

Humidification

General Information on Air Humidification in Beverage Production

Safe product creation in a wooden barrel to the highest levels of quality can only be ensured through a consistent and adequately high humidity level in the storage cellar. In addition to controlled temperature, the humidity setting is a further parameter for the creation of ideal maturing conditions for the final product.

Inadequately low humidity leads to a relatively severe evaporation of the product in the ambient air in the cellar. This volumetric loss can no longer be compensated for. If the wooden barrel is not refilled promptly, detrimental microbacterial changes may occur in the event of air coming into direct contact with the surface of the liquid. These can even lead to spoilage of the product.

For this reason, it is imperative that wooden barrel cellars be kept at a constant humidity level within the range of 70... 80 % relative humidity. One additional positive side effect is the enhanced preservation of wooden barrels.

Optimum humidity is also important during storage of filled bottles, particularly for the cork. This dries out if the humidity is too low, its tension is eroded and liquid can leak out.

HYS HygroSens Pneumatic Humidification System

The HYS HygroSens pneumatic humidification system was developed specifically for use in wooden barrel cellars and wine bottle stores. The system requires a water and compressed air connection and an actuator signal for the integrated solenoid valve. Domestic water pressure should be reduced to a pressure of 1... 2 bar using a pressure regulator, and water from the domestic water mains should be pre-filtered with a 5 micrometre filter prior to being fed in. Compressed air should be provided from a compressor (oil separator required) to operate the system. This compressed air should have a pre-pressure within the range of 3... 10 bar. A pressure regulator with a pressure gauge (0... 6 bar) is integrated in the humidification unit itself, and this can be used to set the humidification capacity, which is governed by the configuration pressure.

Features

- ▶ Micro-atomisation of drinking water without Water treatment *
- ▶ Compact design - simple installation - self-installation
- ▶ Modular system - easily expanded
- ▶ Outputs configurable through nozzle selection ***
- ▶ Humidifying output variable from 110 to 2,000 m³ room air **
- ▶ Suitable for ceiling and wall mounting (pivot through 90°)
- ▶ Humidifying output variable from 500 to 2,000 m³ room air
- ▶ Humidity regulator fitted conventionally in unit or electronically (externally)
- ▶ Dimensions: LxHxD=220x320x190 mm
- ▶ Solenoid valve for compressed air 24 V AC/DC
- ▶ 3-pole connecting cable with connector included in scope of delivery
- ▶ Comprehensive installation accessories

Model	Designation	for room volumes up to approx.	Order no.	Unit price/€
HYS-1 ***	Pneumatic humidification unit 1 x 4.5 kg/h	500 m ³	307.0001	
HYS-2 ***	Pneumatic humidification unit 2 x 4.5 kg/h	1,000 m ³	307.0002	
HYS-3 ***	Pneumatic humidification unit 3 x 4.5 kg/h	1,500 m ³	307.0003	
HYS-4 ***	Pneumatic humidification unit 4 x 4.5 kg/h	2,000 m ³	307.0004	
BD-1.0	Humidifier nozzle 1.0 kg/h	110 m ³	307.0010	
BD-3.0	Humidifier nozzle 3.0 kg/h	335 m ³	307.0011	
BD-4.5	Humidifier nozzle 4.5 kg/h	500 m ³	307.0005	
HYS-ST100	Humidistat integrated in HYS-X incl. 24 VAC power supply		307.0008	
HYS-MC	Digital humidity regulator incl. 24 VAC power supply		307.0009	
SDA	Pivoting nozzle adapter		307.0006	
DRN	Nozzle cleaning needle		307.0007	

* For pure drinking water with water hardness < 10 °dH poorer water qualities and greater degrees of hardness require an upstream water treatment plant

** BD-1.0, BD-3.0 or BD-4.5 freely selectable

*** Water hose connection to humidification units with click system



307.0001 to 307.0004



307.0006



307.0009

Indoor Climate

Accessories	Designation	Order no.	Unit price/€
WAF-5U	Water filter 5" incl. filter 5 micrometres; direct connection on both sides PAS-10/8 BU	307.0051	
WAF-FE	Spare filter element 5 micrometres for WAF-5U	307.0052	
WAF-A-10/8	Water filter connection ET 3/8" x 10/8	307.0062	
WAF-A-6/4	Water filter connection ET 3/8" x 10/8	307.0061	
DRM-0/10	Pressure regulator for water 0... 10 bar; direct connection on both sides with PAS-10/8	307.0053	
PAS-10/8-BU	PA hose 10/8 mm (blue) for water 1 roll = 50 running metres (minimum order quantity)	307.0064	
PAS-6/4-BU	PA hose 6/4 mm (blue) for water 1 roll = 50 running metres (minimum order quantity)	307.0065	
DLF	Pneumatic filter set incl. hose adapter 10/8	307.0050	
DLA-10/8	Pneumatic adapter for hose connection 10/8 to HYS	307.0058	
DLA-6/4	Pneumatic adapter for hose connection 6/4 to HYS	307.0055	
PAS-10/8-BK	PA hose 10/8 mm (black) for air 1 roll = 50 running metres (minimum order quantity)	307.0057	
PAS-6/4-BK	PA hose 6/4 mm (black) for air 1 roll = 50 running metres (minimum order quantity)	307.0054	
T-10/8	T-piece 3 x 10/8 mm for water and air	307.0063	
T-6/4	T-piece 3 x 6/4 mm for water and air	307.0056	
T-2x10/8 - 1x6/4	T-piece 2 x 10/8 1x6/4 mm for water and air	307.0059	
RED-10/8 - 6/4	Reduction 10/8 to 6/4	307.0060	

Technical data					
Model		HYS-1	HYS-2	HYS-3	HYS-4
Order no.		307.0001	307.0002	307.0003	307.0004
No. of nozzles	[items]	1	2	3	4
Humidification capacity ****	[kg/h]	1/3/4.5	2/6/9	3/9/13.5	4/12/18
Air consumption *****	[l/min]	9/27/40	18/54/80	27/54/120	36/107/160
Water intake pressure range	[bar]	1... 2 (max.)	1... 2 (max.)	1... 2 (max.)	1... 2 (max.)
Air intake pressure range	[bar]	3... 10 (max.)	3... 10 (max.)	3... 10 (max.)	3... 10 (max.)
Voltage/Frequency/Output	[V/Hz/W]	24/50/2	24/50/2	24/50/2	24/50/2

****The humidification capacity is set on the spray station pneumatic regulator
 ***** at 3 bar

