6.9 Pneumatic valve control (PVA)

Compact cylinder

The compact cylinder requires no regular maintenance, but it should be protected against high temperatures (these can damage the sealing rings) and corrosion (made of aluminum). If the compact cylinder should not work correctly, however, it will need to be serviced. Damaged seals must be replaced immediately. A new set of seals can be ordered for this. Contact the HST spare parts service.

Manual pneumatic control

The pneumatic system with mechanical control on the outer casing needs no special maintenance. Parts only need to be replaced in case of malfunction. Contact the HST spare parts service for this.

Remote control

The homogenization pressure is adjusted remotely via a proportional controller that sets the desired pressure by a 4-20 mA signal. If the controller does not function correctly, you should first check whether the proportional valve is connected correctly. The cable functions are described in the following illustration. The components require no special maintenance. They only need to be replaced in case of malfunction.

6.9.1 Unfastening and connecting the quick-fit joints

When disconnected, the quick-fit joints block the flow of dampening oil in both directions.

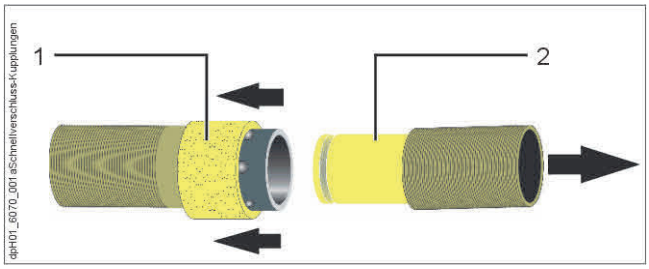

Fig. 36: Quick-fit joints

1	Upper sleeve	2	Coupling

a) Pull back the upper sleeve on the joint and unfasten the coupling.

6.9.2 Oil circuit of the PVA damping system

	**⚠ CAUTION**
	Risk of damage! Make sure that oil in the dampening oil tank does not mix with other media like water or other oil types.

	**NOTICE**
	Keep oil amount at 0.8 Liter / 0.21 US gal for each homogenizing stage! The pressure adjustment does not work, if too much oil is filled!

a) Check whether the dampening oil unit is filled to the center of the sight glass when the machine is in operation. If necessary, top up or take out with suitable oil fluid.

Filling with oil fluid:

a) Unlock and remove the side panel on the right side.

b) Switch off the pneumatic pressure at inlet

c) If required, close throttle check valve (V66.x) Please note the old adjustment, otherwise, the pressure adjustment does not work properly!

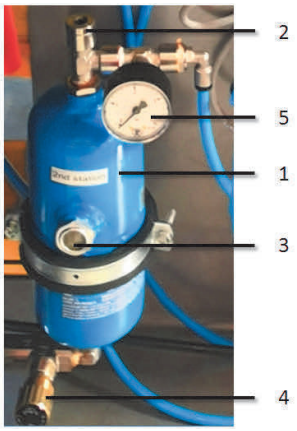

Fig. 37: Filling with pneumatic dampening fluid:

1	Tank (oil reservoir)	4	Throttle check valve (V66.x)
2	Filling stud	5	Pressure gauge
3	Inspection glass		

d) Fill the dampening tank up to the middle of the inspection glass as shown, max. 0.8 liter / 0.21 US gal

e) Switch on the pneumatic pressure at air inlet

f) Check, if there is no leakage

g) Close and lock the side panel

6.9.3 Dampening fluid specification

	⚠ CAUTION
	Risk of damage! Do not use oil intended for combustion engines!

Class	NSF, H1; PAO-Oil; CLPHC 32
Brand	**Model**
KIC KRONES	SFGO Ultra 32
Fuchs	RIVOLTA F.L. 50
Mobil	Mobil SHC 10 CIBUS 32
Setral	HYD-setral-SYN 32 FD
Shell	Cassida HF 32

Tab. 13: Type of dampening oil

Machine model	PVA single stage unit	PVA two stage unit
All models	0.8 liter / 0.21 US gal*	2x 0.8 liter / 0.21 US gal.*

Tab. 14: Lubrication capacity

* Details may vary depending upon type.

6.9.4 Oil circuit of the damping system

	⚠ CAUTION
	Danger due to pressure in the oil container The oil container is pressurized to 0.5 bar by the manual pressure regulator. The tank must be depressurized before topping up the oil.

Turn the regulator counter clockwise to the stop and latch it. The oil in the damping system does not normally have to be topped up. After filling, air bubbles may form in the oil circuit. These bubbles may have a negative effect on the damping. The air bubbles can be removed by actuating the manual pneumatic switch several times.

6.9.5 Throttle check valve (V66.x)

The speed of the piston rod of the compact cylinder can be controlled by the setting of the throttle check valve (V66.x) of the oil circuit. If the homogenization

pressure is built up too slowly or too quickly, this can be changed by adjusting the setting of the throttle check valve. The current value should be noted before altering the set value. This allows the original value to be restored if the change does not lead to the desired success.

6.10 Cylinder block

The cylinder block has to be cleaned at regular intervals to ensure that no product residue adheres to the surfaces. Before the cylinder block components are re-installed, they have to be inspected for signs of wear and damage.

⚠ WARNING

Depressurize the cylinder block and pipelines!

Make sure that the cylinder block and the corresponding pipe connections are not pressurized!

⚠ CAUTION

Risk of damage to the plungers!

Turn the crankshaft by hand after each installation in order to ensure that the plungers do not become blocked!

After removing metal parts, set them down individually on a soft surface!

⚠ CAUTION

Risk of damage to the packing rings and plungers!

Working for a long period of time with leaking plunger packings can cause damage to the packing rings and to the plungers!

NOTICE

Drawings of the valve block

The figures in this chapter show a poppet valve block. The design of the machine is also available with a ball valve block.

You will find the design of this machine in chapter cylinder block.