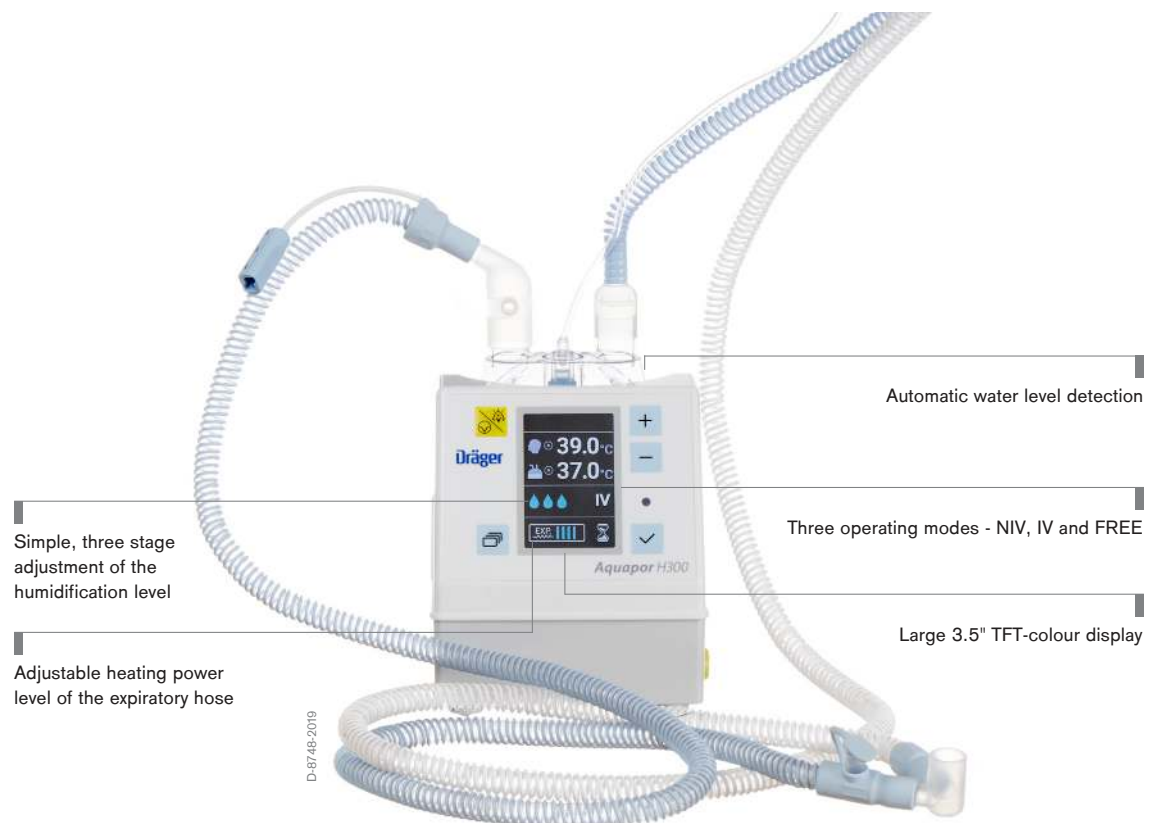


## Aquapor H300 Consumables and Accessories

The Dräger Aquapor H300 respiratory humidifier ensures that patients who require mechanical breathing support are supplied with optimally conditioned breathing gas.



## Benefits

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### Easy adjustment of the humidifier output

During mechanical ventilation, the natural warming, humidifying and secretion transport functions of the upper respiratory tract are compromised. In patients who require mechanical ventilation for longer periods, it is vital that measures are taken to mitigate these effects and reduce the likelihood of serious ventilator-associated lung infections (VALI).<sup>1</sup> The Aquapor H300 provides optimally conditioned breathing gas, compensating for the heat and water loss caused by artificial ventilation with cold, dry medical gases.<sup>2,3</sup> Three simple presets allow the user to adjust the humidification level according to the individual needs of the patient.

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### A wide range of applications NIV, IV and Free Modes

A variety of therapy forms, including non-invasive O<sub>2</sub> therapy (e.g. High-Flow), CPAP and mask ventilation, but also invasive ventilation via endotracheal tube are supported by the addition of active humidification.<sup>2,3,4,5</sup> The Aquapor H300 is equipped with three operating modes that cover all the relevant therapeutic indications. In addition to the 'Invasive' and 'Non-invasive' settings, the H300 features a 'Free' mode that is specifically designed to allow individualized therapy settings.

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### Advanced technology that is easy to use

The components and accessories of the Aquapor H300 are designed to support high-quality therapeutic. The heated hose is equipped with an embedded wire hose heating technology that helps avoid the collection of condensate. For easier assembly, the components of the hose system that carry breathing gas are colour-coded.

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### Positive influence on secretion viscosity

Without respiratory gas conditioning, there is a significant reduction in cilia work and, as a result, the self-cleaning function of the bronchi (mucociliary clearance) is compromised. This impairment of mucociliary clearance leads to an increase in secretion viscosity and secretion retention.<sup>6</sup> Active humidification can support the process of mucociliary clearance so that secretions can be removed. This reduces the formation of atelectases and the risk of infection for the patient.<sup>7</sup>

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### Adjustable heat output of the expiratory hose

One of the major challenges of active humidification is condensate. The Aquapor H300 offers advanced condensate management for the dual-heating system breathing circuits. To avoid condensate in the expiratory limb of the breathing circuits, the heat output can be individually increased in five stages. Thus, the formation of condensate in the the expiratory hose can be reduced.

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### Large 3.5" TFT colour display

The display offers excellent readability of parameters and alarms, even from a distance, and also features a dimming function in night mode. An ambient light sensor automatically adjusts the backlighting depending on ambient light conditions, thus supports better readability.

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### Literature

- <sup>1</sup> Williams R, Rankin N, Smith T, Galler D, Seakins P. Relationship between the humidity and temperature of inspired gas and the function of the airway mucosa. *Critical Care Medicine* 1996; 24(11):1920-1929.
  - <sup>2</sup> According to International Organization for Standardization (ISO) 8185:1997, the moisture output of an HH should be at least 33 mg/l (=75 % of the saturation humidity of 44 mg H<sub>2</sub>O/l at a body temperature of 37 °C)
  - <sup>3</sup> Ryan SN, Rankin N, Meyer E, Williams R (2002) Energy balance in the intubated human airway is an indicator of optimal gas conditioning. *Crit Care Med* 30:355-361
  - <sup>4</sup> Martins De Araújo MT1, Vieira SB, Vasquez EC, Fleury B. Heated humidification or face mask to prevent upper airway dryness during continuous positive airway pressure therapy. *Chest*. 2000 Jan;117(1):142-7.
  - <sup>5</sup> Massie CA1, Hart RW. Effects of humidification on nasal symptoms and compliance in sleep apnea patients using continuous positive airway pressure. *Chest*. 1999 Aug;116(2):403-8.
  - <sup>6</sup> Dalhamn, T.: Mucous flow and ciliary activity in the trachea of healthy rats and rats exposed to respiratory irritant gasses. *Acta physiol. scand. suppl.* 123, 36-39
  - <sup>7</sup> Lorente L, Lecuona M, Jiménez A, Sierra A. Ventilator-associated pneumonia using a heated humidifier or a heat and moisture exchanger: a randomized controlled trial. *Crit Care*. 2006; 10(4): R116.
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## Details



D-11573-2019

The display has a diagonal screen size of 9 cm and can be quickly captured optically. It also has a dimmer mode.



D-11576-2019

Individually adjustable heat output in the expiratory hose.



D-11575-2019

Individual adjustment of the humidity performance.



D-11574-2019

Three selectable operating modes (FREE, IV and NIV) enable different therapies.



D-44170-2021

Aquapor H300 set up with HI-Flow Star System and Oxymixer blender on the Multi-P trolley.



D-4093-2022

Aquapor H300 set up with Evita V800.

## Technical Data

### Aquapor H300

	MP01000
Dimensions	H 170 mm x B 145 mm x T 200 mm
Weight	ca. 2,3 kg
Classification	Device (protection class according to IEC 60601) class II Application parts of type BF Protection class through housing IP22
Operating voltage	220 V~ – 240 V~ / 110 V~ – 120 V~
Mains frequency	50 Hz / 60 Hz
Power consumption	315 VA max
Heater plate	170 W
Inspiratory heating power	22 V~, 30 W

### Operational data

Warm-up time	max. 30 min.
Humidifier output	> 33 mg/l at 2–60 l/min. > 12 mg/l at 2–80 l/min.
Recommended flow rate	1 l to 80 l/min.
Humidity	≥ 33 mg/l at 1 l to 80 l/min water chamber
Noise Level	< 50 dBa (1 m)
Sound pressure level	max. 65dB
Water volume	200 ml

### Environmental conditions

Operation	
Temperature	+18 °C to +26 °C
Air pressure	700 hPa to 1060 hPa
Relative humidity	0 % and 93 %, non condensating
Transport/Storage	
Temperature	-25 °C to +70 °C
Air pressure	500 hPa to 1200 hPa
Relative humidity	15 % to 93 %, non condensating

Material	MP07130 / MP07131	MP17090	MP07150 / MP07151
Breathing circuits	EVA, PE, TPE	EVA, PE, TPE	EVA, PE, TPE
Connectors	PE, EVA	PP	PE, EVA
Y-piece	PP		PP
Water chamber	PP, SBC, Silicone, Aluminium	PP, SBC, PVC, ABS, Silicone, Aluminium	PP, SBC, PVC, ABS, Silicone, Aluminium
Water trap	PP, TPE, POM, SAN, steel		PP, PE, TPE, POM, SAN, steel
O <sub>2</sub> hose		PVC (DEHP-free)	
Pressure relief valve (optional)		MABS, silicone, stainless steel	
Length (Insp.)	1.6 m (62.99 In)	1.6 m (62.99 In) +-10%	1.7 m (66.9 In), incl. 40 cm (15.74 In) incubator extension
Application	single patient use	single patient use	single patient use

## Technical Data

All gas conducting components are PVC-free.

### Environmental conditions

	<b>MP07130 / MP07131</b>	<b>MP17090</b>	<b>MP07150 / MP07151</b>
<b>During storage</b>			
Temperature	-20 to 60 °C	-20 to 60 °C	-20 to 60 °C
Relative humidity	5 to 95 % (non-condensing)	5 to 95 % (non-condensing)	5 to 95 % (non-condensing)
Ambient pressure	500 to 1200 hPa (7.3 to 17.4 psi)	500 to 1200 hPa (7.3 to 17.4 psi)	500 to 1200 hPa (7.3 to 17.4 psi)
<b>During operation</b>			
Temperature	20 to 26° C	20 to 26° C	18 to 26 °C
Relative humidity	10 to 90 % (non-condensing)	10 to 90 % (non-condensing)	10 to 90 % (non-condensing)
Ambient pressure	700 to 1060 hPa (10.2 to 15.4 psi)	800 to 1060 hPa (11.6 to 15.4 psi)	700 to 1060 hPa (10.2 to 15.4 psi)

	<b>MP07130</b>	<b>MP17090</b>	<b>MP07131</b>	<b>MP07150 / MP07151</b>
<b>Resistance</b>	at 15/30/60 l/min INS <sup>1</sup> 0.5/2.0 mbar <sup>2</sup> (0.5/2.0 cmH <sub>2</sub> O)	at 15/30/60 l/min INS <0.2/0.5/2.0 mbar <sup>2</sup>	at 30/60 l/min INS 0.5/2.0 mbar <sup>2</sup> (0.5/2.0 cmH <sub>2</sub> O)	at 2.5/5/15/30 l/min INS <0.1/0.3/1.6/5.0 mbar (hPa / cmH <sub>2</sub> O)
	at 30/60 l/min EXP <sup>3</sup> 0.4/1.3 mbar (0.4/1.3 cmH <sub>2</sub> O)		at 30/60 l/min EXP 0.5/1.8 mbar (0.5/1.8 cmH <sub>2</sub> O)	at 2.5/5/15/30 l/min EXP <b>MP07150:</b> <0.1/0.1/0.4/1.2 mbar (hPa / cmH <sub>2</sub> O) <b>MP07151:</b> <0.1/0.1/0.6/2.2 mbar (hPa / cmH <sub>2</sub> O)
<b>Compliance at 60 mbar (breathing tube system INS and EXP)</b>	< 3 ml/hPa (3 ml/mbar)	< 5 ml/hPa (ml/mbar)	< 3 ml/hPa (3 ml/mbar)	< 0.8 ml/hPa (ml/mbar)
<b>Nominal flow rate</b>	-/-	-/-	-/-	40 l/min; ≤ 0.2 kPa
<b>Leckage at 20/40/60 mbar</b>	-/-; -/-; < 50 ml/min	-/-; -/-; < 50 ml/min	-/-; -/-; < 50 ml/min	< 15/30/30 ml/min
<b>Electrical connection data</b>	22 V, 30 W, 14 Ω insp. / 14 Ω exsp.	22 V, 14 Ohm, 30 W	22 V, 30 W, 14 Ω insp.	22 V, 60 W, 14 Ω insp. / 14 Ω exsp.
<b>Flow range</b>				≥ 2 l/min
<b>Tidalvolume</b>	> 100 ml	> 100 ml	> 100 ml	< 100 ml

<sup>1</sup> Inspiratory

<sup>2</sup> 1 bar = 1 kPa x 100

<sup>3</sup> Expiratory

## Ordering Information

	<b>Packaging unit</b>	<b>Order number</b>
Aquapor H300 configuration	1 piece	MP01000
H300 Heater wire adapter; insp	1 piece	MP07106
H300 Heater wire adapter; dual	1 piece	MP07107
H300 Temp.sensor cable 160 cm	1 piece	MP07108 / MP07109
VentStar Aquapor dual heated A/P	10 pieces	MP07130
VentStar Aquapor heated A/P	10 pieces	MP07131
VentStar Aquapor dual heated N plus	10 pieces	MP07150
VentStar Aquapor heated N plus	10 pieces	MP07151
HI-Flow Star Kit Aquapor A	10 pieces	MP17090
HI-Flow Star Nasal Cannula, size S/M/L	25 pieces	MP05511 / MP05512 / MP05513
HI-Flow Star Valve Kit	15 pieces	MP05507
Connector, 22 mm ID / 22 mm ID	5 pieces	MP01942
Multi-P trolley including 3 rail holders and basket	1 piece	MP13020
Multi-P trolley (base with 5 castors and pole)	1 piece	MP13021

## Notes

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### CORPORATE HEADQUARTERS

Drägerwerk AG & Co. KGaA  
Moislinger Allee 53–55  
23558 Lübeck, Germany  
[www.draeger.com](http://www.draeger.com)

### Manufacturer:

Drägerwerk AG & Co. KGaA  
Moislinger Allee 53-55  
23542 Lübeck, Germany

### REGION EUROPE

Drägerwerk AG & Co. KGaA  
Moislinger Allee 53–55  
23558 Lübeck, Germany  
Tel +49 451 882 0  
Fax +49 451 882 2080  
[info@draeger.com](mailto:info@draeger.com)

### REGION MIDDLE EAST, AFRICA

Drägerwerk AG & Co. KGaA  
Branch Office  
P.O. Box 505108  
Dubai, United Arab Emirates  
Tel +971 4 4294 600  
Fax +971 4 4294 699  
[contactuae@draeger.com](mailto:contactuae@draeger.com)

### REGION ASIA PACIFIC

Draeger Singapore Pte. Ltd.  
61 Science Park Road  
The Galen #04-01  
Singapore 117525  
Tel: +65 6872 9288  
Fax: +65 6259 0398  
[asia.pacific@draeger.com](mailto:asia.pacific@draeger.com)

### REGION CENTRAL AND SOUTH AMERICA

Dräger Indústria e Comércio Ltda.  
Al. Pucurui - 51 - Tamboré  
06460-100 - Barueri - São Paulo  
Tel. +55 (11) 4689-4900  
[relacionamento@draeger.com](mailto:relacionamento@draeger.com)

Locate your Regional Sales Representative at:  
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