

Electric motor repair instructions

Series: HG(HA)12P
HG(HA)22P
HG(HA)34P

pluscom⁺

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1 Liability and Warranty

Liability and the manufacturer's warranty are excluded if

- alterations and functional modifications have been carried out
- original spare parts have not been used.

2 Safety Information

Target group for this repair information

- Work on the compressor may only be carried out by persons whose technical training, skills and experience along with their knowledge of pertinent regulations and documentation means that they are capable of assessing the work to be carried out and detecting any possible dangers.
- A specialist can mean a refrigeration technician for example. Note that electrical work must only be carried out by a qualified electrician. Alternatively, on a country-specific basis, persons who have undergone electrotechnical instruction and who have proof of their qualification are also permitted to carry out the work.



- **DANGER! This symbol refers to instructions for avoiding direct severe dangers to persons.**



- **DANGER! This symbol refers to instructions for avoiding direct severe dangers to persons or systems by electrical current.**



- **WARNING! This symbol is used to indicate that inaccurate compliance or total failure to comply with the instructions could cause injury to persons or damage to the compressor or refrigerating plant.**



- This symbol is used to indicate that parts with refrigeration-machine oils (for oil types see compressor name plate) should be moistened prior to installing.



- This symbol indicates the required tightening torque for the screw.

Important prerequisites



DANGER

Risk of electric shock

- ▶ Before you carry out any repair work, disconnect the compressor from the electricity network.
 - ▶ Turn the main switch to "O" (OFF).
 - ▶ Secure the main switch against restarting.
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WARNING

The heavy weight of the compressor can be potentially dangerous.

Use all the seals included in the kit.

3 Disassembly



WARNING

Ensure that the compressor is depressurised before starting work.

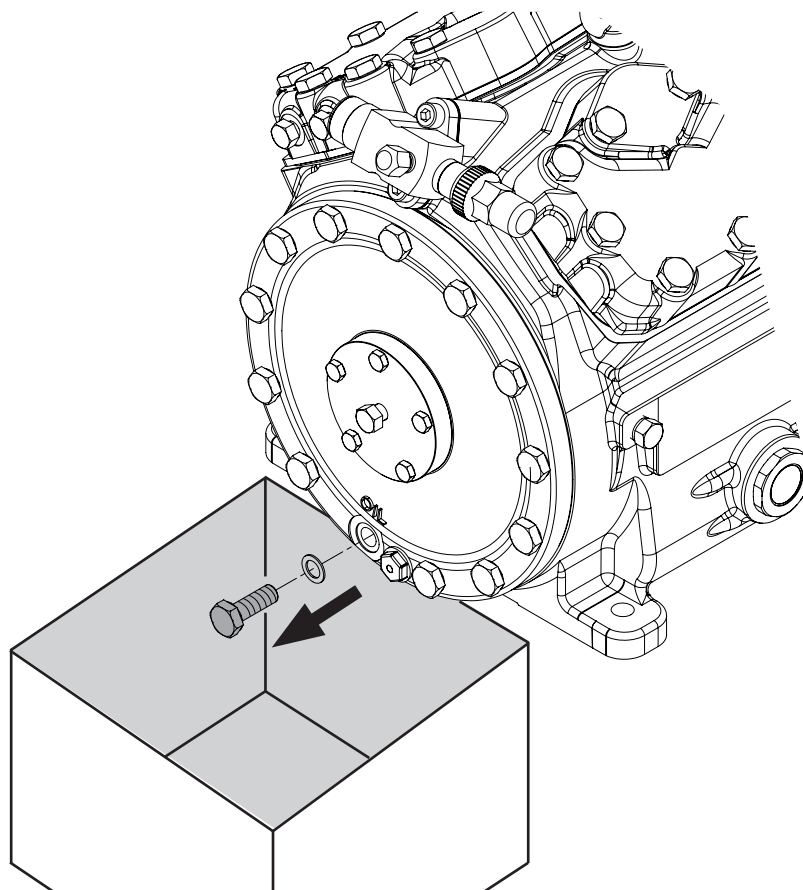
3.1 Draining the oil



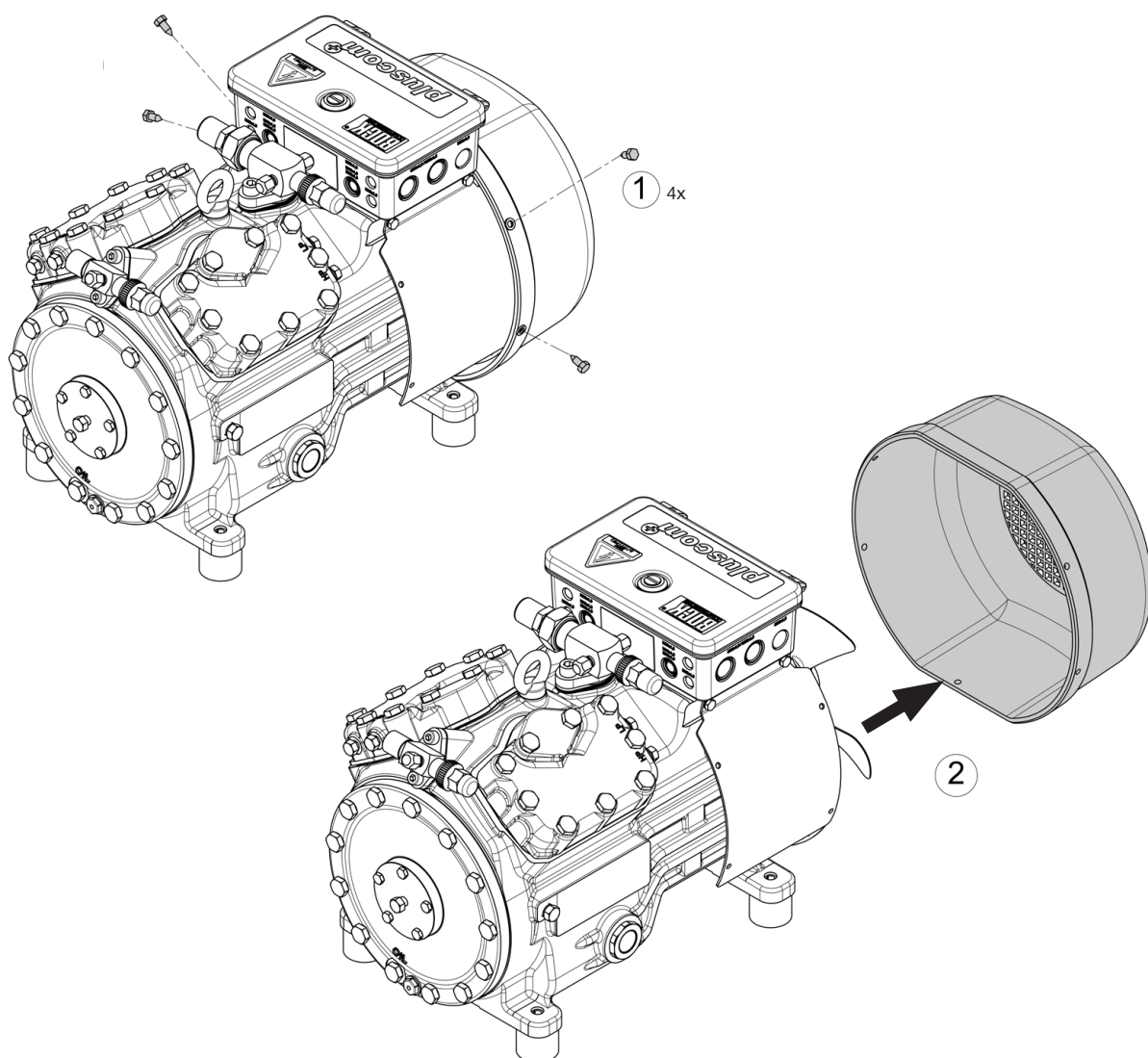
NOTE

Do not dispose of oil in domestic waste.

- ▶ Dispose of the old oil in accordance with the environmental regulations and observe national regulations.
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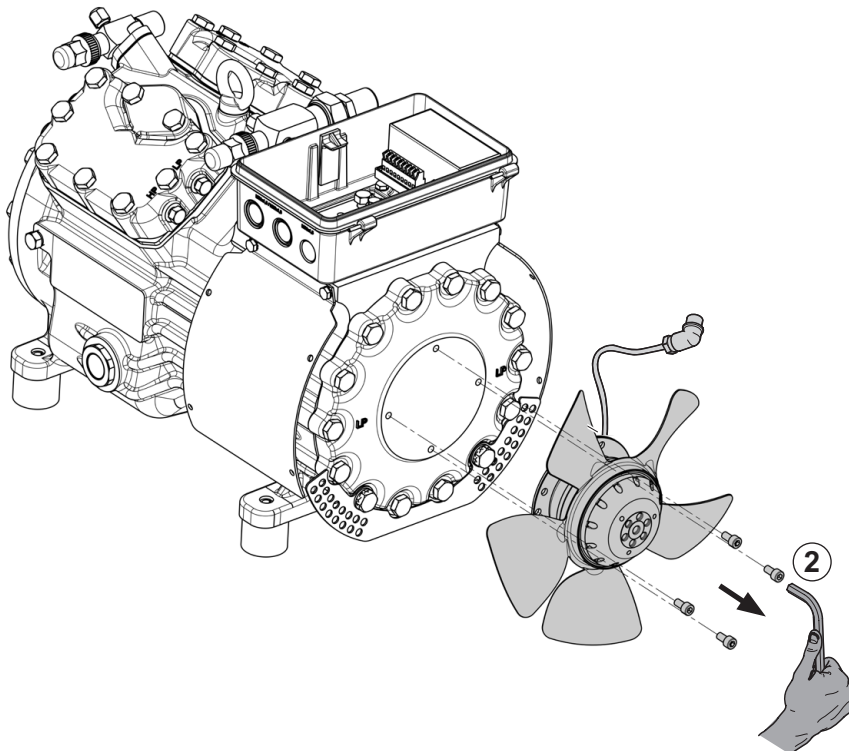
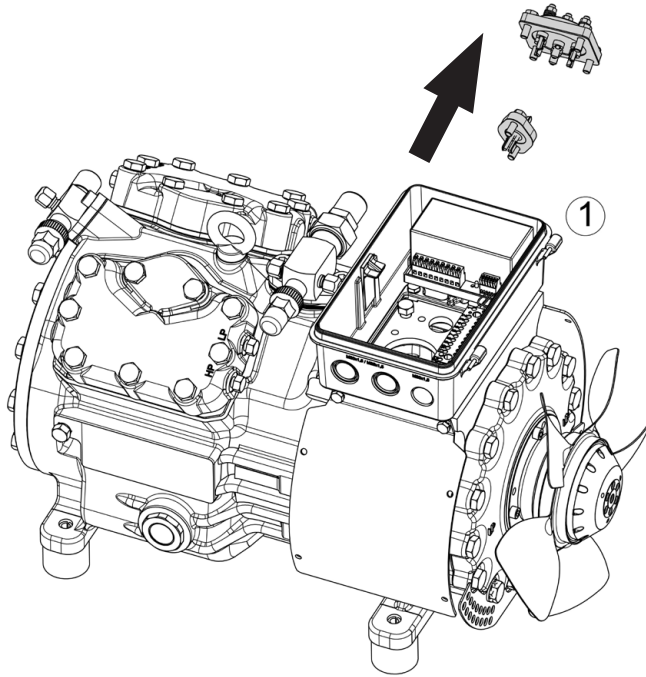


3.2 Removing the air guide hood (only for HA)



3.3 Disconnecting the electrical connections

- ▶ **Do not damage any cables and components.
Damaged parts must be repaired or replaced immediately.**
- Remove the terminal board and the PTC terminal board.
- Remove the fan (only for HA).



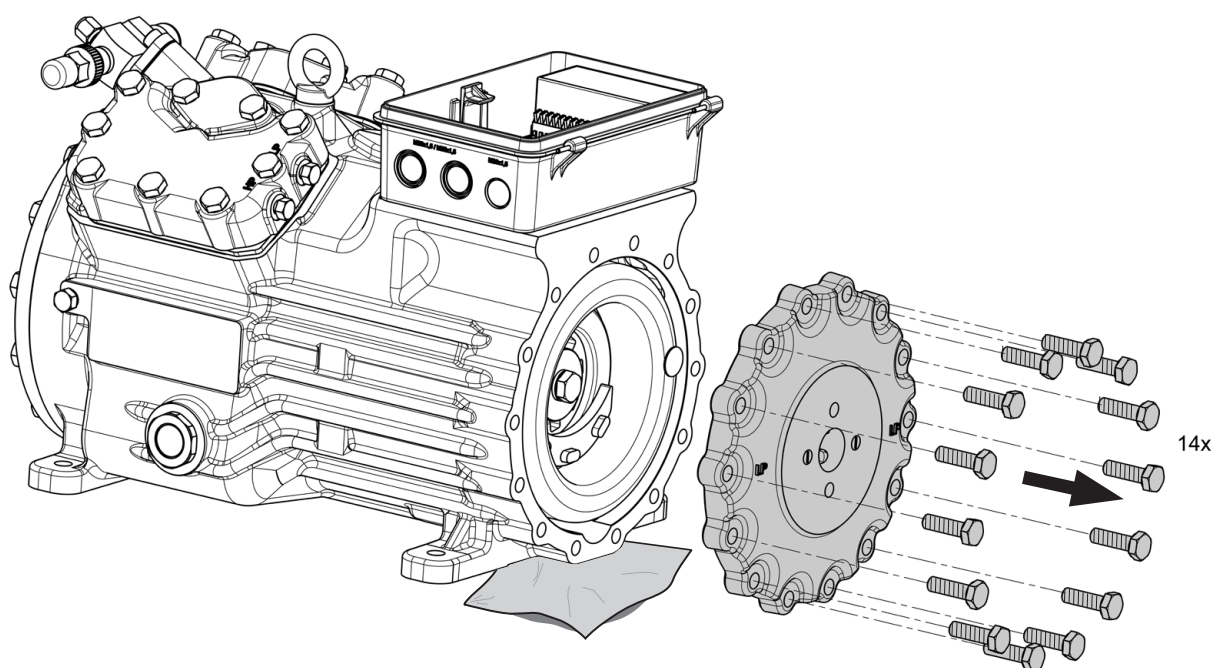
3.4 Removing case cover



WARNING

The heavy weight of the compressor and parts can potentially be dangerous; risk of falling, danger of crushing.

- ▶ **ATTENTION! The residual oil flows out when the case cover is removed.**
Lay an absorbent material under the area and dispose of it in accordance with the environmental regulations.



3.5 Removing the stator

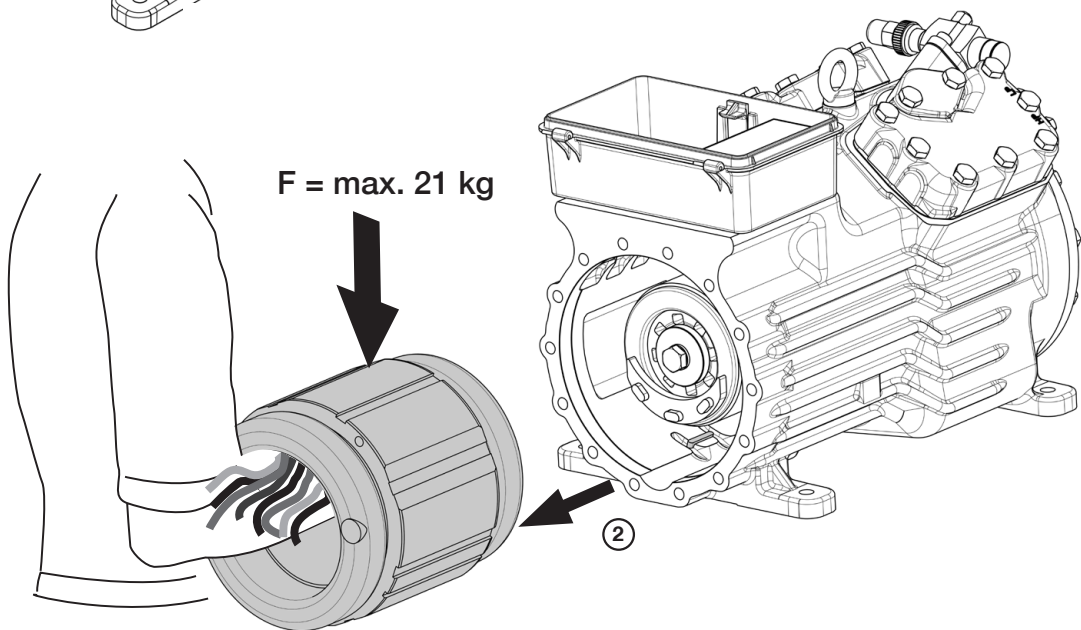
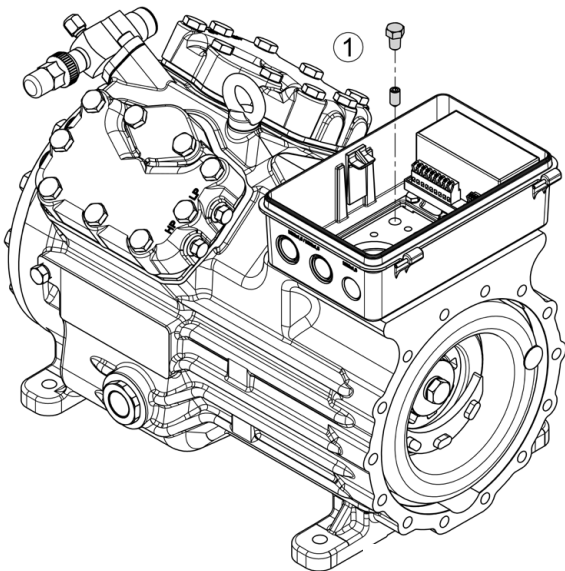


WARNING

The heavy weight of the stator can potentially be dangerous; risk of falling, danger of crushing.

- ▶ Take appropriate measures to provide a secure location for the stator. Prevent inadvertent rolling.

- ▶ Remove the locking screw and the stator screw underneath it.



4 Installation

We recommend cleaning the inside of the case before the installation. There must not be any particles and dirt in the compressor.

To assemble, reverse the order of the steps. Note any particular features such as observance of different torques.

4.1 Connecting the stator to the motor housing

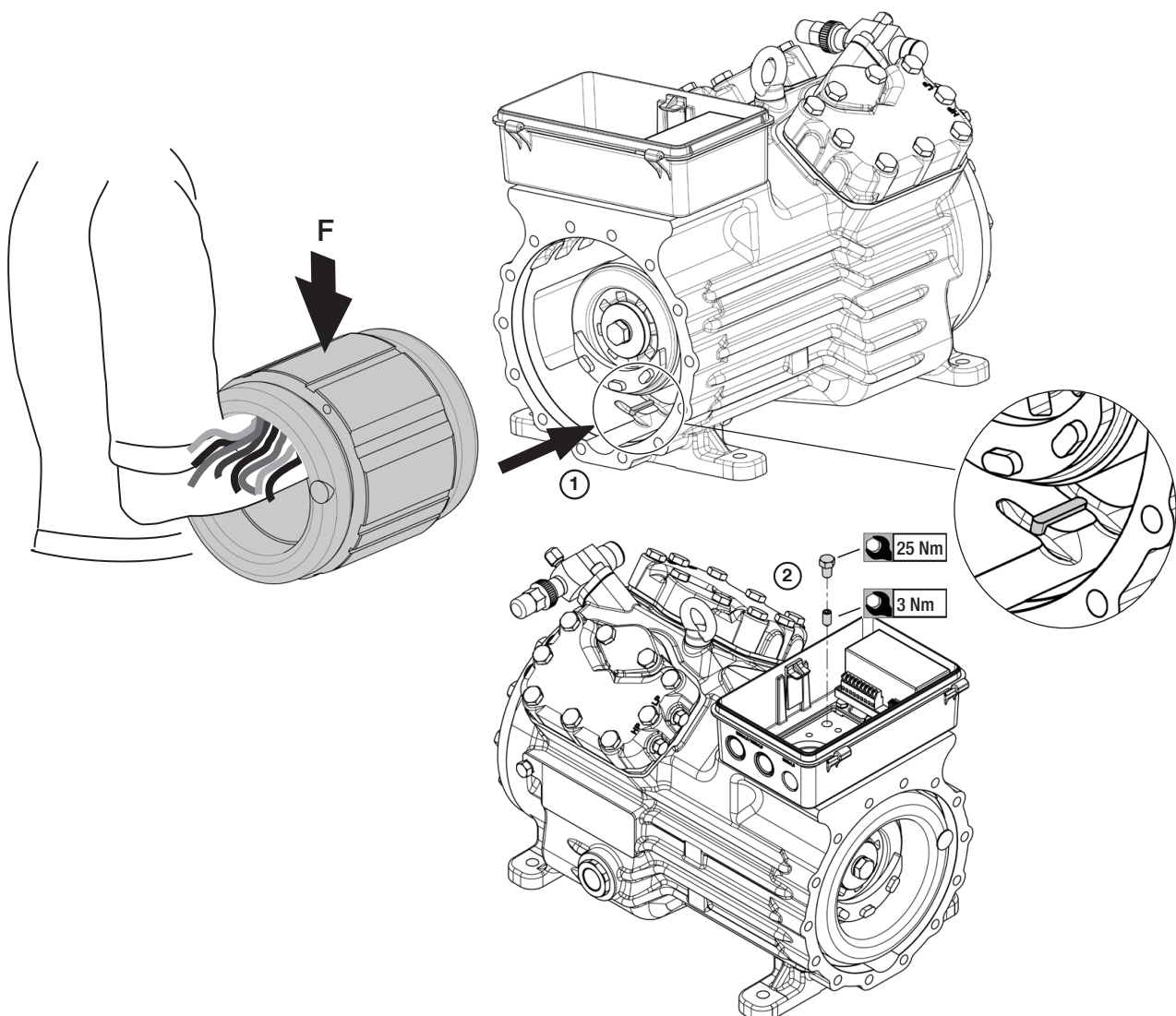


WARNING

The heavy weight of the stator can potentially be dangerous; risk of falling, danger of crushing.

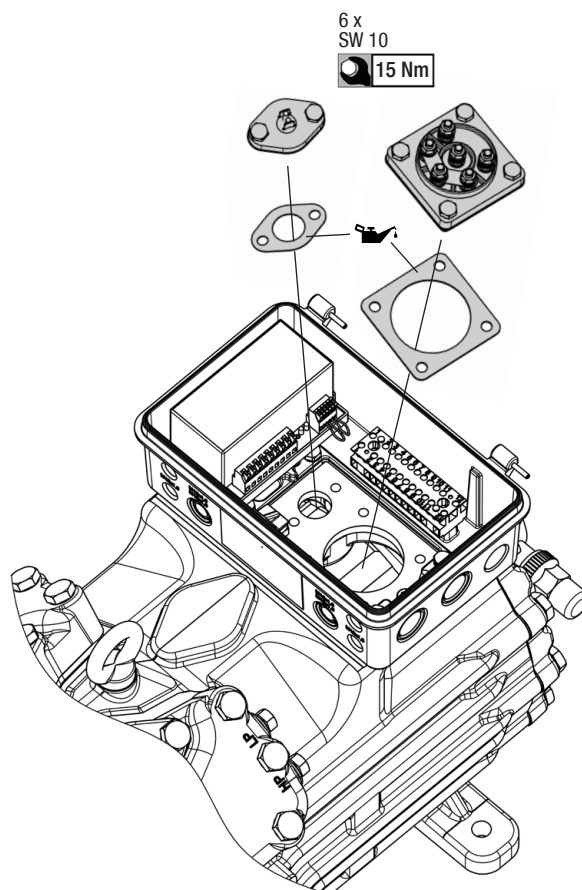
- ▶ Note the direction of the feather key — stator.
You must align the parts in order to install them.

- ▶ **Do not damage any cables and components.** Position the stator in the engine housing as far as it will go.
- ▶ Screw in the stator screw. **The hardening time of the thread coating is 6 hours. The stator screw must only be used once.**
- ▶ Screw in the locking screw.



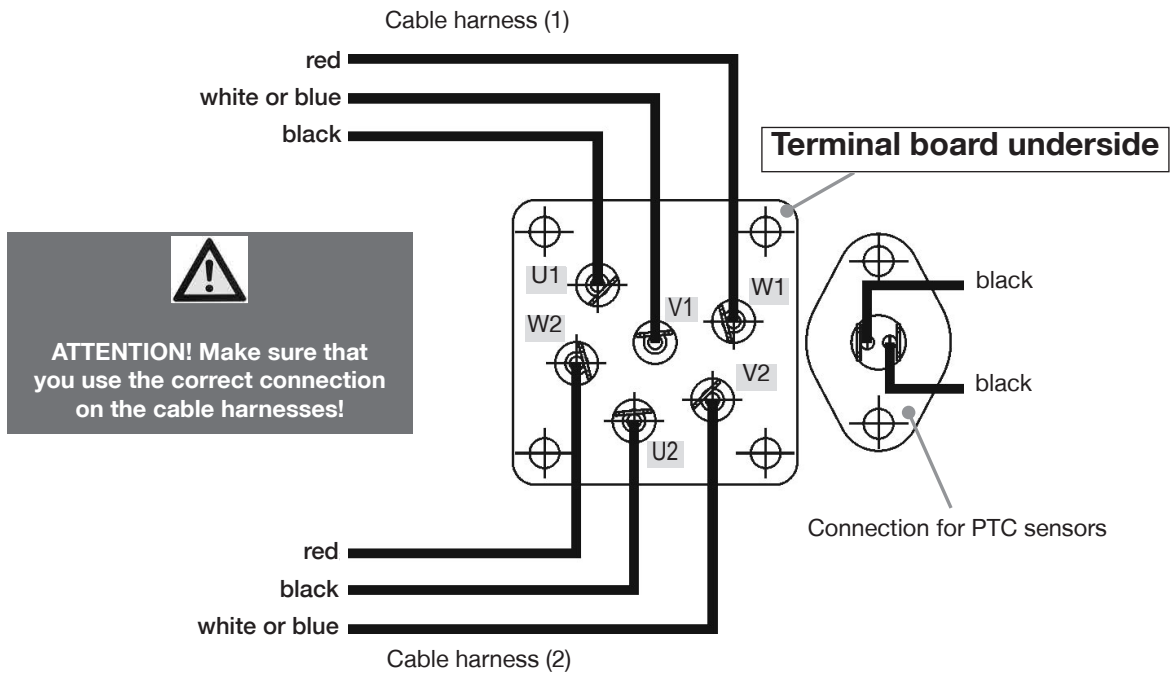
4.2 Installing the terminal board and PTC terminal board

- ▶ Slightly oil the new seals.
 - ▶ Connect the electrical connections as per the illustration on page 11.
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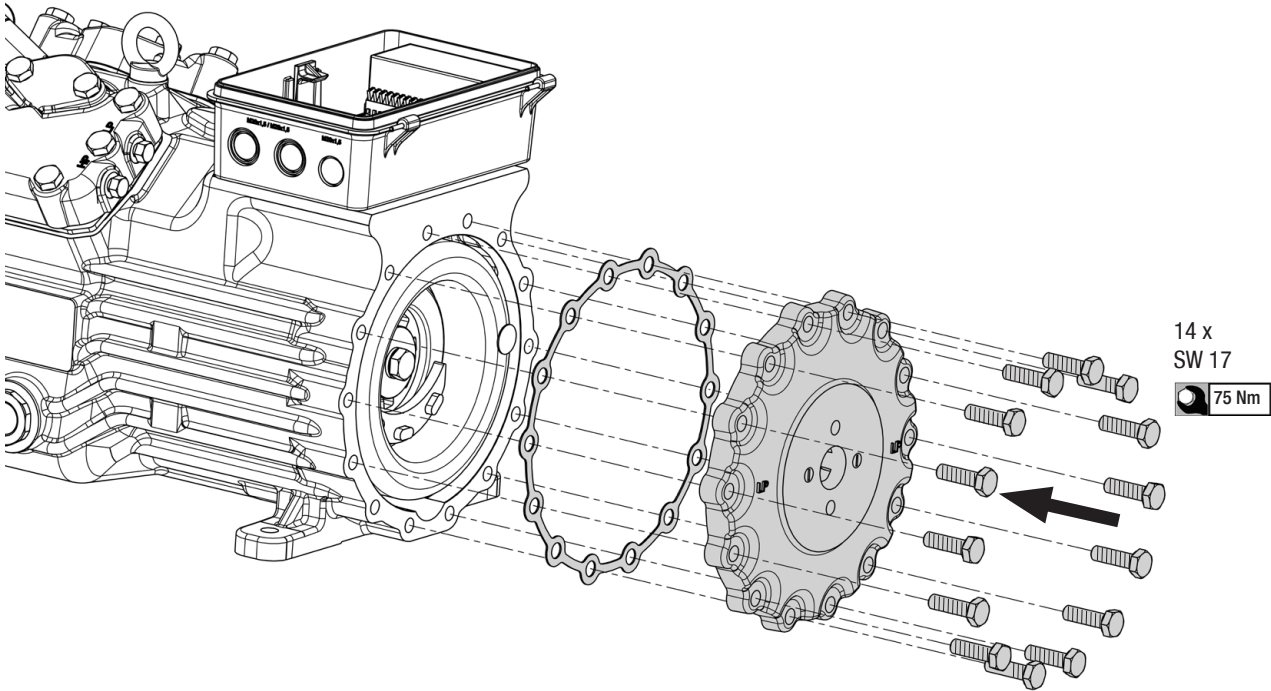


4.3 Connecting the electrical connections to the terminal box

Terminal assignment on the terminal board



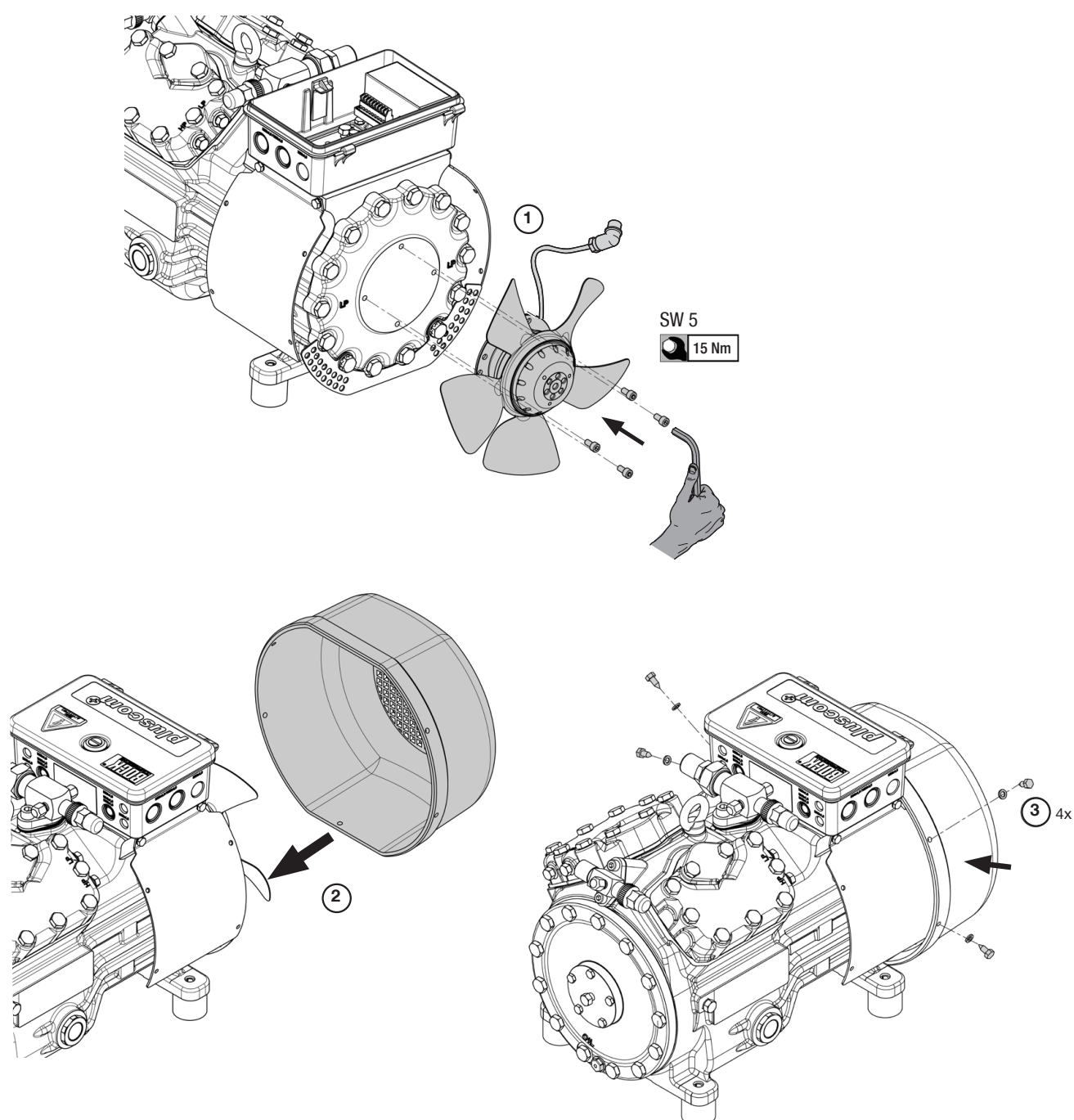
4.3 Installing the case cover



4.4 Assembling and making the electrical connections

- Install the fan (only for HA).
 - Install the electrical connection of the fan on the terminal box (only for HA).
 - Fit the air guide hood (only for HA).
 - Fit the cover on the terminal box.
- ▶ **DANGER!** Carry out the additional work steps such as "filling the oil" etc. in accordance with the operating manual.

See the operating manual, in particular the "Start-up" chapter.



Dear customer,

Bock compressors are top-quality, reliable and service-friendly quality products. If you have any questions about installation, operation and accessories, please contact our technical service or your refrigerating system wholesaler or our representative. The Bock service team can be contacted

by telephone: **+49 7022 9454-0**
via e-mail: **bock@gea.com**
or on the World Wide Web at: **www.bock.de**

In addition, for German-speaking countries we have set up a toll-free Bock hotline 00 800 / 800 000 88 from Monday to Saturday between 8 am and 9 pm.

Any suggestions you may have regarding the on-going development of our compressor, equipment and spare parts range are welcome at any time.

Yours faithfully

GEA Bock GmbH
Benzstraße 7
D-72636 Frickenhausen

We also provide information on our website at **www.bock.de**.

For example, under the "Documentation" link you will find:

- Technical information
- Product information
- Product brochures
- and much more

5 Kits

The table below shows all available stator kits. The kits contain the respective stator including threaded pin and the necessary seals.

Compressor model			Stator Kit No.	
			230 V Δ / 400 V Y, -3-, 50 Hz 280 V Δ / 460 V Y, -3-, 60 Hz	230 V Δ / 400 V Y, -3-, 60 Hz
Standard	HA(X)12P/	60-4, 75-4	80663	80664
		90-4, 110-4	80665	80666
	HG(X)12P/	60-4 S, 75-4	80663	80664
		75-4 S, 90-4, 110-4	80665	80666
		90-4 S, 110-4 S	80667	80668
	HA(X)22P/	125-4	80669	80670
		160-4, 190-4	80671	80672
	HG(X)22P/	125-4, 160-4, 190-4, 125-4 S	80669	80670
		160-4 S, 190-4 S	80671	80672
	HA(X)34P/	215-4, 255-4	80671	80672
		315-4, 380-4	80673	80674
	HG(X)34P/	215-4, 255-4	80671	80672
		315-4, 380-4, 215-4 S, 255-4 S	80673	80674
		315-4 S, 380-4 S	80676	80677
CO ₂	HGX12P/	40-4 CO ₂ , 50-4 CO ₂ , 60-4 CO ₂ , 75-4 CO ₂	80667	80668
		110-4 CO ₂ , 125-4 CO ₂ , 160-4 CO ₂	80673	80674
		190-4 CO ₂	80676	80677
	HGX34P/	215-4 CO ₂ , 255-4 CO ₂	80676	80677
R410A	HGX12P/	60-4 R410A	80663	80664
		60-4 S R410A, 75-4 R410A	80665	80666
		75-4 S R410A	80667	80668
	HGX22P/	125-4 R410A	80671	80672
		125-4 S R410A, 160-4 S R410A, 190-4 R410A	80673	80674
		190-4 S R410A	80676	80677
	HGX34P/	215-4 R410A	80673	80674
215-4 S R410A, 255-4 S R410A, 315-4 R410A		80676	80677	

Special voltages on request



Excellence

Passion

Integrity

Responsibility

GEA-versity

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