LEYBOLD®

CHEMISTRY PRESENTATION SYSTEM

FOR FLEXIBLE DEMONSTRATION EXPERIMENTS

LD DIDACTIC

EXPERIMENTATION WITH A CLEAR OVERVIEW

THE CHEMISTRY PRESENTATION SYSTEM

The electrochemistry demonstration system is ideal for demonstration experiments, as the experiments can also be seen from the back row.

ADVANTAGES AT A GLANCE

- rapid set-up of your own apparatus through defined distances
- simple corrections with magnetic holders
- clear experimental set-ups against a single-colour background
- no inconvenient stand material
- glass connectors with silicone seals replace tubing
- pre-assembled modules for complex experiment set-ups
- special equipment for all areas of chemistry

Instead of conventional materials on a stand - various modules suspended in a frame

The sensor-CASSY can also be suspended in the frame

Good visibility from a distance through single-colour background

Glassware is fixed to the panels with magnetic spring clips

Magnetic holders enable individual items of the apparatus to be set up on the adhesive panels

Adhesive panel can also be written on with whiteboard markers, thus replacing the board drawing

Can be combined with conventional laboratory equipment

SAVE TIME ON PREPARATION

WITH CPSflex

RAPID SET-UP OF INDIVIDUAL EQUIPMENT

HOLDER SIZE AND DISTANCE ARE DESIGNED SUCH THAT THE EXPERIMENTAL SET-UP IS AUTOMATICALLY ARRANGED IN ONE PLANE.

Insert adhesive magnetic board into the CPS frame.

Place magnetic holder on the panel.

Insert the glassware into the spring clips of the holders.

Adjust the glassware position with the magnetic holders.

Join the glass connectors together and tighten the GL screw fitting.

The experiment can start.

In the LEYBOLD YouTube channel you will find a video on experimentation with the Chemistry Presentation System.

For disassembly, remove all apparatus. To do this, just tilt the magnets. Alternatively, first remove the glassware, then the magnetic holders.

NEW

MAGNETIC HOLDERS

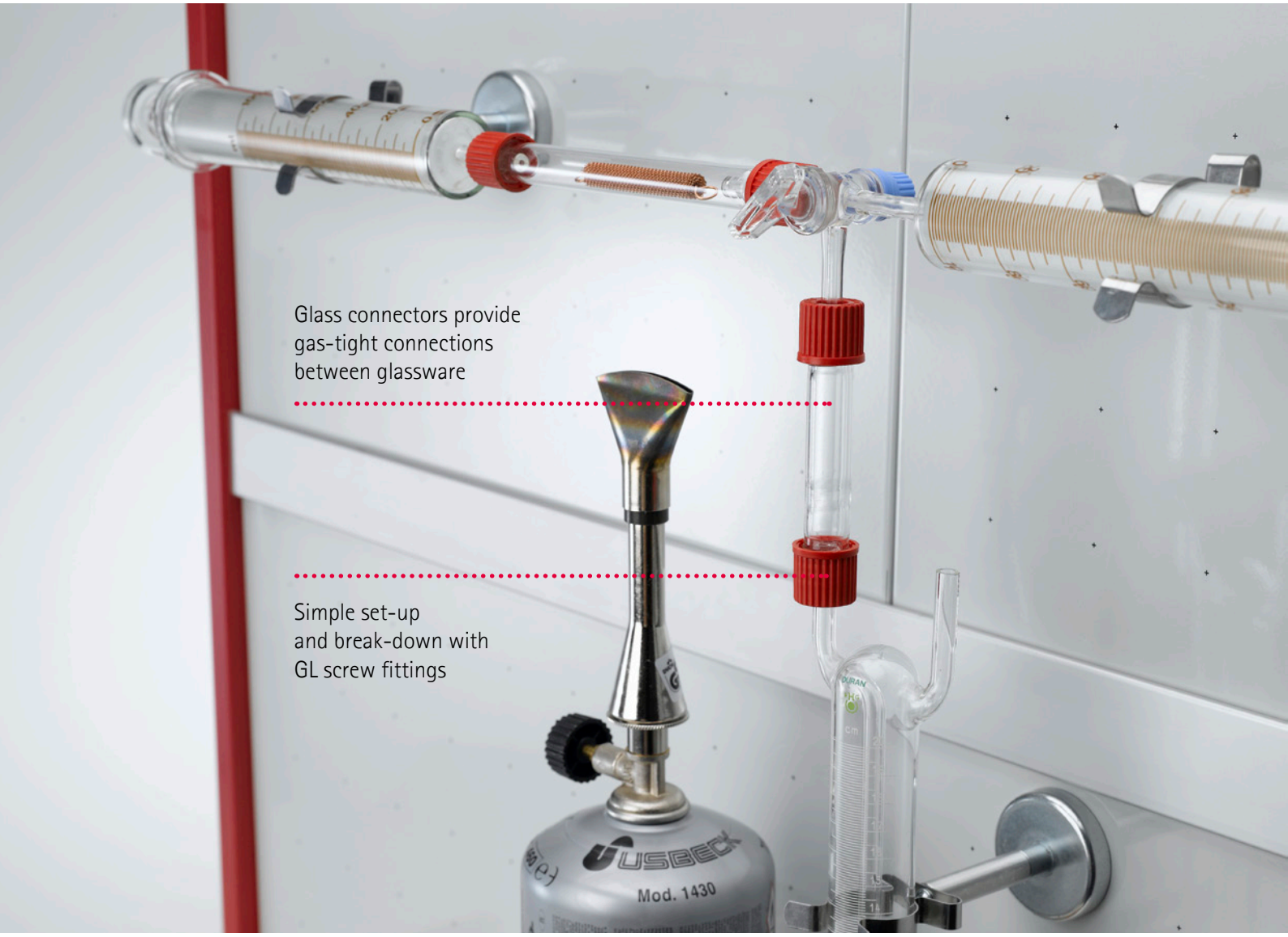
For setting up the apparatus five different sizes of holders are available. With these clips it is possible to attach glass equipment from 9 mm to 32 mm in diameter. Each magnet can hold 0.6 kg - sufficient for most applications. Large items of equipment are attached in individual CPS modules (see pages 8 to 13).

EASY CORRECTION WITH MAGNETIC HOLDERS

To attach ...		You need ...		
Item	∅	Article No.	Article description	
Glass tube, tubing	9...11 mm	666 4661	Magnetic holder, Size 1, ∅ 9...11 mm	
Ground glass NS14 Screw fitting GL14 Screw fitting GL18	11...14 mm	666 4662	Magnetic holder, Size 2, ∅ 11...14 mm	
Ground glass NS19 Screw fitting GL25	18...22 mm	666 4663	Magnetic holder, Size 3, ∅ 18...22 mm	
Ground glass NS29 Screw fitting GL32 Chromatography column	27...29 mm	666 4664	Magnetic holder, Size 4, ∅ 27...29 mm	
Screw fitting GL45 Gas syringe	30...32 mm	666 4665	Magnetic holder, Size 5, ∅ 30...32 mm	

INDIVIDUAL AND FLEXIBLE

MODULAR SYSTEM



Experiment set-ups without baked-on tubing.

GLASS CONNECTORS WITH SILICONE SEALS REPLACE TUBING

- Screw up tight = glassware is fixed, gas-tight connection
- Unscrew = glassware can be removed

CPS FRAME

- accepts all types of experiment panels
- fits into any fume cupboard
  50 cm wide for narrow experiments (C50)
  97 cm wide for wide experiments (C100)

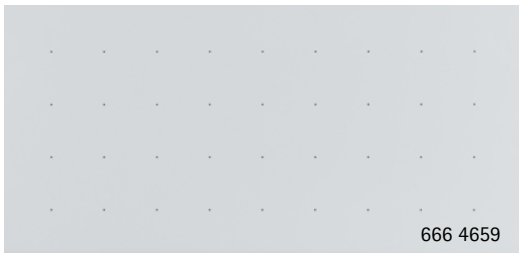
Profile frame C50, two rows, for CPS	666 425
Profile frame C100, three rows, for CPS	666 426
Profile frame C100, two rows, for CPS	666 428

NEW

ADHESIVE MAGNETIC BOARDS

Ferromagnetic board, painted, with printed cross-grid.
Can be written on with washable pens (whiteboard markers).

Adhesive magnetic board, 500 mm	666 4659
Adhesive magnetic board, 300 mm	666 4660



MAGNETIC HOLDERS

NEW

Spring clips with defined distance connected to adhesive magnets.
For setting up chemical apparatus on the adhesive magnetic board.


666 4661


666 4662


666 4663


666 4664


666 4665

Holder, magnetic, Size 1, 9...11 mm	666 4661
Holder, magnetic, Size 2, 11...14 mm	666 4662
Holder, magnetic, Size 3, 18...22 mm	666 4663
Holder, magnetic, Size 4, 27...29 mm	666 4664
Holder, magnetic, Size 5, 30...32 mm	666 4665

GLASS CONNECTORS

Three different shapes are available for connecting glassware together.

Glass connector, angled	667 293
Glass connector, 2 x GL 18	667 312
Glass connector, 1 x GL 18 with glass olive	667 313


667 293


667 312


667 313


narrow, c. 56 cm wide (666 4659P)


wide, c. 97 cm wide (666 4660P)

CPSflex STARTER PACKS

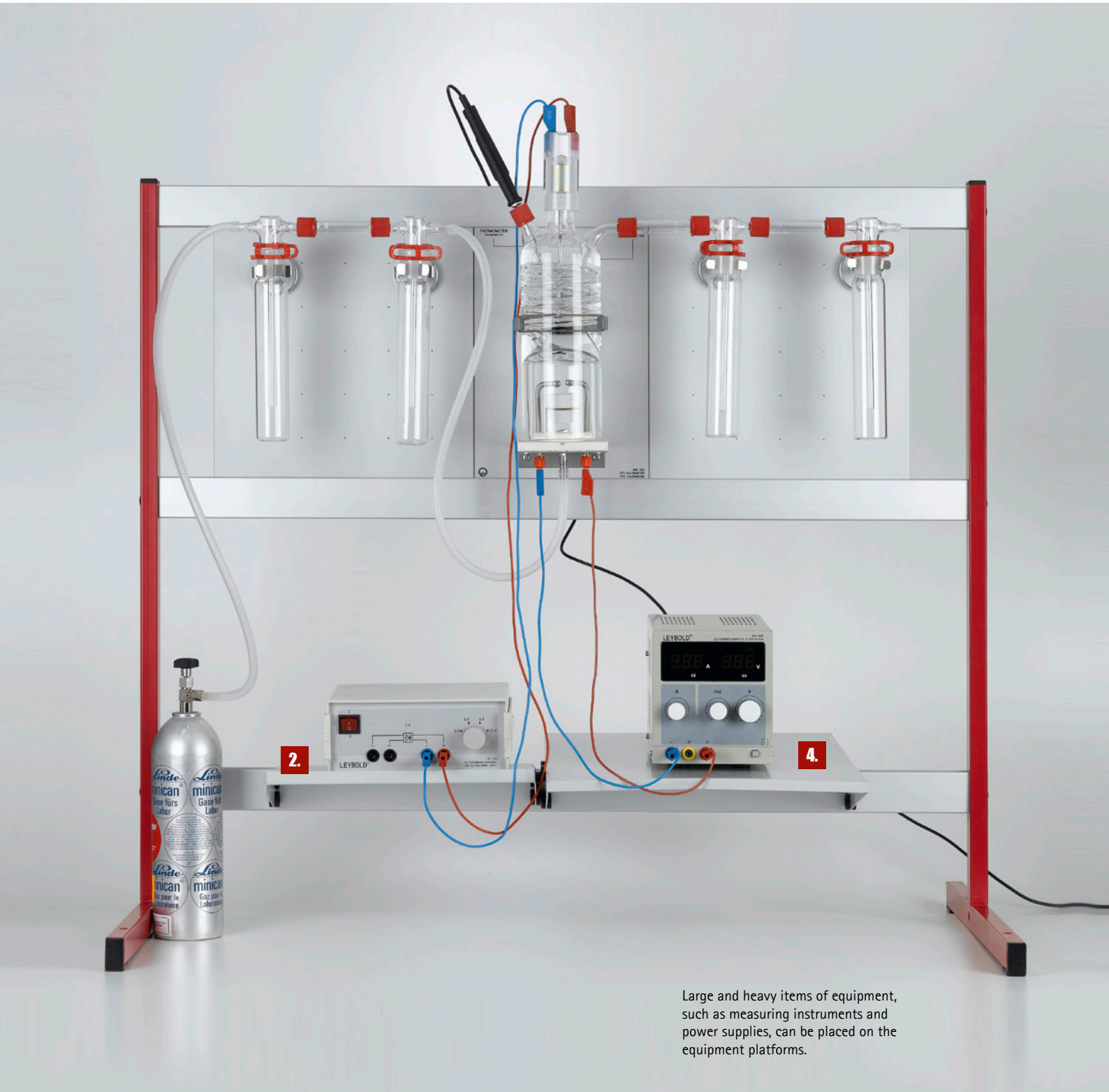
NEW

Contents:
Adhesive magnetic boards and suitable magnetic holders in a frame.

CPSflex Starter Pack, C50	666 4659P
CPSflex Starter Pack, C100	666 4660P

SOLUTIONS FOR LARGE EQUIPMENT

HOOK-IN EQUIPMENT PLATFORMS AND HOLDERS

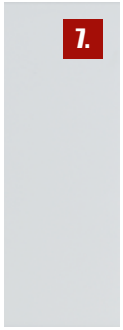


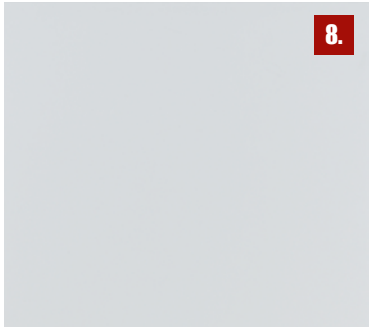
Large and heavy items of equipment, such as measuring instruments and power supplies, can be placed on the equipment platforms.

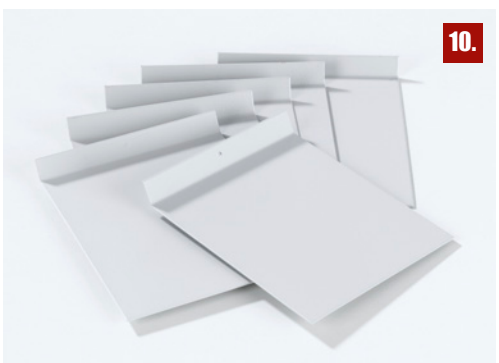
NO INCONVENIENT STAND MATERIAL

YOU HAVE GLASSWARE THAT DOESN'T FIT IN THE MAGNETIC HOLDERS?

WITH THE UNIVERSAL HOLDER CPS MODULES YOU CAN USE THESE TOO.





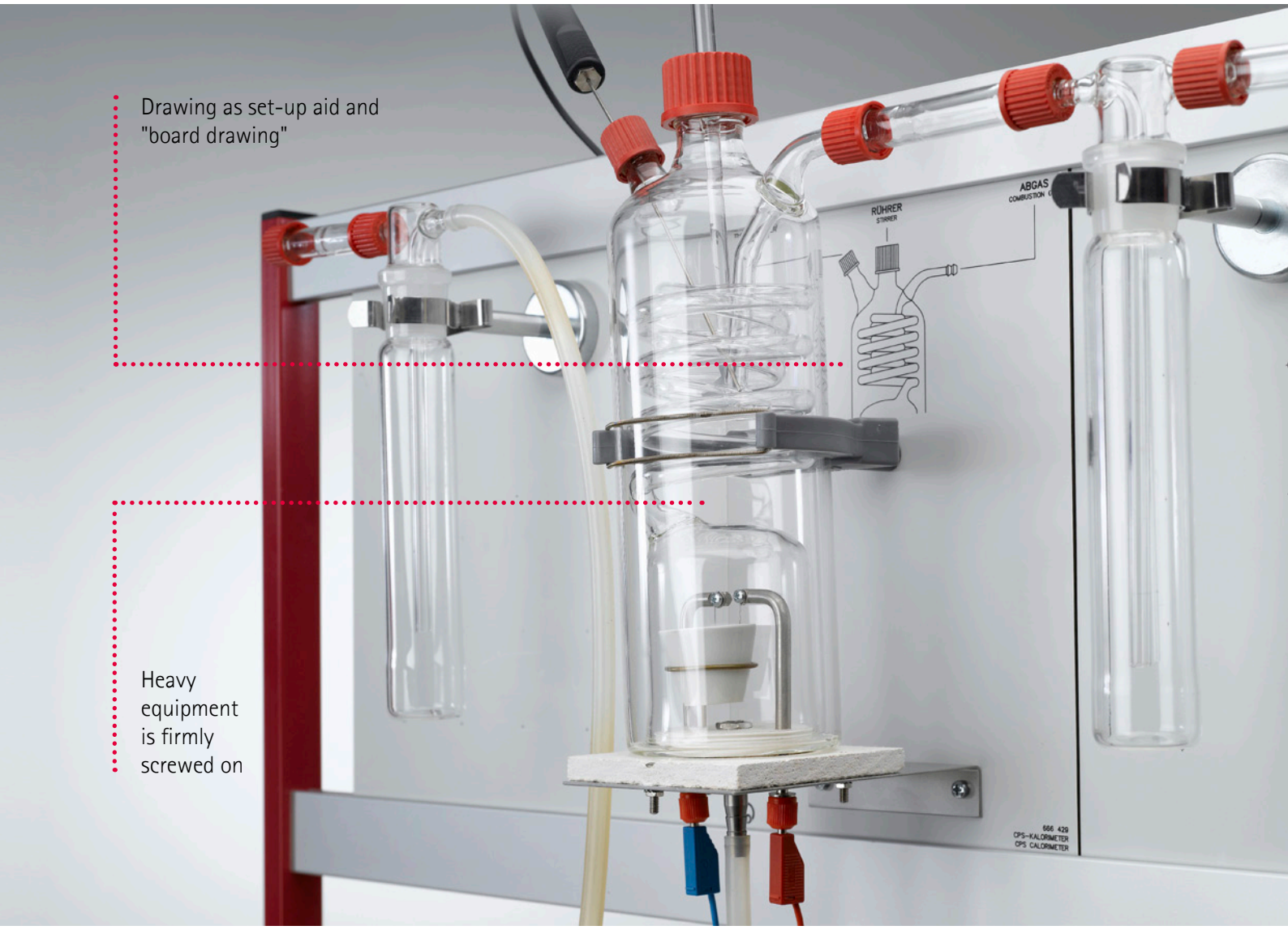


EXPERIMENT SET-UPS AGAINST A SINGLE-COLOUR BACKGROUND

1.	Universal glassware holder, CPS	666 421
2.	Console	301 312
3.	Equipment platform 500 mm	726 21
4.	Equipment platform 300 mm	726 22
5.	Pedestal, CPS	666 441
6.	Blank panel 200 mm, CPS	666 467
7.	Blank panel 100 mm, CPS	666 464
8.	Blank panel 300 mm, CPS	666 468
9.	Holder with bush, height adjustable, CPS	666 470
10.	Metal labelling plates, CPS, set of 8	666 462

COMPLEX CPS MODULES

FIXED DIRECTLY FOR SECURE SUPPORT



Safety is paramount - large glass equipment is supplied pre-assembled.

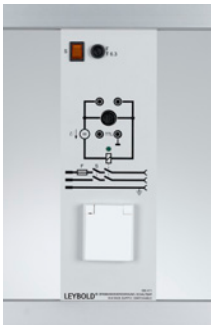
PRE-ASSEMBLED MODULES FOR COMPLEX EXPERIMENT SET-UPS

- measurement and power supply equipment - inconspicuous integration in the apparatus
- heavy equipment - safe and secure experiment set-up

Woulff's bottle with manometer, CPS

Holder for Minican canisters

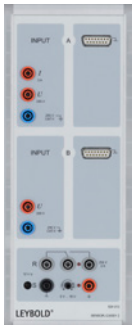
Combustion chamber with incandescent wire, CPS



Voltage supply, switchable, CPS

Aeration pump, controllable, CPS

Digital thermometer, CPS



Sensor-CASSY 2

CASSY-Display

INTEGRATED IN DESIGN

Complex equipment is pre-assembled and wired up. Electrical, measurement and power supply equipment can be hooked into the CPS frame.

Woulff's bottle with manometer, CPS	666 438
Holder for pressurised gas canisters	666 458
Combustion chamber with incandescent wire, CPS	666 460
Voltage supply, switchable, CPS	666 471
Aeration pump, controllable, CPS	666 482
Digital thermometer, CPS	666 454
Sensor-CASSY 2	524 013
CASSY-Display	524 020USB

SPECIAL EQUIPMENT

CPS MODULES FOR ALL AREAS OF CHEMISTRY

666 446

666 447

666 429

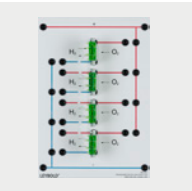
666 439

666 410

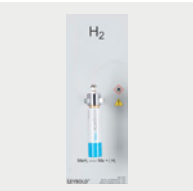
666 413

664 4071

665 580 + 665 588

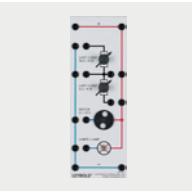


666 4812



666 4795

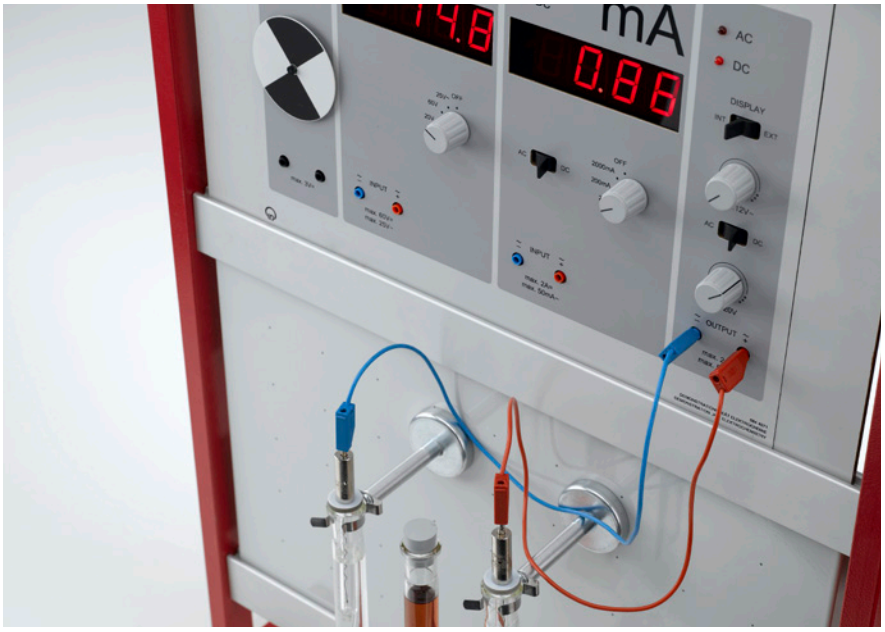
666 4794



666 4831

Catalogue No.	Description	Inorganic Chemistry	Organic Chemistry	Analytical Chemistry	Physical Chemistry	Technical Chemistry	Biochemistry	Example experiments	Experiment No. in Experiment Catalogue Chemistry
666 446	Electrolysis apparatus, CPS	X			X			• Electrolytic water decomposition • Determination of the Faraday constant	
666 447	Mineral oil distillation, bubble tray column, CPS		X	X		X		• Mineral oil distillation	C2.3.2.1
666 429	Calorimeter, for solids and liquids, CPS	X		X	X		X	• Determination of enthalpy of combustion and calorific value	C2.3.1.1
666 439	Combustion chamber, water synthesis, CPS	X	X		X			• Quantitative synthesis of water	
666 410	Bioreactor, basic configuation, CPS						X	• Fermentation experiments based on the batch method	
666 413	Metering unit for bioreactor, CPS						X	• Fermentation experiments based on the batch method	
664 4071	Electrochemistry demonstration unit, CPS	X			X	X		• Conductivity of materials • Electrochemical series of metals • Galvanic elements • Corrosion and corrosion protection	C1.5.3.3 C4.4.1.2 C4.4.4.1 C4.4.6.1
665 580 with 665 588	Gas chromatograph LD1 with base panel, CPS		X	X	X			• Gas chromatographic investigation of lighter fuel	C3.2.1.1 C3.2.1.2
666 4812	PEM fuel cell stack, CPS				X	X		• Investigations using the fuel cell stack	C4.4.7.1 C4.4.7.2
666 4795	HydroStik PRO, CPS	X	X		X	X		• Fuel cell stack • Haber-Bosch method • Determination of molecular mass	C4.4.7.1 C5.1.1.2 C1.1.1.1
666 4794	Bubble counter, CPS	X	X		X	X		• Investigations using the fuel cell stack	C4.4.7.1 C4.4.7.2
666 4831	Electrical load, CPS				X	X		• Investigations using the fuel cell stack	C4.4.7.1 C4.4.7.2

CPS SET-UPS FOR EXPERIMENTS IN ALL AREAS OF CHEMISTRY



Electrochemistry, e.g. experiment C4.4.1.1

Technical Chemistry, e.g. experiment C5.1.1.2

Molecular mass determination, e.g. experiment C1.4.1.1

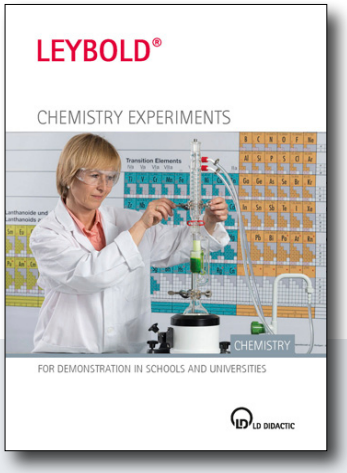
Distillation, e.g. experiment C2.3.2.1

YOU WILL FIND THESE AND OTHER EXPERIMENTS IN THE CHEMISTRY EXPERIMENTS CATALOGUE

The new Leybold catalogue has arrived with more than 100 experiments for schools and universities!

The collection of experiments covers all relevant topics in chemistry education. Furthermore, we also offer special systems in the fields of fuel cell technology, electrochemistry and spectrometry.

Active catalogue on our Internet site at WWW.LD-DIDACTIC.COM.



EXPERIMENTS WITH HYDROGEN

IT WAS NEVER SO SIMPLE

Produce hydrogen for experiments with the Hydrofill PRO.

In the LD DIDACTIC YouTube channel we show you how easy it is to produce H_2 using the Hydrofill PRO.

PRODUCE YOUR H_2 REQUIREMENT SIMPLY FROM THE MAINS SOCKET AND ALSO SAVE SPACE!

CHARGE IT UP - AS EASY AS A MOBILE PHONE:

1. Place it in the HydroFill PRO charging station
2. Charge for 4 to 6 hours
3. Use the hydrogen for experiments

H_2 charging process: HydroFill PRO fills the screwed-in HydroStik PRO.

HydroFill PRO

HydroStik PRO

= 10 l H_2

HYDROFILL PRO

The HydroFill PRO supplies hydrogen through the electrolysis of distilled water. Only a mains socket is required. The hydrogen is stored directly in the HydroStik PRO in the form of a metal hydride. In this way, experiments can be performed with hydrogen without the use of gas bottles, e.g. for experiments with fuels cells.

A DEMONSTRATION OF HYDROGEN TECHNOLOGY

- PEM fuel cell stack consisting of four individual cells which can be quickly connected in series or in parallel
- Clear layout that is easily visible from a distance: Ideally suited to demonstrations or project work
- In combination with the electrical load module: Simple recording of characteristic curves and measurement of efficiency factors
- Hydrogen from the HydroStik PRO, no gas bottle needed

HydroStik PRO, CPS	666 4795
Bubble counter, CPS	666 4794
PEM Fuel Cell Stack, CPS	666 4812
Electrical load, CPS	666 4831
HydroFill PRO	666 4798

Experiment set-up (C4.4.7.1) for investigations with PEM fuel cells from the Chemistry Experiments catalogue.

PHYSICS
CHEMISTRY
BIOLOGY
ENGINEERING

LD DIDACTIC

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Technical details subject to change without notice

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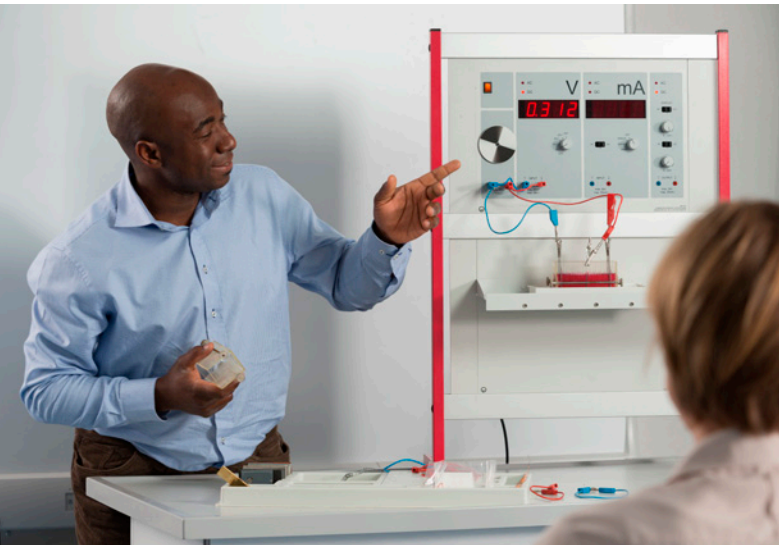

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