



# OPERATING INSTRUCTIONS FOR STRAINERS

SS (523, 52G, 524)

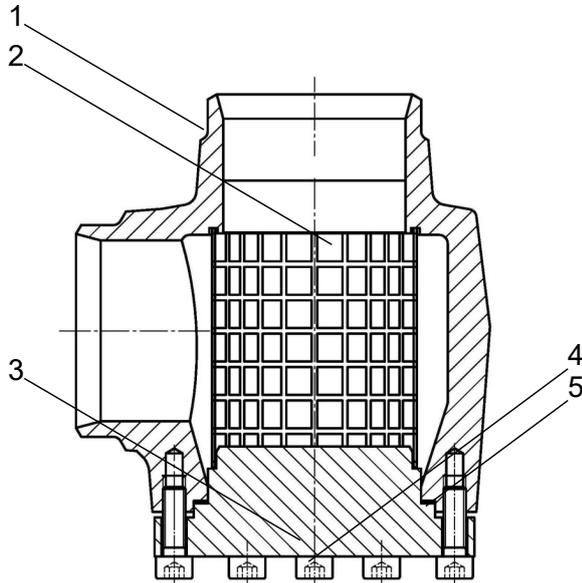


## Table of contents

<b>1 Overview of types .....</b>	<b>4</b>
<b>2 Technical Parameters .....</b>	<b>4</b>
<b>3 Pressure/temperature operating limits.....</b>	<b>4</b>
<b>4 Operating Mediums.....</b>	<b>5</b>
<b>5 Flow coefficient.....</b>	<b>5</b>
<b>6 Safety instructions.....</b>	<b>5</b>
<b>7 Application .....</b>	<b>6</b>
<b>8 Functional description.....</b>	<b>6</b>
<b>9 Installation.....</b>	<b>6</b>
<b>10 Maintenance.....</b>	<b>7</b>
10.1 Changing the strainer insert.....	7
<b>11 Transport, storage and disposal.....</b>	<b>7</b>
<b>12 Garantie .....</b>	<b>7</b>
<b>13 Spare parts.....</b>	<b>7</b>
<b>14 Marking.....</b>	<b>8</b>
<b>15 Hinweis auf Restgefahren entsprechend Druckgeräterichtlinie 2014/68/EU.....</b>	<b>9</b>

## 1 Overview of types

523	Straight-way strainer, Y-pattern
524	Angle strainer
52G	Straight-way strainer, T-pattern



1 Body	2 Strainer insert
3 Bonnet	4 Bonnet screws
5 Bonnet gasket (flat gasket K)	

## 2 Technical Parameters

Body material	Auswahl nach AD-2000 Reihe W
Steel	P235GH, S235JR, S355J2
Low temperature steel (TT)	P215NL, P255QL, P355NL1, G20Mn5QT
NIRO	X5CrNi18-10, GXCrNiMoNb19-11-2 oder gleichwertige

## 3 Pressure/temperature operating limits

Pressure / temperature operating limits:

**PS:** Max. permissible operating pressure in bar

**TS:** Permissible operating temperature in °C associated with the permissible operating pressures (PS)

**PN:** Nominal pressure rating

When using screws of property class 8.8, the following values apply:

PN	TB (MWT) [°C]	-60 <sup>2)</sup>	-40 <sup>2)</sup>	-25 <sup>2)</sup>	-10	+50	+150
25	PS (MWP) [bar]	6.25	12.5	18.7	25	25	25
40		10	20	30	40	40	40
63		15.75	31.5	47.2	63	63	63 <sup>3)</sup>

When using screws of property class A2-70, the following values apply:

PN	TB (MWT) [°C]	-60 <sup>2)</sup>	-60 <sup>1)</sup>	-10	+50	+150
25	PS (MWP) [bar]	18.7	25	25	25	25
40		30	40	40	40	40
63		47.2	63	63	63	63 <sup>3)</sup>

1) Load case I (low-temperature steel, NIRO)  
 2) Load case II (acc. to AD2000-W10) (Steel)  
 3) G20Mn5QT = 43bar/ GXCrNiMoNb19-11-2 = 50bar

Permissible ambient temperature range: -50 to +50 °C

The following values apply to strainers for heating technology (types 523...HT, 52G...HT, 524...HT) (for both valves with 8.8 and A2-70 screws):

PN	TB (MWT) [°C]	-10	+50	+150	+200
25	PS (MWP) [bar]	25	25	25	25
40		40	40	40	40
63		63	63	63	63

Permissible ambient temperature range -50 to +50 °C

## 4 Operating Mediums

Suitable for operation with refrigerants acc. to EN 378 Part 1, e.g. NH<sub>3</sub>, R22, R134a or mixtures with refrigeration oil, as well as for neutral gaseous and liquid media and glycol-based cooling brine.

## 5 Flow coefficient

Flow coefficient (Kvs)															
DN	10	15	20	25	32	40	50	65	80	100	125	150	200	250	300
Type 523	2.29	4.46	5.1	10.8	15.9	28.6	42	63	95	140	260	380	560	817	1130
Type 52G	–	–	–	13.9	22	29.6	40.7	61	–	–	–	–	–	–	–
Type 524	2.23	4.67	5.1	16.2	25.4	30.2	44.5	67.8	101	152	278	405	596	869	1345

Any installation position; the direction of flow (see arrow on nameplate) must be observed. External leakage: <5 g refrigerant per year

## 6 Safety instructions

### WARNING

#### Verbrennungsgefahr bei extremen Temperaturen!

Verbrennungen möglich.

- Ventil bei extremen Temperaturen mit Schutzhandschuhen bedienen.

## NOTICE

### Danger from improper handling!

Risk of property damage.

- ▶ Do not install valves with transport or storage damage.
- ▶ Valves must be free of axial forces, bending moments, and torsional moments and must not serve as fixed points for pipework.
- ▶ In the event of oxy-fuel welding or brazing, the flame must not touch the valve.
- ▶ Keep the interior of the valves free of contamination.
- ▶ Opening or closing the valves with a valve wheel wrench or other lever-extending objects is not permissible.
- ▶ Only dismantle valves when the pipework is depressurised, evacuated, and sufficiently ventilated.

## NOTICE

### Danger from impermissible pressure rise!

Risk of property damage.

- ▶ Avoid operating the valve against trapped liquid.
- ▶ Close shut-off valves in liquid lines in sequence towards a vessel with a gas volume.

## 7 Application

AWP strainers are suitable for use in refrigerant circuits of industrial refrigeration systems. They are used on both the discharge and suction sides of the compressor or in pipework where only one flow direction is permitted.

## 8 Functional description

AWP strainers are equipped with a replaceable strainer insert. These consist of stainless metal mesh. The strainer insert centres itself automatically in the base and is held in position by the bonnet. The flow through the strainer insert is from the inside out.

## 9 Installation

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 and 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 nameplate).**

2. Remove pipe plugs.
3. Weld in or install the strainer in any position. **NOTICE! Direction of flow (see arrow on nameplate) must be observed! When using modern welding processes (e.g. TIG, CO<sub>2</sub>), do not dismantle weld-in strainers.**
4. Tighten fastening screws and nuts of the flange crosswise and evenly. **NOTICE! To dismantle the strainer insert, kept sufficient clearance free on the side where the bonnet is located – see the following table:**

DN	10	15	20	25	32	40	50	65	80	100	125	150	200	250	300
mm	60	60	60	70	70	100	100	120	170	190	260	300	400	500	600

## 10 Maintenance

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

### 10.1 Changing the strainer insert

- NOTICE! Only when the pipework is depressurised, evacuated, and sufficiently ventilated.** Unscrew bonnet. **NOTICE! Pay attention to residual pressure.** Use a wrench with the size specified in the following table:

DN	10	15	20	25	32	40	50	65	80	100	125	150	200	250	300	
M	8	8	8	8	8	8	8	8	10	12	16	16	16	20	20	
	ISO 4762								ISO 4017							
SW	6	6	6	6	6	6	6	6	16	18	24	24	24	30	30	

- Carefully pull out the strainer insert and clean it.
- Remove flat gasket K.
- To install the strainer insert, first insert flat gasket K.
- Then carefully insert the insert into the body.
- Put on the bonnet and tighten screws evenly and crosswise.

DN	10	15	20	25	32	40	50	65	80	100	125	150	200	250	300	
M	8x16	8x16	8x16	8x25	8x25	8x25	8x25	8x25	10x30	12x35	16x45	16x45	16x45	20x60	20x60	
	ISO 4762								ISO 4017							
SW	6	6	6	6	6	6	6	6	16	18	24	24	24	30	30	
	Tightening torque (8.8 screws)															
[Nm]	25	25	25	25	25	25	25	25	49	85	210	210	210	425	425	
	Tightening torque (A2-70 screws)															
[Nm]	16	16	16	16	16	16	16	16	32	56	135	135	135	275	275	

## 11 Transport, storage and disposal

AWP strainers 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 of the valves 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 the valves for disposal. Collect lubricants during dismantling. The valve materials must be separated from one another and disposed of in accordance with local regulations.

## 12 Garantie

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](http://awpvalves.com).

## 13 Spare parts

Strainer insert			Bonnet gasket (flat gasket K)	
Nominal size	Item number*)	Dimensions	Item number	Dimensions
DN 10-20	52300E10.83400X1	22.5 x 43	16301.10.4146003	⊗ 30 x 34.9 x 1.5

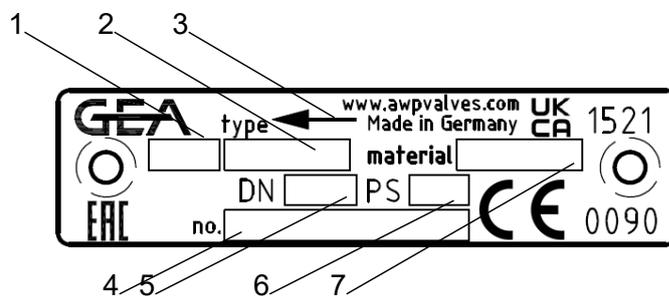
Strainer insert		Bonnet gasket (flat gasket K)		
DN 25-32	52300E13.83400X1	33 x 57.5	16301.13.4146003	⌀ 43 x 49 x 1
DN 40-50	52300E15.83400X1	56 x 74	16301.15.4146003	⌀ 62.1 x 68.8 x 1
DN 65	52300E17.83400X1	71 x 86	16301.17.4146003	⌀ 84.8 x 76 x 1.5
DN 80	52300E18.83400X1	88.5 x 134	16301.18.4146003	⌀ 94.1 x 108 x 1.5
DN 100	52300E19.83400X1	107 x 146	16301.19.4146003	⌀ 115 x 129 x 1.5
DN 125	52300E20.83400X1	133 x 230	16301.20.4146003	⌀ 159 x 140 x 1.5
DN 150	52300E21.83400X1	159 x 242	16301.21.4146003	⌀ 170 x 188.5 x 2
DN 200	52300E23.83400X1	219 x 338	16301.23.4146003	⌀ 240 x 259 x 2
DN 250	52300E24.83400X1	268 x 386	16402.24.4146003	⌀ 296 x 320 x 2
DN 300	52300E25.83400X1	321 x 470	26302.25.4146003	⌀ 338 x 366 x 2

Mesh size of strainer insert (µm)	*) Index X in part no. of the strainer insert
25	B
63	9
80	8
100	7
120	C
135	6
150	5
200	4
250	D
500	3
1000	2

In case of doubt, please contact our Sales Support either via our website [awpvalves.com/contact](http://awpvalves.com/contact) or by email to [info@awpvalves.com](mailto: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.

## 14 Marking

The marking of AWP shut-off valves is carried out in accordance with Pressure Equipment Directive 2014/68/EU by means of a nameplate on the side edge of the bonnet.



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

## 15 Hinweis auf Restgefahren entsprechend Druckgeräterichtlinie 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.

**GEA AWP GmbH**  
Armaturenstr. 2  
17291 Prenzlau  
Germany  
phone: +49 3984 8559-0  
fax: +49 3984 8559-18  
e-mail: [info@awpvalves.com](mailto:info@awpvalves.com)

