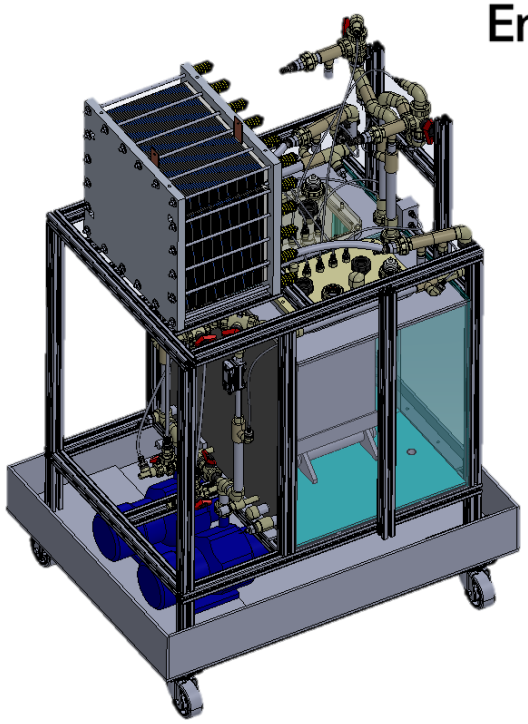
INO-HUB Energy kW-scale Test Rig

Research-grade laboratory BESS



Unlock the full potential of redox flow battery development with the ***INO-HUB Energy kW - scale test rig*** *— a sophisticated solution engineered for comprehensive performance testing. When paired with a stack, this versatile system also serves as a fully operational demonstration unit, ideal for showcasing real-world functionality.*

*The kW-scale test rig features robust, chemically stable pumps, two durable 200 dm³ polypropylene tanks and a complete set of supporting utilities. The kW – scale test rig is in a protective transparent. A wide range of sensors, power electronics, and thermal management options are available, enabling precise monitoring and flexible configuration tailored to your specific research or demonstration needs (****research-grade laboratory BESS****).*

Technical Datasheet

	kW - scale test rig
Construction materials	Aluminum (frame), PP (piping and tanks)
Basic information	
Size HxWxD	2 200 x 1 030 x 1 350 mm
Weight (with 1.6 mol/dm³ vanadium electrolyte)	1 200 kg
Pumps	
Number of centrifugal pumps with magnetic clutch	2
Pumps input	400 V AC
Battery interface	
Two chambers (externally thermostated) tank	2 x 200 dm³ total (PP)
Battery stack (on request)	40 - cells
Stack connections	G1/2”
Sensors	
Temperature	4 x Pt100 (outside + electrolytes temperatures)
Liquid level	2 x (1 on each tank)
Flow rate	2 x (1 on each electrolyte pipe)
Relative pressure	2 x (0-2 bar)
OCV cell	2
Battery charger	
AC/DC (on request)	25 kW
DC/DC (on request)	2 x 10 kW (on request)
Voltage range charge/discharge	0 – 75 VDC
Nominal charge / discharge current	2 x 208 A (30 – 48 VDC)
Interface	
Modbus TCP/IP /Canbus or similar	yes
HMI, software Modbus TCP/IP /Canbus or similar	yes
Control and recording software	