



## Application information

# Cooling applications

Edition 09.2024/A

# Proper insulation

## Reasons for proper insulation



### Energy efficiency

Long-term enhancement of energy efficiency



### No condensation formation

Prevents condensation formation on the pipeline



### No damage

Prevents damage to infrastructure and devices



### Cost savings

Inexpensive measure

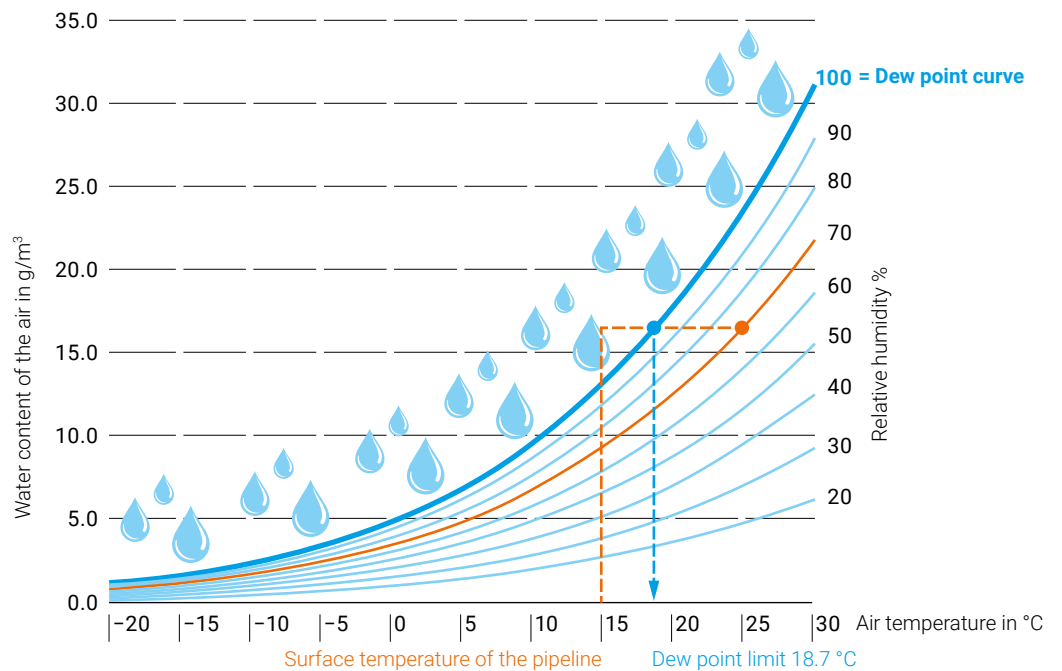


### Sustainable

Enhances the sustainability of the plant

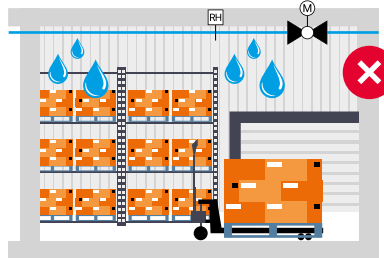
## Necessity of insulation

Condensation forms when there is an excessive temperature difference between the environment and the pipeline surfaces.

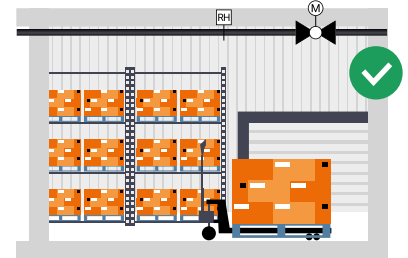


Condensation forms on cold surfaces when the dew point curve is exceeded. It is, therefore, necessary to insulate the pipeline to prevent condensation. See following comparison example.

## Comparison example



Without insulation  
 – Room temperature 25°C  
 – Relative humidity 70%  
 – Pipeline 15°C  
 See picture on page 2.



With insulation  
 – Room temperature 25°C  
 – Relative humidity 70%  
 – Pipeline 15°C

## Checklist

### Insulation checklist

- ✓ Suitable insulation material used
- ✓ Insulation material is correctly installed by a professional
- ✓ The insulation is attached with air-tight adhesion
- ✓ Accessories to prevent condensation formation on the actuator

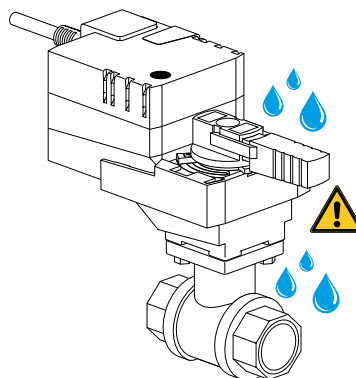
## Consequences of deficient insulation

- High repair costs
- High operating costs due to inefficiency
- Failure of the system
- Damage to building and furniture

# Additional measures to prevent condensation formation on the actuator

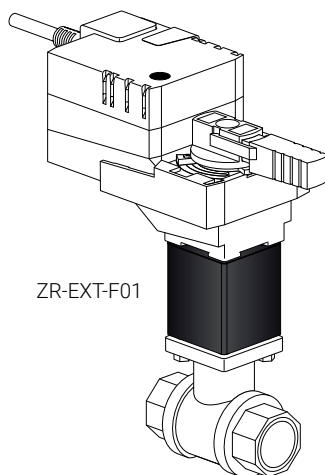
To prevent corrosion, damage to electronics, and defects on the actuator, the temperature at the actuator must not fall below the dew point temperature.

Attention  
Corrosion

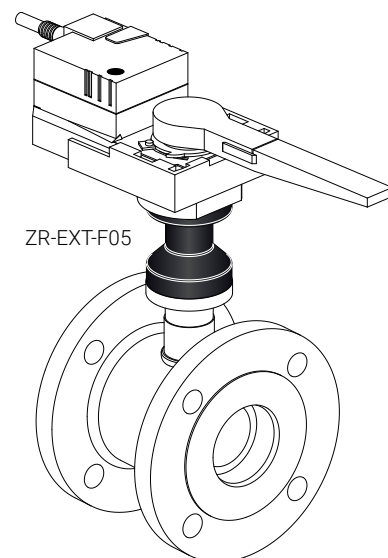


## Valve neck extension

For ball valves with F04 interface (DN 15...50)

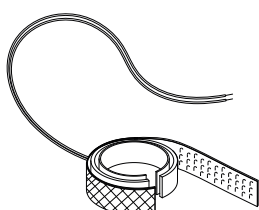


For ball valves and butterfly valves with F05 interface: (ball valves DN 65...150 and butterfly valves DN 65...100)

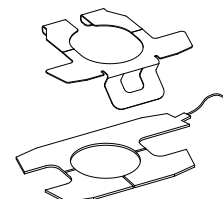


## Spindle heater for globe valve

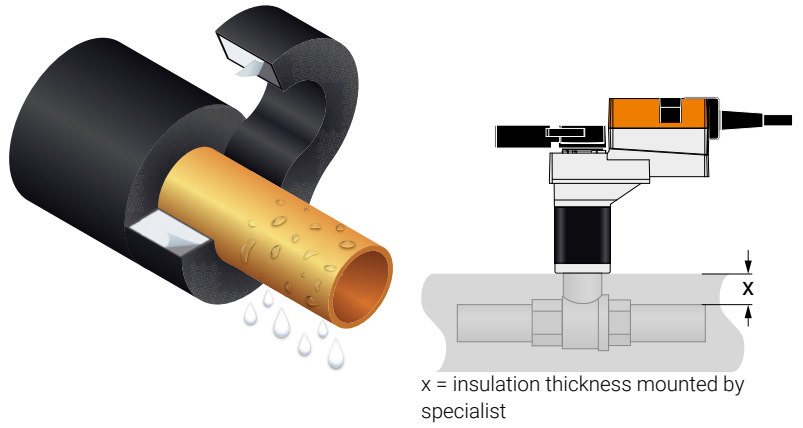
ZH24-1-B (for valve types H6..N, H6..R, H7..N, H7..R, H7..W..-S7 with DN 65...250)



ZH24-1-A (for actuator types LV.., NV.., SV..)

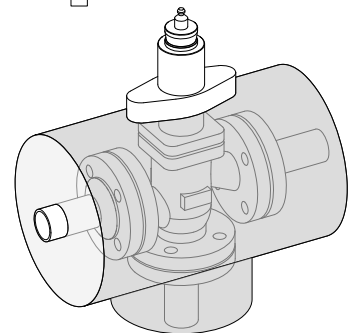
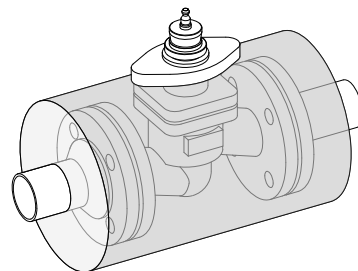
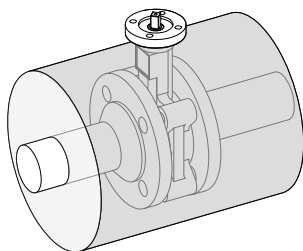
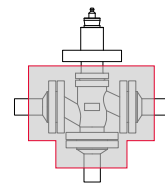
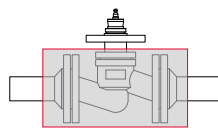
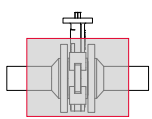
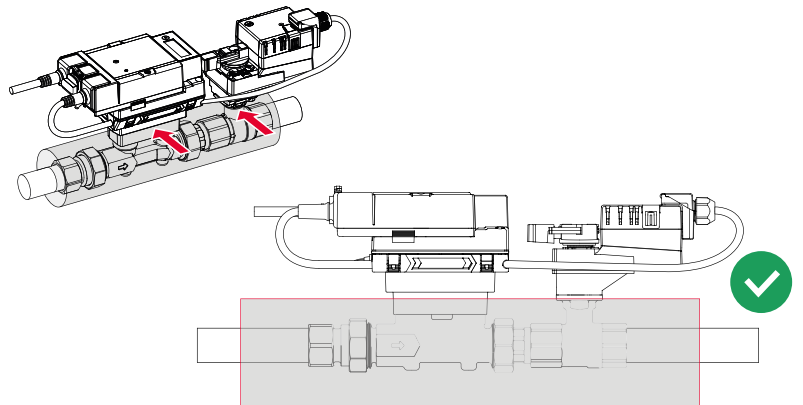


### General information



A specialist should carry out the pipeline insulation to prevent damage with serious consequences and costs.

### Insulation examples



# All inclusive.

Belimo is the global market leader in the development, production, and sales of field devices for the energy-efficient control of heating, ventilation and air-conditioning systems. The focus of our core business is on damper actuators, control valves, sensors and meters.

Always focusing on customer value, we deliver more than only products. We offer you the complete product range for the regulation and control of HVAC systems from a single source. At the same time, we rely on tested Swiss quality with a five-year warranty. Our worldwide representatives in over 80 countries guarantee short delivery times and comprehensive support through the entire product life. Belimo does indeed include everything.

The "small" Belimo devices have a big impact on comfort, energy efficiency, safety, installation and maintenance.

In short: Small devices, big impact.



5-year warranty



On site around the globe



Complete product range



Tested quality



Short delivery times



Comprehensive support