Please read the entire manual carefully before installing or operating the regulating valve WITT EA!

1. INTENDED USE

WITT angle stop valves EA are solely intended for use in refrigeration systems to isolate certain parts or components.

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 WARRENTY

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

Our liability of warranty is void if:

- the instructions of this manual are not adhered to,
- the angle Stop valve is operated incorrectly or is installed contrary to these installation ,
- the angle stop valve EA 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 valves EA are suitable for use with common refrigerants, such as NH_3, CO_2, R 507, R 22, R134a, R404a, R410.

5. ORDER INFORMATION

Please specify with your order the required operation pressure and -when ordering EA40- the required material (black or stainless steel)

6. DELIVERY CONDITION

All valve have undergone a pressure and leakage test with air under water.

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

It is possible to galvanize the valve together with other parts. In this case the packing must be removed prior to the galvanizing process. For any damages that may occur during this process, the supplier does not take any responsibility.
Angle stop valves EA come with graphite on thread and spindle and cap filled with grease

7. CERTIFICATES/APPROVALS

Angle stop valves EA20 – 25 are per article 4, section 3 of the PED, not within the area which is covered and therefore they cannot be marked with the CE sign. The required good engineering practice is maintained by following regulation DIN EN 12284. The manufacturer's declaration is available (e.g. www.th-witt.com).

Above DN25 the valves are manufactured according to PED 2014/68/EU, module A2 annex III, as pressure holding equipment and marked with the CE signs.

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
Test pressure: 37.5 bar

40 bar execution:
-1/40 bar -10°C to +50°C
-1/30 bar -10°C to –60°C
Test pressure: 60 bar

56 bar execution:
-1/56 bar -10°C to +50°C
-1/42 bar -10°C to –60°C
Test pressure: 84 bar

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

8.2 Materials/Dimensions/Weights

See internal WITT standard 4111-0.04-E- to 4111-0.06-E-

9. DESCRIPTION OF OPERATION

Angle stop valve are used to isolate certain parts or components of a refrigeration system. During operation of the system the valves should not be activated. 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.

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.

Angle stop valves EA should only be operated fully closed or fully open (backseated). If the refrigerant flow should be regulated, then a regulating valve has to be used.

10. TRANSPORT AND STORAGE

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

11. INSTALLATION

Welding of the valves EA is only allowed in a fully opened condition. Prior to any welding the packing must 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 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.

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 4 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 we changed safely.

If the packing should be replace, 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!)