

INSTALLATION INSTRUCTIONS

Special Siphon – Pressure Side type (AK-D)



Item No.: 31 215 00 S 003 / 11 (white)
Item No.: 31 215 22 S 001 / 13 (transparent)

The special siphon – type AK-D – is a manually filled siphon for draining condensate from the chiller, humidifier or other wet areas in air-handling units (AH units) that operate at positive pressure compared to the environment. Considering a safety factor of 1.5 for pressure surges during plant operation (quick-release flaps etc.), the height of the pipes is sufficient for a max. positive pressure of 1,630 Pa. An extension of the two immersion pipes (6) and (9) for higher pressures is possible. To be ordered separately, if required (Fig. 1).

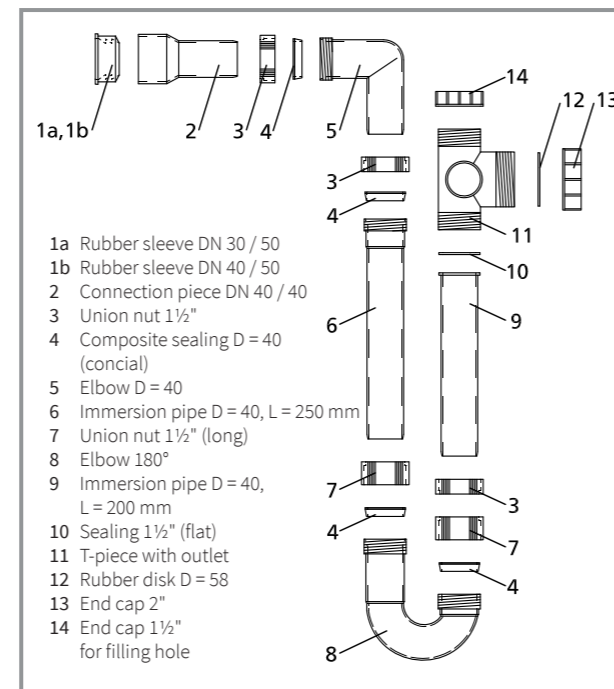
The two immersion pipes (6) and (9) can be shortened accordingly for lower pressures. For draining the components during the shutdown of the plant the outlet must be at a lower position than the intake.

Description

- < Siphon AK-D type with end cap for filling and inspection purposes
- < For draining components of AH units that operate at positive pressure compared to the environment
- < Individual outlet construction and variable installation height
- < Suitable for a max. positive pressure of $P = 1,630$ Pa considering a safety factor of 1.5 for pressure fluctuations in the system
- < Made of polypropylene (PP)
- < Max. construction height 400 mm / outlet diameter 40 mm
- < Water intake connection via crimp screwing or rubber sleeve for outlets of 3/4", 1", 1 1/4" or 1 1/2"

The foundation or base frame height (mm) must be adapted to the structure of the unit near the draining nozzle, the positive pressure P (Pa) and the pressure height H (mm) resulting from this.

Bild 1



Beispiel:

Positive pressure at draining nozzle = 1,000 Pa and distance $A = 70$ mm

$$H = \frac{P}{\rho \cdot g} = \frac{1.000}{10} = 100 \text{ (mm)}$$

The distance between the middle of the intake of the siphon and the floor must be $\geq R$ (min. 215 mm) (Fig. 3).

$$R = P \times 1,5 / \rho \cdot g + 115 \text{ mm} (75 + 40 \text{ mm, Fig. 3})$$

$$R = 1.000 \times 1,5 / 10 + 115 \text{ mm} = 265 \text{ mm}$$

Daraus ergibt sich eine min. Grundrahmenhöhe GR:

$$GR = R - A = 265 \text{ mm} - 70 \text{ mm} = 195 \text{ mm}$$

Assembly / Calculation

One AK-D type siphon must be provided at each outlet on the pressure side of the unit. For assembly see Fig. 1. Attention must be paid during assembly that the pipes are always inserted into the nozzle as far as they will go. The base frame height (GR) can be calculated automatically on our homepage. The elbow (5) and

the immersion pipes (6) and (9) must be adapted to the existing positive pressure. The connection piece (2) and the rubber sleeves (1a and 1b) for the 3/4" to 1 1/2" draining nozzles are included in the scope of supply. Do not connect the siphon directly to a drainage pipe, it shall be able to drain freely. If longer pipes are used between the siphon and the outlet, attention must be paid that ventilation, diameter and slope are sufficient and in accordance with the standards of the sanitary engineering. Before taking the VAC plant into operation, the siphon must be filled with water through the filling hole (end cap 14).

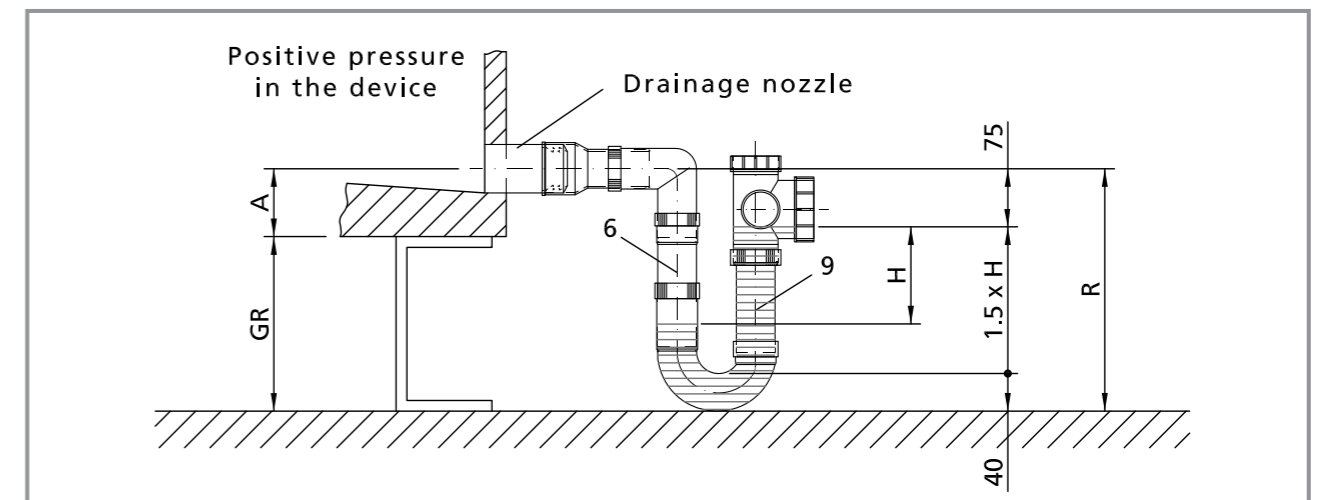
Maintenance

The siphon must be checked in appropriate time intervals to prevent air losses in the VAC plant and should be refilled, if applicable. The filling hole can also be used for cleaning purposes. The water outlet in the AH unit must be cleaned regularly. The drainage function must be checked in plants where condensate is produced.

NOTE:

If the drainage nozzle is led through the bottom of the unit, distance A must have a negative sign when entered in the formula for calculating the base frame height.

Fig. 3 (to scale with calculation example)



Outlet	D (mm)	Rubber sleeve
3/4"	28 – 34	1b
1"	28 – 34	1b
1 1/4"	38 – 44	1a
1 1/2"	*)	*)

*) without adapter. Sealing with permanent elastic silicone material

ATTENTION:

Immersion pipes (6) and (9) must always be shortened and extended equally! (max. shortening by 155 mm, therefore dimension R min. 215 mm)

Fig. 2

