WALDNER

SCALA – The intelligent modular system for your school

Products

SCALA – Products


SCALA

SCALA

Making classrooms a positive experience

Turning aesthetic requirements into appealing design represents an art. Adding innovative details to round off functions represents another. Excellent design and ideal function complement one another perfectly under the name: *SCALA*. Our modular system harmoniously combines useful details with a clear optical design, and provides a positive atmosphere in the room.

Systematic intelligence

Our experience is our strength: Waldner has been manufacturing school systems in the town of Wangen im Allgäu for more than 60 years now. We are keenly aware of the heavy responsibility we bear towards the people who work and learn in our systems.

The starting points for developing our *SCALA* modular system were the requirements of the market and our design expertise. We review the latest results of research in ergonomics, ecology and health & safety, and bring them together in production and installation with the greatest of care. As a result, we guarantee the best possible function and the highest level of safety for users.

A modular approach delivers multiple functions

Scientifi c and technical development is leading to more and more interdisciplinary combinations. Therefore, multifunction rooms are called for which can quickly and effi ciently be set up for the subject in question on an individual basis.
SCALA can be used for seven subjects because of its modular structure: chemistry, physics, biology, telematics/information technology, technology, domestic science and general teaching – or a combination of various subjects.

In the new multifunction rooms, teachers and schoolchildren will find working conditions that are comparable to those in a modern company. Including computer networks.

Quality and safety – worldwide

We set our standards high. Our objective is to offer the best possible quality, mature technology, the best project management and perfect service. Numerous industrial property demonstrate the technologically leading position that we have achieved and are continuously building on.

Our product range is continuously inspected by the TÜV, Germany's safety inspectorate organisation, to make sure it is in line with legislation on equipment safety. We test our fume cupboards according to European standards – and it goes without saying that they also comply with the ASHRAE standard in the USA.

We process high-quality materials with care and we use materials that are fully stable, ensuring that customers get from us what they expect: Waldner quality.


AeroEm

Not forgetting ecological aspects

How much energy should a school use – and be allowed to use? Ever since we developed our new modular system, we have redefined our answer to the question of balancing energy consumption: As little as possible, as much as necessary.

SCALA uses less energy, even during manufacture. We have been able to improve many production processes with no loss of quality. For example, the high-quality coating applied to our metal components is baked on at a reduced temperature, thereby reducing emissions. We have significantly reduced our use of aluminium, a material which demands a lot of energy in its extraction. Having our production procedures located close together also saves energy.

Even in the standard version of our *SCALA* modular system, we have developed and used many modules that save electricity and reduce CO_2 emissions. We have optimised the gas flow profiles in the intake and exhaust air flows of our fume cupboards in such a way as to cut their energy consumption whilst maintaining the same performance and operational safety.

Furthermore, we also offer you many other modules for making your school system even more ecological. It is our goal to improve the school's energy balance from an economical and ecological perspective. We use materials that are designed for recycling, and on request we also offer a buy-back commitment on all Waldner products.

Accessible – so that everyone can take part in education

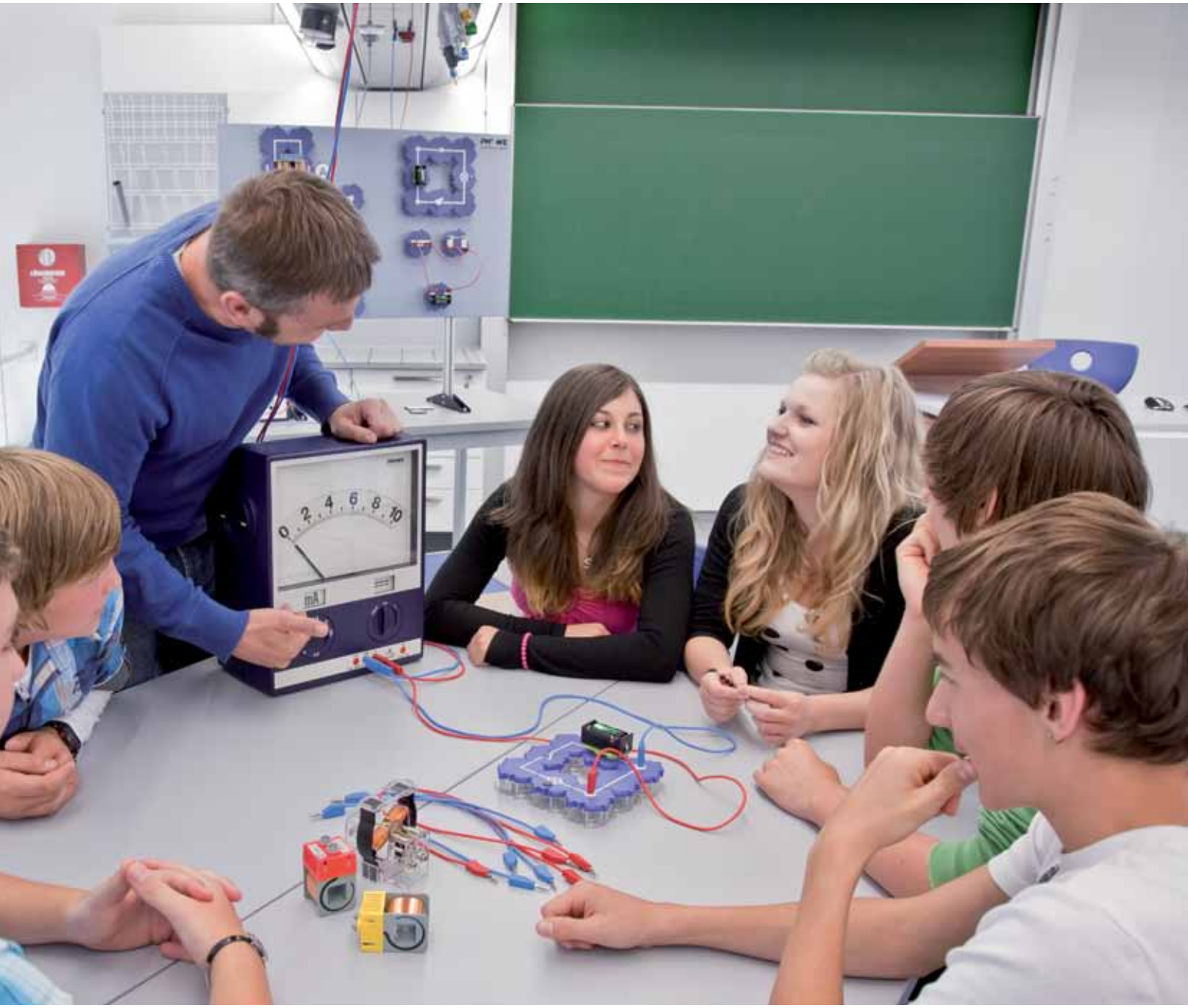
Even the standard version of our *SCALA* modular system offers numerous possible applications for people with disabilities, with modules that are designed for these people to use. For example, the marked inclination of the media duct brings fittings, installations and shelves closer to the user, therefore making it easier to operate the individual elements.

Furthermore, with the "accessibility" configuration variant, we offer you a series of modules for making your teaching accessible, and allowing you to adapt the furnishings optimally to the needs of people with disabilities.

Your benefit: the perfectly adapted system

The *SCALA* modular system offers a range of modules using the modular principle, which you can use to achieve perfect design and equipment in your laboratories. Using only a few additional modules, you can give a laboratory a multifunction configuration, allowing several subjects to be taught in it. All modules are designed for the greatest possible user-friendliness. This means the *SCALA* modular system represents an economical investment in the future, with room for expansion.

You can take us at our word.



Core modules

Core modules

- Laboratory workplace
  Service Wing, version 1
  Service Wing, version 2
  Service Wing, version 3
  Service Wing, version 4
- Energy/hygiene module
- Lighting
- AeroEm
- AquaEl
- VarioTHEK
- CulinaEm

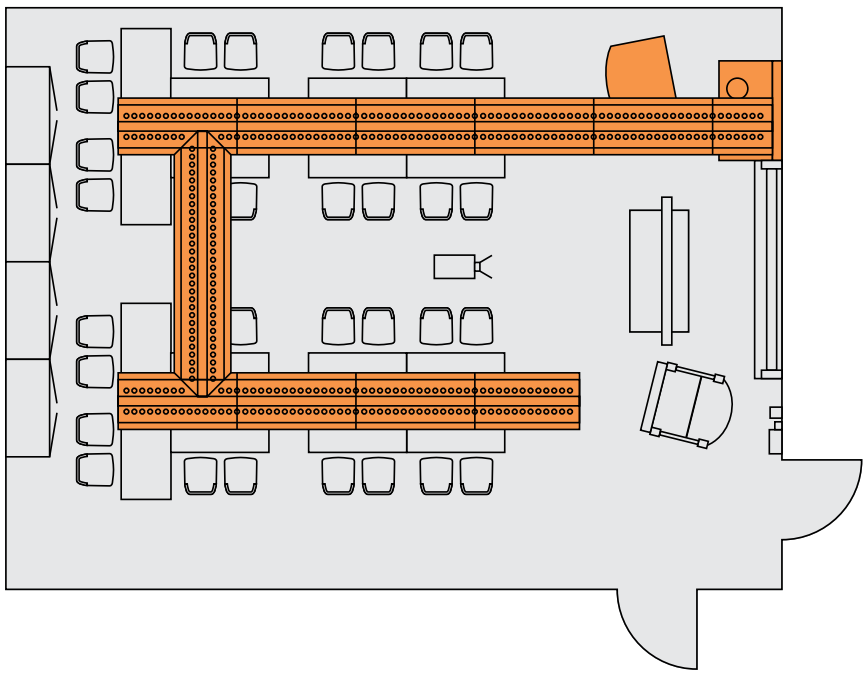
Core modules form the heart of the *SCALA* modular system

We use the term "core module" to mean the unit comprising media supply, media distributor and consumers.

Our core modules form the basic structure of your classroom: the laboratory workplace or energy/hygiene module as media supply and the Service Wing in three different versions which functions as a media distributor and distributes the media provided to the consumers.

The AeroEm mobile fume cupboard and the AquaEl water supply unit support working in our *SCALA* modular system.

Select the CulinaEm mobile kitchen or the VarioTHEK, depending on your requirements.




Service Wing
Core modules
AeroEm
Laboratory workplace
AquaEl

Laboratory workplace

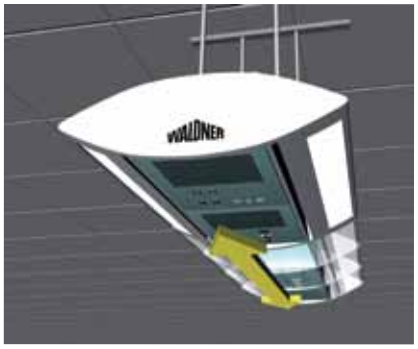
The laboratory workplace is the hub for the teacher. The media are supplied into the Service Wing from here.

In preparation rooms, the excellently equipped laboratory tables are used for preparing the schoolchildren's experiments or performing the teacher's experiments.

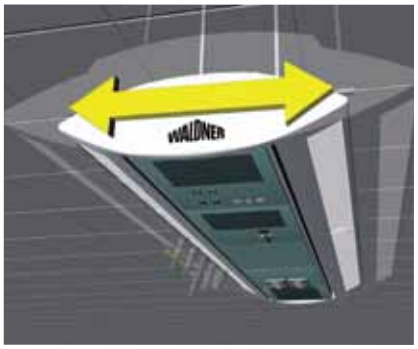
Central control of all media

Laboratory workplace – Service Wing

1st dimension: Vertical installation of function modules



2nd dimension: Segment length



3rd dimension: Module extension and reduction

3-dimensional modularity

The job of the Service Wing is to deliver all media provided by the laboratory workplace or the energy/hygiene module to where they are needed, as well as distributing the media throughout the laboratory.

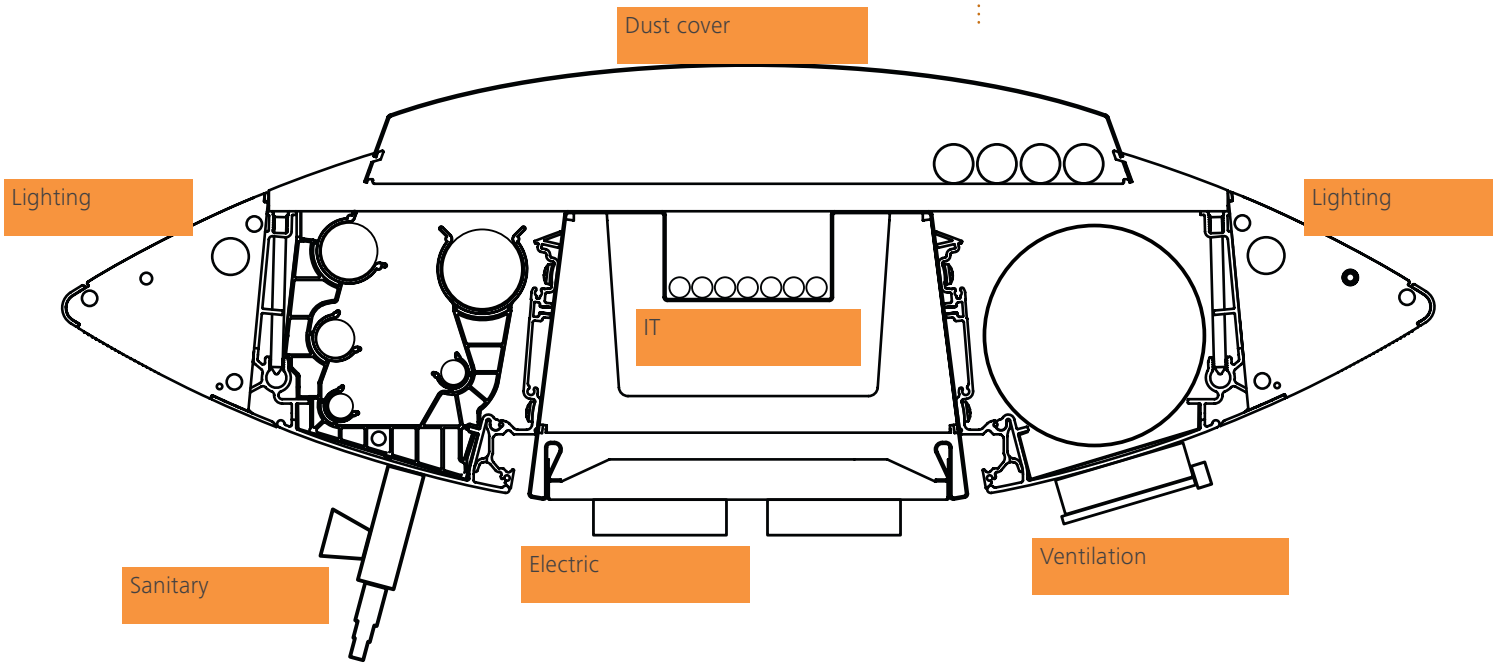
The Service Wing features modular design and can be tailored in three dimensions to meet your requirements optimally. This design principle allows you to extend the Service Wing as required to master your tasks perfectly.

The first dimension includes function modules which can be installed in the Service Wing from outside.
The second dimension defines the various segment lengths (600 mm, 900 mm, 1,200 mm and 1,500 mm). This allows the modular Service Wing to be adapted to the spatial constraints of practically any room.
The third dimension is the potential for module expansion and need-based reduction in case of any decrease in requirements. Just adapt the Service Wing to meet your changed needs and extend it with the required modules.

Laboratory workplace – Service Wing

3-dimensional modularity

Our latest development opens up the opportunity for you to change the Service Wing in the 3rd dimension. This allows you to accomplish experimental and analytical work in groups at the same time in one subject classroom. In this case, one branch of the Service Wing is equipped with the full version 3 and another branch with version 1.



Laboratory workplace – Service Wing, version 1

The Service Wing version 1 supplies the following media:

- Electrical current 230 V
- Low voltage
- IT
- Lighting
- Acoustics

Version 1 contains the media duct (incl. its mount-on device for the RapidoEm), power-saving and glare-free illumination, with the ability to accommodate the following expansion modules:

- Electricity ..... see page 36 for technical details
- Low voltage ..... see page 37 for technical details
- IT ..... see page 44 for technical details
- Lighting ..... see page 23 for technical details
- Acoustics ..... see page 46 for technical details

Technical data

Dimensions
Width (mm): 500
Segment lengths (mm): 600/900/1,200/1,500

Suspension load per suspension point (N): 600

The basis for distributing your media in the room

Laboratory workplace – Service Wing, version 2

Version 2 offers all media in the teacher's area and media supply for analytical work in the entire schoolchildren's area. If experiments are only performed in the teacher's area, you can adapt this Service Wing individually and thereby even save costs.

Technical data

Dimensions
Width of teacher's area (mm): 750
Width of schoolchildren's area (mm): 500
Segment lengths (mm): 600/900/1,200/1,500

Suspension load per suspension point (N): 600

The Service Wing version 2 supplies the following media:

In the teacher's area:
- Electrical current 230 V
- Low voltage
- Water
- Waste water
- Gas (fuel and pure gases)
- IT
- Exhaust air line for connecting a mobile fume cupboard or an extraction arm
- Lighting
- Acoustics

In the schoolchildren's area
- Electrical current 230 V
- Low voltage
- IT
- Lighting
- Acoustics

Laboratory workplace – Service Wing, version 3

The Service Wing version 3 supplies the following media:

- Electrical current 230 V
- Low voltage
- Water
- Waste water
- Gas (fuel and pure gases)
- Compressed air
- Vacuum
- IT
- Exhaust air line for connecting a mobile fume cupboard or an extraction arm
- Room air extraction
- Soldering iron extraction system
- Lighting
- Acoustics

Distributing your media throughout the room

represents the fully equipped Service Wing. All media are provided to where they are needed, throughout the room.

- Electricity ..... see page 36 for technical details
- Low voltage ..... see page 37 for technical details
- Water ..... see page 38 for technical details
- Waste water ..... see page 38 for technical details
- Fuel gas ..... see page 39 for technical details
- Pure gas ..... see page 40 for technical details
- Compressed air ..... see page 41 for technical details
- Vacuum ..... see page 42 for technical details
- IT ..... see page 44 for technical details
- Lighting ..... see page 23 for technical details
- Exhaust air line ..... see page 48 for technical details
- Room air extraction ..... see page 50 for technical details
- Soldering iron extraction system ..... see page 53 for technical details
- Acoustics ..... see page 46 for technical details

Technical data

Dimensions
Width (mm): 750
Segment lengths (mm): 600/900/1,200/1,500

Suspension load per suspension point (N): 600

Laboratory workplace – Service Wing, version 4

offers an asymmetrical arrangement of the necessary media on both sides of the Service Wing. It is possible to change how the media are arranged, according to requirements.

- Electricity ..... see page 36 for technical details
- Low voltage ..... see page 37 for technical details
- Water ..... see page 38 for technical details
- Waste water ..... see page 38 for technical details
- Fuel gas ..... see page 39 for technical details
- Pure gas ..... see page 40 for technical details
- Compressed air ..... see page 41 for technical details
- Vacuum ..... see page 42 for technical details
- IT ..... see page 44 for technical details
- Lighting ..... see page 23 for technical details
- Acoustics ..... see page 46 for technical details

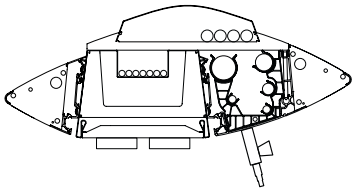
The Service Wing version 4 supplies the following media:

- Electrical current 230 V
- Low voltage
- Water
- Waste water
- Gas (fuel and pure gases)
- Compressed air
- Vacuum
- IT
- Lighting
- Acoustics

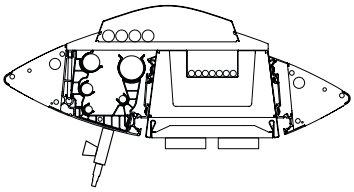
Technical data

Dimensions
Width (mm): 625
Segment lengths (mm): 600/900/1,200/1,500

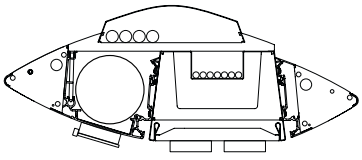
Suspension load per suspension point (N): 600



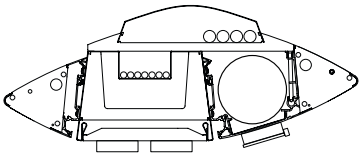
Lighting, electricalduct, drainage, lighting4.1



Lighting, drainage, electrical, lighting 4.2



Lighting, exhaust air, electrical, lighting 4.3



Lighting, electrical, exhaust air, lighting 4.4

- Lighting, electrical duct, drainage, lighting
- Lighting, drainage, electrical, lighting
- Lighting, exhaust air, electrical, lighting
- Lighting, electrical, exhaust air, lighting

Energy/hygiene module

The energy/hygiene module is the central energy unit: This module not only houses the controls for the room functions such as switching on the lighting and operating the sunshade systems, but also holds the telephone system and the complete fusing for the electrical power supply for the room. Our energy/hygiene module also provides the hygiene functions that are compulsory for each classroom, such as a hand basin, soap and towel dispenser.

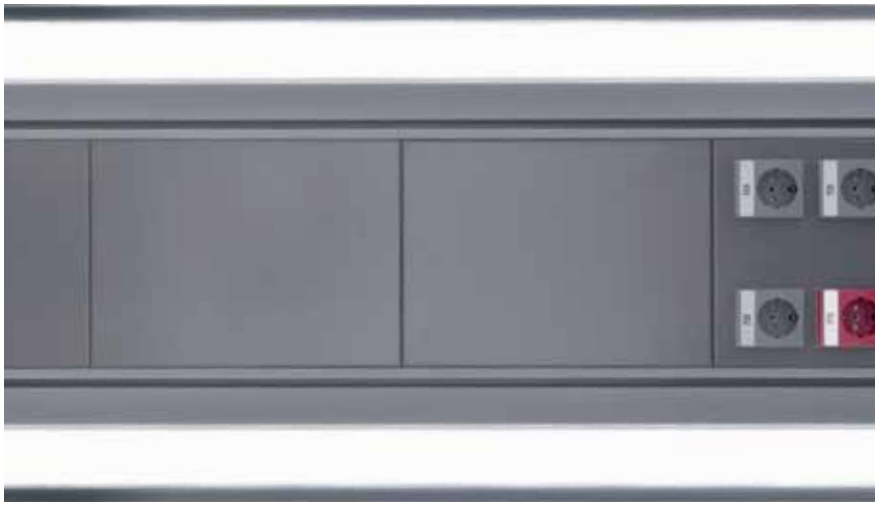
The central unit:
The energy/
hygiene module

Lighting

Workplace lighting

The lighting is suitable for a VDU workstation because of the use of specially developed prismatic structures which guarantee glare-free daylight illumination in the workplace and the surrounding area.

Workplace and indirect lighting form one unit and are jointly dimmable.



Indirect lighting

Use of indirect lighting guarantees that background lighting is provided in the room.

Emergency lighting

Installation of emergency lighting is mandatory in rooms that can be completely darkened. With Waldner, this function can be integrated into the workplace lighting, as the systems are compatible.

Technical data

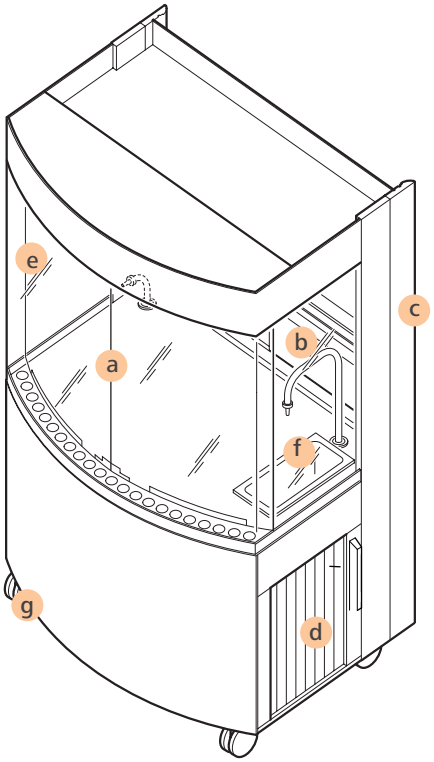
Dimensions (L x W x D, mm):
210 x 93 x 60

Rating (W):
1.2 at 350 mA

Colour temperature (K):
6,500 K (daylight white)

With 3 CELL AKKU NiMH rechargeable battery pack and checklamp as well as EM Power-Led 220-240 V mains adapter, integrated in the housing jacket with IP20

AeroEm



a) The impact panels made from safety glass
are double-walled, and can be opened inwards for cleaning

b) Additional sliding panels
c) Fume cupboard function indicator
d) Rolling sliding doors for storing the exhaust air hoses as well as con nection lines
e) Interior lighting
f) Media: 2 x 230 V, 1 gas coupling, 1 cold water, waste water pumping station for waste water removal
g) Transport wheels
h) Accessories: Suction handles for transporting

AeroEm – the mobile universal fume cupboard offering all-round visibility

The AeroEm is a fully featured fume cupboard which, in spite of its mobility, meets all the requirements of the standard for laboratory fume cupboards, DIN EN 14175. It is equipped with castors and flexible media connections, and can be set up in freely selectable locations at any time by means of plug-in connections. The only precondition for positioning it anywhere in the room is that a Service Wing (version 3) must be available which provides the media, including ventilation connection, throughout the room.

The AeroEm has a completely transparent upper part made from safety glass, allowing its working space to be observed without restrictions from all directions. Thanks to its ingenious flow technology with the unconventional air flow from top to bottom, as well as the new supportive flow technology for supply air, AeroEm not only complies with the harmful gas escape limit values, but also deals with even heavy gases with the greatest of ease.

AeroEm can even be used in a room without Service Wings. In this case, it is supplied via a laboratory workplace.

The exhaust air is channeled downwards, which means the exhaust air pipe is not set up on top of the fume cupboard. As a result, the fume cupboard which is 1,975 mm tall can be rolled through all doors with a 2 m headroom.

Technical data

Dimensions WHD (mm): ..... 1,050 x 1,975 x 815
Weight (kg):..... 180
Connected load: ..... 330 m³ exhaust air/h at the connection pipe


Connection to Service Wing
Offering all-round visibility
Mobile

AquaEl and transport trolley

AquaEl – the portable water station

- Universal applications
- Water supply and waste water removal as you need, via the Service Wing
- Especially suitable for course work teaching and for experiments
- The greatest possible mobility with no limits on where the unit is set up
- Transport trolley with revolving door and storage compartment; working height 800 mm above the level of the finished floor

Technical data

Dimensions WHD (mm, without fitting):..... 317 x 268 x 585
Weight (kg, without fitting): 14
Electrical power supply (V):..... 230
Plug-in compact system with flexible conduits, pumping system integrated in the housing and cut-off of water supply in case of a power failure

Water supply and waste water removal as you need


Electricity
Waste water
Water
Portable, mobile

VarioTHEK

VarioTHEK – the mobile workplace for schoolchildren and students

The equipment used in the VarioTHEK can be individually selected. All media connections such as the electrical power supply, water, waste water, gas and fitting with a PC module including accessories, network and Internet connection as well as direct workplace lighting are all possible.

VarioTHEK is the ideal workplace for training, practical and teacher preparation rooms. It can be connected to the Service Wing, versions 2 and 3, and is supplied with the available media via this. The dimensions (L x W x H) 1,900 x 820 x 1,920 mm mean that VarioTHEK is extremely mobile and can be wheeled from one room to the next even in only a short break.

The mobile schoolchildren's and students' workplace

VarioTHEK

Technical data

Dimensions (mm):..... 1,900 x 820 x 1,920

Connections
4-8 x 230 V
2-4 x water, waste water with pumping system, double sockets RJ-45 CAT 6a/Cat 7 or PC module
Light strip
1 PC monitor with swivel joint, keyboard, mouse
Exhaust air connection to Service Wing for up to 2 Alsident® extraction systems
2-4 x fuel gas

Heavy-duty castors with steering function
Worktop configuration, see page 88

Folding shelf

CulinaEm

CulinaEm – the mobile kitchen

CulinaEm is equipped with a stainless steel worktop and integrated 400/400/250 mm sink, as well as a vitreous ceramic hob with four high-speed cooking zones, one of which can be switched on as a frying zone and a dual-ring cooking zone. The substructure contains a pumping system for waste water removal. Hot water is prepared by an integrated continuous-flow water heater that is also integrated in the substructure. Sockets are integrated in the side parts above the worktop, and there is also provision for storing utensils.

Advantages

- Individual equipment
- Movable - on castors
- Can be connected to any Service Wing
- Can be used by up to 5 people at once

CulinaEm

Extract from BGR*) 111: "Working in canteens"

"Steam and vapours should be extracted directly from the point where they are created. [...] The structural design of extractor hood systems shall guarantee that vapours and steam are collected and extracted as completely as possible."

*) Berufsgenossenschaftliche Regeln für Sicherheit und Gesundheit bei der Arbeit (employers' liability insurance association's rules for health and safety at work, BG rules)

We have created the optimum solution with the CulinaEm. Steam extraction in conjunction with supply air curtain technology. An air curtain is created moving past the cooking zone by means of hollow chamber sections in the edge of the worktop and corresponding holes. The supply air flows out of the nozzles at approx. 6 m/s. The air curtain deliberately pushes the steam in the direction of the extractor hood, where it is collected by the exhaust air and is vented into the exhaust air system after being passed through a grease filter. At the same time, this curtain prevents the steam from becoming dissipated.

Technical data

Dimensions
Total (mm):..... 1,900 x 820 x 1,920
Drainage sink (mm): ..... 400 x 400 x 250

Connections
230 V, 400 V
1x cold/hat water with mixer tap, waste water with pumping system
1x PC module
4x 230 V sockets
3 workplace lights
1 PC monitor with swivel joint, keyboard, mouse
Exhaust air connection on the Service Wing for steam extraction

4 high-speed cooking zones
Heavy-duty castors with steering function
Worktop configuration: stainless steel, Melamine
Folding shelf

Accessories
Spice rack, shelves

Advantages

- Targeted removal of steam (more effective)
- Low exhaust air flow rate max. 400 m³/h
- Low air replacement rate in the room
- Power saving (ecology)
- Low odour level
- Cook is not exposed to steam or fumes – when cooking or when preparing food (e.g. onions).

Extract from BGR 111*) "Working in canteens"

"An extractor system is always required if elevated levels of greasy vapour or steam can be expected, e.g. at deep-fat fryers, tilting frying pans, rotisseries, grilling appliances, kettles and similar appliances."

*) Berufsgenossenschaftliche Regeln für Sicherheit und Gesundheit bei der Arbeit (employers' liability insurance association's rules for health and safety at work, BG rules)

Expansion modules

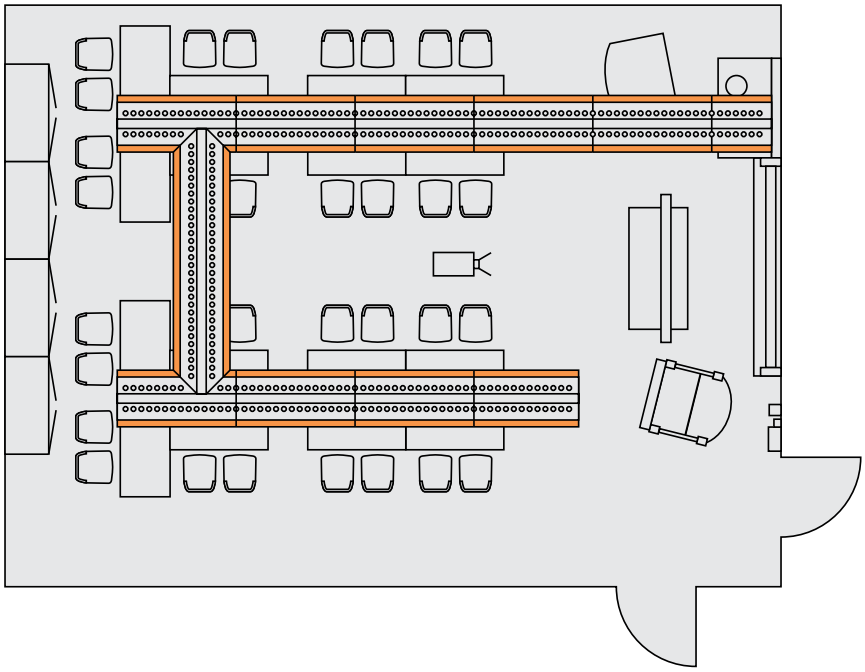
Expansion modules

- Room management system
- Chipcard system
- Electrical installation
  - Electrical power supply 230 V
  - Electrical power supply 400 V
  - Low-voltage supply
- Sanitary installation
  - Water supply and waste water removal
  - Fuel gas supply
  - Pure gas supply
  - Compressed air supply
  - Vacuum supply
- Multimedia
  - Multimedia module
  - IT data network CAT 6a/CAT 7
  - PC module
  - Acoustics
- Local extraction systems
  - Alsident® extraction system
  - Fume cupboard exhaust air system Service Wing, version 2
  - Fume cupboard exhaust air system Service Wing, version 3/4
  - Room air extraction
  - Soldering iron extraction system with filter system
  - Sawdust extraction with filter system
  - Mobile combination dust separator
  - CulinaEm appliance extraction system
- Lighting
  - Board/teacher's table lighting
  - Additional room lighting
  - Wall lights
  - VelaEs
- 3rd level
  - RapidoEm
  - Drop shelf
  - Screen mount with screen

Expansion modules for all required media

The expansion modules provide you with all the media you need throughout the room.

Expansion modules are either components that cannot be technically disconnected from the core modules but which do not function by themselves alone, or else they are products that only function in connection with the core modules.




Lighting
Vertical slide-in modules
Connection to water/waste water
Room air extraction
Expansion modules

Room management system

Room management system with touchscreen KNX GIRA ABB

Instead of keyboard control, we recommend using the room management system with touchscreen:

- Compact size
- KNX/EIB bus control
- Switching statuses of the CICS (central instrumentation and control system) can be monitored and controlled
- Menu operation
- With remote control function

Buttons on entrance doors and emergency exit doors round off the EIB system.

Radio control makes it possible to control individual room control systems from anywhere in the room.

Chipcard system

Chipcard system instead of bunches of keys

These chipcards replace the security keys that used to be used. Each card functions with a transponder signal that is secure against forgery. The basic package comprises 2 main cards and 4 secondary cards. The main card allows all media, as well as the doors of the subject classroom and preparation room, to be operated. The secondary cards only give access to some of the media. Unless programmed differently for specific customers and projects, these secondary cards do not allow gas systems, water systems or electrical systems to be switched on. Solvent, chemicals and laboratory cabinets in the preparation rooms can also be locked with this chipcard. Spare parts are available within 24 hours.

Now, it is possible to control the use of subject classrooms with clearly defi ned access rights throughout even long school days, thereby protecting users against technical hazards (gas systems, vapour extraction systems, dust and gases, chemicals, copressedair).

Convenient operation with access rights

Electrical installation

Electrical power supply 400 V and 230 V

Electrical power supply 400 V and 230 V

Protection systems for the full range of electrical loads are housed in the laboratory workplace. From here, it is possible to control all of the room's switching functions using buttons or a touchscreen.

The Service Wing transports the electrical cables to each load in the room. The electrical current can be tapped off via child protection sockets. These can be switched separately from the electrical power supply of the teacher's workplace. The electrical power supply in the schoolchildren's area is 230 V. A 400 V electrical power supply is only available in the teacher's area.

Electrical installation
Low-voltage supply

Low-voltage supply

The voltage selected by the teacher is passed on to the schoolchildren's workplaces via an electrical power supply unit. The low-voltage power supply uses either a built-on or a mobile low-voltage device.

Low-voltage supply with built-in low-voltage device

The low-voltage supply for alternating and direct current is integrated in the pull-out drawer of the laboratory work table.

Low-voltage supply with mobile low-voltage device

Using transportable low-voltage devices reduces the procurement costs.

Technical data

Low-voltage supply with built-in low-voltage device
Residual ripple < 48% (direct current) or < 5% (alternating current)

Low-voltage supply with mobile low-voltage device
Residual ripple < 48% (direct current) or < 5% (direct current)

Optionally possible with electronic stabilisation of the voltage (+/-1%) (direct current).

Sanitary installation

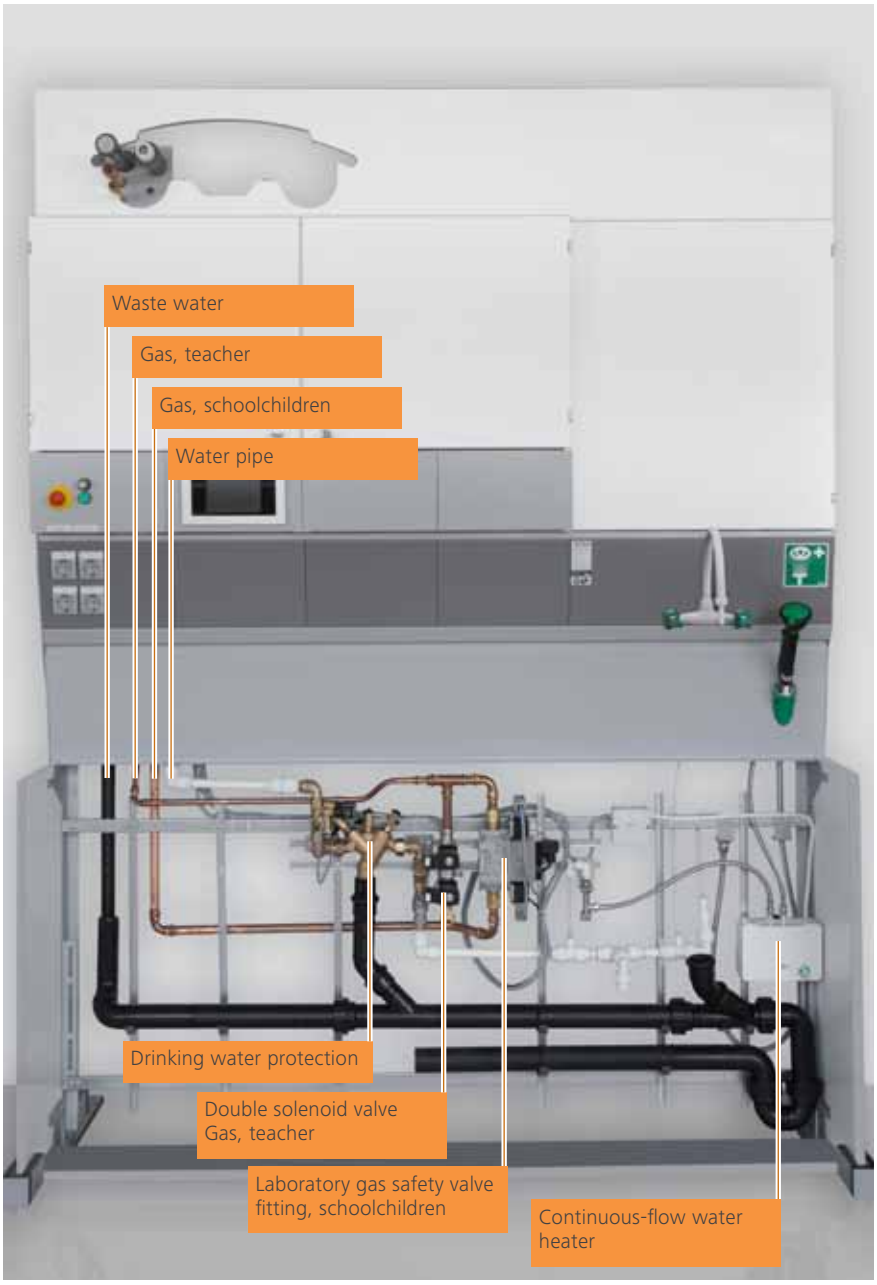
Water supply and waste water removal

Cold water is provided by the water and waste water system. Hot water is heated remotely by a continuous-flow water heater integrated in substructure.
The waste water is removed via the waste water connection.

Deionised water is produced using a LAB-IoN with conductivity meter. The device is integrated into the water system and attached on or in the laboratory workplace.

Deionised water is also produced using the Aqua-Purifier of the laboratory glass washing machine. This is used for rinsing the glassware in the washing machine.

Pre-installed media cell of the laboratory workplace



Sanitary installation

Fuel gas supply
including 10-second quick gas cut-off

Fuel gas supply

The fuel gas supply can be both centralised (natural gas or town gas) or decentralised in the form of a propane gas system.

In the decentralised propane gas supply, the gas bottle is accommodated in the substructure of the laboratory work table.

The points of gas withdrawal on the Service Wing are configured as quick-release couplings. It is only possible to disconnect the connection grommets when the supply is closed off.

10-second quick gas cut-off

According to DVGW Code of Practice G621, an additional safety device must be installed for the training stations (school table) in order to ensure that gas can only be allowed to enter if all gas fittings are closed. As soon as this fitting is opened, the gas can flow out to the school tables with open valves without hindrance. There is no need for flame monitoring. Pressing the off switch or the emergency off button switches off the gas valve in the teacher's area. In spite of being switched off, the gas burners in the schoolchildren's area can continue to burn for 60 seconds with the remaining gas in the line, until the flame goes out. (This is in line with the recognised rules of technology.) Of course, if a gas burner falls over, every single second earlier that the flame goes out is highly important.

Waldner offers you a safety gas package that switches off the gas at the school tables up to 50 seconds sooner. The safety gas system can be retrofitted to the mc6 and *SCALA* School Systems.

Sanitary installation
Pure gas supply

Pipes integrated in the Service Wing carry the gases to the points of withdrawal. The points of withdrawal are equipped with pressure reducers and metering valves.

Pure gas supply

For passive safety reasons, the bottles must be stored in ventilated gas bottle cabinets. The gases are transported to the outlet valves via expansion stations and pipelines. Depending on the level of purity required and the type of the gases, either copper or stainless steel pipes are used. Gas warning systems are recommended as additional components.

High passive safety when handling pure gases

Sanitary installation
Compressed air supply

Compressed air supply

A central compressed air system (possibly in the preparation room) enables the school-children's workplaces and the teacher's workplace to be supplied with compressed air.

Technical data

Motor rating (kW): 0.34
Intake flow rate (l/min): 50
Cubic feet per minute (CFM): 1.77
Maximum pressure (bar): 8
Current consumption (A): 2.9
Container volume (l): 25
Noise emissions (dB): 45
Dimensions (L x W x H, mm): ..... 380 x 380 x 550
Weight (kg): 29

Compressed air: indispensable in physics and practical teaching

Sanitary installation
Vacuum supply

The points of withdrawal can be configured both with a fixed grommet and with quick-release couplings.

Maximum safety for your schoolchildren's experiments

Vacuum supply

A central vacuum system (possibly in the preparation room) enables the schoolchildren's workplaces and the teacher's workplace to be supplied with a constant vacuum. The vacuum supply is an ecological solution, because no water jet pumps are required for generating the vacuum.

Technical data

Suction capacity (acc. to DIN 28432)
at 1000 mbar (m³/h): 3.0
at 10 mbar (m³/h): 1.8
Final vacuum (mbar): ..... -2
Index of protection: IP20
Electrical power supply: ..... 230 V/50-60 Hz
Dimensions (L x W x H, mm): ..... 336 x 241 x 500
Weight (kg): 19.3

Multimedia
Multimedia module

Multimedia module

The multimedia function module enables the 230 V electrical power supply and the selectable voltage sockets on the Service Wing to be carried to the worktop, to the wall cell of the laboratory workplace as well as in the RapidoEm. The VGA, video and audio multimedia connections as well as the RJ-45 PC connections in CAT 6a and USB 2.0 are also integrated into the module. This multifunction module combines all built-in applications in one spot, and represents an accessible solution in conjunction with the built-in video/DVD combination unit as well as the video/VGA selectors.

Connections

2 x 230 V
1 x video/DVD combination unit
1 x video/S-video selector 2/1 A/MV
1 x VGA 2/1 is an electrical switch with automatic input detection for
VGA signals from two different sources to a monitor or data video projector
1 x D-Link ANT 24-0801 aerial
1 x double RJ-45 IT socket
2 x video/S-video connection socket
1 x video cabling
1 x VGA cabling
1 x USB cabling
1 x aerial connection cable

Multimedia
Accessible

Multimedia

IT data network CAT 6a/CAT 7

IT data network CAT 6a/CAT 7

To coincide with the market launch of our new *SCALA* system, we have also improved the quality of the IT network. We offer you this as standard in line with CAT 6a, and the cables we use are CAT 7. These are double-shielded, halogen-free and allow transmission frequencies up to 800 MHz.

Optionally, we also offer CAT 7+ cables that are suitable for transmission frequencies up to 1200 MHz. Both variants permit transmission rates up to 10 Gbit/s.

Our services include planning, delivery, assembly, installation as well as calibration of the entire network.

Technical data

CAT 7 cable, Corning S/FTP 800 4 x 2 x AWG, double-shielded, halogen-free, 800 MHz, 10 Gbit/s.

S-STP 1200/22 CAT 7+ cable, 1,200 MHz, 4 x 2 x AWG, foil shield on pairs (PiMF), all-round braided shield and halogen-free insulation (FRNC), blue, 10 Gbit/s.

Perfect and ecological networking

Multimedia
PC module

PC module

Our PC module consists of high-quality laptop components and is used for signal processing for:

- Experiment setups at all schoolchildren's workplaces and the teacher's workplace
- Digital writing and evaluation work
- Network connections via area server throughout the entire school network
- Internet access

Technical data

- Mainboard: mITX with Intel Core2Duo CPU, 2x 2.4 GHz or higher
- RAM: 2 GB DDR3-1066 or faster/larger
- Hard disk: 250 GB 2.5" SATA hard disk or larger
- Graphics card: Intel GMA4500 onboard or better
- Network: Intel Gigabit LAN
- Mains adapter: 80 or 120 watt DC mains adapter (external)
- Operating system: MS Windows 7 Pro (32-bit), Office Ready PC
- Keyboard/mouse: 2.4 GHz wireless combination with increased range

Connection options

- 1 x on/off switch, 1x reset switch
- 1 x HDD LED (red), 1x power LED (green)
- 1 x RS232 port (serial)
- 3 x audio 3.5 mm jacks (1x line out, 1x line in, 1x mic)
- 1 x VGA connection (analogue)
- 4 x USB 2.0

Beamer connection module

- VGA (Sub D/HD15)
- Video (cinch)
- S-video (4-pin Mini-DIN)
- Audio (3.5 mm stereo jack)

Beamer cabling 15 m/8 m

Beamer cable network installation

- Supplied with 15 m/8 m VGA cable
- Supplied with 15 m/8 m S-VHS cable
- Supplied with 15 m/8 m audio cable

At any time, the media bridge allows retrofitting of the
beamer network and the beamer.

Multimedia
Acoustics

Technical data

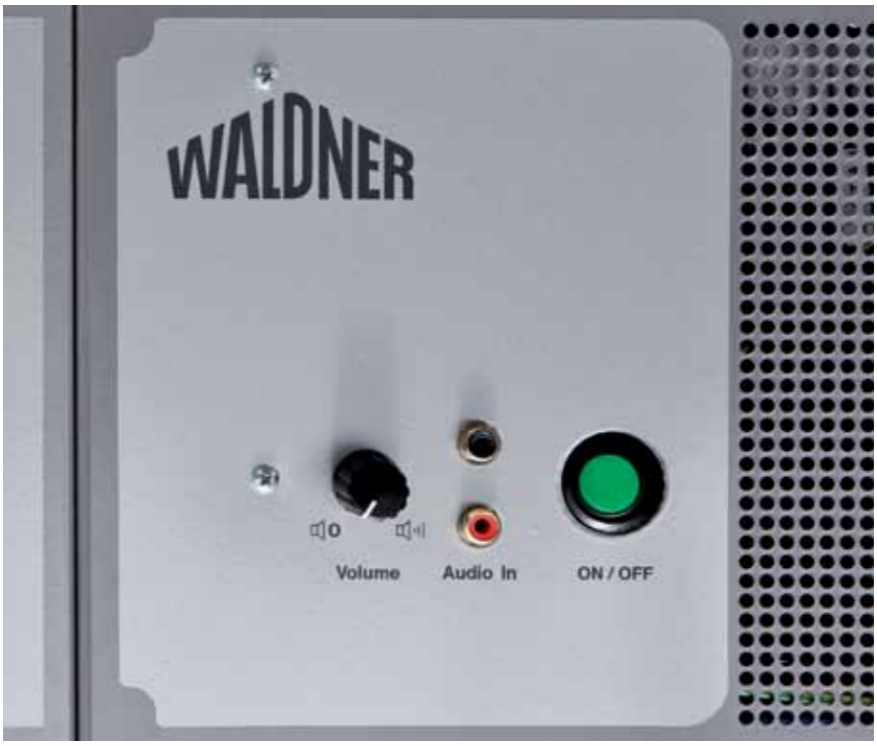
Amplifier
- Audio playback module
- Output stage 2 x 70 watts/ sinusoidal
- Mains supply on/off switch
- Volume control
- Cinch stereo audio input

Loudspeaker combination
4 x built-in audio loudspeakers
Mac Audio MXX69.3
3-way multiaxial system
Nominal/music load capacity 100/300 watts
Impedance 4 ohms
Frequency range 32 – 24,000 Hz
Sound pressure level 90 dB

Connections
1 x 8-pin built-in loudspeaker socket, round version
1 x 8-pin loudspeaker plug, for 2.5 mm

Acoustics

The amplifier built into the Service Wing as well as the built-in 3-way multiaxial system enable all audio signals from the TV, video, CD/DVD as well as Internet to be amplified and output via the loudspeakers (mono, stereo, Dolby surround)



Room-filling acoustics

Local extraction systems
Alsident® extraction system

Alsident® extraction system for targeted extraction from a specific area

The arm can be moved in all axes, enabling the intake to be moved into any required operating position. Attachment is by way of a plug-in connection on the Service Wing.

Using the Alsident® extraction system gives schoolchildren and teachers the opportunity to extract harmful gases directly at the point where they are created.

Technical data

Extraction volume: 50 m³/h per intake
In each room, up to 8 Alsident® extraction systems are possible

Harmful gases are extracted where they are created

Local extraction systems

Service Wing extractor system, version 2

Service Wing extractor system, version 2

In a chemistry laboratory, it is essential to have a fume cupboard in accordance with DIN EN 14175. The mobile AeroEm fume cupboard represents a low-cost solution.

The Service Wing, version 2 offers full control over this fume cupboard from the teacher's area. An exhaust air duct is integrated in this part of the Service Wing, and is connected to a suction-type exhaust air system (in acc. with DIN 1946, part 7, VDI 2051). The entire extractor system is offered in material grade PPs B1, flame retardant. In case of fire, this material does not liberate any dioxins, neither does it crystallise into hydrochloric acid.

Exhaust air connection of the Service Wing.

Exhaust air connection of the AeroEm to the Service Wing.

Extractor system and consumers from a single source – an optimally adapted system

Local extraction systems

Service Wing extractor system, version 3/4

Service Wing extractor system, version 3/4

Depending on the requirements, the extractor system can be integrated along the full length of the Service Wing, allowing all necessary connection fittings to be provided for the consumers in question at various positions. All consumers, e.g. AeroEm, Alsident® extraction systems, CulinaEm or VarioTHEK can be connected here. An exhaust air duct is integrated in the Service Wing, and is connected to a suction-type exhaust air system (in acc. with DIN 1946, part 7, VDI 2051).

The entire extractor system is offered in material grade PPs B1, flame retardant. In case of fire, this material does not liberate any dioxins, neither does it crystallise into hydrochloric acid.

Caps of the
fume cupboard extraction

Alsident® connector/
soldering iron connector

Bayonet connector

Extractor system and consumers from a single source – an optimally adapted system

Local extraction systems

Room air extraction, including CO_2 sensor or odour sensor

Room air extraction

An exhaust air duct is integrated in the Service Wing, and is connected to a suction-type exhaust air system (in acc. with DIN 1946, part 7, VDI 2051).

The entire extractor system is offered in material grade PPs B1, flame retardant. In case of fire, this material does not liberate any dioxins, neither does it crystallise into hydrochloric acid.

The extractor system integrated in the Service Wing can also be used for extracting stale room air. See also page 51.

One investment, "two benefits": Good air promotes concentration

Local extraction systems

Component: CO_2 sensor for room ventilation

Reduction in CO_2 concentration

Human respiratory processes in enclosed rooms result in a CO_2 concentration in the air that is greater than the CO_2 concentration in the outside air. The exhaled air contains approx. 4 to 5.2% CO_2 gas by volume, depending on the activity level. As a result, levels up to 4,000 ppm and higher have been measured in schools. As in the past, many school buildings do not have mechanical ventilation, therefore the window ventilation to be taken into account is left up to the teaching staff (Sauter bulletin no. 7000497 001).

In order to ensure that an acceptable indoor concentration of 1,000 ppm CO_2 (AIC value) is achieved, Waldner offers the appropriate solution in its Service Wing, version 3.

There is a measuring transducer at the laboratory workplace, by means of which the CO_2 content in the room air is precisely and reliably measured using infrared spectroscopy. The measured gas concentration is converted into a continuous output signal and is connected via the Waldner extractor system in the Service Wing, which is composed of an exhaust air duct and plate valves. The extractor system is switched on when the CO_2 concentration exceeds the AIC value. The supply air is drawn in through window and door gaps or
air supply systems.

Waldner uses a measuring transducer acc. to VDMA 24772 for indicating the CO_2 proportion and the temperature. This demand-driven control function not only ensures good air quality, but also allows energy cost savings of up to 40%.

Fresh air for
clear heads

Local extraction systems

Component: Odour sensor for room ventilation

Advantages

Using the odour sensor in multifunctional science classrooms, and using the extractor system at the same time as opening the tilting windows, can result in the following advantages:

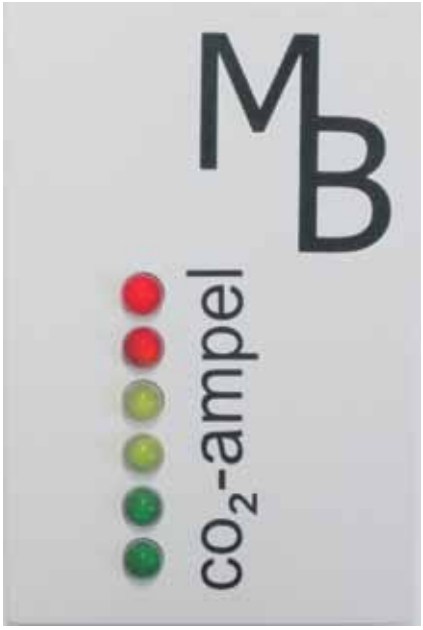
- Increased attentiveness because of optimum room air quality
- Improvement in the overall wellbeing and health of people (by reducing the CO_2 content in the air)
- Reduction in energy costs by approx. 20% due to demand-driven ventilation

Further reduction in CO_2 content during school time

DIN EN 13779 ("Ventilation for non-residential buildings - Performance requirements for ventilation and room-conditioning systems") primarily applies to the configuration of ventilation and air conditioning systems. This DIN standard defines "SFP classes" (SFP = specific fan power), which is a concept valid throughout Europe for referring to the power consumption of a fan per cubic meter of transported air volume (unit: W·m-3·s). The SFP value is therefore a key (energy) figure for the quality of an optimised, complete ventilation and air conditioning system.

Demand-driven ventilation (surge ventilation) makes it possible to save 10-20% of heat energy whilst approximately complying with the CO_2 limit values. An odour sensor indicates when the air quality is poor, and prompts the user to open the window.

We can take the room air extraction into operation in conjunction with the odour sensor, at the same time as opening the skylights by means of an automatic window opener. The air replacement would take place even faster than in a conventional ventilation system with only opened windows. This would amount to even lower heat losses, thereby reducing energy consumption and, consequently, the school's CO_2 emissions.



Fresh air for clear heads

Local extraction systems
Soldering iron extraction system

Soldering iron extraction system

The system represents an ideal solution for continuous and optimum extraction and filtering of soldering vapours, which can comprise harmful smoke, gases and aerosols.

The polluted air is drawn in directly at the point where the pollution is created, by means of soldering irons with an extraction function.

If the rooms are already equipped with an extractor system in the Service Wing (for fume cupboards or cabinets with an extraction function) then the soldering vapours can be sucked into this system by means of their own piping system and a turbine, for dissipation as well.

If there are no extractor systems already installed, the soldering vapours can also be purified using their own piping system and via the combination dust separator (see page 55).

Local extraction systems

Sawdust extraction with filter system

Sawdust extraction with filter system

The exhaust air line of the sawdust extraction consists of a narrow, flexible hose that is directly connected to the power tool (copy router, belt sander, etc.). This means sawdust and particles are sucked into the mobile combination dust separator via the extractor system, where the air is filtered and returned to the room as clean air.

Using the sawdust extraction with filter system means that the requirements of " Guidelines for safety during teaching" point 2.3, "Wood dust in the air" are met. During woodworking, the health risk posed by wood dust in the air must be minimised using state-of-the-art means.

Local extraction systems
Mobile combination dust separator

Mobile combination dust separator

Using a central extraction facility connected to our Service Wing, means that the requirements of "Guidelines for safety during teaching" point 2.3, "Wood dust in the air" are met. During woodworking, the health risk posed by wood dust in the air must be minimised using state-of-the-art means.

The mobile combination dust separator is a compact dust remover with a very high separation effectiveness – it represents an ideal solution for continuous and optimum extraction and filtering of harmful substances. The polluted air is collected using practical collection elements directly at the place where the pollution arises, and the air is then channeled to the filtration unit via the Service Wing. The filter pack consists of a prefilter F4, a HEPA filter H13 (separation effectiveness 99.97%) as absolute filter and an activated charcoal cartridge weighing 2.7 kg.

Technical data

Air flow rate:	420 m³/h
Total pressure:	4,200 Pa
Power:	0.9 kW at 230 V/50 Hz
Rated speed:	2,800 rpm
Filter surface (cartridge):	5.0 m²
Filter load:	84 m³/m²/h
Noise level:	min. 43 dB, max. 55 dB
Dimensions L x W x H:	450 x 900 x 1,020 mm

Advantages

- Quieter than turbine devices
- Continuous operation
- Fan drive, maintenance-free
- Low current consumption
- Rechargeable activated charcoal filter
- Infinitely variable control

Technology

- Low flow incidence speed on the filter
- Relatively high dust retention
- Longer filter life
- Lower flow rate in the suction arm (approx. 12 m/s)
- Lower noise levels at the extractor hood (max. 50 dB)
- Control panel and control unit with plug connection
- Quick change, therefore time saving

Filtering harmful particles out of the working air

Local extraction systems

Appliance extraction system for CulinaEm

Appliance extraction system for CulinaEm

Extracting the steam from cooking procedures on the CulinaEm is performed using its extractor hood – boosted by supportive flow technology. This, in turn, is connected to an extraction line integrated in the Service Wing, and is connected there by means of a bayonet connector with double pipe routing.

The CulinaEm extraction system is identical to the system for the mobile fume cupboard AeroEm.

The extraction rate is 330 m²/h at the intake pipe.

Cooking without being engulfed in steam

Lighting
Board/teacher's table lighting

Board/teacher's table lighting

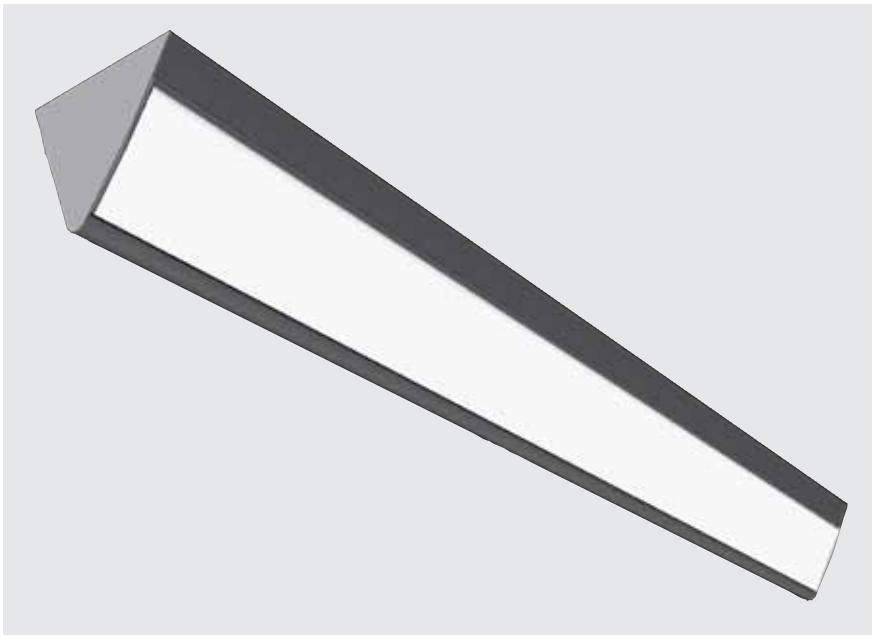
The board/teacher's table lighting consists of a luminaire with an asymmetrical light output. This means the teacher's table area and the board are optimally illuminated. The rear of the light offers optimum protection against glare.

Technical data

Dimensions
Lengths (mm): 600/900/1,200/1,500
Width (mm): 147
Height (mm): 136

Performance data
Rating (W): 28/35
Connection: 220-240 V/50/60 Hz/IP20

Dimmable
Through-wiring possible when using several lights
Incl. ceiling rail and side parts



Perfect
illuminations of the
teaching material

Lighting
Additional room lighting

Additional room lighting

The additional room lighting consists of the same luminaires as are used in the Service Wings. This means the same energy saving effects are available across the board.

The necessity for this lighting depends on the particular lighting calculations, and therefore specifically if the illumination provided by the Service Wing cannot light the entire room in accordance with the requirements of the standard, due to the shape of the room in question. It is also suitable for illuminating rooms fully when there is no Service Wing.

The additional room lighting is assembled using wall adaptation sections and suspended from the ceiling using threaded rods.

Technical data

Dimensions
Lengths (mm): 600/900/1,200/1,500
Width (mm):..... 274
Height (mm):..... 146

Performance data
Rating (W):..... 14/21/28/35
Connection: 220-240 V/50/60 Hz/IP20

Dimmable
Through-wiring possible when using several lights
Incl. suspension rail and side parts

Lighting
Wall lights

Wall lights

The wall lighting consists of the same luminaires as are used in the Service Wings. This means the same energy saving effects are available across the board.

Whether these need to be used depends, firstly, on the layout of the specific room and well as, secondly, on whether it is necessary to illuminate wall workplaces.

The special prismatic structure of the light guarantees there will be no glare in the lower area, as well as optimum distribution of the light. Upwards, the light is reflected by the ceiling. This offers a balanced mix of direct and indirect illumination.

The wall light can be screwed onto the wall in any position using a special wall connection strip.

Technical data

Dimensions
Lengths (mm): 600/900/1,200/1,500
Width (mm): 136
Height (mm): 147

Performance data
Rating (W): 14/21/28/35
Connection: 220-240 V/50/60 Hz/IP20

Dimmable
Through-wiring possible when using several lights
Incl. wall rail and side parts

Glare-free Lighting for wall workplaces

Lighting

VelaEs – light and acoustic canopy

Technical data of the acoustic mat

Weight (g/m²): .....approx. 800
Thickness (mm): .....approx. 5
Raw material: 100%
.....Polypropylene
.....fibres
Sound absorption level: ..0.80
Smoke analysis: .....Toxicologically
.....not hazardous

VelaEs – saving electricity with reflected light

The VelaEs light and acoustic canopy replaces the entire suspended ceiling in the room. It is made from a convex, perforated steel sheet. The curvature means that the light from the Service Wing is reflected at different angles, thereby producing an even illumination throughout the room.

What is more, the VelaEs light and acoustic canopy provides a considerable degree of noise insulation because of the inserted acoustic mats. The effective points of these acoustic measures are positioned over the schoolchildren's workplaces. The VelaEs is inserted in the suspension points of the Service Wing, thereby saving the costs of additional building work.

The VelaEs light and acoustic canopy means you are not required to have a particular room height, so it is possible to save electrical and building costs by means of its acoustic and light reflection properties.

3rd level
RapidoEm

3rd level with the RapidoEm

With the RapidoEm, it is now also possible for the media to be tapped off between the modular Service Wing and the work table in a 3rd level. This means gas, 230 V electricity, low-voltage electricity and IT electricity can be conveniently accessed by any schoolchild or teacher who has disabilities.

The RapidoEm can be moved along the entire length of the Service Wing. It goes without saying that the RapidoEm is also maintenance-free and can be retrofitted to all *SCALA* Service Wings.

One or more RapidoEm units are pushed along the Service Wing to the application location (schoolchildren's or teacher's area) and then folded down. This means, with the RapidoEm, the media follow the application location rather than the other way around.

In accordance with regulations covering workplaces, this means we can guarantee the mobility of all out modules (including the tables), which in turn guarantees safety because escape routes are kept clear.

Technical data

Movement range (mm): ..... approx. 8,000
(not connected)
Movement range (mm): ..... approx. 1,000
(operating condition)
Vertical adjustment range (mm): ..... approx. 250
Overhead clearance (mm): 2,000
Removal module (W x H x D, mm): 180 x 300 x 80
Central support arm with internal cable and hose routing
Bottom edge (mm above finished floor): 1,050-1,300
Operable equipment:

- 4 x 230 V
- 2 x gas
- 1 x RJ-45 data socket
- 1 x low-voltage variable voltage socket

Bottom edge
1,050-1,300 mm
above level of finished
floor

3rd level
Drop shelf

Drop shelf, horizontally adjustable

Combine the Service Wing with the drop shelf and gain access to a new degree of freedom for barrier-free layout of your classrooms. The drop shelf can be moved along the entire length of the Service Wing.

It goes without saying that the drop shelf is also maintenance-free and can be retrofitted to all *SCALA* Service Wings.

3rd level
Screen mount with screen

Screen mount with screen, horizontally adjustable

Combine the Service Wing with the screen mount and gain access to a new degree of freedom for barrier-free layout of your classrooms. The screen mount can be moved along the entire length of the Service Wing.

In order to provide workplaces for disabled users with an image reproduction system, screens in 16:9 format are provided with a distance of between 1,050 and 1,300 mm from the floor level to the bottom edge of the screen. The parked position is against the board wall, with the screen facing the wall.

It goes without saying that the screen mount is also maintenance-free and can be retrofitted to all *SCALA* Service Wings.

Accessible screen work

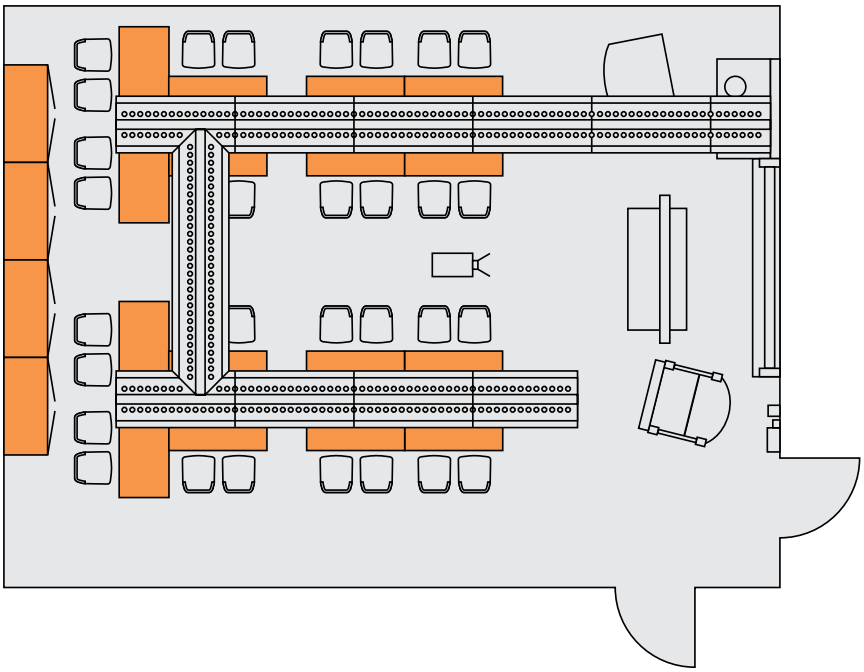
The furniture modules

The furniture modules

- Special equipment basic
- CINETHEK
- Teacher's table, on castors
- Spray protection
- Sliding element "reading stand"
- Rack
- Mobile water station
- Media stations
- TablarEm
- Disposal system for solids and domestic waste
- Seated desk with mobile file
- Supplementary equipment
- Trolley tables
- Schoolchildren's experiment tables, mobile
- Schoolchildren's experiment tables, mobile, height-adjustable
- Multifunction shelf
- DuoEm seated desk
- Schoolchildren's experiment tables with monitor holder and keyboard drawer
- Workbenches
- Storage space and cupboards
- Laboratory cabinets and storage
- Chemicals cabinets
- Safety cabinets
- Acid and alkali cabinets
- Worktops and colours
- Worktops
- Colours

The furniture modules

In the furniture modules, you can find all the furniture and mobile elements that define how a classroom should be.




Furniture modules
Worktops and colours
Storage space and cupboards
Supplementary equipment

Special equipment basic
CINETHEK

HOPS® – right in the picture

Holographic back projection (HOPS®) delivers the best image quality, without any raster effects or dark areas. The projection surface is 1.30 m wide and is suitable for: graphics, images, videos, DVDs, TV and Powerpoint presentations. There is no need for additional equipment to be installed in the room, such as complete room shading, projection screens, loudspeakers, beamer mounts, etc. One socket in the room is all it takes for multimedia teaching to begin. The holo screen can be moved in and out electrically and functions as a spray protection screen at the same time.

Lots of room

The substructure offers space for technical equipment such as DVD player, computer and beamer. The roller doors make it possible to open the rear to afford easy access to the beamer and the projection mirror. There is a folding working surface at the teacher's right. On the teacher's left, there is a folding writing surface at a height of 750 mm above the floor level.

Interactive working

The MIMIO mouse system belongs to the CINETHEK. This turns the projection screen into an interactive table surface.

Latest technology
for small budgets

CINETHEK – everything that forms part of modern teaching

Everything that forms part of modern teaching is integrated into the new teacher's desk on wheels: Writing and projection surface, PC, DVD/CD player, video recorder and beamer.

With the CINETHEK, the latest technology on wheels rolls to where it is needed. It can be used independently of the Service Wing, which means it works in normal classrooms as well. The main application is the information technology/telematics subject classroom. Holographic images can be projected using two beamers at once. The transport handles can be pulled out and locked, allowing them to be used as stand rods for experiment setups.

Special equipment basic
Teacher's table, rack

Teacher's table

The teacher's table is available with or without substructure. The four steerable heavy-duty castors make the teacher's table mobile.

Teacher's table without substructure

Teacher's table with substructure

Rack

The rack accommodates all of the devices that are required in teaching.

With the modular system for unlimited variability

Special equipment basic
Spray protection

Mobile spray protection

The mobile spray protection is mounted on wheels and can be used individually.

The spray protection panel is made from one layer of safety glass and can be lowered.

Spray protection

The spray protection mounted on the schoolchildren's side of the teacher's table is made of a single layer of safety glass, it can be pulled out and moved along the table surface.

With the modular system for unlimited variability

Special equipment basic
Sliding element "reading stand"

Sliding element "reading stand"

In the "reading stand", we are offering a mobile, angled work surface that can be mounted on the teacher's table facing the board. The sliding element is attached using two sliding rails along which the "reading stand" can be pushed.

The top part is used for resting a book or as a writing surface, or – folded flat – as a surface for a notebook computer, for example.

Ingenious,
simple and
practical solutions
for the teacher

Special equipment basic

Mobile water station

Mobile water station

The mobile water station is connected to the Service Wing and can be used anywhere in the room. It brings the sink workplace to the schoolchild, and functions as a sink at the teacher's table.

- 4 steerable castors, of which 2 can be locked
- Water solenoid valve
- Connections for water, waste water, electricity 230 V
- Sink dimensions 320 x 320 x 200 mm
- Polypropylene sink

Mobility in any position

Special equipment basic
Media stations

Media stations

The media stations bring electricity and gas to a wide range of working levels, and are used for setting up experimentation stands locally. Excellently suited for people with disabilities.

Technical data

Dimensions (mm): ..... 160 x 85/118 x 210

Using media accessibly

Special equipment basic
TablarEm

TablarEm

This trolley table functions as a scissor-type lifting table and can accommodate slide-in worktops in the cabinet on 3-4 levels. The cabinet has an internal depth of 900 mm. Complex experiment setups that are only required a few times a year, or which have to be built up and dismantled continuously due to lack of space, can be stored in a lockable cabinet. This gives you the storage space and the working space of 2-3 trolley tables. The experiment setups are protected against contamination and damage. The height adjustment is electrical by means of a two-hand trip guard.

Flexibility in the preparation phase

Special equipment basic

Disposal system for solids and domestic waste

Disposal system for solids and domestic waste

The system is used for disposing of residual solids and of domestic waste from school experiments.

It is not suitable for storing solids and domestic waste over long periods. It is not approved for disposing of hazardous substances, in particular

- acids and alkalis
- flammable liquids
- gas bottles
- radioactive substances
- microorganisms

Technical data

Tilting door
Width x height x depth (mm):
600 x 870 x 550
Capacity:
1 x 30 l

Special equipment basic

Seated desk with mobile file

Substructures on castors – technical data

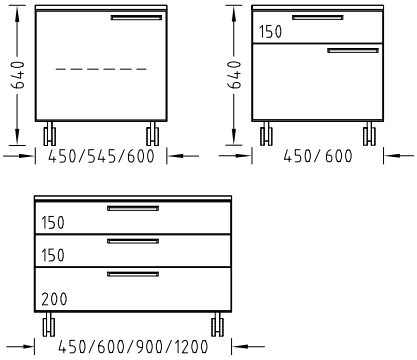
Dimensions

Widths (mm): 450/545/600/
..... 845/900
..... 1,145/1,200
Depth (mm):..... 550
Overall height (mm):..... 640/790
Height
Drawers (mm): 150/200/350
Height of castors (mm): 110

Weight capacity

of each shelf/
drawer (kg): 30
per castor (kg):..... 70

Variants



Ingenious solutions for supporting ergonomics

Seated desk with mobile file

Seated desks for preparation rooms are available with individual dimensions to match the room layout and the required furnishings.

Window or wall workplaces can be configured with substructures on castors or on a pedestal, with drawers or revolving door, and with or without a media duct. Worktops are made from Melamine.

Seated desk adapted to the building situation

Supplementary equipment
Trolley tables

Trolley table

The trolley table is ideal for working standing up or seated, due to its working heights of 750 or 900 mm.

Technical data

Dimensions
Width (mm): 900/1,200/1,500/1,800
Depth (mm): 600/750/900
Working height (mm): 750/900

Weight capacity
Trolley table (kg/m²): 200
per heavy-duty castor (kg): 110

Configuration features
Heavy-duty castors: ..... 4, of which 2 lockable
Shelves: ..... optional
Shelves and substructure: ..... optional
Frame: ..... Steel section 60/25/2

Worktops

The trolley table is available with different work surfaces.

Stainless steel without raised edge

Keraion with raised edge

Melamine without raised edge

Tiles with raised edge

Supplementary equipment

Schoolchildren's experiment tables, mobile

Worktops

The schoolchildren's experiment table is available with different work surfaces.

Keraion with raised edge

Melamine without raised edge

Tiles with raised edge

Schoolchildren's experiment tables, mobile

The school table has a working height of 800 mm, so it is ideally suited to working either sitting or standing up. The table has a steel frame which is fully welded through. The side parts are configured with a double-L profile, which means there are no torsion forces at the welded joints. To be on the safe side, the stability of this mobile school table was successfully checked at Munich University of Applied Sciences, which verified its absence of vibration.

Technical data

Dimensions

Width (mm):..... 600/1,200/1,800
Depth (mm):..... 600
Working height (mm): 800

Configuration features

Frame: ..... Steel section 60/25/2

Supplementary equipment

Schoolchildren's experiment tables, mobile, height-adjustable

Schoolchildren's experiment tables, mobile, height-adjustable

According to GUV-SI 8011, schoolchildren's experiment tables in science subject classrooms should have two table heights, if possible. Our schoolchildren's experiment tables can be adjusted to various heights between 720 and 920 mm, which means they can be individually adjusted to schoolchildren of all statures, whether sitting or standing.

Technical data

Dimensions (mm): ..... 600 x 600 x 720/920
..... 1,200 x 600 x 720/920
..... 1,800 x 600 x 720/920

Worktops: ..... Melamine without raised edge
..... Keraion with raised edge
..... Tiles with raised edge

Frame: ..... 4-foot frame

Feet: ..... Felt pads and castors

Height-adjustable

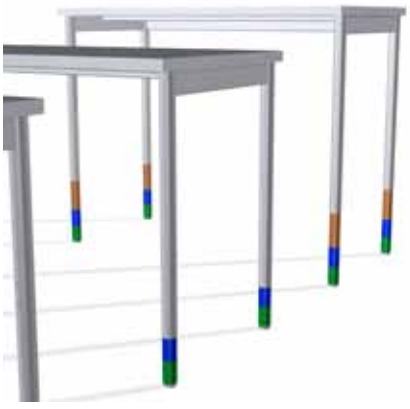
Height-adjustable in steps of 20 mm,
range with pads: 710-910 mm
range with castors: 760-960 mm).

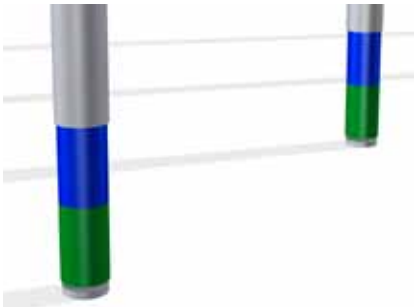
Variants:

- with 4 felt pads
- with 4 castors, of which 2 can be locked
- with 2 felt pads and 2 lockable castors

Height-adjustable function using bayonet locks, secured with screw fastening

Height identification by colour coding, acc. to DIN EN 1729-1





Supplementary equipment
DuoEm seated desk

Advantages

- No need to put chairs on top of the table, therefore the tabletops are not scratched
- Clears the floor for cleaning work
- Free space for movement during standing activities during practical teaching
- Complete freedom of movement due to
articulated arm
- Saves time, because it is only necessary to relocate one item (table incl. chair) when changing the teaching format

Dimensions: 1,200 x 600 x 800 mm
Worktops on page 88.

DuoEm seated desk – the seated desk for maximum freedom

In the past, frontal teaching was a rigid policy; nowadays, variable and different teaching formats are called for, all within the same lesson. This requires a high degree of flexibility when fitting out a classroom.

The new DuoEm, a combination of table and chair, is yet another innovation from Waldner. The chair is connected to the table via an articulated arm. When not in use, the backrest can be folded down (in which case the castor leg swivels up) and the chair can be pushed completely under the table. This provides room for standing activities on all sides of the table, or can liberate wheelchair users as well. Practical: No chairs block escape routes.

Maximum freedom

Supplementary equipment

Schoolchildren's experiment tables with monitor holder and keyboard drawer

Schoolchildren's experiment tables with monitor holder and keyboard drawer

A school table with a special device that can be moved upwards in order to hold a screen and a horizontal drawer for the keyboard.

If the keyboard and the screen are not needed, these can be shut away in the school table where they are secure and take up little space.

Technical data

Dimensions (mm): ..... 600 x 600 x 800 (1 monitor holder)
.....1,200 x 600 x 800 (1-2 monitor holders)
.....1,800 x 600 x 800 (1-3 monitor holders)

Monitor holder and keyboard drawer can be moved jointly along the width of the table in
school table .....1,200 x 600 x 800 with 1 holder
school table .....1,800 x 600 x 800 with 2 holders

Monitor holder can be lowered with gas spring
Monitor holder and keyboard drawer are lockable

Accessories

TFT screen 15-17 inch
Keyboard
Mouse

All in one: IT and general teaching

Supplementary equipment
Workbenches

Workbenches

Universal worktable with two vices on the left and right ends, approx. 1,500 x 650 x 45/90 mm, tabletop length: 1,500 mm, tabletop depth: 650 mm, height-adjustable table 700-950 mm, set to 850 mm at the factory. Thickness of the bench dog strip and the all-round reinforcement 90 mm. Worktop made from solid red beech, impregnated with linseed oil. Substructure in sturdy square-profile steel design, 60/60/2 mm, powder-coated in RAL 7016 anthracite grey. The height is adjusted manually and smoothly by means of a clamping screw with four hard plastic foot plates, one of which can be calibrated. Equipment: Two parallel vices on the left and right ends with two steel guides and one spindle, two white beech vice handles and four round bench dogs.

Supplementary equipment
Workbenches

Team workbench with 4 workplaces featuring square too, recess, tabletop and crossbars, etc. made from steamed red beech. Four face vices with steel spindles and parallel rod guides. Large square tool recess in the middle of the tabletop. All visible surfaces are oiled. Four pairs of bench dogs and four vice handles are supplied with each workbench. Dimensions of tabletop without vice jaws 1,300 x 1,300 mm, tabletop width without recess 295 mm, tabletop thickness 43/100 mm, vice jaws 60 x 110 x 360 mm, face vice clamping width 115 mm, weight approx. 107 kg, frame height smoothly adjustable from 700-950 mm. The height is adjusted centrally using a hand crank. The four internal bevel gear units are connected together using control rods with concealed routing. The working spindles with trapezoidal thread (12 x 3 mm) are mounted in ball bearings. Lifting force of the gear unit 480 kg. All components are exchangeable. Steel parts anthracite grey (RAL 7016) powder-coated.

In-line workbench WPL 6,000 x 700 x 50 mm, height adjustable up to the top edge of the workbench top, 700-950 mm. The working height is set to 850 mm at the factory, three 2,000 mm worktops, electricity connection via electric module, three subframes painted anthracite grey (RAL 7016), one substructure with drawer block.

Storage space and cupboards

Laboratory cabinets and storage

Variants

- Fully glazed door panels with single-pane safety glass (ESG)
- Partially glazed door panels with single-pane safety glass (ESG)
- Closed door panels

Laboratory cabinets acc. to DIN EN 14727

Storage spaces for schoolchildren's experiments. The door panels are available in unglazed, partially and fully glazed versions.

Dimensions

Lengths (mm): 450/600/900/1,200
Depths (mm): 350/550
Height (mm): 2,090
Pedestal height: ..... 110 mm
Watertight glued plywood pedestal

Door panels

Closed, fully glazed, partially glazed, substructure with drawers

Closed door panels

Partially glazed door panels with single-pane safety glass

Fully glazed door panels with single-pane safety glass

Storage space and cupboards

Laboratory cabinets and storage

Application

- For storing implements and chemicals, acc. to DIN EN 14727
- Not authorised for storing flammable liquids, gas bottles and spontaneously inflammable or spontaneously decomposing substances
- Not authorised for storing acids and alkalis

The shelf heights can be individually adjusted by means of lines of holes drilled in the side walls.

Pull-out shelves make it easier to remove materials.

Up to 4 drawers available with different interior height

Stepped shelf insert for tidy storage of chemicals.

Storage space and cupboards
Chemicals cabinets

Add-on cabinets

Design

With integrated rail for hooking on a ladder; for laboratory cabinets with or without exhaust air connection; 1 shelf, height-adjustable

Technical data

Dimensions
Width (mm):.....450/600/900/1,200
Depth (mm):.....350/550
Height (mm):.....610/760

Gain
up to 20% more
storage space

3-piece pull-out cabinet

Application

- For storing liquid or solid substances in suitable containers, acc. to DIN EN 14727
- Not authorised for storing flammable liquids, gas bottles and spontaneously inflammable or spontaneously decomposing substances
- Not authorised for storing acids and alkalis

Technical data

Dimensions
Width (mm):..... 600/900
Depth (mm):..... 550
Overall height (mm):..... 2,090
Height of pedestal (mm):. 110
Tall pull-out (W x D, mm). 300 x 500
Trough (W x H x D, mm):. 240 x 425 x 40

Weight capacity
per pull-out (kg): 100
per trough (kg):..... 10

Storage space and cupboards
Chemicals cabinets

Chemicals cabinet

Continuously ventilated laboratory cabinet for storing chemicals (no acids, alkalis, solvents) - DIN EN 14727.

See page 82 for dimensions

All chemicals
stored correctly

Storage space and cupboards

Safety cabinets

G90 gas bottle cabinet acc. to DIN EN 14470-2

Application

- For storing gas cylinders in buildings
- Not suitable for storing flammble liquids and spontaneously inflammable or spontaneously decomposing substances
- Not suitable for storing acids and alkalis

Technical data

Dimensions

Width (mm): 600/900
Depth (mm): ..... approx. 600
Overall height (mm): ..... approx. 2,000

Tare weight (kg): 390/530

Flow rate (m³/h): 60/90

FWF90 laboratory cabinet acc. to DIN EN 14470-1

Application

- For storing limited quantities of flammable liquids
- Not suitable for storing gas boles and spontaneously inflammable or spontaneously decomposing substances
- Not suitable for storing acids and alkalis

Technical data

Dimensions

Width (mm): 600/900
Depth (mm): ..... approx. 600
Overall height (mm): ..... approx. 2,000
Height of pedestal (mm): ..... approx. 80

Max. weight (kg): 290/360

Flow rate (m³/h): 30

Storage space and cupboards
Acid and alkali cabinets

Acid and alkali cabinets

Application

- For storing limited quantities of acids and alkalis
- Not suitable for storing flammable liquids, gas bottles and spontaneously inflammable or spontaneously decomposing substances

Technical data

Dimensions
Width (mm): 600
Depth (mm): 550
Overall height (mm): 2,900
Height of pedestal (mm): 110

Weight capacity
Fixed shelf (kg): 30
Pull-out shelf (kg): 20

Flow rate (m³/h): 100

Accessories: 2 PE containers, 10 l each

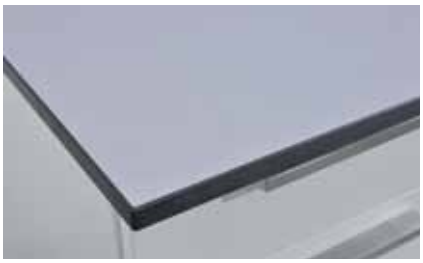
All acids and alkalis correctly stored

Worktops and colours

Worktops

Melamine

Solid core



Tiles with raised edge

Keraion (thin stoneware) with PUR edge

Polypropylene with raised edge

Composite panel stoneware with raised edge

Stainless steel with raised edge

Stoneware with raised edge

The right surface for any application

Worktops and colours
Colours

Metal trims (panels)

- White – RAL 9010 pure white
- Light grey – NCS S 3005 R80B
- Anthracite – NCS S 5502 R
- Cosmic blue – designer colour
  Similar to RAL 5001 green blue

Front panels and storage

- White – RAL 9010 pure white
- Walnut
- Pedestal
  Slate grey – NCS S 7502 B

Worktops

- Light grey – NCS S 3005 R80B
- Keraion
  Similar white – RAL 9010
  Pure white

Trendy and contemporary colours

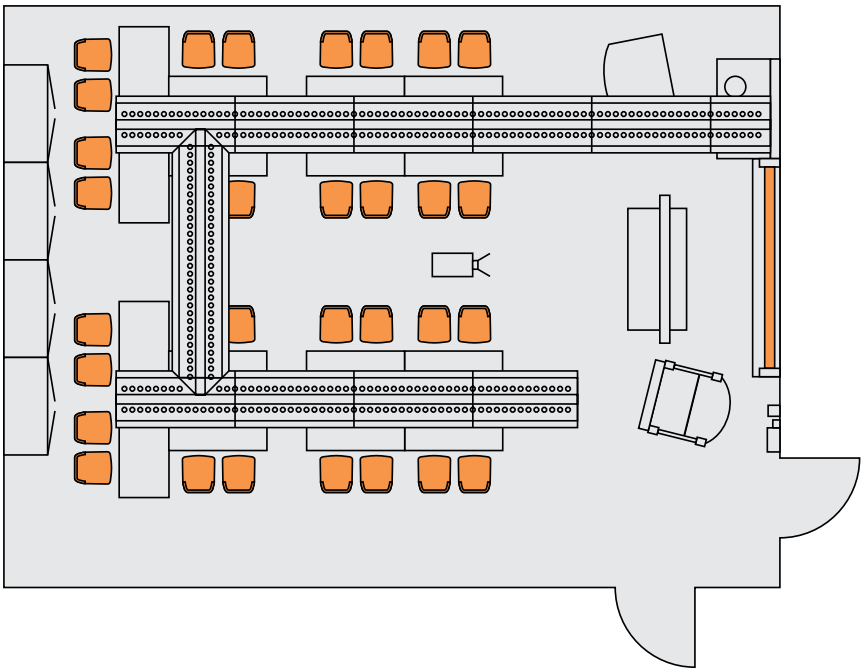
The add-on modules

The add-on modules

- Board, interactive
- Boards
- Chairs, stackable
- Chairs, height-adjustable (GUV-SI 8011)
- Periodic table of elements acc. to Kohler & Fischer
- Safety equipment
- Safety package
- Logic trainer
- Headset for teacher and headphones
- DVGW-tested Bunsen burner
- Gas hose for DVGW-tested Bunsen burner
- Integrated refrigerator
- Universal heating cabinet
- Integrated microwave oven
- Integrated electrical baking oven

Add-on modules

The add-on modules include the outsourced parts that we offer, as well as accessories for rounding off our *SCALA* modular system. Why not select further modules from our extensive portfolio?




Boards
Low-voltage device, portable
Add-on modules
Safety equipment
Chairs

Board, interactive

Technical data

Size of surface (mm) W x H:
2,500/3,000 x 1,200

System width including pylons (mm):
2,750/3,250,

Pylons: 3,000 mm, extruded aluminium section
(cross section 230 x 100 mm), anodised in natural colour EV1

Versions acc. to customer's requirement

- ActivBoard 300 PRO range
- SMART Board
- SMART Board 685ix
- Promethean ActivBoard
- Epson, Sanyo short-distance projector
- Epson EB-450Wi interactive ultra wide-angle projector

For stand-alone use (not in conjunction with the Service Wing), Waldner offers the devices required for operation (PC module, amplifier and loudspeakers as well as the corresponding connection sockets) in electrical ducts mounted on the sides of the pylons.

Board system combines as double pylon board, front surface interactive, rear surface standard

With two independent vertically adjustable board surfaces and one short-distance projector that can be moved both synchronously with the interactive surface or independently. White enamelled steel, without lines, interactive surface, e.g. Promethean, or short-range projector in conjunction with a whiteboard.

Projector on a third pylon pair, can be decoupled from the board, guided by a cross-member. Ultra short-distance projectors from various manufacturers can be used, e.g. Sanyo, Epson, Smart. Beamer with a 16:10 format and a resolution of 1,280 x 800 pixels.

The enamelled writing surfaces are baked on in a special process at 800 °C, the rear of the board surface is equipped with a counter-drawing metal sheet. The carrier plate is configured as a sandwich design with a honeycomb core to reduce weight, covered with a 3.0 mm thick particleboard. The writing surfaces are edged without screws, with rounded safety corners and additionally sealed with silicone. The anodised chalk channel in natural aluminium runs along the entire length is equipped with safety caps.

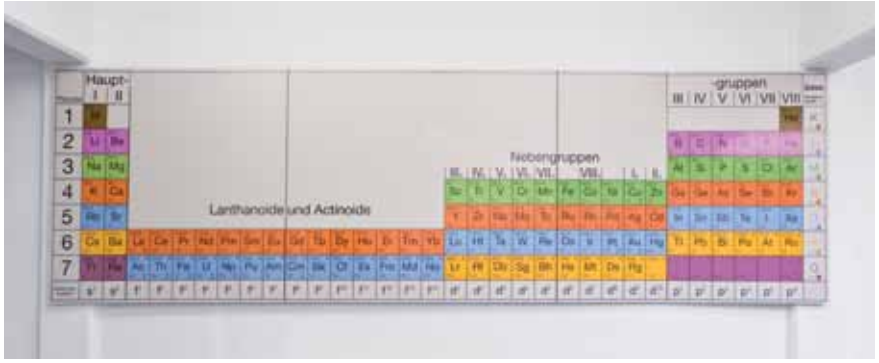
Boards, Periodic table

Boards

Double pylon board with two writing surfaces that can be adjusted independently from one another, and overhead projector surface mounted on the side. Electrically operated photo wall.

Periodic table

Folding Periodic table of elements acc. to Kohler & Fischer. Also available a mini fold-out sheet.



Technical data

Dimensions:

- 2,500 x 1,000 mm
- 3,000 x 1,000 mm
- Height: 2,900 mm

- Writing surfaces in green enamelled steel
- Board surfaces with 50 mm square grid
- Dirt collection channel and separately mounted sponge/chalk container
- Two columns comprising anodised sections in natural aluminium
- Steel counterweights

Manufacturer

VS Tauberbischofsheim

Dimensions

Open (W x H, mm):
4,200 x 1,200

Folded together (W x H, mm):
1,750 x 1,200

Already included in the complete planning

Chairs, stackable

Manufacturer

VS Tauberbischofsheim

The PantoSwing LuPo is a forwards-inclining cantilevered chair. The frame is made from a bent, powder-coated or chrome-plated round steel tube with an extra-sturdy cross strut between the runners.

Chair sizes acc. to DIN ISO 5970 and CEN. The seat shell is made from double-walled, structured polypropylene (LuPo) for comfortable sitting with an air cushion effect. With concealed seat attachment and grip hole.

Runners for hard or soft floors or universal runners.

Sled base chairs

Sled base chair with beech plywood seat, size 7

Schoolchildren's chair, size 5-7 (PantoSwing LuPo)

Chairs, height-adjustable (GUV-SI 8011)

Chairs, height-adjustable (GUV-SI 8011)

The regulations of GUV-SI 8011 apply to schoolchildren's chairs. We also offer height-adjustable schoolchildren's chairs to match our height-adjustable schoolchildren's experiment tables, in order to allow your schoolchildren to achieve the optimum sitting position.

Teacher's chairs

Height-adjustable from 49 to 69 cm, with foot ring, seat and backrest shell made from plastic, with soft castors

Height-adjustable from 49 to 69 cm, fully padded, seat/backrest covered

Schoolchildren's chairs, size 5-7 (PantoMove LuPo)

Height-adjustable from 43 to 51 cm, with foot ring, seat and backrest shell made from plastic, with soft castors

Height-adjustable from 43 to 51 cm, without foot ring, seat and backrest shell made from plastic, with soft castors

Manufacturer

VS Tauberbischofsheim

Runners

All chairs are also available with runners

Swivel stool, height-adjustable

Safety equipment

First-aid kits and fire protection gloves

Equipment cabinet with complete equipment

Fire blanket incl. container

Fire extinguisher

We take safety very seriously

Safety package

The service thorax is used for combining and safely guiding several connection lines.

The table clamp guides the gas hose.

The suction cup base makes sure the Bunsen burner is securely positioned.

We take safety very seriously

Logic trainer

Advantages

- Different ways of writing programs
- No kits of building blocks required any longer
- Time saving during experiment setup
- Programming is possible with PC or graphic display
- Can be used without knowledge of programming languages

Simulation

- Quick error analysis by additional LED connections of the inputs and outputs
- Very good teaching effect by optical display of programming statuses

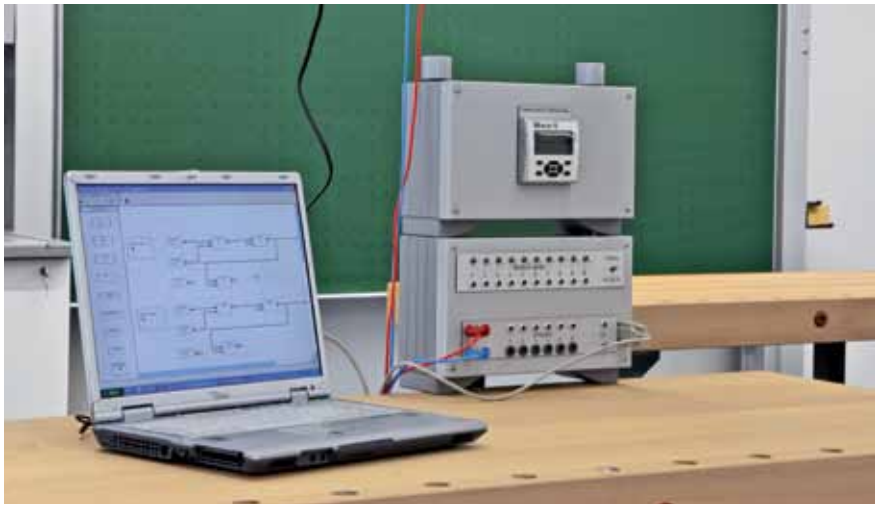
Logic trainer and MFD display do not require maintenance!

Logic trainer

Transportable tabletop detachable unit in the *SCALA* module housing; front: *SCALA* metal panel, white aluminium paint; connection: 230 V/50 Hz, 3 m mains cable with safety plug, mains switch and operating light

Type: GET-K18703-WLA-WA The logic trainer chiefly consists of the operation and simulation panel. 12 digital inputs can be simulated using locking and momentary contact switches. The six 24 V outputs can be picked off using safety laboratory sockets. A red LED provides an optical display when an output is active. In addition, the experiment setup is assisted by four 24 V power supply sockets. The GET-EASY-SOFT-V 6.10 Pro makes things especially easy for the user. The graphical editor displays the required circuit diagram presentation. Selectable menus and "drag & drop" functions make logic operations easy; simply select the contacts, coil, timer elements, etc. and it's done. The user can use the integrated offline simulation to check the application software, the "circuit diagram" is functioning correctly. The simulation is made without an experiment setup. Comments and designations for contacts, coils and function blocks lead to a clear and comprehensible program structure. A cover sheet and cross-reference list with comments turn the program printout into a comprehensible and perfect documentation of your experiment setup.

Type: GET-K18703-WLB-WA As an option, the logic trainer is also available with an MFD display in a separate housing. In this variant, you can write programs or make settings on the "LT" not only via the PC but also directly via the MFD display.

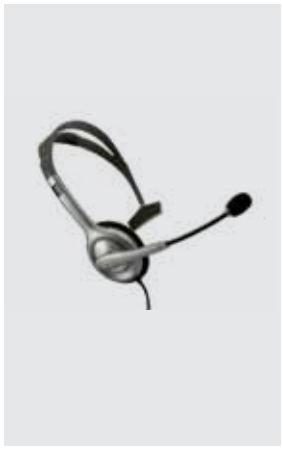


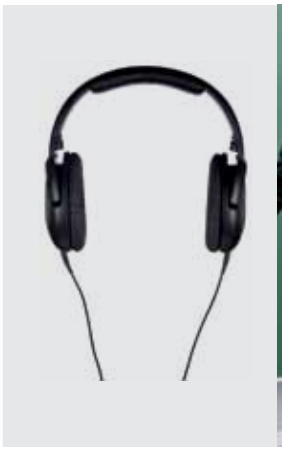
Headset for teacher
Headphones for schoolchildren with impaired hearing

Headset for teacher and headphones for schoolchildren with impaired hearing

A microphone picks up the teacher's voice and the transmitter worn on the teacher's belt sends the signal wirelessly to the amplifier. From there, the voice is output evenly throughout the room via the loudspeakers in the Service Wing.

Headphones are available for schoolchildren with impaired hearing.





The *SCALA* modular system is available with a lapel microphone in order to reduce the strain on the teacher's vocal chords.

Bunsen burner
Gas hose for Bunsen burner, DVGW-tested

Bunsen burner

Waldner Bunsen burners are suitable for use with propane gas or natural gas, and have a suction pad to ensure that they are securely positioned on your work table.

For safe and ecological use:

- Operation with propane or natural gas
- Suction pad for secure positioning
- DIN configuration with economy flame
- Air regulation and needle valve
- DVGW-tested

Gas hose for Bunsen burner

For safe operation of your Bunsen burner, we recommend using our matching gas hose which is also DVGW-tested.

Integrated refrigerator, heating cabinet, microwave oven, integrated baking oven

Integrated refrigerator for tall cabinet

Dimensions (W x H x D): 560 x 878 x 550 mm, brand: Liebherr, type: EK 1514 Comfort. Gross/net content: 127/121 litres. With 3*** freezer compartment for long-term storage at -18° C. 3 shelves (2 height adjustable), 2 storage baskets as well as complete inner door fittings. Door hinge side can be changed. Colour: white

Integrated microwave oven 1,000 W

Stainless steel easy-operating concept: particularly simple, trouble-free adjustment. 1,000 W microwave oven with 5 power levels (1,000/600/360/180/90 W). Electronic time display, recessible dial switch, automatic defrost program by weight (3 programs), swivel door with viewing window, 34 cm glass turntable, 27 l cooking compartment

Device dimensions (HxWxD): 310 x 510 x 390 mm, dimensions of the cooking compartment: 215 x 360 x 350 mm, integration dimensions (HxWxD): 380 x 560 x 550 mm, connected load: 1,240 W, weight: 16 kg.

Universal heating cabinet

Dimensions (W x H x D): 550 x 600 x 400 mm, weight: 29 kg, stainless steel door, compartment content 32 litres with natural ventilation, for drying, testing, heating, incubating, measuring, sterilising, sterile storage, germinating. Working space and housing made from stainless steel, material 1.4301, rear wall made from steel sheet, hot-dip galvanised. Temperature ranges from 30 to 220 °C, temperature fluctuations from side to side max. +/-1%, spatially max. +/-2% of the nominal temperature. Electrical connection: 230 V, rating approx. 1,100 watts.

Integrated electrical baking oven

AEG Competence B 3000-1 w, energy efficiency class: A
Connected load: 3,000 watts for connection to 230 V
7 heating modes:

- Hot air
- Heat from above and below
- Heat from below can be switched separately
- Large-area grill
- Grill
- Infra-roasting
- Defrosting

LINE-CONTROL, GAR-CONTROL, baking table on the inner door, cooling blower, recessible toggles with push function, easy-clean door and fittings, folding grill element, ISOFRONT

Room setup modules

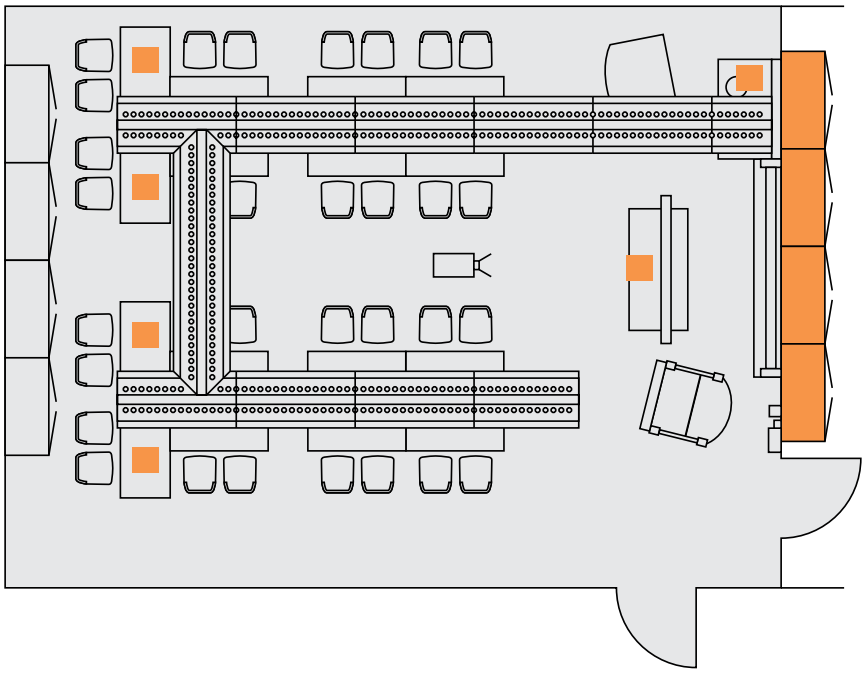
Room setup modules

- Ventilation control
- Extractor systems
- GIRA room installation
- Safe-Master®
- Emergency call system

Room setup modules

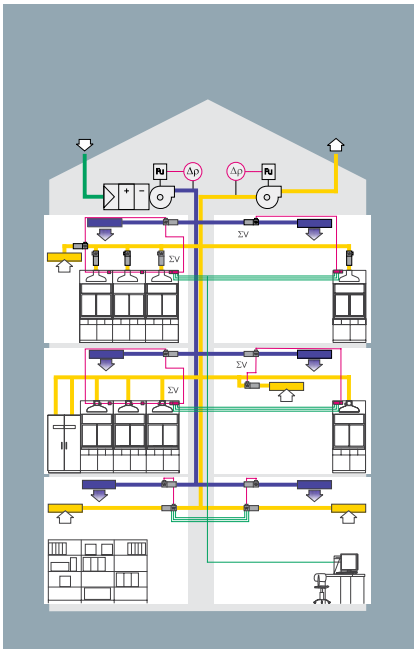
Waldner offers the following expansion services.

- Ventilation control
- Extractor systems
- GIRA room installation
- Safe-Master®
- Emergency call system

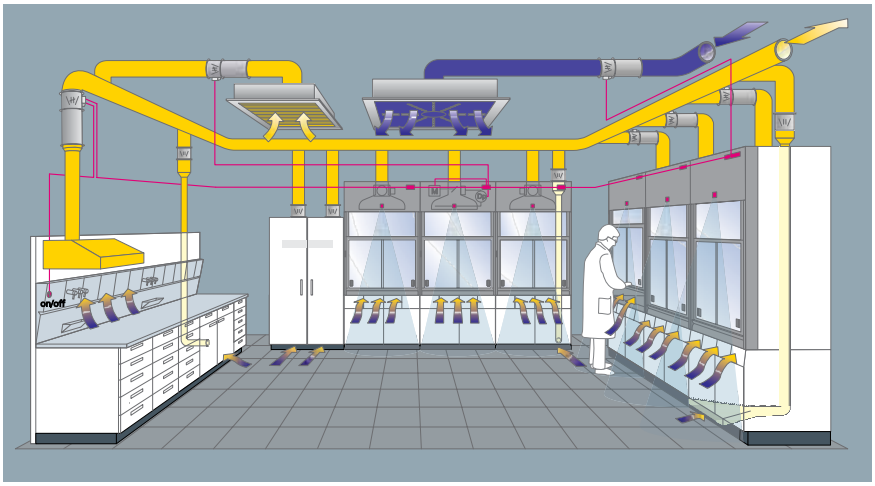



Extractor systems
Ventilation control

Ventilation control



Laboratory systems and ventilation of the laboratory room are essential corollaries nowadays. Waldner steps up to the plate here, and takes responsibility for the entire ventilation. This means the interfaces between sub-areas of the ventilation system are eliminated. We guarantee that the laboratory building functions optimally overall, because we have adapted all the safety-relevant trades to one another in a joined-up way.



Controlled exhaust air is economically and ecologically valuable

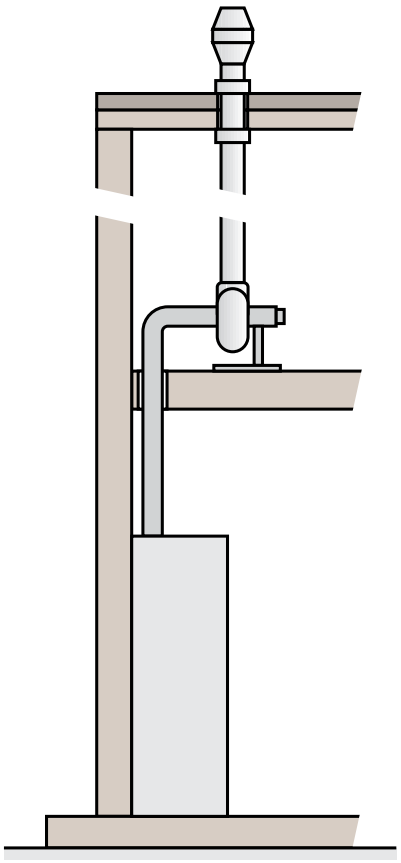
Extractor systems

Extractor systems

Extractor systems must be manufactured acc. to DIN 1946, part 7 as suction-type systems with the stale air blown out of a vertical vent above roof level. Waldner offers turnkey installation of the systems that form part of its scope of services (fume cupboards, extracted cabinets, Service Wing). This includes the technical ventilation calculation, dimensioning, delivery, installation, startup and service. The offer package does not include the secondary building measures that may be required (e.g. opening/closing roof/ceilings), the electrical cable to the fan as well as routing control lines between the fan motor and laboratory workplace.

The material used must be resistant to chemicals, acids and alkalis. Waldner exclusively uses pipelines made from flame-retardant polypropylene (PPs B1).

Radial or axial fans are used, depending on the installation location.



Controlled exhaust air is economically and ecologically valuable

GIRA room installation

GIRA room installation – from planning through to implementation: everything from a single source

Waldner has expanded its room setup assortment with surface-mounted installation systems. The heart of this is the aluminium base rail. It represents the installation space for electricity and control lines that are led out of the Service Wing. The section housings are attached to the base rail. Various electrical devices can be inserted in these, e.g. emergency off buttons, indicator lights, sockets, switches, buttons, momentary contact sensors, etc. The cable routing is via outlets in the base rail and through the retaining profile of the section housing. The base rail is provided with a section cover.

We draw up the circuit diagrams and plan the technical implementation all in one go, whilst planning the furnishings. Your benefits:

- Delivery, assembly and installation from a single source
- Additional factory warranty for up to 5 years, with delivery from a single source
- Integration into an EIB or LON-BUS system, including BUS programming

This reduces your costs because of the savings in building and planning times.

Safe-Master®

Safe-Master® (emergency off, mobile)

In dangerous situations, the push of a button must be sufficient to prevent accidents: irrespective of stationary emergency off switches, the Safe-Master® is always on hand and absolutely reliable.

Manufacturer

Dold & Söhne KG Furtwangen

Advantages

- Efficient safety without complicated connection/installation work
- Functions by radio irrespective of the location
- Light, compact hand-held transmitter is always to hand
- Emergency off within a matter of seconds in dangerous situations in the subject classroom. This saves valuable seconds because there is no need to go to the nearest door emergency off.
- The hand-held transmitter switches off everything except the lighting.

Emergency call system

Scope of offer

Connection/monitoring of alarm reporting and building control systems to VdS-recognised emergency call and service control centre classes A, B and C.

Depending on the alarm reporting system that has been set up, after connection it is possible to register the following danger/status/malfunction and routine messages with the emergency call and service control centre, and to have these messages evaluated and visually verified:

- Fire alarm
- Routine messages
- Emergency call/attack
- Activations/deactivations
- Burglar alarm
- Technical alarm (sabotage, network fault, building, elevator emergency call, control technology, etc.)

Contact

Dresdner Wach- und Sicherungs-Institut GmbH
Zur Wetterwarte 29, 01109 Dresden
Security service department
Tel.: +49 351 883 6160
Emergency call and service control centre
Tel.: +49 351 883 6121
This offer is initially only applicable within the territory of the Federal Republic of Germany.

Emergency call button in case of panic (amok) alert

In accordance with DIN-VDE 0833-1 and 0833-3 standards, Waldner offers a 2-way reporting system (GSM and IP), and can supply an individual room solution with an alarm button (panic alarm button). Installation is carried out by Teletek GmbH Dresden (certified to VdS 2311), which can also provide maintenance acc. to VDE 0833 or VdS 2311 on request.

Customer and building prerequisites and performance limits

- Fixed 230 V connection (no RCD)
- Functioning IP Internet access (continuously operating)
- Adequate radio level for the GSM network used (D2)
- GSM card contract for data card (transfer as data package)
- Contract with security company. Recommendation: DWSI GmbH Dresden
- (Security company has reception technology for VDS-2465 protocol with physically separate transmission pathways for IP and GSM)

On request by the customer, the technical prerequisites can be checked by Teletek GmbH Dresden. DWSI GmbH Dresden reports the alarm to the responsible police stations, in accordance with the contract with the school authority/school.

This offer is initially only applicable within the territory of the Federal Republic of Germany.

SCALA

Configuration variant
Ecology

Ecology

Ecology modules

Ecology modules already included in the standard version

- Service Wing, version 1
- Service Wing, version 2
- Service Wing, version 3
- Service Wing, version 4
- AeroEm
- AquaEl
- Room management system
- Vacuum supply
- IT data network CAT 6a/CAT 7
- Room air extraction
- Component: CO_2 sensor for extractor system
- Component: Odour sensor for extractor system
- Soldering iron extraction system with filter system
- Sawdust extraction with filter system
- Board/teacher's table lighting
- Additional room lighting
- Wall lights
- VelaEs
- CINETHEK
- Disposal system for solids and domestic waste

Optional ecology modules

- Lighting with constant light control/access sensors
- Halogen-free cabling
- Switch D-Link Green Ethernet
- Secuflow over-workbench fume cupboard
- Variable airflow control from fume cupboards with Airflow Controller
- Component: Continuous-flow water heater
- Buy-back offer for Waldner products

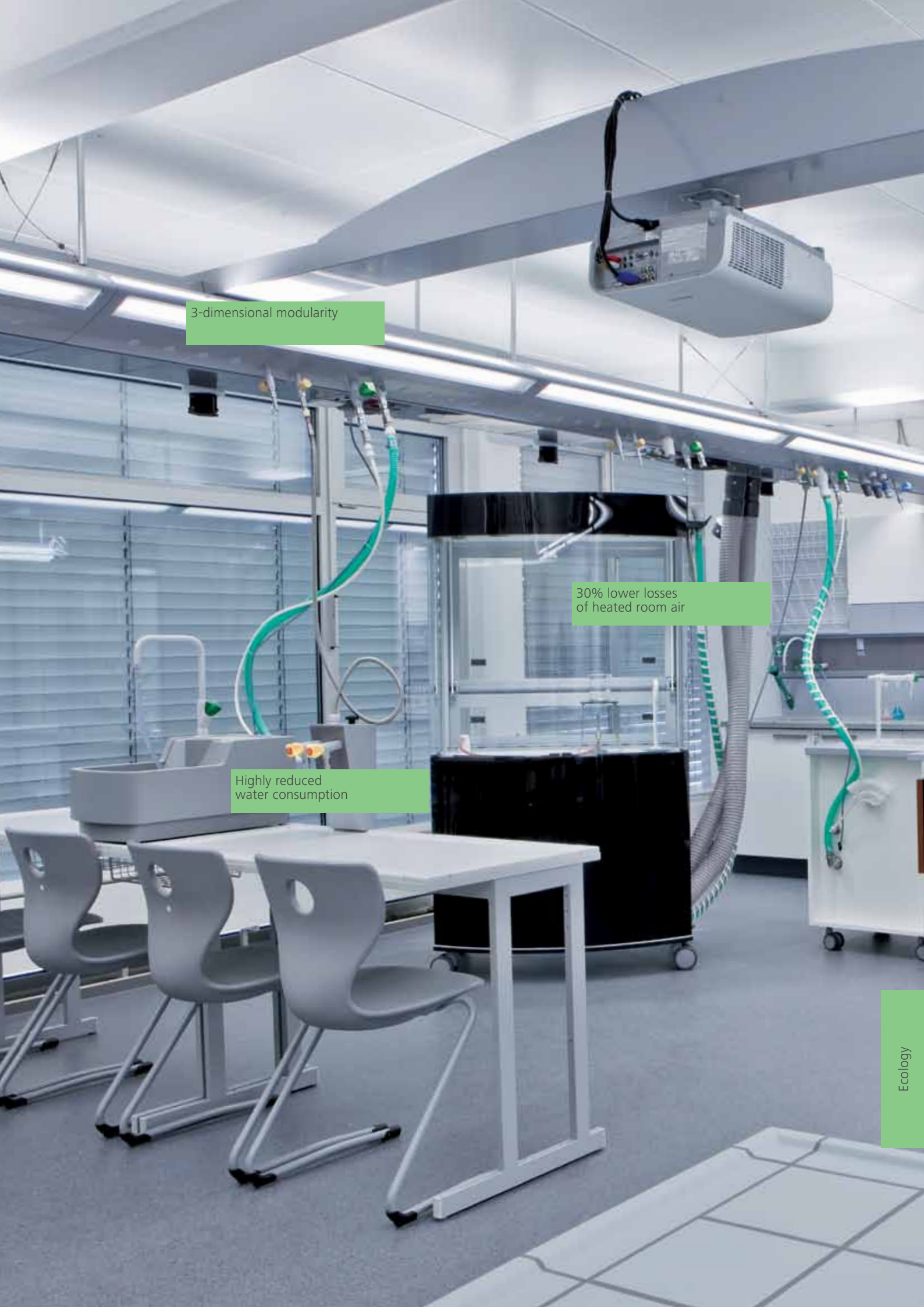
Ecological key competence

Having a good room climate promotes wellbeing and productivity, a good environmental climate promotes better working conditions. Sensible use of steel instead of aluminium (which requires a lot of energy to obtain), single-type materials, signifi cant reduction in electricity used for lighting and therefore reduction in CO2 emissions, low exhaust air fl ow rates – the design awards that we have won, in which environmental aspects play an important role, indicate the the ecological performance of our system. All our products are recyclable, which explains why we offer a buy-back commitment for our own products.products.

Ecological tasks and objectives

Even in the standard version of our *SCALA* modular system, we have developed and used many modules that save electricity and reduce CO_2 emissions. We have optimised the gas flow profiles in the intake and exhaust air flows of our fume cupboards in such a way as to cut their energy consumption whilst maintaining the same performance and operational safety.

The offers below represent valuable ecological solutions. Our objective is to make your School System even more energy efficient, thereby further improving the energy balance sheet. These solutions offer good approaches if you wish to have your building certified according to the European environmental certification guidelines, EMAS.


3-dimensional modularity
30% lower losses
of heated room air
Highly reduced
water consumption

Ecology modules already included in the standard version

By default, thinking ecologically and saving costs as well

Ecological as standard

The following modules are in our standard range from pages 16 to 108.

- Service Wing, version 1 ..... page 18
  saves electricity for lighting > 50%*)
- Service Wing, version 2 ..... page 19
  11-14 W/m² energy consumption*)
- Service Wing, version 3 ..... page 20
  250 €/year/room energy saving*)
- Service Wing, version 4 ..... page 21
- AeroEm ..... page 24
  only 330 m³ exhaust air flow rate
- AquaEl ..... page 26
  process water only for the application of
  water circuit for cooling processes
- Room management system ..... page 34
  BUS system reduces energy consumption
- Vacuum supply ..... page 42
  electrical vacuum, no water jet pumps
- IT data network CAT 6a/CAT 7 ..... page 44
  cables acc. to RoHS directive
- Room air extraction ..... page 50
  room air extraction reduces heat requirement, no surge ventilation required
- Component: CO_2 sensor for extractor system ..... page 51
  room air extraction reduces heat requirement, no surge ventilation required
- Component: odour sensor for extractor system ..... page 52
  room air extraction reduces heat requirement, no surge ventilation required

*) see table, page 114

Ecology modules already included in the standard version

Ecological as standard

The following modules are in our standard range from pages 16 to 108.

By default, thinking ecologically and saving costs as well

Lighting with constant light control/ access sensors

Glare-free daylight illumination

Economical energy consumption

To live up to our objectives in terms of the ecological aspects of our products and their manufacture, we are always developing new concepts for saving energy and therefore lowering CO_2 emissions. The fact that operating costs are reduced at the same time represents an extra benefit for our customers.

Reduction in energy consumption

Compared to other lighting systems, we reduce lighting current consumption by more than 50% (with daylight-dependent control) from about 26 W/m² to about 11 W/m².

Reduction in CO_2 emissions

This means we can cut CO_2 emissions by more than 50% from 1,910 kg to 828 kg.

Reduction in operating costs

The lower energy consumption has a positive effect on your operating costs. These can be reduced significantly (by more than 50%).

	Energy consumption W/m²	CO_2 emissions kg/year	Operating costs €/year
Other lighting systems	25.84 (100%)	1,910.3 (100%)	445.74 (100%)
Modular Service Wing	14.06 (54.41%)	1,039.1 (54.39%)	242.46 (54.39%)
Modular Service Wing with daylight-dependent control	11.94 (46.20%)	882.8 (46.21%)	205.99 (46.21%)
Modular Service Wing with daylight-dependent control and precision sensors	11.20 (43.34%)	827.9 (43.34%)	193.60 (43.43%)

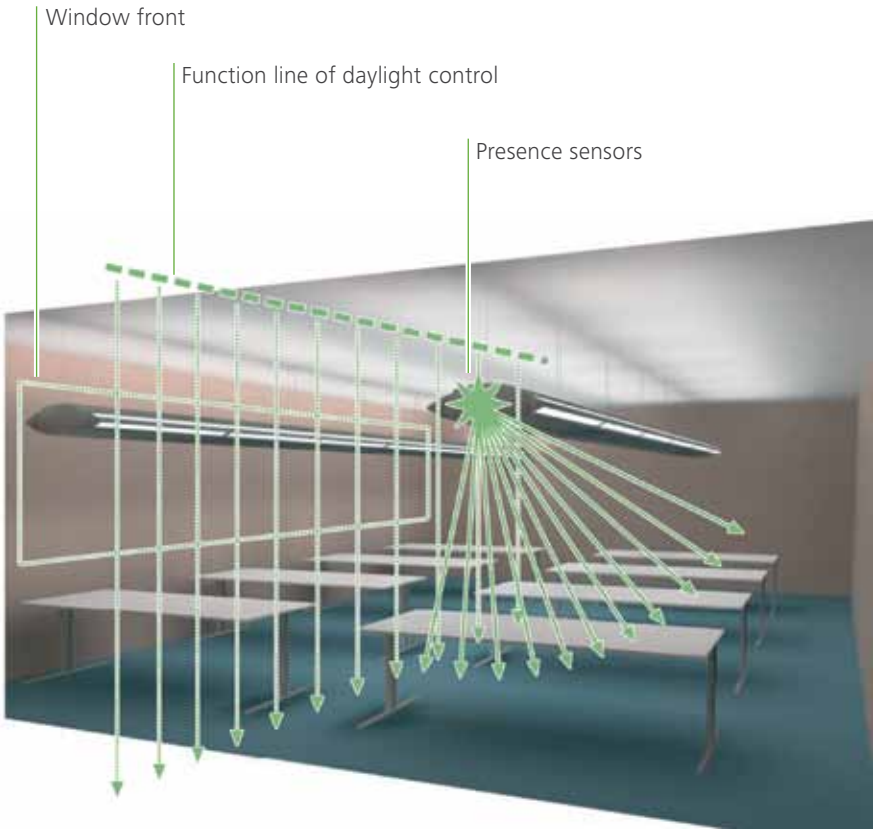
The percentages assume "other lighting systems" are 100%. All figures relate to 8 hours on-time per day, and 220 days a year. The comparative study on which this is based refers to workplace lighting (500 lx on average), identical room format (10 x 7 x 3 m, without extraneous light), with equivalent reflection characteristics, desk heights and maintenance factors.

Lighting with constant light control/ access sensors

Ecological functions

The lighting systems in purpose-built structures are generally planned very carefully and in detail. The lighting system is configured in terms of the number and type of luminaires, therefore there is a relationship between daylight, artificial light, energy savings and control technology.

Waldner offers constant light control in which the two room sensors operating independently from one another in the Service Wings control/dim the light intensity directly in the workplace. This constant light control takes account of the actual local lighting conditions, and not just the outside brightness.
A control loop is set up between the light sensors and the artificial lighting in the controller. The dimmable lighting means that the missing proportion can be made up infinitely variably.



The following requirements are met:

- Delayed response to intermittent changes in outside light levels
- The lighting does not respond inadvertently to normal behaviour by the user (white paper, reflective surfaces, etc.)
- Switching off bulbs if the brightness is sufficient
- Automatic switch-on of lighting as the outside light level declines

Benefits

- The user does not notice the open or closed-loop control functions operating, the lighting is simply provided.
- Declines in artificial lighting output are compensated for automatically. The required lighting intensity can be set under all lighting conditions in which artificial light is required.
- Using constant light control systems in conjunction with modern electronic ballasts offers a potential energy saving of 65% compared to a traditional lighting system with conventional ballasts (Busch EIB Instabus).

Consumption only when and where required

Lighting with constant light control/ access sensors

Lighting only when it is necessary

The presence sensors can be combined with the DALI-capable Waldner Service Wing lighting system, and their effectiveness is due to the following:

Room users do not need to operate switches themselves in order to use the lighting. The lighting systems are only activated when someone enters the room, and switch off automatically when people leave. The user scarcely notices the switch-on and switch-off procedures because of the slow dimming up and down ramps.
High-frequency technology means that even the smallest movements are registered. The lifetime of the bulbs is extended by short operating times.

Halogen-free cabling

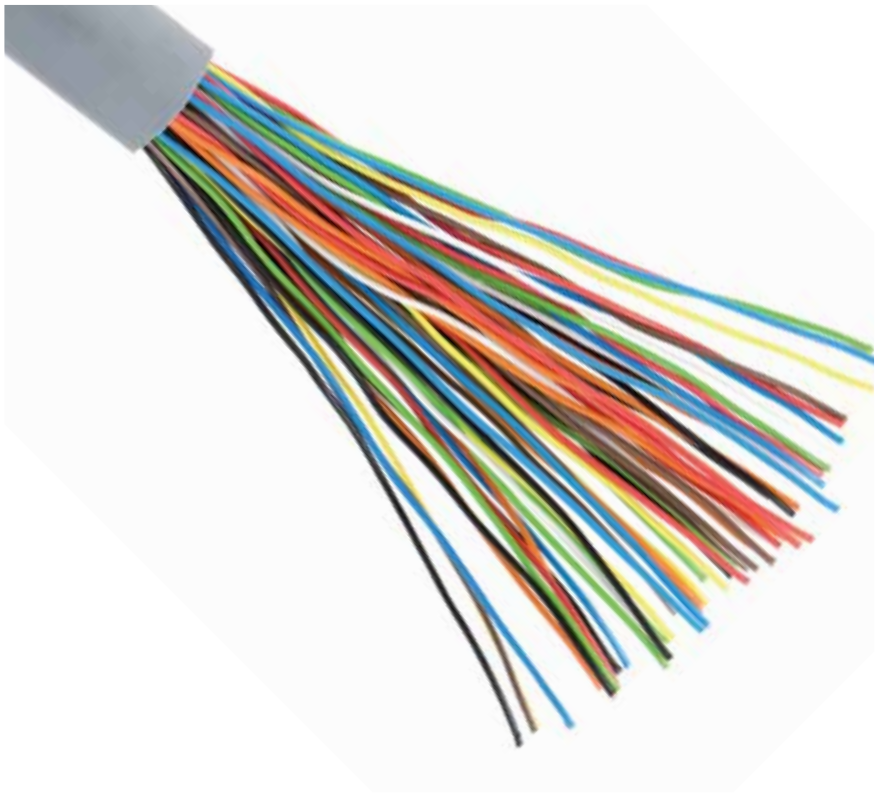
Halogen-free cabling

On request, we use only halogen-free electric cables. As well as the ecological aspect that the electrical cables contain neither fluorine, chlorine, bromine, iodine nor astatine, this solution also offers particular advantages in case of a fire:

- Less smoke
- No corrosive fire gases
- Low fire propagation
- Lower combustion heat than PVC cable

IT data cables

We offer you the data network in line with the CAT 6a standard, and the cables we use are CAT 7. These are double-shielded, halogen-free and allow transmission frequencies up to 800 MHz. Optionally, we also offer CAT 7+ cables that are suitable for transmission frequencies up to 1200 MHz. Both configurations permit a transmission rate up to 10 Gbit/s. Our services include planning, delivery, assembly and installation as well as calibration of the entire network.



Performance data for IT data cables

CAT 7 cable, Corning S/FTP 800 4 x 2 x AWG, double-shielded, halogen-free, 800 MHz, 10 Gbit/s.

S-STP 1200/22 CAT 7+ cable, 1,200 MHz, 4 x 2 x AWG, foil shield on pairs (PiMF), all-round braided shield and halogen-free insulation (FRNC), blue, 10 Gbit/s.

Advantages

Outstanding electrical properties
Halogen-free configuration (LS0H)
Flame-retardant acc. to IEC 60332-3, test type C and EN 50266-2-4
Non-corrosive acc. to IEC 60754-2 (FRNC) and EN 50267
Low smoke acc. to IEC 61034 and EN 50268 Recyclable

Environmentally friendly and safe

Switch D-Link Green Ethernet

Switch D-Link Green Ethernet – the switch with energy saving function

The switch permits an energy saving of up to 44% compared to a normal gigabit switch – without thereby reducing the power or function. Integrated Green Ethernet intelligence enables the switch to determine automatically for each port what is the level of data traffic on the individual ports, and adapts the energy supply accordingly. In addition, the Green Ethernet Switch detects the cable length used and adjusts the current intensity accordingly. This saves costs and reduces strain on the equipment.

Advantages

- Reduced current consumption
- Longer equipment service life
- Lower heat output
- Lower operating costs

Green Ethernet makes your network infrastructure even more effective, economical and environmentally friendly.

The "green" data network

Secuflow over-workbench fume cupboard

Secuflow over-workbench fume cupboard

- Protective device for the user, tested acc. to EN 14175
- Extraction of vapours, aerosols and dust from the interior of the fume cupboard, to ensure that no dangerous concentrations of harmful substances can get into the laboratory room
- Avoidance of creating a hazardous, potentially explosive atmosphere inside the fume cupboard
- Protection of spitting, dangerous substances
- Protection against particles, objects or parts flying out of the fume cupboard
- Fume cupboards for general use acc. to EN 14175 are generally not suited for working with radioactive substances and working with microorganisms.
- Not suitable for open experimental work
- Reduction in energy consumption by active supportive flow technology (Secuflow technology) whilst complying with regulations and standards
- Points of withdrawal in the rear wall on the inside of the fume cupboard
- Controls on the cross member on the outside

Fresh air, safety
and energy saving

Secuflow over-workbench fume cupboard

Advantages

- Significantly reduced energy consumption
- A smaller extractor system is required.
- Less heated air is withdrawn from the room.

The ecological version of airflow control

Configuration variants

Secuflow over-workbench fume cupboards are available in the widths 1,200 mm, 1,500 mm, 1,800 mm and 2,100 mm.

Technical data

Width 1,200 mm

Dimensions (W x H x D, mm) ..... 1,200 x 2,700 x 900
Useful width of interior (mm)..... 1,150
Useful height of interior (mm)..... 1,550
Working height (mm) 900
Weight (without installation, kg)..... approx. 250
Minimum flow rate (m³/h) 330

Width 1,500 mm

Dimensions (W x H x D, mm) ..... 1,500 x 2,700 x 900
Useful width of interior (mm)..... 1,450
Useful height of interior (mm)..... 1,550
Working height (mm) 900
Weight (without installation, kg)..... approx. 300
Minimum flow rate (m³/h) 410

Width 1,800 mm

Dimensions (W x H x D, mm) ..... 1,800 x 2,700 x 900
Useful width of interior (mm)..... 1,750
Useful height of interior (mm)..... 1,550
Working height (mm) 900
Weight (without installation, kg)..... approx. 350
Minimum flow rate (m³/h) 490

Width 2,100 mm

Dimensions (W x H x D, mm) ..... 2,100 x 2,700 x 900
Useful width of interior (mm)..... 2,050
Useful height of interior (mm)..... 1,550
Working height (mm) 900
Weight (without installation, kg)..... approx. 400
Minimum flow rate (m³/h) 570

Variable airflow control from fume cupboards with Airflow Controller

Variable airflow control from fume cupboards with Airflow Controller

The central unit is a microprocessor controlled electronic control unit and is the heart of the Waldner control components.
The nominal value is specified by means of the sliding window position. The processor controls this nominal value quickly and precisely by means of a specific control procedure (adaptive or predictive). The microprocessor detects the required flap position, has a max. adjustment speed of two seconds for 90° and is equipped with a position controller. This means nominal value changes are established in the control system within three seconds.
Furthermore, the shutter factor appropriate for the calculation is calculated by means of a characteristic map resulting from the flap position and the effective pressure.

In accordance with DIN EN 14175, there is an optical and an acoustic alarm when the actual value undershoots the nominal value. Also, there is an optical and acoustic warning if the permitted front shutter opening area is exceeded.
The control flap with main duct is used by default. In room heights below 3.30 m, actuator flaps as tube controllers must be used.
When Secuflow technology is used, this is monitored and controlled. If the specified exhaust air amount is undershot then supportive flow technology is switched off.
If supportive flow technology fails, this is displayed optically and acoustically, and the exhaust air value is automatically increased to the value of a standard fume cupboard.

Component: Continuous-flow water heater

Buy-back commitment for Waldner products

Component: Continuous-flow water heater

Our continuous-flow water heater does not require any standby current. It only heats water when it is actually needed. The flow volume is also set to an economical value as well, therefore delivering an additional water saving. This results in an energy saving of up to 85% compared to conventional small storage tanks.

Buy-back commitment for Waldner products

Having a good working climate promotes productivity, a good environmental climate promotes living conditions. Sensible use of steel instead of aluminium, single-type materials,controllable energy consumption, low exhaust air flow rates – the design awards that we have won, in which environmental aspects play an important role, indicate the the ecological performance of our system. Our products are recyclable. Therefore, we offer a buy-back commitment on the school products that have been made by our own group of companies.

Our claim:
protecting the
environment,
saving resources

Configuration variant
Accessibility

Accessibility

Accessibility modules

Accessibility modules already included in the standard version

- Service Wing, version 1
- Service Wing, version 2
- Service Wing, version 3
- Service Wing, version 4
- AeroEm
- AquaEl on trolley table
- Room management system
- Chipcard system
- Multimedia module
- RapidoEm
- Drop shelf
- Screen mount
- CINETHEK
- Media stations
- Schoolchildren's experiment tables, mobile, height-adjustable
- Chairs, height-adjustable
- Headset for teacher
- GIRA room installation

Optional modules for accessibility

- Lighting with access sensors
- Teacher's table step as pull-out shelf
- Mobile school table, for 1 or 2 wheelchairs
- Image reproduction system
- Small media rack

Accessibility – so that everyone can take part in education

Even the standard version of our *SCALA* modular system offers numerous possible applications for people with disabilities. For example, the marked inclination of the media duct brings fittings, installations and shelves closer to the user, therefore making it easier to operate the individual elements.

Furthermore, with the "accessibility" configuration variant, we offer you a series of modules for making your teaching accessible, and allowing you to adapt the furnishings optimally to the needs of people with disabilities.

Legal principles

Law on the equal treatment of people with disabilities (Equal Opportunities for the Disabled Act – BGG) Quotation:
"Equal Opportunities for the Disabled Act dated 27 April 2002 (Federal Gazette, I pp. 1467, 1468), most recently amended by Article 12 of the Act dated 19 December 2007 (Federal Gazette I pg. 3024)"
Status: Most recently modified by Art. 12 G dated 19.12.2007 I 3024


Service Wing
Lighting with access sensors
AeroEm
AeroEm

Accessibility modules already included in the standard version

Accessible solutions for people with disabilities

Accessible solutions

The following modules are in our standard range from pages 16 to 108.

Accessibility modules already included in the standard version

Accessible solutions

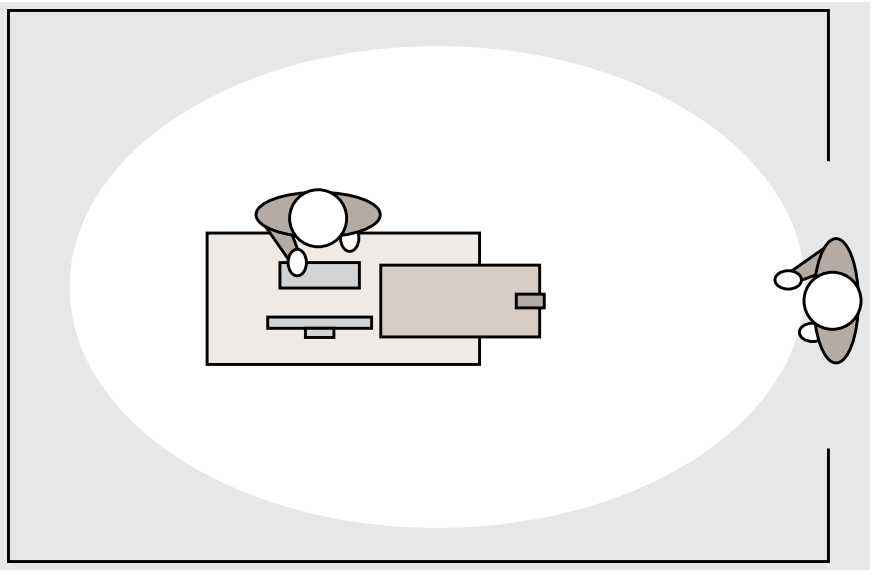
The following modules are in our standard range from pages 16 to 108.

Lighting with access sensors

Lighting with access sensors

The presence sensors can be combined with the DALI-capable Waldner Service Wing lighting system, and their effectiveness is due to the following:

Room users do not need to operate switches themselves in order to use the lighting. The lighting systems are only activated when someone enters the room, and switch off automatically when leaving. The user scarcely notices the switch-on and switch-off procedures because of the slow dimming up and down ramps.
High-frequency technology means that even the smallest movements are registered.
The lifetime of the bulbs is extended by short operating times.



Room-oriented, very large detection range

Fully automatic function

Teacher's table step as pull-out shelf

Teacher's table step as pull-out shelf

To make the connections on the Service Wing more easily accessible, we offer our teacher's table with an extendable step for people with disabilities (pedestal width 550 mm).

Special features: The step is 215 mm high and is guided on castors. The upright front allows the user to hold on or support himself/herself. The folding table surface makes it possible to position experiments, a notebook computer or the AquaEl, for example.

Mobile school table, for 1 or 2 wheelchairs

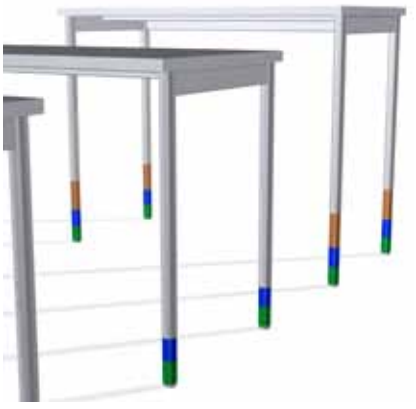
Height-adjustable

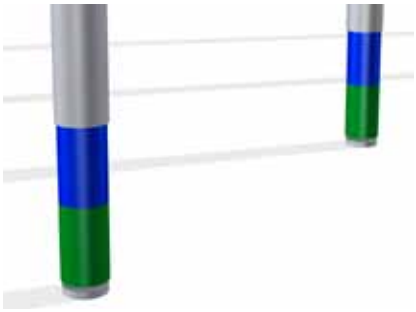
Height-adjustable in steps of 20 mm,
range with pads: 710-910 mm
range with castors: 760-960 mm).

Variants:
- with 4 felt pads
- with 4 castors, of which 2 can be locked
- with 2 felt pads and 2 lockable castors

Height-adjustable function using bayonet locks, secured with screw fastening

Height identification by colour coding, acc. to DIN EN 1729-1





Mobile school table, for 1 or 2 wheelchairs

To allow your schoolchildren to work without barriers: Our height-adjustable, mobile school table is also suitable for wheelchair users. It can be adapted to different sizes of wheelchair, and really does "grow" along with the different requirements.

Technical data

Dimensions (mm): ..... 600 x 600 x 720/920
..... 1,200 x 600 x 720/920
..... 1,800 x 600 x 720/920
Worktops: ..... Melamine without raised edge
..... Keraion with raised edge
..... Tiles with raised edge
Frame: ..... 4-foot frame
Feet: ..... Felt pads and castors

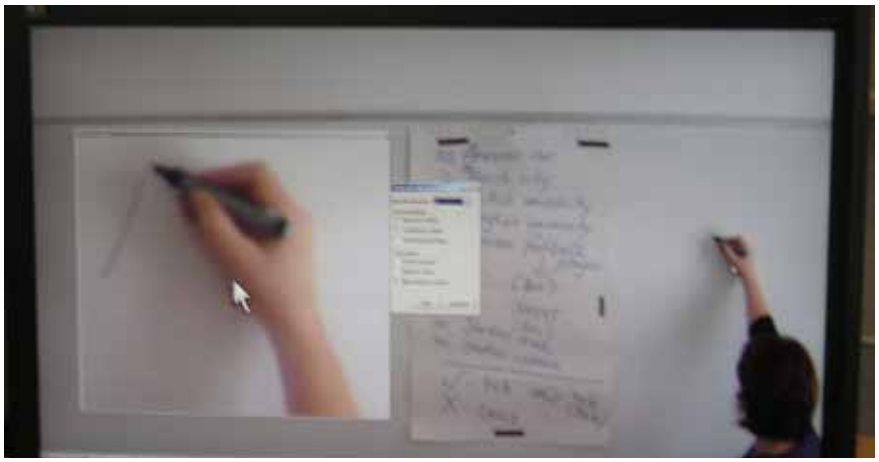
Image reproduction system

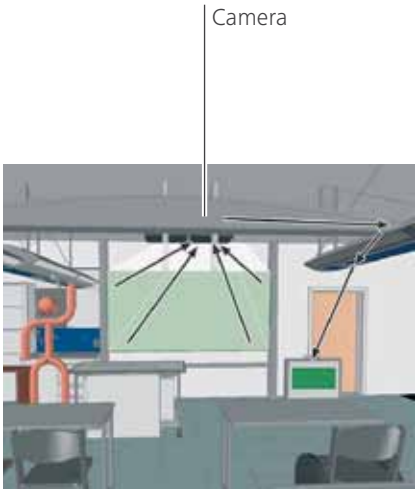
Image reproduction system

The *SCALA* image reproduction system developed by TELETEK GmbH has been specially designed for schoolchildren with impaired vision.

Video technology transfers an image of the board directly to a screen. The information is captured by a network camera and reproduced via software. The Windows magnifier also makes it possible to zoom in sections at individual workplaces.

The 16:9 format screen is moved to the schoolchildren's workplace using the RapidoEm. The screen has a swivel joint and allows the schoolchild to select the distance from screen to head as required. The RapidoEm with the screen can be moved along the entire length of the Service Wing.





Small media rack

Small media rack

The small, media rack on wheels consists of:

- Keyboard drawer
- Gas lift for monitor for holding a PC and keyboard
- Monitor

Working height 750 mm above floor level
4 castors, of which 2 can be steered and locked
Keyboard drawer and monitor can be locked

Module overview

School System/classroom *SCALA* modules	Reference to/from ...	System 2 Chemistry	System 2 Physics	System 2 Biology	System 3 Telematics/ information technology	System 4 Technology	System 5 Domestic science	System 8 General classroom
Part A - Standard								
Core modules								
Laboratory workplace		•	•	•	•	•	•	
Service Wing, version 1	A/E			•	•			•
Service Wing, version 2	A/E		•	•				
Service Wing, version 3	A/E	•	•	•		•	•	
Service Wing, version 4	A/E	•	•	•		•	•	
Energy/hygiene module								•
Lighting		•	•	•	•	•	•	•
AeroEm	A/E	•						
AquaEl	A/E	•	•	•		•		
VarioTHEK		•	•	•				
CulinaEm							•	
Expansion modules								
Room management system	A/E	•	•	•	•	•	•	•
Chipcard system	A	•	•	•	•	•	•	•
Electrical installation								
Electrical power supply 230 V		•	•	•	•	•	•	•
Electrical power supply 400 V			•			•	•	
Low-voltage supply with built-in low-voltage device			•			•		
Low-voltage supply with mobile low-voltage device			•			•		
Sanitary installation								
Water and waste water system (component: drinking water protection)		•	•	•		•	•	•
Fuel gas supply (component: 10-second quick gas cut-off)		•	•			•		
Pure gas supply		•						
Compressed air supply						•		
Vacuum supply	E	•	•			•		
Multimedia								
Multimedia module	A	•	•	•	•	•	•	•
IT data network CAT 6a/CAT 7	E	•	•	•	•	•	•	•
PC module		•	•	•	•	•	•	•
Acoustics		•	•	•	•	•	•	•
Beamer and beamer network, S92		•	•	•	•	•	•	•
Local extraction systems								
Alsident® extraction system		•				•		
Fume cupboard extractor system, MF version 2		•		•			•	
Fume cupboard extractor system, MF version 3		•					•	
Fume cupboard extractor system, MF version 4		•	•	•		•	•	
Room air extraction (components: CO_2 sensor, odour sensor)	E	•		•		•	•	
Soldering iron extraction system with filter system	E					•		
Sawdust extraction with filter system	E					•		
Mobile combination dust separator						•		
CulinaEm appliance extraction system							•	
Lighting								
Board/teacher's table lighting	E	•	•	•	•	•	•	•
Additional room lighting	E	•	•	•	•	•	•	•
Wall lights	E	•	•	•	•	•	•	•
Emergency lighting		•	•	•	•	•	•	•
VelaEs	E	•	•	•	•	•	•	•

School System/classroom *SCALA* modules	Reference to/from ...	System 2 Chemistry	System 2 Physics	System 2 Biology	System 3 Telematics/ information technology	System 4 Technology	System 5 Domestic science	System 8 General classroom
3rd level								
RapidoEm	A	•	•	•	•	•	•	•
Drop shelf	A	•	•	•	•	•	•	•
Screen mount with screen	A	•	•	•	•	•	•	•
Furniture modules								
Special equipment basic								
CINETHEK	A/E				•			
Teacher's table, on castors		•	•	•	•	•	•	•
Spray protection		•						
Sliding element "reading stand"		•	•	•	•	•	•	•
Rack		•	•	•	•	•	•	•
Mobile water station		•	•	•		•	•	
Media stations	A	•	•	•	•	•	•	
TablarEm		•	•	•		•		
Disposal system for solids and domestic waste	E	•						
Seated desk with mobile file		•	•	•	•	•	•	
Supplementary equipment								
Trolley tables		•	•	•	•		•	•
Schoolchildren's experiment tables, mobile		•	•	•	•	•	•	•
Schoolchildren's experiment tables, mobile, height-adjustable	A	•	•	•	•	•	•	•
DuoEm seated desk		•	•	•	•			•
Schoolchildren's experiment tables with monitor holder and keyboard drawer					•			
Workbenches						•		
Storage space and cupboards								
Laboratory cabinets and storage		•	•	•	•	•	•	•
Chemicals cabinets		•		•				
Safety cabinets		•						
Acid and alkali cabinets		•		•				
Worktops and colours								
Worktops		•	•	•	•	•	•	•
Colours		•	•	•	•	•	•	•
Add-on modules								
Board, interactive		•	•	•		•	•	•
Boards		•	•	•	•	•	•	•
Chairs, stackable		•	•	•	•	•	•	•
Chairs, height-adjustable (GUV-SI 8011)	A	•	•	•	•	•	•	•
Periodic table acc. to Kohler & Fischer		•						
Safety equipment		•	•	•	•	•	•	•
Safety package		•						
Logic trainer					•	•		
Headset and headphones	A	•	•	•	•	•	•	•
DVGW-tested Bunsen burner		•	•	•		•		
Gas hose for DVGW-tested Bunsen burner		•	•	•		•		
Integrated refrigerator		•		•			•	
Heating cabinet				•				
Microwave oven							•	
Integrated baking oven							•	
Room setup modules								
Installation in the building								
Ventilation control		•				•	•	
Extractor systems		•				•	•	
GIRA room installation	A	•	•	•	•	•	•	•
Safe-Master (emergency off, mobile)	A	•	•	•	•	•	•	•
Emergency call system	A	•	•	•	•	•	•	•

School System/classroom *SCALA* modules	Reference to/from ...	System 2 Chemistry	System 2 Physics	System 2 Biology	System 3 Telematics/ information technology	System 4 Technology	System 5 Domestic science	System 8 General classroom
Part B - Ecology								
Service Wing, version 1	CM			•	•			•
Service Wing, version 2	CM		•	•				
Service Wing, version 3	CM	•	•	•		•	•	•
Service Wing, version 4	CM	•	•	•		•	•	
AeroEm	CM	•						
AquaEl	CM	•	•	•		•		
Room management system	EM	•	•	•	•	•	•	•
Vacuum supply	EM	•	•			•		
IT data network CAT 6a/CAT 7	EM	•	•	•	•	•	•	•
Soldering iron extraction system with filter system	EM					•		
Sawdust extraction with filter system	EM					•		
Component: CO_2 sensor for room ventilation	EM	•	•	•	•	•	•	•
Component: Odour sensor for room ventilation	EM	•	•	•	•	•	•	•
Board/teacher's table lighting	EM	•	•	•	•	•	•	•
Additional room lighting	EM	•	•	•	•	•	•	•
Wall lights	EM	•	•	•	•	•	•	•
VelaEs	EM	•	•	•	•	•	•	•
CINETHEK	FM	•	•	•	•	•	•	•
Disposal system for solids and domestic waste	FM	•						
BLighting with constant light control/ access sensors	E	•	•	•	•	•	•	•
Halogen-free cabling	E	•	•	•	•	•	•	•
Switch D-Link Green Ethernet	E	•	•	•	•	•	•	•
Secuflow over-workbench fume cupboard	E	•						
Ventilation control with volume flow control and air-flow controller	E	•						
Component: Continuous-flow water heater	E	•	•	•	•	•	•	•
Buy-back offer for Waldner products	E	•	•	•	•	•	•	•
Part C - Accessibility								
Service Wing, version 1	CM			•	•			•
Service Wing, version 2	CM		•	•				
Service Wing, version 3	CM	•	•	•		•	•	•
Service Wing, version 4	CM	•	•	•		•	•	
AeroEM	CM	•						
AquaEl on trolley table	CM	•	•	•		•		
Room management system	EM	•	•	•	•	•	•	•
Multimedia module	EM	•	•	•	•	•	•	•
RapidoEm	EM	•	•	•	•	•	•	•
Drop shelf	EM	•	•	•	•	•	•	•
Screen mount	EM	•	•	•	•	•	•	•
CINETHEK	FM	•	•	•	•	•	•	•
Media stations	FM	•	•	•	•	•	•	•
Schoolchildren's experiment tables, mobile, height-adjustable	FM	•	•	•	•	•	•	•
Headset for teacher	AM	•	•	•	•	•	•	•
GIRA room installation	RM	•	•	•	•	•	•	•
Lighting with access sensors	A	•	•	•	•	•	•	•
Teacher's table step as pull-out shelf	A	•	•	•	•	•	•	•
Mobile school table, for 1 or 2 wheelchairs	A	•	•	•	•	•	•	•
Image reproduction system	A	•	•	•	•	•		•
Small media rack		•	•	•	•	•	•	•

A:	Accessibility module	FM:	Furniture module
E:	Ecology module	AM:	Add-on module
CM:	Core module	RM:	Room setup module
EM:	Expansion module		

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SCALA

Our service packages in detail

1. **Consulting and planning package**
   - User and purchaser advice by telephone and in person
   - Setup planning 2D and 3D
   - Cost estimates
   - Offer preparation
   - Implementation planning
2. **Goods package**
   - Installation clearance check
   - Delivery, assembly, installation and instruction as ready-to-go services
   - Inspection reports for gas, water, IT, electricity and exhaust air
   - Additional acceptances by TÜV/accident insurers
   - Accessible systems
     - Intelligent room management
     - Sliding 3rd level
     - Mobile elements
     - Control elements suitable for use by disabled people
3. **Service package**
   - Relocation of Waldner systems in operation
   - Visual inspections of laboratories
     - Minimum technical requirements
     - Status of laboratory equipment
     - Recommendations for repair or replacement
   - Statutory inspection services on drainage and electrical systems (only in Germany)
4. **Financing package**
   - Discount, leasing, hire purchase
   - Extended payment terms
   - L/C
5. **Operating cost package**
   - Reduced energy consumption
   - Zero maintenance
   - Inspection services (see point 3)
6. **Eco package**
   - 50% reduction in CO_2 emissions by halving the lighting current
   - Use of materials suitable for recycling
   - Buy-back commitment for Waldner products (for disposal)
7. **Certification package**
   - TÜV product service (GS)
   - Own ventilation test rigs (TÜV-certified)
   - DVGW
   - TÜV electrical
   - PQ – prequalified company

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