

Application Note

Negative Pressure Wound Therapy (NPWT)

By exerting a vacuum on the wound, the wound closure is to be facilitated or accelerated. The treatment time can be shortened by means of the vacuum therapy. This is so far just possible with a stationary stay, since the devices on the market for the generation of negative pressure are large.

With our flat micropump we have the possibility to implement the proven technology for portable applications.



Figure 1: Wound pad with the mp6-AIR micropump and the mp6-OEM controller.

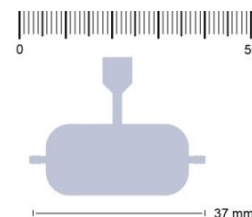


Figure 2: Micropump mp6-AIR integrated in a portable system for NPWT.

System consists of check valve mp-cv, micropump mp6-AIR, pressure sensor and battery powered electronic.

Technical Data of the mp6-AIR¹

mp6-AIR	Order code: mp6-AIR
Pump type	piezoelectric diaphragm pump
Number of actuators	2
Dimensions without connectors	30 x 15 x 3.8 mm 1.1811 x 0.5906 x 0.1498 in.
Weight	2 g
Fluidic connectors	barbed tube clip, (outer diameter 1.9 mm, length 3.5 mm) ²
Electric connector	flex connector 1.25 mm pitch
Power consumption	< 200 mW ⁶
Self-priming	yes ³
Pumping media	gases
Operating temperature	0 – 70°C
Life time	5000 h
IP code	IP 33 ⁴
Material in contact with media	polyphenylene sulphone (PPSU) ⁵
Suitable evaluation controller	mp-x, mp6-EVA, mp6-OEM, mp6-QuadEVA, mp6-QuadOEM and mp6-QuadKEY
Typical values of flow and back pressure for selected media (values defined with mp-x: 300 Hz, 250 V, SRS):	
Gases	
typ. min. volume flow	20 ml/min (300 Hz) ⁶
typ. min. back pressure	100 mbar (300 Hz) ⁶



¹ Typical values. Values can vary under application conditions. Content is subject to changes without notice.

² Recommended tubing: Tygontubing 1.3 mm inner diameter.

³ Conditions: Gases, room temperature 23°C, settings mp-x: 300 Hz, 250 V, SRS, the max. volume flow will be reached after a few minutes of operation time.

⁴ Can be changed to IP44.

⁵ The mp6-AIR is not stable against concentrated alcoholic solutions as MeOH or EtOH.

⁶ Conditions: Gases, room temperature 23°C, mp-x: 300 Hz, 250 V, SRS

The mp6-AIR is a regular mp6 that was specifically measured for gas flow.

Please find more information concerning the controller and the equipment in the corresponding data sheets.