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Process and Chemical Engineering

Process Trainers with digital controllers



Process Trainers with digital controllers

Teach a basic understanding of process engineering using our process training systems. The four essential processes of *batch distillation*, *solid-liquid extraction*, *batch reaction* and *absorption* can be conveyed in clear and educationally logical fashion with the help of our Industrial Process Trainers (IPT).

IPT 52 Absorption



IPT 52 Absorption

In the process industry, no primary process can function alone without other auxiliary processes. One of the most important examples of the industry is the gas scrubbing, in which unwanted substances (such as CO₂ or H₂S) are scrubbed from flows of gas. The process trainer ***IPT52 Absorption*** clearly demonstrates the fundamentals of the overall absorptions process.

The focus is not solely on absorption, but also the opposite process of desorption, by means of which the solvent (such as sour water) can be re-purified.

The use of high-quality, industrial borosilicate glass 3.3, such as that actually used in the process industry, clarifies the process and cements understanding of how the process works. The effectiveness of this learning is enhanced by the interactive e-learning course.

Education objectives:

- First principles of combined Gas absorption / Gas desorption
- Influence of the ab-/desorption rate from:
 - Product flow rate
 - Temperature
 - Fluid dynamics of packed column
 - Heat recovery

Basic equipment set, consisting of:

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Pos.	Product name	Bestell-Nr.	Anz.
1	IPT 52 Gas Absorption Unit	LM3510	1

Apparatus:

- Feed vessel DN300, Volume 30 l
- Absorption column DN50, Packing column filled with glass Raschig rings 6x6, Packing height 500 mm
- Centrifugal pump, magnetically coupled, 20 W
- Gas mixer, static, with two gas flowmeters and two valves for separate adjustment of the gas flows
- Cooler, 0.03 m²
- 1x CO₂ Measurement incl. transducer
- 4x Resistance thermometers (Pt100)
- 1x Pressure measurement for differential pressure
- 2x Flow measurements, local, Gas
- 1x Flow measurement, local, Liquid

Dimensions:

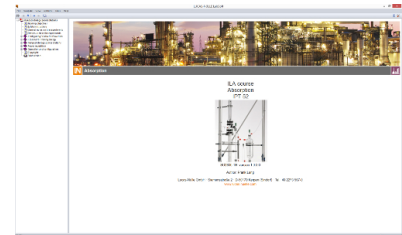
height x length x depth: 2300 x 1500 x 750 mm



Media:



Pos.	Product name	Bestell-Nr.	Anz.
2	Software gas absorption	SO2806-1N	1
	Multimedia experiment software with instructions and documentation for the process trainer "gas absorption".		



Additionally recommended

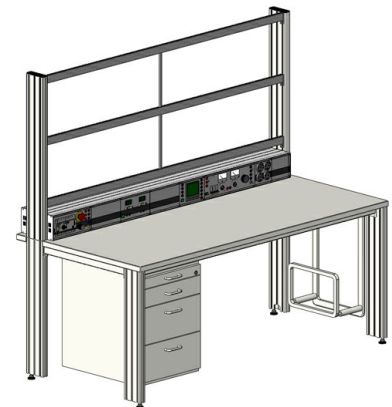
Pos.	Product name	Bestell-Nr.	Anz.
3	Lab table SybaPro, 1600x800x760mm, Process and chemical engineering	ST8031-1Q	1

It is an exemplary equipment. We manufacture your laboratory according to your wishes and requirements!

Laboratory bench

Highly-compressed 30mm-thick multi-layered fine chipboard conforming to German Industrial Standard (DIN) EN 438-1

- Colour grey RAL 7035, slightly textured 0.8mm-thick coating on both sides conforming to German Industrial Standard (DIN) 16926
- The border of the table top is a solid, impact-resistant protective trim made of 3mm-thick grey RAL 7047 coloured plastic
- The coating is resistant to a wide variety of chemicals and reagents such as dilute acid and alkaline solutions. Furthermore it is heat resistant even to liquid solder or the hot spots resulting from soldering irons and lit cigarettes, for example.
- Sturdy, continuous rectangular-tube frame with all necessary slots for fitting table legs and under-table cabinets, with approx.



- 0.8µm-thick acid-resistant epoxy resin coating
- 2 table legs, extruded aluminium profile, 705mm
- 2 table legs, extruded aluminium profile, 730mm
- 8 identical grooves in the extruded aluminium profile (3 grooves on each broad side and 1 on each narrow side)
- Grooves for mounting standard industrial brackets
- Two separate internal cable channels for wiring
- Integrated height-adjustable feet to compensate for uneven flooring
- Height of table top: 750mm
- Dimensions 1600 x 800 x 750mm (WxDxH)

Utensil drawer

- 3 drawers 2 HU
- 1 drawer 4 HU
- Usable width 330mm, Usable depth: 480mm
- Central locking
- Metal drawers with surrounding row of slots
- Body made of 19mm-thick, highly-compressed, multi-layered fine chipboard with grade E1 plastic coating on both sides
- Dimensions: 430 x 588 x 560mm (WxHxD)

Power ducting

for 1600-mm wide SybaPRO tables to accommodate 19", 3-HU inserts and panels

- To accommodate up to 25 x 12-PU (294 PU) 3-HU modules
- Can be fitted as console or as table-top ducts
- Pre-wired with power supply bus system for 3 HU inserts or panels
- Terminal strips for connection to existing power supply
- Base and lid made of anodised E6/EV1 extruded aluminium profiles
- Sides made of painted sheet steel (colour (RAL7047)
- High power quick-release IP20 safety plugs conforming to DIN EN 61984:2009
- External dimensions: 1530 x 133 x 230mm (WxHxD)

Exemplary equipment for the power ducting

- 230V/50Hz AC power supply insert for supply of power and fuse protection
- socket panel unit 5x230V
- socket unit 2x 230V/16A for supplying power to computer equipment
- RJ45 patch panel for networking PCs
- Multimedia terminal panel insert for PC