



Calo2310 pro BS

The newest Reaction Calorimeter for Safety Investigations as well as Scale-Up



Combined **Heat Flow** and **Heat Balance Calorimeter** with automated „Zero Watt“ Baseline for non-isothermal mode.

The one and only professional „state of the art“ **Calorimeter**. A Calorimeter for the complete range of reaction mechanisms. With on-line display of output and heat of Heat Flow, Heat Balance and Calibration as well as A, U and cp in the „**Blue Window**“.

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automatically better

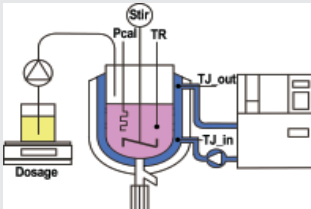
Calo2310 pro BS

Professional Universal Reaction Calorimeter



- Top class, combined heat-flow and heat-balance calorimeter for non-isothermal applications (n-iso HFC and HBC)
- Using simultaneously two complimentary measuring methods for critical comparisons
- Automated „Zero Watt“ baseline, based on instrument supported evaluation
- Measurement capability even without simultaneous calibration
- cp Determination automatically during calibration
- Blue Window with online display of A, U, cp as well as output and heat, for heat-flow (HF) and heat-balance (HB) each
- Optional heat balance within reflux condenser and combined total balance
- HBC is independent of filling level, viscosity, vortex and heat transit

Measuring principles & Blue Window



On-Line Evaluation	
Power	Heat
HF -0,1 W	33,1 kJ
HB -1,1 W	27,9 kJ
Ref 0,0 W	
Cal 0,0 W	34,1 kJ
mass 635,0 g	cp 2,42 J/g·K
A (l) 0,0440	A (l-1) 0,0440 m³
U (l) 153,05	U (l-1) 122,75 W/m²
cp(l) 2,91	cp(l-1) 1,92 J/g·K
Integration ON	Calibration ON
Reset Values	

$$HB = (T_{J_{in}} - T_{J_{out}}) \cdot cp \cdot r \cdot F$$

(W) (°C) (°C) (J/g·K) (g/ml) (ml/s)

$$HF = (TR - T_{J_{out}}) \cdot A \cdot U$$

(W) (°C) (°C) (m²) (W/m²·K)

Data Summary Calo2310 pro BS

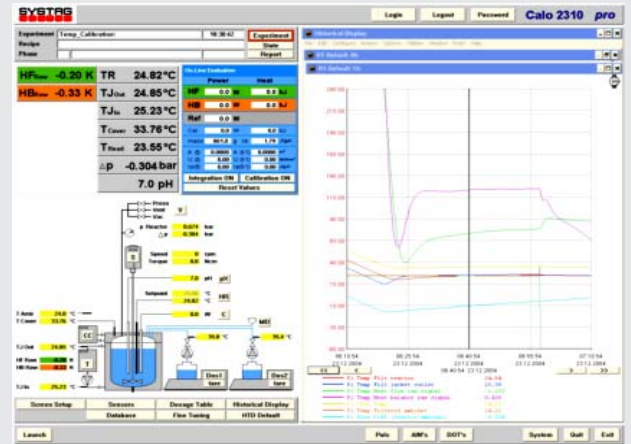
Reactor	Glass, conical shape, 1l capacity, triple wall, with bottom discharge, tight, with safety valve	
Operating Range	-50°C to +180°C	} dependent of selected
Thermostat	Unistat 380w from -80°C to +200°C	} thermostat
Stirrer Speed	40 to 2000 rpm	
Dosing Mode	1 x gravimetrically, using membrane pump	
Pressure/Vacuum	0 to 1.6 bar _{abs} including control	
Temp.-Resolution	0.007 K, HF and HB signals 0.001 K	
Accuracy	HF: 2%, HB: 4% (isothermal, 5° to 50°C)	
OPTIONS	Heat balance of reflux (accuracy 5%), second dosing facility, pH, pH control, distillation with balance, pressure reactor.	

Technical details are subject to change without notice



Overview

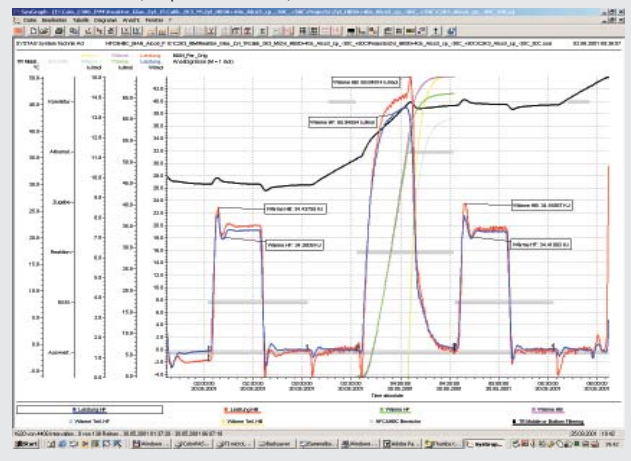
The new FlexySys Surface provides comprehensive operating facilities, whilst reaction progress can be monitored at a glance.



The new Recipe Editor OperX is a drag-and-drop Windows Editor incorporating all advantages of the current Base Operations.



SysGraph evaluation software combined with Calo2000 package for automated „Zero Watt“ base-line function, output and heat of HF, HB and reflux as well as adiabatic increase TR.



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