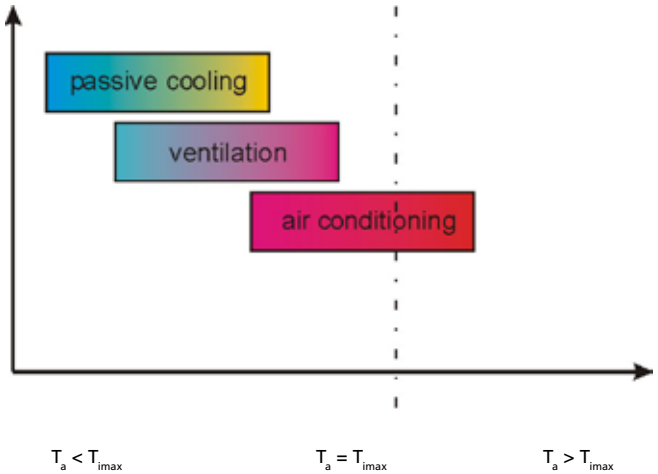
- Climatic systems for ROSE Commander systems, co-ordinated with the application
- Filter ventilators upto 25 m³/h discharge flow
- Compressor cooling systems upto 430 W cooling capacity
- Peltier cooling elements upto 150 W cooling capacity

Included in delivery:
Climatic system depending upon execution completely Commander system

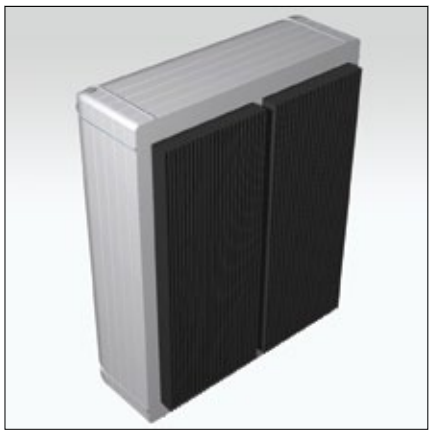
Heat management

Operating and control systems need an eclosure system, which makes an optimal handling possible for the accommodation at the machine in the production process. ROSE offers for this special commander systems. These operating and control systems, usually realized on PC basis, produce a thermal power loss. For the avoidance of the loss of the devices or components and for the securing of the production process air conditioning is necessary. Rose offers here a complete aligned cooling system. With additional heat sinks up to the modern Peltier cooling systems - all options are possible.

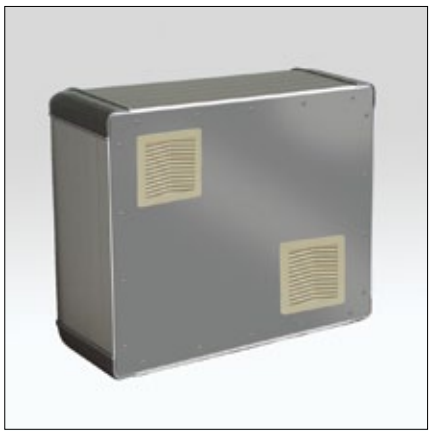


T_a: ambient temperature
T_{imax}: max. permissible interior enclosure temperature

For all our Commander systems we offer particularly devised cooling systems to you:



Passive cooling
with heat sink rear walls



Active cooling
with filter ventilator systems

Active cooling
with compressor cooling systems

Active cooling
with peltier cooling elements

Filter ventilators with snatching assembly

Application and function
for the ventilation of cabinets, operating and control enclosures.
Two versions: for the electrical connection at 24 V DC and to 230 V AC.
The simple assembly takes place by cutout in door, side wall, rear wall or roof of the enclosure.

Advantages
Generally high protection classification (IP 54) by fin mounting.
Short assembly time by simple snatching assembly.
The ventilator used has UL-, CSA-, VDE- and CE-approvals.

Technical data

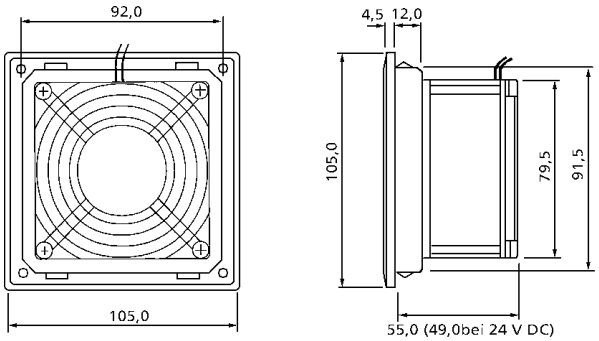
Material	Enclosure: plastic
Ingress protection	IP 54
Nominal voltage	24 V DC / 230 V AC

Product range

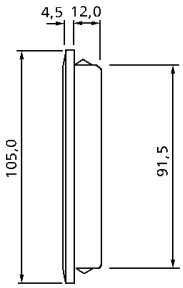
Order No.	Type	Name	Nominal voltage	Discharge flow
83.10 01 01	RLV 100 230 D	Filter ventilator	230 V AC	25 m³/h
83.10 01 02	RLV 100 24 D	Filter ventilator	24 V DC	25 m³/h
83.10 01 11	RGV 100 D	Exhaust filter		15 m³/h

Dimensions

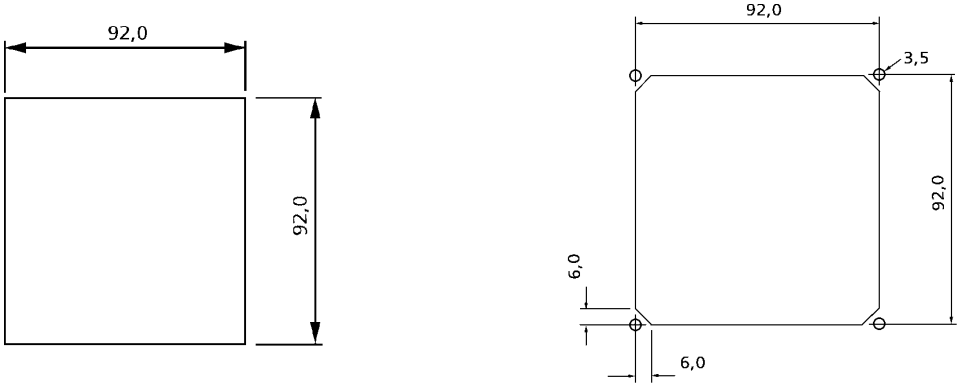
RLV 100 230 D / RLV 100 24 D



RGV 100 D



Mounting outcut



Octagonal cutout and drillings only by screw fastener

Mini cooling systems in compressor technology

Application an function
for the active cooling of cabinets, operating and controll enclosures.
The simple assembly takes place by cutout in rear wall of the enclosure.

Advantages
This new generation of mini cooling systems provides maximum cooling with minimal space requirements. The maintenance-free cooling systems with 200 to 450 W are designed to operate without filters.
The heat exchanger condenser profile has been optimized using wide aluminium fins and improved air in- and outlets. Collectively, they provide an increased cooling output of 20 %, thus guaranteeing performance for demanding industrial environments.
These mini cooling units can be operated through mini controllers according to operational requirements.
With a depth of only 110 mm the mini cooling units are currently the smallest and most compact built-in mount and side mount units on the market.
Due to the environment there is used the safe refrigerant R134a.

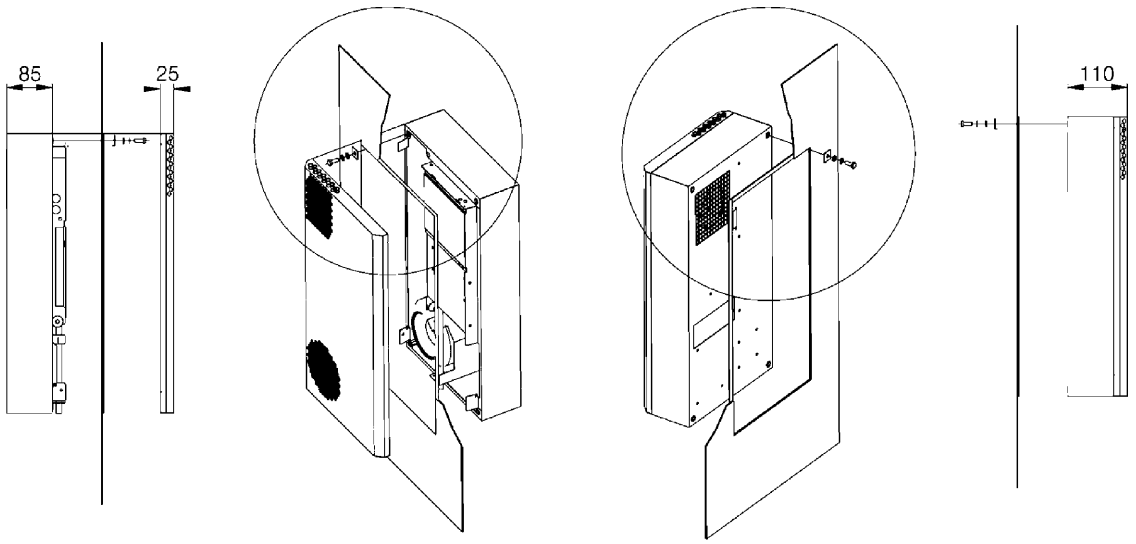
Technical data

Material	Enclosure: sheet steel powdered RAL 7035 optional stainless steel
Ingress protection inside / outside	IP 54 / IP 24
Operating temperature	+20°C to +50°C
Compressor	Cattail compressor
Nominal voltage	230 V AC 50/60 Hz

Product range

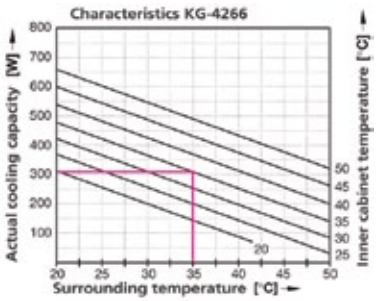
Order No.	Type	Cooling capacity	Dimensions H x W x D (mm)	Nominal voltage	Nominal currency	Weight (g)
83.10 02 01	RKG-4266	320 W	520 x 270 x 110	230 V AC	1,4 A	13300
83.10 02 02	RKG-4267	400 W	340 x 520 x 110	230 V AC	1,5 A	14800
83.10 02 03	RKG-4268	400 W	520 x 320 x 110	230 V AC	1,5 A	14200
83.10 02 04	RKG-4269	430 W	600 x 320 x 110	230 V AC	1,5 A	16000

Kind of assembly

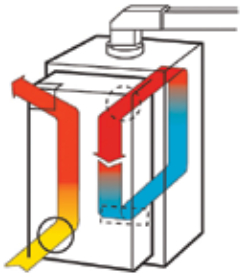


Cooling system RKG-4266

Characteristics



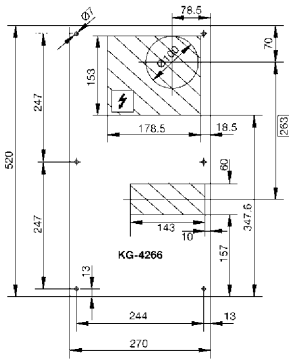
Cooling circuit



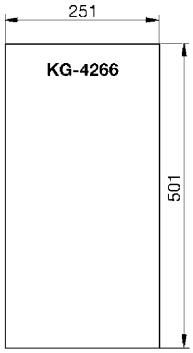
Technical data

Cooling capacity DIN 3168:	
Cooling capacity L35L35	320 W
Cooling capacity L35L50	140 W
Max. air volume flow:	
Ambient air circuit	170 m³/h
Cabinet air circuit	125 m³/h
Electrical data:	
Nominal voltage	230 V AC
Nominal power	280 W
Nominal current	1,4 A
Rated current	3,2 A
Fuse rating	6 A
Connection	Terminals

Dimensions

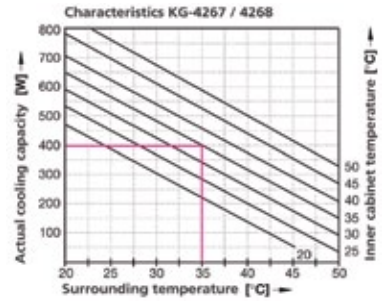


Panel cutout

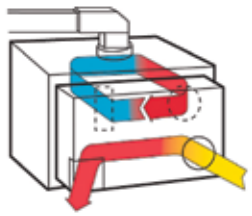


Cooling system RKG-4267

Characteristics



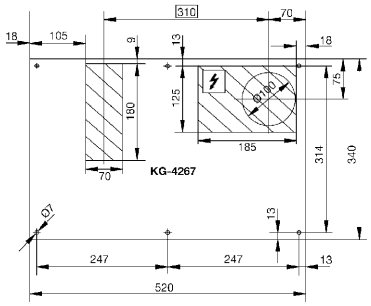
Cooling circuit



Technical data

Cooling capacity DIN 3168:	
Cooling capacity L35L35	400 W
Cooling capacity L35L50	150 W
Max. air volume flow:	
Ambient air circuit	200 m³/h
Cabinet air circuit	125 m³/h
Electrical data:	
Nominal voltage	230 V AC
Nominal power	300 W
Nominal current	1,4 A
Rated current	3,2 A
Fuse rating	6 A
Connection	Terminals

Dimensions



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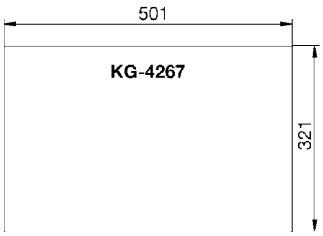
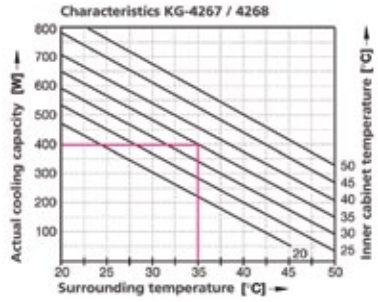
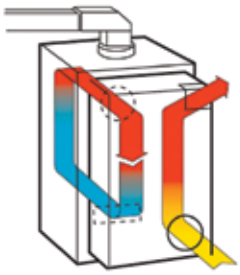


Cooling system RKG-4268

Characteristics



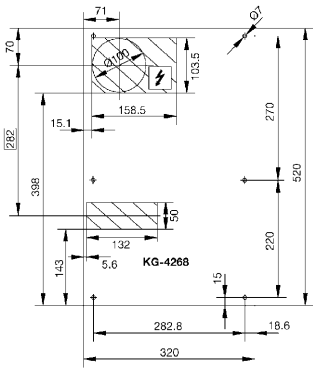
Cooling circuit



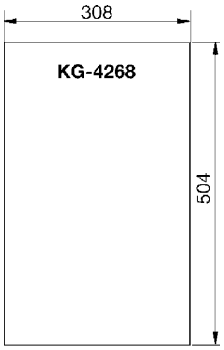
Technical data

Cooling capacity DIN 3168:	
Cooling capacity L35L35	320 W
Cooling capacity L35L50	140 W
Max. air volume flow:	
Ambient air circuit	170 m³/h
Cabinet air circuit	125 m³/h
Electrical data:	
Nominal voltage	230 V AC
Nominal power	280 W
Nominal current	1,4 A
Rated current	3,2 A
Fuse rating	6 A
Connection	Terminals

Dimensions

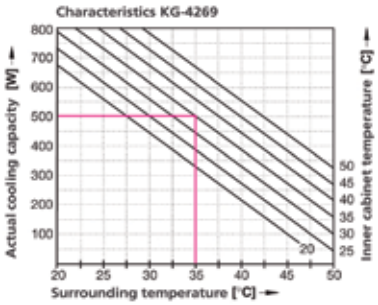


Panel cutout

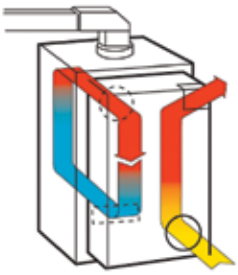


Cooling system RKG-4269

Characteristics



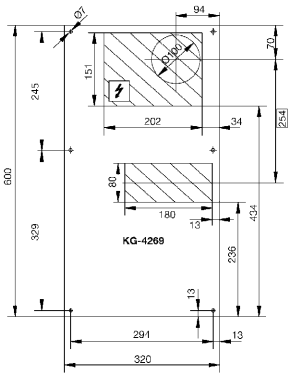
Cooling circuit



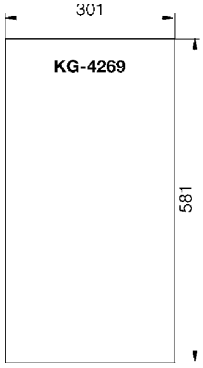
Technical data

Cooling capacity DIN 3168:	
Cooling capacity L35L35	430 W
Cooling capacity L35L50	160 W
Max. air volume flow:	
Ambient air circuit	200 m³/h
Cabinet air circuit	125 m³/h
Electrical data:	
Nominal voltage	230 V AC
Nominal power	280 W
Nominal current	1,4 A
Rated current	3,2 A
Fuse rating	6 A
Connection	Terminals

Dimensions



Panel cutout



Mini cooling systems in Peltier technology

Application and function:
for the active cooling of cabinets, operating and controll enclosures, industrial PC´s, monitor and flat screen monitor.
3 types in 50, 100 and 150 W cooling capacity are available.
For the electrical connection at 24 V DC. The simple assembly takes place by cutout in door, side wall, rear wall or roof of the enclosure.

Advantages of
Peltier cooling units:
- compact design
- assembly in each position, because the units work without refrigerants
- high efficiency

The Peltier effect
The Peltier effect is a thermoelectrical procedure, where a semiconductor material is used which is caused with appropriate doting by current guidance the change of the energy state by charge carriers and thus used to the transport of heat.

Technical data

Operating temperature	-10°C to +60°C
Nominal current	24 V +6%/-10%
Ingress protection inside / outside	IP 54

Product range

Order No.	Type	Cooling capacity	Nominal voltage	Nominal currency	Weight (g)
83.10 03 01	RPK 50	50 W	24 V DC	2,5 A	3900
83.10 03 02	RPK 100	100 W	24 V DC	4,8 A	7200
83.10 03 03	RPK 150	150 W	24 V DC	6,5 A	7300

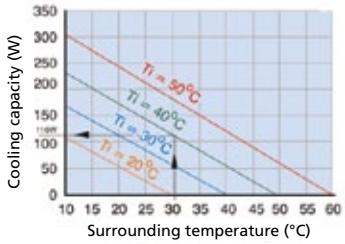
Computation of the necessary cooling performance:

$P_K = P_v - k \times A \times T$

P_K =	Necessary cooling performance (W)
P_v =	Dissipation loss of built in devices (W)
k x A x T =	Inner convection of device
k =	Thermal transmission coefficient (eg: sheet metal = 5.5 W / m² K)
A =	Usable enclosure area (m²)
$\Delta T = T_i - T_a$ =	Temperature difference between inner and surrounding temperature

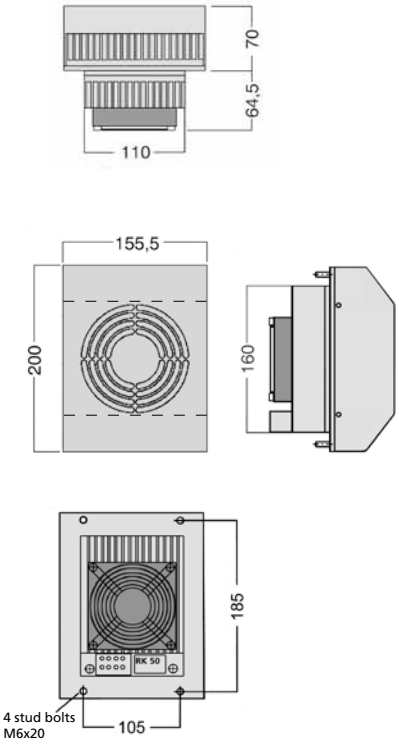
RPK 50

Diagram

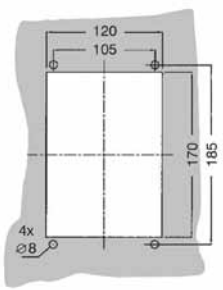


Choise: P_K = 6 W/K x ΔT + 50 W
Example: T_a = 30°C, T_i = 40°C i.e.: P_K = 110 W

Dimensions

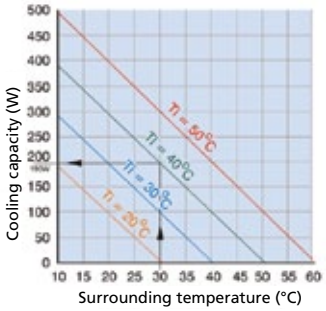


Panel cutout



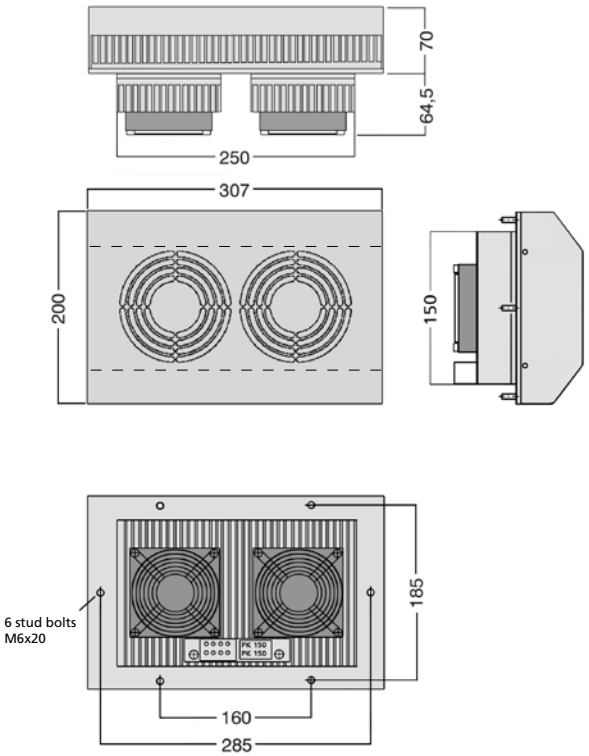
RPK 100

Diagram

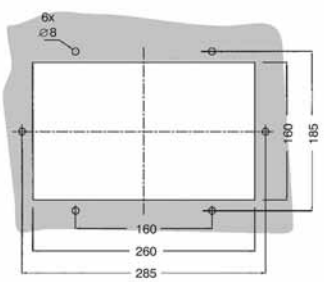


Choise: P_K = 9,5 W/K x ΔT +100 W
Example: T_a = 30°C, T_i = 40°C i.e.: P_K = 195 W

Dimensions

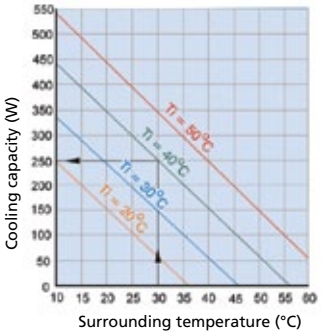


Panel cutout



RPK 150

Diagram



Choise: P_K = 9,5 W/K x ΔT + 150 W
Example: T_a = 30°C, T_i = 40°C i.e.: P_K = 245 W