

# Safety Valve

## Operating Instructions



### 1 General

The KAMAT safety valve is a product of the highest technical quality. As manufacturer of the safety valve, KAMAT guarantees that all parts are in good condition and the functionality of the product. If this documentation is complied with, we provide a warranty in accordance with our general supply and payment terms.

Our worldwide sales and support service is available to provide technical information and training. In case of damage, please contact one of our sales and service points or KAMAT directly, using the completed defects/failure report.

Find out more about our sales partners under  
[http://www.Kamat.de/Weltweit/0\\_313.html](http://www.Kamat.de/Weltweit/0_313.html)

### 2 Application

The safety valve protects a KAMAT pump from overloading. The safety valve must not be used for any other purpose. We wish to expressly point out that this valve is purely a safety valve that cannot take over the function of working valves.

KAMAT safety valves are available for different pressure ranges: from max. 50 to max. 4000 bar. The maximum permissible operating pressure is indicated on the safety valve. The safety valve must not be subjected to higher pressures than the specified operating pressure.

### 3 Description of function

The KAMAT safety valve is designed as a full-lift spring loaded safety valve, which safeguards the high-pressure pump against overloading. All safety valves are designed to operate at a certain working pressure and a maximum flow rate.

When the set limit is attained, the valve opens. Fluid will flow out through the valve. The pressure is visibly and tangibly reduced significantly. The working process being performed cannot be continued. The safety valve will close again only after the pump has been turned off completely.

### 4 Safety

The rules of technology and valid standards and guidelines have been applied in the development and construction of the safety valve. The safety valve is designed such that hazards are largely excluded if it is used properly. Nevertheless, there is a risk of property damage and personal injury due to the high pressures from the escaping water jet.



#### WARNING

##### **Danger to life from the escaping high-pressure jet!**

- Do not remove the lead seal.
- Do not change the default factory settings.
- Only use the safety valve within the specified range of pressure, volume flow and temperature values. Check these values each time before starting work and set them, if necessary.
- Do not continue using damaged or leaking safety valves. These have to be replaced completely.
- Repairs may only be carried out by the manufacturer or his authorised representative.
- When the safety valve opens, fluid flows out of the valve at high speed. To safely run off the fluid, screw on a hose or a pipe at the outlet of the safety valve. Attach the discharge hose so that it will remain at the designated position in case fluid suddenly escapes.

## 5 Storage and transport

The safety valve weighs 3 to 3.2 kg, according to the pressure range.

- Close the connections of the safety valve with a plug during transport and secure the safety valve against impact.
- Conserve the safety valve before longer periods of storage (e.g. with oil).
- If the safety valve is to be stored for longer than a year, all sealing parts have to be replaced before it can be reused. Readjustment and attachment of a lead seal by KAMAT is then necessary.

## 6 Installation



### WARNING

**Manual interventions with the pump running can lead to serious injury. Before you perform any work on the high-pressure system:**

- Turn off the pressure generator
- Safeguard the pressure generator against accidental activation/switching on
- Turn off the water supply
- Make sure that sections which can be opened are not under pressure

- Fasten the safety valve by screwing it on to the high-pressure pump. Connector dimensions see data sheet P 65-4.
- Tighten the screw until a significant increase in resistance becomes noticeable. Then further tighten for approx. another ¼ turn.
- Assemble the safety valve so that it is as close as possible to the high-pressure pump being safeguarded. There must be no shut-off devices between the safety valve and pressure generator.
- Install the safety valve so that liquids can escape safely. For the safe escape of fluids, use the reverse and/or the side connections.

Reverse connection: IG M22x1.5

Side port: IG G1"

- Affix the drainage line so that it remains in the designated position in case fluid should suddenly escape.
- The diameter of the drainage line must be large enough to allow a pressure-free discharge of the fluid (max. 5 m/s).

## 7 Operation



### ATTENTION

Safety valves are not designed for frequent opening and closing. Frequent activation of the safety valve will lead to premature wear.

In normal operation, the safety valve remains closed. The safety valve opens if the set pressure of the safety valve is reached. The fluid flows at a high speed out through the valve. The operating pressure is then considerably lowered so that it is usually no longer possible to carry out the intended working process.

Activation of the safety valve is a clear indication that something is not functioning correctly in the system. If the safety valve is triggered off, the cause must be found and eliminated immediately. For this reason, the KAMAT safety valve only closes again if the system is turned off. If this is not done, the safety valve will leak and quickly wear out.

After activation of the safety valve:

- Bring the pump to a complete standstill.
- Turn off the boost-pressure which may possibly still be present.
- Look for and remove the cause that the safety valve was triggered off.

## 8 Maintenance

The safety valve is maintenance free. Wear only arises if the valve is opened. If the valve does not open, the service life of the valve corresponds to the service life of the pump. However, with time the springs will become fatigued and the valve will become activated. This time varies considerably, depending on the way the pump is operated.

- Have the proper function of the safety valve checked at least once per year by KAMAT or an authorised representative and renew the inspection sticker.
- Replace leaking or damaged safety valves immediately.

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