



[Nanopowders Systems]

Syringe Box Module



sbox

Overview

s-Box module is a high precision precursor delivery system. It consists of a 25ml¹ syringe operated by a low pulsation syringe pump. All the parts in contact with precursor are made out of glass or PTFE. The module is

controlled by a dedicated SW, developed by Tethis, that runs on a Windows® PC. s-Box has been developed to be connected to Tethis NanoPowder Nozzle npn and to the g-Box for gas managing.

Technical specifications

Environment

Operating temperature range	0 °C – 45 °C
Operating humidity	20% - 90% non condensing
Storage temperature	-20°C – 45°C
Storage humidity	20% - 90% non condensing

Mechanical data

Dimensions (L x W x H) in cm	22 x 7,5 x 36 cm
Weight	3 kg

Electrical data

Power supply	90 – 132 / 187 – 264 VAC, 47 – 63 Hz
Power consumption	50 W
Communication	RS-232
Valve switch remote enable	5 V

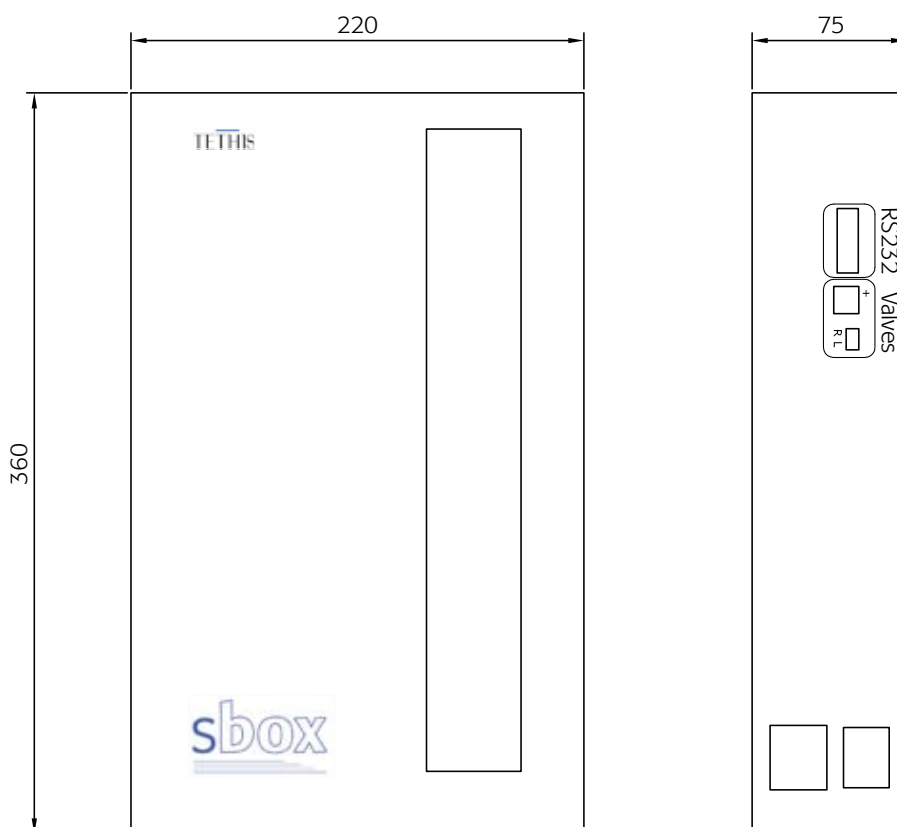
Valve

Body material	PEEK
Seal material	FFPM
Temperature media	10 – 40 °C
Viscosity	Max 20 mm ² /s
Internal Volume	< 13 µl
Orifice	DN 0.6 mm
Port connection	Flange, UNF 1/4" – 28

Dosing performance

Pusher Velocity min (nm/s)	59.26	
Pusher Velocity max (mm/s)	5.93	
Smallest step (μm)	0.035	
Step Rate min (step/s)	1.71	
Pusher Force max (N)	290	
Syringe 25 ml / 60 mm stroke	Flow rate min ($\mu\text{l/s}$)	0.025
	Flow Rate pulsation-free ($\mu\text{l/s}$)	0.494
	Flow Rate max ($\mu\text{l/s}$)	2.469
	Dosing Vol. min (μl) = 10 steps	0.145

¹ The module can operate with syringes of different volumes: details about the dosing performance are available on request.

Layout

TETHIS

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