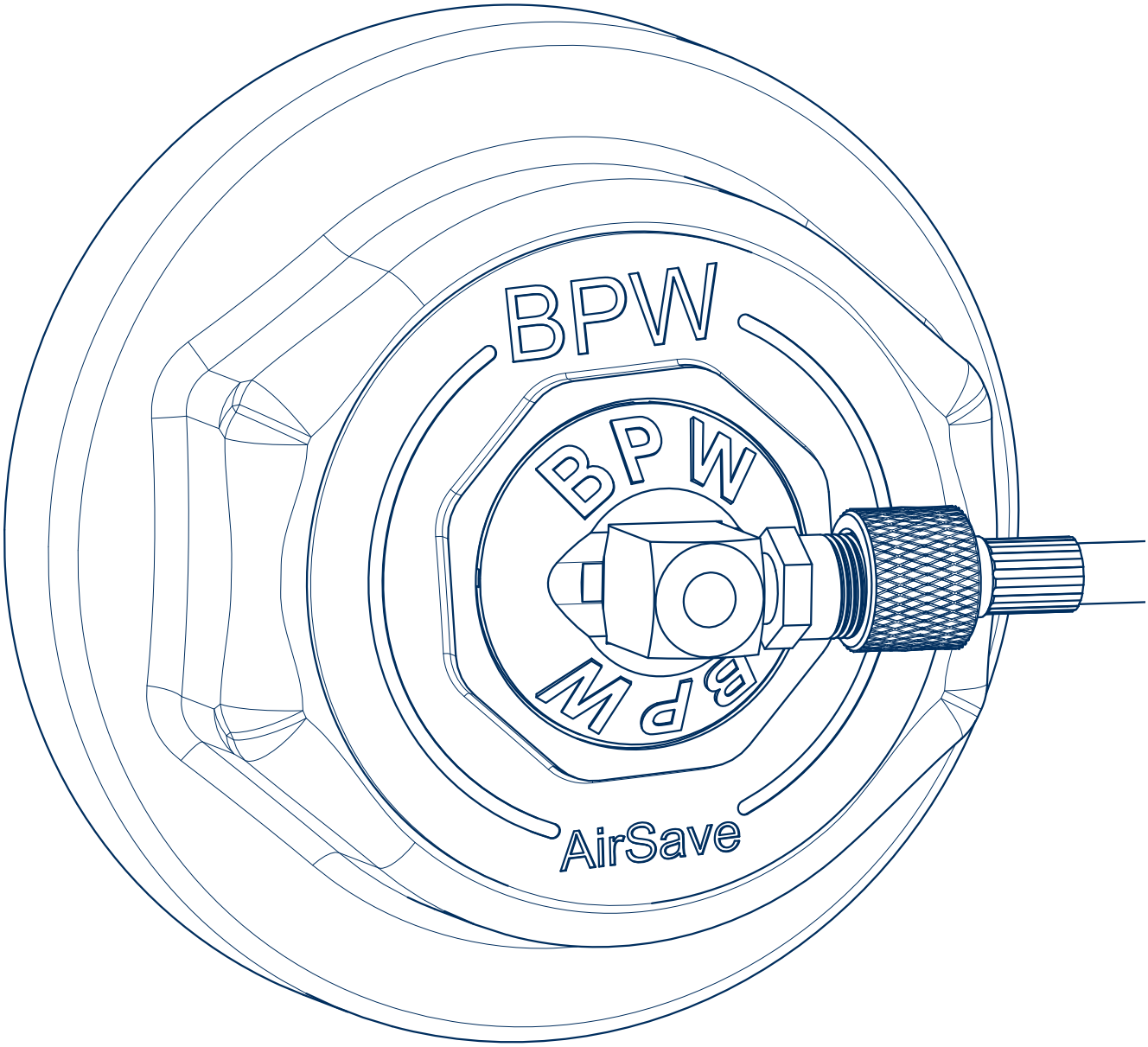


Operating and Installation Instruction

AirSave

BPW-EA-AS 37882002e

we think transport

Valid: 01/07/2020
2nd edition

Current versions and additional information can be found online at www.bpw.de.

Table of content

1 Safety regulations, safety instructions

1.1 Safety regulations

- All work must be performed by trained mechanics at qualified service centres and authorised specialist companies who have access to all relevant tools and have acquired the know-how required for this work. Anyone who performs maintenance and repair work must be trained in automotive mechanics and already have experience in repairing drawbar trailers and semi-trailers. Anyone who performs brake work must be trained in brake systems.
- Comply with local safety regulations.
- The relevant operating and service instructions and the safety instructions of the vehicle manufacturer or of the other vehicle component manufacturers must be followed.
- The vehicle must be prevented from moving during repair work. Please observe the relevant safety regulations for repair work on commercial vehicles, in particular the safety regulations for jacking up and securing the vehicle.
- Do not perform repair work unless wearing protective clothing (gloves, safety boots, safety goggles, etc.) and using the recommended tools.
- Use only recommended tools.
- All air lines and components must be depressurised before opening.
- Following each repair, perform a function check or take a test drive to make sure that the brakes are functioning correctly. New brake linings only have maximum effect after a few braking actions. Avoid hard braking.
- All exchanged components must be reused or disposed of in accordance with the applicable environmental regulations, laws and directives.
- Tighten screws and nuts to the prescribed tightening torque.
- The tyre valve must be positioned far enough away from the brake caliper to prevent it and the tyre from becoming damaged.
- Damaged or missing components must be replaced immediately
- Before carrying out various activities on the system, the shut-off nozzle must be closed and air vented via the excess pressure valve on the AirSave Control Box.
- The components of the BPW AirSave must not be painted.
- The BPW AirSave hub cap adapter must not be disassembled.
- A minimum outlet pressure of 5.5 bar is required to ensure faultless function of the BPW AirSave.
  The working range is between min. 5.5 and 9.8 bar. An incorrectly set pressure can lead to increased tyre wear and fuel consumption, and in the worst case to a tyre failure. A pressure of 9.2 bar is preset on the AirSave Control Box.
- There must be a minimum distance of 5 cm between the rubber vents and the drawbar trailer chassis.
  The rubber vents must not be compressed.
- A round cable with a cross-section of 6 - 10 mm must be used for the cabling.
  The ADR Directives must be observed for cabling.
- All lines must be laid in the protected area and be protected from damage, kinking or chafing. All threads must be free from impurities, greases and oils. Adequate clearance must be ensured as the axle extends and compresses.
- First assemble the hub cap and then the rotor. Assembling the two components at the same time can cause untightness of the O-rings.
- Valve hoses are not allowed to be kinked, cover wheel nuts or protrude over the rim.
  A damaged valve hose can cause the tyre to deflate completely.
- Make sure that the vent openings are not blocked. Prevent vent openings from becoming blocked to allow system air to escape from the wheel end. Serious personal injury and property damage can result.
- Test the tyre filling system for air leaks before using the vehicle for the first time. Spray a corrosion-free leak-detection solution on all links and connections (this can be soapy water). Listen for audible leaks and check for bubbles. If you discover a leak, identify the source and replace any parts as needed. Air leaks in tyre filling system can cause damage to components during operation.
- Do not overtighten the valve hoses. This could damage the hose seal and cause the tyre to lose air when the drawbar trailer is parked. Component damage can result.
- Make sure that you only use the AirSave rotor from BPW (grey cap & white PTFE sealing ring), as this is the only way to ensure tightness.

Safety instructions 1.2

These installation instructions contains different types of safety instructions, each of which is marked by an icon and a signal word. The signal word describes the severity of the potential danger.

Warning! **Possible** potential danger of serious or fatal injury (severe injury or death).

Caution! **Possible** dangerous situation (minor injury or damage to property).

Repair note! Warning of damage to property or consequential damage if these instructions are not observed.

Note! Application hints and especially useful information.

It is essential that maintenance is carried out in accordance with the prescribed intervals in order to maintain the safe operation and road safety of the vehicle.

Rectification of any defects which are discovered or replacement of worn parts should be carried out by a BPW Service Centre or BPW Direct Service Partner, unless the vehicle owner has the required specialist personnel, the required technical facilities and workshop manuals or possesses an official certificate to perform interim inspections or special brake inspections.

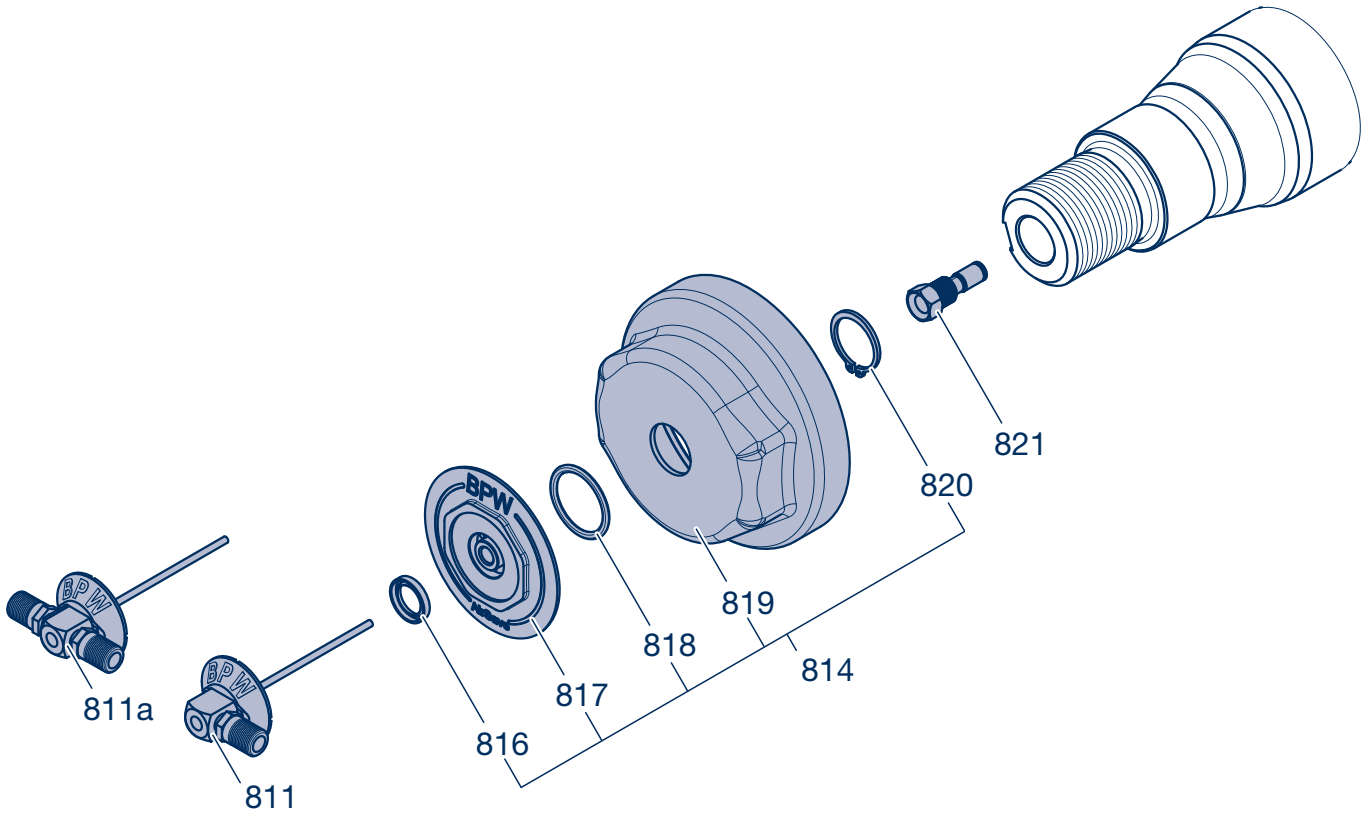
When installing spare parts, it is strongly recommended that only original BPW components are used. Parts authorised by BPW for trailer axles and axle units are regularly subjected to special inspections. BPW accepts product responsibility for such parts.

BPW is unable to determine whether all third party products can be used with BPW trailer axles and axle suspensions without any safety risk; this applies even if an authorised testing organisation has accepted the product.

The warranty becomes null and void if spare parts other than original BPW parts are used for warranty work.

2 Component overview

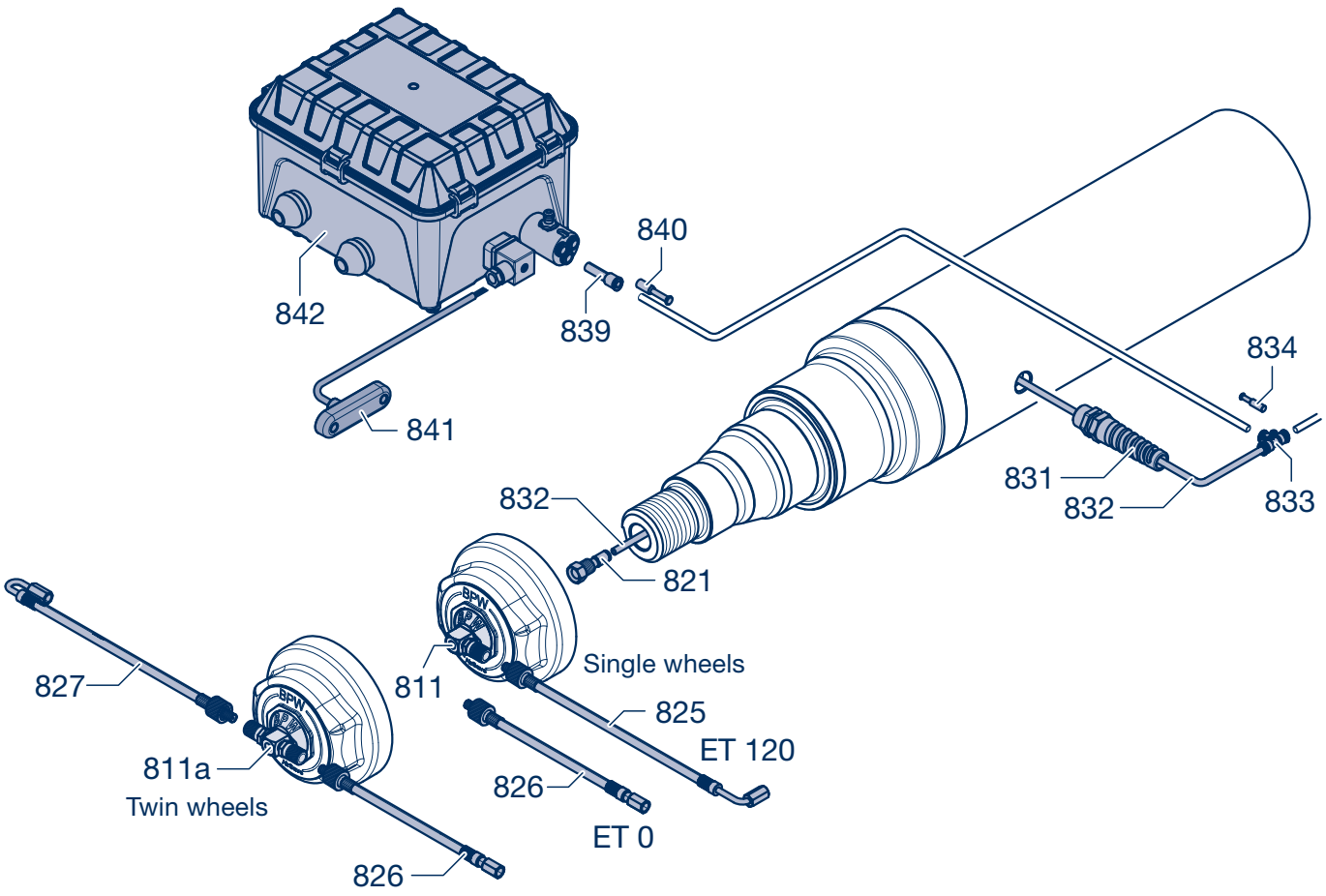
2.1 System components



Item	Designation	Dimension	BPW item number
811	AirSave rotor, single wheels	L = 90 mm	02.0130.00.30
811a	AirSave rotor, twin wheels	L = 90 mm	02.0130.05.30
814	BPW AirSave hub cap adapter, incl. item 816 - 820	9 t 10 t	05.212.29.16.0 05.212.29.17.0
816	Oil seal	Ø 24, Ø 16 x 4	02.5661.16.00
817	BPW AirSave hub cap adapter		05.001.00.82.0
818	O-ring	Ø 32 x 3	02.5680.18.00
819	Hub cap with O-ring for ECO Plus 3 Hub cap ECO Plus (no O-ring required)	9 t / 132 x 2 10 t / 136 x 2.5	05.212.29.04.0 03.212.29.05.0
820	Locking ring for shaft	Ø 29 x 2 / DIN 471	02.5603.27.90
821	AirSave stator for air hose	SW 16	02.0130.99.20

Component overview 2

System components 2.1

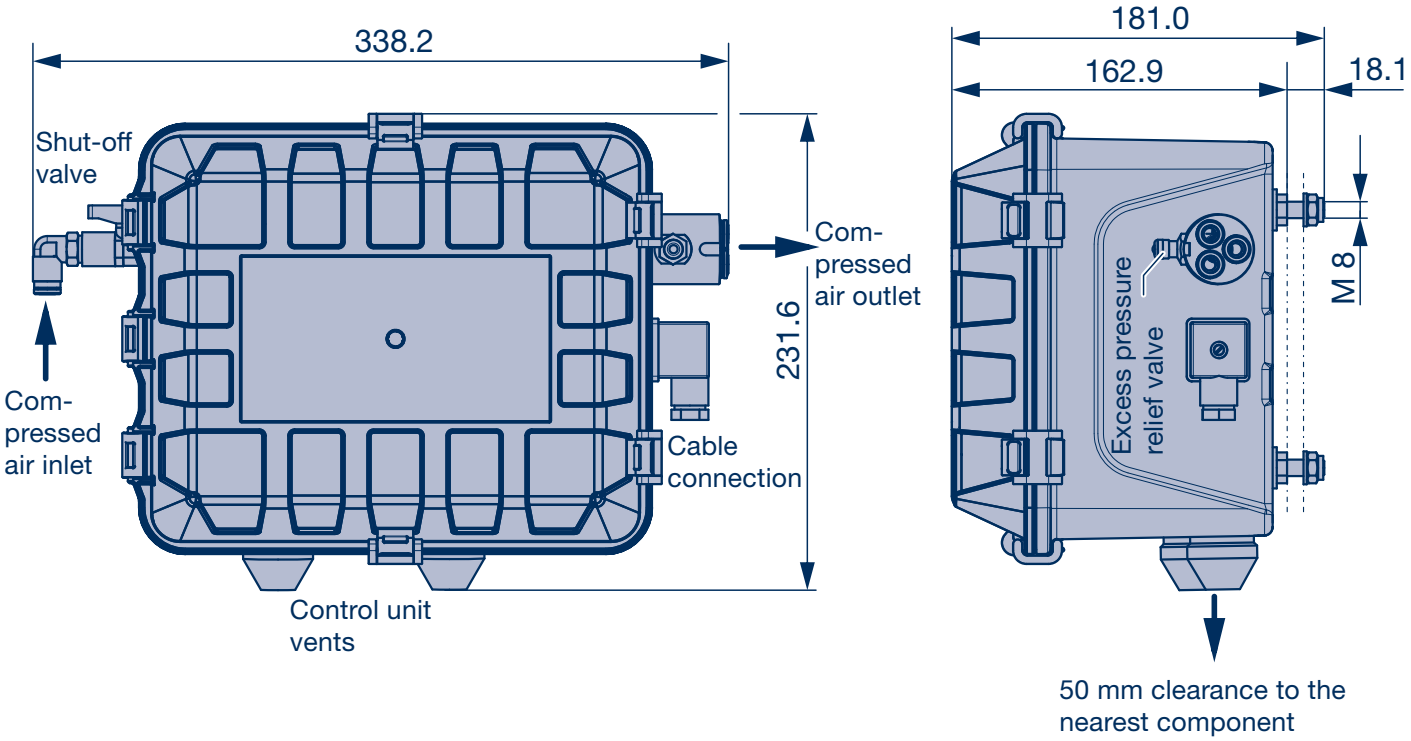


Item	Designation	Dimension	BPW item number
811	AirSave rotor, single wheels	L = 90 mm	02.0130.00.30
811a	AirSave rotor, twin wheels	L = 90 mm	02.0130.05.30
821	AirSave stator for air hose	SW 16	02.0130.99.20
825	AirSave valve hose ET 120		02.3510.06.10
826	AirSave valve hose ET 0		02.3510.05.10
827	AirSave valve hose, twin (inside)		02.3510.07.10
831	Kink protection - spiral & kink protection		02.0130.98.20
832	Flexible polyamid tube	6 x 4 mm black, L = 1350 mm	02.3510.04.10
833	AirSave T-piece (connector for air hoses of the axle sides)	6 mm	02.4319.45.00
834	Dummy plug for AirSave T-piece	6 mm	02.3704.98.00
839	Reducer for AirSave Control Box	8 - 6 mm	02.3141.11.00
840	Dummy plug for AirSave Control Box	8 mm	02.3704.99.00
841	AirSave LED display CMP5		02.0130.01.30
842	AirSave Control Box		02.0130.02.30

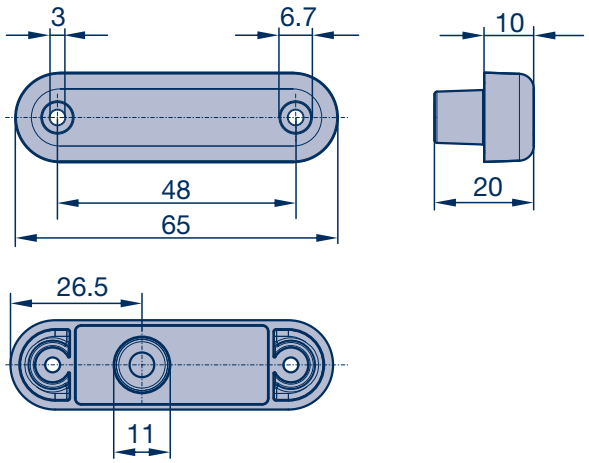
2 System overview

2.1 System components

AirSave Control Box



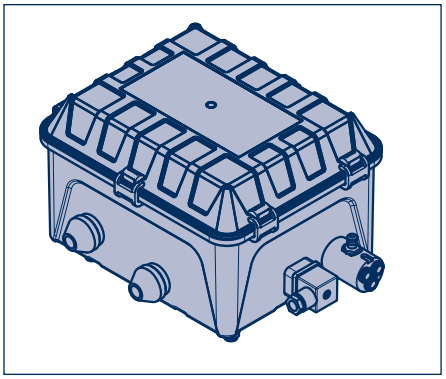
BPW LED light for assembly on the vehicle chassis



System overview 2

Component descriptions 2.2

AirSave Control Box



The Control Box contains a twin-piston pump, a generator, a pressure relief valve, an excess pressure valve, a pressure regulating valve, a safety valve and a test connection.

The twin-piston pump increases the inlet pressure by a factor of 1.7 until the desired outlet pressure is reached.

The generator switches on the warning lamp whenever the system delivers an excessive air flow to an untight tyre or an untight tyre filling system component. The warning lamp flashes at different speeds, depending on the air flow.

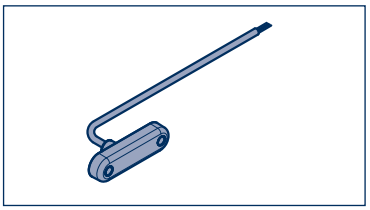
The pressure relief valve ensures that air is available for other functions of the drawbar trailer. In addition, it retains the pressure in the air tank if a tyre or a tyre filling component becomes damaged.

The excess pressure valve is used to manually relieve the pressure from the tyre filling system. This allows maintenance to be carried out on the components of the drawbar trailer/semi-trailer axle or on the tyre filling system. In addition, the excess pressure valve opens automatically at a pressure greater than 11.3 bar.

The pressure regulating valve is used to set the system air pressure. The system air pressure should be adjusted to the tyre pressure recommended by the customer. The safety valve allows and stops the air supply to the system.

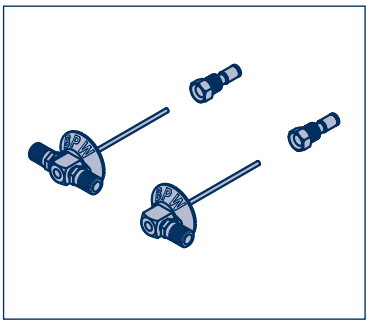
AirSave is a pneumatic system that operates autonomously and does not require a power supply.

AirSave LED display



An AirSave LED display assembled on the drawbar trailer/semi-trailer is switched on when the system pumps due to an untight tyre or an untight tyre filling system component.

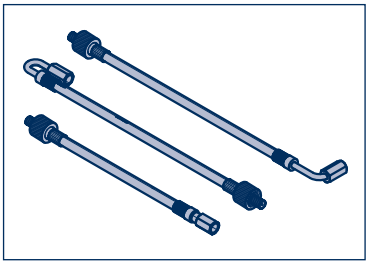
Stator and rotor



The stator is located within the axle stub and the rotor is fastened to the wheel hub cap. Compressed air flows through a polyamid tube from the AirSave Control Box via a T-piece and through the inside of the axle to the rotating hub via a needle, which extends from the rotor into the stator.

Seals located in the rotor and stator allow rotation without loss of compressed air. The rotor protective cap prevents impurities, such as dirt and water, from entering the wheel end.

Valve hose



The tube is a flexible extension of the tyre valve. A check valve on the knurled end of the tube allows air to flow to the tyre in only one direction. This prevents each tyre from losing air pressure if the tyre filling system or a tyre deflates during operation.

2 System overview

2.3 Hub cap basic kit (Item 810)

Offset 0

Axle load	Item	Designation	Quantity	BPW item number	BPW item number Axle line kit
8 - 9 t	811	AirSave rotor, single wheels	2	02.0130.00.30	**05.801.47.23.0**
	815	BPW AirSave hub cap adapter 9 t	2	05.801.47.17.0	
	826	AirSave valve hose ET 0	2	02.3510.05.10	
10 - 12 t	811	AirSave rotor, single wheels	2	02.0130.00.30	**05.801.47.26.0**
	814	BPW AirSave hub cap adapter 10 - 12 t	2	05.801.47.18.0	
	826	AirSave valve hose ET 0	2	02.3510.05.10	

Offset 120

Axle load	Item	Designation	Quantity	BPW item number	BPW item number Axle line kit
8 - 9 t	811	AirSave rotor, single wheels	2	02.0130.00.30	**05.801.47.25.0**
	815	BPW AirSave hub cap adapter 9 t	2	05.801.47.17.0	
	825	AirSave valve hose ET 120	2	02.3510.06.10	

Twin wheels

Axle load	Item	Designation	Quantity	BPW item number	BPW item number Axle line kit
8 - 9 t	811a	AirSave rotor, twin wheels	2	02.0130.05.30	**05.801.47.24.0**
	815	BPW AirSave hub cap adapter 9 t	2	05.801.47.17.0	
	826	AirSave valve hose ET 0	2	02.3510.05.10	
	827	AirSave valve hose, twin	2	02.3510.07.10	
10 - 12 t	811a	AirSave rotor, twin wheels	2	02.0130.05.30	**05.801.47.27.0**
	814	BPW AirSave hub cap adapter 10 - 12 t	2	05.801.47.18.0	
	826	AirSave valve hose ET 0	2	02.3510.05.10	
	827	AirSave valve hose, twin	2	02.3510.07.10	

System overview 2

AirSave basic axle line kits (Item 838) 2.4

AirSave basic system kit for 1 - 2 axle vehicles

Item	Designation	Quantity	BPW item number **05.801.47.19.0**
839	Reducer for AirSave Control Box 8 - 6 mm	2	02.3141.11.00
840	Dummy plug for AirSave Control Box 8 mm	2	02.3704.99.00
841	AirSave LED display CMP5	1	02.0130.01.30
842	AirSave Control Box	1	02.0130.02.30

AirSave basis system kit for 3 axle vehicles

Item	Designation	Quantity	BPW item number **05.801.47.20.0**
839	Reducer for AirSave Control Box 8 - 6 mm	3	02.3141.11.00
841	AirSave LED display CMP5	1	02.0130.01.30
842	AirSave Control Box	1	02.0130.02.30

AirSave basis system kit for 4 axle vehicles

Item	Designation	Quantity	BPW item number **05.801.47.21.0**
833	AirSave T-piece	1	02.4319.45.00
839	Reducer for AirSave Control Box 8 - 6 mm	3	02.3141.11.00
841	AirSave LED display CMP5	1	02.0130.01.30
842	AirSave Control Box	1	02.0130.02.30

AirSave basis system kit for 5 axle vehicles

Item	Designation	Quantity	BPW item number **05.801.47.22.0**
833	AirSave T-piece	2	02.4319.45.00
839	Reducer for AirSave Control Box 8 - 6 mm	3	02.3141.11.00
841	AirSave LED display CMP5	1	02.0130.01.30
842	AirSave Control Box	1	02.0130.02.30

2 System overview

2.5 Assembly groups, axle beam components

				8 - 9 t			10 - 12 t	
Item	Designation		BPW item number	Offset 0	Offset 120	Twin wheels	Offset 0	Twin wheels
838	AirSave basic kit - for 1 - 2 axle vehicles - for 3 axle vehicles - for 4 axle vehicles - for 5 axle vehicles		 05.801.47.19.0 05.801.47.20.0 05.801.47.21.0 05.801.47.22.0	X	X	X	X	X
810	AirSave basis kit hub cap (for 1 axle) - Offset 0 - Offset 120 - Twin wheels - Offset 0 - Twin wheels	 8 - 9 t 8 - 9 t 8 - 9 t 10 - 12 t 10 - 12 t	 05.801.47.23.0 05.801.47.25.0 05.801.47.24.0 05.801.47.26.0 05.801.47.27.0	X	X	X	X	X
Components pre-assembled on the axle beam								
821	AirSave stator for air hose		02.0130.99.20	X	X	X	X	X
831	Kink protection - spiral & kink protection - Screwed joint for air hose gland on the axle beam		02.0130.98.20	X	X	X	X	X
832	BPW flexible polyamid tube		02.3510.04.10	X	X	X	X	X
833	AirSave T-piece (connector for air hoses of the axle sides)		02.4319.45.00	X	X	X	X	X
834	Dummy plug for AirSave T-piece		02.3704.98.00	X	X	X	X	X

System overview 2

Repair kits 2.6

BPW repair kit, BPW AirSave hub cap (Item 815)

Item	Designation	Quantity	BPW item number	
			9 t	**10 - 12 t**
			05.801. 47.17.0	**05.801. 47.18.0**
814	BPW AirSave hub cap adapter (incl. item 816 - 820)	1	05.212.29.16.0	05.212.29.17.0
459	O-ring	1	02.5678.72.00	

BPW repair kit, axle (Item 830)

Item	Designation	Quantity	BPW item number
			09.801.09.12.0
821	AirSave stator for air hose	2	02.0130.99.20
831	Kink protection - spiral & kink protection - Screwed joint for air hose gland on the AirSave axle beam	2	02.0130.98.20
832	Flexible polyamid tube	2	02.3510.04.10
833	AirSave T-piece (connector for air hoses of the axle sides)	1	02.4319.45.00
834	Dummy plug for AirSave T-piece	1	02.3704.98.00
--	AirSave hose connecter	1	02.2012.06.00

BPW AirSave valve hose kit for twin wheels (Item 824)

Item	Designation	Quantity	BPW item number
			09.801. 09.13.0
826	AirSave valve hose ET 0	2	02.3510.05.10
827	AirSave valve hose, twin	2	02.3510.07.10

3 Maintenance intervals

	Commissioning	Before each journey	Annually
Visual inspection			
Inspect all components for damage and untightness	X	X	--
Check whether the shut-off valve on the AirSave Control Box is opened	X	X	--
Check connection lines, valve hoses and rotors	--	X	--
Check electrical and pneumatic lines	--	--	X
Function checks			
Check outlet pressure on the AirSave Control Box (see chapter 5) and all tyres	X	--	X[1)]
Check AirSave LED display CMP5	X	--	X
Check rotor and BPW AirSave hub cap adapter for untightness	X	--	X

[1)] 6 months after installation, then annually

For heavy-duty applications, check more frequently (e.g. off-road, extreme weather conditions)

Assembly 4

Assembling the hub cap and rotor 4.1

4.1 Assembling the hub cap and rotor

☞ During disassembly / assembly, the wheel can remain assembled on the wheel hub.

[1] Prevent the vehicle from rolling away.

[2] Unscrew the hub cap (SW 110) from the wheel hub.

[3] Remove the O-ring (459) from the wheel hub groove. (The O-ring is not required for axles with ECO Plus Unit).

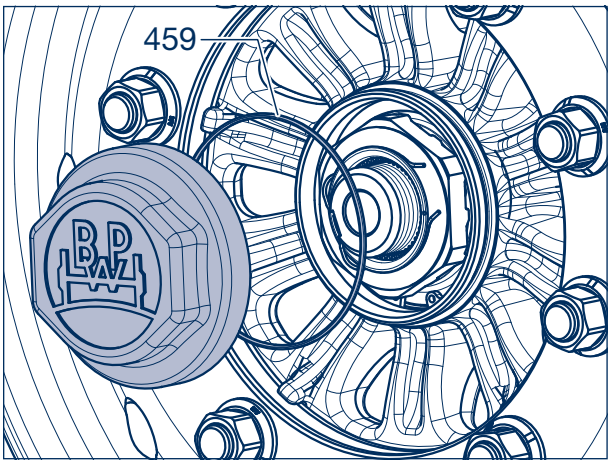


Figure 1

[4] Insert a new O-ring (459) into the groove of the wheel hub (arrow). (The O-ring is not required for axles with ECO Plus Unit).

[5] Cover the pre-assembled hub cap for BPW AirSave (814) in the area of the O-ring contact surface (for ECO Plus 3 only) and the thread with a thin coat of BPW special longlife grease **ECO Li** $^{\text{Plus}}$.

[6] Screw the hub cap onto the wheel hub and tighten to the prescribed tightening torque.

Tightening torques:

ECO Plus 3 hub cap	SW 110	350 Nm
ECO Plus hub cap	SW 110	800 Nm

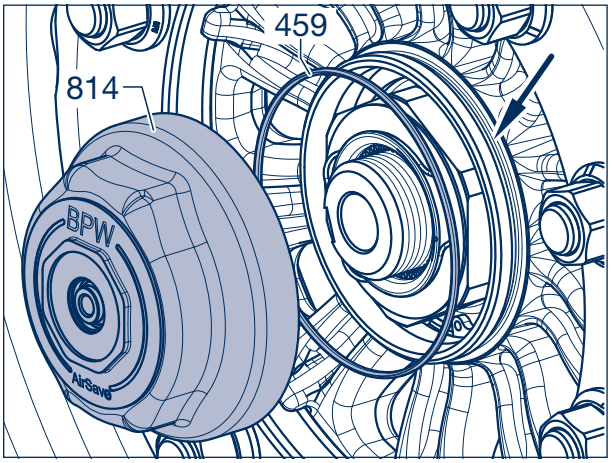


Figure 2

[7] Check soft sealing ring of the rotor (811 or 811a, depending on tyre) for correct seat at the end of the thread, push up to the bumper if necessary (Fig. 3, Section).

[8] Guide the rotor into the adapter (817) of the hub cap and the stator (821) in the axle stub and push until contact is made.
There will be a slight resistance.

[9] Screw the rotor into the adapter and hand-tighten (approx. 5 Nm).

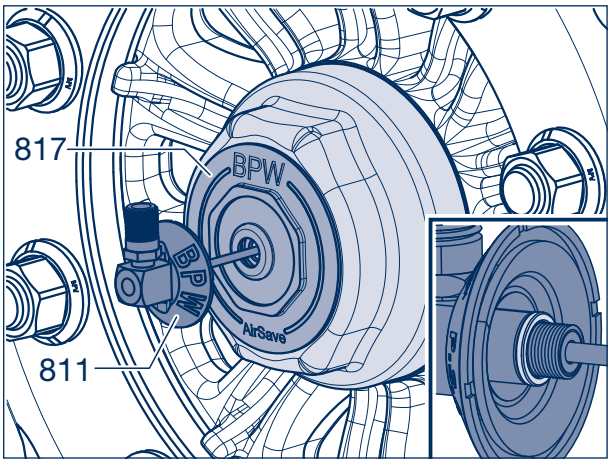


Figure 3

4 Assembly

4.2 Assembling the valve hoses

4.2 Assembling the valve hoses

Installation and repair guide!
When laying the valve hoses, make sure they do not become kinked.
Wheel nuts must not be covered!
Contact with wheel nuts or wheel studs must be avoided to prevent chafe marks.

[1] Attach valve hose (825, 826 or 827, depending on tyre) to the tyre valve, use a valve extension if necessary.

[2] Hand-tighten the union nut (SW 11) on the valve hose and then tighten a further half-turn using a spanner.

[3] Check that the air can penetrate by pushing the valve needle in the valve hose.

[4] Hand-tighten the valve hose on the AirSave rotor (811 or 811a).

[5] Check valve hose for untightness.

[6] Turn the hub cap adapter (817) using a spanner (SW 55) or spring pliers until the screwed joint of the rotor can be connected to the valve hose (see Figure 6).
Do not turn back the rotor!!

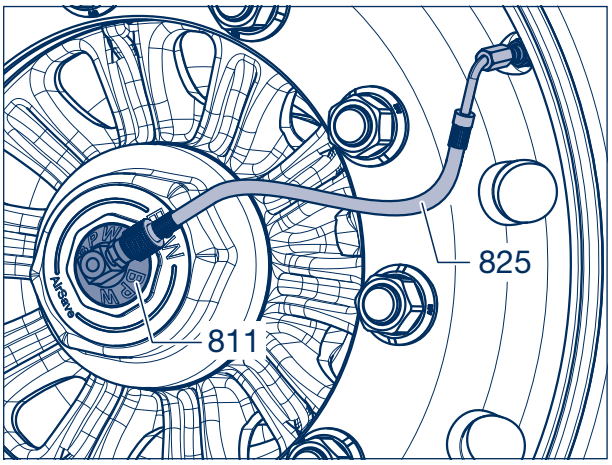


Figure 4

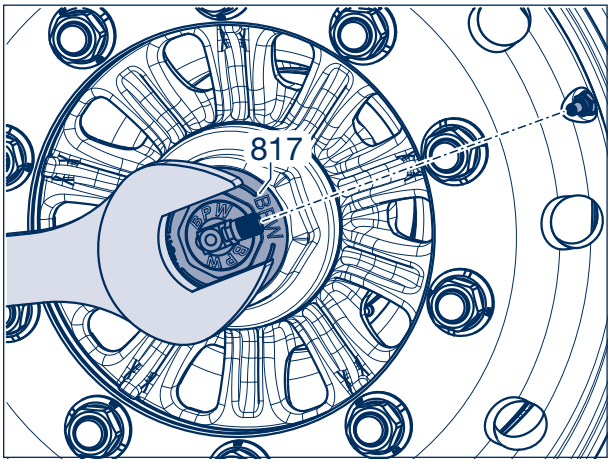


Figure 5

Installation and repair guide!
The valve hose must not be pointing in the screw-off direction of the AirSave rotor, see Figure 6.

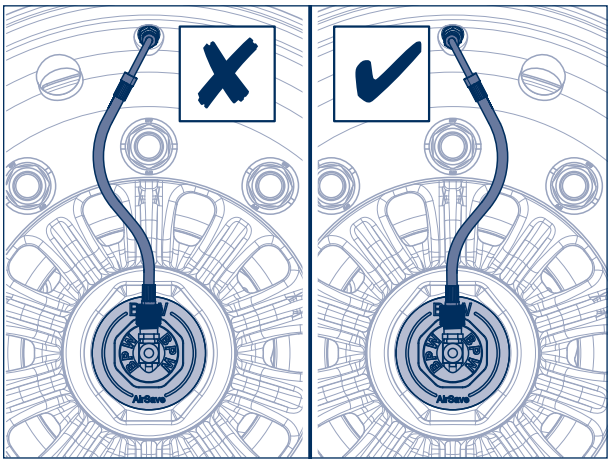


Figure 6

4.3 Assembling the AirSave Control Box

Installation and repair guide!
When drilling the fastening holes, pay attention to power and pneumatic lines and to supporting parts.

To connect to the vehicle cabling, use only round cables with a cross-section Ø 6 – 10 mm to guarantee the sealing of the PG11 screwed joint.

The AirSave Control Box should be assembled in a protected and easily accessible area in the vicinity of the pneumatic fittings.

The switch box cover plate must be removable for adjustment work and must not be locked.

There must be a clearance of min. 50 mm in front of the vent.

[1] Hold the AirSave Control Box (842) in the required installation position.

[2] Mark positions for the fixing holes.

[3] Drill Ø 9 mm holes and deburr slightly.

☞ Drilling template see page 26.

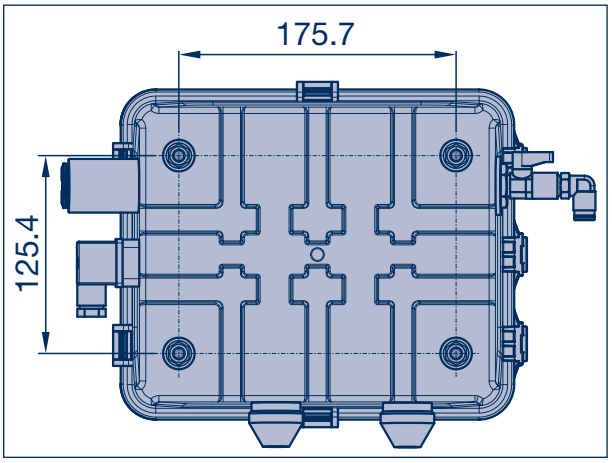


Figure 7

[4] Insert the AirSave Control Box into the bore holes with the fixing screws.

[5] Screw on the lock nuts (SW 13) with washers and tighten to a tightening torque of 25 Nm.

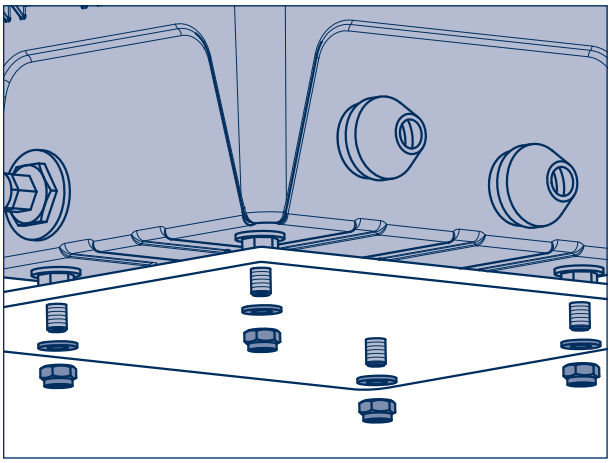


Figure 8

4 Assembly

4.4 Assembling the AirSave LED display and adhesive label

4.4 Assembling the AirSave LED display and adhesive label

Installation and repair guide!
The AirSave LED display must be visible to the driver in the rear-view mirror!

The connection lines to the AirSave Control Box must be laid such they are protected from damage and chafing.

[1] Assemble the AirSave LED display (841) in the driver's rearward field of vision.

[2] Drill the hole for the cable gland (Ø 11 mm) and for the fixing screws if necessary.

☞ Drilling template see page 26.

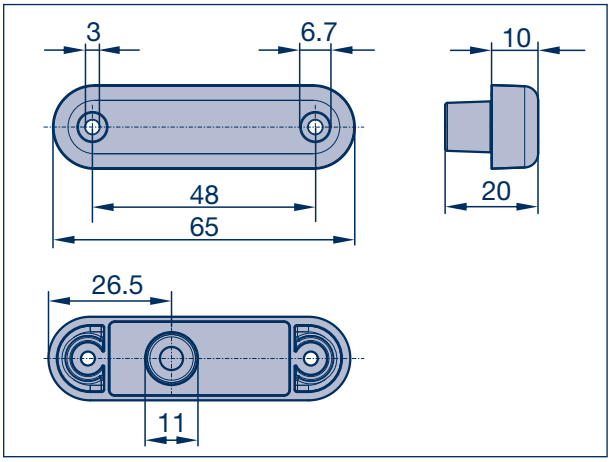


Figure 9

[3] Lay connection lines to the Air Save Control Box (842) and connect according to the sketch.

Function check:
For the function check, remove the cover plate from the test connection (arrow) and vent some air. When the installation or connection is correct the AirSave LED display starts to flash and the AirSave Control Box equalises the pressure. Finally assembly the cover plate.

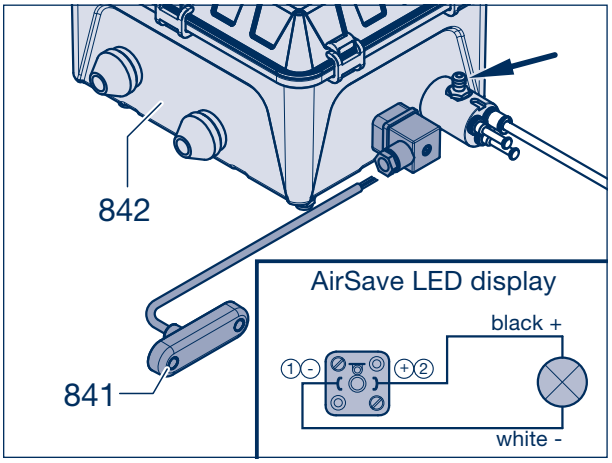


Figure 10

[4] Attach the adhesive label supplied in the vicinity of the AirSave LED display.

AirSave LED display flashes:
AirSave is working and equalising the pressure loss in the tyre. The journey must not be interrupted.

AirSave LED display flashes for longer than 10 minutes:
The tyres, compressed air lines and connections must be checked.

AirSave LED display illuminates continuously:
AirSave can no longer equalise the pressure loss in the system or there is a malfunction.
A service centre must be sought immediately.

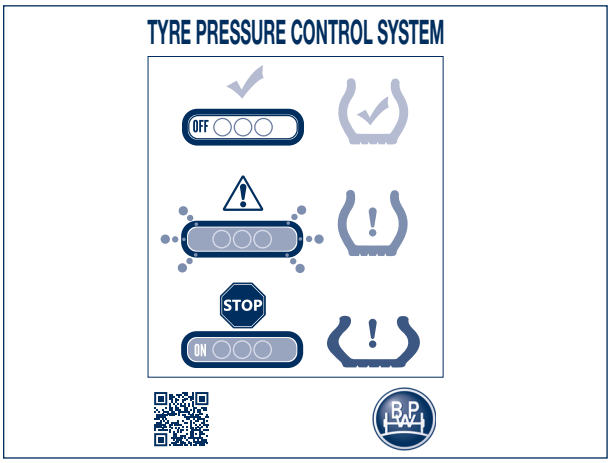
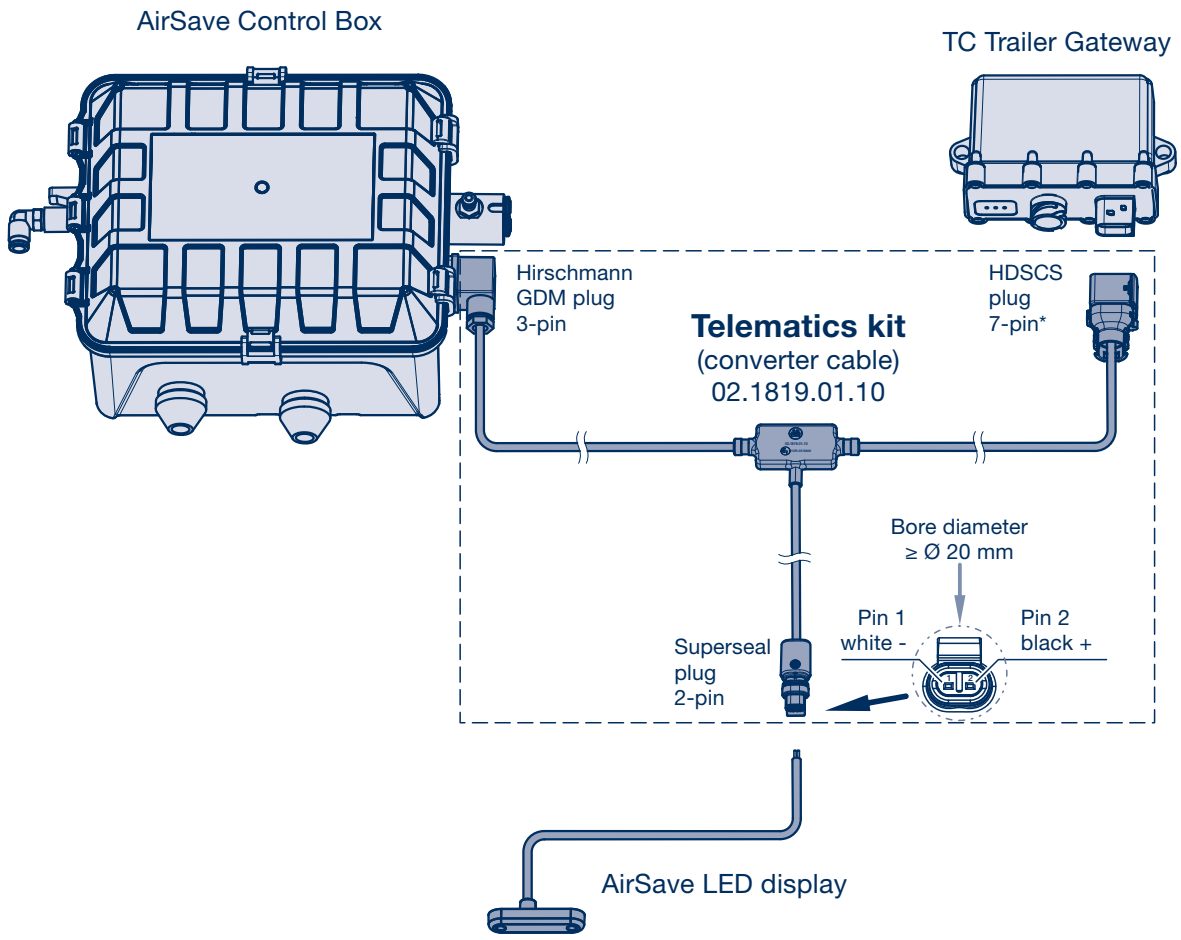


Figure 11

Assembly 4

Connection to the telematics TC Gateway 4.5



* The adapter cable (idem item no.: 0204040) is also required when using the GwPro telematics unit (BPW item no.: 02.1601.00.68; idem item no.: 0104004).

Figure 12

4.5 Connecting to the telematics

In addition to the LED display on the vehicle, the AirSave system activities and pressure warnings can be recorded and transmitted via a telematics gateway from idem.

For this purpose, the telematics gateway is connected to the AirSave control box in accordance with the illustration above (Fig. 12) using the AirSave telematics kit (BPW Item no.: 02.1819.01.10).

The LED display is connected via a two-pin Superseal plug (BPW Item no.: 92.0000.1685). The plug must be assembled so that the white LED wire Pin 1 and the black LED wire Pin 2 match.

The AirSave telematics kit can be connected either to the TC Trailer Gateway itself or to the end of a gateway bus extension.

AirSave telematics kit KBA test number: E1*10R05/01*8949*00

For all matters relating to idem TC Trailer Gateway products, the idem telematics GmbH technical support team is available from Monday - Friday between 08:00 and 18:00 CET.

Phone: +49 (0) 89 720 13 67 - 10
Email: support@idemtelematics.com

Before contacting the support team, please be sure to have the relevant product and vehicle data to hand.

4 Assembly

4.6 Assembling the pressure lines

4.6 Assembling the compressed air lines

Installation and repair guide!
Before assembling the compressed air lines, the pneumatic circuit must be depressurised.

The pressure lines to the AirSave Control Box and the axles must be laid such that they are protected from damage and chafing.

The line position/length must be selected such that the lines are not damaged as the axle extends and compresses.

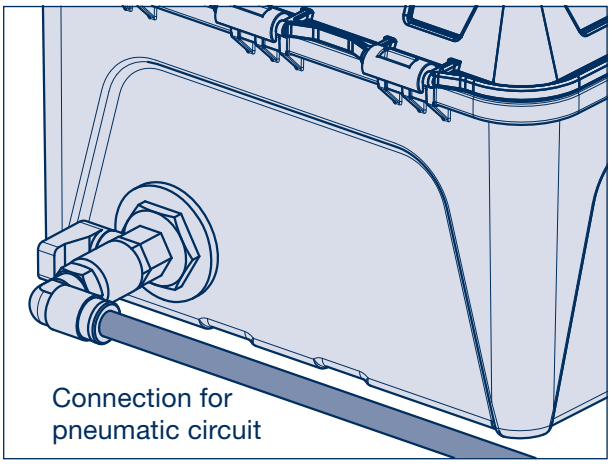


Figure 13

[1] For axles with air suspension, connect supply lines (8 x 1 mm PA line) to the AirSave Control Box (Figure 13) directly at the air tank of the trailer air suspension.

An inlet pressure of 6.0 bar is required to ensure that the Control Box is functioning correctly.

In the case of mechanical or hydraulic suspensions, the connection to the brake circuit must be made with an additional 6.0 bar pressure limit valve.

[2] Insert reducers (839) into the pressure outlet on the Control Box.

[3] Unoccupied compressed air outlets must be sealed using dummy plugs (840).

[4] Remove dummy plugs (834) from the AirSave T-piece (833).

[5] Insert the compressed air lines (6 x 1 mm) into the reducers on the Control Box and connect to the AirSave T-piece on the axle.
If the vehicle has other axles, a T-piece must also be integrated into the pneumatic circuit of each one, see Figure 14.
No more than 5 axles per Control Box are allowed to be connected. A second Control Box must be installed for 6 axles or more.

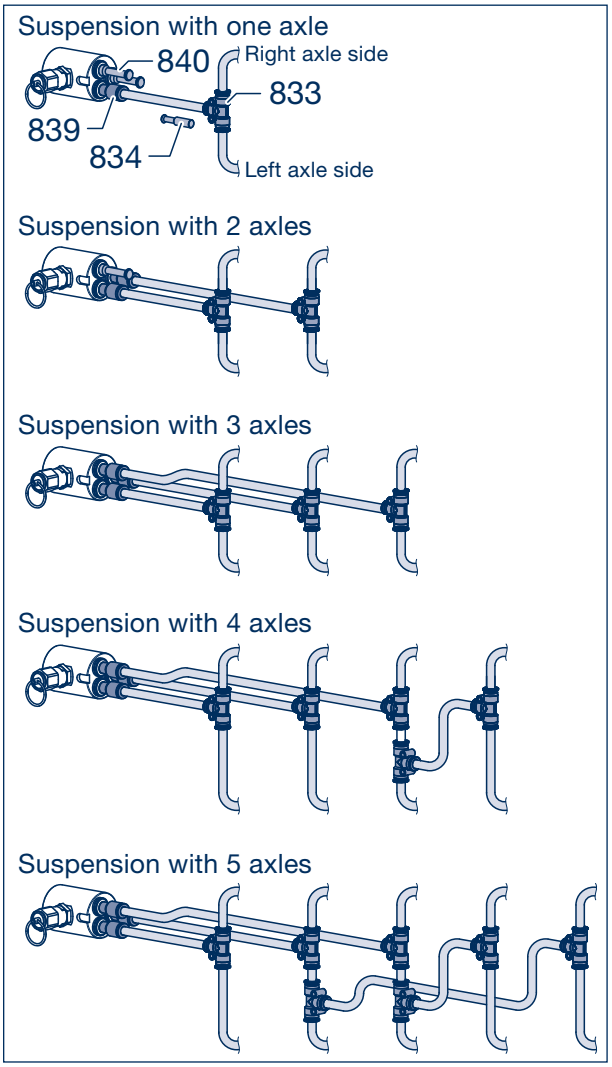


Figure 14

Commissioning 5

Checking the control unit outlet pressure 5.1

Installation and repair guide!
Before commencing work on the system or on the wheel ends, always close the shut-off valve and relieve air on the excess pressure valve.

The outlet pressure must be 0.1 to 0.2 bar over the manufacturer's recommended tyre pressure in order to equalise the opening pressure of the downstream components.

☞ The outlet pressure is preset (see AirSave Control Box cover plate) and must be checked before commissioning.

[1] Remove cap on the pressure connection (arrow, Figure 15).

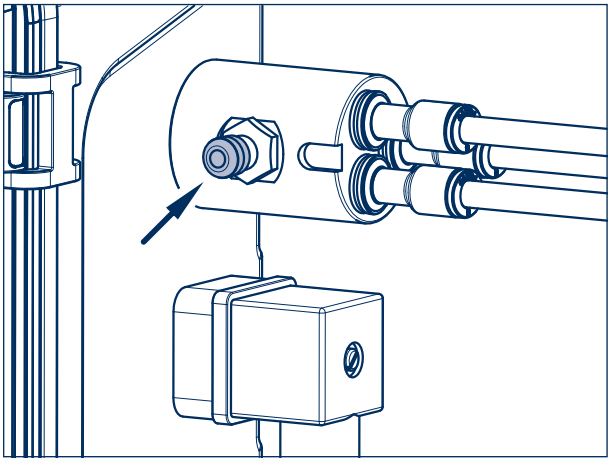


Figure 15

[2] Connect pressure gauge to the test connection (thread 8V1).
(Attention, pressure gauge is not included in the scope of supply)!

[3] Open shut-off valve on the AirSave Control Box (842).

[4] Read off the pressure on the pressure gauge when the pumping process has ended.

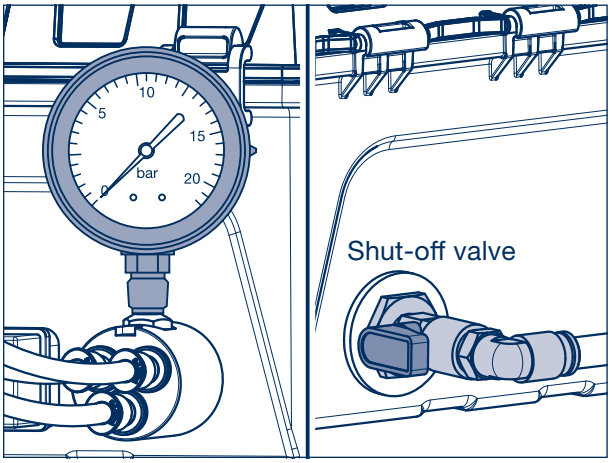


Figure 16

[5] Remove pressure gauge.

[6] Relieve pressure at the valve.

[7] Wait for the AirSave Control Box pumping process and then reassemble the pressure gauge.

[8] Repeat the test procedure twice.

Warning:
Incorrectly set outlet pressures can lead to tyre failure, increased tyre wear and increased fuel consumption.

[9] Remove pressure gauge and screw the cap onto the valve.

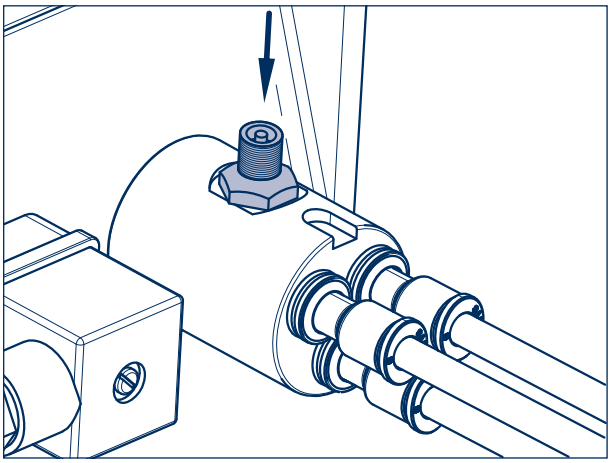


Figure 17

5 Commissioning

5.2 Adjusting the control unit outlet pressure

Adjusting the outlet pressure

[1] Connect the pressure gauge as described in [1] and [2] and read off the pressure.

[2] Remove pressure gauge and relieve air via the valve.

[3] Wait for the pumping process, re-connect the pressure gauge and read-off the outlet pressure on the pressure gauge.

Repair note!
Before opening the AirSave Control Box, always close the shut-off valve and relieve the air on the excess pressure valve.

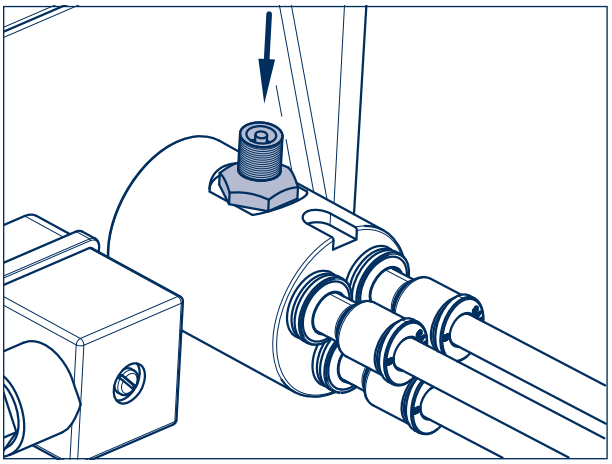


Figure 18

[4] Detach the fixing tabs from the Control Box cover plate and open the cover plate.

[5] Unlock the adjusting knob by pulling up and turning in small steps.
- Increase the outlet pressure by turning clockwise
- Reduce the outlet pressure by turning anticlockwise

[6] Remove pressure gauge and relieve air via the valve.

[7] Wait for the pumping process, re-connect the pressure gauge and read-off the outlet pressure on the pressure gauge.

[8] Repeat the test procedure twice.

[9] Push in the adjusting knob and then lock.

[10] Place the cover plate on the Control Box and secure with the 4 fixing tabs.

[11] Check the outlet pressure again and and re-adjust if required.

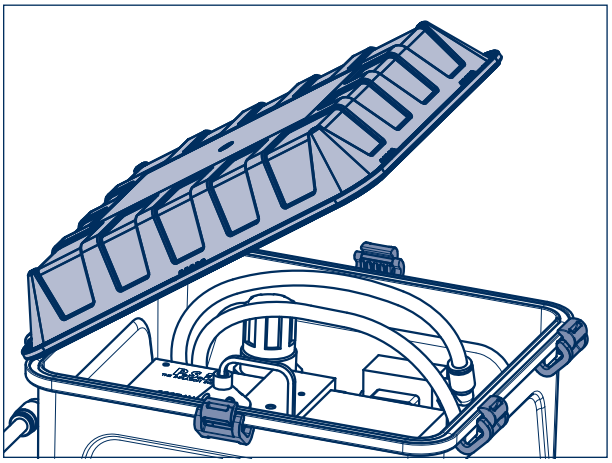


Figure 19

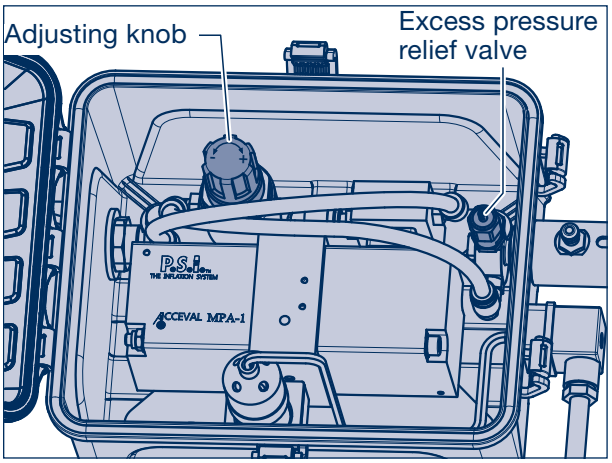


Figure 20

Repairs to the stator and internal tube 6

Installation and repair guide!
Before commencing work on the system or on the wheel ends, always close the shut-off valve and relieve air on the excess pressure valve.

☞ During disassembly / assembly, the wheel can remain assembled on the wheel hub.

[1] Prevent the vehicle from rolling away.

[2] Loosen valve hoses (825, 826, 827 - depending on version) from the rotor (811 or 811a).

[3] Screw rotor out of the AirSave hub cap adapter (817) and pull out.

[4] Screw hub caps (819, SW 110) off the wheel hub.

[5] Remove the O-ring (459) from the wheel hub groove. (The O-ring is not required for axles with ECO Plus Unit).

[6] Detach the polyamide tube (832) on the respective axle side from the AirSave T-piece (833).

[7] Screw spiral (831a, SW 24) from kink protection (831b).

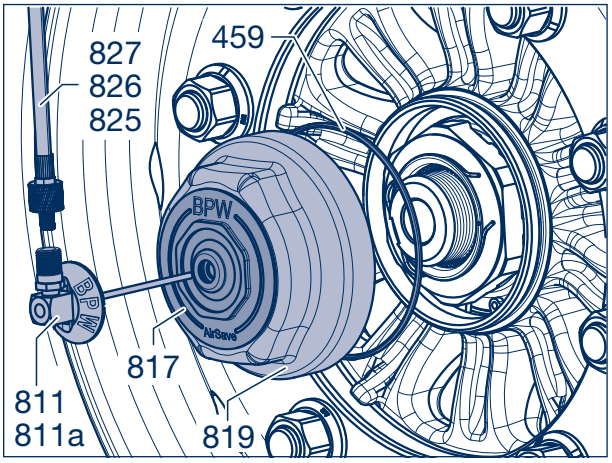


Figure 21

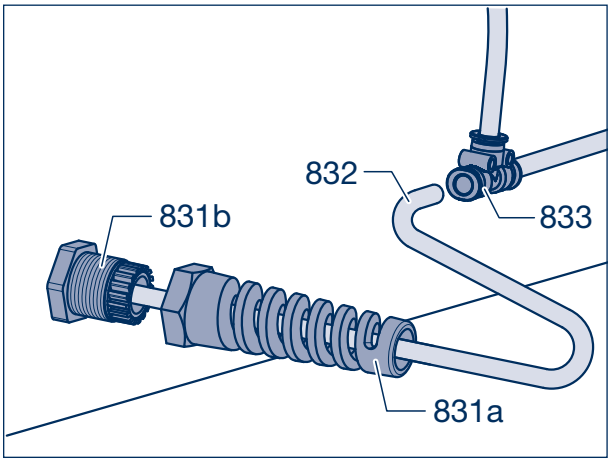


Figure 22

[8] Screw stator (832) from the axle stub using a box spanner (SW 16).

[9] Detach stator from tube (832) and remove.

[10] The tube can now move freely in the axle beam and can be replaced if required.

Repair note!
Assembly is in the reverse order.
Tightening torques:

Stator	**40 Nm (35 - 45 Nm)**
Spiral	**5 Nm (hand tight)**

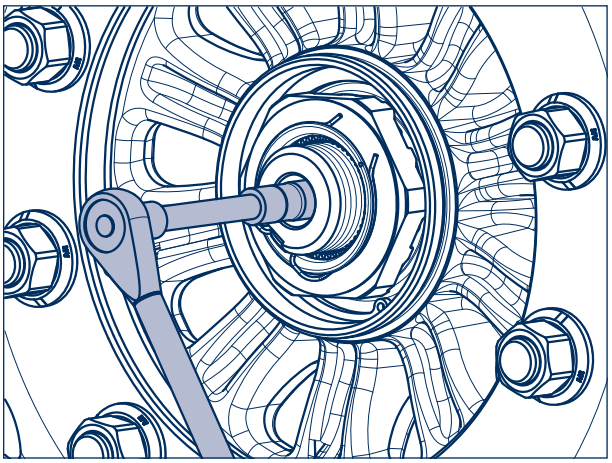


Figure 23

7 Wheel change

Wheel disassembly

[1] Detach valve hose (825, 826, 827, depending on tyre) from rotor (811 or 811a).

[2] Detach valve hose from tyre valve.

> **Note:**
> **For quicker and easier assembly, it is advisable to mark the position of the rim on the wheel hub and recreate this during assembly.**

[3] Changing wheels.

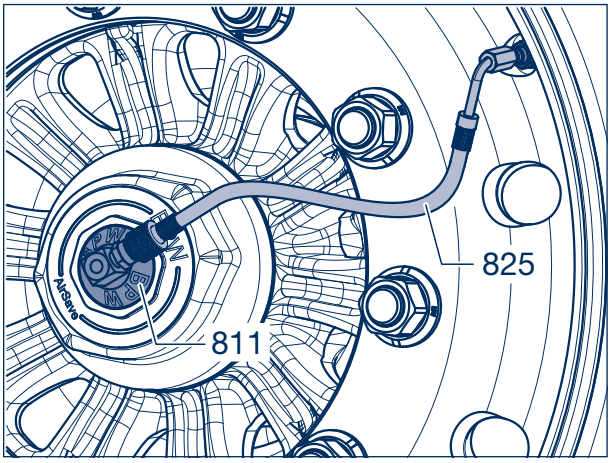


Figure 24

Wheel assembly

[4] Turn the hub cap adapter (817) using a spanner (SW 55) or spring pliers until the screwed joint on the rotor is pointing towards the tyre valve (required only if the position of the rim on the wheel hub has changed).

[5] Attach valve hose (825, 826 or 827, depending on tyre) to the tyre valve, use a valve extension if necessary.

[6] Hand-tighten the union nut (SW 11) on the valve hose and then tighten a further half-turn using a spanner.

[7] Check that the air can penetrate by pushing the valve needle in the valve hose.

[8] Hand-tighten the valve hose on the AirSave rotor (811 or 811a).

[9] Check the valve hose and the connections for untightness.

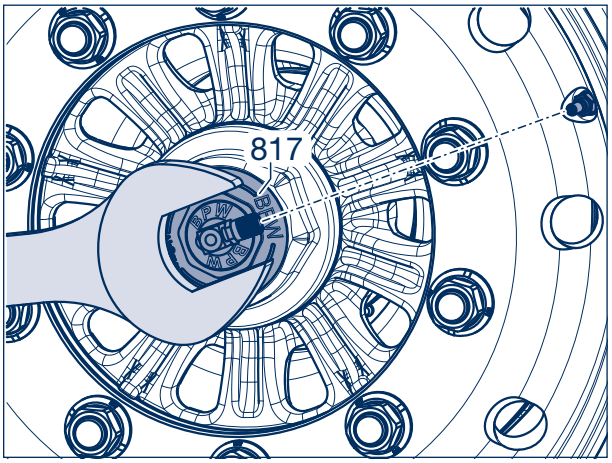


Figure 25

Fault diagnostics 8

Condition	Possible causes	Measures
The AirSave LED display is switched on.	The system supplies air during commissioning.	The system works faultlessly.
	The system supplies air to an untight tyre.	Repair the tyre.
	The system supplies air to an untight system component.	Replace the system component.
The AirSave LED display is switched on and air escapes from the rotor.	The system supplies air to an untight system component.	Replace the system component.
	The rotor is untight.	Replace the rotor.
	The stator O-ring is untight.	Replace the stator.
The AirSave LED display is switched off during system operation, although air flows to the AirSave Control Box.	The AirSave LED display is out of operation.	Replace the AirSave LED display.
	The generator is out of operation.	Replace the AirSave Control Box.
	The system cabling is damaged.	Repair the system cabling.
	The system cabling is defective.	Correct the system cabling.
Air escapes from the rotor.	The rotor is untight.	Replace the rotor.
The tyre pressure is too low.	The shut-off valve is closed.	Open the shut-off valve on the AirSave Control Box.
	The pressure setting at the system is too low.	Increase the system pressure at the AirSave Control Box.
The tyre pressure is too high.	The tyre was filled manually with too much pressure.	Reduce the tyre pressure.
	The pressure setting on the system is too high.	Reduce the system pressure at the AirSave Control Box.
The semi-trailer or drawbar trailer deflate when at standstill.	The system tube or the tube/tyre valve connection is untight.	Correctly tighten the connection, replace the seals or replace the tyre valve.
	The tube valve is untight.	Clean or replace the valve.
	The tyre is untight.	Repair the tyre.
The tyre fills only slowly or no air flows to the tyre.	The valve hose to the tyre may be tightened too tightly, causing a blockage in the air flow.	Correctly tighten the connection or replace the tube or seal if it is damaged.
Control Box is not functioning	Inlet pressure < 6.0 bar	Check the inlet pressure and adjust if necessary

9 AirSave warranty conditions

9.1 Axles with RV code
9.2 Axles with R1 code

AirSave and all components that are fitted to the axle have a 2-year warranty.
BPW axles are subject to the current ECO Plus Warranty Conditions.

9.1 For axles with RV code:

The BPW AirSave System must only be used in combination with axles prepared by BPW. For damages that occur as a result of any other combination, no claims from the BPW ECO Plus Warranty may be made. The AirSave System must be installed before the initial commissioning of the vehicle. Continuous operation of an axle prepared by BPW without an installed BPW AirSave System can lead to damage to the BPW scope of supply. If no BPW AirSave System is used, the BPW axle with RV code must be restored to a safe operating condition (removal of the tubing and assembly of the plugs in the axle beam and axle stub).

9.2 For axles with R1 code:

The BPW AirSave System must only be used in combination with axles prepared by BPW. For damages that occur as a result of any other combination, no claims from the BPW ECO Plus Warranty may be made. The AirSave System must be installed before the initial commissioning of the vehicle. Continuous operation of an axle prepared by BPW without an installed BPW AirSave System can lead to damage to the BPW scope of supply. The plug in the axle stub must be checked every 3 years to ensure a tight fit and must be replaced, if necessary.

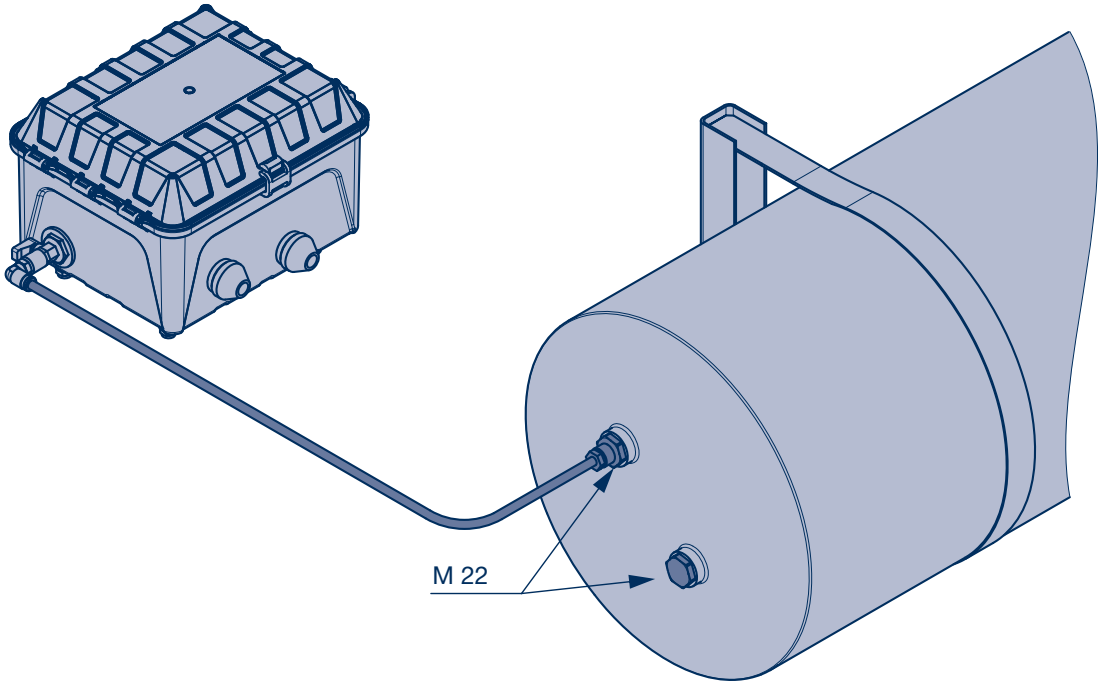
Installation instructions 10

In general, there is no fixed specification for connecting our system to the compressed air supply, as this differs for almost every vehicle.

The system should only be connected to the air suspension circuit and not to the brake circuit.

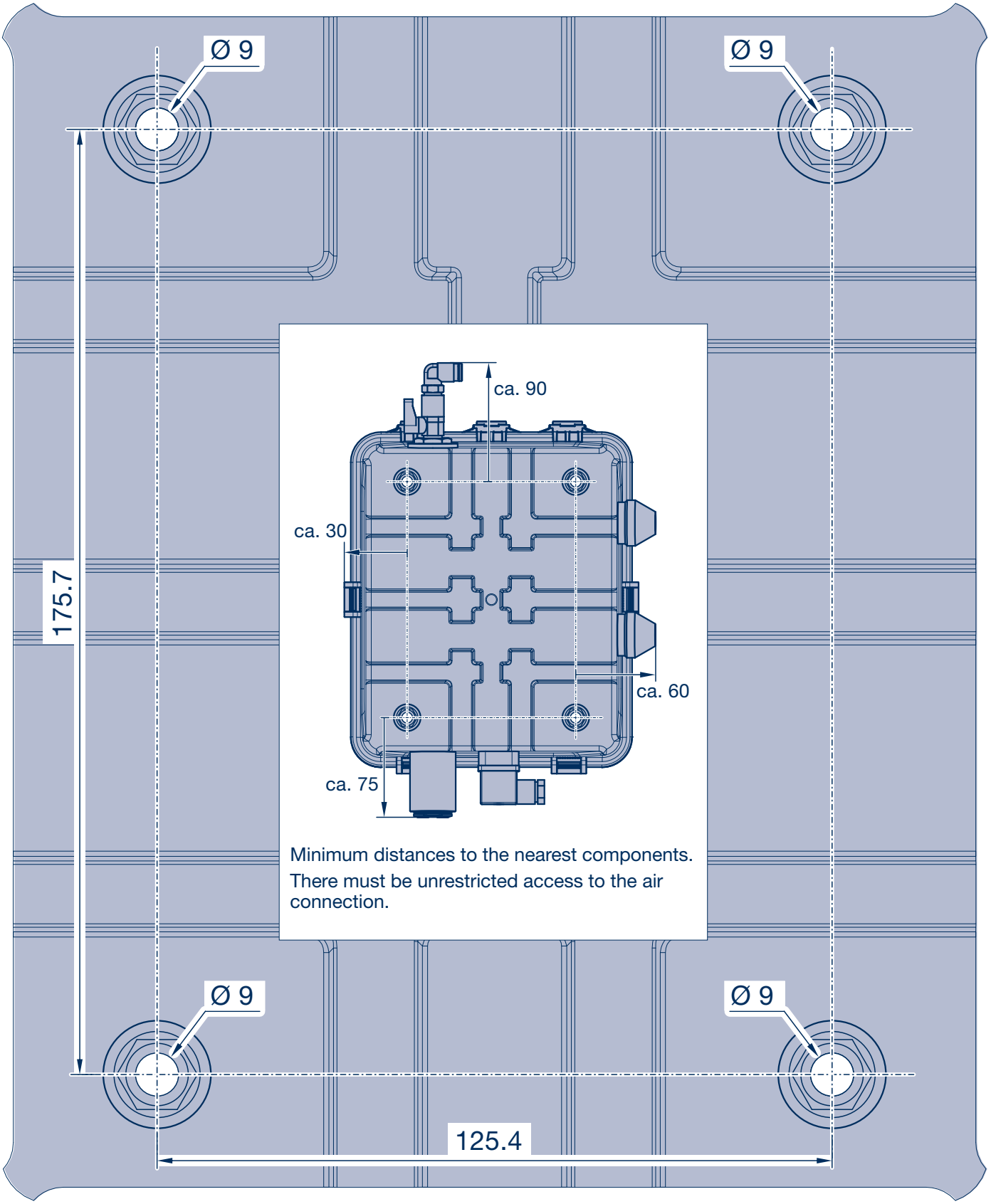
In most cases, our system is directly connected to the vehicle‘s reservoir. If there are several reservoirs, the replacement reservoir or the accessory reservoir is used. A pressure relief valve is not absolutely necessary, as this is installed in the Control Box.

Air connections with an M22 thread are generally required for both the reservoir and the EBS valve.



11 Drilling template

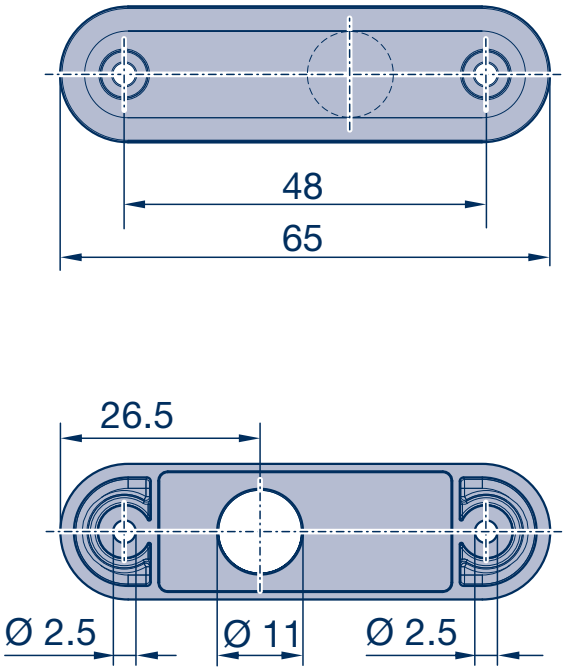
11.1 AirSave Control Box



Drilling template 1:1 - Select “Actual size” or “Scale to fit” printing setting

Drilling template 11

AirSave LED display 11.2



Drilling template 1:1 - Select “Actual size” or “Scale to fit” printing setting

BPW-EA-AS 37882002e

BPW is a globally leading manufacturer of intelligent running gear systems for trailers and semi-trailers. As an international mobility and system partner, we offer a wide range of solutions for the transport industry from a single source, from axle to suspension and brake to user-friendly telematics applications.
We thereby ensure outstanding transparency in loading and transport processes and facilitate efficient fleet management. Today, the well-established brand represents an international corporation with a wide product and service portfolio for the commercial vehicle industry. Offering running gear systems, telematics, lighting systems, composite solutions and trailer superstructures, BPW is the right system partner for automotive manufacturers.

BPW, the owner-operated company, consistently pursues one target: To always give you exactly the solution which will pay off. To this end, we focus our attention on uncompromising quality for high reliability and service life, weight and time-saving concepts for low operating and maintenance costs as well as personal customer service and a close-knit service network for quick and direct support. You can be sure that with your international mobility partner BPW, you always use the most efficient method.

Your partner on the path to economic viability

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