

Test bench: Fluid dynamics



DIMENSIONS

Dimensions	1800 x 900 x 1700 mm (L x B x H)
Weight	approx. 200 kg
Material (wetted parts)	Stainless steel (group 316), EDPM, FEP, PTFE and PVC
IP protection class	IP 54

ELEKTRICAL DATA

Connection for power supply	400V / 50 Hz / 16 A CEE
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DATA

Storage tank	approx. 50 liters (Polyethylene)
Pump	Stainless steel centrifugal pump, adjustable
Flow meter	Magnetic-inductive flow meter
Venturi-pipe	Including differential pressure measurement, transparent
Piping network	Different surface roughness including flow and differential pressure measurement
Control cabinet	Including safety shut-offs (p,T)

FILED OF USE

Measurement technique	Comparison between Venturi-pipe and magnetic-inductive sensor
Piping network	Analogy between fluid dynamics and electrical engineering (parallel and bridge connection)
Pipe flow	Turbulence characteristics in the pipe flow (Reynoldsnumber determination) Hagen-Poiseulle equation (Pressure drop and viscosity) Pipe coefficient of friction

Schematic view of test bench fluid dynamics

