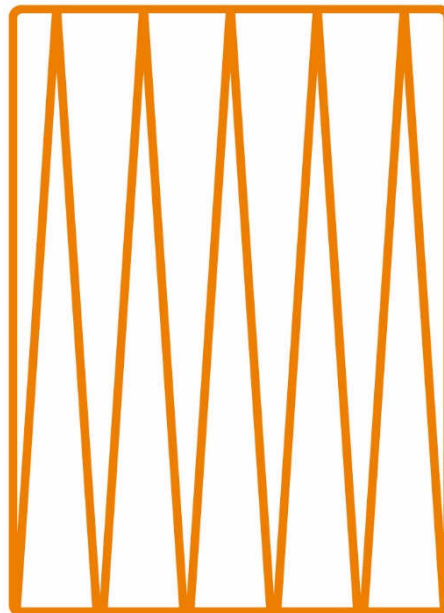


Softcool



Installation, operating and service instructions



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1. Preamble

1.1 *About this manual*

The purpose of this manual is to give customers and operators all required information on the installation, operation, and servicing of this appliance.

To ensure that the system is always ready for operation, the information and instructions in this manual must be observed.

2. General safety instructions

⇒ These operating instructions must be read before installation or commissioning by the qualified personnel.

⇒ Inspection or installation work may only be carried out on systems that are switched off (fuses and ON/OFF switch OFF).

⇒ Under no circumstances should the spray system be handled during operation. The system is switched on automatically.

⇒ When there is an interruption in the fresh water supply, it is important to ensure that the system is switched OFF at the ON/OFF switch.



3. Detergent

The detergent level is monitored by the control unit, and the detergent ("Waschmix" solution) should be topped up immediately when the service message is displayed. The "Waschmix" solution is tailored to the Softcool system. No warranty can be provided if alternative detergents are used.

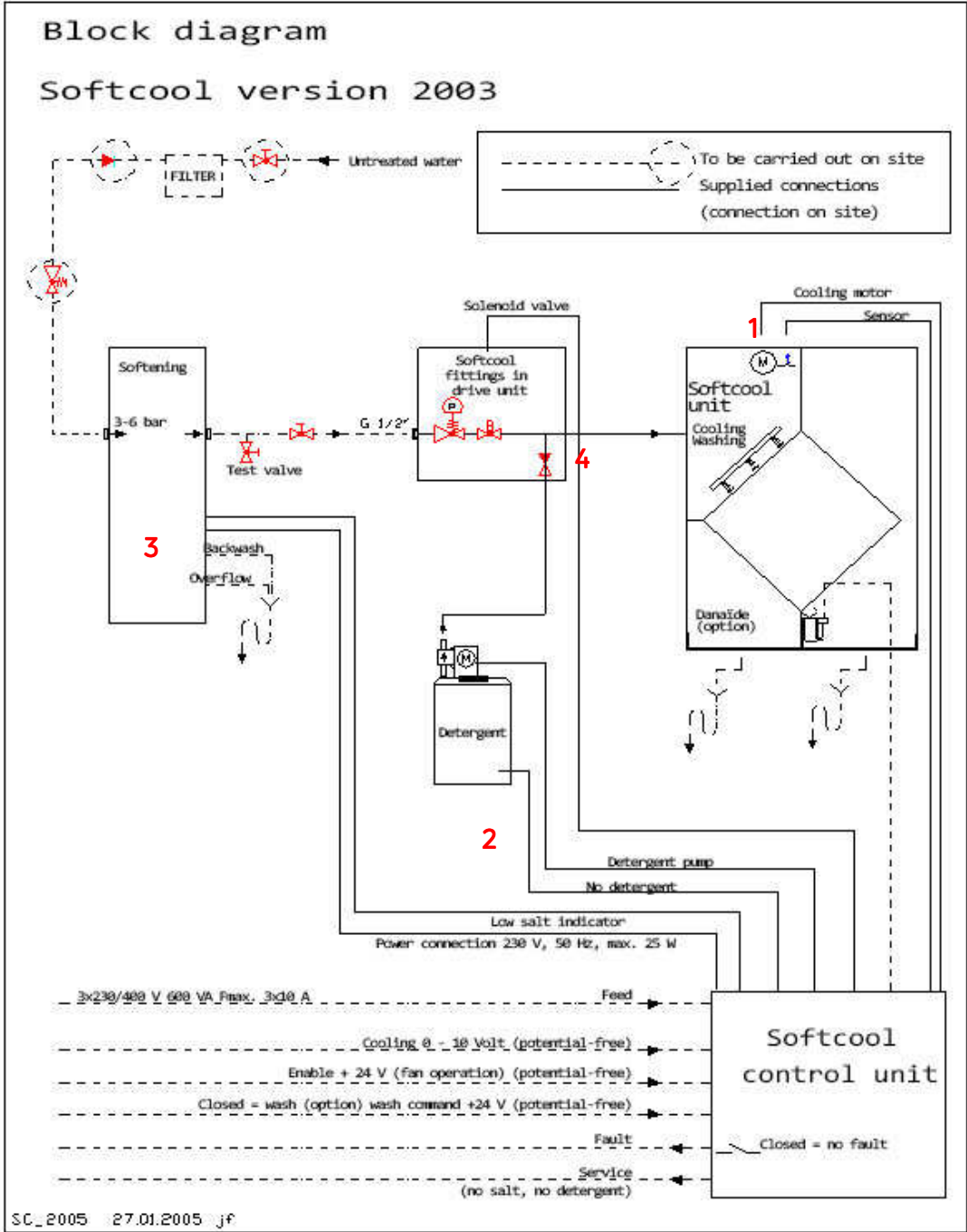
Ordering: Polybloc AG
Fröschenweidstrasse 12
CH 8404 Winterthur
Tel.: +41 52 235 01 90
Fax: +41 52 235 01 91

info@polybloc.ch

www.polybloc.ch



Bloc diagram



Key

- 1 = Wetting unit/nozzle system
- 2 = Detergent dosing station
- 3 = Water softener
- 4 = Water taps



4. Standard delivery

- Plate heat exchanger made of pure aluminium with an additional coating, specially sealed with silicone-free PU sealant (watertight). Aluminium bypass damper.
- Spray unit with blast tube connection for cooling and wash function incl. 3 m connecting cable.
- Polybloc controller for mounting on the appliance wall, for direct connection to 400 V three-phase power supply and to the Softcool® system, comprising:
 - Fully electronic control unit in a casing, dimensions H = 200 mm, B = 300 mm, D = 80 mm acc. to block diagram
 - With optimised control of cooling capacity, addition of detergent (no wash), with cooling rests > 20 hours.
- Fittings set: 1 pressure reducer; 1 solenoid valve; 1 tee with non-return valve.
- 35 litre detergent container with adjustable dosing pump, first fill: 10 litres of Softcool "Waschmix" solution.

Installation, operating, service instructions.



4.1 *On-site services*

- Positioning and installation of the supplied components
- Fitting the damper motor to bypass damper and wiring
- The drive unit must be installed if the Softcool plate heat exchangers are delivered in sections or in partial deliveries.

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4.1.1 *Untreated / treated water*

- Connection lines to the Softcool according to the block diagram (Inox or plastic)
- Non-return valve in accordance with local regulations
- Provide a water filter in the untreated water
- Make water connection for softening system (untreated water, treated water)
- Make water connection between Softcool unit, detergent tank, and softening system.
- Ensure there is softener salt for commissioning

4.1.2 *Waste water*

- Depending on the operating state (overpressure or underpressure), the waste water drain (min. 1 ½") must be siphoned from the casing pans accordingly.
- End-to-end stainless steel drip pan with rim height of at least 80 mm
- Ensure separate drains for water treatment (backwash/overflow). Drain into open funnel [tundish]

•

4.1.3 *Electrical connections*

- Main supply feed (3/N/PE 400/230 V 50 Hz 1 kVA)
- Make electrical connections for softening system.
- Installation of electrical connection between wetting unit and control unit (4 x 0.75 mm², 3 x 0.5 mm², 1 m cables pre-fitted at the motor and end switch)
- Signal feed for cooling/wash/fault, potential-free according to connection diagram



5. Engineering and installation information

5.1 Engineering information

- Water quality must be 0° (no increase in hardness)
- Plastic or stainless steel water pipes, **no copper pipes.**
- Water feed for Softcool must not be made with a pipe where there is a risk of stagnation.
The volume must be changed at least x1.5 in 72 hours.
- Provide a water filter in the untreated water
- Untreated water pressure at softener min. 3 bar, max. 6 bar
- *The wetting unit must be positioned at the extract air intake*
- Extract air routing from top to bottom through the plate heat exchanger
- Accessibility through service doors to the wetting unit must be guaranteed for checking and maintenance work (incl. slip-resistant air separator)
Accessibility to the exhaust air side of the exchanger is highly recommended.

Service apertures in the exchanger and Softcool® area are not possible
- End-to-end stainless steel drip pan
Capacity of the pan on the exhaust air side of at least one wash cycle

(we recommend a minimum rim height of 80 mm)
- Pan drain on the exhaust air side at least 1½"
- Size the trap according to the relevant underpressure/overpressure
- Ensure separate drains for softener (backwash/overflow). Drain into open funnel [tundish]

5.2 Installation information

- The heat exchanger is watertight. The Polybloc plate heat exchanger should therefore be carefully sealed to the casing, and particularly at the exhaust air/supply air joint, using PU sealant (e.g. SIKAFlex 521). (Never use silicone due to inadequate adhesion)
- Where there are connections, pay attention to the flow direction at the solenoid valve and pressure reducer (arrow on fitting)



6. Commissioning

6.1 Preparations

- Check all installations in accordance with points 5 and 6.
- In the wash unit, remove any transportation and securing aids.
- If necessary, cover the exchanger surface.
- Clean and lightly lubricate the blast tube connection shaft and guide rods. (Molykote)
- Check chain tension (**should not be tight, see point 7.5**).

6.2 Adding detergent

- Lift the float switch in the detergent tank slightly.
- Pour the detergent into the detergent tank.
- Open the vent when no detergent is being drawn. Remove the vent hose from the detergent tank, and apply gentle suction. As soon as the pump draws, push the vent hose back into the detergent tank through the hole provided.
- Close the vent screw and wait until the detergent hose is full of detergent up to the injection point. Check for leaks.
- Adjust dosing pumps according to installation and operating instructions.

6.3 Softening system (optional)

- Settings according to commissioning instructions from Messrs. Christ
- Initial settings by Polybloc personnel

6.4 Softcool control unit

- System settings by Polybloc personnel



6.5 Service intervals

Every month

- Check salt level in saline solution tank and top up.
A service message is triggered by the control unit if the salt level is low in accordance with Softcool documentation 8.2 Service 2.
- Coolant sample **Water hardness must be 0 degrees.**

Every three months

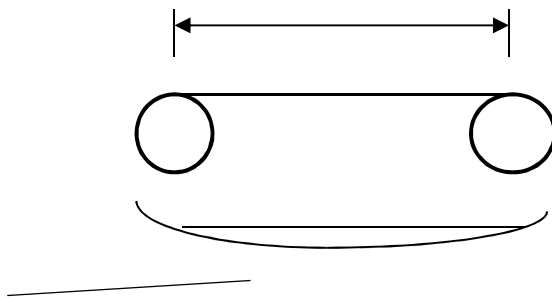
⇒ Check the nozzle spray pattern.

110 degree sections without breaks.

If required, the nozzles and the relevant filters must be cleaned or replaced.

- Check chain tension, and re-tension if required.

Definition: Shaft distance



Deflection: approx. 1-2 % of shaft distance

Example: Shaft distance is 1400 mm

$$(1400/100) \times 2 = 14 \text{ to } 28 \text{ mm deflection}$$

- Complete cleaning of sliding piece and shaft. Lubrication of the sliding piece and the shaft (Figure 4) with Molykote BR2.

Every six months

- Check spray system spiral hose and spiral hose fitting for signs of wear and for leaks. Leaking parts must be replaced immediately.



Annually

- Slides for moving the blast tube connection must be lubricated every year. Lubrication according to instructions on page 12.



6.6 Re-tensioning the chain

Subject to chain length the chain tension is maintained by the chain tensioner (Figure 2). Stainless steel chains stretch over the first hundred hours run, which may lead to a loss of chain tension.

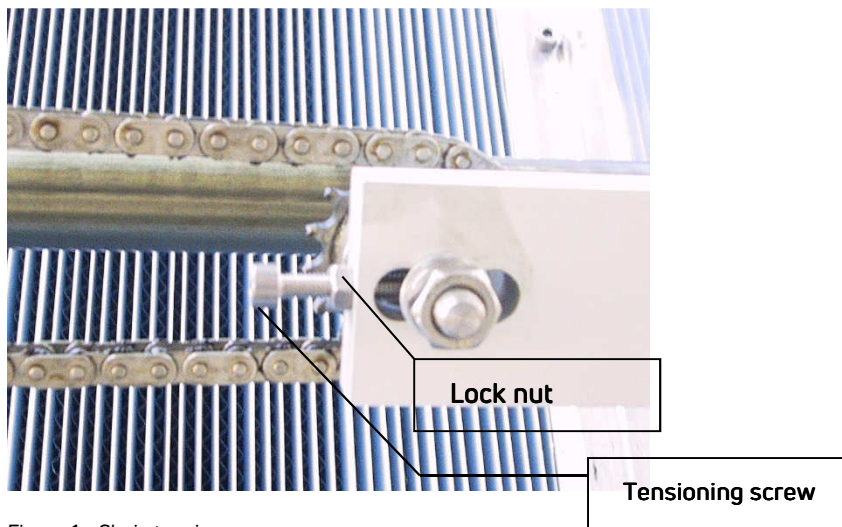


Figure 1 Chain tensioner

- Slightly slacken the tensioning nut.
- Undo lock nut $\frac{1}{2}$ a turn.
- Tighten tensioning screw accordingly.
- Repeat this process until the chain pushes back the tensioning ring to approx. 60 mm.

The chain should deflect a little.

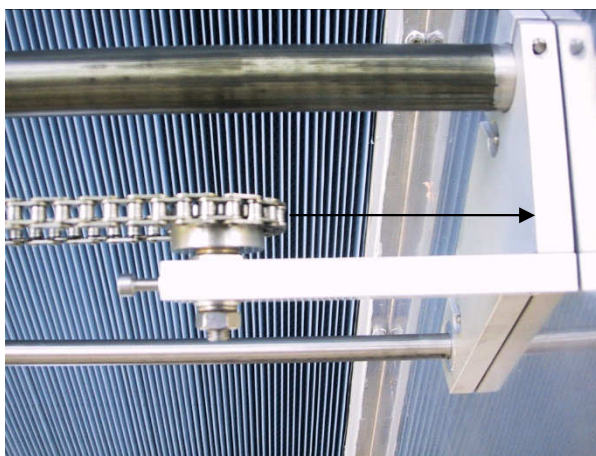


Figure 2 Chain tensioner



Please note: If the chain is re-tensioned several times, the track of the blast tube connection could be impaired at the reversal point by the Softcool side panel. If the blast tube connection touches the wall, the chain must be shortened by two links at the cam lock.

6.7 Annual lubrication of slides

There is a lubrication nipple on the slide for moving the blast tube connection.

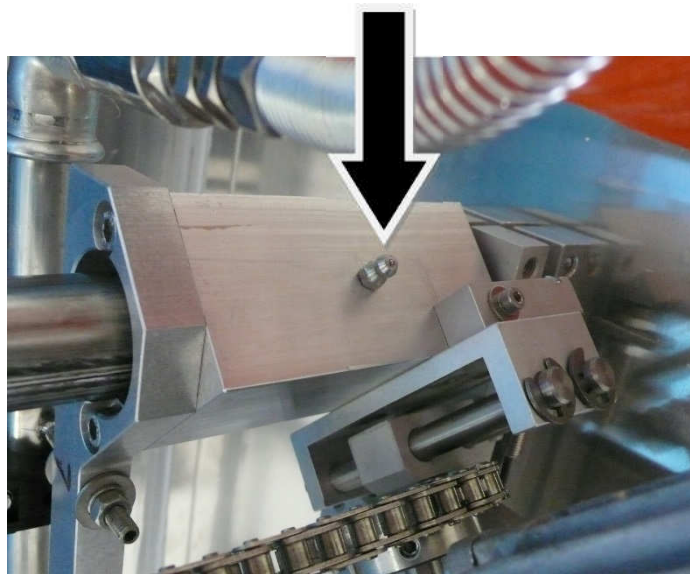


Figure 3 Lubrication nipple

Apply grease to the slides before the annual cooling season starts using approx. 5 pulls of the grease gun filled with GLS 367 (part of the standard delivery).

Please note:

- Use exclusively GLS 367 grease for lubrication. Using any other grease will void any warranty.
- Carefully remove any excess grease squeezed out of both sides of the slide using paper or a soft cloth. No grease must come into contact with the exchanger surface.



7. Technical description of Softcool

7.1 Parts on the drive unit

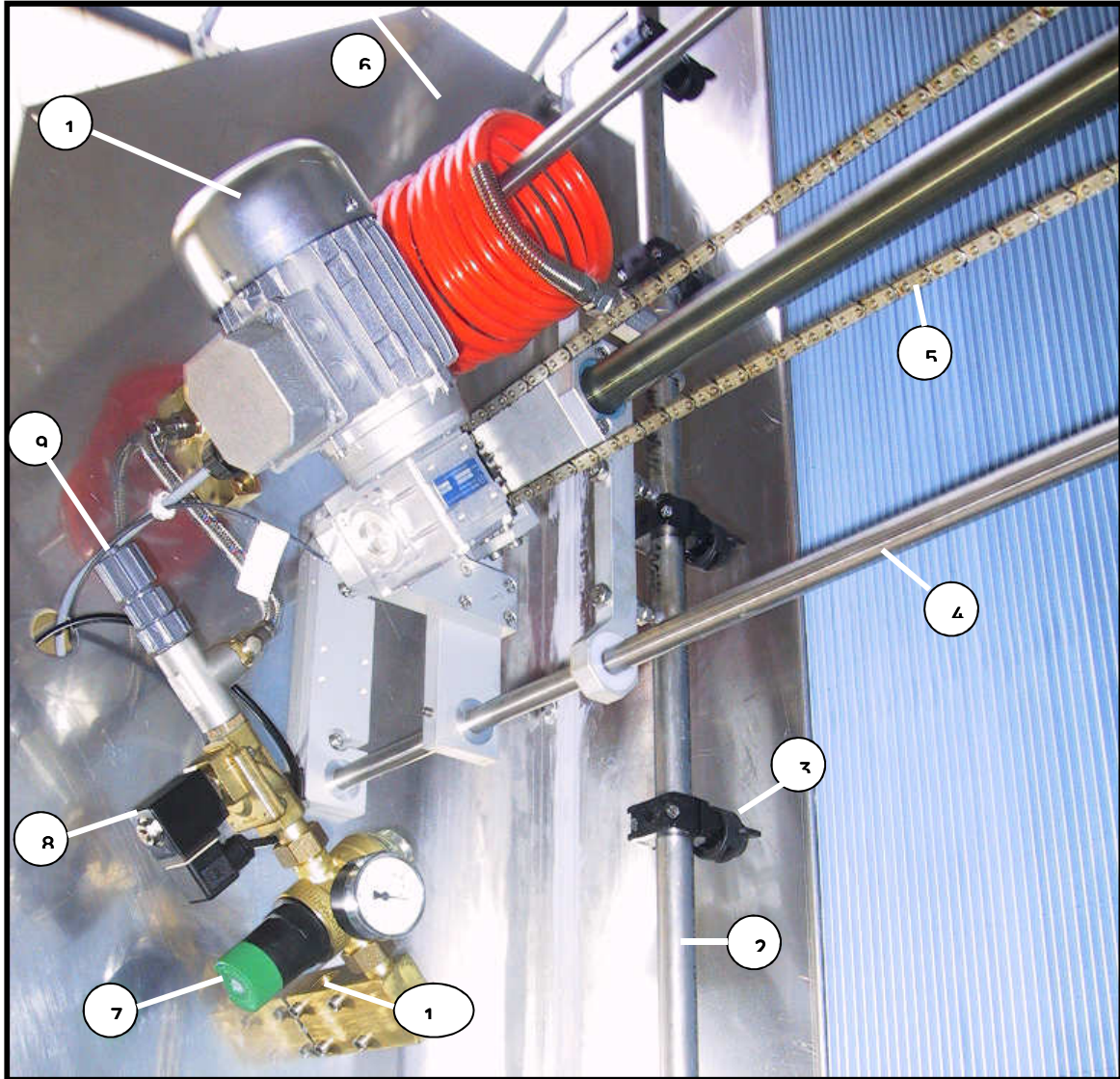


Figure 4 Softcool drive unit

- | | |
|--------------------------|--|
| 1: Motor | 6: Spiral hose |
| 2: Blast tube connection | 7: Pressure reducer |
| 3: Spray nozzle | 8: Solenoid valve |
| 4: Slide shaft | 9: Connection, detergent internal/external |
| 5: Chain | 10: Water connection, |



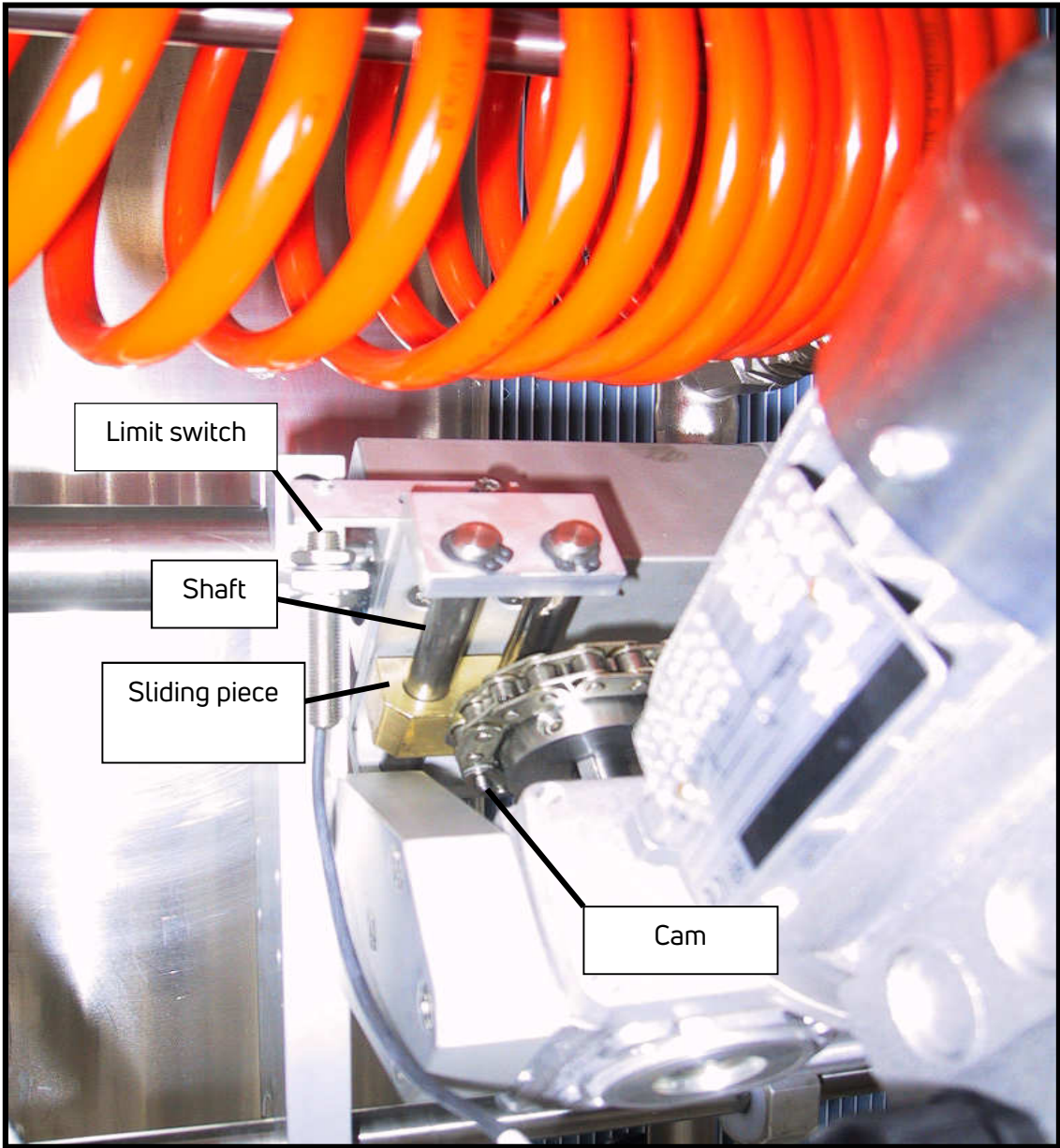
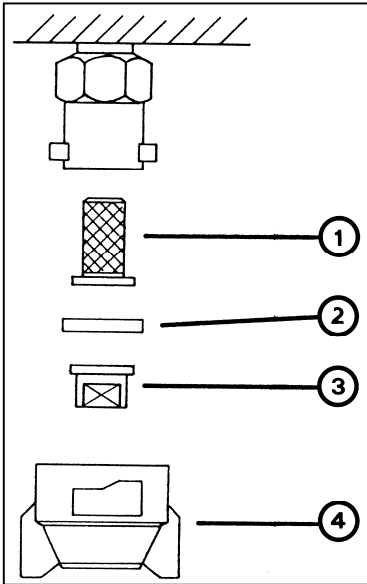


Figure 5 Limit switch/cam/sliding piece



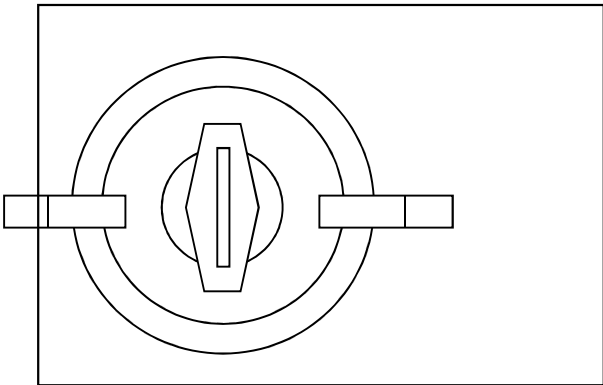
7.2 Nozzle configuration/disassembly

Figure 6 Nozzle parts



- 1: Filter
- 2: Gasket
- 3: Nozzle orifice
- 4: Cap

Figure 8 Nozzle orifice



The nozzle orifice must be fitted across the fins on the wings of the cap, i.e. parallel to the HE louvres.

Figure 7 Blast tube connection

