Assembly instructions

Screw compressor
SKL 1200 C

Doc-ID: 5113 / MA / EN

Release: Rev. 02 / 28/03/2023

Prior to installing the SKL 1200 C and putting it into operation you must have read and understood these instructions. These instructions are only valid together with the operating instructions, they do not replace them!

Translation of the Original Assembly Instructions

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1 General

1.1 Information on the assembly instructions

These assembly instructions provide important information about installation and start-up of the screw compressor SKL 1200 C, hereinafter referred to as "compressor". A precondition for safe operation is the observance of all specified safety and handling instructions.

Furthermore, all local accident prevention regulations and general safety regulations valid for the application area of the compressor must be observed.

You must have read and understood the mounting instructions before you start installing the machine and put it into operation! It is a product component and must be kept in direct proximity of the compressor, well accessible to the personnel at all times. All safety instructions of the operating instructions must additionally be observed.

These assembly instructions do not apply to the installation of a compressor unit completed by a third party.

1.2 Pictogram explanation

Warning notes

Warning notes are characterised by pictograms in these mounting instructions. The warning notes are marked by signal words expressing the extent of the hazard.
It is absolutely essential to observe the notes and to proceed with caution in order to prevent accidents as well as bodily injuries and property damage.

DANGER!

points to an immediately dangerous situation, which can lead to death or serious injuries if it is not avoided.

WARNING!

... points to an immediately dangerous situation, which can lead to death or serious injuries if it is not avoided.

CAUTION!

... points to a potentially dangerous situation, which can lead to minor or light injuries if it is not avoided.

ATTENTION!

... points to a potentially dangerous situation, which may lead to property damage if it is not avoided.

Hints and recommendations

NOTE!

… highlights useful hints and recommendations as well as information for an efficient and trouble-free operation.

1.3 Limitation of Liability

See operating instructions "SKL 1200 C" for information about limitation of liability.

1.4 Copyright protection

See operating instructions "SKL 1200 C" for information about limitation of liability.

1.5 Spare parts

Information regarding the spare parts can be found in the operating instructions "SKL 1200 C".

1.6 Warranty conditions

For warranty conditions refer to the "General Terms and Conditions".

1.7 Customer Service

Our customer service can be contacted for any technical advice.

Information about the responsible contact person can be retrieved by telephone, fax, E-mail or via the Internet at any time, refer to manufacturer's address on page 2.

1.8 Declaration of Incorporation

Declaration of incorporation (pursuant to EC Machinery Directive 2006/42/EC and “The supply of Machinery (Safety) Regulations 2008”) see page 30.

2 Safety

2.1 Intended use

The screw compressor SKL 1200 C is intended for the installation in a superordinate system. The manufacturer of the overall system must assess the new risks resulting from the installation. These risks must be included in the operating instructions of the system.

The compressor is intended exclusively for the compression of filtered air.

Use the compressor only as intended.
All information in the installation and operating instructions must be strictly observed (technical data, operating data, permissible working range, see page 11).

All types of claims due to damage arising from improper use are excluded. The operator alone shall be responsible for any damage arising from improper use.

2.2 Acceptance and monitoring

The compressor itself is not subject to any acceptance and monitoring obligation.

2.3 Operator's responsibility

See operating instructions "SKL 1200 C" for information about the responsibility of the operating company.

2.4 Requirements placed upon the specialised staff

The mounting instructions specify the following qualification requirements for the different fields of activity:

- **Specialists**
  are due to their technical training, knowledge and experience and their knowledge of the pertinent regulations able to carry out the work assigned to them and to independently recognize potential hazards.
- **Electrical specialists**
  are, due to their technical training, knowledge and experiences and their knowledge of the relevant standards and regulations, able to work on electrical systems and to independently recognize possible hazards.

2.5 Personal protective equipment

Information regarding the personal protective equipment can be found in the operating instructions "SKL 1200 C".

2.6 Occupational safety and special risks

Please observe all safety instructions as per the operating instructions "SKL 1200 C", Chapter "Occupational safety".

2.7 Hazard symbols on the compressor

Depending on the installation situation of the compressor, it may be necessary to mark the compressor and/or the components with additional danger pictograms. The necessity results from the danger analysis of the unit and/or vehicle manufacturer. These pictograms can be for example:

DANGER!
General danger pictogram!

… denotes general dangerous situations for individuals. Non-observance of the safety instructions can result in severe injuries or death. .

DANGER!
Danger of burns!

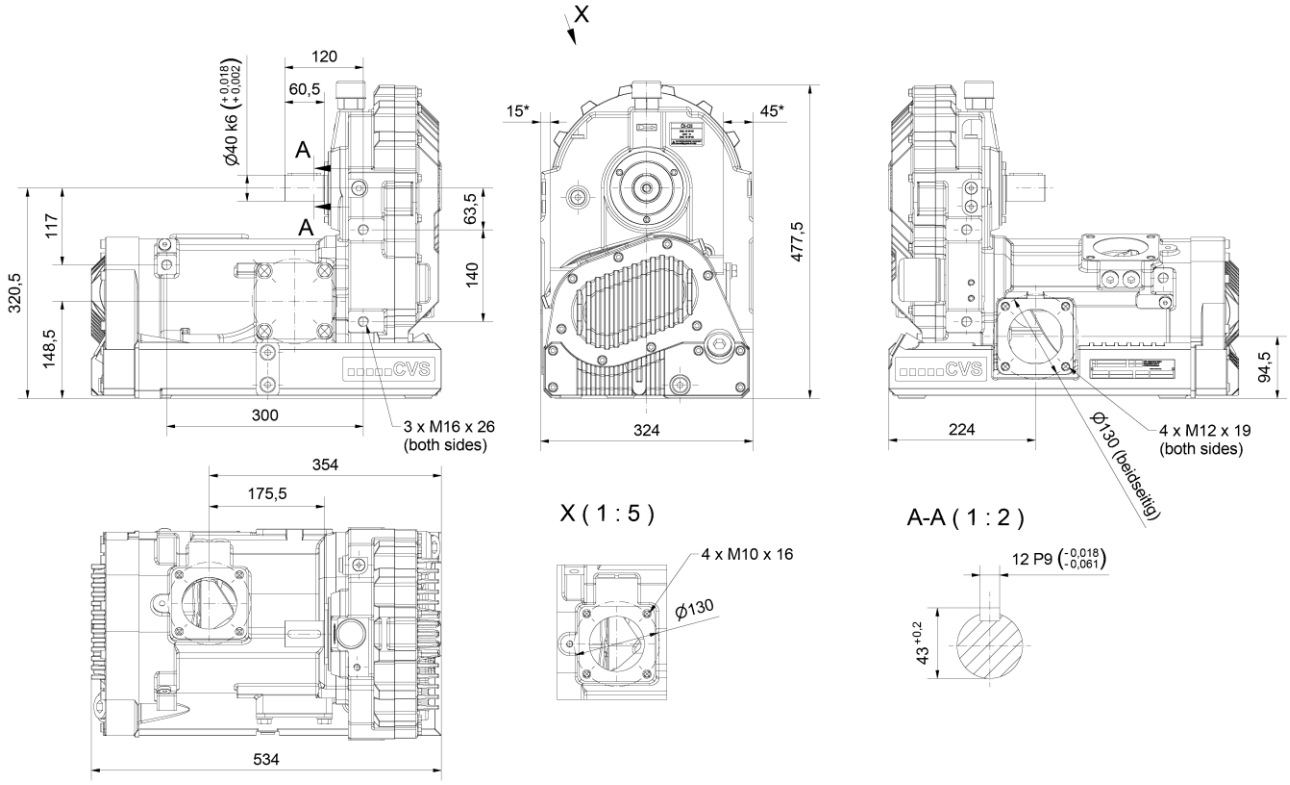
… denotes the presence of a hot surface.

DANGER!
Rotating parts!

… marks that potentially hazardous rotating parts are present.

3 Technical data

3.1 Compressor dimensions



* Distances for the contacting surfaces of the fastening threads

Fig. 1: Compressor dimensions

3.2 Technical data

General data	Unit	
Mass moment of inertia compressor	[kgm^2]	1.52 (CR) / 1.44 (CL)
Compressor weight	[kg]	123
Permissible inclination from the horizontal during operation	[°]	all sides ±7

Tab. 1: General data

Permissible working range	Unit	
Input speed	[min^{-1}]	1000…1800
Suction temperature [1)]	[°C]	- 10…+ 40
Geodetic height [1)]	[m]	0…1000
Negative pressure suction side (e.g. due to soiling)	[mbar]	0…65
Maximum final overpressure at the pressure flange [2)]	[bar]	2.5
Running time in continuous operation [3)]	[h]	max. 3.0

1) For suction temperatures or heights outside the permissible working range, consult with CVS.

2) In case of increased suction temperatures or heights, the maximum permissible final pressure is reduced. Consult with CVS.

3) For continuous operation in excess of 3 hours, an oil cooler must be installed. Installation instructions on request.

Tab. 2: Permissible working range

Compressor performance data [1)]		Unit			
Input speed		[min^{-1}]	1000	1400	1800
Intake volume flow at a final overpressure at the pressure flange	0.0 bar	[m^3/h]	620	920	1170
	2.5 bar		480	800	1045
Coupling power at a final overpressure at the pressure flange:	0.0 bar	[kW]	10,0	16,0	22,5
	2.5 bar		35,0	49,5	64,5
Final temperature at final overpressure = 2.0 bar		[°C]	177	177	166
max. perm. final temperature at final overpressure = 2.5bar		[°C]	250		

1) Suction pressure at suction flange = 1.0 bar, suction and ambient temperature = 20 °C, geodetic altitude max. 1000 m

Tab. 3: Performance characteristics

Technical data

Gear oil specification	Value
Specification	API CD/SF or higher
SAE viscosity class	10W40 or 15W40
Oil pressure of compressor	min. 0.5 bar (excess pressure)
Gear oil quantity compressor	4.8 litres

1) When connecting a gear oil cooler, the oil quantity must be increased commensurate with the additional volume.

Tab. 4: Gear oil specification

Recommended gear oils

Brand	Type of oil
MOBIL	Delvac MX Extra 10W40
ARAL	Multi Turboral SAE 15W40
DEA	Cronos Super DX SAE 15W40
ESSO	Essolube XT 201 SAE 15W40
SHELL	Universal Engine Oil SAE 15W40
FUCHS	Titan Universal HD SAE 15W40
BP	Vanellus C5 Global SAE 15W40

Other gear oil grades on request.

Tab. 5: Types of gear oil

4 Design and Function

4.1 Design

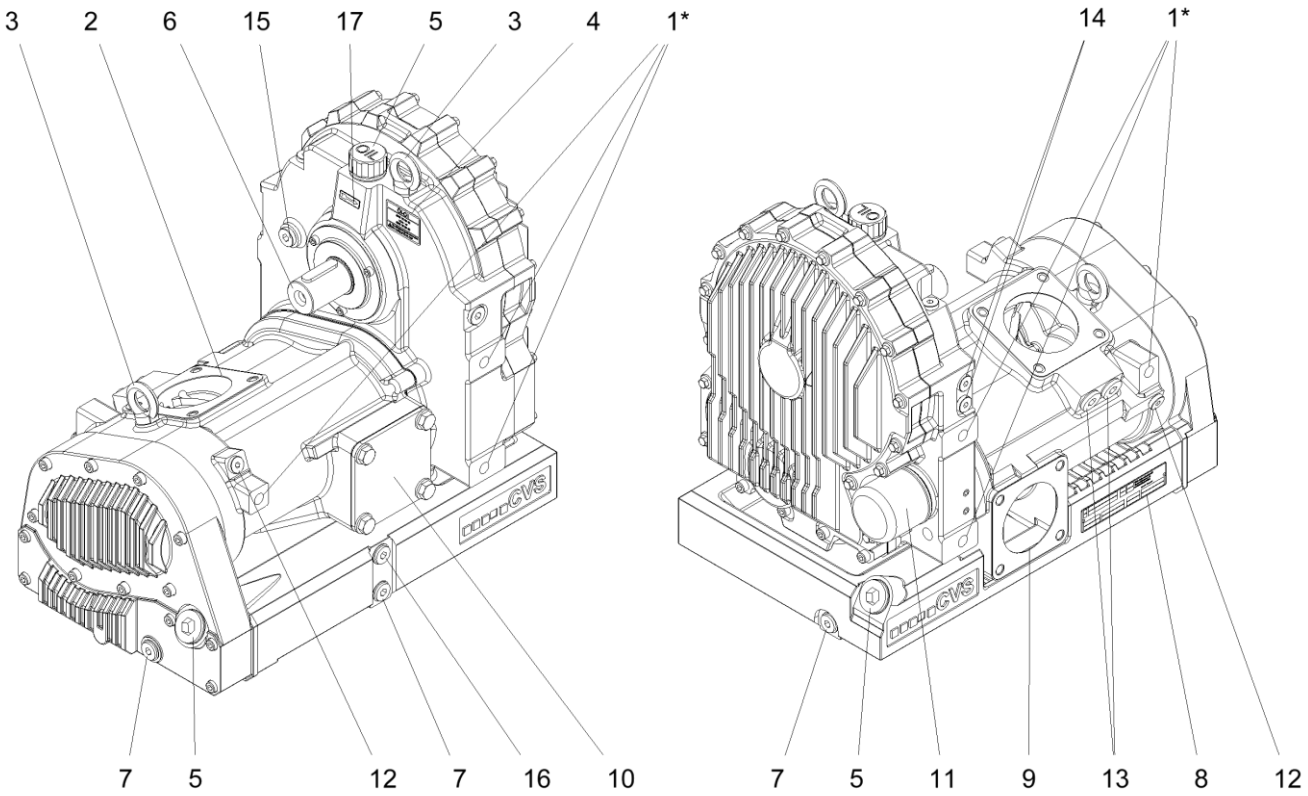


Fig. 2: Compressor view

1 Fastening threads vertical (3 pieces on each side of the compressor)
2 Air outlet flange
3 Attachment point for transport
4 Rating plate gear oil
5 Oil filler neck cap / gearbox ventilation
6 Drive shaft with feather key
7 Oil drain screw
8 Rating plate data compressor
9 Flange A air inlet
10 Flange B air inlet (closed)
11 Gear oil filter
12 Connection oil pressure gauge
13 Connection pressure gauge or temperature sensor for compressed air
14 Connection of external oil cooler
15 Lock pin for external oil cooler
16 Control bore for oil filling
17 Rotation direction arrow

4.2 Function

Functional principle

Cleaned air is taken in via the air inlet flange A or B. Two screw rotors compress the air completely dry. The rotors are running contact-free both in relation to each other and to the casing. They are kept apart by a synchronising gearbox. The compressed air reaches the consumer via the air outlet flange.

Lubrication

Bearing and gearbox are supplied with gear oil via an oil filter by means of an integrated oil pump.

Cooling

The heat is dissipated to the ambient air via the casing surface.

Drives

The drive is via an articulated shaft.

Sense of rotation

SKL 1200 CR — The drive shaft's sense of rotation is clockwise when looking onto the drive shaft.

SKL 1200 CL — The drive shaft's sense of rotation is counter-clockwise when looking onto the drive shaft.

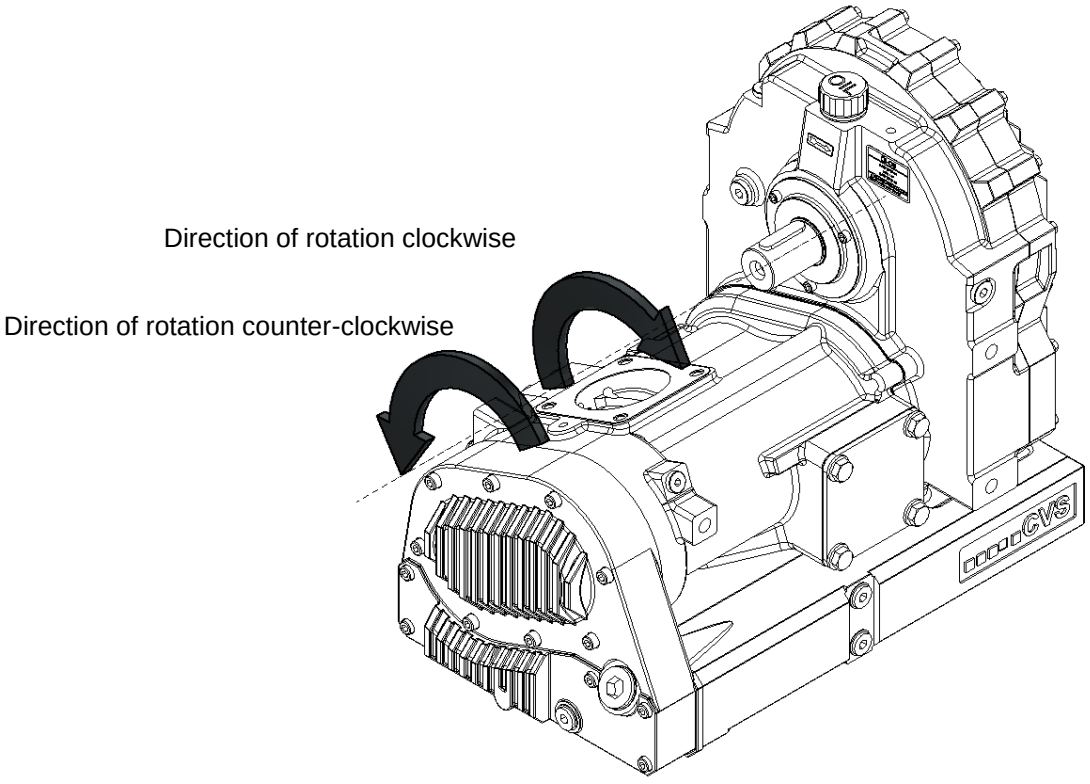


Fig. 3: Sense of rotation

5 Transport and storage

5.1 Safety notes for transport

Improper transport

Danger!
Danger by falling down or tilting of the compressor!

The weight of the compressor may injure a person and cause serious bruising!

Therefore:

– Depending on the dead weight and size of the compressor, use a pallet on which the compressor can be moved by means of a fork lift.
– For lifting the compressor, use suitable lifting gear (slings etc.) that is designed for the weight of the compressor.
– When putting the slings in position, take care to avoid putting stress on individual components.
– Only use the provided attachment points with eye bolts.

Please also observe the safety notes in the operating instructions "SKL 1200 C"!

5.2 Transport

The compressor must be transported with suitable lifting gear. Ropes or belts should preferably be attached to the two eye bolts (M10).

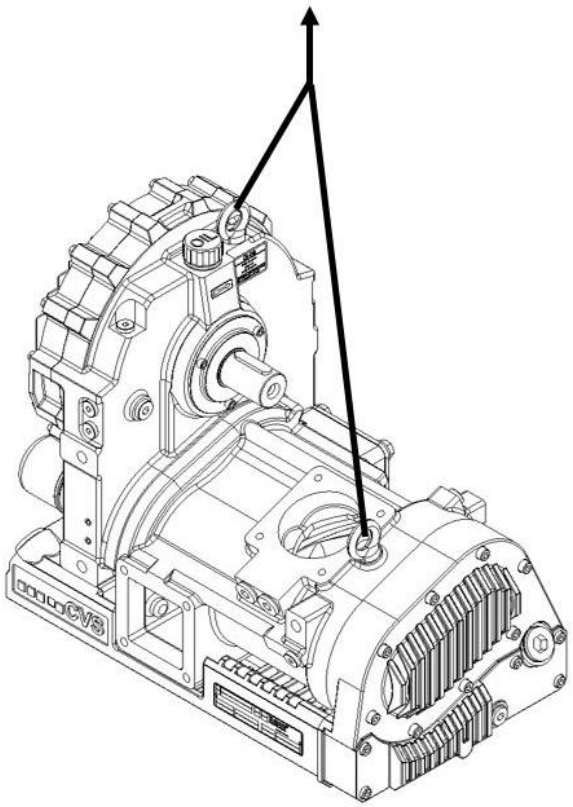


Fig. 4: Crane transport

For future transports

- Seal all open connections with protective caps (prevents penetration of dirt and water)
- Secure against vibrations
- Drain gear oil
- Securely fasten the compressor prior to transport (e.g. screw it onto a pallet)
- Transport and put down the compressor with a fork lift or secure with straps and lift with suitable lifting gear.

5.3 Storage

Storage of packages

Store packages under the following conditions:

- Do not store outdoors.
- Store dry and dust free.
- Do not expose to aggressive media.
- Protect against solar irradiation.
- Avoid mechanical vibrations.
- Storage temperature: -10…+60 °C
- Relative humidity: max. 95%, non-condensing
- If storage lasts longer than 3 months, regularly check the general condition of all parts and of the packaging.
- On compressors intended for export (overseas), bags with desiccant are placed into the inlets and outlets. These bags keep moisture away from the compressor's working chambers. Remove bags before suction and pressure line are connected.

6 Installation and assembly

6.1 Safety

Dirt and lying about items

CAUTION!
Risk of tripping from dirt and objects lying around!

Contamination and discarded items can lead to slipping and tripping, resulting in substantial injuries.

Therefore:

– Always keep the working area clean.
– Remove objects that are not required.
– Mark tripping points with yellow-and-black tape.

Please also observe all safety instructions as per the operating instructions "SKL 1200 C", Chapter "Occupational safety".

6.2 Installation

The figure gives a schematic illustration of the compressor with accessories.

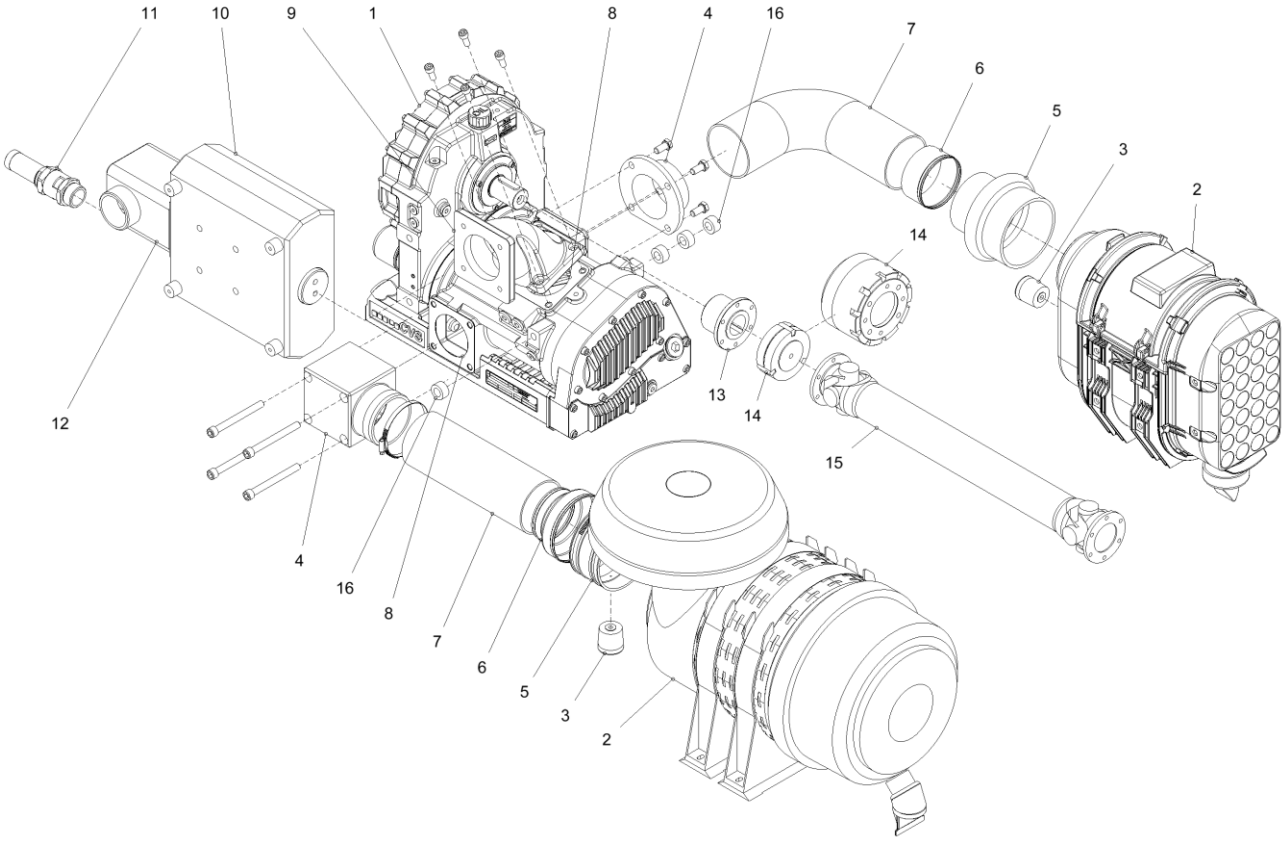


Fig. 5: Compressor with accessories

1	Compressor	7	Suction hose	13	Shaft flange
2	Suction filter	8	Flat seal	14	Safety clutch
3	Maintenance display	9	Pressure flange	15	Articulated shaft
4	Suction flange	10	Pressure silencer (muffler)	16	Spacer
5	Connection sleeve	11	Safety valve		
6	Pipe socket	12	Non-return valve		

6.3 Necessary work

The following preparatory work is necessary to install the compressor:

- Installing the compressor with suction and pressure lines.
- Connecting the drive components with the compressor.
- Installing safety and monitoring equipment.
- Installing accessories.

6.4 Installation requirements

Attaching the compressor

The compressor is mounted on 3 attachment points M16 (see Fig. 2, pos. 1) either right or left on each side of the compressor, inside the vehicle frame.

Requirements on the installation panel and the fixture

- The installation panel and attachment points on the vehicle must be of adequate load-carrying capacity and stiffness.
- The two attachment points lying vertically on top of each other are in one plane.
  The third attachment point is set back by 15 mm or 45 mm (see Fig. 1 footnote). Suitable spacer elements (see Fig. 5, pos. 16) must be used for screwing.
- The fastening screws must feature a sufficient clamping length.

Requirements upon the installation location

The installation location must fulfil the following requirements:

- Protect from dirt, falling rocks and spray water.
- Offer sufficient space for accidental contact protection.
- Offer sufficient space for the connections of the suction and pressure lines.
- Ensure good legibility of the instruments.
- be accessible for maintenance and repair work e.g. for replacing the oil filter, or for checking the safety and non-return valve.

Installation position

- The pressure flange must point upwards.
- Mount the compressor horizontally or with an inclination (see table 1) according to the inclination of the auxiliary drive.

Assembly

- Install the compressor with screws according to the following table free from distortion.

Use the following screws to attach the compressor:

Screw	Model	Solidity	Torque	Screw-in depth in the housing of the compressor
M16	Verbus Ripp	8.8	190 Nm	22…24 mm

Tab. 6: Fastening screws

6.5 Drive

ATTENTION!

- The drive components must not exert any axial or transverse forces on the drive shaft.
- When doing any assembly work on the drive shaft, no forces must be exerted on the drive shaft.
- Do not hammer or knock connecting components on the shaft, but pull them instead.
- Check the torque and the sense of rotation.

Drive types

The compressor is driven by the truck auxiliary drive (PTO) by means of a articulated shaft.

ATTENTION!

Drive via V-belts is not permitted due to the transverse forces acting on the shaft of the compressor.

Safety clutch

To protect the drive (gear), the installation of a safety clutch is recommended; the slip torque should be at least 360 Nm.

NOTE!
The actual torques can be significantly higher due to the starting acceleration. Consult the vehicle manufacturer if necessary.

6.5.1 Articulated shaft drive

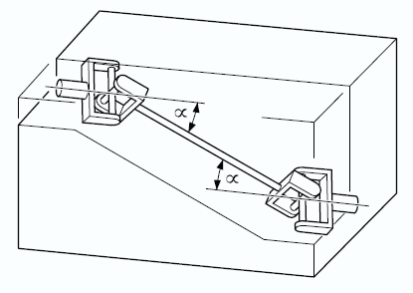


Fig. 6: Diffraction angle articulated shaft

Only articulated shafts with 2 joints are permitted.

Only balanced articulated shafts with a balancing quality level of G 6.3 according to DIN ISO 1940 with length compensation may be used.

Select the diffraction angle ∝ of the articulated shaft at max. 12°.

The central axes of the articulated shaft must run parallel to each other

Observe the design, installation and inspection instructions of the manufacturer.

Choice

Select articulated shaft length according to transmittable power, speed, diffraction angle and installation geometry. Observe maximum permissible extension length.

Assembly

Install the articulated shaft as specified by the manufacturer.

6.6 Pressure flange

Requirements

The pressure flange must meet the following requirements:

- sufficient mechanical solidity
- temperature resistant up to 250°C
- Minimum diameter DN 90
- Ensurance or a sufficient distance to the drive components in assembled state

Use the following screws to attach the pressure flange to the compressor:

Screw	Standard	Solidity	Torque	Screw-in depth in the housing of the compressor
M10x25	ISO 4762	8.8	35 Nm	13…16 mm

ATTENTION!

Too high torque or the use of unsuitable screws can cause damage at the compressor!

6.7 Suction and pressure line

Requirements

The suction and pressure lines must meet the following requirements:

- corrosion-proof
- temperature resistant up to 250°C
- Minimum diameter:

  Suction line: DN 125

  Pressure line: DN 90

Installation

The following points must be observed during installation:

- The lines must not exert any reaction force on the compressor. Support the lines, if necessary.
- Lay the pressure line falling away from the compressor. Install a condensate sack with drain outlet at the lowest point.
- When using a plastic hose in connection with a remote suction filter ensure that the areas around the clamps are leak-proof.
- In the event of initial soiling on the suction side, a strainer must be temporarily mounted directly on the suction flange during start-up.
  (Recommended mesh width: 0.1 mm).

NOTE!
The compressor has an identical suction flange on both sides, one of which is closed with a cover. By exchanging the cover and the suction connection piece, the connection of the suction hose can be made optionally from both sides.

6.8 Muffler (silencer)

There are high-frequency air fluctuations in screw compressor owing to their principle of operation.

We recommend installing a muffler on the suction and pressure side. Commercially available mufflers are fitted with a non-return valve and a connection for a safety valve.

6.9 Safety equipment

The following safety equipment must be installed:

- Safety valve
- Non-return valve
- Suction filter
- Protection against contact

6.9.1 Safety valve

Risk of explosions

DANGER!
Risk of injury by explosions!

Explosions can cause severe injuries!

Therefore:

– Install the safety valve as instructed. Observe the manufacturer's instructions.
– Only use the safety valve for its intended purpose.
– Never block the safety valve.

The German accident prevention regulations require a non-lockable safety valve to be installed after the compressor at the pressure side. This valve must be selected such that it prevents the pressure to exceed the highest permissible operating pressure by more than 10 %. It must be identified with a TÜV component test number and be equipped with a manual venting element.

Assembly

1. Install the safety valve directly after the compressor. There may not be any shut-off devices between the safety valve and the compressor.
2. The nominal opening pressure may not exceed the maximum permissible final overpressure (refer to chapter 3.2 Tab. 2) or the permissible system pressure, provided the latter is lower.

6.9.2 Non-return valve

The non-return valve prevents the reverse operation of the compressor after it has been switched off when the silo is not relieved. The non-return valve is not suitable for retaining material to be conveyed.

Assembly

- The non-return valve must be installed directly after the compressor or after the safety valve.
- A second non-return valve must be installed at the crossover to the consumer.

6.9.3 Suction filter

Liquids and solids may not be sucked in. Hence, a filter must be installed before the compressor.

Requirements

The filter must fulfil the following requirements:

- Filter: < 5 Micron
- Filter resistance when it is new: < 30 mbar
- It must be fitted with dust extraction valve, a control flap and a maintenance display for the degree of contamination.

Assembly

- Install the filter in the suction line before the compressor – either directly before the compressor with an intake silencer or away from the compressor via a connecting hose.
- Protect the filter from spray water, exhaust gases and heat.
- Observe the flow direction.
- Mount the filter horizontally.
- It must be possible to dismantle the filter cartridge for maintenance.

6.9.4 Protection against contact

Moving and hot parts must be protected against contact.

The protective measures for moving parts, e.g. to DIN EN ISO 13857, for hot surfaces, e.g. to DIN EN ISO 13732-1, must be implemented.

6.10 Display and monitoring equipment

Pressure gauge, maintenance display and thermometer must be provided to ensure smooth and trouble-free operation.

We also recommend the installation of a speed counter.

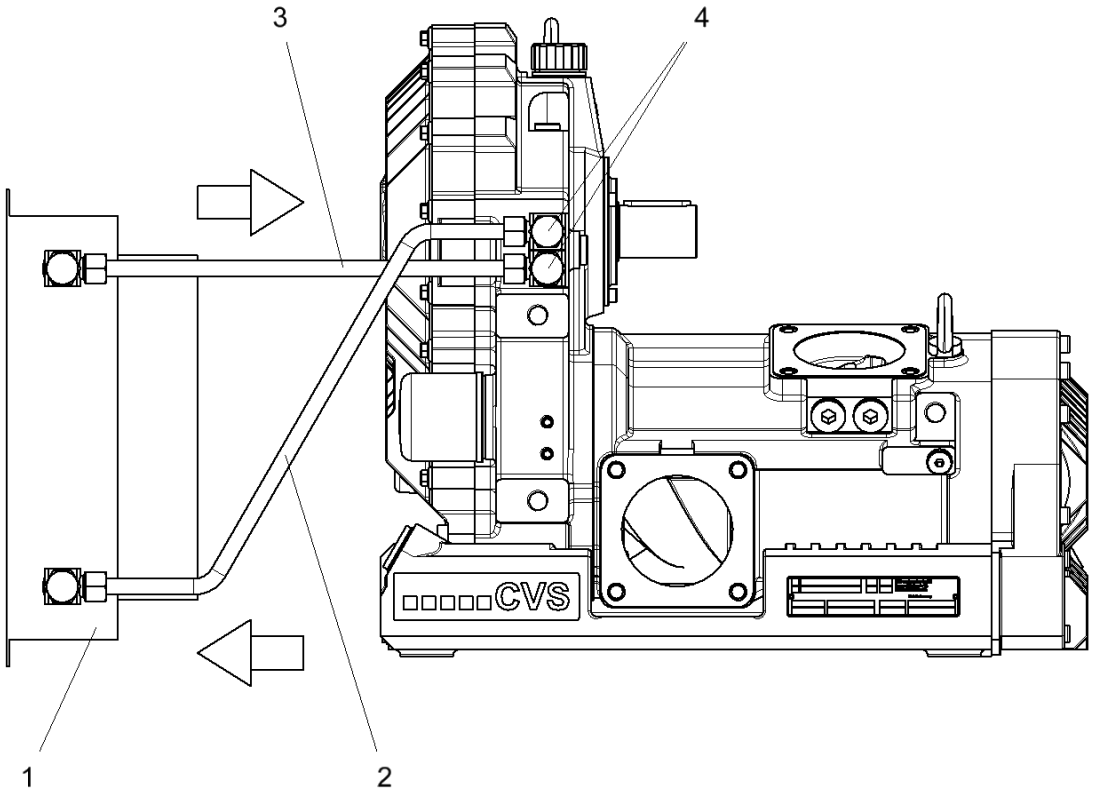
Designation	Monitoring parameters	Place of installation	Measuring range
Pressure gauge	Operating pressure	on the compressor, see chapter 6.2 Fig. *2* Fig. 5	according to the operating pressure to be ensured
Pressure gauge	Gearbox oil pressure	on the compressor, see chapter 4.1Fig. *2*Fig. 2	0…6 bars
Maintenance display	Vacuum after suction filter	after the suction filter see chapter 6.2Fig. 2Fig. 5	0…65 mbars
Thermometer	Compression end temperature	Compressor pressure flange, see chapter 6.2Fig. *2*Fig. 5	0…250 °C
Speed counter (option)	Speed	Drive shaft	refer to chapter Tab. 2.

Tab. 7: Display and monitoring equipment

6.11 Oil cooler

CVS recommends to generally install an oil cooler.

6.11.1 Oil cooler circuit



NOTE: Suitable oil coolers are available from CVS.

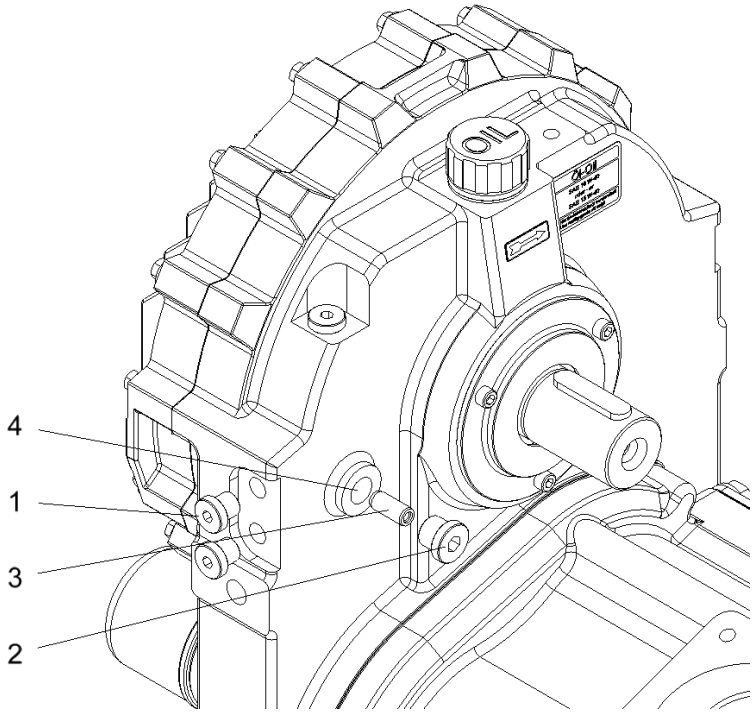
Fig. 7: Oil cooler circuit

1 Oil cooler with ventilator
2 Pipe to the oil cooler
3 Pipe from oil cooler
4 Pipe screw connection

Assembly instructions

- Mounting pipes and hoses stress-free
- If necessary, fit an oil drain cock at the lowest point of the oil circuit

6.11.2 Connection of the oil cooler



- Remove three screw plugs (1, 2)
- Insert cylindrical pin (3) with female thread ISO 8735 - A10 x 24 with closed side ahead into bore (4)
- Reassemble the screw plug (2)
- Mounting screw connections for oil lines
- Install oil lines 12x0.5 and oil cooler
- Total pressure loss external oil cooling max. 0.2 bar

NOTE!

To remove the cylindrical pin, screw in the M6 screw and pull out the cylindrical pin.

6.12 Compressed air after-cooler

A suitable compressed air aftercooler must be installed depending on the material to be conveyed or the temperature resistance of the pressure line.

7 Start-up

7.1 Safety during start-up

Start-up, operation

WARNING!
Risk of injury due to improper start-up and operation

Improper start-up and operation can lead to serious bodily injuries or property damage.

Therefore:

– Have all work during initial operation exclusively performed by the manufacturer's employees or by his authorised representatives or by trained personnel.
– Start-up and operation may only be performed by adequately qualified personnel that has been authorised and instructed by the operator.
– Before the start of any work, ensure that all covers and protective devices are correctly installed and function correctly.
– Never override any protective equipment during operation.
– Pay attention to tidiness and cleanliness in the working area! Loosely stacked or scattered components and tools are accident sources.

Please also observe all safety instructions as per the operating instructions "SKL 1200 C", Chapter "Occupational safety".

7.2 Start-up

ATTENTION!

The compressor must always be filled with sufficient oil. For checking and correcting the oil level, see operating instructions manual "SKL 1200 C", chapter "Maintenance"

Inspection prior to initial start-up

The following points must be checked prior to initial start-up:

- Transport damage to the compressor
- Checking the entire system
- Conduits for free passage and leak tightness. Remove dirt, welding residues and rust, if necessary.
- Screw connections for tightness
- Direction of rotation of the drive by switching it on and off briefly (correct direction of rotation: clockwise as seen on the drive shaft)
- Oil level
- Direction of installation and function of non-return valve
- Safety valve function
- Accidental contact protection function.

Start-up

- Ensure that the compressor is positioned at an acceptable angle
  (see chapter 3.2 Tab. 1)
- Depressurise the pressure side
- Open shut-off devices
- Switch on drive (engage gently)
- Adjust input speed
- Check operating data

ATTENTION!

When operating with an external oil cooler, the oil level in the compressor must be checked again after the test run and refilled with oil if necessary!

Inspections during operation

During operation **the operator** has to check the following data **every 20 minutes**:

- Drive speed (see chapter 3.2 Tab. 2)
- Final overpressure (see chapter 3.2 Tab. 2)
- Gear oil pressure (see chapter 3.2 Tab. 4)

7.3 Switching off

Switch the compressor off as follows:

- Switch off drive.
- Close shut-off valves.
- Drain condensate if necessary, e.g. when using a compressed air aftercooler.

8 Declaration of Incorporation

Einbauerklärung im Sinne der Maschinenrichtlinie 2006/42/EG Anhang II 1B - Orginaleinbauerklärung
Declaration of Incorporation according to the EC Machinery Directive 2006/42/EC Annex II 1B – Original Declaration of Incorporation

Hersteller / Manufacturer	CVS engineering GmbH Großmattstraße 14 D-79618 Rheinfelden
Bevollmächtigter für die Zusammenstellung der relevanten technischen Unterlagen / Authorised person for compilation of the relevant technical documents:	Fabian Blum Großmattstraße 14 D-79618 Rheinfelden
Kurzbeschreibung & Produkt **Short description & Products:**	Flüssigkeitsring-Kompressor-Vakuumpumpe für Druck- und Vakuumbetrieb Liquid-ring compressor vacuum pump for pressure and vacuum operation VacuStar WR 2500*, WR 3100*, WR 4000 Schraubenkompressor für den Druckbetrieb Screw compressor for pressure operation SKL 700, SKL 1100, SKL 700 LS, SKL 1100 LS, SKL 1200 C, SKL 1500 Drehschieberkompressor für Druck- und Vakuumbetrieb Rotary vane compressor for pressure and vacuum operation VacuStar W900*, W1300*, W1600* Drehschieberkompressor für Druckbetrieb Rotary vane compressor for pressure operation RKL 160 Drehschieberkompressor für Druck- und Vakuumbetrieb Rotary vane compressor for pressure and vacuum operation VacuStar L400
Seriennummer/ Serial number	siehe Typenschild / see type plate

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Die speziellen technischen Unterlagen gemäß Anhang VII Teil B wurden erstellt. Der Bevollmächtigte für das Zusammenstellen der technischen Unterlagen verpflichtet sich, die Unterlagen auf begründetes Verlangen an die einzelstaatlichen Stellen zu übermitteln. Die Übermittlung erfolgt postalisch in Papierform oder in elektronischer Form.
Die Inbetriebnahme des Produkts ist so lange untersagt, bis festgestellt wurde, dass die Maschine, in die das oben genannte Produkt eingebaut wird, allen grundlegenden Anforderungen der Maschinenrichtlinie entspricht.
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- ATEX-Richtlinie 2014/34/EU des Europäischen Parlaments und Rates

Rheinfelden, 10.02.2023

i.V. F. Blum

Fabian Blum

Leiter Konstruktion & Entwicklung
Head of Design & Engineering

The manufacturer declares that the above product is an incomplete machine in the meaning of the machinery directive. The product is only intended for installation in a machine or an incomplete machine and therefore does not meet all requirements of the machinery directive yet. The following basic requirements of the machinery directive for this product have been applied and complied with: 1.1.2, 1.1.3, 1.1.5, 1.3.1, 1.3.2, 1.3.4, 1.3.7, 1.5.5, 1.5.7, 1.5.8, 1.5.9, 1.6.1, 1.7.1, 1.7.2, 1.7.3, 1.7.4
The special technical documents have been created according to Annex VII, part B. The person authorised to compile the technical documents commits to submitting the documents to the national offices upon justified request. The submission shall take place on paper in the email or on electronic data carrier.
Commissioning of the product is forbidden until it has been determined that the machine into which the above product is installed meets all basic requirements of the machinery directive.
The products marked with "*" comply with the requirements of the following directives:
ATEX directive 2014/34/EU of the European parliament and council

Declaration of Incorporation according to The Supply of Machinery (Safety) Regulations 2008 Annex II 1B

- Original Declaration of Incorporation

Manufacturer:	CVS engineering GmbH Großmattstraße 14 D-79618 Rheinfelden
Importer:	CompVac Ltd. Mr. Lee Benton 25, Wharfedale Road Euroway Industrial Estate BD4 6SG Bradford
Authorised person for compilation of the relevant technical documents:	Fabian Blum Großmattstraße 14 D-79618 Rheinfelden
Short description & Products:	Liquid-ring compressor vacuum pump for pressure and vacuum operation VacuStar WR 2500*, WR 3100*, WR 4000** Screw compressor for pressure operation SKL 700, SKL 1100, SKL 700 LS, SKL 1100 LS, SKL 1200 C, SKL 1500 Rotary vane compressor for pressure and vacuum operation VacuStar W900*, W1300*, W1600** Rotary vane compressor for pressure operation RKL 160 Rotary vane compressor for pressure and vacuum operation VacuStar L400
Serial numbers:	See type plate

The manufacturer declares that the above product is an incomplete machine in the meaning of 'The Supply of Machinery (Safety) Regulations 2008'. The product is only intended for installation in a machine or an incomplete machine and therefore does not meet all requirements of 'The Supply of Machinery (Safety) Regulations 2008' yet.

The following basic requirements of 'The Supply of Machinery (Safety) Regulations 2008' for this product have been applied and complied with: 1.1.2, 1.1.3, 1.1.5, 1.3.1, 1.3.2, 1.3.4, 1.3.7, 1.5.5, 1.5.7, 1.5.8, 1.5.9, 1.6.1, 1.7.1, 1.7.2, 1.7.3, 1.7.4

The special technical documents have been created according to Annex VII, part B. The person authorised to compile the technical documents commits to submitting the documents to the national offices upon justified request. The submission shall take place on paper in the email or on electronic data carrier.

Commissioning of the product is forbidden until it has been determined that the machine into which the above product is installed meets all basic requirements of 'The Supply of Machinery (Safety) Regulations 2008'.

The products marked with **"*"** comply with the requirements of the following directives:
- Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations 2016

Rheinfelden, 10.02.2023

i.V. F. Blum

Fabian Blum
Head of Design & Engineering
CVS engineering GmbH

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