

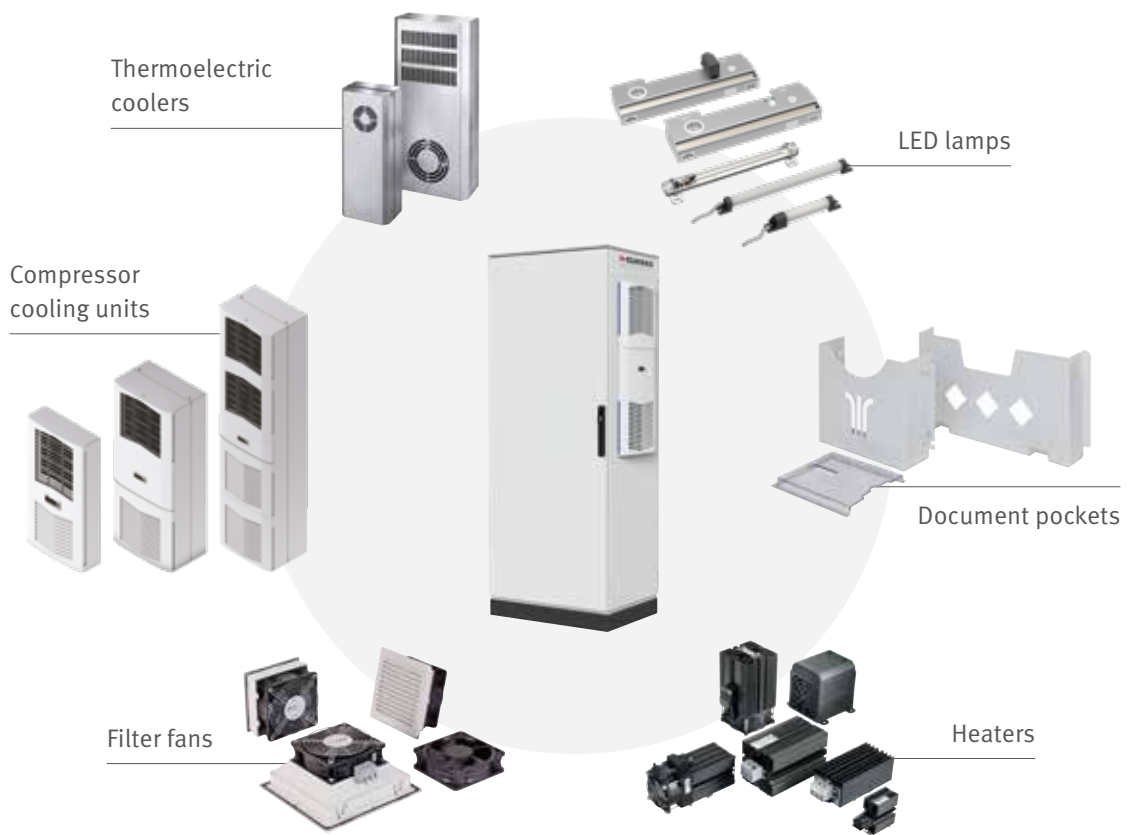
## CATALOGUE OF SWITCHGEAR CABINET EQUIPMENT

IT'S ALL ABOUT SWITCHGEAR CABINETS.

2020



[REDEFINING STANDARD]



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## [ HISTORY ]

ELMEKO was founded as a trading company in 2004, with the aim of providing its customers with the largest possible range of switchgear cabinets and accessories. Only a few years later, the company had progressed from simply trading to manufacturing. The idea was to implement not only customer requests, but also the company's own ideas. The first home-grown product was launched in 2008: the LED lamp LE-300-SX. In-house production of lamps and air conditioning components began in 2012, and it was necessary to double production floor area by 2017. Within only a few years, a wide variety of new, innovative products was added to the range.

**2004** **Foundation of ELMEKO GmbH + Co. KG** as a distribution company for switchgear cabinet accessories, air conditioning and lighting

**2006** **Online shop**, expansion of the range by the addition of signalling devices

**2008** **New development of the first LED lamp** LE-300-SX

**2010** **Expansion of the LE series** by the addition of high-voltage lamps for 230 V and other versions

**2012** **Relocation to newly built company premises** in Liebenscheid, start of production of Peltier coolers, switchgear cabinet heaters and electric control units, presentation of the new SL 250 – 650 range of heaters

**2013** **New development of dehumidifier devices** PSE 30 with Peltier technology

**2014** **New LED switchgear cabinet lighting**, LLE series

**2015** **Presentation of patented Peltier coolers** PM

**2016** **Distribution agreement with Pentair Hoffman**, sales of coolers, switchgear cabinets and wall-mounted enclosures

**2017** **Expansion of production area and warehouse space**, market launch of multi-functional LED light LEX-350

**2018** **New LED switch gear cabinet lights** LLX series

**2019** **ATEX approval** for Peltier cooler PK 150

## [ OUR EXPERTISE ]

As a result of decades of experience in switchgear cabinet air-conditioning and the construction of electrical switchgear, and our direct contact with planners and customers, we create products that meet the demands of the market. Short decision paths and rapid conversion of a product idea into a serial product are important to us, but we always take care to maintain our high quality standards and guarantee that products remain available for many years.



### QUALITY

In the manufacture of our products, we attach great importance to the label “Made in Germany”. ISO 9001:2015 certification confirms the quality of our products, which are made using high-quality components from well-known manufacturers. No product leaves our premises untested. So you are guaranteed technology you can rely on and we have satisfied customers in every sector of the industry.



### FLEXIBILITY

And if fast delivery is required, we are the perfect partner. Large stocks of standard items, swift realisation of customized solutions and short decision paths guarantee the flexibility needed to meet customer requirements. You are very welcome to put us to the test. Send us an inquiry for the products you need.



### PARTNERSHIP WITH CUSTOMERS

Close cooperation with customers is an important element of our business. That may seem obvious, but it is not something you can expect everywhere today. At ELMEKO, you can. We identify with your needs and make meeting your requirements our mission. These are not just words; they are a pledge. Put us to the test!



“We stay on course for growth with innovative ideas and state-of-the-art products. Our top priorities are product quality, fast and punctual delivery, and being a reliable partner. In conjunction with competitive prices, this is the basis of our long-term customer ties and sustainable success.”

Managing Director: Burkhard Herr



## [ FROM CUSTOMER REQUEST TO SERIAL PRODUCTION ]

We manufacture all our products at our plant in Liebenscheid, which ensures that we stay flexible and maintain our high quality standards – **Made in Germany** . We keep standard articles permanently in stock and use reputable logistics partners for the rapid despatch of products to our customers all over the world – availability guaranteed!



### **New product idea**

Customer wishes, own ideas  
new technologies



### **Concept for implementation**

Drafts, drawings, 3D models,  
calculations, design, experiments



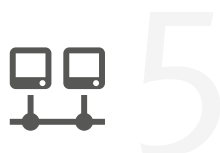
### **Prototypes for tests and releases**

3D printing, samples and pre-  
series parts for testing and customer  
presentation



### **Examinations and certifications**

Measurements and tests of product  
properties, certifications and external  
tests required?



### **Series Production**

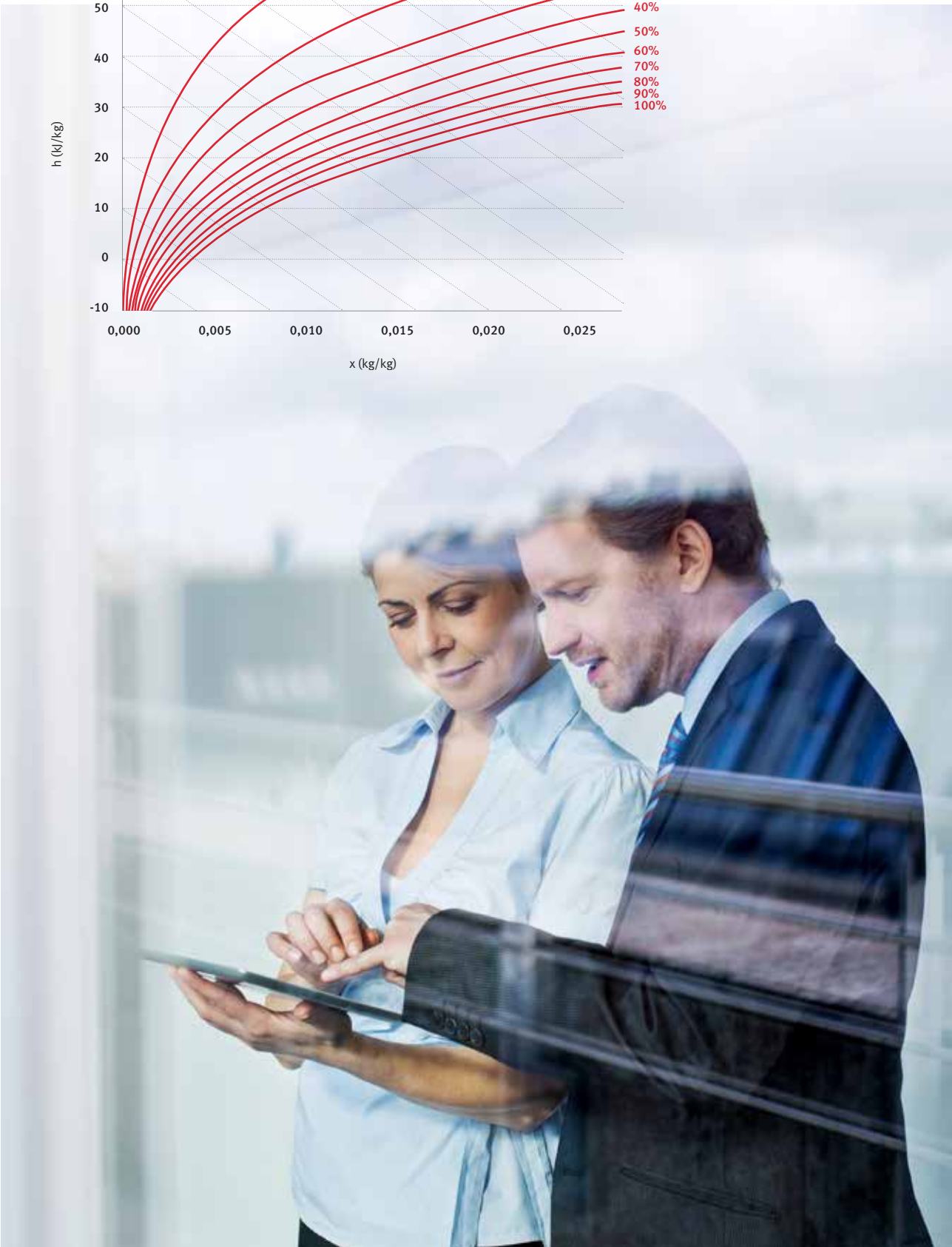
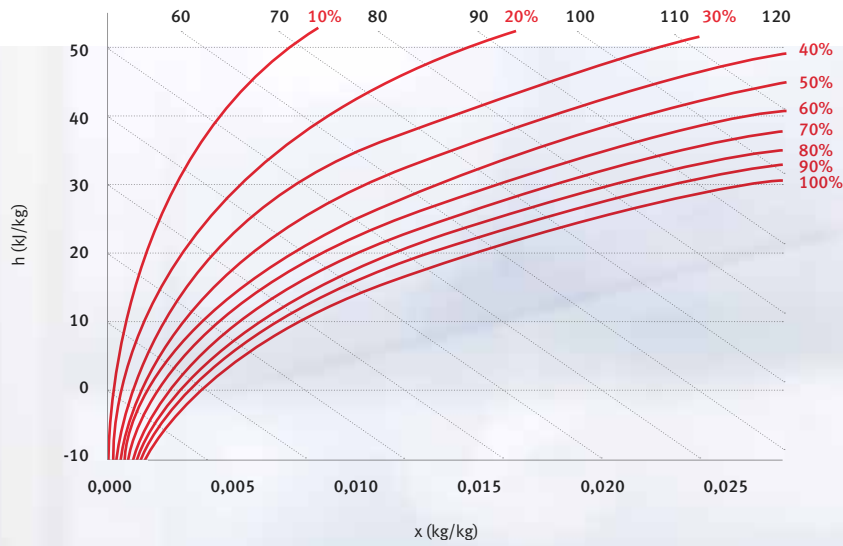
Definition of components, parts list,  
labels, documentation, planning and  
start-up of series production



### **Market launch, sales**

Product presentation at trade fairs  
and congresses, sales through various  
channels: direct sales, online shops,  
electrical wholesalers and distributors





We provide solutions and advice – over the phone or on site – about the selection and dimensioning of products from the wide range we offer. If the optimum solution for your needs is not available as part of our standard programme, we will be pleased to produce a customer-specific version. We use CAD and 3D printing to realise close-to-production prototypes at short notice.



## [ CALCULATION SOFTWARE DELTA T ]

Precise calculation of the required cooling or heating performance is a basic requirement for the reliable running of a plant or equipment. DELTA T takes all relevant influences such as temperature, heat dissipation, cabinet material etc. into account, making it an ideal way to ensure that your project is evaluated accurately.

The results are accompanied by climate control proposals for your switchgear cabinet or enclosure from our wide range of air-conditioning products. We also provide a free print-out service for your documentation, which is sent **to our experts for evaluation**. You will then receive rapid feedback on the evaluation and a quotation for the corresponding components. Turn our decades of experience in the field of switchgear cabinet climate control to your advantage.



Planning with software from WSCAD, implementation with ELMEKO products: the way forward for switchgear cabinet manufacturing.

Our partnership with WSCAD offers you even more added value and benefits. **E-CAD solutions from WSCAD enable you to create all your own electrotechnical plans and documents.** It is also possible to calculate air conditioning directly from the software with WSCAD SUITE. By implementing our calculation tool **DELTA T**, the data required for calculation are taken directly from the planning information and transferred to DELTA T, giving you precise recommendations for the right product for your application within seconds.





## [ PRODUCT RANGE ]

A switchgear cabinet protects the electrical control or DP systems inside it. To ensure that those highly sensitive systems work **safely and reliably**, the cabinet needs to meet ever more exacting requirements. Air-conditioning and lighting are becoming particularly important here.



### LIGHTING

Efficient LED lighting has prevailed in many industrial applications. ELMEKO specializes in solutions for control cabinet and machine lighting. There are different series for different requirements. Luminaires with motion detectors, door limit switches, wide-range voltage for the control cabinet or high degree of protection for machine lights can be selected from the extensive product range.

Pages 10 – 19



### AIR CONDITIONING

Switch gear cabinets come in many different and individual types, sizes and equipment versions - and environmental conditions often require specific air conditioning. ELMEKO offers solutions for a wide range of applications. Coolers, dehumidifiers, fans, heaters, heat exchangers as well as thermostats and regulators are part of the delivery program.

Pages 20 – 53



### ENCLOSURES & CABINETS

A comprehensive range of switch-gear cabinets and wall-mounted enclosures complete the ELMEKO portfolio. Customized sizes, special paintwork, processing according to customer requirements and equipment with lighting and climate components are possible. Only partial wall-mounted enclosures are included in this catalog. Separate catalogs are available for the complete program.

Pages 54 – 58



LE-982 103-102



LE-982 106-102

## [ LED LIGHT FITTINGS LE-982 ]

As a cost-effective solution for lighting small enclosures light fittings are used. The lights are expandable by plugging together or connecting cables and are supplied complete with all accessories ready for connection to mains voltage 230 V AC.

### FEATURES

- Small design with switch on/off for versatile use
- Lights can be linked together with coupling or cable
- All accessories are included
- 2 different lengths: 315 and 540 mm

### DELIVERY CONTENTS

- LED light with switch and cover
- Power cable with Euro plug 1,8 m long
- Connecting cable 0,3 m long
- Coupling for direct connection of 2 lights
- Mounting clips with fastening screws

### LED LIGHT FITTINGS LE-982 TECHNICAL DATA

Type	LE-982103-102	LE-982106-102
<b>Part number</b>	<b>72 982 103</b>	<b>72 982 106</b>
Operating voltage	230 V AC (50/60 Hz)	230 V AC (50/60 Hz)
Power input [W]	3.3	5.8
Luminosity [lm]	274	485
Illumination	260 lx @ 0.5 m; 100 lx @ 1 m	410 lx @ 0.5 m; 160 lx @ 1 m
Color temperature [K]	4,000	4,000
Degree of protection	IP20	IP20
Protection type	II	II
Service life [h bei 20 °C]	20,000	20,000
Housing material	Plastic	Plastic
Dimensions L x W x H [mm]	315 x 24 x 35	540 x 24 x 35
Weight [g]	310	520
Approval	CE	CE



## [ LED LIGHTS LE ]

The proven LE series stands out for its versatility. Different lengths, versions with and without switch and with a fixed supply result in a large number of variants for different areas of application. With the **slim design** and mounting at the ends the LE lights find their place in every niche. The LE lights have been redesigned. Instead of three, there are now four different lengths. The lights are more stable, the cooling profile has been optimized and new LED technology is installed.

### APPLICATION

Besides the classic industrial applications for the illumination of switchgear cabinets or machinery, the lamps can also be used for special applications such as lighting for emergency telephone alcoves in motorway tunnels or in inaccessible locations.

*Versatile LED lamps  
in various lengths  
and versions*

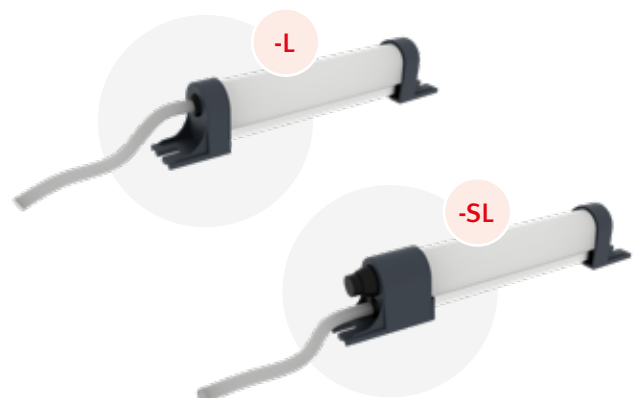
### VERSIONS

The different versions can be identified with the description of the item, for example LE-300-SL

-L	with fixed connection cable, standard length 2 m
-SL	with fixed connection cable, standard length 2 m and on/off switch

### FEATURES

- Four different lengths:  
approx. 150 / 300 / 450 / 600 mm
- Direct connection to 230 V AC or 24 V DC
- Mounting with screws, optionally with magnets
- Dazzle-free, shatterproof cover for even illumination
- Various versions, with and without switch



## LED LIGHTS LE TECHNICAL DATA



Type	LE-150-SL	LE-150-SL	LE-150-L	LE-150-L	LE-300-SL	LE-300-SL	LE-300-L	LE-300L
<b>Part number</b>	<b>72 15E 15SL</b>	<b>72 15E 55SL</b>	<b>72 15E 15L</b>	<b>72 15E 55L</b>	<b>72 30E 15SL</b>	<b>72 30E 55SL</b>	<b>72 30E 15L</b>	<b>72 30E 55L</b>
Operating voltage	230 V AC	24 V DC	230 V AC	24 V DC	230 V AC	24 V DC	230 V AC	24 V DC
Power input [W]	5	3	5	3	10	7	10	7
Luminosity [lm]	320	315	320	315	685	535	685	535
Length [mm]	185	185	175	175	365	365	355	355
Height [mm]	34	34	34	34	34	34	34	34
Operating temperature [°C]	-20 to +60	-20 to +60	-20 to +60	-20 to +60	-20 to +60	-20 to +60	-20 to +60	-20 to +60
Service life [h]	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Degree of protection	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54
Color temperature [K]	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
Switch on/off	•	•	–	–	•	•	–	–

## LED LIGHTS LE ACCESSORIES

Accessories	Part number							
Holding magnet HaMag	72 MAG D22VE	72 MAG D22VE	72 MAG D22VE	72 MAG D22VE	72 MAG D22VE	72 MAG D22VE	72 MAG D22VE	72 MAG D22VE
Door position switch S-K	–	–	72 00K 000	72 00K 000	–	–	72 00K 000	72 00K 000



### Holding magnet HaMag

- Very strong neodymium magnet with black rubber coating
- Diameter: 22 mm
- With thread bolt M4
- 1 packing unit = 2 pieces



### Door position switch S-K

- With NO and NC contact
- Can be exposed to 10 A, with positive break
- Fixing kit for horizontal and vertical mounting

## LED LIGHTS LE TECHNICAL DATA CONTINUED



Type	LE-450-SL	LE-450-SL	LE-450-L	LE-450-L	LE-600-SL	LE-600-SL	LE-600-L	LE-600-L
<b>Part number</b>	<b>72 45E 15SL</b>	<b>72 45E 55SL</b>	<b>72 45E 15L</b>	<b>72 45E 55L</b>	<b>72 60E 15SL</b>	<b>72 60E 55SL</b>	<b>72 60E 15L</b>	<b>72 60E 55L</b>
Operating voltage	230 V AC	24 V DC	230 V AC	24 V DC	230 V AC	24 V DC	230 V AC	24 V DC
Power input [W]	13	13	13	13	20	14	20	14
Luminosity [lm]	1250	1600	1250	1600	1450	1135	1450	1135
Length [mm]	490	490	480	480	650	650	640	640
Height [mm]	34	34	34	34	34	34	34	34
Operating temperature [°C]	-20 to +60	-20 to +60	-20 to +60	-20 to +60	-20 to +60	-20 to +60	-20 to +60	-20 to +60
Service life [h]	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Degree of protection	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54
Color temperature [K]	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
Switch on/off	•	•	–	–	•	•	–	–

## LED LIGHTS LE ACCESSORIES

Accessories	Part number							
Holding magnet HaMag	72 MAG D22VE	72 MAG D22VE	72 MAG D22VE	72 MAG D22VE	72 MAG D22VE	72 MAG D22VE	72 MAG D22VE	72 MAG D22VE
Door position switch S-K	–	–	72 00K 000	72 00K 000	–	–	72 00K 000	72 00K 000



### Holding magnet HaMag

- Very strong neodymium magnet with black rubber coating
- Diameter: 22 mm
- With thread bolt M4
- 1 packing unit = 2 pieces



### Door position switch S-K

- With NO and NC contact
- Can be exposed to 10 A, with positive break
- Fixing kit for horizontal and vertical mounting





## [ LED LIGHTS LEX-350 ]



Thanks to the broad input voltage range the switchgear cabinet lights LEX-350 are suitable for universal use. The integrated optic ensures optimal illumination of the cabinet. The lights are swiveling and can be fixed with magnets or screws. There are variants with and without motion detectors as well as 2 different connection types. The connection of the supply line as well as the connection of other luminaires are made via Wieland plug connection or push-in terminals.

### MULTIFUNCTION BUTTON

Both versions feature a multi-function button. A short press of the button switches the lamp on and off. After the lamp has been switched on using the button, the lamp is switched off again automatically after about eight hours. A long press of the button will switch the lamp on permanently and it can then be controlled via an external cable. The multi-function button overrides the motion detector. Customer-specific programming of the push-button function is also possible.

*Multifunction button for switching between different operating modes*

### MOUNTING AND FASTENING

Light is mounted using two fixing clips on flat surfaces or on the frame profile of control cabinets. The fixing clips have a strong magnet and a long hole for screw mounting. The light can be pivoted in 3 steps by 90° in each direction.

### FEATURES

- Luminosity 700 lm with 6 W
- Wide voltage range 24 – 265 V AC/DC
- Model with motion detector (LEX-350-BT)
- Plug-in supply line and connection cable
- Magnetic and screw fixing, the light can be rotated in two directions  $\pm 90^\circ$
- Programmed multi-function button, with memory function to switch the modes e.g. for use of a door-position switch
- Integrated for perfect illumination inside an enclosure
- AC power supply allows up to 10 lights and a DC power supply allows up to 8 lights to be connected to each other



Plug connection



Push-in terminals

## LED LIGHTS LEX-350 TECHNICAL DATA

Type	LEX-350-T	LEX-350-BT	LEX-350-TP	LEX-350-BTP	LEX-350-BT19 *
<b>Part number</b>	<b>72 35T P50</b>	<b>72 35B P50</b>	<b>72 35T P5P</b>	<b>72 35B P5P</b>	<b>72 35B P519</b>
Operating voltage	24 – 265 V AC/DC	24 – 265 V AC/DC	24 – 265 V AC/DC	24 – 265 V AC/DC	24 – 265 V AC/DC
Power input [W]	6	6	6	6	6
Luminosity [lm]	700	700	700	700	700
Length [mm]	350	350	350	350	482
Height [mm]	40	40	40	40	44
Operating temperature [°C]	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
Service life [h]	50,000	50,000	50,000	50,000	50,000
Degree of protection	IP 20	IP 20	IP 20	IP 20	IP 20
Colour temperature [K]	5,000	5,000	5,000	5,000	5,000
Multifunction button	•	•	•	•	•
Motion detector	–	•	–	•	•
19" panel	–	–	–	–	•
Wieland plug connection	•	•	–	–	•
Push-in terminals	–	–	•	•	–
Approvals	CE, UL	CE, UL	CE, UL	CE, UL	CE, UL

\* is supplied complete with 19" panel and power supply cable with flat Euro plug.

## LED LIGHTS LEX-350-T AND -BT ACCESSORIES

Accessories	Part number
Power supply cable orange LX-N-30	72 30N X00
Power supply cable white LX-N-30-W	72 30N XC0
Connection cable orange LX-V-10	72 10V X00
Connection cable white LX-V-10-W	72 10V XC0

Accessories	Part number
Power supply cable with integrated door position switch LX-SK-05250	72 05K 250
Wieland socket part LX-BU-2	79 LEX BUC
Wieland connector part LX-ST-2	79 LEX STE
Wieland intermediate coupling block LX-ZK-2	79 LEX ZKU



**Power supply cable LX-N-30**

- One side with socket part
- Orange, 3 m



**Power supply cable LX-N-30-W**

- One side with socket part
- White, 3 m



**Connection cable LX-V-10**

- With plug and socket
- Orange, 1 m



**Connection cable LX-V-10-W**

- With plug and socket
- White, 1 m



**Power supply cable LX-SK-05250**

- With integrated door position switch
- One side with socket part



**Wieland socket part LX-BU-2**

- For mains connection
- White



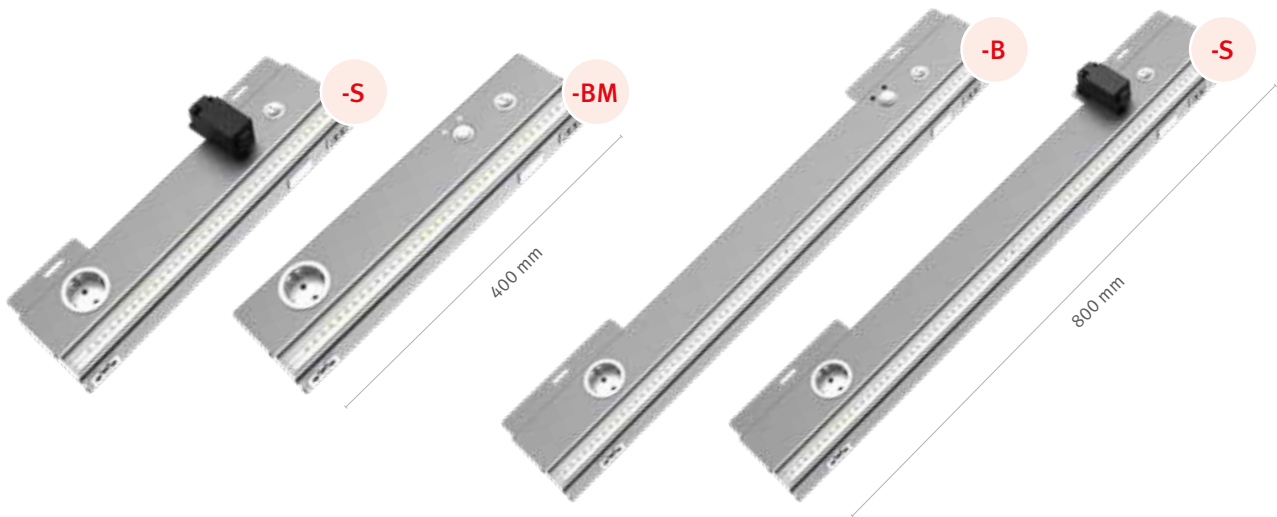
**Wieland connector part LX-ST-2**

- To connect other luminaires
- White



**Wieland intermediate coupling block LX-ZK-2**

- To connect two luminaires directly
- White



## [ LED ENCLOSURE LIGHTS LLX ]

The new LLX-400/800 LED enclosure lights replace the previous LLE series. Due to the **higher light output** and the **integrated optics**, an optimal illumination of the mounting plate to the floor is achieved. Optionally, the lights are supplied with motion detector or door position switch. In addition to the standard types for 230 V, there are variants with wide-range input voltage 100 – 240 V with higher light output. UL versions with and without UL socket are also available.

### APPLICATION

The LLX luminaires are mainly used in large cabinets and series switch cabinets. They can be mounted either on the profile frame or on flat surfaces. When the door is opened, the luminaires can be switched on via the built-in door position switch or motion detector. The built-in service socket and pluggable connections for supply lines and other luminaires simplify installation.

*The LLX series is predestined for use in large series cabinets*

### VERSIONS

The different versions can be identified with the description of the item, for example LLX-400-S

\* Append U for UL

### FEATURES

- Two different lengths: 400 and 800 mm
- Various mounting types:
  - Rear mounting
  - Side mounting
  - Magnetic fastening
- Optionally with motion detector or door position switch
- Oblique light emission for better illumination and less glare
- Anodised aluminium housing
- Socket can also be supplied country-specific on request

	Motion detector	Door position switch	230 V AC	100 – 240 V AC	Magnetic fixing
-B	•		•		
-S		•	•		
-BW(U)*	•			•	
-SW(U)*		•		•	
-BM	•		•		•
-BWM	•			•	•

## LED ENCLOSURE LIGHTS LLX TECHNICAL DATA

With motion detector	LLX-400-B	LLX-400-BM	LLX-400-BW	LLX-400-BWM	LLX-800-B	LLX-800-BW
<b>Part number</b>	<b>72 40X 1B</b>	<b>72 40X 1BM</b>	<b>72 40X 7BW</b>	<b>72 40X 7BM</b>	<b>72 80X 1B</b>	<b>72 80X 7BW</b>
With door position switch	LLX-400-S	–	LLX-400-SW	–	LLX-800-S	LLX-800-SW
<b>Part number</b>	<b>72 40X 1S</b>	–	<b>72 40X 7SW</b>	–	<b>72 80X 1S</b>	<b>72 80X 7SW</b>
Operating voltage [VAC] 50/60 Hz	230	230	100 – 240	100 – 240	230	100 – 240
Leistungsaufnahme [W]	13	13	13	13	26	26
Luminosity [lm]	1200	1200	2000	2000	2400	4000
Length [mm]	395	395	395	395	780	780
Height [mm] -B /-S	53/81	53	53/81	53	53/81	53/81
Temperature range [°C]	-20 to +60	-20 to +60	-20 to +60	-20 to +60	-20 to +60	-20 to +60
Service life [h]	50,000	50,000	50,000	50,000	50,000	50,000
Degree of protection	IP20	IP20	IP20	IP20	IP20	IP20
Color temperature [K]	5,000	5,000	5,000	5,000	5,000	5,000
Plug socket	•	•	•	•	•	•
Adjustable mounting brackets	–	–	•	–	–	–
Magnetic fixing	–	•	–	•	–	–
UL version available	–	–	•	–	–	–

\* UL version with UL socket outlet: Please add U to the type designation and article number.

## LED ENCLOSURE LIGHTS LLX ACCESSORIES

Accessories	Part number					
Mains cable 3 m	72 30N 000	72 30N 000	72 30N 000	72 30N 000	72 30N 000	72 30N 000
Connection cable 0.6 m	72 06V 000	72 06V 000	72 06V 000	72 06V 000	72 06V 000	72 06V 000
Connection cable 1 m	72 10V 000	72 10V 000	72 10V 000	72 10V 000	72 10V 000	72 10V 000



### Mains cable LL-N-30

- Mains cable 3 m long
- GST plug at one side



### Connection cable LL-V-06

- Connection cable for daisy chain connection 0.6 m long
- GST plugs at both sides



### Connection cable LL-V-10

- Connection cable for daisy chain connection 1 m long
- GST plugs at both sides

## [ LED MACHINE LIGHTS IP54 ]

Our machine lights create a bright, **optimally lit work environment** at the machine. This not only has a positive effect on the productivity and motivation of the employees, also the safety increases at the same time. The lights are available in different lengths to ensure individual illumination according to the available space.

### FEATURES

- High qualitative and powerful LED light for machines and systems with an IP54 protection degree
- Robust aluminum housing and break-proof PMMA cover
- Ergonomic and glare-free light
- 90° turnable due to stainless steel mounting brackets



### DELIVERY CONTENTS

- LED light
- Instruction manual
- Fastening screws

### LED MACHINE LIGHTS IP54 TECHNICAL DATA

Type	LMM-370-MW	LMM-630-MW	LMM-880-MW
<b>Part number</b>	<b>MM.370.MKW</b>	<b>MM.630.MKW</b>	<b>MM.880.MKW</b>
Operating voltage	24 V DC	24 V DC	24 V DC
Power input [W]	8	16	24
Length x Width x Height [mm]	372 x 38.5 x 40.5	626 x 38.5 x 40.5	880 x 38.5 x 40.5
Luminosity [lm]	940	1875	2815
Illumination	280 lx@1m	570 lx@1m	850 lx@1m
Color temperature [K]	5,700 K / CRI >80	5,700 K / CRI >80	5,700 K / CRI >80
Degree of protection	IP54	IP54	IP54
Protection type	III	III	III
Service life [h] at 20 °C	50,000	50,000	50,000
Connection	M12 plug connector, 4-pole, A-coded	M12 plug connector, 4-pole, A-coded	M12 plug connector, 4-pole, A-coded
Housing material	Aluminum / PMMA	Aluminum / PMMA	Aluminum / PMMA
Weight [g]	314	532	760
Operating temperature [°C]	0 to +40	0 to +40	0 to +40
Approval	CE	CE	CE



## [ LED MACHINE LIGHTS IP67 ]

High demands are placed on a machine light. These include: robust construction, high degree of protection and resistance to acids, lyes and organic substances. Our lights are equipped with **long-life LED technology**. The modern design prevents the deposition of dust and dirt.

### FEATURES

- High qualitative and powerful LED light for machines and systems with a IP67 protection degree
- Robust borosilicate tube
- High resistance to water, dust, acids, alkalis and organic substances
- Ergonomic and glare-free light
- Turnable due to mounting clamps



### DELIVERY CONTENTS

- LED light
- Instruction manual

Mounting clamps in different versions are available as accessories and must be ordered separately.

### LED MACHINE LIGHTS IP67 TECHNICAL DATA

Type	LMR-330-MG	LMR-330-MGW	LMR-580-MG	LMR-580-MGW	LMR-840-MG	LMR-840-MGW
<b>Part number</b>	<b>MR.330.MGK</b>	<b>MR.330.MGW</b>	<b>MR.580.MGK</b>	<b>MR.580.MGW</b>	<b>MR.840.MGK</b>	<b>MR.840.MGW</b>
Cover	clear	diffuse	clear	diffuse	clear	diffuse
Operating voltage	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
Power input [W]	6,5	6,5	13	13	19	19
Length [mm]	328	328	582	582	836	836
Diameter [mm]	45	45	45	45	45	45
Luminosity [lm]	861	654	1722	1309	2582	1962
Illumination	250 lx@1m	200 lx @1m	500 lx@1m	400 lx@1m	750 lx@1m	600 lx@1m
Color temperature [K]	5,700 K/CRI >80	5,700 K/CRI >80	5,700 K/CRI >80	5,700 K/CRI >80	5,700 K/CRI >80	5,700 K/CRI >80
Degree of protection	IP67	IP67	IP67	IP67	IP67	IP67
Protection type	III	III	III	III	III	III
Service life [h] at 20 °C	50,000	50,000	50,000	50,000	50,000	50,000
Connection	M12 plug connector, 4-pole, A-coded		M12 plug connector, 4-pole, A-coded		M12 plug connector, 4-pole, A-coded	
Housing material	Borosilicate tube / Plastic caps		Borosilicate tube / Plastic caps		Borosilicate tube / Plastic caps	
Weight [g]	685	685	1210	1210	1730	1730
Operating temperature [°C]	0 to +40	0 to +40	0 to +40	0 to +40	0 to +40	0 to +40
Approval	CE	CE	CE	CE	CE	CE



## [ THERMOELECTRIC COOLERS ]

As Peltier coolers operate on the thermoelectric principle, without coolants and filter pad, and with separate inner and outer air circulation, operation is practically maintenance-free and eco-friendly. The coolers are protection-rated up to IP67, so they are suitable for adverse environmental conditions and can be deployed at any location. The devices, which have a service life of 60,000 hours, are ideal for both cooling and heating purposes.

### THERMOELECTRIC COOLERS SERIES PM

The extremely flat design of the new PM series of Peltier coolers – which was achieved by combining new high-performance heat sinks with radial fans – is particularly impressive. Both surface mounting and semi-recessed installation in the switchgear cabinet are possible as standard. The improved separation of air intake and outlet ensures optimum air circulation inside the cabinet. Connection is via a plug-in terminal.

*Peltier coolers operate without compressor, coolant and filter pad and require practically no maintenance*

### THERMOELECTRIC COOLERS SERIES PK

The PK series, with cooling capacities ranging from 30 to 280 W, was designed as air-conditioning for switchgear cabinets, control panel consoles and many other applications. The PK series is UL-listed for the US and Canadian market.

### FEATURES

- Installation possible in any position
- Resistant to adverse environmental conditions
- Protection rating up to IP67, robust stainless steel built-on enclosure
- Operating voltage 24 V DC
- Perfect for mobile applications

### VERSIONS PK

The different versions can be identified with the description of the item, for example PK 30 HK

HK	Cooling and heating
AG	with outer cover

## THERMOELECTRIC COOLERS PM AND PK TECHNICAL DATA



Type	PM 50	PM 100	PK 30	PK 30 HK	PK 30 HK+AG	PK 50	PK 50 HK	PK 50 HK+AG
<b>Part number</b>	<b>40 M05 570</b>	<b>40 M10 570</b>	<b>40 P03 570</b>	<b>40 P03 57H</b>	<b>40 P03 57HAG</b>	<b>40 P05 570</b>	<b>40 P05 57H</b>	<b>40 P05 57HAG</b>
Operating voltage	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
Cooling capacity [W]	50	100	30	30	30	50	50	50
Heating capacity [W]	50	100	–	45	45	–	70	70
Width [mm]	120	195	112	112	115	155	155	158
Height [mm]	293	430	160	160	230	200	200	300
Depth [mm]	82	96.5	130	130	145	134.5	134.5	150
Installation depth [mm]	45	48	70	70	–	64.5	64.5	–
Amperage [A]	3.7	6.5	2.3	2.3	2.3	2.5	2.5	2.5
Weight [kg]	2.4	5.3	1.9	1.9	3.1	3.2	3.2	5.0
Operating temperature [°C]	-20 to +60	-25 to +50	-20 to +70	-20 to +70	-20 to +70	-20 to +70	-20 to +70	-20 to +70
Service life [h]	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000
Degree of protection	IP 55	IP 55	IP 65	IP 65	IP 65	IP 67	IP 67	IP 65
Approval	CE	CE	UL, CE	UL, CE	UL, CE	UL, CE	UL, CE	UL, CE

## THERMOELECTRIC COOLERS PM AND PK ACCESSORIES

Type	Part number							
Thermostat TES 60	15 TES 060	15 TES 060	15 TES 060	–	–	15 TES 060	–	–
Controller for Heating and Cooling TRP 205	45 TRP 205	45 TRP 205	–	45 TRP 205	45 TRP 205	–	45 TRP 205	45 TRP 205
Controller for Heating and Cooling TPC 300	45 TPC 300	45 TPC 300	–	45 TPC 300	45 TPC 300	–	45 TPC 300	45 TPC 300
Condensation trough KRP *	–	–	49 KRP 150	49 KRP 150	49 KRP 150	49 KRP 200	49 KRP 200	49 KRP 200
Power supply unit 24 V DC	42 05A 500	42 10A 500	42 05A 500	42 05A 500	42 05A 500	42 05A 500	42 05A 500	42 05A 500

\* KRP 150, KRP 200 and KRP 300 see page 26

## SPECIAL VERSION WITH BUILT-ON ENCLOSURE



PK 30 HK+AG



PK 50 HK+AG

## THERMOELECTRIC COOLERS PK TECHNICAL DATA CONTINUED



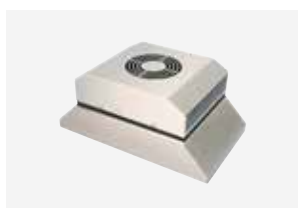
Type	PK 75	PK 75 HK	PK 75 HK+AG	PK 100	PK 100 HK	PK 100 HK+AG
<b>Part number</b>	<b>40 P75 570</b>	<b>40 P75 57H</b>	<b>40 P75 57HAG</b>	<b>40 P10 570</b>	<b>40 P10 57H</b>	<b>40 P10 57HAG</b>
Operating voltage	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
Cooling capacity [W]	75	75	75	100	100	100
Heating capacity [W]	–	100	100	–	140	140
Width [mm]	203	203	207	200	200	310
Height [mm]	255	255	360	307	307	310
Depth [mm]	145	145	150	134.5	134.5	135
Installation depth [mm]	70	70	–	64.5	64.5	–
Amperage [A]	3.6	3.6	3.6	5.2	5.2	5.2
Weight [kg]	5.5	5.5	7	7.2	7.2	8.8
Operating temperature [°C]	-20 to +70	-20 to +70	-20 to +70	-20 to +70	-20 to +70	-20 to +70
Service life [h]	60,000	60,000	60,000	60,000	60,000	60,000
Degree of protection	IP 67	IP 67	IP 65	IP 67	IP 67	IP 65
Approval	UL, CE	UL, CE	UL, CE	UL, CE	UL, CE	UL, CE

## THERMOELECTRIC COOLERS PK ACCESSORIES

Type	Part number					
Thermostat TES 60	15 TES 060	–	–	15 TES 060	–	–
Controller for Heating and Cooling TRP 205	–	45 TRP 205	45 TRP 205	–	45 TRP 205	45 TRP 205
Controller for Heating and Cooling TPC 300	–	45 TPC 300	45 TPC 300	–	45 TPC 300	45 TPC 300
Condensation trough KRP*	49 KRP 200 49 KRP 300	49 KRP 200 49 KRP 300	49 KRP 200 49 KRP 300	49 KRP 200 49 KRP 300	49 KRP 200 49 KRP 300	49 KRP 200 49 KRP 300
Power supply unit 24 V DC	42 05A 500	42 05A 500	42 05A 500	42 10A 500	42 10A 500	42 10A 500

\* KRP 150, KRP 200 and KRP 300 see page 26

## SPECIAL VERSION WITH BUILT-ON ENCLOSURE



PK 75 HK+AG



PK 100 HK+AG

## THERMOELECTRIC COOLERS PK TECHNICAL DATA CONTINUED



Type	PK 150	PK 150 HK	PK 150 HK+AG	PK 300 HK	PK 300 HK+AG
<b>Part number</b>	<b>40 P15 570</b>	<b>40 P15 57H</b>	<b>40 P15 57HAG</b>	<b>40 P30 57H</b>	<b>40 P30 57HAG</b>
Operating voltage	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
Cooling capacity [W]	150	150	150	280	280
Heating capacity [W]	–	200	200	400	400
Width [mm]	200	200	310	333	333
Height [mm]	307	307	310	330	330
Depth [mm]	134.5	134.5	135	195	195
Installation depth [mm]	64.5	64.5	–	90	–
Amperage [A]	7.2	7.2	7.2	15	15
Weight [kg]	7.3	7.4	9.0	18.5	21
Operating temperature [°C]	-20 to +70	-20 to +70	-20 to +70	-20 to +70	-20 to +70
Service life [h]	60,000	60,000	60,000	60,000	60,000
Degree of protection	IP 67	IP 67	IP 65	IP 65	IP 65
Approval	UL, CE	UL, CE	UL, CE	CE	CE

## THERMOELECTRIC COOLERS PK ACCESSORIES

Type	Part number				
Thermostat TES 60	15 TES 060	–	–	–	–
Controller for Heating and Cooling TRP 205	–	45 TRP 205	45 TRP 205	45 TRP 205	45 TRP 205
Controller for Heating and Cooling TPC 300	–	45 TPC 300	45 TPC 300	45 TPC 300	45 TPC 300
Condensation trough KRP*	49 KRP 200 49 KRP 300	49 KRP 200 49 KRP 300	49 KRP 200 49 KRP 300	49 KRP 300	49 KRP 300
Power supply unit 24 V DC	42 10A 500	42 10A 500	42 10A 500	42 20A 500	42 20A 500

\* KRP 150, KRP 200 and KRP 300 see page 26

## SPECIAL VERSION WITH BUILT-ON ENCLOSURE



PK 150 HK+AG



PK 300 HK+AG



## THERMOELECTRIC COOLERS FOR SPECIAL APPLICATIONS



### THERMOELECTRIC COOLER PK 50 HD

The PK 50 HD is designed for use in hygienic areas. Stainless steel housings, anodized heatsinks with large rib spacing and removable hood and fan make cleaning easy.

#### FEATURES

- Approved materials: stainless steel V2A, anodized aluminium
- Plain and rounded transitions and edges
- Easy to clean due to large distances
- FDA-compliant special seal
- Degree of protection IP67

#### TECHNICAL DATA

Type	PK-50-HD
<b>Part number</b>	<b>40 P05 57HD</b>
Operating voltage	24 V DC
Cooling capacity [W]	50
Heating capacity [W]	50
Width [mm]	182
Height [mm]	200
Depth [mm]	145
Installation depth [mm]	65
Amperage [A]	2,5
Weight [kg]	3,2
Operating temperature [°C]	-10 to +60
Service life [h]	60,000
Degree of protection (outside)	IP67
Approval	CE



### THERMOELECTRIC COOLER PK 150 HK-EX WITH ATEX APPROVAL

The PK 150 HK-EX is a thermoelectric cooler for applications in potentially explosive atmospheres of category 3 according to Directive 2014/34/EU (Zone 2), gas group IIB and temperature class T4. The enclosure must have a protection degree of at least IP54 in order to comply with the directive.

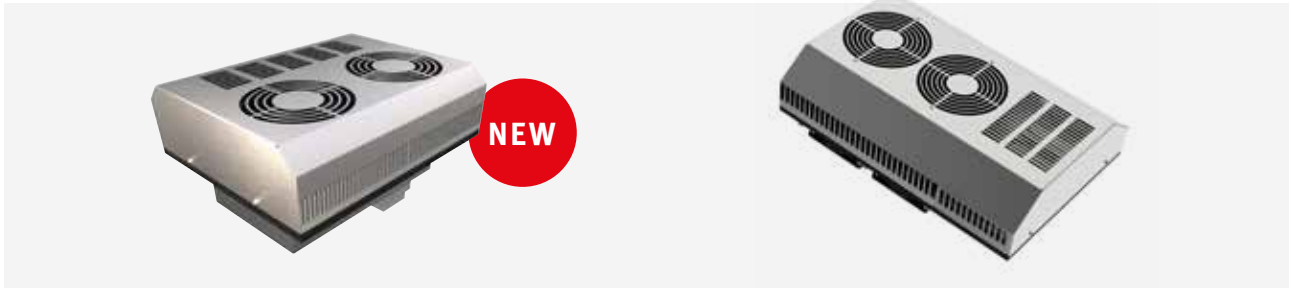
#### FEATURES

- Resistant to adverse environment conditions
- Reinforced stainless steel hood
- Fans with potted electronics on the outside and inside
- For cooling and heating operation
- Degree of protection IP67

#### TECHNICAL DATA

Type	PK 150 HK-EX
<b>Part number</b>	<b>40 P15 57HEX</b>
Operating voltage	24 V DC
Cooling capacity [W]	150
Heating capacity [W]	150
Width [mm]	306
Height [mm]	200
Depth [mm]	135
Installation depth [mm]	60
Amperage [A]	7,2
Weight [kg]	8,1
Operating temperature [°C]	-20 to +70
Service life [h]	60,000
Degree of protection (outside)	IP67
Approval	CE, Ex, II 3 G Ex ec IIB T4 Gc

## THERMOELECTRIC COOLERS WITH INTEGRATED POWER SUPPLY



The thermoelectric cooling units PK 150-PS and PK 300-PS have a wide-range voltage input of 100 – 240V. The power supply is integrated in these devices. The protected power supply is located on the outside of the cooler and thus outside the cabinet to be cooled. It eliminates a heat source inside. This results in a simple and faster installation and less space in the housing.

The PK 150-PS-C is generally equipped with cooling and heating function. PK 300-PS is available with or without controller.

### FEATURES

- Integrated power supply on the outside of enclosure
- Wide input voltage range 100 – 240 V 50/60 Hz
- Resistant to adverse environment conditions
- Versions with built-on housing available
- For cooling and heating operation
- Degree of protection IP65



### TECHNICAL DATA

Type	PK 150-PS-C	PK 150 PS-C+AG	PK 300 PS PK 300 PS-C	PK 300 PS+AG PK 300 PS-C+AG
<b>Part number</b>	<b>40 P15 57HPSC</b>	<b>40 P15 57HPSCAG</b>	<b>40 P30 57HPS</b> <b>40 P30 57HPSC</b>	<b>40 P30 57HPSAG</b> <b>40 P30 57HPSCAG</b>
Operating voltage	100 – 240 V AC	100 – 240 V AC	100 – 240 V AC	100 – 240 V AC
Cooling capacity [W]	150	150	280	280
Heating capacity [W]	150	150	280	280
Width [mm]	306	306	480	485
Height [mm]	250	300	332	430
Depth [mm]	180	180	190	190
Installation depth [mm]	90	15	80	10
Amperage [A]	0.8 (at 240 V)	0.8 (at 240 V)	1.6 (at 240 V)	1.6 (at 240 V)
Weight [kg]	9.5	11	24.5	27.5
Operating temperature [°C]	-20 to +50	-20 to +50	-20 to +50	-20 to +50
Service life [h]	60,000	60,000	60,000	60,000
Degree of protection	IP65	IP65	IP65	IP65
Approval	CE	CE	CE	CE

## [ CONDENSATION TROUGH KRP ]

Condensation can form on the cold side of the heat sink in Peltier coolers whenever the temperature inside the enclosure falls below the temperature of the surrounding air. High humidity and leaks in the enclosure can result in higher quantities of condensation. A condensation trough is installed underneath the cooler to capture and drain off condensation. The trough can be mounted using the screws of the cooler. Condensation is drained off through the attached hose, which is included in delivery.

### FEATURES

- 3 different sizes suitable for the PK series
- Material: Stainless steel, thickness 1 mm
- With hose connection, ID = 8 mm
- Hose with length 2 m is included



### CONDENSATE TROUGH KRP TECHNICAL DATA

Type	KRP 150	KRP 200	KRP 300
<b>Part number</b>	<b>49 KRP 150</b>	<b>49 KRP 200</b>	<b>49 KRP 300</b>
Width [mm]	160	200	316
Height [mm]	60	80	90
Depth [mm]	43	38	39
Suitable for PK	30	50, 75, 100/150	75, 100/150, 300



### CONDENSATE TROUGH KRP ACCESSORIES

Accessories	Part number		
Condensate vent drain stainless steel	AVDR4SS4	AVDR4SS4	AVDR4SS4
Condensate vent drain plastic	AVDR4NM	AVDR4NM	AVDR4NM



#### Condensate vent drain stainless steel

- Drain of fluid accumulation using gravity
- Materials: Polyester/Stainless steel 1.4301
- Degree of protection: IP66



#### Condensate vent drain plastic

- Drain of fluid accumulation using gravity
- Material: Corrosion-resistant polyester
- Degree of protection: IP66

## [ SWITCHING POWER SUPPLY UNITS EMPARRO ]

Efficiency is a decisive requirement of modern switching power supply units. The low power loss of Emparro ensures that the supply unit and any components close to it are subjected to much less heat. The supply units offer a wide input voltage range of 85 to 265 V AC (90 to 250 V DC), so they are absolutely ideal for use worldwide. Remote diagnosis is enabled by an alarm contact which signals short circuits, power surges and critical rises in temperature.

### FEATURES

- Single phase, primary switch mode
- Stabilized output voltage
- Short-circuit and overload protected
- High efficiency
- DIN-rail mounting to EN 60715



### SWITCHING POWER SUPPLY UNITS EMPARRO TECHNICAL DATA

Type	5A	10A	20A
<b>Part number</b>	<b>42 05A 500</b>	<b>42 10A 500</b>	<b>42 20A 500</b>
Input voltage	85 – 265 V AC 90 – 250 V DC	85 – 265 V AC 90 – 250 V DC	85 – 265 V AC 90 – 250 V DC
Input current	1.3 A (100 V) 0.61 A (240 V)	2.6 A (100 V) 1.1 A (240 V)	5.2 A (100 V) 2.2 A (240 V)
Output voltage	24 V DC (24 – 28 V adjustable)	24 V DC (24 – 28 V adjustable)	24 V DC (24 – 28 V adjustable)
Nom output current [A]	5	10	20
Efficiency	0.87 (230 V)	0.95 (230 V)	0.96 (230 V)
Ripple	max. 50 mV eff.	max. 50 mV eff.	max. 50 mV eff.
Mains failure bridging	min. 30 ms	min. 30 ms	min. 30 ms
Protection	short circuit and overload protected	short circuit and overload protected	short circuit and overload protected
Temperatur range [°C]	-25 to +60	-25 to +60	-25 to +60
Mounting method	DIN-rail mounting to EN 60715	DIN-rail mounting to EN 60715	DIN-rail mounting to EN 60715
Dimensions H x W x D [mm]	125 x 50 x 138	125 x 65 x 138	125 x 85 x 138
Weight [kg]	0.80	0.94	1.38

### TEMPERATURE CONTROLLER FOR THERMOELECTRIC COOLERS ACCESSORIES



#### TES 60 (15 TES 060)

- Electronic thermostat
- Changeover contact
- Adjusting range 0 to + 60 °C



#### TRP 205 (45 TRP 205)

- Temperature control for heating and cooling
- Adjusting ranges: Heating 0 to + 20 °C  
Cooling: 30 to 50 °C



#### TPC 300 (45 TPC 300)

- Peltier controller with various control programs
- Extensive monitoring functions and interface



## [ DEHUMIDIFIERS PSE ]

Moisture in switchgear cabinets is a serious problem – and one that is often underestimated. Fluctuations in temperature lead to condensation, which in turn causes corrosion, electrical faults and control unit failure. Just one water droplet in the wrong place can have far-reaching consequences, so it is important to prevent moisture from collecting in switchgear units at all costs.

### FUNCTION

Dehumidifiers operate thermoelectrically with Peltier technology. The air in the switchgear cabinet is passed over a cold surface inside the device, resulting in precipitation of the airborne moisture as condensation. The resulting water is then collected and drained off through a hose, leaving the air in the cabinet dry. The hose can be laid outside via a bulkhead fitting or connected to a condensation drainage nozzle.

*Dehumidifiers can be installed in the side panel or completely in the interior of the cabinet*

### APPLICATION

Dehumidifiers are installed wherever moisture or fluctuations in temperature cause condensation. This is generally the case in almost all outdoor applications – particularly in tropical climates – and in various specific industries e.g. the food and beverage industry. Our humidity switch Hyrostat HYW 90 is ideal for controlling the dehumidifier.

### FEATURES

- Three different versions for various cases of applications
- Significant energy saving in comparison to conventional heaters
- Spring cage terminals for connection to 24 V DC
- Surface mounting and semi-recessed installation in the switchgear cabinet are possible as standard
- 1-metre long hose with bulkhead connector and mounting bracket for fixing the device are included in delivery



## DEHUMIDIFIERS PSE TECHNICAL DATA



Type	PSE 30	PSE 30L	PSE 30LP
<b>Part number</b>	<b>40 PE3 570</b>	<b>40 PE3 57L</b>	<b>40 PE3 57LP</b>
Configuration	open condensate drip tray	closed housing, with fan	closed housing, with fan, with condensate pump
Operating voltage	24 V DC	24 V DC	24 V DC
Width [mm]	112	150	150
Height [mm]	162	200	200
Depth [mm]	100	140	150
Installation depth [mm]	40	77	87
Weight [kg]	1.2	1.4	1.6
Operating temperature [°C]	0 to +60	0 to +60	0 to +60
Service life [h]	60,000	60,000	60,000
Degree of protection	IP 55	IP 55	IP 65
Approval	CE	CE	CE

\* Pump must be installed with a separate control unit

## DEHUMIDIFIERS PSE ACCESSORIES

Accessories	Part number		
Hygrostat HYW 90	15 HYW 090	15 HYW 090	15 HYW 090
Condensate vent drain stainless steel	AVDR4SS4	AVDR4SS4	AVDR4SS4
Condensate vent drain plastic	AVDR4NM	AVDR4NM	AVDR4NM
Condensate evaporator KV 60 – 230 V	22 060 70X	22 060 70X	22 060 70X
Condensate evaporator KV 60 – 24 VDC	22 060 50X	22 060 50X	22 060 50X



### Hygrostat HYW 90

- Protection of electronics against humidity
- Switching contacts of fans, heaters, cooling units or signal contact
- Control range: 40 – 90 % r. H.
- Type of contact: changeover



### Condensate vent drain

- Drain of fluid accumulation using gravity
- Materials: Polyester/Stainless steel 1.4301 or corrosion-resistant polyester
- Degree of protection: IP66



### Condensate evaporator KV 60

- Aluminium container for collecting of the condensate
- Vertical installation outside of the housing below the cooling unit
- Voltage: 230 V 50/60 Hz or 24 V DC
- Container capacity: 60 ml



## [ COMPRESSOR COOLING UNITS ]

The required cooling capacity and the special demands of the installation environment are decisive factors when choosing a suitable cooler. In general, compressor technology is used for cooling capacities above 300 watts. The integrated control system, active condensate management and wide variety of installation possibilities make these the ideal coolers for industrial applications.

### ADVANTAGES

SlimFit compressor coolers offer cooling capacities from 300 W to 4 kW and are suitable for various applications, depending on switchgear cabinet size and power loss. The coolers feature a high-efficiency rotary compressor, integrated condensate evaporation, dust-resistant coil and master-slave function as standard, so they are suitable for use in almost all industrial applications. An aesthetically pleasing design and easy-to-handle control are the perfect complement to complex mechanical engineering. There are three mounting options: external, built-on or completely enclosed in the cabinet.

*Devices can be used in almost every industrial application*

### FEATURES

- Cooling units for wall or roof mounting
  - For door or wall mounting (Slim Fit)
  - For roof mounting (DEK)
  - With electronic control
  - CFC-free refrigerant R134a
  - Including drilling templates and mounting accessories



## COMPRESSOR COOLING UNITS SLIM FIT TECHNICAL DATA

Type	Slim Fit 300 *	Slim Fit 500 *	Slim Fit 1000 *	Slim Fit 1500 *	Slim Fit 2000 *	Slim Fit 2500 *	Slim Fit 4000 *
<b>Part number</b>	<b>S060326G031</b>	<b>S060526G031</b>	<b>S101026G031</b>	<b>S101526G031</b>	<b>S162026G031</b>	<b>S162526G031</b>	<b>S164046G031</b>
Operating voltage	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	400/460 V 3~ 50/60 Hz
Cooling capacity [W]	370	550	1300	1800	2200	2680	4000
Width [mm]	280	280	400	400	400	400	500
Height [mm]	550	550	951	951	1580	1580	1580
Depth [mm]	142	199	260	260	295	295	339
Mounting external	•	•	•	•	•	•	•
Mounting semi-recessed	–	•	•	•	•	•	•
Mounting internal	•	•	•	•	•	•	–
Mounting on top	–	–	–	–	–	–	–
Max. nominal current [A]	1.8	2.6	4.1	5.1	5.7	8.0	4.2
Starting current [A]	6	9	14	17	19	26	14
Weight [kg]	13	15	39	43	68	70	92
Operating temperature [°C]	+10 to +55	+10 to +55	+10 to +55	+10 to +55	+10 to +55	+10 to +55	+10 to +55
Setting temperature range [°C]	+20 to +55	+20 to +55	+20 to +55	+20 to +55	+20 to +55	+20 to +55	+20 to +55
Degree of protection internal loop	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54
Degree of protection external loop	IP 34	IP 34	IP 34	IP 34	IP 34	IP 34	IP 34
Approval	UL / EAC / CE	UL / EAC / CE	UL / EAC / CE	UL / EAC / CE	UL / EAC / CE	UL / EAC / CE	UL / EAC / CE

\* Available with optional remote maintenance module

## COMPRESSOR COOLING UNITS SLIM FIT ACCESSORIES

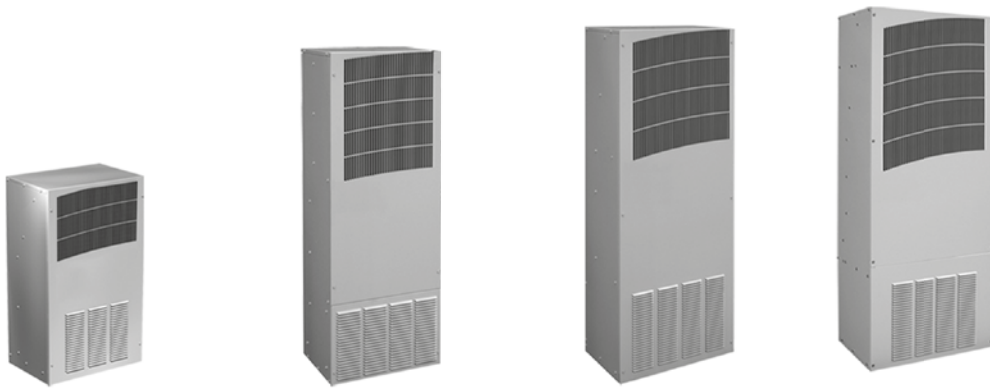
Accessories	Part number						
Metal filter mat PU 1	–	89106978SP	89106977SP	89106977SP	89106977SP	89106977SP	89106977SP



### [ REMOTE ACCESS CONTROL ]

Monitor and manage your industrial cooling easily from your PC or laptop.

The remote access control system means you can avoid being surprised by an overheating cabinet wherever your industrial system is deployed around the world. Wherever your SpectraCool Slim Fit air conditioner is located, you can monitor and manage it without repeated, time-consuming and expensive maintenance visits.



## [ OUTDOOR COOLING UNITS T-SERIES ]

The T-Series cooling units are offered for the application in especially harsh environments. With an integrated heater, a reliable mechanical thermostat and cooling fan redundancy, the units are also listed according to UL/cUL Typ 12, 3R, 4 and optional 4X. The units work reliably in temperatures ranging between -40 °C and +55 °C and can be installed as an extension or complete installation.

### FEATURES

- Stock models equipped with head pressure control for low-ambient operation, compressor heater, coated condenser coil, malfunction switch, thermostat and heater package
- Outdoor model operating temperature range from -40 °F/-40 °C to 131 °F/55 °C
- Exterior and fully recessed mounting options
- Compact footprint to minimize real estate and maximize capacity
- Reliable mechanical thermostat on enclosure side of the unit
- Dual condenser-side air movers for performance redundancy
- Painted galvanized sheet-metal cover for rugged factory and outdoor environments
- Easy-mount flanges for simple installation

### APPLICATION

- Industrial automation
- Telecommunications equipment
- Package handling equipment
- Security and defense systems
- And more

### SPECIFICATIONS

Models for 115, 230 and 460 VAC power input  
Standard Outdoor Air Conditioner models also include:

- Telcordia GR-487 capable
- Thermostat
- Corrosion-resistant components
- Malfunction switch
- Compressor heater
- Head pressure control
- Enclosure heater

## OUTDOOR COOLING UNITS T-SERIES TECHNICAL DATA

Type	T20 2000 BTU	T29 4000 BTU	T43 8000 BTU	T43 10000 BTU	T50 12000 BTU
Powder-coat painted, with heater	<b>T200226G150</b>	<b>T290426G150</b>	<b>T430826G150</b>	<b>T431026G150</b>	<b>T501226G150</b>
Stainless steel, type 4X, heater (*)	<b>T200226G158</b>	<b>T290426G160</b>	<b>T430826G108 (*)</b>	<b>T431026G152</b>	<b>T501226G156</b>
Operating temperature [Hz]	230 V 50/60	230 V 50/60	230 V 50/60	230 V 50/60	230 V 50/60
Cooling capacity (L35/L35) [W]	571 / 645	1025 / 1143	1740 / 1964	2478 / 2589	2725 / 2945
Heater [W]	500	1000	1000 (*)	1000	1500
Width [mm]	254	432	400	400	483
Height [mm]	508	737	1092	1092	1270
Depth [mm]	251	287	279	279	281
Externally mounted	•	•	•	•	•
Internally mounted	•	•	•	•	•
Power input [W]	805	1587 / 1564	1196 / 1242	2070	1804 / 2139
Nominal current [A]	3.5	6.9	5.2 / 5.4	9	8.2 / 9.3
Starting current [A]	7.6	23	27	38	38
Weight [kg]	25	49	57	57	75
Operating temperature [°C]	-40 to +55	-40 to +55	-40 to +55	-40 to +55	-40 to +55
Factory thermostat setting [°C]	23	23	23	23	23
UL-Type	Type 12, 3R, 4 Stainless steel 304: Typ 4X	Type 12, 3R, 4 Stainless steel 304: Typ 4X	Type 12, 3R, 4 Stainless steel 304: Typ 4X	Type 12, 3R, 4 Stainless steel 304: Typ 4X	Type 12, 3R, 4 Stainless steel 304: Typ 4X
Approval	CE, EAC, cUL	CE, EAC, cUL	CE, EAC, cUL	CE, EAC, cUL	CE, EAC, cUL

\* 4X without heater

### INDUSTRY STANDARDS

UL/cUL Listed; Type 12, 3R, 4; 4X optional;  
File No. SA6453. UR/cUR Recognized

UR/cUR recognized on select models,  
reference performance data tables.  
CE, EAC, Telcordia GR-487 capable

### DELIVERY CONTENTS

- Air conditioner unit
- Mounting gasket and hardware kit
- Cutout template
- Installation instruction



## COMPRESSOR COOLING UNITS DEK TECHNICAL DATA



Type	DEK 04	DEK 08	DEK 12	DEK 20	DEK 30	DEK 40
<b>Part number</b>	<b>40 D04 150</b>	<b>40 D08 150</b>	<b>40 D12 150</b>	<b>40 D20 150</b>	<b>40 D30 150</b>	<b>40 D40 150</b>
Operating voltage	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz
Cooling capacity [W]	410	820	1150	2050	2900	3850
Width [mm]	259	341	401	401	492	492
Height [mm]	260	339	415	415	496	496
Depth [mm]	481	600	572	572	784	784
Mounting external	–	–	–	–	–	–
Mounting semi-recessed	–	–	–	–	–	–
Mounting internal	–	–	–	–	–	–
Mounting on top	•	•	•	•	•	•
Max. nominal current [A]	1.5	2.9	3.2	6	8.2	9
Starting current [A]	4	12	11	24	38.4	38.2
Weight [kg]	18	23	40	50	80	83
Operating temperature [°C]	+10 to +55	+10 to +55	+10 to +55	+10 to +55	+10 to +55	+10 to +55
Setting temperature range [°C]	+20 to +46	+20 to +46	+20 to +46	+20 to +46	+20 to +46	+20 to +46
Degree of protection internal loop	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54
Degree of protection external loop	IP 34	IP 34	IP 34	IP 34	IP 34	IP 34
Approval	CE	CE	CE	CE	CE	CE

## COMPRESSOR COOLING UNITS DEK ACCESSORIES

Accessories	Part number					
Filter mat PU 5	C15000171	C15000173	AADFP12	AADFP12	AADFP30	AADFP30
Metal filter mat PU 1	C15000172	C15000174	AADFM12	AADFM12	AADFM30	AADFM30

## [ HEAT EXCHANGERS MIX ]

The use of an air/air heat exchanger is recommended if the temperature of the installation location of the cabinet is lower than the required temperature for the interior of the cabinet – and particularly when the atmosphere is heavily contaminated with emulsions, dust or chemical substances that must be prevented from entering the cabinet at all costs.

### FEATURES

- Reduces the internal cabinet temperature to the ambient temperature
- Separate inner and outer air cycles
- Range of specific thermal capacity from 22 to 80 W/K
- Protection class IP 54 according to EN 60529
- Heat exchangers can be mounted outside and inside the panel



### HEAT EXCHANGERS MIX TECHNICAL DATA

Type	MIX 22	MIX 36	MIX 50	MIX 80
<b>Part number</b>	<b>30 M22 150</b>	<b>30 M36 150</b>	<b>30 M50 150</b>	<b>30 M80 150</b>
Operating voltage	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz
Cooling capacity [W/K]	22	36	50	80
Fan air flow [m <sup>3</sup> /h]	280	570	600	1050
Width [mm]	189	316	316	317
Height [mm]	413	771	771	1260
Depth [mm]	149	103	103	148
Inside or external mounting	•	•	•	•
Max. nominal current [A]	0.5	0.64	0.64	1.06
Weight [kg]	7	10	10	17
Operating temperature [°C]	-5 to +55	-5 to +55	-5 to +55	-5 to +55
Degree of protection internal loop	IP 54	IP 54	IP 54	IP 54
Approval	CE	CE	CE	CE

### HEAT EXCHANGERS MIX ACCESSORIES

Accessories	Part number			
Thermostat TRS 60	15 TRS 060	15 TRS 060	15 TRS 060	15 TRS 060
Speed controller TLR 400	15 TLR 400	15 TLR 400	15 TLR 400	15 TLR 400
Digital thermostat TER 150	15 TER 152	15 TER 152	15 TER 152	15 TER 152





## [ FILTER FANS LV ]

Filter fans can be used as an effective and low cost solution for removing dissipated heat from cabinets and enclosures. The ambient air with lower temperature is filtered and blown into the bottom of the cabinet and the warm air is conveyed outside via an exhaust filter in the upper part of the enclosure.

### VERSIONS

The air-conditioning of enclosures in many applications is based on filter fans. ELMEKO's updated range of LV fans is the most comprehensive available on the market today. The LV series consists of 15 rating categories with air flows from 15 to 930 m<sup>3</sup>/h (free blowing). These fans offer a wide range of performance possibilities and variety of operating voltages available, from 12 V DC to 400 V AC (depending on type), so it is always possible to find the optimum solution for the required application conditions.

*The LV series offers 15 rating categories with air flows from 15 to 930 m<sup>3</sup>/h*

As an option, the filter fans can be equipped with Z-line filters of filter class F5. This ensures the degree of protection IP55. Furthermore, this version is equipped with a UV-resistant outer grid and is suitable for outdoor applications. To receive a higher degree of protection the stainless steel gill plates are suitable as an accessory.

### FEATURES

- Low shape and quick mounting
- Screw fastening is possible for all types
- Protection class IP 54 with filter mat (standard)
- Protection class IP 55 with Z-line filter
- Foamed polyurethane gasket
- Housing colour RAL 7035
- Available for various other supply voltages
- Scope of supply: ready to install, incl. filter mat
- Also available in EMC version
- Various models also available with state-of-the-art EC technology

#### **Information regarding the blowing direction:**

Blowing: from the outside into the bottom of the enclosure (standard version, positive pressure inside)

Sucking: sucking warm air out of the enclosure (special version)

## FILTER FANS LV TECHNICAL DATA



Type	LV 80	LV 80	LV 85	LV 100	LV 100	LV 200	LV 200
<b>Part number</b>	<b>10 080 150</b>	<b>10 080 550</b>	<b>10 085 550</b>	<b>10 115 150</b>	<b>10 115 550</b>	<b>10 235 150</b>	<b>10 235 550</b>
Operating voltage	230 V AC 50/60 Hz	24 V DC	24 V DC	230 V AC 50/60 Hz	24 V DC	230 V AC 50/60 Hz	24 V DC
Air flow free air [m³/h]	11	15	20	25	25	58	58
Power input [W]	5	2,6	3	12	2,2	20	4,1
Width [mm]	80	80	80	105	105	130	130
Height [mm]	80	80	80	105	105	130	130
Depth (outside) [mm]	4	4	4	4.5	4.5	5	5
Installation depth [mm]	40.5	40.5	40.5	55	55	72	72
Installation cut-out [mm]	68 x 68	68 x 68	68 x 68	92 x 92	92 x 92	116 x 116	116 x 116
Operating temperature [°C]	-20 to +65	-20 to +65	-20 to +65	-10 to +55	-20 to +65	-10 to +55	-20 to +65
Service life [h]	40,000	70,000	60,000	37,500	70,000	27,500	50,000
Noise level dB [A]	27/28	42.3	48.5	30	36	42	42
Approval	UL / CE	UL / CE	UL / CE	UL / CE	UL / CE	UL / CE	UL / CE

Filter fans also available with supply voltage 115 V

## FILTERLÜFTER LV ZUBEHÖR

Accessories	GV 80	GV 80	GV 80	GV 100	GV 100	GV 200	GV 200
Exhaust filters	11 080 050	11 080 050	11 080 050	11 115 050	11 115 050	11 235 050	11 235 050
Spare filter mat	12 080 15VE	12 080 15VE	12 080 15VE	12 100 15VE	12 100 15VE	12 200 35VE	12 200 35VE
Z-line filter IP 55	-	-	-	-	-	-	-
Gill plate	-	-	-	14 100 070	14 100 070	14 200 070	14 700 070
Filter fan shrouds	-	-	-	-	-	14 200 700	14 200 700
Cover plates	-	-	-	-	-	-	-
Digital thermostat TER 150	15 TER 152	-	-	15 TER 152	-	15 TER 152	-
Thermostat TRS 60	15 TRS 060	15 TRS 060	15 TRS 060	15 TRS 060	15 TRS 060	15 TRS 060	15 TRS 060
Thermostat TWR 60	15 TWR 060	15 TWR 060	15 TWR 060	15 TWR 060	15 TWR 060	15 TWR 060	15 TWR 060
Hygrostat HYW 90	15 HYW 090	15 HYW 090	15 HYW 090	15 HYW 090	15 HYW 090	15 HYW 090	15 HYW 090
Speed controller TLR 400	15 TLR 400	-	-	15 TLR 400	-	15 TLR 400	-

## FILTER FANS LV TECHNICAL DATA CONTINUED



Type	LV 250	LV 250	LV 300	LV 300	LV 405	LV 405
<b>Part number</b>	<b>10 253 150</b>	<b>10 253 550</b>	<b>10 335 150</b>	<b>10 335 550</b>	<b>10 405 150</b>	<b>10 405 550</b>
Operating voltage	230 V AC 50/60 Hz	24 V DC	230 V AC 50/60 Hz	24 V DC	230 V AC 50/60 Hz	24 V DC
Air flow free air [m <sup>3</sup> /h]	63	63	115	115	160	160
Power input [W]	20	4,1	20	4,1	18	6,5
Width [mm]	148	148	204	204	250	250
Height [mm]	148	148	204	204	250	250
Depth (outside) [mm]	5.5	5.5	6	6	6	6
Installation depth [mm]	64.5	64.5	90	90	102	102
Installation cut-out [mm]	125 x 125	125 x 125	177 x 177	177 x 177	223 x 223	223 x 223
Operating temperature [°C]	-10 to +55	-20 to +65	-10 to +55	-20 to +65	-10 to +55	-20 to +65
Service life [h]	27,500	50,000	27,500	50,000	40,000	57,500
Noise level dB [A]	42	42	51	51	44	46
Approval	UL / CE	UL / CE	UL / CE	UL / CE	UL / CE	UL / CE

Filter fans also available with supply voltage 115 V

## FILTER FANS LV ACCESSORIES

Accessories	GV 250	GV 250	GV 300	GV 300	GV 400/500	GV 400/500
Exhaust filters	11 253 050	11 253 050	11 335 050	11 335 050	11 435 050	11 435 050
Spare filter mat	12 001 35VE	12 001 35VE	12 300 35VE	12 300 35VE	12 400 35VE	12 400 35VE
Z-line filter IP 55	12 250 ZF	12 250 ZF	12 300 ZF	12 300 ZF	12 400 ZF	12 400 ZF
Gill plate	14 250 070	14 250 070	14 300 070	14 300 070	14 400 070	14 400 070
Filter fan shrouds	14 250 700	14 250 700	14 300 700	14 300 700	14 400 700	14 400 700
Cover plates	–	–	11 300 05B	11 300 05B	11 400 05B	11 400 05B
Digital thermostat TER 200	15 TER 120	–	15 TER 120	–	15 TER 120	–
Thermostat TRS 60	15 TRS 060	15 TRS 060	15 TRS 060	15 TRS 060	15 TRS 060	15 TRS 060
Thermostat TWR 60	15 TWR 060	15 TWR 060	15 TWR 060	15 TWR 060	15 TWR 060	15 TWR 060
Hygrostat HYW 90	15 HYW 090	15 HYW 090	15 HYW 090	15 HYW 090	15 HYW 090	15 HYW 090
Speed controller TLR 400	15 TLR 400	–	15 TLR 400	–	15 TLR 400	–

## FILTER FANS LV TECHNICAL DATA CONTINUED



Type	LV 410	LV 410	LV 550	LV 600	LV 700	LV 800
<b>Part number</b>	<b>10 413 150</b>	<b>10 413 550</b>	<b>10 553 150</b>	<b>10 635 150</b>	<b>10 735 150</b>	<b>10 835 150</b>
Operating voltage	230 V AC 50/60 Hz	24 V DC	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz
Air flow free air [m <sup>3</sup> /h]	250	250	370	580	730	930
Power input [W]	45/39	16	65/93	64/80	115/165	135/215
Width [mm]	250	250	250	323	323	323
Height [mm]	250	250	250	323	323	323
Depth (outside) [mm]	6	6	6	6.5	6.5	6.5
Installation depth [mm]	120	120	125	148	162	140
Installation cut-out [mm]	223 x 223	223 x 223	223 x 223	292 x 292	292 x 292	292 x 292
Operating temperature [°C]	-10 to +55	-10 to +55	-10 to +55	-10 to +55	-10 to +55	-15 to +55
Service life [h]	40,000	40,000	40,000	40,000	40,000	40,000
Noise level dB [A]	52	52	69	60	70	69
Approval	UL / CE	UL / CE	UL / CE	UL / CE	UL / CE	UL / CE

Filter fans also available with supply voltage 115 V and 400/460 V

## FILTER FANS LV ACCESSORIES

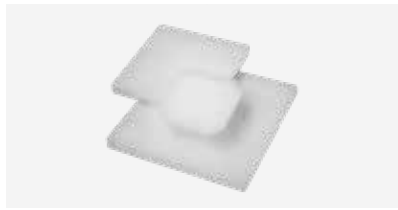
Accessories	GV 400/500	GV 400/500	GV 400/500	GV 600/700	GV 600/700	GV 600/700
Exhaust filters	11 435 050	11 435 050	11 435 050	11 635 050	11 635 050	11 635 050
Spare filter mat	12 400 35VE	12 400 35VE	12 400 35VE	12 700 35VE	12 700 35VE	12 700 35VE
Z-line filter IP 55	12 400 ZF	12 400 ZF	12 400 ZF	12 700 ZF	12 700 ZF	12 700 ZF
Gill plate	14 400 070	14 400 070	14 400 070	14 600 070	14 600 070	14 600 070
Filter fan shrouds	14 400 700	14 400 700	14 400 700	14 600 700	14 600 700	14 600 700
Cover plates	11 400 05B	11 400 05B	11 400 05B	14 700 05B	14 700 05B	14 700 05B
Digital thermostat TER 200	15 TER 120	–	15 TER 120	15 TER 120	15 TER 120	15 TER 120
Thermostat TRS 60	15 TRS 060	15 TRS 060	15 TRS 060	15 TRS 060	15 TRS 060	15 TRS 060
Thermostat TWR 60	15 TWR 060	15 TWR 060	15 TWR 060	15 TWR 060	15 TWR 060	15 TWR 060
Hygrostat HYW 90	15 HYW 090	15 HYW 090	15 HYW 090	15 HYW 090	15 HYW 090	15 HYW 090
Speed controller TLR 400	15 TLR 400	–	15 TLR 400	15 TLR 400	15 TLR 400	15 TLR 400

## FILTER FANS LV ACCESSORIES DETAILS



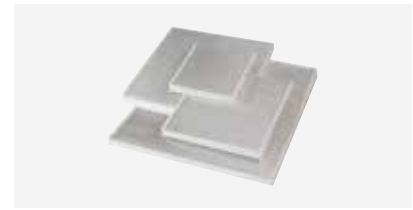
### Exhaust Filters

- Suitable for filter fans Series LV and roof-mount fans
- Low shape and quick mounting
- Scope of supply: ready to install, incl. filter mat
- Also available in IP 55 or EMC version



### Spare filter mat

- Spare filter mat for filter fans, exhaust filters and roof-mount fans
- Available in various filter classes
- Packing unit: 5 pieces



### Z-Line filter IP55

- Z-line filter for filter fans and exhaust filters with protection class IP 55
- Filter class F5
- Packing unit: 1 piece



### Gill plate

- For outdoor use of filter fans and exhaust filters
- Material: polished stainless steel 1.4301
- Solid, vandal resistant



### Filter fan shrouds

- Cover hood to increase the protection class up to IP 55
- Protection for hose water and extremely storm rainfall
- With mounting accessories and gasket



### Extension frame

- Extension frame to install Filter Fans at the control cabinet, when there is no space inside the enclosure.
- With mounting accessories and gasket
- Steel sheet painted in RAL 7035



### Cover plates

- To close installation cut outs
- Same design and dimensions as GV
- With foamed gasket



### Thermostat TRS 60

- Control range: 0 – 60 °C
- Contact: NO



### Thermostat TWR 60

- Control range: 0 – 60 °C
- Contact: CO



### Hygrostat HYW 90

- Control range: 40 – 90 % relative humidity
- Contact: CO



### Speed controller TLR 400

- Operating voltage: 230 V 50/60 Hz
- Max. power of fans: 400 W
- Continuous thermally speed regulation for AC-fans



### Digital thermostat TER 200

- Operating voltage: 230 V 50/60 Hz
- Number of relay outputs: 2
- Control range: -50 to +99 °C

## [ SPECIAL VERSIONS OF LV FILTER FANS ]

Modified versions of filter fans and exhaust filters are available for special applications. All special versions have the same dimensions and cut-out sizes as the corresponding standard model.



### IP55 VERSION

IP55 versions with increased protection against dust and water are available for switchgear systems that are cleaned with water jets e.g. in the food and beverage industry and outdoor applications.

- Z-line filter with filter class F5 and additional expanded metal grille
- UV-resistant outer grid for outdoor applications
- Optional with stainless steel gill plate or hose water cover
- Types available: LV/GV 250 – 800



### EMC VERSION

For a switchgear cabinet meet electromagnetic compatibility requirements, it must be fitted with EMC fans and exhaust filters to ensure that the entire enclosure is EMC compliant.

- The EMC version features a metallised inner grille and an additional wire grid.
- A contact spring strip is glued to the mounting cut-out.
- Achieved magnetic shielding value: 40 dB.
- Types available: LV/GV 80 – 800-EMC



### EC VERSION

EC fans are recommended when efficiency and long service life are particularly important.

- Energy-efficient axial fans with EC technology
- Electronics are integrated in the fan but dimensions remain unchanged
- Lower power consumption and greater efficiency than AC fans
- Significantly longer service life
- Wider supply voltage range for LV 200 – 300 (230 V version: 195 – 265 V AC)
- Fan models LV 410, 600 + 800-EC have two running speeds
- Types available: LV 200, 250, 300, 410, 600, 800-EC



## [ ROOF-MOUNTED FANS DL AND DE ]

A roof-mounted fan extracts warm air from inside the switchgear cabinet, thereby helping the circulation of warm air and preventing heat accumulation in the upper section of the cabinet. A robust sheet-steel hood with a stepped rim prevents water from entering. An all-round filter mat for protection class IP54 is available as an option. Radial fans generate a high air flow with low noise emissions. The roof vent DE 400 without fan is fitted with a filter mat that can be replaced from indoors as standard. Roof-mounted fan DL 1500, which is characterised by its high air flow and particularly low noise emission, is predestined for use in server cabinets.

### APPLICATION

Roof-mounted fans are used in applications that require a high throughput of air but no particular or specific protection type. If the cabinet also contains devices with a built-in fan e.g. frequency converters, air flow is increased and warm air optimally conducted upwards. It is important to ensure that the bottom of the cabinet is fitted with fresh air vents, ideally intake filters GV 400/500 or GV 600/700.

*Roof-mounted fans prevent heat accumulation in the upper part of switchgear cabinets.*

### FEATURES

- Sturdy, painted sheet steel enclosure
- Radial fan with high air flow and low noise emission
- Available as EMC and IP 54 version (see detailed diagram) as an option
- Low depth inside the cabinet
- Available as EMC and IP 54 version (see detailed diagram) as an option





## ROOF-MOUNTED FANS DL AND DE TECHNICAL DATA

*Housing made of sheet steel*



Type	DL 400	DL 420	DL 1500	DE 400
<b>Part number</b>	<b>50 400 150</b>	<b>50 420 150</b>	<b>50 150 150</b>	<b>51 400 050</b>
Operating voltage	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	–
Air flow free air [m³/h]	405 / 475	690 / 780	1500	–
Power input [W]	40 / 45	40 / 45	68 / 90	–
Width [mm]	420	420	528	420
Height [mm]	108	108	230	83
Depth [mm]	340	340	528	340
Installation depth [mm]	50	50	0	28
Installation cut-out [mm]	345 x 265	345 x 265	410 x 410	345 x 265
Operating temperature [°C]	-10 to +60	-10 to +60	-10 to +55	–
Noise level dB(A)	58 / 62	73 / 76	40	–
Weight [kg]	7.6	8.1	20	4.5
Degree of protection	IP 44 (54*)	IP 44 (54*)	IP 21	IP 44 (54*)
Approval	UL / CE	UL / CE	CE	UL / CE

\* also available in protection class IP54

## ROOF-MOUNTED FANS DL AND DE ACCESSORIES

Accessories	Part number			
Exhaust filters	11 435 050	11 635 050	11 635 050*	–
Spare filter mat	12 420 35VE	12 420 35VE	–	–
Thermostat TRS 60	15 TRS 060	15 TRS 060	15 TRS 060	–
Thermostat TWR 60	15 TWR 060	15 TWR 060	15 TWR 060	–
Digital thermostat TER 200	15 TER 120	15 TER 120	15 TER 120	–
Speed controller TLR 400	15 TLR 400	15 TLR 400	15 TLR 400	–

\* exhaust filter for DL 1500 is required 2x



## [ ROOF FILTER FANS DVL AND DVE ]

The DVL/DVE series is based on the filter fan series LV and provides a wide variety of low-cost solutions for roof-mounted ventilation. The hood features labyrinth-pattern air ducts to prevent the ingress of dust and water. Easy fitting without tools; simply remove the hood for easy filter replacement from outside. Available in 2 sizes fitted with different fans, or as roof ventilator DVE without fan. DVE ventilator can also be combined with LV filter fans.

### APPLICATION

The range of available fan types makes it easy to find the right DVL type for any given dissipation requirement. Combination with the appropriate GV intake filter enables an optimum air flow through the switchgear cabinet, thereby expelling warm air rapidly and preventing heat accumulation.

Various thermostats and control units are available as accessories.

*The cost-effective, versatile solution for roof-mounted ventilation of switchgear cabinets*

### FEATURES

- Optimum airflow inside the cabinet
- Mounting and filter change without tools
- Same mounting cut-outs as filter fans LV
- Low depth inside the cabinet
- Combination possibilities with all filter fans types LV 400 – 800
- Housing consists of high-quality ABS plastic



## ROOF FILTER FANS DVL AND DVE TECHNICAL DATA

*Housing made of ABS plastic*



Type	DVL 410	DVL 440	DVL 600	DVL 640	DVL 800	DVE 400	DVE 600
<b>Part number</b>	<b>50 V41 15X</b>	<b>50 V44 15U</b>	<b>50 V60 15X</b>	<b>50 V64 15U</b>	<b>50 V80 15X</b>	<b>51 V45 05X</b>	<b>51 V67 05X</b>
Operating voltage	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	–	–
Air flow free air [m <sup>3</sup> /h]	240	71	550	232	840	–	–
Power input [W]	45 / 39	40 / 32 W	64 / 80	68 / 60 W	135/215 W	–	–
Width [mm]	287	287	361	361	361	287	361
Height [mm]	174	104	211	114	203	85	96
Depth [mm]	287	287	361	361	361	287	361
Installation depth [mm]	120	50	148	51	140	31	33
Installation cut-out [mm]	223 x 223	223 x 223	292 x 292	292 x 292	292 x 292	223 x 223	292 x 292
Operating temperature [°C]	-10 to +55	-10 to +55	-10 to +55	-10 to +55	-10 to +60	–	–
Noise level dB(A)	52	k.A.	60	k.A.	69	–	–
Weight [kg]	2.5	2.5	4.1	4.9	5.6	0.73	1.1
Degree of protection	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54
Approval	UL / CE	CE	UL / CE	CE	CE	UL / CE	UL / CE

## ROOF FILTER FANS DVL AND DVE ACCESSORIES

Accessories	Part number						
Exhaust filters	11 435 050	11 435 050	11 635 050	11 635 050	11 635 050	–	–
Spare filter mat	52 440 35VE	52 440 35VE	52 640 35VE	52 640 35VE	12 700 50VE	52 440 35VE	52 640 35VE
Thermostat TRS 60	15 TRS 060	15 TRS 060	15 TRS 060	15 TRS 060	15 TRS 060	15 TRS 060	15 TRS 060
Thermostat TWR 60	15 TWR 060	15 TWR 060	15 TWR 060	15 TWR 060	15 TWR 060	15 TWR 060	15 TWR 060
Digital thermostat TER 200	15 TER 120	15 TER 120	15 TER 120	15 TER 120	15 TER 120	–	–
Speed controller TLR 400	15 TLR 400	15 TLR 400	15 TLR 400	15 TLR 400	15 TLR 400	–	–

## [ 19" FAN UNITS ]

19" units are used in the IT-rack and server-cabinet industry. These 19" fan units cause air to circulate and help the selective dissipation of heat from the mounted 19" units inside. Different sizes and voltages are available. A speed controller can be used to reduce the noise-level. The controller reduces the speed of the fans depending on the measured temperature, including an alarm signal for high temperature, damage of sensor or standstill of the fans.

### FEATURES

#### Without speed controller LEK, LET

- For air circulation in IT racks and server cabinets
- Selective dissipation of the heat generated by 19" modules
- Available with 2, 3, 4 or 6 fans
- Faceplate: anodized aluminium, enclosure: painted sheet steel
- Cold-device plug at rear



#### With speed controller LRK, LRT

- With display and microcontroller
- Continuous heat-dependent speed regulation
- Reduction of noise level and energy consumption
- Easy programming of set points for temperature, minimum and maximum speed
- Alarm signal for high temperature, damage of sensor or standstill of fan



### 19" FAN UNITS TECHNICAL DATA

Type	LEK 2	LEK 2	LEK 3	LEK 3	LET 4	LET 4	LET 6	LET 6	LRK 2	LRT 5
<b>Part number</b>	<b>10 EK2 100</b>	<b>10 EK2 500</b>	<b>10 EK3 100</b>	<b>10 EK3 500</b>	<b>10 ET4 100</b>	<b>10 ET4 500</b>	<b>10 ET6 100</b>	<b>10 ET6 500</b>	<b>10 RK2 100</b>	<b>10 RT5 100</b>
Operating voltage	230 V AC	24 V AC	230 V AC	24 V AC	230 V AC	24 V AC	230 V AC	24 V AC	230 V 50 Hz	230 V 50 Hz
Air flow free air [m³/h]	230	230	350	350	460	460	710	710	230	585
Power input [W]	38/36	8,6	57/54	12,9	76/72	17,2	114/108	25,8	38/36	95/90
Width inside [mm]	425	425	425	425	425	425	431,5	431,5	425	425
Height [mm]	1 HE	1 HE	1 HE	1 HE	1 HE	1 HE	1 HE	1 HE	1 HE	1 HE
Depth [mm]	170	170	170	170	340	340	311	311	170	340
Number of fans	2	2	3	3	4	4	6	6	2	5
Operating temperature [°C]	-10 to +55	-20 to +65	-10 to +55	-20 to +65	-10 to +55	-20 to +65	-10 to +55	-20 to +65	0 to +60	0 to +60
Service life [h]	27.500	50.000	27.500	50.000	27.500	50.000	27.500	50.000	27.500	27.500
Approval	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE

## [ INTERNAL FANS AND SMALL FANS ]

Small fans and internal fans are used to improve air circulation inside the switchgear cabinet, which helps to achieve optimum distribution of cool air and prevent hotspots. Achieving balanced temperatures is vitally important in large switching systems with several in-line switchgear cabinets.

### FEATURES

- Internal fan IL 120: internal fan for additional air circulation; can be mounted in any position, various supply voltages available.
- Small fan KL 50: small fan in 80 x 80 mm format, for various applications, protective grille available on request.
- Small fan KL 100: small fan in 119 x 119 mm format, for various applications, protective grille and connection cables available on request.



### SMALL AND INTERNAL FANS TECHNICAL DATA

Type	IL 120	IL 120	KL 50	KL 50	KL 100 S	KL 100 X	KL 100 X
<b>Part number</b>	<b>10 IL1 100</b>	<b>10 IL1 500</b>	<b>10 050 110</b>	<b>10 050 510</b>	<b>10 100 105S</b>	<b>10 100 107</b>	<b>10 100 507</b>
Operating voltage	230 V AC	24 V AC	230 V AC	24 V AC	230 V AC	230 V AC	24 V AC
Air flow free air [m <sup>3</sup> /h]	160/180	160/180	50/61	54	160/180	160/180	184
Power input [W]	19	3.5	11/12	2.5	19/18	19/18	4.1
Width [mm]	140	140	79.5	79.5	119	119	119
Height [mm]	160	160	79.5	79.5	119	119	119
Depth [mm]	48	48	38	32	38	38	38
Operating temperature [°C]	-10 to +55	-20 to +65	-10 to +75	-10 to +75	-40 to +75	-10 to +50	-20 to +70
Service life [h]	27,500	50,000	52,500	70,000	37,500	37,500	65,000
Slide bearing	•		•			•	
Ball bearing		•		•	•		•
Noise level dB(A)	40	44	30/34	36	40/45	40/45	42
Approval	CE	CE	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA

### SMALL AND INTERNAL FANS ACCESSORIES



**Connection cable AK 100 for KL 100**  
Part number: 16 100 000



**Metal guard grille BG 50 for KL 50**  
Part number: 14 050 000



**Plastic guard grille KG 50 for KL 50**  
Part number: 14 050 010

**Metal guard grille BG 100 for KL 100**  
Part number: 14 100 000

**Plastic guard grille KG 100 for KL 100**  
Part number: 14 K10 000



## [ HEATERS WITHOUT FANS ]

Heaters protect components in a switchgear cabinet from excessively low temperatures and prevent the occurrence of condensation in the cabinet as a result of marked fluctuations in temperature or increased humidity. We offer heaters with or without fan for different operating voltages. The electrical power capacity ranges from 10 W up to 1,500 W. Special designs, for example with mounting plates, are available at short notice.

### FEATURES

Our heaters are fitted with self-regulating PTC heating elements, which limit surface temperature and reduce heat output when the temperature rises. PTC heaters maintain practically the same heat output across a wide range of input voltages. The profiled structure of the aluminium housing ensures good heat dissipation and warm air circulation. Power supply via spring-cage or screw terminal. Heaters are fixed to the mounting rail with clips.

### APPLICATION

Switchgear cabinet heaters prevent corrosion and switching malfunctions. They are used mainly in outdoor applications such as traffic technology, ticket machines, traffic monitoring systems, traffic lights, packing stations and cranes. They are also used in machinery for the food and beverage industry and the textile industry.

*Heaters prevent condensation, corrosion and malfunctions in switchgear cabinets installed outdoors.*

### VERSIONS

#### Series SM

- Electrical power capacity from 10 to 45 W
- PTC heating element
- Compact design
- Attachment with clip on mounting rail



#### Series SH

- PTC heating elements or fixed resistors
- Heating capacity from 50 to 150 W
- Special versions for wind turbines



#### Series SF

- Heating capacity from 30 to 50 W
- For special voltages
- Fixed resistor



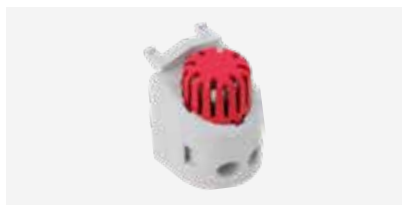
## HEATERS WITHOUT FANS SM TECHNICAL DATA

Type	SM 10	SM 10	SM 20	SM 20	SM 30	SM 30	SM 45
<b>Part number</b>	<b>20 M10 70X</b>	<b>20 M10 80X</b>	<b>20 M20 70X</b>	<b>20 M20 80X</b>	<b>20 M30 70X</b>	<b>20 M30 80X</b>	<b>20 M45 70X</b>
Operating voltage	110 – 240 V AC/DC	12 – 24 V AC/DC	110 – 240 V AC/DC	12 – 24 V AC/DC	110 – 240 V AC/DC	12 – 24 V AC/DC	110 – 240 V AC/DC
Thermal output at 20 °C [W]	10	10	20	20	30	30	45
Width [mm]	30	30	30	30	30	30	30
Height [mm]	80	80	100	100	120	120	170
Depth [mm]	60	60	60	60	60	60	60
Service life [h]	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Approval	UL / CE	UL / CE	UL / CE	UL / CE	UL / CE	UL / CE	UL / CE

## HEATERS WITHOUT FANS SH AND SF TECHNICAL DATA

Type	SH 60	SH 75	SH 100	SH 150	SF 35	SF35	SF 55	SF55
<b>Part number</b>	<b>20 60S 70X</b>	<b>20 75S 70X</b>	<b>20 10S 70X</b>	<b>20 15S 70X</b>	<b>20 F35 50X</b>	<b>20 F35 D0X</b>	<b>20 F55 50X</b>	<b>20 F55 D0X</b>
Operating voltage	110 – 240 V AC/DC	110 – 240 V AC/DC	110 – 240 V AC/DC	110 – 240 V AC/DC	24 V AC/DC	400 V AC/DC	24 V AC/DC	400 V AC/DC
Thermal output at 20 °C [W]	60	75	100	150	30	35	45	45
Width [mm]	80	80	80	80	64.5	64.5	64.5	64.5
Height [mm]	105	155	185	245	158	158	193	193
Depth [mm]	83	83	83	83	60.7	60.7	60.7	60.7
Service life [h]	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Approval	UL / CE	UL / CE	UL / CE	UL / CE	CE	CE	CE	CE

## HEATERS WITHOUT FANS ACCESSORIES



**Thermostat TFH 05**  
Part number: 15 TFH 005



**Thermostat TKW 60**  
Part number: 15 TKW 060



**Hygrostat HYW 90**  
Part number: 15 HYW 090



**Digital thermostat TER 200**  
Part number: 15 TER 120



**Thermostat TRO 60**  
Part number: 15 TRO 060





## [ HEATERS WITH FANS ]

To ensure ideal air circulation inside the enclosure, we recommend our heaters with fan. Depending on the model, the fans can be switched separately, thus ensuring a permanently optimal air circulation.

### VERSIONS

#### Series SM, Series SH

- Compensation of temperature fluctuations in the switchgear cabinet
- Prevention of condensation
- PTC heating elements
- Heating capacity from 50 to 400 W
- Special versions for wind turbines
- Plug-in connection terminal



#### Series HL

Their robust, compact design, wide operating temperature range of -40 °C to +70 °C, and long service life of 50,000 h mean that HL heaters are particularly suitable for use in outdoor switchgear cabinets. Models HL 1200C and HL 1500C have an integrated thermostat with alarm capability for increased operating reliability e.g. in the event of fan failure.

*HL heaters are especially suitable for use in outdoor switchgear cabinets*



#### Series SL

- Various power levels from 250 to 650 W in the same housing
- Two heating circuits with different switching options for SL 500 and SL 650
- Fan and heating separately connectable at SL 500 and SL 650
- Integrated temperature limiter for shutdown if the fan fails
- Compact design, low weight
- Eyelets for screw fastening and clip for mounting rail
- Connection via spring-cage terminals
- Cover over the terminals
- Various controllers for temperature and humidity for external control are available as accessories



## HEATERS WITH FANS SM AND SH TECHNICAL DATA

Type	SM 50L	SM 100L	SH 130L	SH 250L	SH 400L
<b>Part number</b>	<b>20 M50 50X</b>	<b>20 10M 10X</b>	<b>20 13S 10X</b>	<b>20 25S 10X</b>	<b>20 40S 10X</b>
Operating voltage	24 V DC	230 V 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz
Thermal output at 20 °C [W]	50	100	130	250	400
Width [mm]	60	60	80	80	80
Height [mm]	130	150	155	155	235
Depth [mm]	90	90	110	110	110
Service life [h]	50,000	50,000	50,000	50,000	50,000
Approval	CE	CE	UL* / CE	UL* / CE	UL* / CE

\* for UL versions, please add the suffix "UL" to the article number

## HEATERS WITH FANS SL AND HL TECHNICAL DATA

Type	SL 250	SL 350	SL 500	SL 650	HL 1200	HL 1200 C*	HL 1500	HL 1500 C*
<b>Part number</b>	<b>20 25SL 102</b>	<b>20 35SL 102</b>	<b>20 50SL 106</b>	<b>20 65SL 106</b>	<b>20 1200 10X</b>	<b>20 1200 10XC</b>	<b>20 1500 10X</b>	<b>20 1500 10XC</b>
Operating voltage	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz
Thermal output at 20 °C [W]	250	350	280/500	380/650	1200	1200	1500	1500
Width [mm]	115	115	115	115	120	120	120	120
Height [mm]	100	100	100	100	130	130	130	130
Depth [mm]	114	114	114	114	165	165	165	165
Service life [h]	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Approval	CE	CE	CE	CE	CE	CE	CE	CE

\* with electronic thermostat and alarm output

## HEATERS WITH FANS ACCESSORIES



**Thermostat TFH 05**  
Part number: 15 TFH 005



**Thermostat TKW 60**  
Part number: 15 TKW 060



**Hygrostat HYW 90**  
Part number: 15 HYW 090



**Digital thermostat TER 200**  
Part number: 15 TER 120



**Thermostat TRO 60**  
Part number: 15 TRO 060



## [ THERMOSTATS AND CONTROLLERS ]

We offer a wide range of thermostats and control units for the regulation of temperature, humidity or rotation speed to ensure that all switchgear cabinet components work efficiently and consume less power. We supply the right product for every application – everything from a simple bimetallic thermostat to an adjustable control unit with sensors and interface.

### APPLICATION

A range of temperature and humidity control units ensure that various components such as fans, heaters or coolers can be switched on and off as and when required. Thermostats are also used as contacts to signal malfunctions. There are control units with fixed settings for standard applications to prevent unintentional adjustment. Peltier coolers require special control units for regulation of their heating and cooling function.

*A wide range of thermostats and control units provides tailor-made solutions.*

### FEATURES

- Temperature controllers with bimetallic or external sensors
- Humidity controllers for the monitoring of relative humidity
- Compact enclosures for fixing to mounting rails
- Switch contact to actuate opening, closing or changeover functions
- Switching of air-conditioning components or as signal contact
- Special control units for Peltier coolers
- Rotational speed controller with temperature-dependent control to reduce noise emission

## THERMOSTATS AND CONTROLLERS TECHNICAL DATA



Type	TFH 05	TFC 35	TRO 60	TRS 60	TRW 60	TWR 60	TKW 60
<b>Part number</b>	<b>15 TFH 005</b>	<b>15 TFC 035</b>	<b>15 TRO 060</b>	<b>15 TRS 060</b>	<b>15 TRW 060</b>	<b>15 TWR 060</b>	<b>15 TKW 060</b>
Regulating variable	temperature	temperature	temperature	temperature	temperature	temperature	temperature
Suitable for	heaters	fans and heat exchangers	heaters	fans and heat exchangers	fans, heaters	fans, heaters, heat exchangers	fans, heaters
Control range	5 °C (fix)	35 °C (fix)	0 to 60 °C	0 to 60 °C	0 to 60 °C	0 to 60 °C	0 to 60 °C
Contact	NC	NO	NC	NO	CO	CO	CO
Hysteresis	10 K	10 K	4 – 7 K	4 – 7 K	4 – 7 K	1 K	3 K
Max. switching capacity*	AC: 5(1.6) A DC: max. 30 W	AC: 5(1.6) A DC: max. 30 W	AC: 10(2) A DC: max. 30 W	AC: 10(2) A DC: max. 30 W	AC: 10(2) A DC: max. 30 W	AC: 10(2) A DC: max. 30 W	AC: 10(2) A DC: max. 30 W



Type	TES 60	TER 200	TRP 205	TPC 300	HYW 90	TLR 400
<b>Part number</b>	<b>15 TES 060</b>	<b>15 TER 120</b>	<b>45 TRP 205</b>	<b>45 TPC 300</b>	<b>15 HYW 090</b>	<b>15 TLR 400</b>
Regulating variable	temperature	temperature	temperature	temperature	humidity	speed
Suitable for	thermoelectric coolers, heaters	fans, heaters	thermoelectric coolers	thermoelectric coolers	heaters, dehumidifiers	fans, heat exchangers
Control range	0 to +60 °C	-50 to +99 °C	heating: 0 – 20 °C cooling: 30 – 50 °C	0 to +60 °C	40 % – 90 % r. F.	0 – 100 %
Contact	CO	2 NO	electrical connection: peltier +fans	electrical connection: peltier +fans	CO	electrical connection: fans
Hysteresis	2 – 3 K	0.1 K	2 K	0.5 – 9.5 °C	5 %	0.5 K
Max. switching capacity*	16 A at 24 V DC	AC: 8 (3) A at 250 V	16 A at 24 V DC	16 A at 24 V DC	AC: 2(0.2) at 24 V min 100 mA	400 W

\* values in brackets apply to inductive load

**NEW**



Peltier controller with various control programs extensive monitoring functions and interface



#### Industry standards

Solid hinged cover models.  
*Mounting brackets required to meet UL/CSA external mounting requirements.*

UL 508A listed; Type 4, 12;  
File No. E61997  
cUL Listed per CSA C22. 2 No. 94;  
Type 4, 12; File No. E61997

NEMA/EEMAC Type 4, 12, 13  
CSA, File No. 42186: Type 4, 12  
IEC/EN62262 IK9  
IEC 60529, IP66  
IEC 62208



## [ WALL-MOUNTED STEEL CABINETS GL66 ]

The versatile wall-mounted cabinets of the GL66 series are used for automation and control systems. One- or two-door versions are available. This catalogue only shows a small selection of the products available. **Special sizes, mounting cut-out dimensions and paint finishes** are possible. A comprehensive range of accessories completes the programme.

### FEATURES

- Reversible right-to-left, side-hinged door with simple, easy-to-remove, easy-to-install hinge pins
- 210 degree opening door that is easily removed by pulling clip-style hinge pins
- Quarter-turn latch with 3 mm double-bit insert
- Hardware kit supplied includes solid washers for wall-mounting, key hole plugs
- RAL 7035 textured light-grey polyester powder paint

### APPLICATION

- Automotive
- Packaging
- Material handling
- Toolmaking and machine engineering

### SPECIFICATIONS

- Mild steel construction with door thickness 1.5 to 2.0 mm and body thickness 1.2 or 1.5 mm
- External formed body flange
- Seamless foam-in-place gasket
- Grounding studs system
- Conductive panel available integrated as an option or as an accessory
- Solution with gland plate
- Weatherproof paint available on request

### DELIVERY CONTENTS

- Enclosure with hinged door
- Gland plate(s), supplied loose (for items with gland plate)
- Mounting plate, supplied loose (for items with mounting plate)
- Assembly kit
- Installation instructions

## WALL-MOUNTED CABINETS TECHNICAL DATA

GL66 steel, with door

Solution with mounting plate included Part number	Cabinet without mounting plate Part number	Conductive mounting plate Part number	H [mm]	W [mm]	D [mm]	Door thickness [mm]	Body thickness [mm]	Type	Gland plate	
									P [mm]	Q [mm]
M300200120PE	M300200120E	M300P200GE	300	200	120	1.2	1.2	-	-	-
M300200150PE	M300200150E	M300P200GE	300	200	150	1.2	1.2	-	-	-
M300250150PE	M300250150E	M300P250GE	300	250	150	1.2	1.2	-	-	-
M300250210GPE	M300250210GE	M300P250GE	300	250	210	1.2	1.2	A	100	180
M300300120PE	M300300120E	M300P300GE	300	300	120	1.2	1.2	-	-	-
M300300210GPE	M300300210GE	M300P300GE	300	300	210	1.2	1.2	A	100	180
M300400120PE	M300400120E	M400P300GE	300	400	120	1.2	1.2	-	-	-
M300400210GPE	M300400210GE	M400P300GE	300	400	210	1.2	1.2	B	100	280
M350300210GPE	M350300210GE	M350P300GE	350	300	210	1.2	1.2	A	100	180
M400300150PE	M400300150E	M400P300GE	400	300	150	1.2	1.2	-	-	-
M400300210GPE	M400300210GE	M400P300GE	400	300	210	1.2	1.2	A	100	180
M400400210GPE	M400400210GE	M400P400GE	400	400	210	1.2	1.2	B	100	280
M400600210GPE	M400600210GE	M600P400GE	400	600	210	1.2	1.2	C	100	380
M400600350GPE	M400600350GE	M600P400GE	400	600	350	1.2	1.2	C	100	380
M500400210GPE	M500400210GE	M500P400GE	500	400	210	1.2	1.2	B	100	280
M500500210GPE	M500500210GE	M500P500GE	500	500	210	1.2	1.2	C	100	380
M500500250GPE	M500500250GE	M500P500GE	500	500	250	1.2	1.2	C	100	380
M500500300GPE	M500500300GE	M500P500GE	500	500	300	1.2	1.2	C	100	380
M600400210GPE	M600400210GE	M600P400GE	600	400	210	1.2	1.2	B	100	280
M600400350GPE	M600400350GE	M600P400GE	600	400	350	1.2	1.2	B	100	280
M600500150PE	M600500150E	M600P500GE	600	500	150	1.5	1.5	-	-	-
M600600210GPE	M600600210GE	M600P600GE	600	600	210	1.5	1.5	C	100	380
M600600250GPE	M600600250GE	M600P600GE	600	600	250	1.5	1.5	C	100	380
M600600300GPE	M600600300GE	M600P600GE	600	600	300	1.5	1.5	C	100	380
M600600350GPE	M600600350GE	M600P600GE	600	600	350	1.5	1.5	C	100	380
M600800300GPE	M600800300GE	M800P600GE	600	800	300	2.0	1.5	2xB	100	280
M700500250GPE	M700500250GE	M700P500GE	700	500	250	1.5	1.5	C	100	380
M760600350GPE	M760600350GE	M760P600GE	760	600	350	2.0	1.5	C	100	380
M800600210GPE	M800600210GE	M800P600GE	800	600	210	2.0	1.5	C	100	380
M800600350GPE	M800600350GE	M800P600GE	800	600	350	2.0	1.5	C	100	380
M800800210GPE	M800800210GE	M800P800GE	800	800	210	2.0	1.5	2xB	100	280
M800800300GPE	M800800300GE	M800P800GE	800	800	300	2.0	1.5	2xB	100	280
M800400300GPE	M800400300GE	M800P400GE	800	400	300	1.5	1.5	B	100	280
M800600250GPE	M800600250GE	M800P600GE	800	600	250	2.0	1.5	C	100	380
M800600400GPE	M800600400GE	M800P600GE	800	600	400	2.0	1.5	C	100	380
M800800225GPE	M800800225GE	M800P800GE	800	800	225	2.0	1.5	2xB	100	280
M1000600250GPE	M1000600250GE	M1000P600GE	1000	600	250	2.0	1.5	C	100	380
M1000600400GPE	M1000600400GE	M1000P600GE	1000	600	400	2.0	1.5	C	100	380
M1000800300GPE	M1000800300GE	M1000P800GE	1000	800	300	2.0	1.5	2xB	100	280
M1000800400GPE	M1000800400GE	M1000P800GE	1000	800	400	2.0	1.5	2xB	100	280
M1200800300GPE	M1200800300GE	M1200P800GE	1200	800	300	2.0	1.5	2xB	100	280



#### Industry standards

Solid hinged cover models.

*Mounting brackets required to meet UL/CSA external mounting requirements.*

UL 508A listed; Type 4, 4X, 12;

File No. E61997

cUL listed per CSA C22.2 No 94; Type 4,

4X, 12; File No.E61997

NEMA/EEMAC Type 4, 4X, 12, 13

CSA, File No. 42186: Type 4, 4X, 12

IEC/EN 60529, IP66

IEC/EN 62262, IK10

IEC/EN 62208



## [ WALL-MOUNTED STAINLESS STEEL CABINETS GL66 ]

The stainless steel cabinets are ideal for indoor and outdoor applications that require protection against corrosion by chemicals and water. They feature a robust door with detachable hinges and quarter-turn latches with 3 mm double-bit insert for secure locking. A convex body flange prevents contamination of the cabinet interior.

### FEATURES

- Versions with or without gland plate
- Minimum-width body flange provides maximum body opening
- External formed 90 degree body flange
- Door opens 210 degrees
- Mounting holes in back of body for direct mounting or for optional external mounting brackets
- Doors are easily removed by pulling clip-style hinge pins
- Quarter-turn latches with 3 mm double-bit insert
- Self-grounding latch system with double seal
- Left-hinged doors, reversible

### APPLICATION

- Food and beverage production
- Offshore and all saline environments
- Waste and water treatment
- Packaging
- Pharmaceutical processing
- Outdoor environments & corrosive applications

### SPECIFICATIONS

- Stainless steel wall-mount GL66, IP66, UL/NEMA Type 4X enclosure
- Stainless steel type 304 or type 316L in standard material thickness: 1.2, 1.5 and 2.0 mm doors; 1.2 and 1.5 mm body
- Type 316 stainless steel hinge pins
- Seamless foam-in-place gasket
- Grounding stud on the body
- Bonding provision on the door
- Brushed finish 320 grain

### DELIVERY CONTENTS

- Enclosure with hinged door
- Gland plate, supplied loose (for items with gland plate)
- Assembly kit
- Installation instructions
- Mounting plate is not included and should be ordered separately.



## WALL-MOUNTED CABINETS TECHNICAL DATA

GL66 stainless steel 304, IP66 with door

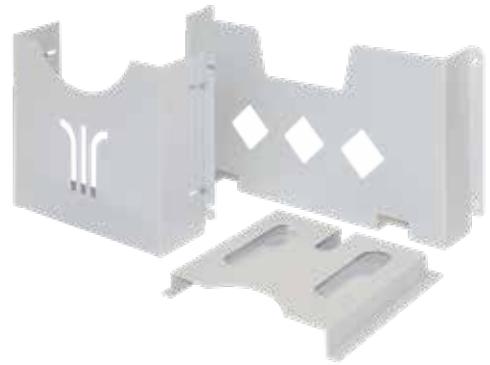
Cabinet without mounting plate Part number	Conductive mounting plate Part number	H [mm]	W [mm]	D [mm]	Door thickness [mm]	Body thickness [mm]	Material	Gland plate	Q [mm]	P [mm]	Type
M300200120SSE	M300P200GE	300	200	120	1,2	1,2	304	NO	-	-	
M300200150SSE	M300P200GE	300	200	150	1,2	1,2	304	NO	-	-	
M300250150SSE	M300P250GE	300	250	150	1,2	1,2	304	NO	-	-	
M300250210SSE	M300P250GE	300	250	210	1,2	1,2	304	NO	-	-	
M300300120SSE	M300P300GE	300	300	120	1,2	1,2	304	NO	-	-	
M300300210SSE	M300P300GE	300	300	210	1,2	1,2	304	NO	-	-	
M300300210GSSE	M300P300GE	300	300	210	1,2	1,2	304	YES	180	100	A
M300400120SSE	M400P300GE	300	400	120	1,2	1,2	304	NO	-	-	
M300400210GSSE	M400P300GE	300	400	210	1,2	1,2	304	YES	280	100	B
M350300210SSE	M350P300GE	350	300	210	1,2	1,2	304	NO	-	-	
M400300150SSE	M400P300GE	400	300	150	1,2	1,2	304	NO	-	-	
M400300210GSSE	M400P300GE	400	300	210	1,2	1,2	304	YES	180	100	A
M400400210SSE	M400P400GE	400	400	210	1,2	1,2	304	NO	-	-	
M400400210GSSE	M400P400GE	400	400	210	1,2	1,2	304	YES	280	100	B
M400600210SSE	M600P400GE	400	600	210	1,2	1,2	304	NO	-	-	
M500400210SSE	M500P400GE	500	400	210	1,2	1,2	304	NO	-	-	
M500400210GSSE	M500P400GE	500	400	210	1,2	1,2	304	YES	280	100	B
M500500210GSSE	M500P500GE	500	500	210	1,2	1,2	304	YES	380	100	C
M500500300GSSE	M500P500GE	500	500	300	1,2	1,2	304	YES	380	180	E
M600400210SSE	M600P400GE	600	400	210	1,2	1,2	304	NO	-	-	
M600400210GSSE	M600P400GE	600	400	210	1,2	1,2	304	YES	280	100	B
M600400350GSSE	M600P400GE	600	400	350	1,2	1,2	304	YES	280	180	D
M600600210SSE	M600P600GE	600	600	210	1,5	1,5	304	NO	-	-	
M600600210GSSE	M600P600GE	600	600	210	1,5	1,5	304	YES	380	100	C
M600600300SSE	M600P600GE	600	600	300	1,5	1,5	304	NO	-	-	
M600600300GSSE	M600P600GE	600	600	300	1,5	1,5	304	YES	380	180	E
M600600350GSSE	M600P600GE	600	600	350	1,5	1,5	304	YES	380	180	E
M700500250GSSE	M700P500GE	700	500	250	1,5	1,5	304	YES	380	100	C
M800600210SSE	M800P600GE	800	600	210	2,0	1,5	304	NO	-	-	
M800600210GSSE	M800P600GE	800	600	210	2,0	1,5	304	YES	380	100	C
M800600250GSSE	M800P600GE	800	600	250	2,0	1,5	304	YES	380	100	C
M800600300SSE	M800P600GE	800	600	300	2,0	1,5	304	NO	-	-	
M800600300GSSE	M800P600GE	800	600	300	2,0	1,5	304	YES	380	180	E
M800600350GSSE	M800P600GE	800	600	350	2,0	1,5	304	YES	380	180	E
M800800210GSSE	M800P800GE	800	800	210	2,0	1,5	304	YES	280	100	2xB
M800800300GSSE	M800P800GE	800	800	300	2,0	1,5	304	YES	280	180	2xD
M1000800300SSE	M1000P800GE	1000	800	300	2,0	1,5	304	NO	-	-	
M1000800300GSSE	M1000P800GE	1000	800	300	2,0	1,5	304	YES	280	180	2xD
M1200800300GSSE	M1200P800GE	1200	800	300	2,0	1,5	304	YES	280	180	2xD

## [ DOCUMENT POCKETS ]

No switchgear cabinet is complete without a document pocket for storing circuit diagrams, parts lists, operating instructions and other documents required for immediate access. There is a wide range of versions for all sorts of applications. Document pockets are also invaluable in production areas or warehouses.

### FEATURES

- For storage of circuit diagrams in switchgear cabinets
- Wide range of different uses in production and warehouse areas
- Material: plastic, film or sheet steel
- Other sizes and versions available on request



### DOCUMENT POCKETS TECHNICAL DATA

Type	ST-A5-F	ST-A4-F	ST-A4	ST-A4-B4	ST-A4-U	ST-A3-B6	ST-A3-B8
Part number	71 St5 0VE*	71 ST4 0VE*	71 ST4 050	71 ST4 450	71 ST4 U50	71 ST3 650	71 ST3 850
Width [mm]	157	220	230	255	330	450	650
Height [mm]	220	300	220	260	257	260	260
Depth [mm]	–	–	30	87	87	87	87
Material	foil	foil	plastic	sheet steel	sheet steel	sheet steel	sheet steel
Colour	transparent	transparent	RAL 7035	RAL 7035	RAL 7035	RAL 7035	RAL 7035
Fastening	adhesive bonding	adhesive bonding	adhesive bonding	screws	screws	screws	screws

\* PU = 10 pieces

### DOCUMENT POCKETS APPLICATION



ST-A4-U with adjustable mounting brackets for individual fixing to the switchgear cabinet profile frame.

# [ NOTES ]



