AB / WB	10	150	1148	676	132	180	0,75	1,0	2 x 3,0 + 0,37	2 x 4,0 + 0,5
DT 14/8	AB / WB	8	115	1401	825	145	195	0,75	1,0	2 x 3,0 + 0,37	2 x 4,0 + 0,5
DT 14/10	AB / WB	10	150	1279	753	145	195	0,75	1,0	2 x 3,0 + 0,37	2 x 4,0 + 0,5
DT 16/8	AB / WB	8	115	1624	956	160	220	1,1	1,5	2 x 4,0 + 0,55	2 x 5,5 + 0,75
DT 16/10	AB / WB	10	150	1499	882	160	220	1,1	1,5	2 x 4,0 + 0,55	2 x 5,5 + 0,75
DT 20/8	AB / WB	8	115	2053	1208	200	270	1,1	1,5	2 x 4,0 + 0,55	2 x 5,5 + 0,75
DT 20/10	AB / WB	10	150	1824	1074	200	270	1,1	1,5	2 x 4,0 + 0,55	2 x 5,5 + 0,75

Emission sound pressure level acc. to DIN 45635 part 13, 80 dB(A) sound-insulated

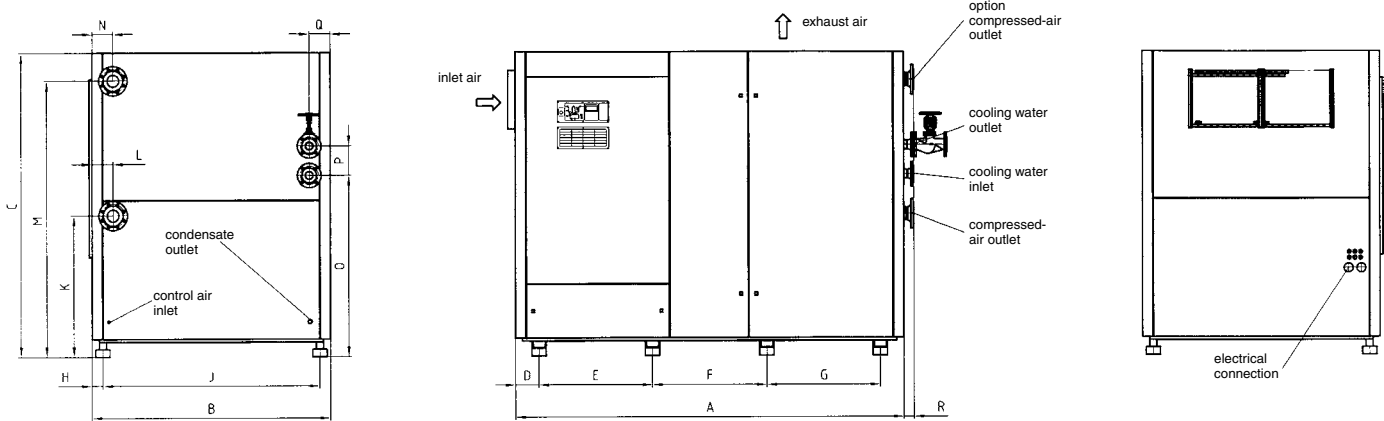
1: A = air-cooled / W = water-cooled / B = belt-driven

2: volume flow at ambient pressure of 1,0 bar and ambient temperature of 20 °C.

Other designs upon request. Subject to alteration.



Dimensions and weights - DELTA TWIN water-cooled

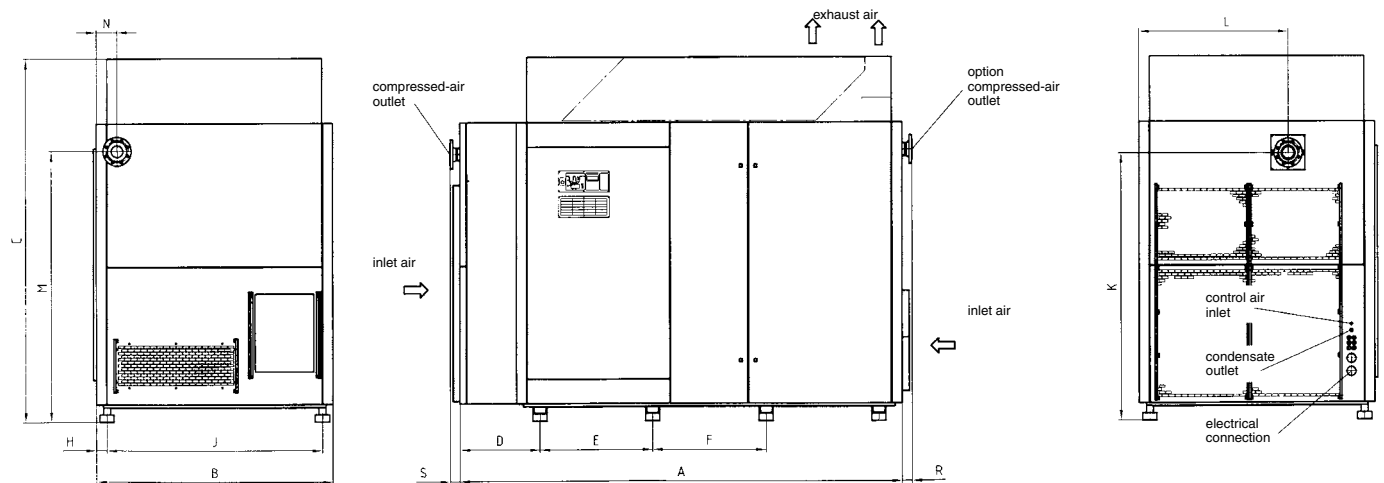


DELTA TWIN size	type of construction ¹	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	J [mm]	K [mm]	L [mm]	M [mm]	N [mm]	O [mm]	P [mm]	Q [mm]	R [mm]	weight approx. kg with motor
DT 7/8 ; DT 7/10	WB	2700	1670	2060	164	790	792	790	72,5	1505	963,5	145	1871	145	1232	197,4	145	70	3100
DT 9/8 ; DT 9/10	WB	2700	1670	2060	164	790	792	790	72,5	1505	963,5	145	1871	145	1232	197,4	145	70	3150
DT 11/8 ; DT 11/10	WB	2700	1670	2060	164	790	792	790	72,5	1505	963,5	145	1871	145	1232	197,4	145	70	3500
DT 13/8 ; DT 13/10	WB	2700	1670	2060	164	790	792	790	72,5	1505	963,5	145	1871	145	1232	197,4	145	70	3600
DT 14/8 ; DT 14/10	WB	2700	1670	2060	164	790	792	790	72,5	1505	963,5	145	1871	145	1232	197,4	145	70	3600
DT 16/8 ; DT 16/10	WB	2850	1770	2150	164	835	842	835	72,5	1605	963,5	145	1871	145	1232	197,4	145	70	3900
DT 20/8 ; DT 20/10	WB	2850	1770	2150	164	835	842	835	72,5	1605	963,5	145	1871	145	1232	197,4	145	70	4150

1: A = air-cooled / W = water-cooled / B = belt-driven

Dimensions not binding!

Dimensions and weights - DELTA TWIN air-cooled



DELTA TWIN size	type of construction ¹	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	H [mm]	J [mm]	K [mm]	L [mm]	M [mm]	N [mm]	R [mm]	S [mm]	weight approx. kg with motor
DT 7/8 ; DT 7/10	AB	3100	1670	2510	561,5	790	792	72,5	1505	1843	1041	1871	145,5	50	70	3300
DT 9/8 ; DT 9/10	AB	3100	1670	2510	561,5	790	792	72,5	1505	1843	1041	1871	145,5	50	70	3350
DT 11/8 ; DT 11/10	AB	3100	1670	2510	561,5	790	792	164	1300	1843	1041	1871	145,4	50	70	3700
DT 13/8 ; DT 13/10	AB	3100	1670	2510	561,5	790	792	164	1300	1843	1041	1871	145,4	50	70	3800
DT 14/8 ; DT 14/10	AB	3100	1670	2510	561,5	790	792	164	1300	1843	1041	1871	145,4	50	70	3800
DT 16/8 ; DT 16/10	AB	3300	1770	2600	561,5	790	792	164	1300	1843	1140	1871	145,5	50	70	4100
DT 20/8 ; DT 20/10	AB	3300	1770	2600	561,5	790	792	164	1300	1843	1140	1871	145,5	50	70	4350

1: A = air-cooled / W = water-cooled / B = belt-driven

Dimensions not binding!



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