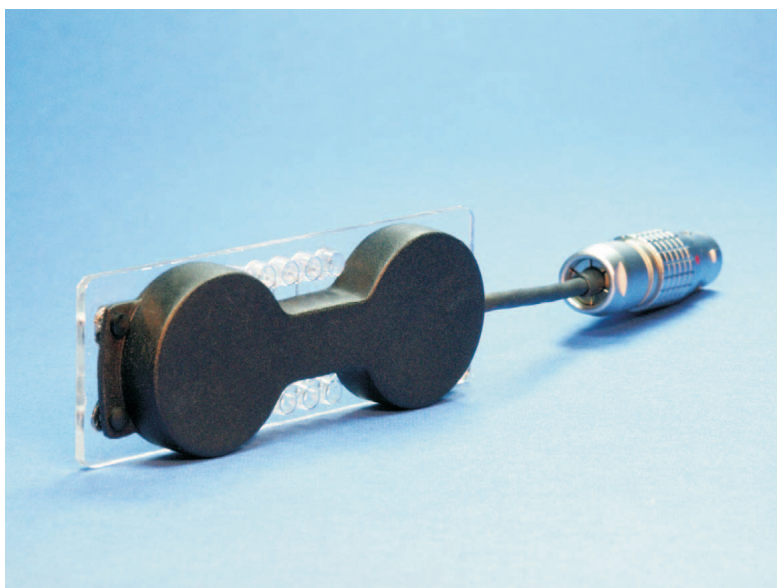


# TPS1304

## twin pump slide

### Main features

- two self-priming micro pumps, independently controllable
- pumps gases and liquids
- slide format



The TPS1304 twin pump slide integrates two thinXXS micro diaphragm pumps on top of a plastic slide. The twin pump slide is particularly suited for use with the

modules of the microfluidic construction kit, but may also be operated separately. The slide is made of cyclo-olefin copolymer (COC), which combines good optical

properties with biocompatibility and good chemical resistance to most acids and bases.

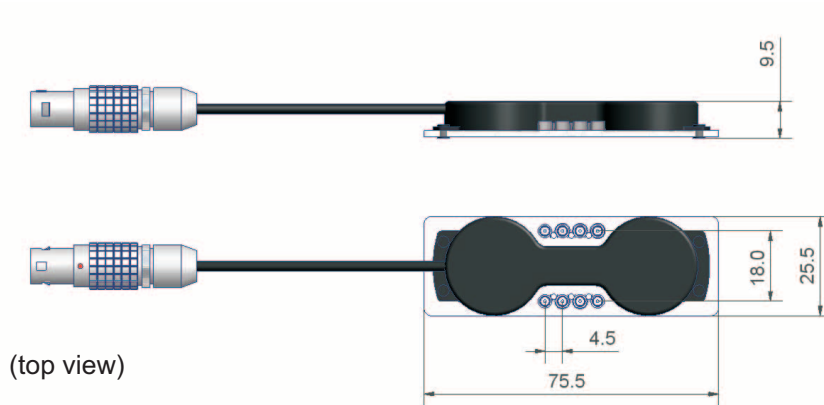
### Technical specifications

max. flow rate per pump (at 22°C, no back pressure)	
water	6 ml/min (typ.)
air	20 ml/min (typ.)
max. back pressure per pump (at 22°C, 35 Hz, no flow)	
water	~ 35 kPa (≈ 5 psi)
air	~ 10 kPa (≈ 1.5 psi)
max. particle size	10 μm
max. viscosity	~ 350 mPas
lifetime per pump	> 10 <sup>8</sup> strokes
operating / media temperature	10° - 50°C
storage temperature	0° - 55°C
wetted parts	COC (Topas®)

### Pump control

The flow rate of each of the micro pumps is controlled by the frequency of the piezo actuator.

Optimum electronic control of both pumps is provided by the EDP0704 pump control.



(top view)

(all dimensions in mm)

**Connections**

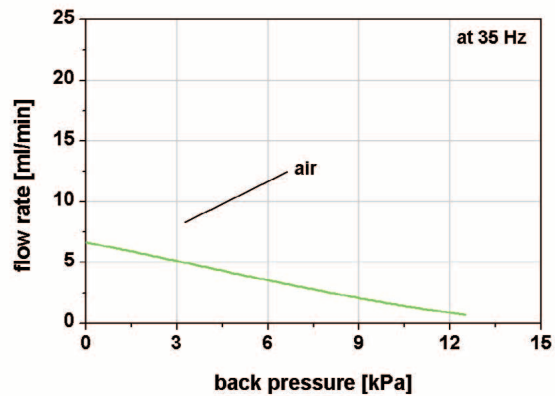
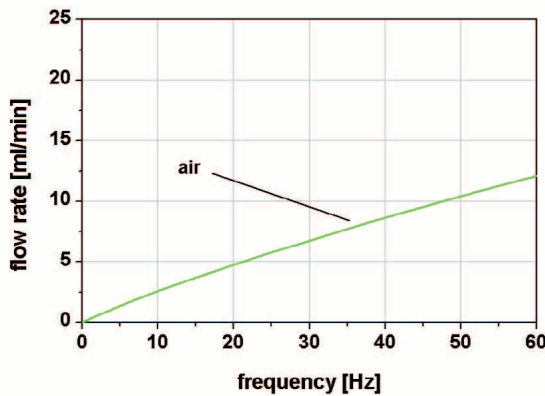
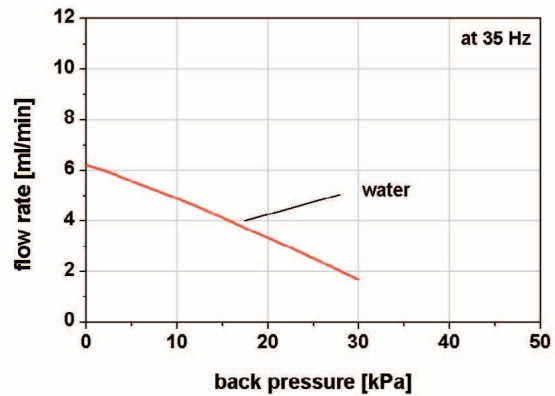
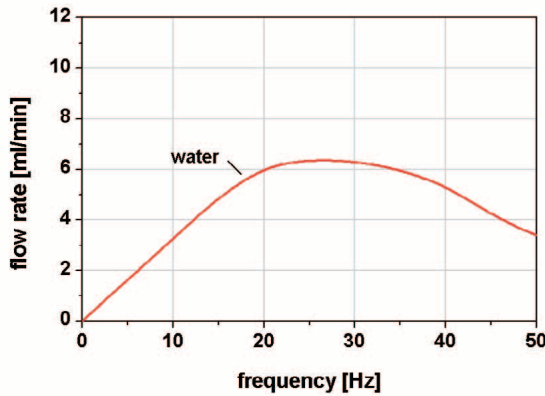
**electronics**

LEMO straight plug, type FGG.1B.303.CLAD42

**fluidics**

A set of connectors is available which allows to connect standard tubes or typical laboratory tools such as pipettes or syringes to the fluid ports of the TPS1304.

**Typical flow curve characteristics\***



\* N.B.: the values given above depend on several parameters, e.g. fluid and tubing. They were measured at 22°C by using: an EDP0704 electronic pump control, tubes (Siltube TR60) of 15 cm in length at both suction and pressure head, and a precision laboratory scale. Variation of these parameters is likely to render different values.

**Order information**

Description	Product code	Order code
Twin Pump Slide	TPS1304	SA13CC0401