



User manual

FS-P

2024

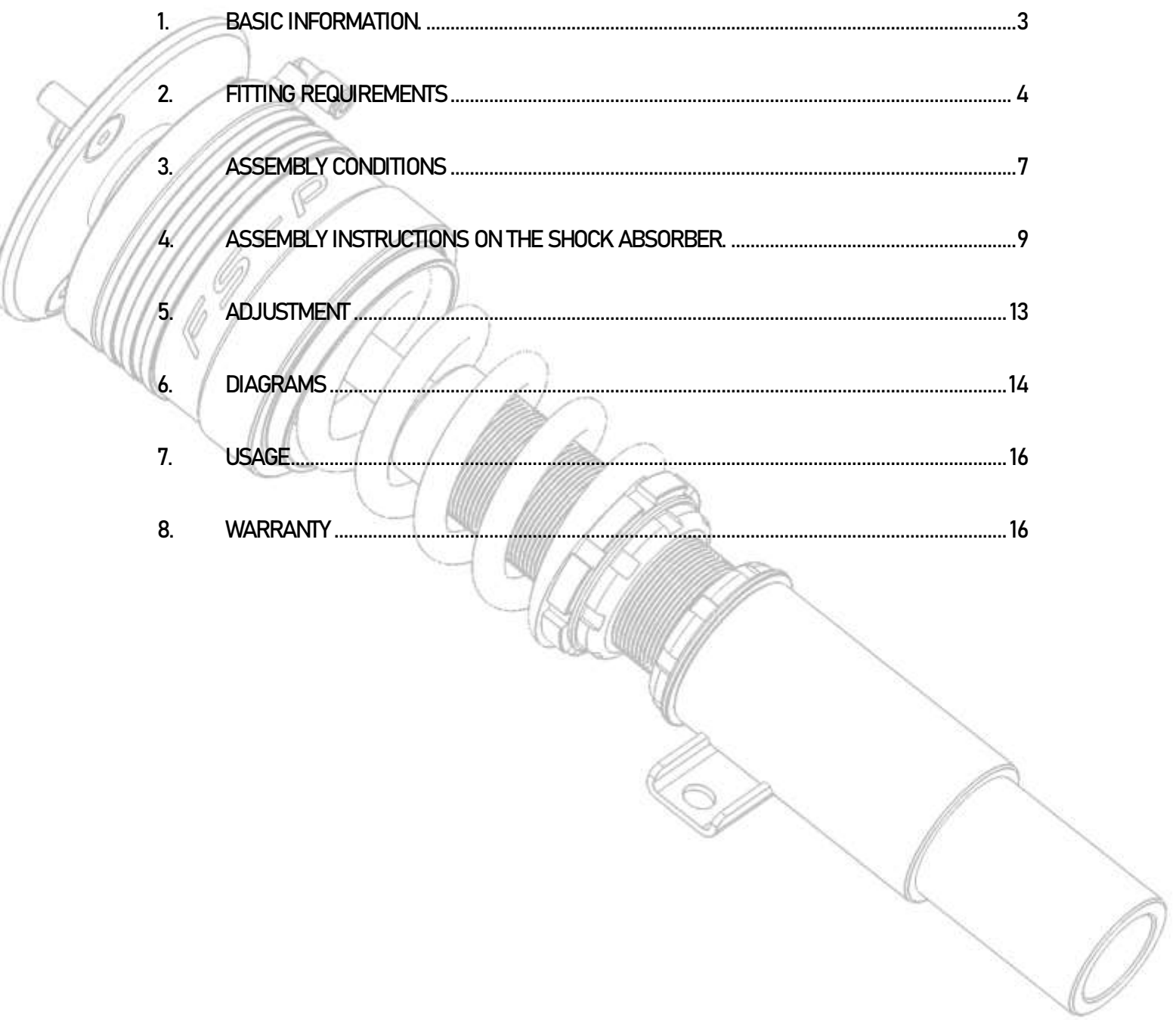
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1. Basic information.

FS-P AirCup is a set of universal pneumatic actuators designed to work with threaded suspension. The use of the system allows you to change the vehicle's ground clearance (raising) in order to overcome an obstacle on the road. The actuators can only be installed in the case of suspension in which the spring is located on the shock absorber (for detailed installation conditions, see point 2). The actuators should be placed between the upper shock absorber mount and the spring. After filling the actuators, the vehicle is lifted by approx. 40-50 mm, depending on the suspension design. The actuators are standardly manufactured with piston rod holes of 12.5; 14; 15; 16; 20 and 22 diameter and a spring socket with a maximum diameter of 90 mm. Other dimensions are also available on request.

FS-P AirCups are supplied as universal actuators. In order to properly and safely mount and achieve the intended operating parameters, in some cases it may be necessary to use other springs and additional adaptive elements.

The device is intended for use only on tracks and closed facilities. Use of the system on public roads is at your own risk.



2. Fitting requirements



Attention!

Before you decide to purchase, please read the terms and conditions.

To ensure proper fitment and use of the FS-P AirCups, it is important to read the following terms and conditions to ensure the system is compatible with your coilover suspension.

Technical conditions:

1. FS- P AirCup can only work with springs with a constant diameter along their entire length.

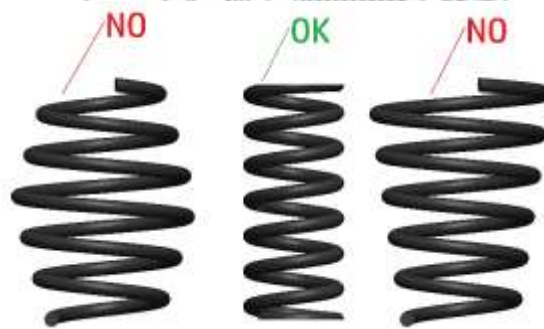


Fig. 1. Linear spring;



- The outer diameter of the spring must not exceed 90mm, while the inner diameter is a minimum of 62mm.

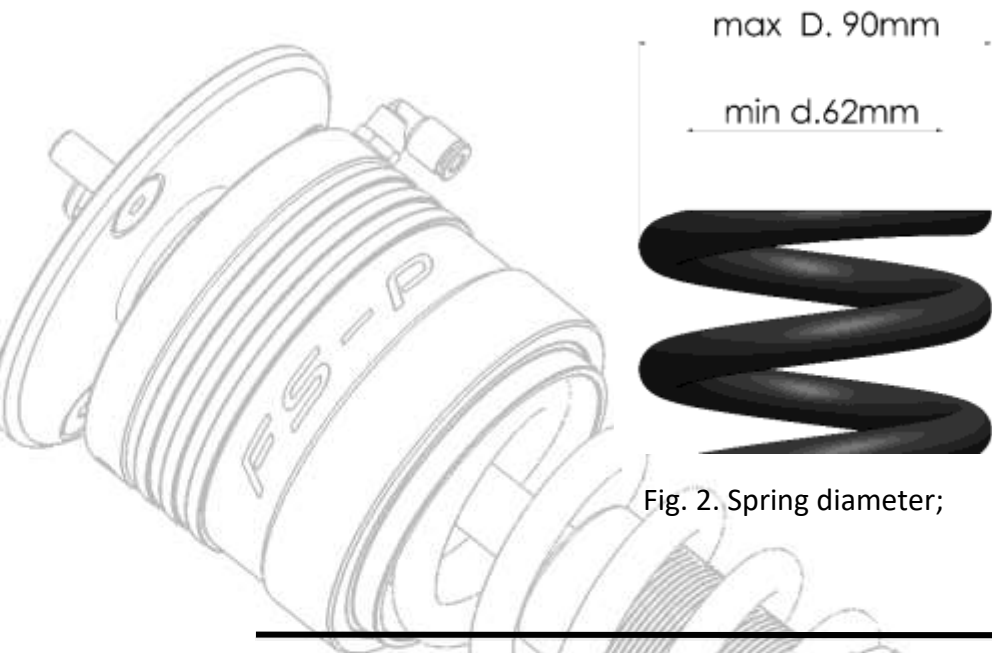


Fig. 2. Spring diameter;

- A minimum of 30mm adjustment margin is required to achieve the same vehicle height as before the FS-P AirCups were installed. Otherwise, it may be necessary to replace the spring with a shorter one.

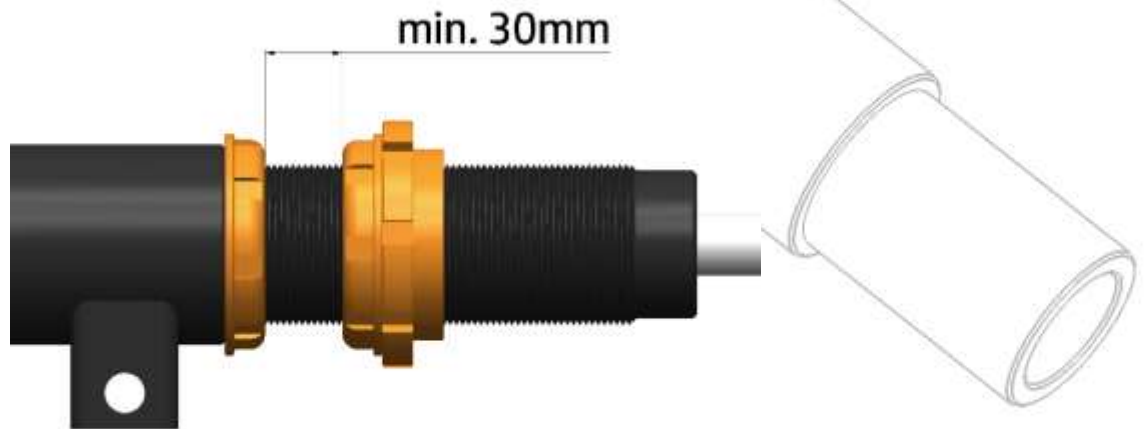


Fig. 3. Adjustment margin;



4. Only springs with flat and polished ends are required.

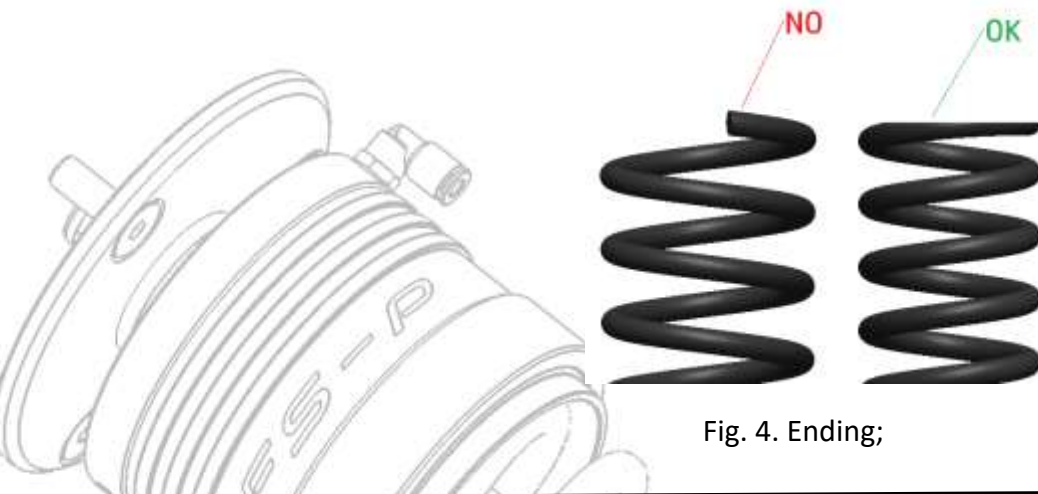


Fig. 4. Ending;

5. Before installation, check whether there is enough space around the shock absorber to install the FS-P AirCups. The minimum clearance between moving elements that may collide with the AirCups must be at least 15mm. Remember that when turning the steering wheel, the AirCups can rotate along with the entire column.

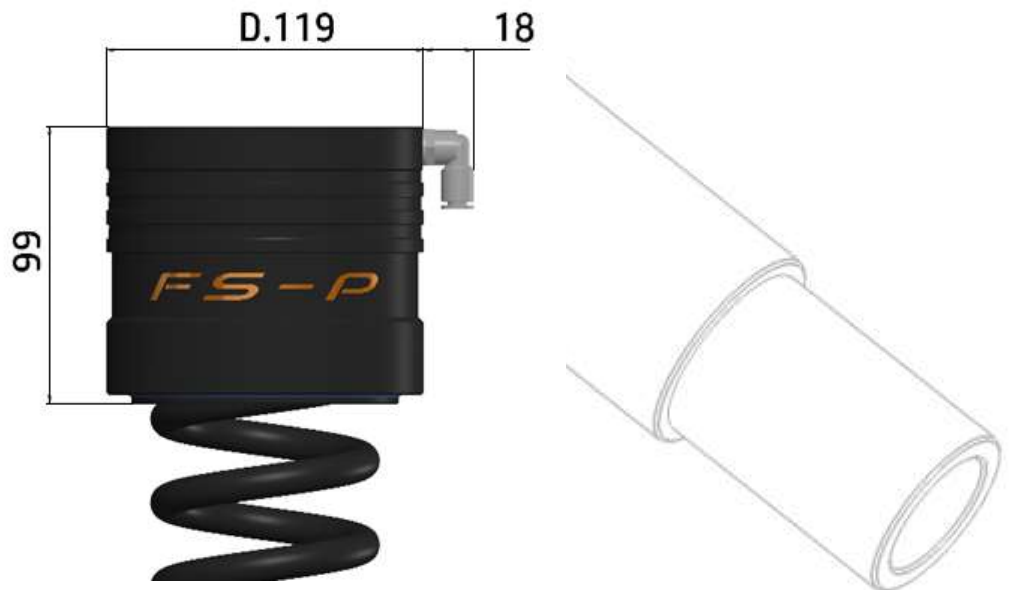


Fig. 5. Overall dimensions;



Caution!

The collision should be checked within the full range of suspension operation.

3. Assembly conditions

1. The piston rod diameter and the diameter of the shock absorber rod above the piston rod must be measured accurately in order to select the correct parts.

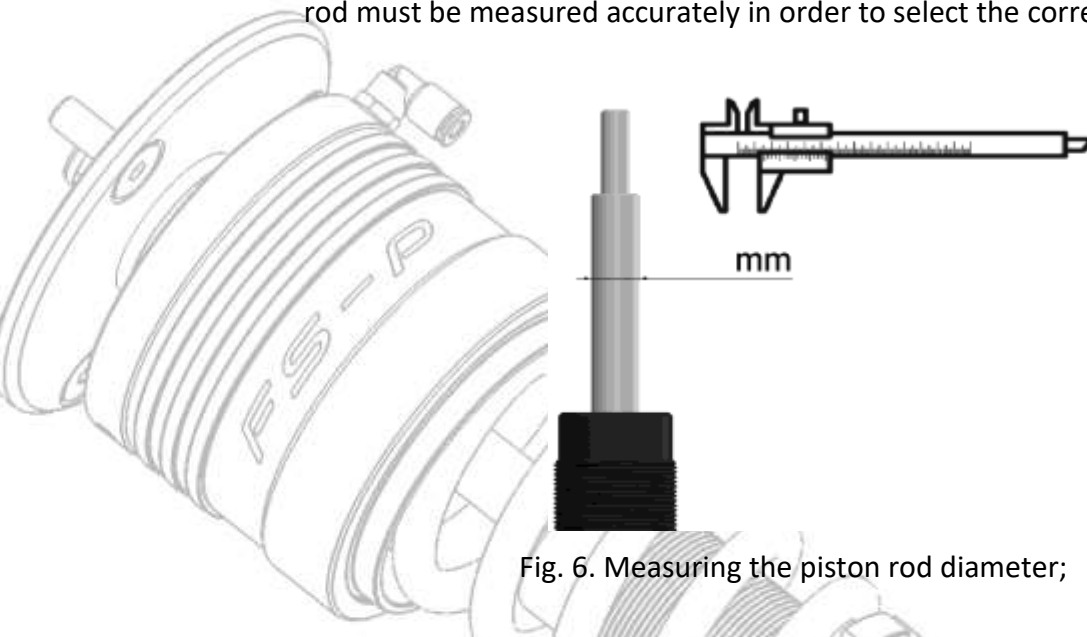


Fig. 6. Measuring the piston rod diameter;

2. FS-P AirCups must be supported by the upper shock absorber mount at a diameter of min. 40 max. 60 mm around the shock absorber piston rod. You may need additional elements for this. The method of support depends on the vehicle and the suspension used.

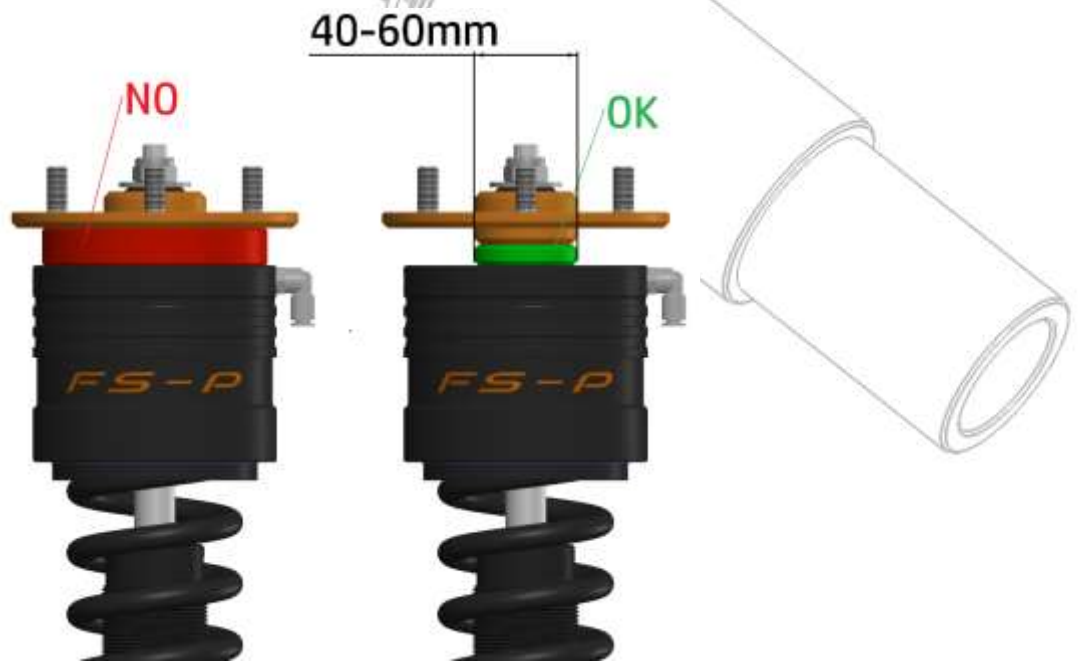


Fig 7. Support;



3. Effective lifting of the vehicle may be limited by a too small shock absorber stroke and may not reach the intended 50 mm. Too small stroke may also cause the suspension to work stiffer after lifting the vehicle. The minimum shock absorber stroke that will allow full use of the FS-P AirCups is 100 mm.

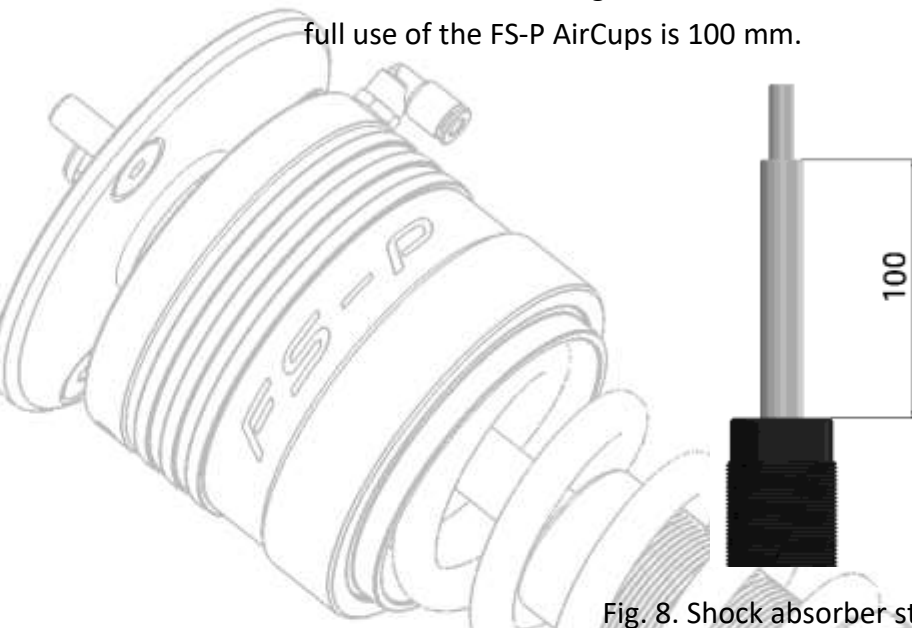


Fig. 8. Shock absorber stroke;

4. For technical and safety reasons, the FS-P AirCups in the vehicle lift function can be used while driving at a maximum speed of 50 km/h.

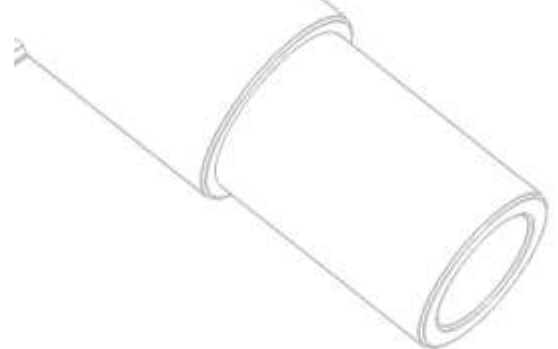


Fig. 9. Speed limit.

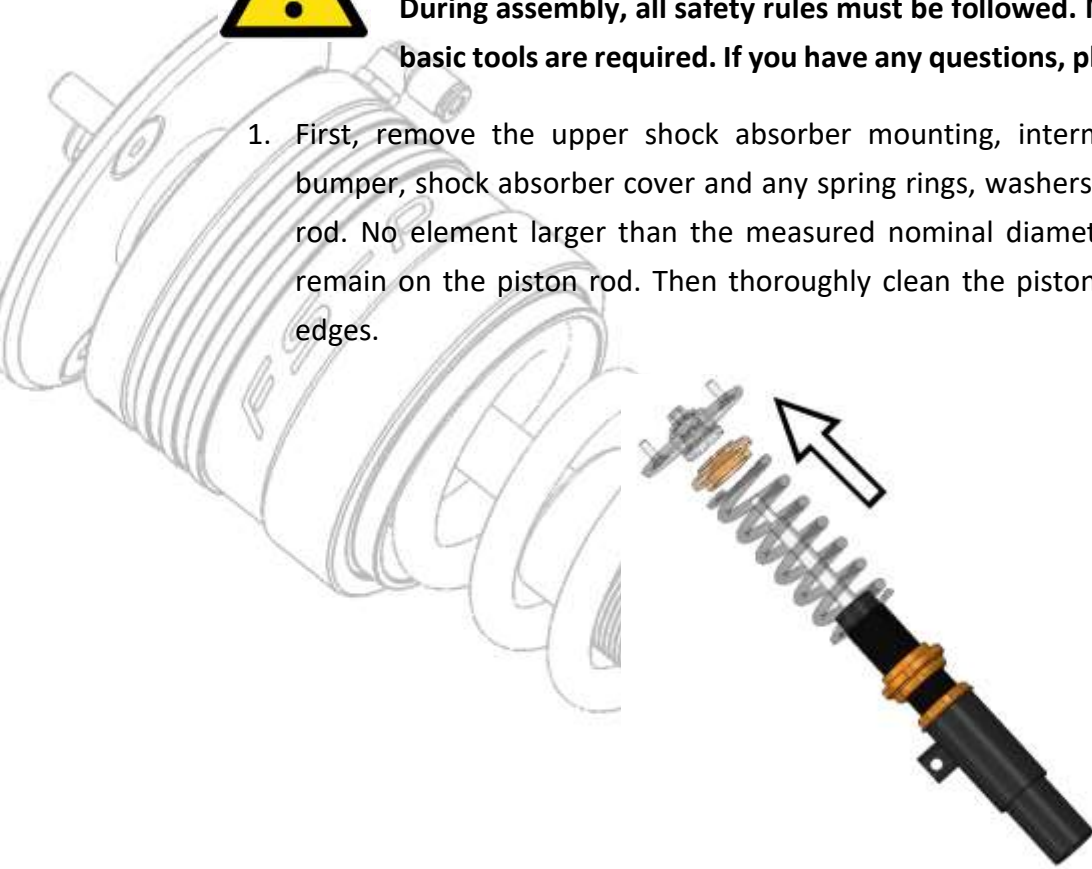
4. Assembly instructions on the shock absorber.



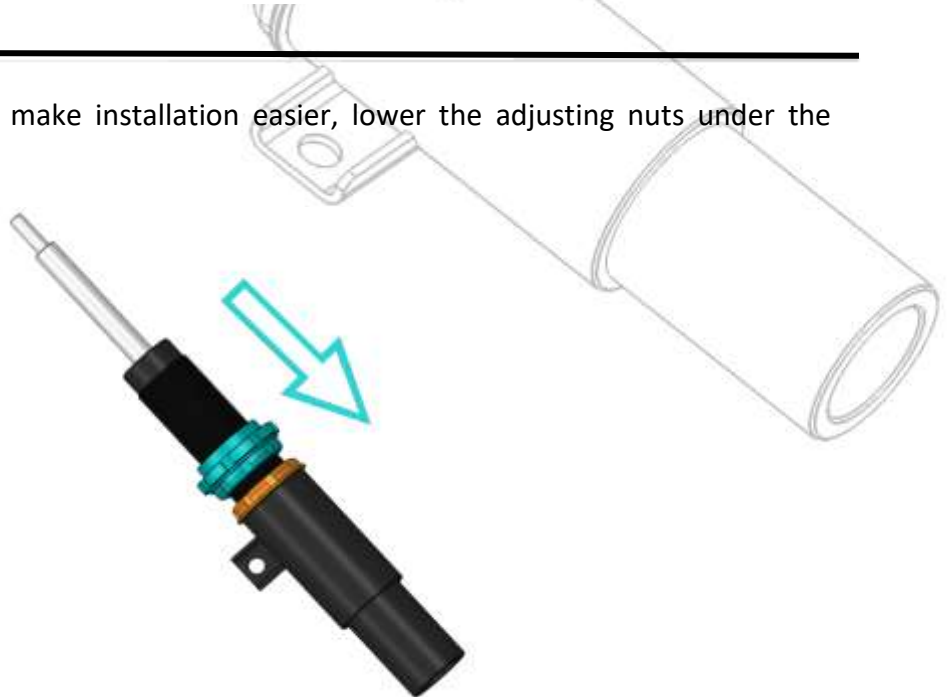
Caution!

During assembly, all safety rules must be followed. Minimum experience and basic tools are required. If you have any questions, please contact us by email.

1. First, remove the upper shock absorber mounting, intermediate elements, spring, bumper, shock absorber cover and any spring rings, washers or bushings on the piston rod. No element larger than the measured nominal diameter of the piston rod may remain on the piston rod. Then thoroughly clean the piston rod and deburr all sharp edges.

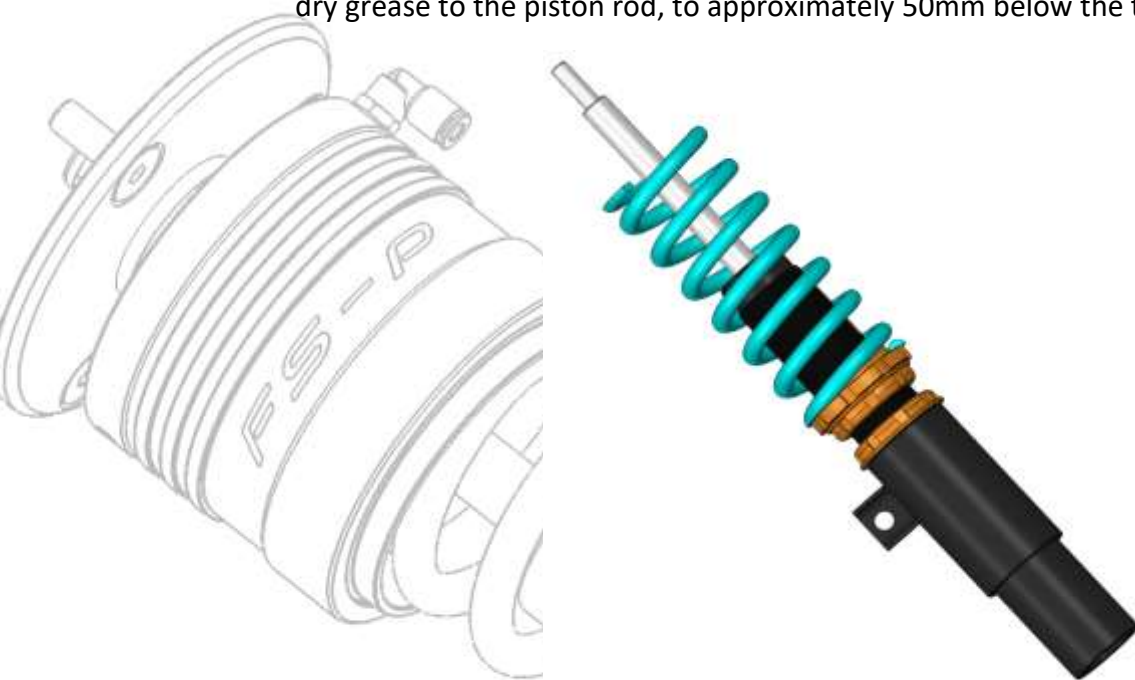


2. To reduce tension and make installation easier, lower the adjusting nuts under the spring.





3. Reinstall the appropriate spring, bump stop and shock absorber cover. Thoroughly apply dry grease to the piston rod, to approximately 50mm below the top pin.



4. After proper preparation, we can proceed to the assembly of the FS-P AirCups actuator.

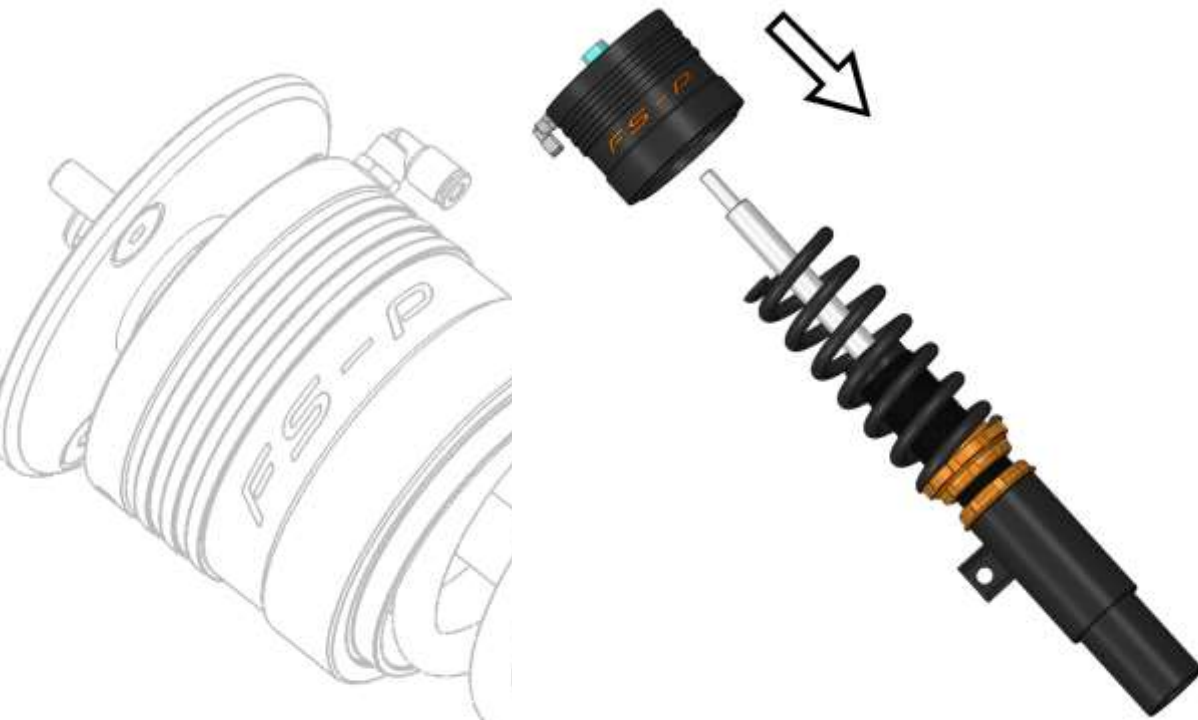
Due to the very delicate seals built into the actuator, these activities must be performed with particular care.

FS-P AirCups intended for self-assembly are supplied with a protective transport sleeve. After unpacking, do not dismantle the sleeve.

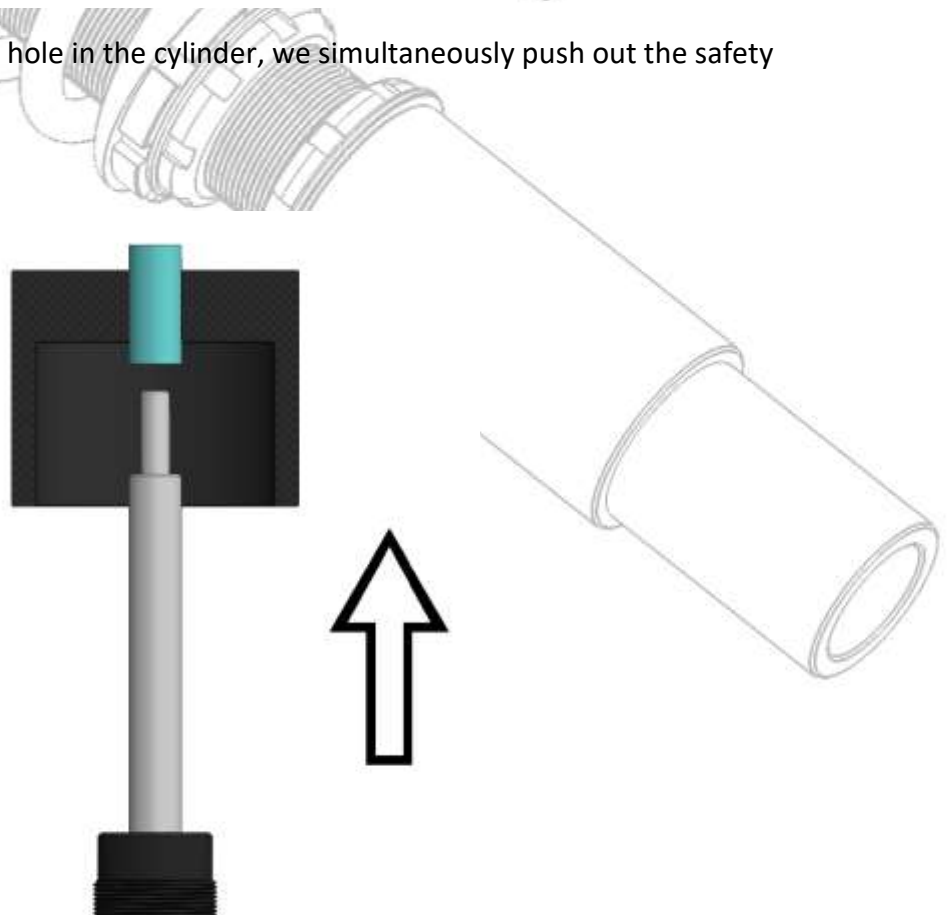


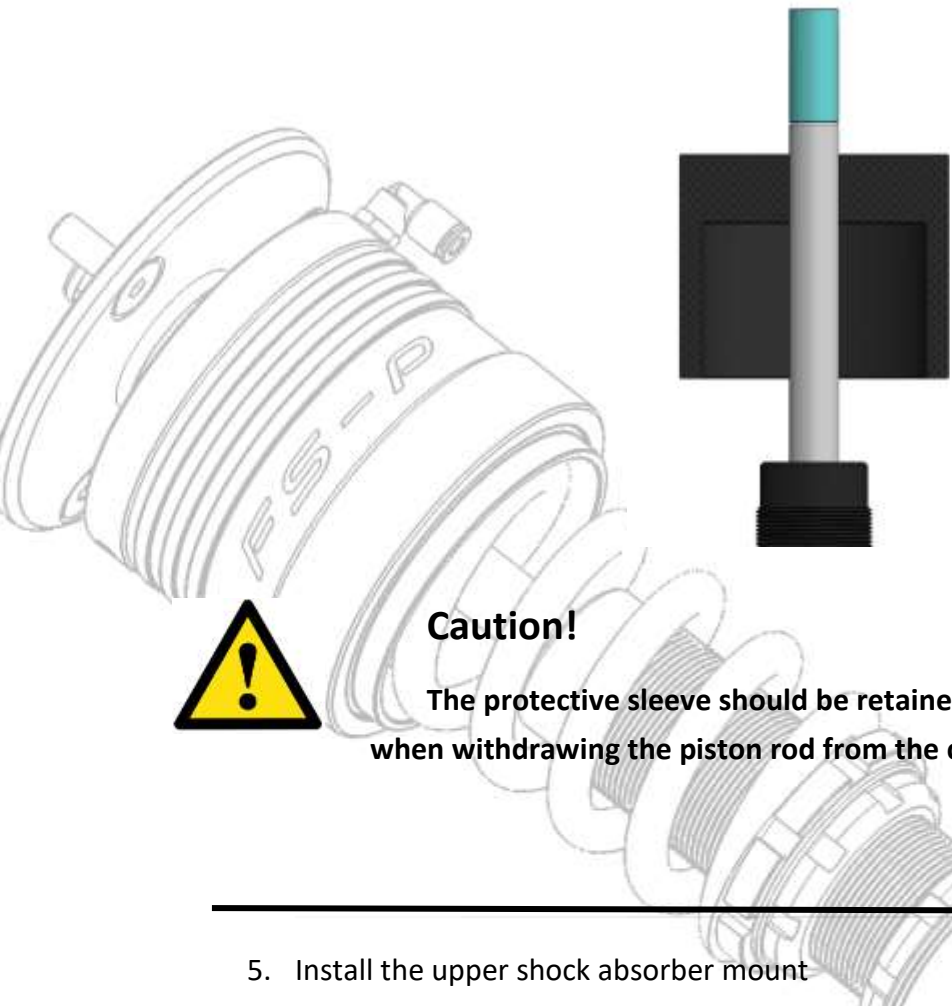


With a gentle and slow movement, slide the actuator onto the shock absorber piston rod.



By inserting the piston rod into the hole in the cylinder, we simultaneously push out the safety sleeve as in the drawings below.





Caution!

The protective sleeve should be retained. If disassembly is necessary, it is used when withdrawing the piston rod from the cylinder, the opposite of assembly.

-
5. Install the upper shock absorber mount





6. Check for leaks before installation



Caution!

Damage caused by incorrect installation is not covered by the warranty. If necessary, we offer the service of installing FS-P AirCups on new or entrusted shock absorbers.

5. Adjustment

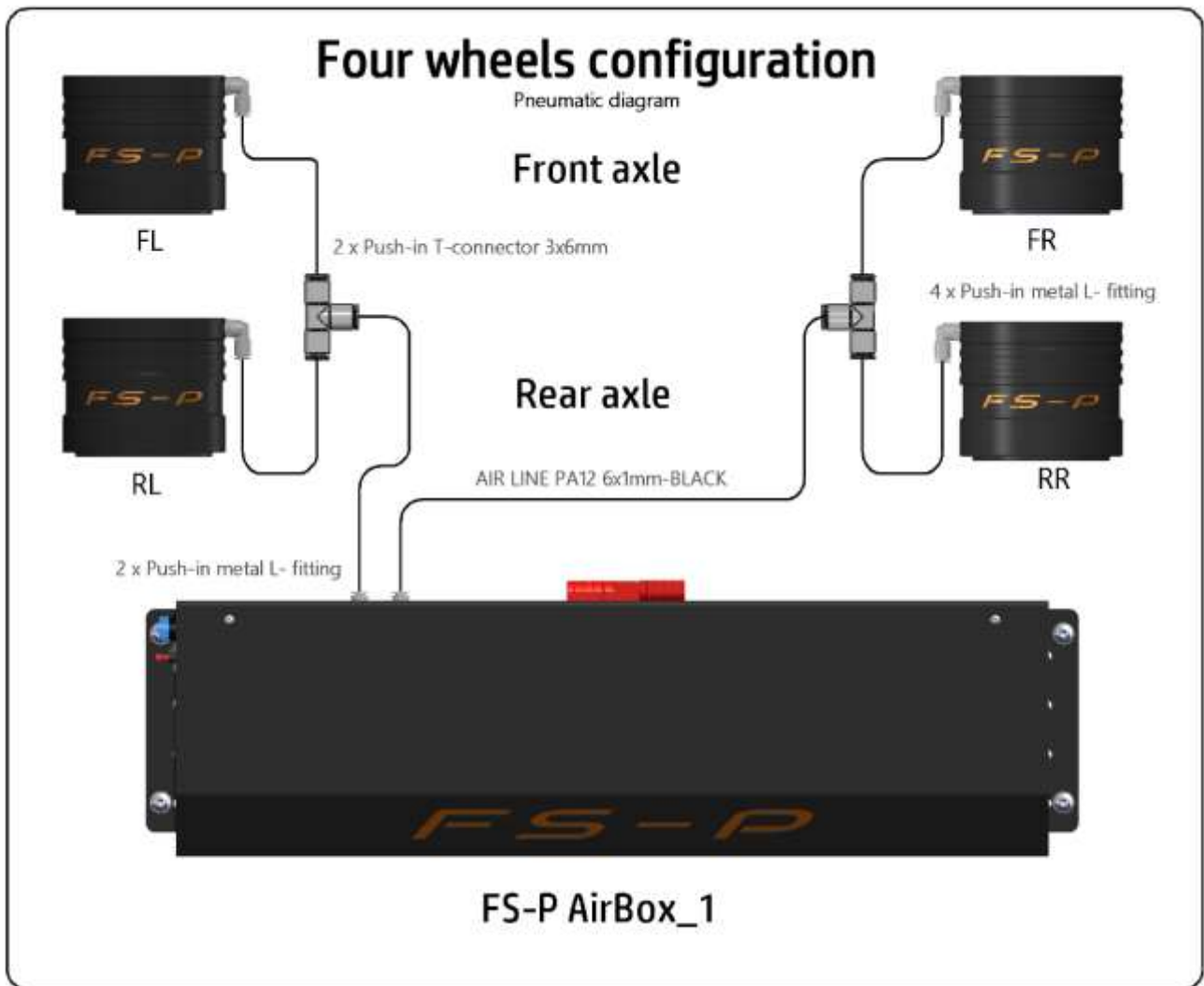
It is recommended to set the spring preload so that after the suspension is loaded, the shock absorber is in the middle of its operating range. This will allow safe use of the vehicle and, if necessary, will allow the vehicle to be raised.

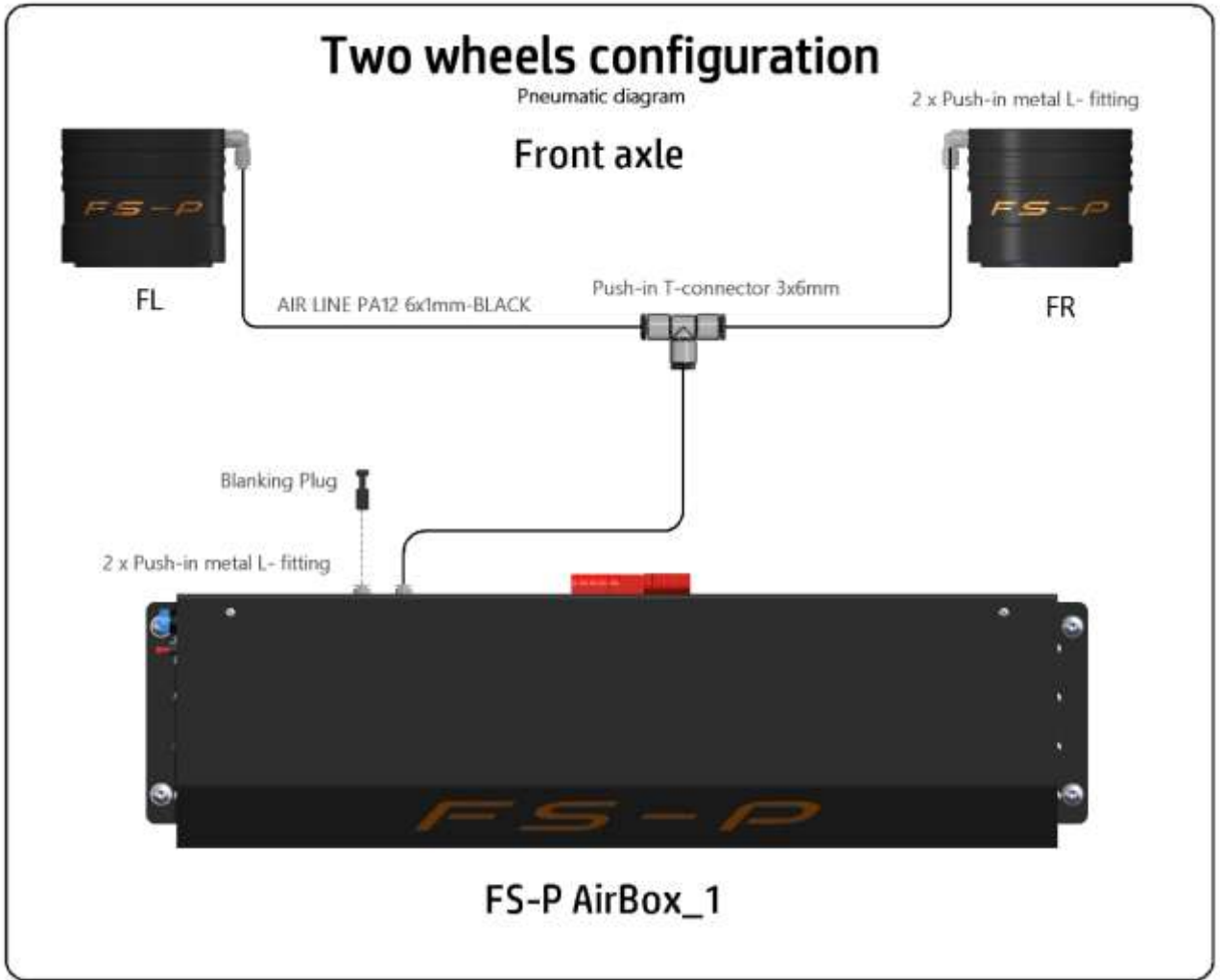
Vehicle height adjustment does not affect the operation of the FS-P AirCups

Suspension geometry settings should be made after the FS-P system has been deactivated.

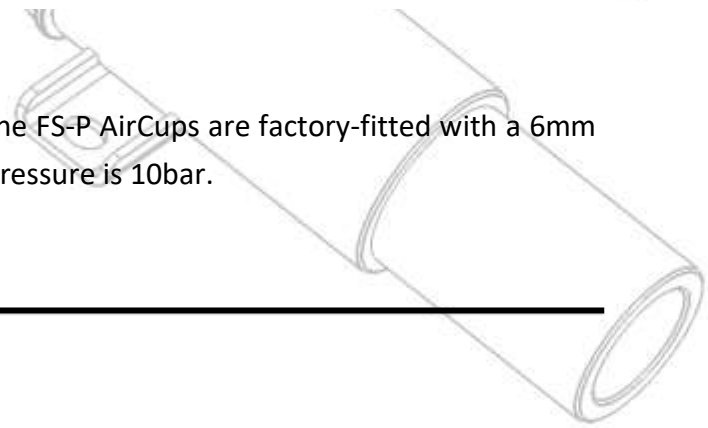
6. Diagrams

To lift the vehicle, the FS-P AirCups actuators must be supplied with compressed air. For this purpose, it is best to use a dedicated FS-P AirBOX power supply. The device allows for simple and quick installation with the least possible interference with the car.





It is also possible to use your own installation. The FS-P AirCups are factory-fitted with a 6mm pneumatic hose connector. The required operating pressure is 10bar.





7. Usage

Before installation, make sure that the product complies with the order and that it is complete and undamaged, and then read the above assembly instructions carefully. Filling with compressed air is only possible after the suspension has been installed in the car. Be especially careful when filling. Incorrect operation, assembly or interference with the system during operation may result in injury. The manufacturer is not responsible for injuries or material damage incurred as a result of incorrect assembly and operation or improper use of the FS-P system.

The actuators can only work in two positions: low - without air; or high after filling 10bar/140psi. During normal driving, the actuators must always be in the low position. We use the high position to overcome obstacles at a maximum driving speed of 50 km/h.

FS-P AirCups are not approved for use on public roads. The manufacturer is not responsible for using the system contrary to the regulations.

FS-P AirCups can be washed with water during regular vehicle washing.

8. Warranty

FS-P AirCups are covered by a one-year manufacturer's warranty.

The warranty is excluded in the following cases:

- installation not in accordance with the installation instructions
- usage not in accordance with the user instructions
- mechanical interference or attempts at self-repair.