

*Danfoss*



## Danfoss VDHT Solenoid Valves

DANFOSS HIGH-PRESSURE  
WATER SOLUTIONS

# What is a Danfoss VDHT valve?

## Facts and benefits

The VDHT solenoid valve programme consists of both single valves and manifold block solutions with multiple valves.

- The Danfoss Nessie VDHT valves are designed to operate with
  - fluids at high pressures, up to 210 bar/3000 psi
  - fluids at high temperatures, up to 90°C/194°F
  - flows from 0 to 150 litres per minute
- The Danfoss VDHT valve design is well-proven and dirt resistant
- The valves are made of corrosion resistant materials such as AISI 304 and AISI 316
- Easy-to-service

## Manifold block solutions

The manifold block solution is based on the VDHT concept with all the advantages of the single valve including some specific advantages of its own.

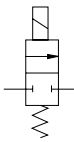
*These valve manifolds will reduce*

- Valve footprint
- Assembly costs
- Assembly time
- Maintenance costs

Custom-made valve solutions integrating multiple valve functions into one single valve manifold/block according to customer specifications on request.

It is one of our main strengths as a valve manufacturer to make customized solutions with both single valves and manifold block solutions in close cooperation with the customer.





## 2/2 solenoid valves

Valve type for low flows

Valve type	Flow [l/min]	Max. pressure [bar]	Valve ports orientation	Type	Sealings
VDHT 1/4 E 2/2	15	100	Straight	NC and NO	FPM
VDHT 3/8 E 2/2	15	100	Straight	NC and NO	NBR or FPM



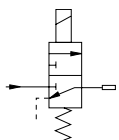
Valve type for medium flows

VDHT 3/8 E 2/2	30	210	Straight	NC and NO	NBR or FPM
VDHT 1/2 E 2/2	60	210	Straight	NC and NO	NBR or FPM
VDHT 3/8 EA 2/2	30	210	Angular	NC and NO	NBR or FPM
VDHT 1/2 EA 2/2	60	210	Angular	NC and NO	NBR or FPM



Valve type for high flows

VDHT 3/4 ED 2/2	120	140	Straight	NC and NO	NBR or FPM
VDHT 1 ED 2/2	150	140	Straight	NC and NO	NBR or FPM
VDHT 3/4 EA 2/2	120	140	Angular	NC and NO	NBR or FPM
VDHT 1 EA 2/2	150	140	Angular	NC and NO	NBR or FPM

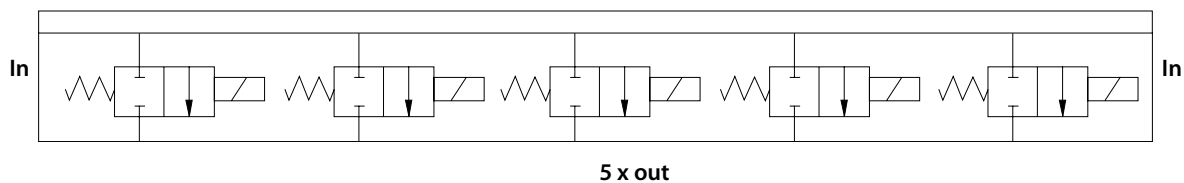


## 3/2 valves – with anti-drip and unloading function

Valve programme	Flow [l/min]	Max. pressure [bar]	Sealings
VDHT 15E	15	140	NBR or FPM
VDHT 15EC	15	140	NBR or FPM



## Standard valve manifolds with multiple valves integrated



VDHT block variants	Ports		Sealing	Max. inlet pressure
	in	out		
VDHT B2-B5	3/4"	1/2"	FPM	160 bar
VDHT BL2-BL5	3/4"	3/4"	FPM	160 bar
VDHT BL2-BL5	1"	3/4"	FPM	160 bar
VDHT BL2-BL5	1"	1"	FPM	160 bar

The standard VDHT manifolds are available in manifolds integrating 2 up to 5 valve functions in one manifold.



## Custom made valve manifolds with multiple valves and functions integrated



*Functions to be integrated in a valve manifold:*

- Solenoid valve
- Pressure transmitters
- Temperature sensors
- Manually activated valve – on/off with bypass

## Sealings, ports, solenoids and ATEX for the VDHT Programme

- Most valves are available with NPT- or BSP threads
  - On request valves are available with different seals: NBR, FPM ...
  - Wide range of solenoid valves available from 12 to 400 V AC/12 to 42 V DC
  - On request valves are ATEX Certified.  
- II 2 G m T4



## VDHT valve applications

The VDHT valves and manifold block solutions are used with great success in a number of applications. The customers range from the biggest abattoir in Northern Europe using our products as high-pressure cleaning systems to OEMs selling small dust binding systems for pigsties. Each and every customer explores the unique

features making the VDHT just the right choice for their specific application. During the years, our company has almost perfected the art of customizing a solution to the specific application, and with the choice between single valves and manifold block solutions the possibilities are endless.

## Examples of applications using a VDHT solution today

- Stationary high-pressure cleaning (i.e. within the food industry)
- High-pressure water mist fire fighting systems
- Automatic cool-down of heating coil on stationary high-pressure washers
- Section cleaning of process equipment (cleaning one zone at a time with the same pump)
- Vehicle mounted high-pressure cleaning
- Humidification systems
- Wood industry
- Dust binding in farming industry
- High-pressure part washing machines
- Pressure testing (test rigs)
- Street flusher/street cleaner with integrated high-pressure cleaning
- Container/silo cleaning
- Cooling and lubrication systems for CNC machines
- Automatic car/bus/truck/train wash systems
- Self-serve car wash systems
- High-pressure CO<sub>2</sub> systems

## VDHT valves for automatic car wash systems

Installing the Danfoss VDHT integrated manifold solution in his automatic roll-over brush car wash systems, the customer saved so much space that it was possible to standardize his machine and thus obtain substantial savings.

In this particular case the VDHT valve manifolds were about 70% shorter in length than the existing solution

on the machine. In the previous solution, four valve functions or more would cause space problems in the machine, why a box with valves had to be added externally on top of the machine. With the VDHT solution all functions can be mounted inside the standard machine reducing costs for production, installation and servicing of the machine. An extra bonus was the dirt resistant valve design, a feature very useful when operating on recycled water.



## Danfoss A/S – the benefits of size & flexibility

*Benefits provided by an international group such as Danfoss A/S*

- A world renowned valve manufacturer
- High expertise within solenoid valves – producing more than 4 millions per year
- A reliable partner – now and in the future
- Always at the forefront of the technology
- Always optimising processes and products

Danfoss High-Pressure Water Solutions is a key member of this international group, representing a strong know-how and innovative attitude within our expertise areas providing the advantage combination of size and the flexibility of a small company.

We believe that creativity and flexibility are the keys to developing innovative solutions. Rather than trying to make existing products fit new applications, we draw inspiration from the unique challenges of the different sectors we work in to drive product development.

*For more information, please visit*

**[www.nessie.danfoss.com](http://www.nessie.danfoss.com)**



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Danfoss A/S is one of the largest industrial companies in Denmark, with net sales of around DKK 16 billion.

We employ more than 18,000 people, and 6,000 of them work in Denmark in 12 different locations.

Danfoss is an international group and a leader in research, development and production for a wide spectrum of different industries.

We produce about 250,000 components each day at our 53 factories in 21 countries.

The Group's primary aim is to create quality of life for our stakeholders and to be a leader in refrigeration, heating and transmission technique.

Our work is based on our Core Values: Trust, Passion for Technology, Reliability, Global Perspective with Local Commitment and Environmental and Social Responsibility.

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