

# Pulsation damper SBV3 (Silicone bladder)

Installation, using and servicing manual

## User manual

### 1. Introduction

The SBV3 pulsation damper is specially designed for installation on low pressure fuel systems, typically in Marine and Power Generation applications, to attenuate pressure pulses. These devices are designed, manufactured, and inspected in compliance with the Pressure Equipment Directive: PED 2014/68/EU.

It is essential that the instructions given in this guide should be strictly applied. PARKER/OLAER accepts no liability for property damage or personal injury, either direct or indirect, or other consequences such as operating downtime, resulting from not adhering to the instructions given below.

Before equipment set up and during operations, the operator must take into account the regulations applicable in the location or environment concerned regarding hydraulic pressure equipment. The operator holds full responsibility for the observance of existing regulations.

The operator must carefully preserve the documents supplied with the product throughout its working life. These documents can be requested during inspections.

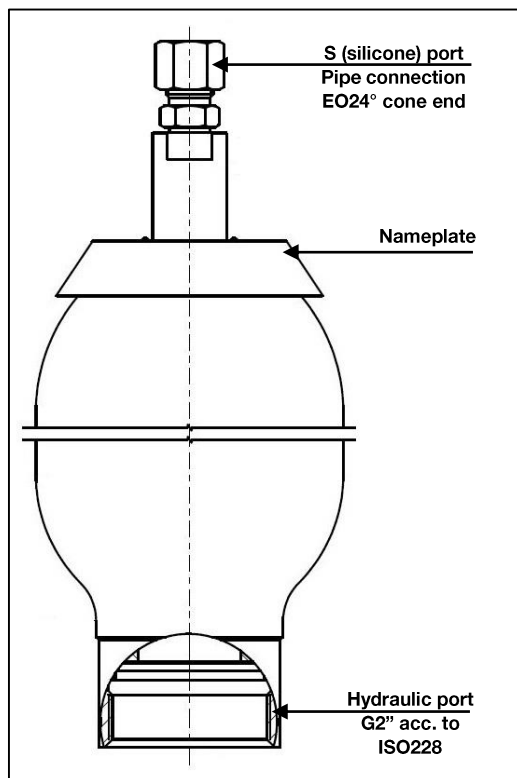


FIGURE 1: PRODUCT DESCRIPTION

### 2. Safety Devices

The applicable regulations impose some or all of the following safety devices:

- Overpressure protection device
- Decompression device
- Pressure measurement device

- Fitting for control pressure gauge
- Isolation device
- etc.

The operator is responsible for satisfying these requirements. PARKER/OLAER can supply some or all of these devices on request.

PARKER/OLAER recommends installing some or all of the following devices to the S (silicone) port:

- Leak detector
  - Return pipe to a drain pan
- for safety and monitoring purposes (see §6.1 and §7.1)

### 3. Handling, storage



The original packaging is suitable for handling and storage.

#### 3.1. Handling

##### HANDLE WITH CARE!

Avoid impact or fall, which can damage the product or cause injuries.

#### 3.2. Storage

- Store in a cool, dry location.
- Do not expose to flame or heat source.
- We recommend storing pulsation dampers in a horizontal position.
- Store in their original packaging, do not stack more than two rows of pulsation dampers.
- Do not store longer than six months before installation.

### 4. Pulsation damper labelling and marking

Any alteration or modification of the marking without prior written consent from PARKER/OLAER is strictly prohibited.

In case of a contradiction between the information of the manufacturer identification plate and the information on components of the pulsation damper (shell, port, etc.), always refer to the nameplate.

The following information is indicated on the pulsation damper nameplate:

On all models:

- OLAER logo
- PARKER production site identification
- Part number (REF)
- Designation (TYPE)
- Working temperature range TS (°C)
- Maximum allowable pressure, PS (bar)
- Warnings and safety instructions (Release system pressure before disconnection, never inflate with gas)

On 1L and 2.5L only

- Nominal Volume (Litres)
- Weight (kg)

On 2.5L only:

- Fluid group (1 or 2)
- CE logo
- Notified body identification number

### 5. Installation



Installation must be performed by qualified technicians only.

Before installation, perform a visual inspection of the product to detect any damage. Precautions must be taken to avoid damaging the painting or any optional equipment when unwrapping the product.

Before carrying out any operation on hydraulic installations, ensure that there is no pressure left inside the system. Non-compliant installation can cause serious accidents, with a risk of explosion and/or bursting!

The following actions are strictly prohibited:

- Performing welding, brazing, drilling, or any other operation liable to affect the mechanical properties.

- Modifying the pulsation damper or its components without prior written permission from PARKER/OLAER.

#### RISK OF EXPLOSION AND/OR BURSTING!

For additional details concerning installation or use, contact PARKER/OLAER or its approved network.

#### 5.1. (Silicone) port connection

#### NEVER INFLATE WITH GAS!

The bladder is filled with silicone particles. The S (silicone) port is located in the usual position of an inflation valve on a standard accumulator.

PARKER/OLAER recommends to connect the S port to a hydraulic leak detector and/or a return pipe to a drain pan, for safety and monitoring purposes (see §7.5).

#### IN CASE OF BLADDER FAILURE, HYDRAULIC FLUID CAN FLOW OUT THROUGH THE S-PORT IF IT IS NOT CONNECTED!

S port can be connected in two main configurations described on following examples:

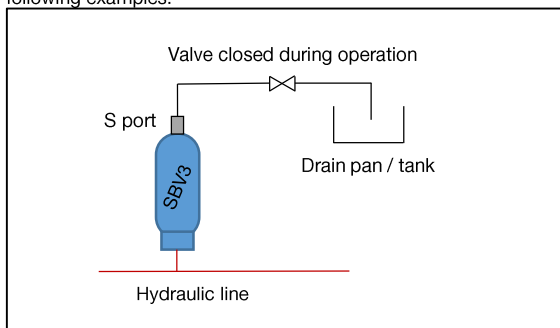


FIGURE 2: TYPICAL NORMALLY CLOSED CONFIGURATION

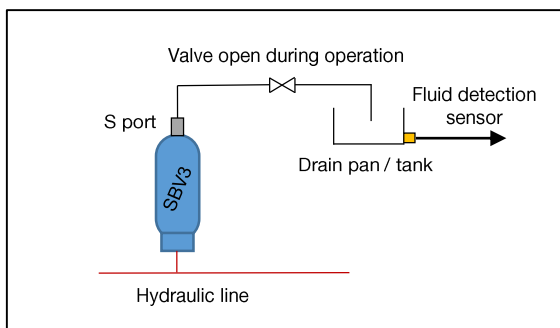


FIGURE 3: TYPICAL NORMALLY OPEN CONFIGURATION

These examples can be adapted depending on customer configuration or requirements.

#### 5.2. Maximum allowable pressure PS

Check that the pressure in the hydraulic circuit never exceeds the maximum allowable pressure PS of the product indicated on the nameplate.

#### 5.3. Allowable temperature range TS

Check that the environment temperature and the fluid temperature always remain in the allowable temperature range of the product TS indicated on the nameplate.

#### 5.4. Fluid used

The pulsation damper materials are determined according to the hydraulic fluid used. Check that the fluid is compatible with the equipment. The use of a pulsation damper with a fluid for which it was not designed is strictly prohibited.

The use of a pulsation damper designed for fluid group 2 with a fluid of the group 1 is strictly prohibited.

The authorised fluid group (1 or 2) of the product is integrated in its designation according to the following example.

#### Example:

SBV3 2.5-40/11-AS2KL-100

1: for fluid group 1.

2: for fluid group 2.

Sometimes it is also indicated directly on the nameplate.

Fluid group 1 includes all fluid defined according to PED 2014/68/EU article 13. (Example: Fuel and flammable product)

Fluid group 2 includes all other fluids, which are not included in the fluid group 1. (Example: Mineral Oil, water)

When using a fluid group 1, apply all necessary safety measures in accordance with the concerned regulations of the usage location. For additional details, contact PARKER/OLAER.

#### 5.5. Installation location

Ensure that labels and markings remain visible.

Ensure that the S (silicone) port is accessible.

Be aware of environmental conditions and, if necessary, protect the equipment from heat sources, electrical or magnetic fields, lightning, humidity, bad weather, etc.

For optimum operation, the pulsation damper should be placed as near as possible to the user pulsation source.

The diameter of the fitting and the pipe should be as similar as possible to the connection diameter of the pulsation damper.

It may be installed vertically, with the S port at the top, or horizontally.

#### 5.6. Fixing

Mount the pulsation damper in such a way that:

- No abnormal force is applied to the pipes that are directly or indirectly connected to it.
- Limit its movement in case of connection break.

PARKER/OLAER clamps and brackets are designed for this purpose and can be supplied on request.

The pulsation damper must not be subjected to any stress or load coming from the structure connected or any other causes.

#### 5.7. Final check before start-up

The final check before start-up must be performed in accordance with the regulations locally applicable.

#### 5.8. Hydraulic pressurisation

Check that there is no leakage in the hydraulic circuit.

Ensure that the hydraulic pressure never exceeds the maximum allowable pressure PS indicated on the pulsation damper nameplate.

## 6. Monitoring in operation



#### 6.1. Monitor the dampening effect

Condition of the damper can be checked as following depending on your configuration:

##### In normally closed configuration:

Open the valve

- If no fluid flows out, the product work perfectly.
- If fluid flows out to the drain pan, bladder is broken, the damper should be changed rapidly.

Close the valve

##### In normally open configuration:

- If there is no fluid detected at the outlet of the silicone connection, the product work perfectly.

=> Let the valve open

- If fluid is detected the bladder is broken, the damper should be changed rapidly.

=>Close the valve

A SBV3, which is leaking through the S port, can continue to run without damaging the system assuming that S port is closed (no fluid flow through the silicone line) and his dampening performances are reduced or no more fulfilled.

## 6.2. Visual check

PARKER recommends performing the following inspection operations when inspecting the system:

- Inspect the safety devices and fittings.
- Inspect the pulsation damper mounting hardware.
- Perform a visual inspection of the pulsation damper to detect any sign of deterioration such as corrosion or impact.

## 7. Maintenance



Before disconnecting the pulsation damper from the hydraulic circuit, you must ensure that there is no residual hydraulic pressure in the circuit!

After installation of SBV3, no maintenance is required to guarantee proper operation and an optimal lifetime of the product.

## 8. Scrapping and recycling the pulsation damper



Before scrapping or recycling the pulsation damper:

- Release all pressure from it.
- Decontaminate it if necessary.
- The damper must be neutralised by drilling or cutting through the shell before scrapping or recycling.

To recycle metal components, it is necessary to cut the shell and remove bladder with silicone before.

## 9. Symbols



Warning: general danger, be careful when the equipment is in use.



General information, manufacturer recommendations.



Welding, brazing, drilling or any other operation is prohibited.