

ENGINEERING
TOMORROW

Danfoss

Protect your system Hammer your **costs**

Solenoid, angle seat and thermostatic valves - a fluid control product overview

17 %

better water
hammer damping
than industry
standards

Three ways of efficiently controlling fluids



Solenoid valves

Solenoid valves are an easy way to control and regulate fluids and gasses. Our programme consists of direct-operated, servo-operated and assisted lift versions. Solenoid valves are the right choice when you have media with limited dirt content and small to high flow volume.

Our solenoid valve programme consists of two ranges:

- The compact A range
 - offering small physical dimensions for control of flow where space is limited.
- The high performance B range
 - a sturdy and universal broad programme for control of flow in industrial applications and within heating and sanitary systems.



Angle seat valves

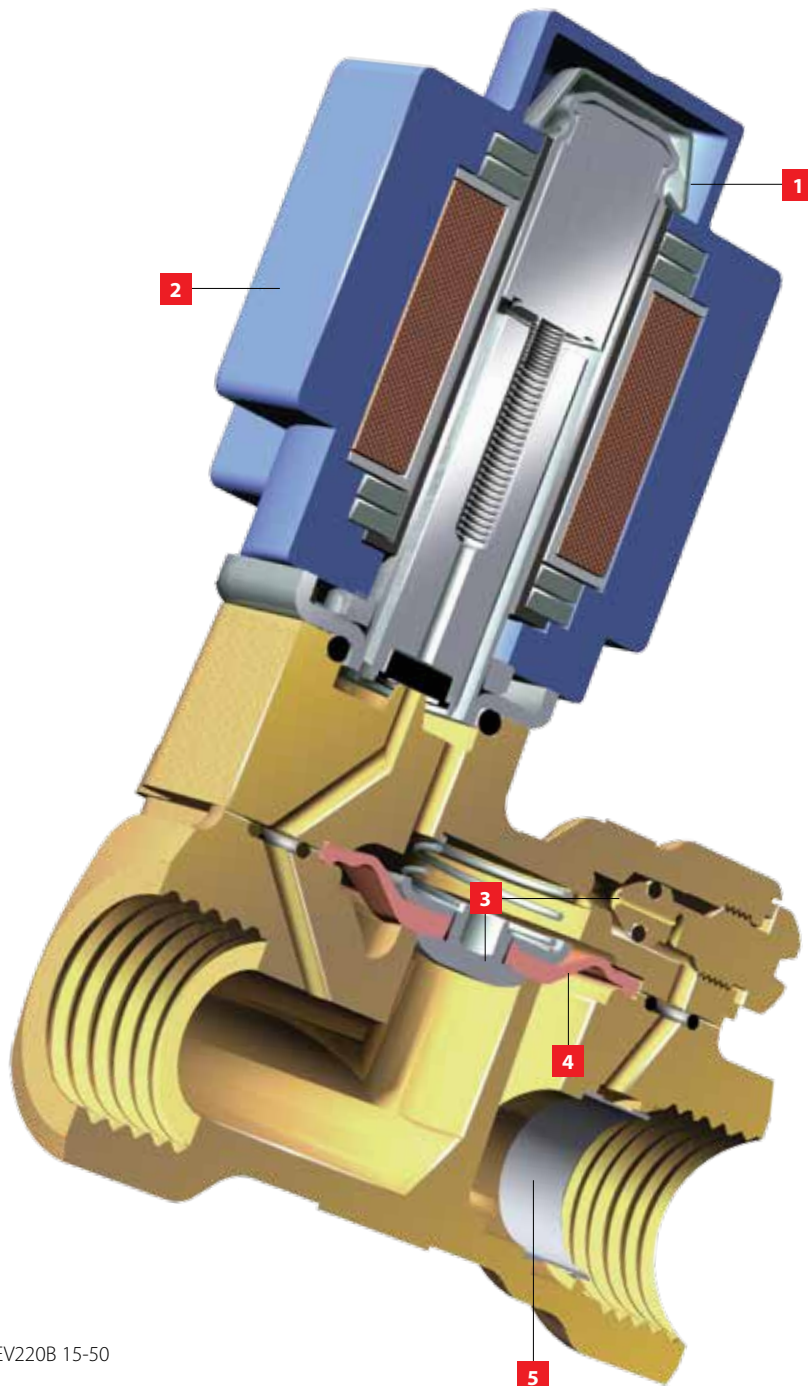
Pneumatically activated angle seat valves are designed for specialised and demanding applications. These robust valves are the right choice for media with high dirt content, high viscosity, high ambient and media temperatures and large flow volumes. They are also suitable for humid environments, explosion hazard environments and for applications with low or unknown pressure conditions.



Thermostatic valves

Thermostatic self-acting valves are a simple and reliable way to control the temperature of water-cooled equipment. They do not require control air or electricity and they are insensitive to dirt and water pressure, making them a highly robust choice.

Benefit from outstanding features



EV220B 15-50

1: Clip-on coil

The customer-friendly clip-on coil system ensures simple and safe assembly and disassembly without any tools. Further-more, a hermetic seal against moisture penetration is available if required.

2: Coil range up to IP67

The coil range goes from IP00 to IP67, offering optimum solutions for a variety of applications.

3: Best water hammer damping

Controlled damping in the very late closing stage, an optimised shape of the diaphragm assembly and the equalising orifice minimise water hammering in all Danfoss valves, down to 1.5 bar (acc. to EN 60730-2-8, 6 bar test pressure).

4: Long lifetime and high performance

The lifetime of the valve is significantly extended because of the specially shaped diaphragm that reduces the stress level of the rubber. This special shape also ensures optimal flow.

5: Insensitive to dirt

The coaxial filter, protecting the valve pilot, is self cleaning. If the equalising orifice is blocked by dirt, it is easily cleaned.





















































































































































































































































































































































Broad range

Danfoss valves are available in brass, DZR brass and stainless steel versions. The standard brass version is suitable for applications with limited risk of corrosion while the other two are ideal for more aggressive media.

Customised solutions

By working with Danfoss, you can get precisely the valve needed for your application. We can also modify our products to your specifications, giving you a valve optimised for your application. And where the specifications don't yet exist, we will help you define them – building quality into your product from the start.

Choose the right solution from our extensive range

Fluid control overview																																																																																																																													
Type																																																																																																																													
Media	<table border="1"> <tr> <th>Water</th> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th>Air and neutral gasses</th> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th>Oil</th> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th>Slightly aggressive media</th> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th>Aggressive media</th> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th>Steam</th> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>																	Water																		Air and neutral gasses																		Oil																		Slightly aggressive media																		Aggressive media																		Steam																	
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System suitability																																																																																																																													
Connection	G 1/8 - G1	G 1/8 - G 3/8, flange 32 mm	G 1/4 - G 1	G 1/2 - G 2	Flange connections: 2.5, 3 and 4"	G 1/2 - G 2	G1/2 - G 1	G 1/4 - G 1	G 3/8 - G 1	G 3/8 - G 1	G 1/4 - G 3/4	G 1/8 - G 1/4, flange 32 mm	G 1/8 - G 1/4, flange 32 mm	G 1/4 - G 2	G 3/8 - G 2	G 3/4	G 3/8 - G 1																																																																																																												
Function	NC or NO	NC or NO	NC or NO	NC or NO	NC	NC	NC or NO	NC	NC or NO	NC	NC	NC or NO	NC or NO	NC or NO	NC or NO	Thermostatic	Thermostatic																																																																																																												
Orifice size mm	1.5 - 25	1.5 - 3.5	6 - 22	15 - 50	65 - 100	15 - 50	15 - 25	6 - 25	10 - 22	10 - 22	6 - 20	1.2 - 3.5	1.2 - 2	6 - 50	15 - 50	18	10 - 25																																																																																																												
Pressure range, bar	0 - 30	0 - 20	0.1 - 30	0.3 - 16	0.25 - 10	0.3 - 10	0.3 - 40	0.2 - 10	0 - 10	0 - 10	0.5 - 10	0 - 30	0 - 20	0.2 - 16	0 - 16	0 - 10	0 - 10																																																																																																												
Medium temperature max.	140 °C	100 °C	100 °C	140 °C	90 °C	100 °C	60 °C	185 °C	140 °C	90 °C	80 °C	120 °C	100 °C	100 °C	180 °C	110 °C	130 °C																																																																																																												
Kv value m³/h	0.08 - 8	0.08 - 0.4	0.7 - 6	4 - 40	50 - 130	4 - 40	4 - 11	0.9 - 6	2.5 - 7	1.5 - 3.5	0.8 - 5	0.04 - 0.26	0.04 - 0.08	1 - 32	4.5 - 74	2.6	1.4 - 5.5																																																																																																												
Special features	Isolating diaphragm	Manual override option				Isolating diaphragm	High pressure	IP 65					Manual override option		Options: Manual override position indicator	Test function																																																																																																													
Approvals*	GL, WRAS, VA and DNV	GL	WRAS, VA and DNV	GL, WRAS, VA and DNV			GL		WRAS and VA				WRAS	WRAS and VA		TÜV																																																																																																													
Material	<table border="1"> <tr> <th>Valve body</th> <td>Brass or stainless steel</td> <td>Brass or stainless steel</td> <td>Brass or DZR brass</td> <td>Brass, DZR Brass or stainless steel</td> <td>Cast iron</td> <td>Stainless steel</td> <td>Brass</td> <td>DZR Brass</td> <td>DZR Brass</td> <td>Brass</td> <td>Brass</td> <td>Brass or stainless steel</td> <td>Brass or stainless steel</td> <td>Brass</td> <td>Gun metal or stainless steel</td> <td>DZR brass</td> <td>Brass or stainless steel</td> </tr> <tr> <th>Internal</th> <td>Stainless steel</td> <td>Stainless steel</td> <td>Stainless steel</td> <td>Stainless steel</td> <td>Stainless steel</td> <td>Stainless steel</td> <td>Stainless steel</td> <td>Stainless steel</td> <td>Stainless steel</td> <td>Stainless steel</td> <td>Stainless steel</td> <td>Stainless steel</td> <td>Stainless steel</td> <td>Stainless steel</td> <td>Stainless steel</td> <td>Stainless steel</td> <td>Brass or stainless steel</td> </tr> <tr> <th>Seal material</th> <td>EPDM or FKM</td> <td>FKM</td> <td>EPDM or FKM</td> <td>EPDM, FKM or NBR</td> <td>EPDM or NBR</td> <td>FKM</td> <td>NBR</td> <td>PTFE and AFLAS</td> <td>EPDM or FKM</td> <td>NBR</td> <td>FKM and PTFE</td> <td>EPDM or FKM</td> <td>FKM</td> <td>EPDM, NBR or FKM</td> <td>PTFE</td> <td>EPDM or NBR</td> <td>EPDM or NBR</td> </tr> </table>																	Valve body	Brass or stainless steel	Brass or stainless steel	Brass or DZR brass	Brass, DZR Brass or stainless steel	Cast iron	Stainless steel	Brass	DZR Brass	DZR Brass	Brass	Brass	Brass or stainless steel	Brass or stainless steel	Brass	Gun metal or stainless steel	DZR brass	Brass or stainless steel	Internal	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Brass or stainless steel	Seal material	EPDM or FKM	FKM	EPDM or FKM	EPDM, FKM or NBR	EPDM or NBR	FKM	NBR	PTFE and AFLAS	EPDM or FKM	NBR	FKM and PTFE	EPDM or FKM	FKM	EPDM, NBR or FKM	PTFE	EPDM or NBR	EPDM or NBR																																																						
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* Only EPDM versions in Normally Closed (NC) valves are WRAS approved. GL = Germanischer Lloyd. WRAS = Water Regulations Advisory Scheme. VA = Water supply and drainage of ETA Denmark. DNV = Det Norske Veritas.

Here **today.** Here **Tomorrow.**



Danfoss is a leading global player within the development and production of mechanical and electronic products and controls. Since 1933, our extensive know-how has made modern life easier and we continue to break new ground within our core business areas.

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This is also true in Industrial Automation, a Danfoss entity dedicated to focusing on the industrial world of today. Through us, you gain access to the entire Danfoss pool of technologies, with special emphasis on sensors and controls.

We offer safer, more reliable and more efficient solutions in a close cooperation based on firm values.