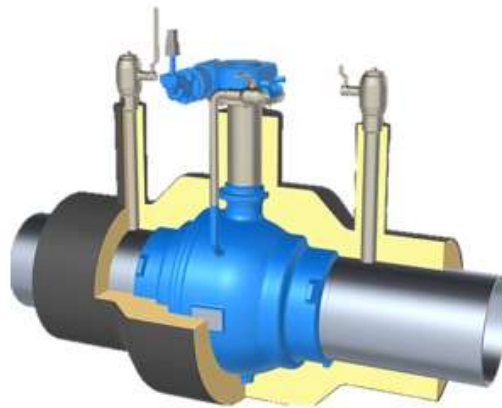


# SPECIFICATION OF KLINGER UNDERGROUND SOLUTIONS

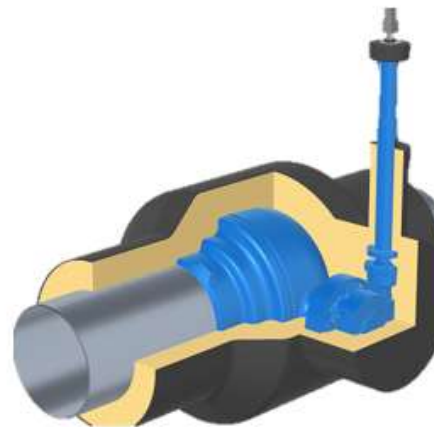
The climate targets set by many countries around the world are making district heating systems and their expansion increasingly important. Klinger offers a wide range of ball valve systems for underground installation in the district energy sector. The highest attention is paid to quality, durability and cost reduction to create customer benefits. The ball valve solutions below are intended to give you an overview of the valve systems available for underground installation.



### Version 1:

Ball Valve KHSVI WWS DN150 – 800

- Mech. gear /angle gear top mounted
- Operation via square end SW27/32
- Pre-isolated
- Optional: with drain / test cock
- Optional: service valves



### Version 2:

Ball Valve KHSVI WWS DN150 – 800

- Mech. gear side mounted
- With adjustable gear extension
- Operation via square end SW27/32
- Pre-isolated
- Optional: service valves

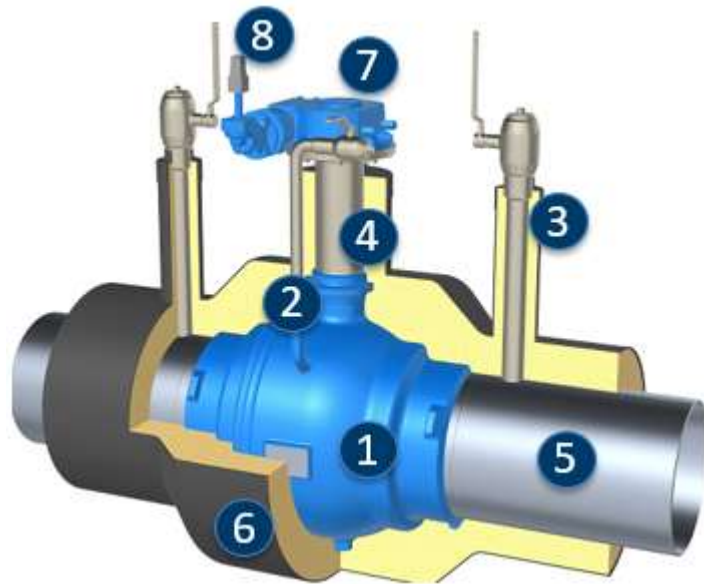


### Version 3 (available soon)

KHO fully welded DN25 – 250

- Operation with hex-soft
- Optional: with counter support
- Pre-isolated
- Optional: with ISO TOP flange
- Optional: with gear/angle gear
- Optional: service valves

# MATERIALS OF CONSTRUCTION VERSION 1



## (1) KHSVI ball valve:

Casted carbon steel body 1.0619 fully welded, seats KFC, stem sealing AFLAS O-Rings (until 200°C), KHSVWI version with FLUORAZ O-Rings until 260°C, stem 1.4104, ball EN-JS1030Fe/Cr30fmt, trunnion 1.4104.

## (2) Drain/test cock:

Type KHM in stainless steel weld end and threaded end with cover plug, pipe and bend stainless steel 1.4571.

## (3) Service valve:

Type KHM in stainless steel 1.4571 with weld end and threaded end with cover plug 1.4301, pipe 1000mm carbon steel.

## (4) Isolation extension:

Shaft pipe 1.4541, Dome top 1.4541, coupling 1.0619.

## (5) Body extension pipe:

Material P235GH with one axial welding x-ray tested

## (6) HDPE Isolation:

Available in 3 isolation thicknesses.

Seamless extruded PE-HD casing pipe impact and fracture resistant, viscoplastic down to -50°C. Thermal insulation made of foamed polyurethane rigid foam, CFC-free, blowing agent cyclopentane, continuous operating temperature 144°C, thermal conductivity 26 mW / m<sup>2</sup>K, core density acc. to EN253.

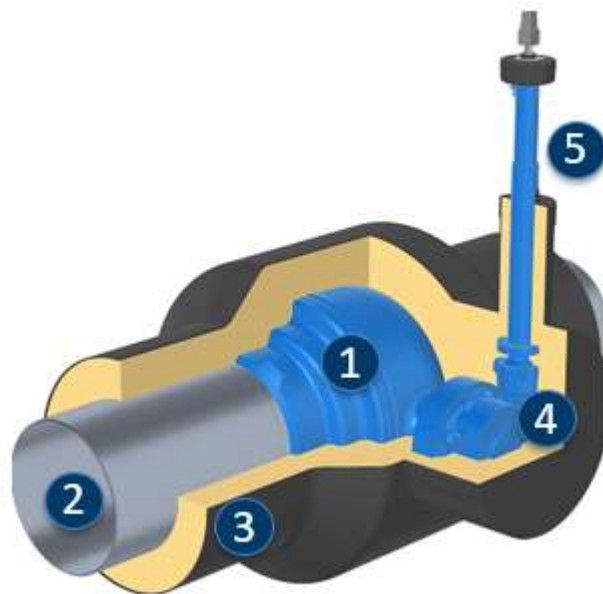
## (7) AUMA gear:

Type "GS", cast iron housing GJL250, IP68, -40°C to +80°C, Input shaft with corrosion protection

## (8) AUMA angle gear:

Type "GK", cast iron housing GJL250, IP68

# MATERIALS OF CONSTRUCTION VERSION 2



## (1) KHSVI ball valve:

Casted carbon steel body 1.0619 fully welded, seats KFC, stem sealing AFLAS O-Rings (until 200°C), KHSVWI version with FLUORAZ O-Rings until 260°C, stem 1.4104, ball EN-JS1030Fe/Cr30fmt, trunnion 1.4104.

## (2) Body extension pipe:

Material P235GH with one axial welding x-ray tested

## (3) HDPE Isolation:

Available in 3 isolation thicknesses.

Seamless extruded PE-HD casing pipe impact and fracture resistant, viscoplastic down to -50°C. Thermal insulation made of foamed polyurethane rigid foam, CFC-free, blowing agent cyclopentane, continuous operating temperature 144°C, thermal conductivity 26 mW / m<sup>2</sup>K, core density acc. to EN253.

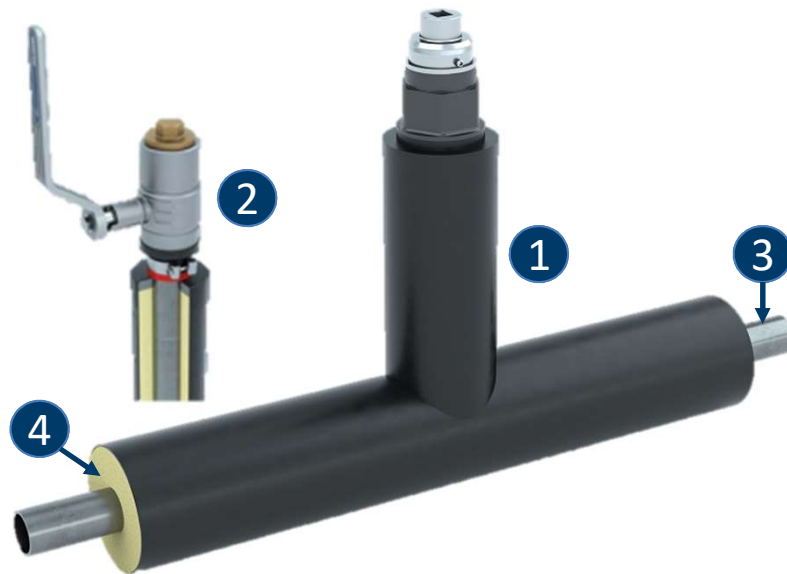
## (4) ROTORK gear:

Cast iron housing IP68, -20°C to +120°C, Input shaft and fasteners stainless steel.

## (5) Rotork gear extension:

Cast iron with position indication and square end SW27/32.

# MATERIALS OF CONSTRUCTION KHO VERSION



## (1) KHO ball valve:

Casted carbon steel body 1.0619 fully welded

Seats KFC

Stem sealing FKM O-Rings (until 200°C)

Stem/shaft 1.4104

Ball until DN65 1.4401/1.4408, ball DN80 and above  
AISO304L

## (2) Service valve:

Type KHO in stainless steel with weld end and threaded  
end with cover plug 1.4301, pipe 1000mm carbon steel

## (3) Body extension pipe:

Material P235GH with one axial welding x-ray tested

## (4) HDPE Isolation:

Seamless extruded PE-HD casing pipe impact and  
fracture resistant, viscoplastic down to -50°C. Thermal  
insulation made of foamed polyurethane rigid foam,  
CFC-free, blowing agent cyclopentane, continuous  
operating temperature 144°C, thermal conductivity 26  
mW / m<sup>2</sup>K, core density acc. to EN253