



OPERATING INSTRUCTIONS FOR OVERFLOW VALVES

UVU (422, 424)

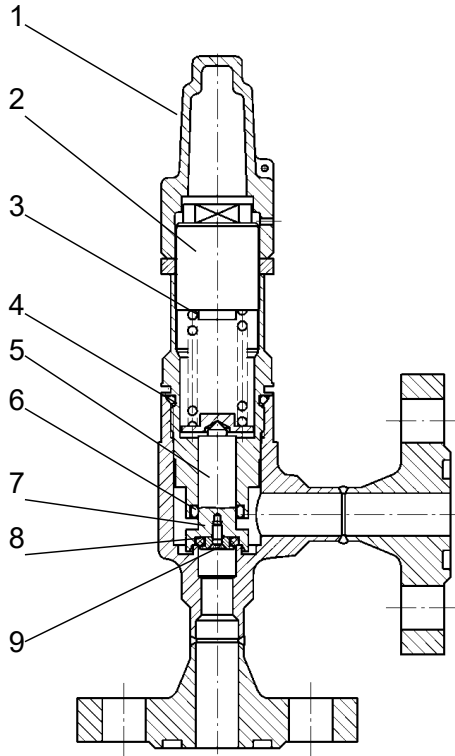
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1 Overview of types

Type 422, 424

DN 8 - DN 15



1 Cap	2 Adjustment screw
3 Compression spring	4 Bonnet gasket (O-ring D)
5 Stem	6 PTFE ring
7 Valve disc	8 Seat seal (O-ring S)
9 Valve disc screw (countersunk screw ISO 7046)	

2 Technical characteristics

Body material	Selection acc. to AD-2000, Series W
Stainless steel	X5CrNi18-10 1.4301 or equivalent
Flange material:	
Steel	P250GH 1.0460 P355NL1 1.0566 or equivalent
Stainless steel	X6CrNiTi18-10 1.4541 or equivalent

2.1 Pressure/temperature operating limits

Pressure/temperature operating limits:

PS: Max. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

PS	DN	TB (MWT) [°C]	UVUA (Type 424)				UVUB (Type 422)			
			-60	-10	+50	+180	-50	-10	+50	+110
25	8 – 15	PS (MWP) [bar]	25	25	25	25	25	25	25	25
40	8 – 15		40	40	40	40	40	40	40	40
63	8 – 15		63	63	63	63	63	63	63	63

Permissible ambient temperature range -35 °C to +55 °C

2.2 Operating Mediums

Suitable for operation with refrigerants acc. to EN 378 Part 1, e.g. NH₃, R22, R134a or mixtures with refrigeration oil, as well as for neutral gaseous and liquid media and glycol-based cooling brine.

2.3 Characteristics

		8/10	10/10	DN 15/15, DN 15/20, DN 15/25, DN 20/20, DN 20/25, DN 25/25
for steam/gas D[-] measured at 25% back pressure	No type examination			
Narrowest flow cross-section	[mm²]	78	78	78
Narrowest flow diameter	[mm]	10	10	10
Pressure differential	p [bar]	5–63	5–63	5–63

For spring pressure range, see spare parts list.

Installation position: vertical in accordance with AD2000 data sheet A2 and horizontal.

External leakage: <15g refrigerant per year, seat leakage: <5g refrigerant per year.

3 Safety instructions

4 Application

AWP overflow valves are suitable for use as relief valves in refrigerant circuits of industrial refrigeration systems. Overflow valves are safety devices for protecting the refrigeration system or its components against impermissible pressure stress (see also DIN 8975 Part 7). They comply with the equipment regulations of the Technical Inspection Associations -TÜV-.

5 Functional description

AWP overflow valves (UVU) open independently of the back pressure. They close within a pressure reduction of 10% below the set point. (Response pressure = set pressure)

6 Installation and commissioning

6.1 Checking and correcting the set pressure

1. Unscrew the cap from the bonnet and loosen the clamping ring by turning it anti-clockwise.
2. Hold the adjustment screw with an open-ended spanner.

	Cap	Clamping ring	Adjustment screw
Nominal diameter DN1	DN 8-15	DN 8-15	DN 8-15
Wrench size	19	30	19

3. Increase the differential pressure by turning the adjusting screw clockwise, and decrease the set pressure by turning it anti-clockwise. **NOTICE! Observe the set pressure range of the compression springs (see spare parts).**

Adjustment screw	
Nominal size	DN 8-15
Wrench size	19

4. Load the valve from the valve inlet side (with compressed air or a permitted operating medium equal to the set pressure) to check the set pressure.
⇒ The valve begins to open.
5. Trigger the valve 3x. (Set pressure tolerance [pe] = +3 %, -1 %)
6. Reduce pressure by 10% below the set pressure to check closing pressure (the valve must be closed).

6.2 Installation and commissioning

1. Clean pipework and system components before installation.
NOTICE! The deviation from parallelism or perpendicularity of the welding ends or flange facings must not exceed 1°. Connecting flanges must be axially aligned. Components with transport or storage damage must not be installed. After removing the pipe plugs, the component can be welded in or installed. Observe the direction of flow (see arrow on the nameplate).
2. **NOTICE! When using modern welding processes (e.g. TIG, CO2 arc welding), do not dismantle weld-in valves.**
3. Tighten the mounting screws and nuts in a crisscross pattern and evenly.

When discharging to atmosphere, the discharge pipes must be kept as short as possible and must not have any sharp bends. The bend radius must be at least 3 x OD (outside pipe diameter). When filling the oil or water seal, ensure that no oil or water enters the safety valves. Shut-off devices upstream and downstream of the safety valve are not permitted, with the exception of change-over valves. Provide sufficient space on the hood side for the disassembly of the hood.

7 Maintenance

AWP overflow valves operate maintenance-free. If functional defects occur, repair is possible. During the warranty period, repairs may only be carried out by AWP or, with their consent, by the system operator's trained maintenance personnel.

7.1 Replacing seat seal and stem seal

1. Loosen the bonnet anti-clockwise. **NOTICE! The setting of the compression spring is not affected. Watch out for any residual refrigerant escaping. Leave the bonnet loose in the body until pressure is fully equalised. Only then unscrew completely.**

Bonnet	
Nominal diameter DN1	DN 8-15
Wrench size	30

2. Unscrew the bonnet and remove the internal parts attached to it.
3. Unscrew fixing screw (countersunk screw ISO 7046), remove and replace seat seal (see spare parts list).

Screw ISO 7046	
Nominal diameter DN1	DN 8-15
	M3x8

4. Remove the stem seal with a suitable tool (e.g. screwdriver) and carefully and evenly press in the new seal (see spare parts list) with your thumb.
5. When installing, moisten the stem slightly with cold-resistant oil (e.g. Renolit MR 520) and press carefully and evenly into the stem seal.
6. Clean all individual parts before assembly.
7. Then pull a new bonnet gasket onto the bonnet and screw in the bonnet.

Bonnet	
Nominal diameter DN1	DN 8-15
Wrench size	30
Tightening torque [Nm]	70

7.2 Replacing compression springs

1. Unscrew the cap from the bonnet and loosen the clamping ring by turning it anti-clockwise.
2. Hold the adjustment screw with an open-ended spanner.

	Cap	Clamping ring	Adjustment screw
Nominal size	DN 8-15	DN 8-15	DN 8-15
Wrench size	19	30	19

3. Unscrew the adjusting screw anti-clockwise and replace the compression spring according to the spare parts list.
4. Clean all individual parts before assembly. **NOTICE! Re-adjust the differential pressure [Δp] after every compression spring replacement. A dwell time of 48 hours must be ensured between assembly, where the compression spring is pre-tensioned, and setting.**

8 Transport, storage and disposal

AWP components are transported protected against impact and covered with foil.

- Storage must take place in dry rooms.
- Ensure that the connection ports are sealed intact.
- Contamination of any kind must be kept away from the interior.
- The external surfaces are provided with a corrosion protection coating for dry storage at room temperature, which is effective for at least 1 year.
- The corrosion protection coating CELEROL® Reaktionsgrund 918 is a good adhesion promoter for 1- and 2-component top coats.
- Dismantle for disposal.
- Collect lubricants during dismantling. The materials must be separated from one another and disposed of in accordance with local regulations.

9 Warranty

Unless agreed otherwise, the statutory warranty provisions apply. For further information, please also refer to our General Terms and Conditions, available on our website awpvalves.com.

10 Spare parts

Type	Seal kit	Repair kit	Valve insert, complete
422	42200.10.5/00019	42200.10.5/_0029	422**E10.5110001

Type	Seal kit	Repair kit	Valve insert, complete
424	42400.10.5/00019	42400.10.5/_0029	424**E10.5110001

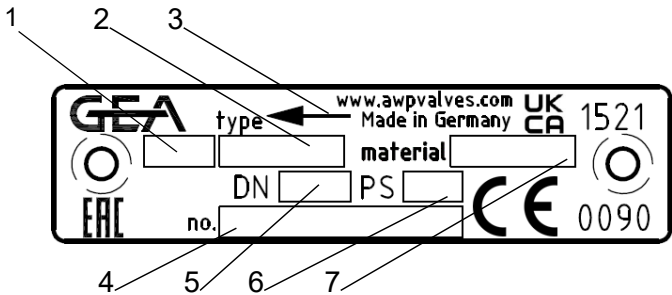
** describes the set pressure for the complete valve insert.

Set pressure range [bar]	Code ** valve insert, complete	Compression spring
4–7.9	04	44551.07.5005081
8–11.9	08	44551.07.5008121
12–19.9	12	44551.07.5012201
20–27.9	20	44551.07.5020281
28–35.9	28	44551.07.5028361
36–44.9	36	44551.07.5036451
45–63	45	44551.07.5045631

In case of doubt, please contact our Sales Support either via our website awpvalves.com/contact or by email to info@awpvalves.com. The most reliable method to correctly identify the required spare part is to send a photo of the nameplate on which the serial number of the valve is clearly visible.

11 Marking

The marking of AWP check valves is carried out in accordance with Pressure Equipment Directive 2014/68/EU.



1 Type designation	2 Type no.
3 Flow direction	4 Serial number
5 Nominal size (DN)	6 Pressure rating (PS)
7 Material number	

PS [bar]	Max. permissible operating pressure
DN [mm]	Nominal size
DIN EN ISO 21922	Refrigerating valves, safety requirements, testing and marking

12 Note on residual hazards in accordance with Pressure Equipment Directive 2014/68/EU

Residual risks that cannot be avoided by the manufacturer exist due to:

NOTICE

- ▶ Do not loosen bonnets (without authorisation) during operation.
- ▶ Do not incorrectly assemble flange connections (inlet and outlet flanges, flanged bonnets).
- ▶ Contamination in the operating medium or improper handling of internal components can lead to damage to the seat seal.
- ▶ Non-compliance with the operating limits and manufacturer's regulations according to these operating instructions.

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