



Manual

Angle stop/check valve ERA

Date: 07/2016

W 4141-6.10aE

Blatt 1 / 5

MW

Please read the entire manual carefully before installing or operating the angle stop/check valve ERA!



1. INTENDED USE

WITT angle stop/check valves ERA are solely intended to protect refrigerant pumps in refrigeration systems.

2. SAFETY REQUIREMENTS

Any work must be carried out by knowledgeable personnel who have been trained to install and service refrigeration plants and are familiar with the necessary legal requirements and regulations that apply.

The maximum allowable pressure, as mentioned on the name plate, must not be exceeded!



All safety regulations and codes of practice concerning the use of refrigerants must be adhered to. Special protection clothing, e.g. gloves and safety glasses must be worn when operating the valves. The recommendations of Regulation EN 378 must be followed.

3. TERMS OF WARRANTY

To avoid accidents and for safety, the angle stop/check valve WITT ERA should only be used for the intended use. No modifications or conversions may be carried out to the WITT ERA without the explicit written approval of TH. WITT Kältemaschinenfabrik GmbH.

Our liability of warranty is void if:

- the instructions of this manual are not adhered to,
- the angle stop/check valve is operated incorrectly or is installed contrary to these installation,
- the angle stop/check valve ERA is used for applications other than that for which it was intended,
- modifications have been made without written approval from TH. Witt,
- safety regulations or codes of practice have been ignored

4. APPLICATIONS

All stop/checkvalves ERA are suitable for use with common refrigerants, such as NH₃, CO₂, R 507, R 22, R134a, R404a, R410.

5. ORDER INFORMATION

Please inform us for which refrigerant pump you require the stop/check valve ERA. The ERA is supplied flanged with stop valve EA10 (to fit a pressure gauge), gaskets and screws

Following article numbers apply:

GP pumps, PN25

GP40 Pumps: 2161.000087 incl. vent line and regulating valve EE6 (supplied loose)

GP50 Pumps: 2161.000088 incl. vent line and regulating valve EE6 (supplied loose)

HRP pumps, PN25

HRP10080 2162.002201

HRP 8050 and HRP5050 2162.000152

HRP5040 2162.000151

HRP3232 2162.000530



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HRP pumps, PN40

HRP10080	2162.002203
HRP 8050 and HRP5050	2162.000203
HRP3232	2162.000531

6. DELIVERY CONDITION

All valve have undergone a pressure and leakage/pressure test

- PN 25 (PS 25 according to PED) with 37,5 bar air under water
- PN 40 (PS 40 according to PED) with 60 bar air under water

In order to be able to seal the cap, the required vent hole was designed as a double hole.

Angle stop/check valves ERA come with graphite on thread and spindle and cap filled with grease

7. CERTIFICATES/APPROVALS

All WITT stop/check valves ERA are manufactured according to PED 2014/68/EU, module A2 annex III, as pressure holding equipment and marked with the CE signs.

The manufacturer's certificates are available for download at www.th-witt.com.

8. TECHN. DATA

8.1 Max. allowable pressure

Pressure / temperature range

25 bar execution:

-1/25 bar -10°C to +75°C

-1/18.75 bar -10°C to -60°C

40 bar execution:

-1/40 bar -10°C to +50°C

-1/30 bar -10°C to -60°C

The valves have undergone a burst pressure test of more than 200 bar.

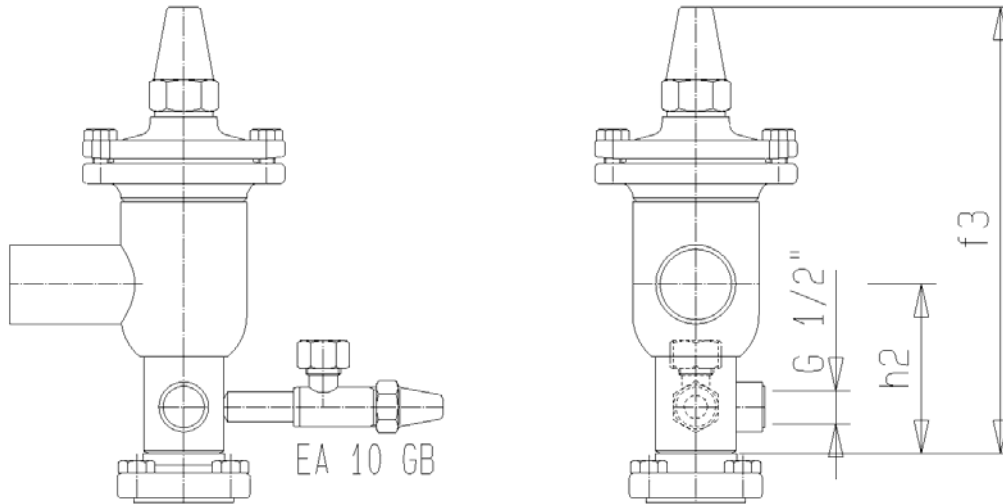
8.2 Materials

Valve body:	P235GH (St35.8 / I)
Spindle:	1.4301
Packing box:	Al
Packing:	Ne
Base ring:	St
Welding connection:	P235GH (St35.8 / I)
Welding nipple:	C15+C
Protection cap:	Al filled with grease
Connecting nut:	1.0718
Other valve parts:	steel
Gasket:	Centellen NP
Vent line (only GP)	P235GH (St35.8 / I)

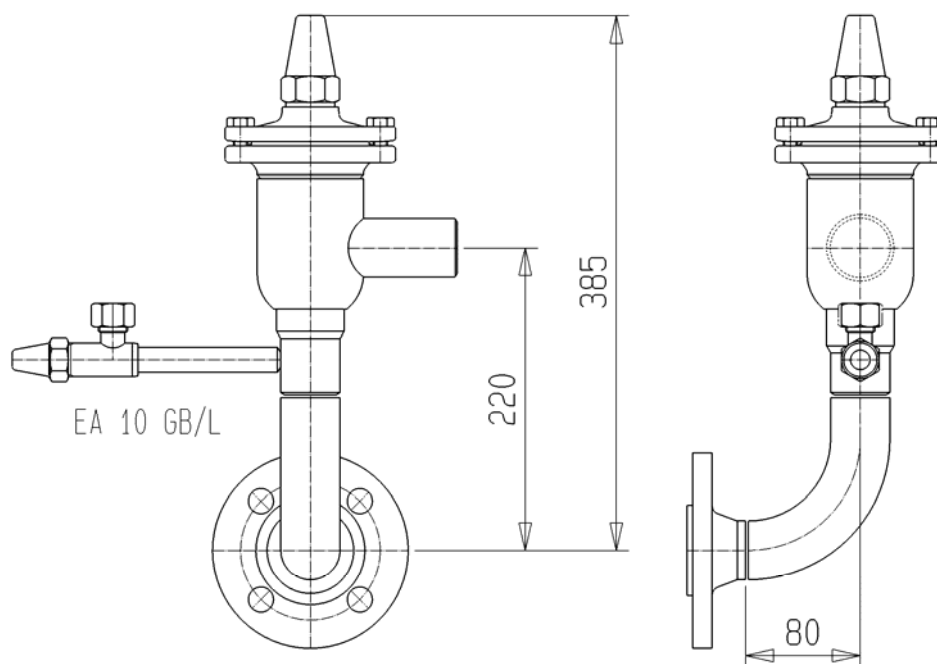
Painting (2k epoxy coating) Base coating 1 x W9.1, brown, finish coating 1 x W9.2, grey

We reserve the right to conduct modifications due to technical development!

8.3 Dimensions/Weight



		ERA		
		40	50	80
f2		270	277	466
h2		105	115	176
Weight [kg]	GP	5,5	8,1	-
	HRP	5,2	7,4	20



ERA 32 weight: 6,8 kg



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9. DESCRIPTION OF OPERATION

Angle stop/check valves ERA shall be mounted directly behind a refrigerant pump to avoid backflow of liquid refrigerant, if several pumps are connected to a common discharge line or if the static height to the evaporators allows reverse flow.

The valve ERA can also be used to isolate the refrigerant pump. When turning the spindle clockwise, the valve retainer seals against the valve seat and the refrigerant flow is interrupted. Turning left (against clockwise) will open the valve again, whereby the spindle should be turned fully to the end, to ensure backseating. While the pump is in operation the angle stop/check valve ERA should be fully open (backseated).

The vent line of GP pumps should be individually connected to the gas section of the surge drum. It is not permitted to connect multiple vent lines to a common vent line, as this could result in liquid refrigerant backflow from the pump in operation to the pump in stand-still.

HRP pumps do not require a vent line, as this is integrated in the HRP pump design.

The stop valve EA 10 that is mounted on the ERA may be used to fit a pressure gauge.

For HRP pumps there is an additional connection to fit a flow switch.

The valves are protected with a cap to avoid any uncertified personnel operates them. Special tools that are required to remove the caps should be locked securely to prevent abuse, but within reach for operation.

10. TRANSPORT AND STORAGE

All openings (connections, etc) are covered with yellow plastic caps for protection. Any valves should be transported and stored dry at any time to prevent any moisture or debris can enter the valve.

11. INSTALLATION

Welding of the stop/check valve ERA is only allowed in a fully opened condition. Prior to any welding the valve head can be removed. (When using WIG welding is may be sufficient to only loosen the packing and cool the valve with a wet cloth.)

Welding valves should be executed with highest care, to avoid any dirt intake that could damage the valve seat and spindle casing.



Never install the angle stop/check valve with the spindle facing down, because otherwise dirt can collect on the valve seat / spindle and cause damages.

Installation of the piping has to be executed in such a way that stress or forces are not lead into the valve housing.

12. COMMISSIONING / START-UP

When commissioning the new system and after each repair, make sure the valves are fully open, to enable blow-out of any debris that may have collected with in the plant, Proper functioning and sealing of installed valves should be checked upon reaching the operating pressure.

Leakages that may occur can be eliminated by carefully tightening the packing.



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13. OPERATION



The cap should always be in place and only be removed to operate the valve. Slowly open the cap with up most care, so that any refrigerant, that may have condensated, can escape.

Prior to operating the valve, the packing should slightly be turned loose (1/4 turn), to avoid the packing is unnecessarily stressed. After operation make sure the packing is re-tightened again!

14. MAINTENANCE AND INSPECTION



Any maintenance, tests or visual inspection should be carried out according to EN 378-2.

The valves are designed in a way that they normally do not need any maintenance. Wear is kept to a minimum.

In order to ensure safe operation of the entire system, valves should be operated regularly and checked, e.g. every 6 month or according to relevant regulations (particularly those that do not need to be operated frequently).

When a leakage occurs, the packing should be carefully tightened. If this does not eliminate the problem, replace the packing.

In the fully open condition the back seating will seal the spindle against the valve inside, so that the packing can be changed safely.

If the packing should be replaced, remove the cap as described earlier and turn the spindle fully open (against clockwise) until the end position is reached and the valve is back-seated. Then the packing box can be un-screwed and the packing be removed with a small screw driver. Upon replacement of the packing, make sure the packing box is tightly screwed back in place and the cap has been re-mounted.

Make sure that no contamination has entered the valve during the replacement process. (If required clean the parts with a clean, pill-free cloth!)