## Maintenance and reparation

- Maintenance of the armature is not necessary
- Carry out maintenance, reparation and dismounting of accessories according to the operation manual from the manufacturer of the assessories
- Reparation and disassembly of the ball valve may only be carried out by the manufacturer

## Dismounting from plant

- Discharge pressure of the plant and lower media temperature down to room temperature
- Turn ball valve into an open position
- Dismounting from plant only by professionals

## Kv values

| $K_V$ values of the individual nominal sizes of | | | |
|---|---|---|---|
| DN | $K_V$ [m³/h] | DN | $K_V$ [m³/h] |
| 15 | 36,7 | 65 | 512 |
| 20 | 65,3 | 80 | 1045 |
| 25 | 102 | 100 | 1633 |
| 32 | 167 | 125 | 2552 |
| 40 | 261 | 150 | 3674 |
| 50 | 408 | 200/250 | 6532 |


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# Operation manual and assembly instruction for ball valve

Type

# KH-F

## Correct and proper use

Ball valve for manual shutting off gas in accordance with DVGW code of practice G260, DIN EN 437, air and water, light and heavy fuel oil.
The ball valves are suitable without special measures only for the installation within buildings.
Please take the technical informations from the declaration of conformity and the type sign

## Operation, handling

Open and close the valve in each case by 90° switching path until it stops

close

open

## Safety instructions

| Source of danger | Consequences | Preventive measure |
|---|---|---|
| Demands because of overpressure and temperature | Internal and external leakage, break-up of the ballvalve | Keep attention on maximum allowed operating pressure and temperature |
| Increase of pressure because o thermal expansion | Internal and external leakage, break-up of the ballvalve | Safety devices are necessary in order to avoid pressure exceeding |
| Demands and requirements by aggressive medium | Internal and external leakage, break-up of the ballvalve | Note the resistance tables |
| Demands and requirements by corrosion | Internal and external leakage, break-up of the ballvalve | If corrosion is to be expected, inspect the wall thickness of the endangered parts regularly |
| Demands and requiremends by erosion | Internal and external leakage, break-up of the ballvalve | Lower flow velocity; If erosion is to be expected, inspect the wall thickness of the endangered parts regularly |
| Influences from the environment of the plant | External leakage; break of the fittings | Decrease reaction forces of pipelines, fixings, filling weights, wind, earth quakes, etc. protect from being hit while mounted overground or covered with earth |
| Demands in case of fire | Internal and external leakage, break-up of the ballvalve | Protect endangered parts, e. g. by safe distance or by fire protection insulation |
| When ballvalve is used as an outlet valve | If not proper used, risk of injury by leakage of media | Install safety devices against uncontrolled opening; keep safe distance; operation only by authorized professionals |
| While working in pipe systems with automatic ballvalves, risk of uncontrolled operation | Media flow may accidentally be freed or shut off | Turn off controlling energy of theactuators and mind the operation manual of the attachment parts |



**Work on gas installations must be performed by authorised specialists with appropriate qualifications only.**

## Installation

- Remove the sealing caps from the connections
- Ball valve must be mount in open state only
- Ball valve must be fitted stress-free
- Only use suitable tools for fitting, e.g. a torque spanner
- Only use suitable screws and suitable and approved seals and sealing materials for all connections
- If an arrow is shown on the ball valve it must be installed in this flow direction
- Installation of possible attachment parts only by professionals according to the operation manuals, declarations of conformity and safety instructions of the manufacturers of those parts (actuators, limit switches, etc.)
- Tighten screws for flange connections gradually, evenly and crosswise

## Start-up

- Ball valve and connections must be absolutely thick and may show no shortages or damages. Under this condition only, and only if is unambiguously garanteed that no danger of people or things exists the ball valve may be put into operation
- Start-up of possible attachment parts only by professionals according to the operation manuals, declarations of conformity and safety instructions of the manufacturers of those parts (actuators, limit switches, etc.)
- Operation of the armature only in fully opened or closed position
- Pressure loss in fully open state like conduit