

▶ VEXVE

Underground Solutions



# Vexve Underground Solutions

Vexve offers comprehensive underground solutions, even for the most challenging operating environments. Specifically designed for district heating and district cooling applications.

DN 25 – DN 150 / 1" – 6"

Ball valve with high stem  
H = 350 mm

Available in different stem heights

Operation with T-key

Plastic protective pipe with  
metal lid

DN 200 – DN 400 / 8" – 16"

Ball valve with high stem  
H = 350 mm

Available in different stem heights

Operation with portable gear

Plastic protective pipe with  
metal lid

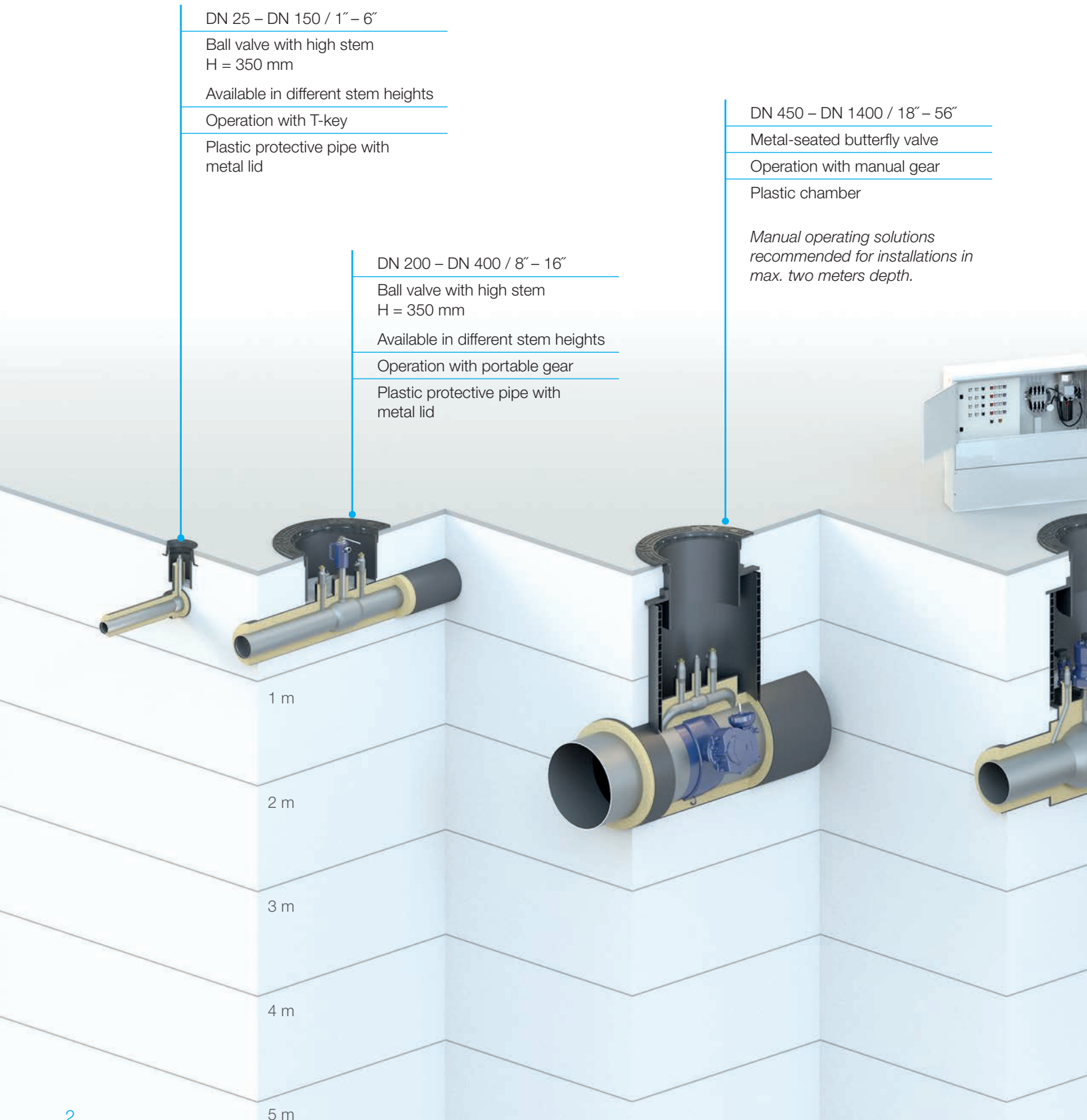
DN 450 – DN 1400 / 18" – 56"

Metal-seated butterfly valve

Operation with manual gear

Plastic chamber

*Manual operating solutions  
recommended for installations in  
max. two meters depth.*



DN 200 – DN 400 / 8" – 16"

Ball valve with high stem  
(+ by-pass valve)

Main valve and by-pass operated  
with hydraulic actuator and  
HCU Manual™ /HCU Remote™  
hydraulic control unit (also  
HCUManual+™ and HCU  
Remote+™ options available).

Plastic chamber

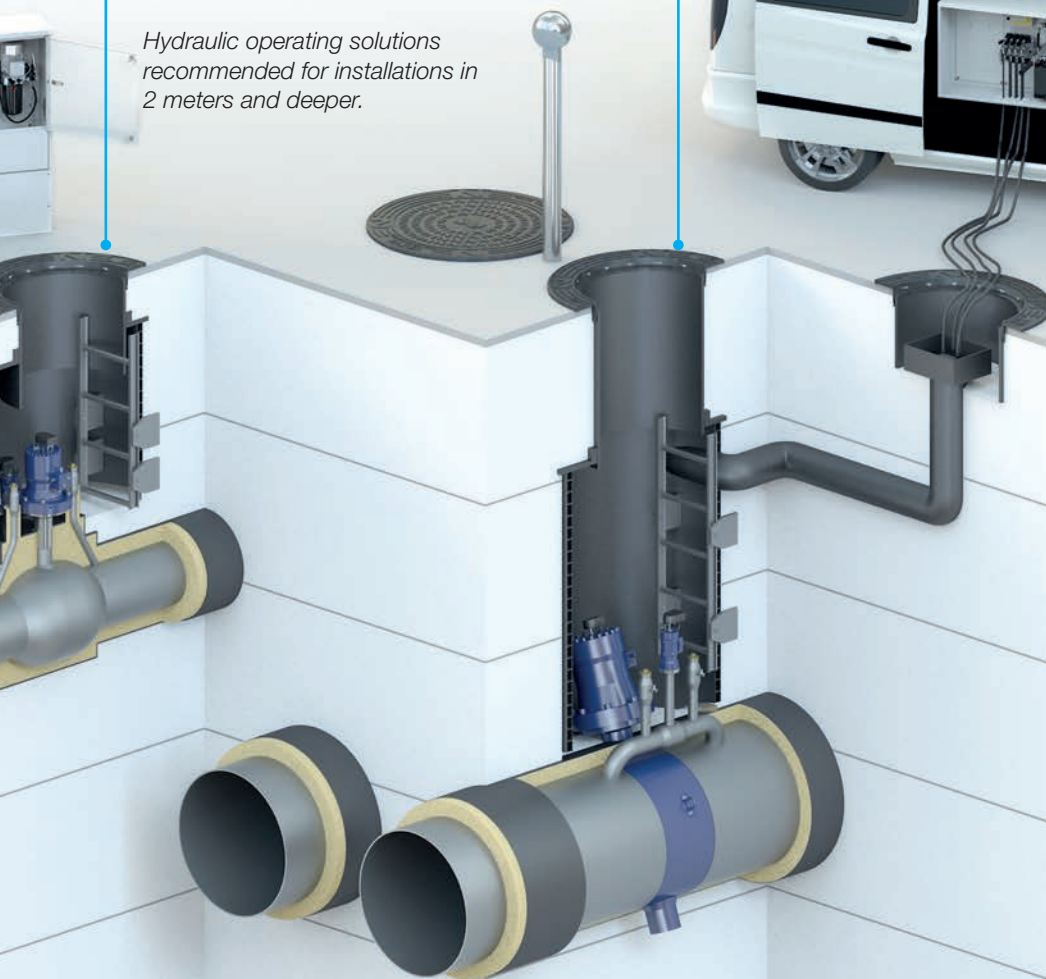
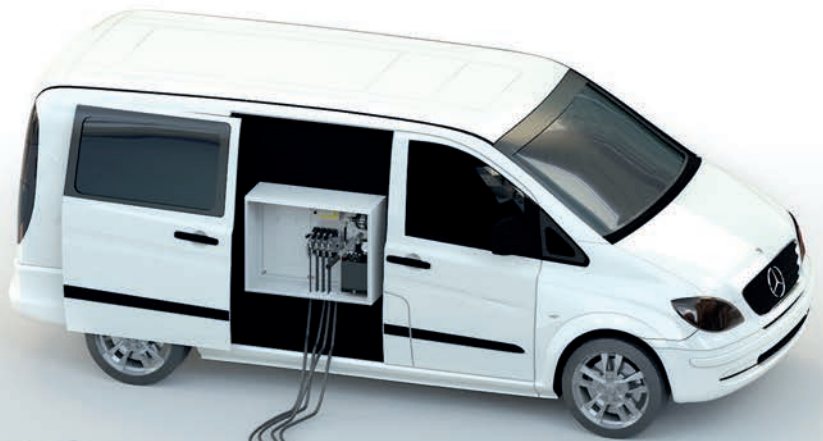
*Hydraulic operating solutions  
recommended for installations in  
2 meters and deeper.*

DN 450 – DN 1400 / 18" – 56"

Metal-seated butterfly valves  
(+ by-pass valve)

Main valves operated with  
hydraulic actuators and HCU  
Mobile™ hydraulic control unit  
connected to by quick couplings

Plastic chamber



# Valve operation solutions

Ball and butterfly valves can be operated manually on-site with handles, manual gears and hydraulic actuators or remotely with a hydraulic control system. Our recommended operation solutions ensure smooth operation of the valve in different installation sites and depths. All offered operating solutions are maintenance-free and have similar warranty period and lifespan as our valves. Other operating alternatives can be determined based on operating conditions during the project phase.



Butterfly valves DN 300 – 1400
Ball valves DN 200 – 800
Ball valves DN 200 – 400
Ball valves DN 25 – 150

	Butterfly valves DN 300 – 1400	Ball valves DN 200 – 800	Ball valves DN 200 – 400	Ball valves DN 25 – 150
<b>1 T-key / Handle</b> Small underground valves can be easily operated with handles in valve chambers or with T-key from ground surface. Our standard T-key features exchangeable 6k adapters to suit all valve sizes up to DN 150.	X			
<b>2 Portable planet gear</b> Ball valves in sizes DN 200 – DN 400 can be operated with a portable planet gear. This is a cost-effective and flexible solution for operating multiple valves with a single gearbox and without having to use special-coated permanently installed gearboxes. If the valve stem is located deep inside a narrow chamber, a removable extension stem for the portable gear is also available.		X		
<b>3 Manual gear</b> Factory-installed manual gearboxes are available for ball and butterfly valves sized DN 200 and bigger. Depending on the size and type of the valve, standard gearboxes by Progear, Rotork and Auma are used. Depending on installation position, manual gears can be operated with ratchets or T-keys. Manual gears are recommended for installations in max. 2 meters.		X	X	X
<b>4 Hydraulic actuator + control unit</b> A full range of hydraulic actuators is available for all offered ball and butterfly valves. They are recommended for deep installations and for locations where access to the valve chamber is limited. We also offer a range of surface control units for remote valve operation.	X	X	X	X

# Hydraulic valve operation

Vexve's hydraulic valve operation solutions are suitable for even the most challenging installation sites and conditions. They are specifically designed for underground valves in district heating and cooling networks. The Hydrox™ operating system consists of a hydraulic actuator and control unit, which all work seamlessly with Vexve's comprehensive range of ball and butterfly valves.

The method of controlling underground valves with the Hydrox™ operating system is based on hydraulic pressure input from street level. For this reason no electrical connection is needed underground. Weatherproof cover and simple design equals reliability in all conditions, even in wet and corrosive environments. Hydrox™ actuators also have an adjustable torque range. Vexve's actuators guarantee an easy and reliable operation with maximum safety at all times.

Hydrox actuators are operated with hydraulic control units (HCU). Valve control options include using a manual or electric hydraulic pump on-site, operating valves remotely with wired or wireless control system or using a HCU Mobile™ in a service car connected to actuators with quick-coupling connectors. Each HCU can operate up to four valves - 2 main valves and 2 by-pass valves. All HCUs are standard equipped with a manual hydraulic pump to ensure control of valves even if external power is unavailable.



## Key benefits:

- » Seamless operation with Vexve's range of valves
- » Easy and reliable valve operation in all conditions
- » Maximum safety without electricity underground
- » Maintenance-free
- » Local and remote operating options



# Plastic Chamber

The plastic chamber is designed to be the optimal companion with manual and hydraulic valve operating systems of direct-buried valves. The chamber can be used as an easy alternative to concrete valve chambers – instead of laying of concrete the polyethylene chamber can be simply placed on top of exposed actuators and landfill can be done immediately after. The chamber is equipped with a telescopic mechanism for adjustable depth and it can support itself without concrete supports.



## Key benefits:

- » Considerable cost and time savings during installation
- » Standard version up to 3 meters - deeper chambers available on request
- » Can be cut to desired length on-site with a saw
- » Concrete supports or anchoring not required
- » Telescopic mechanism absorbs forces caused by e.g. traffic

## Description

Chambers are delivered with a 40 ton rated cast iron lid, an aluminum ladder and a ventilation system for deep installations to ensure sufficient oxygen levels inside the chamber. Manhole, the top part of the chamber, can be used independently in installations close to the surface.

Depending on the size of the valve/s and the distance between supply and return lines, the plastic chamber can accommodate gears or actuators for one or two main valve elements. Vexve's design service is available when deciding on a suitable valve operating system and optimal placement of valves inside the chamber.



# Technical characteristics

## Materials

Bodypipe / manhole:	Polyethylene
Lid cover:	Cast iron, 40 tons (EN124)

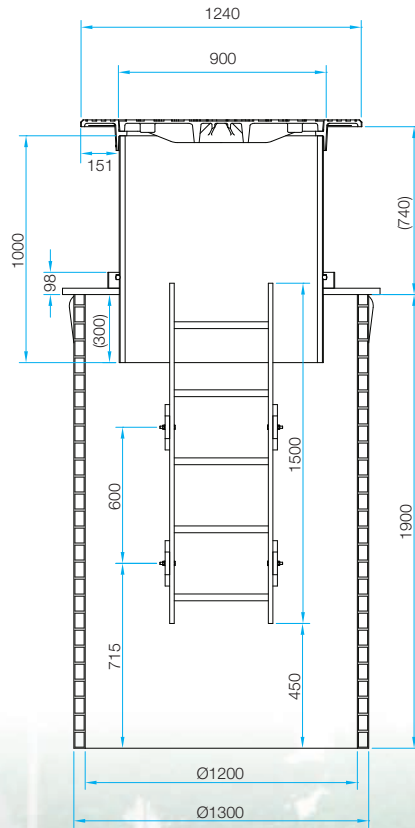
## Properties

Manhole ring stiffness:	SN1 (ISO 9969)
Chamber ring stiffness:	SN2 (ISO 9969)
Weight:	450 kg (default height)
Adjustable height	Bodypipe can be cut to desired length on-site

Plastic chamber is delivered with aluminium ladders

## Options

Available with different length chambers up to 10 meters. Ring stiffness classification (SN2/SN4/SN8) depending on the required length.



### Model

Plastic chamber Ø1200/900 3 m

### Product no.

899 000



# Vexve - Your technology partner for heating and cooling

Vexve is the globally leading provider of valve solutions for the heating and cooling needs of cities and industry. Developed for demanding applications, Vexve's valve and control products and hydraulic control solutions are used in district energy networks, power plants, and internal heating and cooling systems of buildings. With more than 50 years of experience, Finnish-based Vexve delivers its products and services worldwide from Helsinki to Beijing, Doha and Moscow.



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