



**Operating Instructions
for
Butterfly Isolating Valves
with Pneumatic Actuator**

Model: KLP



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2. Note

Please read these operating instructions before unpacking and putting the unit into operation. Follow the instructions precisely as described herein.

The instruction manuals on our website www.kobold.com are always for currently manufactured version of our products. Due to technical changes, the instruction manuals available online may not always correspond to the product version you have purchased. If you need an instruction manual that corresponds to the purchased product version, you can request it from us free of charge by email (info.de@kobold.com) in PDF format, specifying the relevant invoice number and serial number. If you wish, the operating instructions can also be sent to you by post in paper form against an applicable postage fee.

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

The devices are only to be used, maintained and serviced by persons familiar with these operating instructions and in accordance with local regulations applying to Health & Safety and prevention of accidents.

When used in machines, the measuring unit should be used only when the machines fulfil the EC-machine guidelines.

as per PED 2014/68/EU

In acc. with Article 4 Paragraph (3), "Sound Engineering Practice", of the PED 2014/68/EU no CE mark.

3. Instrument Inspection

Instruments are inspected before shipping and sent out in perfect condition.

Should damage to a device be visible, we recommend a thorough inspection of the delivery packaging. In case of damage, please inform your parcel service / forwarding agent immediately, since they are responsible for damages during transit.

Scope of delivery:

The standard delivery includes:

- Butterfly Valve with Pneumatic Actuator, model: KLP

4. Regulation Use

Any use of the Butterfly Valves with Pneumatic Actuator, model: KLP, which exceeds the manufacturer's specifications, may invalidate its warranty. Therefore, any resulting damage is not the responsibility of the manufacturer. The user assumes all risk for such usage.

Ball valves will be used to cut off medium flow.

It should only be used for clean liquids and gases, on which the material of the ball valve is resistant. Pollution or exceeding the nominal pressure range and/or the nominal temperature range may lead into damages on the armature especially on the seals.

5. Safety Regulation

Depending on the technical circumstances under which the armatures and valves are mounted, adjusted and commissioned, you possibly must take into account particular safety aspects in each case!

If, for example, a pneumatic actuator works a slide in an operational chemical plant, the potential hazards of commissioning have another dimension from that when this is only being carried out for test purposes in a "dry" part of the plant in the assembly room!

Since we do not know the circumstances at the time of the mounting/adjustment/commissioning, you may find advice on hazards in the following descriptions which are not relevant to you.

Please observe (only) the advice which applies to your situation!

5.1 Personal Advice

5.1.1 Safety Advice for Mounting



We wish to point out expressly that the mounting, adjusting and, with accessories, the pneumatic and electrical installation of the armatures and valves must be carried out by trained specialist personnel having mechanical, pneumatical and electrical knowledge!

- Secure that the machine / plant complies with to the Machinery Directive after the mounting and installing of the armatures and valves.
- Switch off all the devices / machines / plant affected by mounting or repair.
If appropriate, isolate the devices / machines / plant from the mains.
- Check (for example in chemical plants) whether the switching off of the devices / machines / plant will cause potential danger.
- If appropriate, in the event of a fault in the armature / valve (in a plant which is in operation) inform the shift foreman / safety engineer or the works manager without delay about the fault, in order, for example, to avoid an outflow / overflow of chemicals or the discharge of gases in good time by means of suitable measures!
- Before mounting or repairing, remove the pressure from pneumatic / hydraulic devices /machines / plant.
- If necessary, set up warning signs in order to prevent the inadvertent starting up of the devices /machines / plant.
- Observe the respective relevant professional safety and accident prevention regulations when carrying out the mounting / repair work.
- Check the correct functioning of the safety equipment (for example the emergency push off buttons/ safety valves, etc)!

5.1.2 Safety Advice for Adjustment / Starting



As a result of the starting (pneumatic, electric or by hand) of the armatures and valves the flow of gases, steam, liquids, etc. may be enabled or interrupted! Satisfy yourself that, as a result of the starting or the test adjustment that no potential hazards will be produced for the personnel or the environment!

- If necessary, set up warning signs in order to prevent the inadvertent starting up or shutting down of the device / machine / plant.!
- After completing the adjustment check the correct function and should the occasion arise the position of the slide / valve / flap.
- Check the function of the limit switches (option)!
- Check, whether the slide / valve / flap will be closed totally, if the control signals the appropriate limit stop!
- Through suitable measures, prevent actuating links from being trapped by moving actuating elements!
- Check for correct functioning of all safety devices (for example emergency push off buttons / safety valves)!
- Carry out the starting and the adjustments only in accordance with the instructions described in this documentation!



Adjustments of switched on (ready to operate) armatures and valves with options (e.g. actuators, drives, limit switches) presents the risk that live parts (230 V AC~) can be touched! Therefore, the adjustments must be carried out only by an electrician or a person having adequate training, who is aware of the potential hazard!

5.1.3 Safety Advice for Maintaining / Repairing

Do not carry out any maintenance / repairs if the armature / valve will be under pressure.

Before disassembling of an armature or valve some essential points should be clarified:

- Will the armature/valve to be disassembled be replaced by another immediately?
- If appropriate, does the production process of the plant needed to be stopped?
- Is it necessary to inform specific personnel about the disassembly?

If necessary, inform the shift foreman/ safety engineer or the manager about the maintenance or repair without delay in order, for example, to avoid an outflow/ overflow of chemicals or a discharge of gases in good time by means of suitable measures!

Observe that some valves / armatures are able to contain the pressured medium e.g. the ball in the ball valve. You have to relieve the pressure in the pipes in which the armature/valve is mounted.

Switch off pilot pressure and the power supply and relieve the pressure in the pipes. If necessary, set up warning signs in order to prevent

- the inadvertent starting up of the devices/machines/plants in which the armature/valve is mounted
- the switching on of pilot medium supply, pilot power supply and/or the power supply of actuators and accessories.

In case of defect in the armature/valve contact the supplier.

If you ascertain a damage of the armature/valve, isolate the device from the mains. Please observe the safety advices.

Do not mount, start or adjust the armature/valve if it would cause damage to itself, the pipes or a mounted actuator.

After completing the maintenance or repair, check for correct functioning of the armature/valve and the tightness of the pipe connections.

Also check the functioning of the accessories e.g. actuators, limit switches, etc.

5.2 Device Safety

The armatures/valves

- are quality products which are produced in accordance to the recognised industrial regulations.
- left the manufacturer's work in a perfect safety condition.

In order to maintain this condition, as installer / user you must carry out your task in accordance with the description in these instructions, technically correctly and with the greatest possible precision.

We assume, as a trained specialist you are having mechanical and electrical knowledge! Satisfy yourself that the armatures/valves will only be used within their admissible limiting value (see the technical data).

The armatures/valves must be used only for purposes corresponding to their design! The armatures/valves must be used within the values specified in the technical data! The operating of the armature/valve outside the nominal temperature range could destroy the sealings and the bearings. The operating of the armatures/valves outside the nominal pressure range could destroy the inner parts and the body.



Never remove a cap or any other component part if the armature/valve is under pressure.

Do not mount, put into operation or adjust the armature/valve if pipes or a mounted actuator are damaged.

After finishing the assembling and adjustments check for proper functioning of the armature/valve and the tightness of the pipe connections.
Also check the functioning of the accessories e.g. actuators, limit switches, etc.

6. Pneumatical Installation



The installation of the air supply has to be carried out with great care. Especially the threaded connection, fittings and sealings have to be clean and free of contaminates. Contamination, which remains inside the actuator, will cause advanced wear or damage to the sealings and treads.

The pneumatic actuator ED/EE is available in two operation variants:

- function double-acting, or
- function single-acting with spring return

Use only adequate hoses and hose connectors for your application.

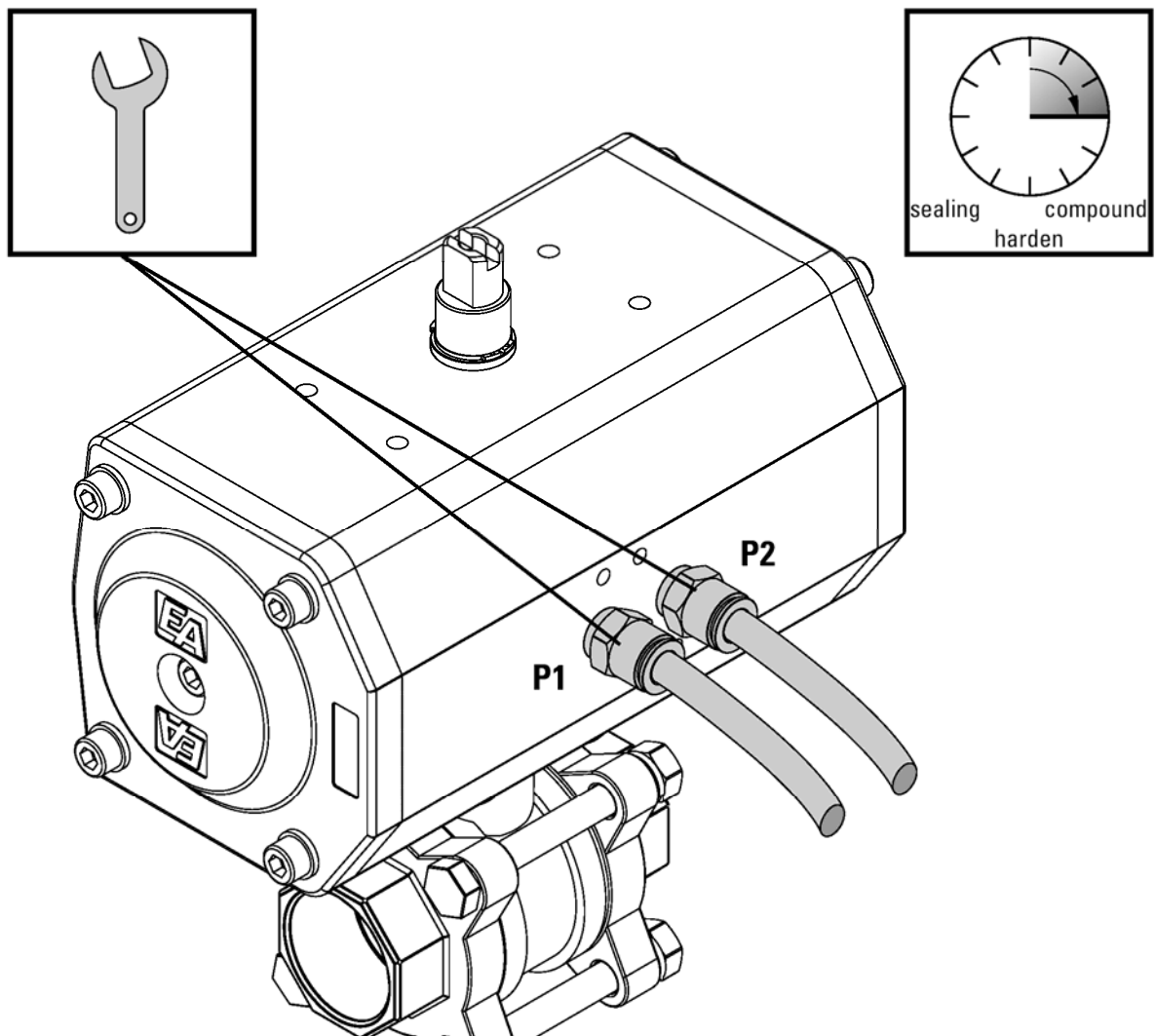


While passing the hoses please ensure, that they will not be creased, squeezed or sheared or that the hose will not be laid over sharp edges. Also take care that there will be no pressure or traction on the hose.

Pass the hoses to its Basic position, if so possible, within conduits or cable ducts. As an alternative to the shown variant the control of the actuator could be carried out by a directly mounted pilot valve.

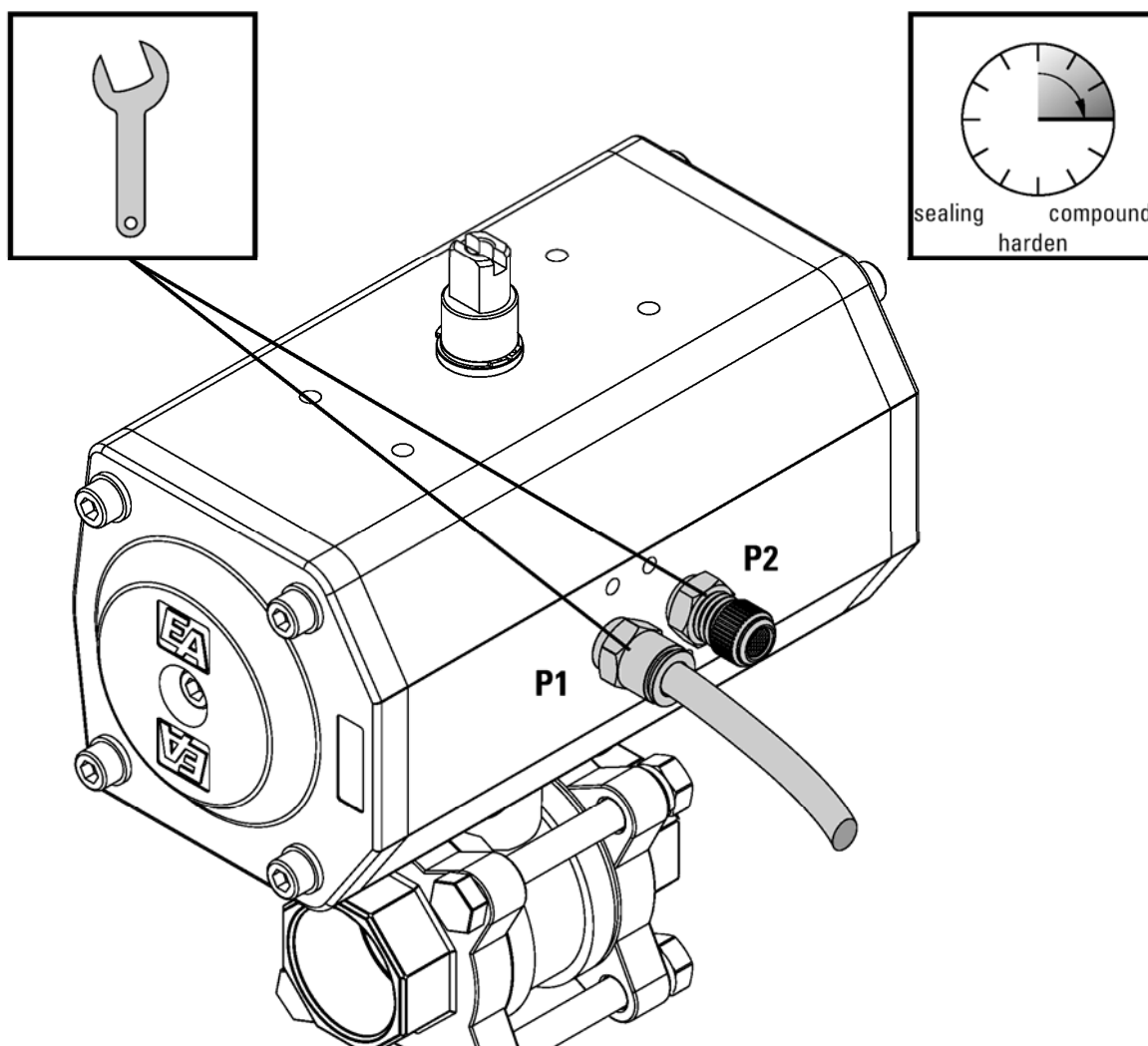
6.1 Function “Double-Acting”

- Remove the protection caps from the ports “P1” and “P2”.
- Screw suitable pneumatic fittings (e.g. Art. C12xx or R12xx) into the ports “P1” and “P2” and tighten the fittings.
- Insert a hose into the fitting at port “P1” which will supply the actuator with compressed air during the opening operation.
- Insert a hose into the fitting at port “P2” which will supply the actuator with compressed air during the closing operation.
- Tighten the hoses in the fittings at port “P1” and “P2”.
- Check the tightness of all connections.



6.2 Function “Single-Acting”

- Remove the protection caps from the ports “P1” and “P2”.
- Screw a suitable pneumatic fitting (e.g. Art. C12xx or R12xx) into the port “P1” by using a fit sealing compound and tighten the fitting.
- Insert a hose into the fitting at port “P1” which will supply the actuator with compressed air during the opening operation.
- Screw a throttle valve with silencer (e.g. Art. AX1000xx) into the port “P2” by using a sealing compound and tighten the throttle valve.
- Tighten the hose in the fitting at port “P1”.
- Check the tightness of all connections.
- This completes the mounting and the pneumatical installation of the actuator.



7. Pneumatical Disassembly

- Turn the actuator with the slide/valve/flap into its fix position!
- Switch off the compressed air supply and the control of the actuator!

If necessary, set up warning signs in order to prevent

- **the inadvertent starting up of the devices / machines / plants, or**
- **the switching on of the power supply the controlling of the actuator.**

- Release the fittings and pull away the pipes.
- Close the open air control pipes if they are not also being disassembled or not immediately reconnected to another pneumatic actuator.

8. Operating

The butterfly valve will be opened or closed by using the actuator.



Do not clasp – under any circumstances – onto the actuating element or insert any parts into the actuating element. Heavy injuries or damages will be the consequence. If necessary, install a protection device.

9. Adjustments/Starting

9.1 Adjustments

The pneumatic actuator ED/EE will be precisely adjusted by the manufacturer after mounting on a slide/valve/flap. Perhaps readjustment of the actuator may be necessary after disassembling and mounting on a new slide/valve/flap.

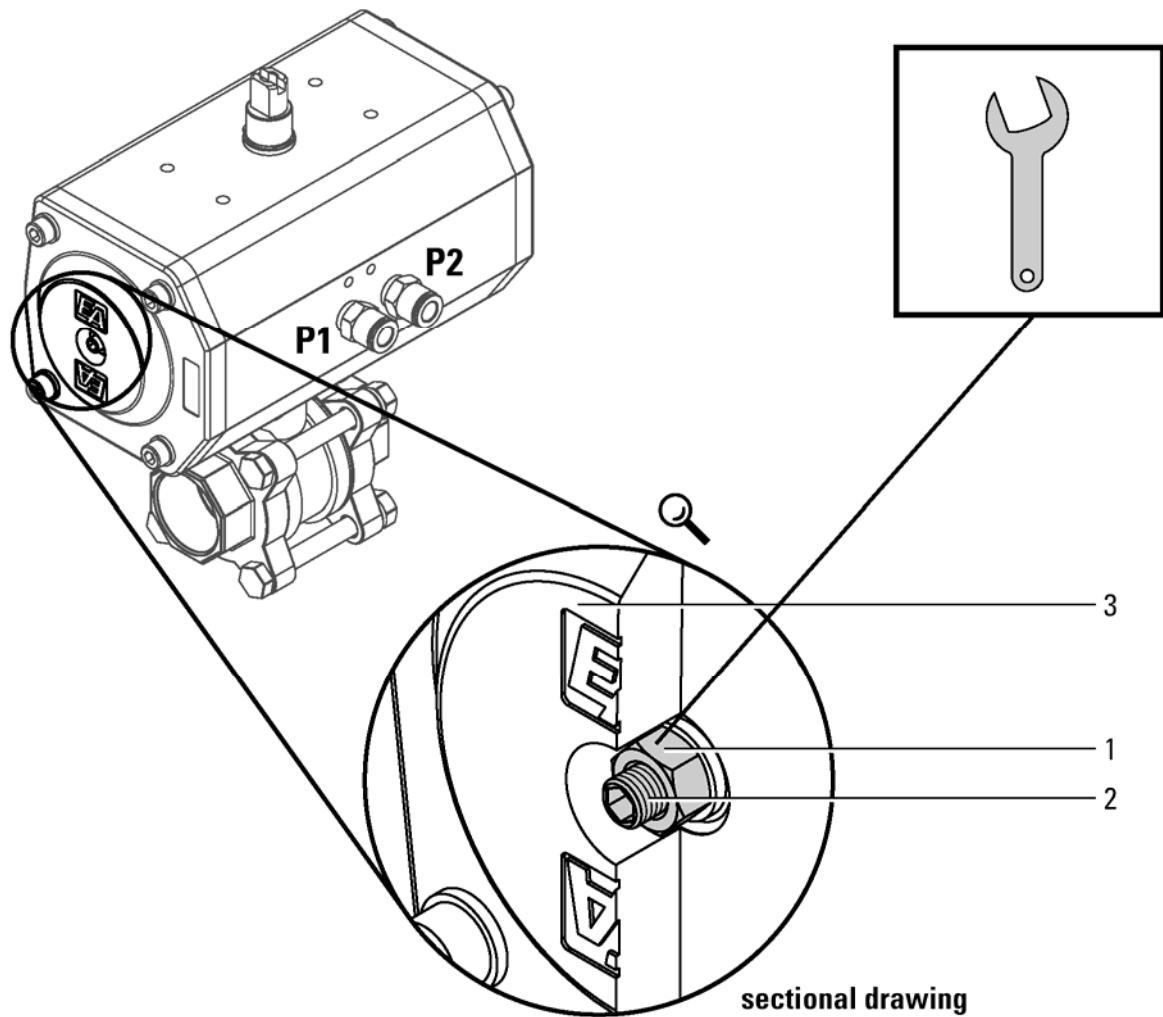
Before you undertake adjustments on actuators which are installed in an operational plant, find out whether feeding control leads with pressure (e. g. by "OPEN" or "CLOSE" operation) will have influence on other actuators or whether the closing/opening of limit switches (options) will affect functioning of other devices.

Where appropriate, disconnect these pipes from the actuator to be adjusted!



Never clasp onto the actuation element and never insert anything into the slide/valve/flap. Heavy injuries or damages will be the consequence. Never adjust the adjusting screws against the efficacy of the pressure.

- Move the pistons of the actuator together by feeding the port "P2" with compressed air (only function double-acting), or exhausted port "P1" (only function single-acting).
- Loosen the counter nuts (1) in both covers.
- Turn one of the adjustment screws (2) into the cap (3), until the screw aligns with the cap or the screw will be deeper by about max. 2 mm.
- Separate the pistons by feeding the port P1 with compressed air.
- Turn out the adjustment screw (2), until the rotation angel of 90° or the desired rotation angle will be reached.
- Tighten the adjustment screw of the second cover against the piston, until you will feel the increase of the necessary torque moment.
- Fix the adjustment screws by tightening the nuts (1). Ensure that the adjustment screw will not turn.
- Check the adjustment and if necessary, correct it.
- At this point the adjustment of the pneumatic actuator is completed.



9.2 Starting

Before starting the pneumatic actuator EE/ED, you have to read the safety advice. If you have not read the safety advice until now read these important precautions now and turn back to this page.

The starting of a pneumatic actuator which is mounted in a plant (e.g. in a refinery or in a chemical plant) should only happen in accordance with:

- the particularly specified instructions of the whole plant!
 - the adjustments described in section 9.1 Adjustments !
-
- Switch on the power supply of the control unit.
 - Switch on the compressed air supply.
 - Actuate the pneumatic actuator via “control by hand” and check the correct functioning of the actuator and the mounted slide/valve/flap.
 - Check all pipe connections for tightness.
 - Check all the control lines for tightness.
 - Check the functioning of the accessory units.

10. Maintenance

Under normal operating conditions the pneumatic actuator EE/ED is maintenance free.

Regularly check the tightness of the pneumatic actuator. In case of a defect in the pneumatic actuator contact the supplier.

- are the cover seals tight?
- are the shaft seals on the top and on the bottom of the actuator tight?
- are the hose fittings tight?
- is the body or the cover cracked?
- is the seal of the limit stop adjusting screw tight or did the counter nut become loose?



If you determine that there is damage to the actuator, disconnect it from the power supply. However, before doing this, it is essential to refer to the safety advice.

- Depending on the environmental and operating conditions the replacement of the sealings and guide rings may be necessary from approx. 500.000 up to 1.000.000 switching operations.
- Appropriate spare part kits are available.

11. Technical Information

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

12. Order Codes

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

13. Dimension

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

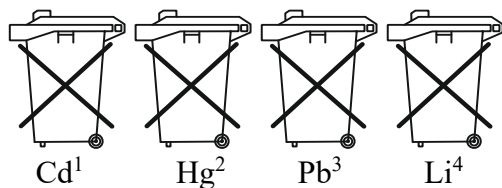
14. Disposal

Note!

- Avoid environmental damage caused by media-contaminated parts
- Dispose of the device and packaging in an environmentally friendly manner
- Comply with applicable national and international disposal regulations and environmental regulations.

Batteries

Batteries containing pollutants are marked with a sign consisting of a crossed-out garbage can and the chemical symbol (Cd, Hg, Li or Pb) of the heavy metal that is decisive for the classification as containing pollutants:



1. „Cd" stands for cadmium
2. „Hg" stands for mercury
3. „Pb" stands for lead
4. „Li" stands for lithium

Electrical and electronic equipment



15. EC Declaration of Conformance

We, KOBOLD Messring GmbH, Hofheim-Ts, Germany, declare under our sole responsibility that the product:

Butterfly Isolating Valves with Pneumatic Actuator Model: KLP-...

to which this declaration relates is in conformity with the standards noted below:

DIN EN 12516:2005

Industrial valves - Shell design strength

Also, the following EC guidelines are fulfilled:

2014/68/EU

PED

2011/65/EU

RoHS (category 9)

2015/863/EU

Delegated Directive (RoHS III)

Additional for devices with solenoid valve:

2014/35/EU

Low Voltage Directive

2014/30/EU

EMC Directive

DIN EN ISO 12100:2011

Safety of machinery - General principles for design - Risk assessment and risk reduction

DIN EN 60204-1:2014

Safety of machinery - Electrical equipment of machines - Part 1: General requirements

Additional for devices with limit switch:

2014/35/EU

Low Voltage Directive

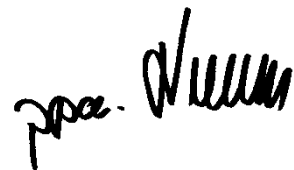
DIN EN 61058-1:2008

Switches for appliances - Part 1: General requirements



Hofheim, 24 Oct. 2019

H. Peters
General Manager



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