

10.0.1 Air Conditioning Unit



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10.0.1 Air Conditioning Unit

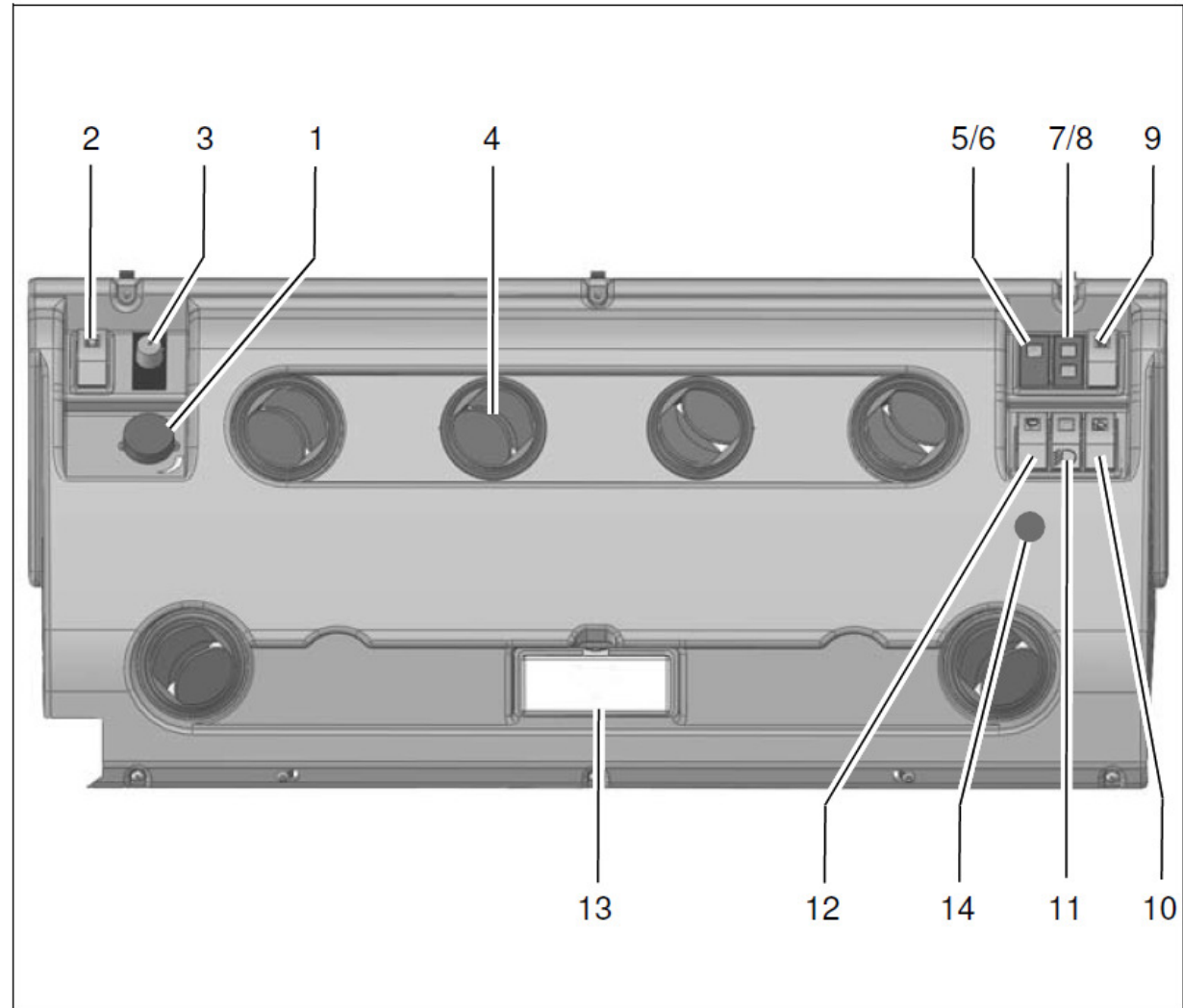


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Air conditioning unit operating elements on the cab roof console

2.4.5 Operating panel on cabin roof

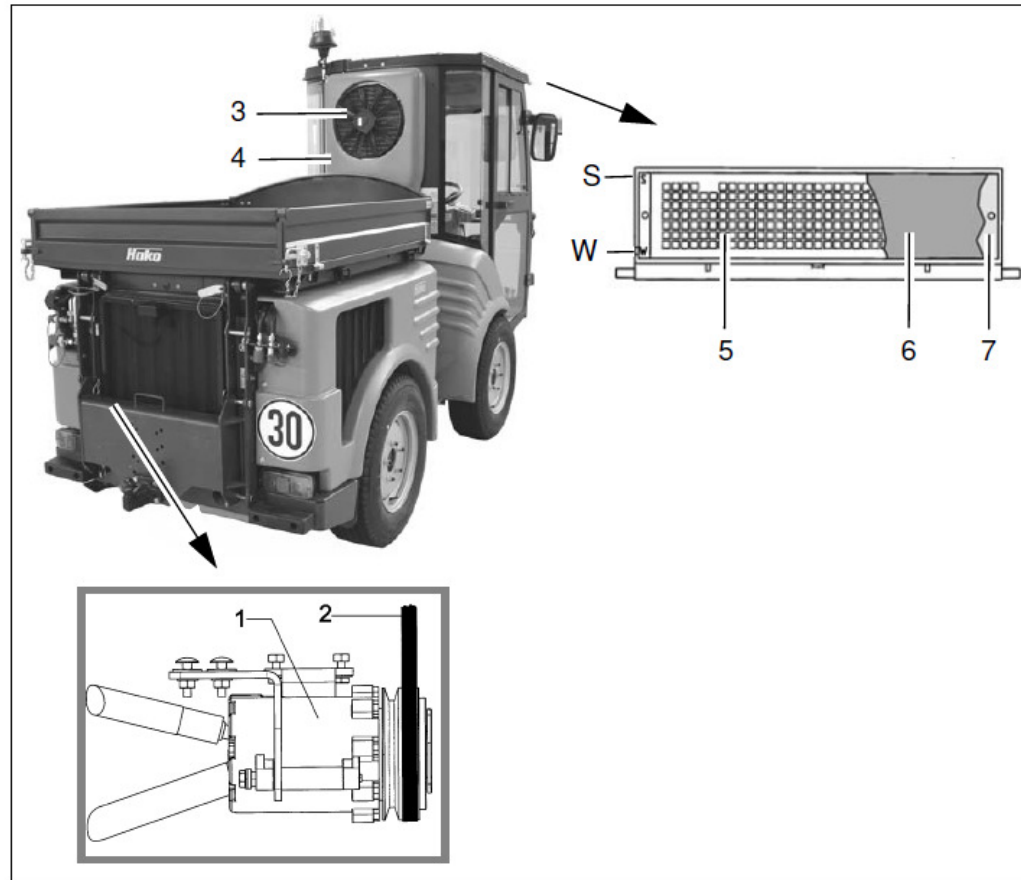
- 1 Heating valve
- 2 Air-conditioning unit (Comfort)
- 3 Rotary switch, fresh air / heating fan
- 4 Air flow openings
- 5 Control lamp for parking brake
- 6 Indicator control lamp trailer/ spreader (optional)
- 7 Control lamp for hydraulics temperature
- 8 Control lamp for dirt hopper lifted
- 9 Pre-selection switch for pushing down the front attachment device / rapid emptying for rear-mounted spreader
- 10 Button for lifting and lowering the dirt hopper
- 11 Dipped beam / side lamps
- 12 Switch / button for windscreen washer system
- 13 Interior lamp
- 14 Control lamp for load indicator (optional)



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6.13 Air-conditioning unit

- 1 Air-conditioning unit
- 2 Fan belts
- 3 Condenser fan
- 4 Cover
- 5 Protective screen
- 6 Cabin air filter
- 7 Punched plate



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Condenser Fan

Check the fan (Fig. 43/1) and the condenser for soiling at weekly intervals and clean by means of a soft brush or a water hose as required (do not use high-pressure cleaning equipment!). If the fan is heavily soiled, dismantle the cover to allow easy cleaning.

1. Stop vehicle on level ground.
2. Engage parking brake.
3. Turn engine off and pull ignition key.
4. Loosen 2 recessed screws on the top and bottom side.

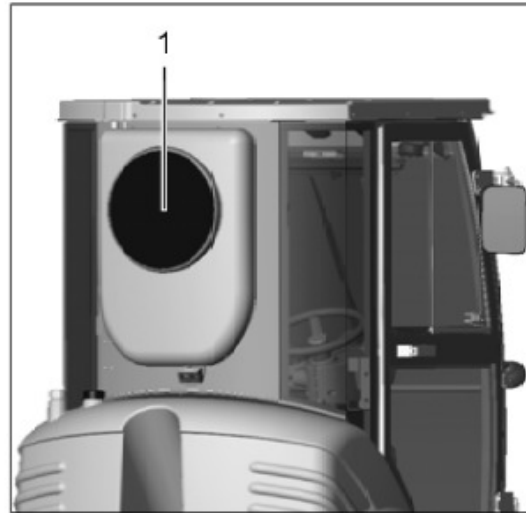


Fig. 43 Condenser fan



**Caution if the system has been operated before.
Burning parts!**

Air Conditioning Unit

Check the V-belt of the air conditioning unit (Fig. 44/1) after every 250 operation hours as follows:

1. Stop vehicle on level ground and engage parking brake.
2. Turn engine off and pull ignition key.
3. Lift dirt hopper up to the final stop position.
4. Check V-belt (Fig. 44/2) for condition and tension and re-adjust or replace if required.

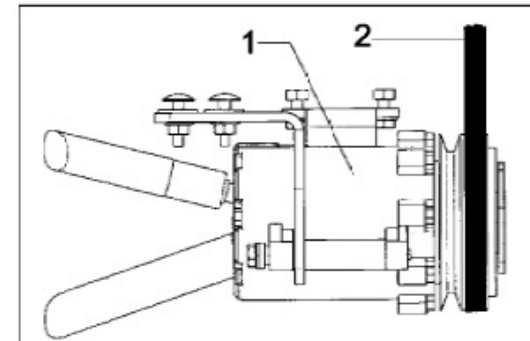


Fig. 44 Air conditioning unit with clutch Y14

- 1 Air conditioning unit
- 2 V-belt

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6.13.1 Exchanging the cabin air filter

Check the cabin air filter (Fig. 56/6) every week for contamination, or more often after dusty deployments. The filter is dismantled as follows:

1. Park the vehicle on a level surface and apply the parking brake.
2. Turn off the engine and remove the ignition key.
3. Loosen the four attachment screws for the protective screen (Fig. 56/5) and remove it.
4. Remove the cabin air filter (Fig. 56/6) and clean it or, if necessary, replace it.

6.13.2 Topping up the refrigerant



The refrigerant may only be poured in by a trained technician and in accordance with the rules for the corresponding filling system.

The filling cover is found below the condenser.

Filling volume: approx. 850 gram

Refrigerant: R134 a

Summer operation

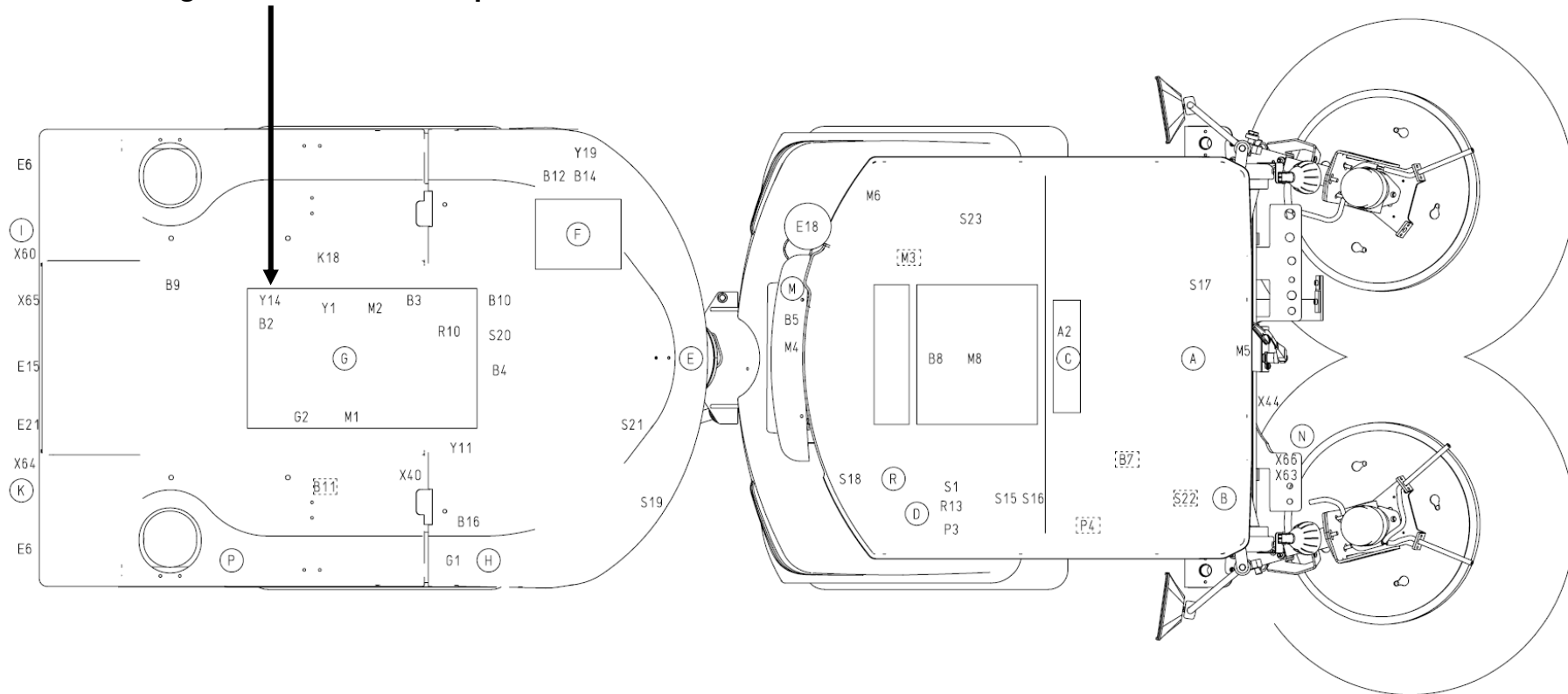
Insert the punched plate (Fig. 56/7) behind the filter mat (Fig. 56/6) in such a way that the mark points to the "S".

Winter operation

Insert the punched plate (Fig. 56/7) behind the filter mat (Fig. 56/6) in such a way that the mark points to the "W".

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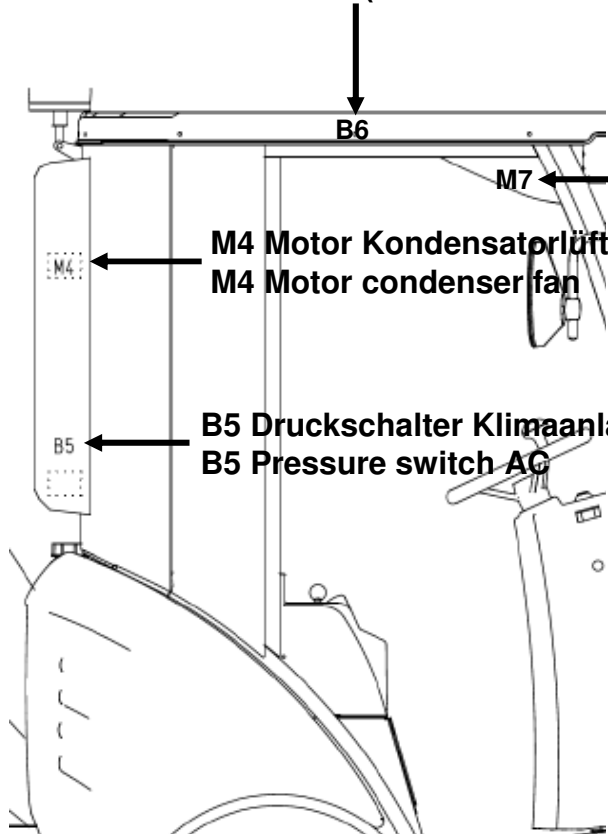
Y14 Magnetkupplung Klimaanlage Kompressor
Y14 Electromagnetic clutch AC- compressor



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Location of the electrical components of the air conditioning unit in the cab

B6 Einfrierschutz Klimaanlage (unter dem Kabinendach)
B6 Freeze switch AC (under the cab roof)



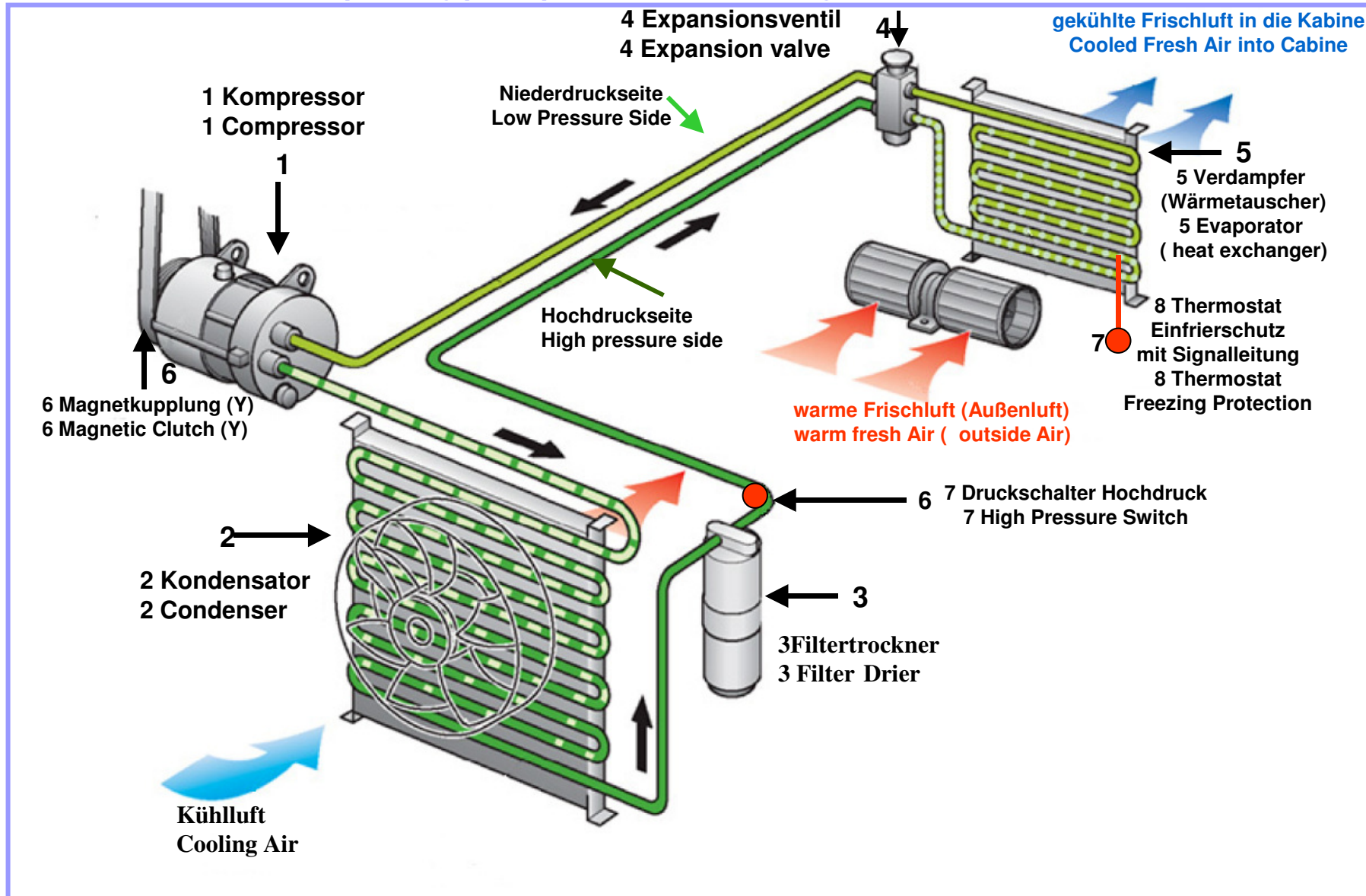
M7 Gebläse Heizung/ Klimaanlage (unter dem Kabinendach)
M7 Fan heating/ AC (under the cab roof)

M4 Motor Kondensatorlüfter
M4 Motor condenser fan

B5 Druckschalter Klimaanlage
B5 Pressure switch AC

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Operating principle of air conditioning units in vehicles



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Functional description of the electrical components of the air conditioning unit

1 Fan switch (here S14)

The air fan is switched on by means of the fan switch.

- The fan level can be preselected. In this example, 3 settings are possible.
- The power supply to switch the air conditioning unit on and off(S13).

2 Air conditioner on/off switch (here S13)

The air conditioning unit is switched on and off by means of switch S13.

3 Thermostat switch (here B6)

The thermostat switch protects the unit from freezing up. When the temperature in the vaporizer reaches approx. 1 °C, the thermostat switch interrupts the connection to the electromagnetic clutch Y14 of the compressor. The compressor is no longer driven and no further refrigerant flows. When the temperature increases again, the connection to the electromagnetic clutch of the compressor is re-established. Refrigerant starts to flow again.

4 Pressure switch (here B5)

The pressure switch interrupts the connection to the electromagnetic clutch Y14 of the compressor when the pressure on the high pressure side has exceeded a maximum pressure value (approx. 20-30 bar according to the air conditioner manufacture. The pressure switch protects the air conditioner's hose lines.

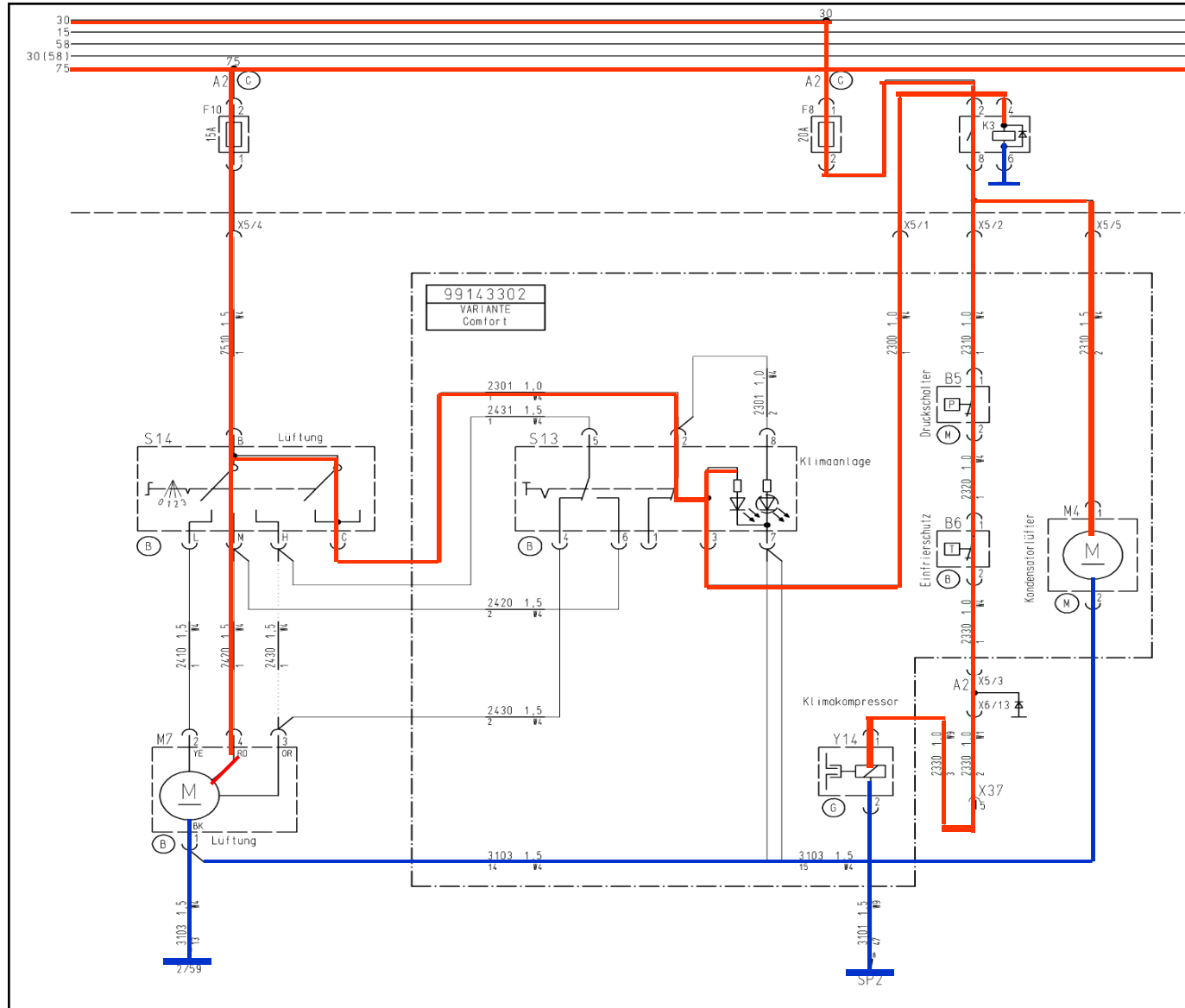
Note: The pressure switch is frequently designed as a combined high pressure/low pressure switch.

If the system pressure is too low, i.e. there is no or too little refrigerant in the system, the low pressure switch interrupts the connection to the electromagnetic switch of the compressor. This circuit protects the compressor (not illustrated as such in the diagram).

5 Electromagnetic clutch (here Y14) of the compressor

The electromagnetic clutch is switched on as soon as the electrical connection between the fan switch (S14), thermostat switch (B6) and pressure switch (B5) is established. When power is supplied to the electromagnetic clutch, it is magnetically connected and the compressor is driven by the combustion engine.

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Maintenance of the air conditioning unit

Information on air conditioner maintenance

Maintenance

Weekly:

Clean the condenser in the case of air conditioning units with a separately assembled condenser (e.g. Hako-Citymaster 300, 1200, assembled behind the driver's cab).

Note: Clean condensers with compressed air. Never use high pressure cleaners!

Switch on air conditions in winter too, for at least 5 minutes, to prevent the seals in the compressor from drying out and refrigerant escaping.

Monthly:

Clean the filter or filter pad in front of the air fan (filter for outdoor air).

Clean the vaporizer (heat exchanger) with compressed air.

Check the fan belt tension of the air conditioner compressor.

Visual inspection of fixation, sealing quality and layout of refrigerant hoses.

Annually:

General system inspection at an authorized Hako service center.

Every 2 years:

Change the filter drier (combined filter drier) and refrigerant every 2 years or following any intervention in the refrigerant circuit

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