



MEGA PHOENIX

Multi-Purpose
Ventilation System

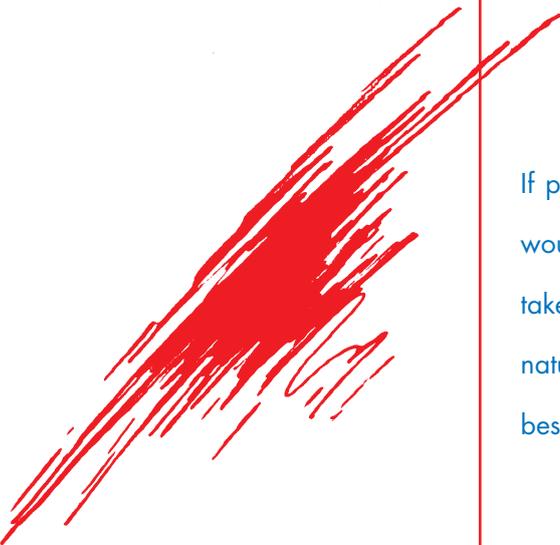


Which sort of ventilation is the best?

The well being of employees at work depends to a great extent on ergonomic conditions such as ventilation, lighting, colour schemes and temperature. Surveys have shown that people work significantly better, if production halls are well ventilated, and thereby providing comfortable temperatures. It has been demonstrated that workers produce better work in a well-ventilated and well-lit production hall. Fresh air and good light not only improve the feeling of well-being, but also increases productivity due to reduced sickness rates and absenteeism.

NATURALLY

NATURAL VENTILATION!



If people at work were to decide which type of ventilation they would prefer, they would choose natural ventilation. In a survey taken among industrial labourers almost all workers chose a natural ventilation system, because by being natural it applies best to the human needs required to feel comfortable.



Already many industrial halls are ventilated naturally. Thousand of natural ventilation systems have been installed in german industrial and other european halls. They ensure good working conditions at lowest costs.

There is no substitution to natural ventilation!

Our engineers took the task „Springtime at working place“ to design a variable adaptable multi-purpose ventilation system - the MEGA PHOENIX. The system is not only suitable for general multi-purpose halls, but is extremely efficient in heat intensive production halls and also buildings with low heat load.

The MEGA PHOENIX is a solution for many branch-specific industry needs and has a wide range of applications:

- ↪ Synthetic industry
- ↪ Automobile industry
- ↪ Mechanical engineering
- ↪ Food industry
- ↪ Paper industry
- ↪ Textile industry
- ↪ Chemicals plants
- ↪ Electronics industry
- ↪ Power stations
- ↪ Waste processing plants, etc.



Multi purpose-natural-ventilation system MEGA PHOENIX on the roof of an industrial building.

The MEGA PHOENIX differs strongly from other systems because of its multiple dimensions and various types of installation possibilities. Its multifunctional principle guarantees many possible solutions in one system.



MEGA PHOENIX

A SYSTEM WITH MANY FACES....

- 1. Good weather ventilation**
- 2. Bad weather ventilation**
- 3. Natural daylighting**
- 4. Natural smoke and
heat extraction**



MEGA PHOENIX

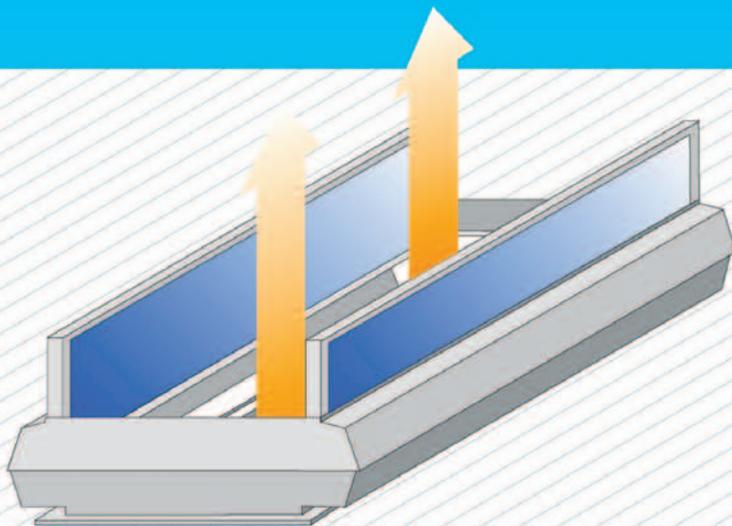


This multipurpose, intelligent system can solve almost any kind of industrial ventilation problem to the individual needs and situations.

A comfortable working environment is no longer a coincidence and thus offers you a piece of more life quality.

ADVANTAGE AFTER ADVANTAGE

- ↪ Ideal weathered ventilation for plants with high heat emission ✓
- ↪ Flexible dimensions to suit every roof opening up to **4.75 m²** ✓
- ↪ Energy conserving by natural daylighting ✓
- ↪ Smoke and heat extraction (DIN and VdS tested) ✓
- ↪ Ideal for redevelopment projects ✓
- ↪ A great variety of installation possibilities ✓
- ↪ Sound insulated ventilation ✓



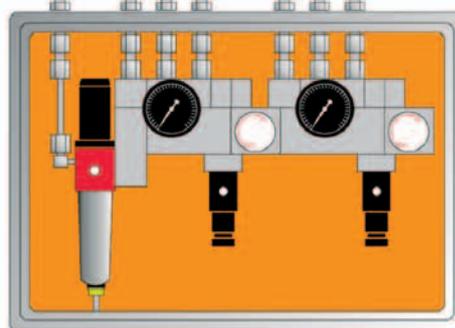
GOOD-WEATHER-VENTILATION

The temperature rise in every building and the resulting pressure difference are the basic principals for the function of the MEGA PHOENIX. The rising warm air generates a permanent circulation of the air in the building. Stagnant air, smoke and fumes are constantly replaced with fresh air.

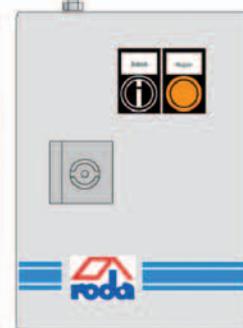
During good weather the top flaps can be opened, giving the largest outflow opening possible.

The thermal current is the engine of the ventilation so that no extra energy costs for mechanical ventilators or other extraction systems arise - and natural ventilation doesn't make any noise!

The wind side shields increase the performance of the ventilator by causing suction over the opening.



pneumatic control panel

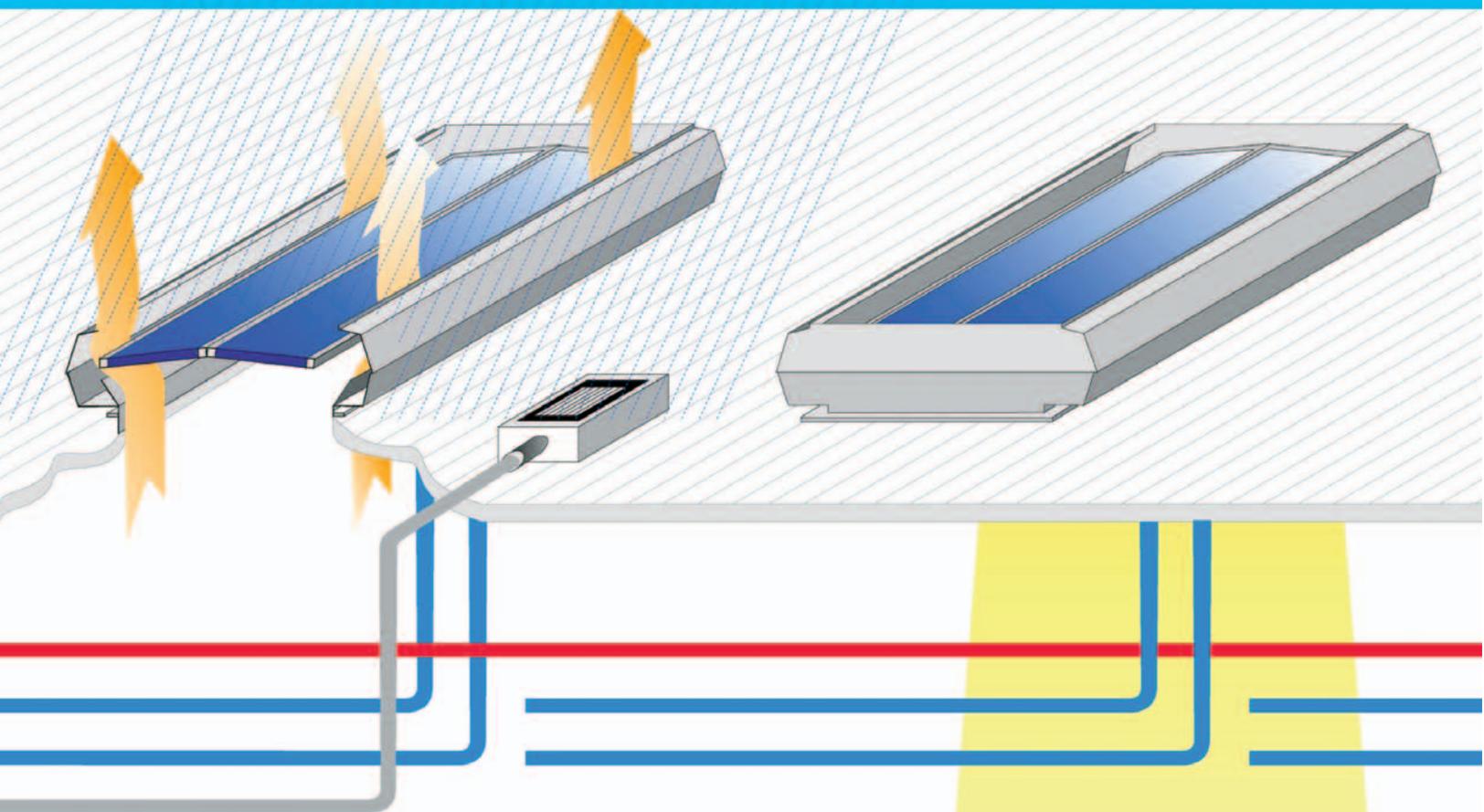


automatic rain detection

There are no limits to the many control possibilities of the MEGA PHOENIX, for example you can ventilate sporadically in winter.

By using an interval control you can open or respectively close the inner dampers at certain time intervals.

During summer this position can also be used to profit from the temperature drop at nighttime.



Control principles of the MEGA PHOENIX

BAD-WEATHER-VENTILATION

The MEGA PHOENIX self controls the ventilation capacity depending on the weather conditions and temperature difference.

Even on rainy days you don't have to sacrifice ventilation. With the help of the rain-detective control the top flaps close automatically and side dampers open.

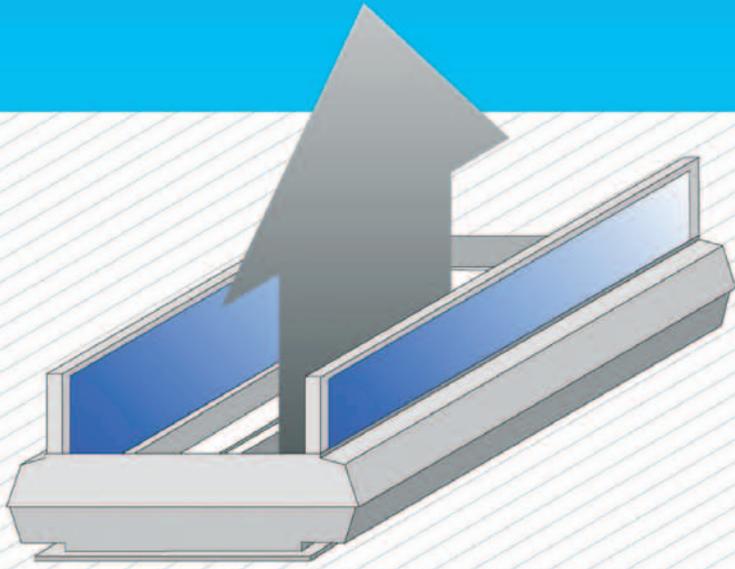
The controlling is done pneumatically with pneumatic cylinders. Due to the aerodynamic side dampers a weather proof ventilation takes place.

During bad weather less ventilation is needed because of the outside temperature drop. This results a greater difference between inside and outside temperature and causes a stronger thermal current inside the building, causing a greater extract air velocity with the need of smaller extract opening.

NATURAL DAYLIGHTING

Compared to artificial light, daylight has a positive psychological effect on working people and saves energy.

Very often it needs only a few transparent units to provide the required daylight in a production plant. Lighting from openings in the roof is five times more effective than from side windows. The ventilator is pneumatically controlled. Whether in opened position with direct daylight or in closed position through the transparent top flaps - in all cases MEGA PHOENIX offers a better working climate.



FIRE PROTECTION / PRECAUTIONS

Additional to its ventilation tasks the MEGA PHOENIX is designed as a natural smoke and heat exhaust ventilator. Due to the use of more plastics in industrial productions, fires produce more smoke and thus make the fire-fighting extremely difficult and evacuation of buildings nearly impossible. The overall damage to buildings and production can ruin a whole business.

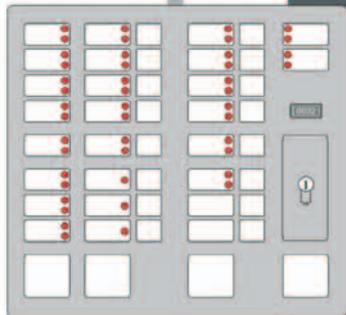
The MEGA PHOENIX is equipped with a thermal priority valve and opens the top flaps automatically at a given temperature in the event of fire.

Smoke, heat, fumes and unburned gases can be extracted.

People can escape through a smoke free Zone and effective fire fighting can take place.

The high standard smoke and heat exhaust ventilation system meets the requirements of the preventive fire precautions according to DIN 18232 and VdS 2159.

The highest standards in function and safety are being certified. We are the first manufacturer of smoke and heat exhaust ventilation systems that voluntarily lets its systems be checked by an independent expert of the office for material quality control.



fire overriding control



CO₂ Alarm box





MEGA PHOENIX integrated into roof light system EUROLIGHT.



MEGA PHOENIX fixed on a trapezoidal corrugated roof with a ridge sheet metal.



MEGA PHOENIX (PC top flaps) on a production hall.

There is a choice between different versions according to the problem and the installation possibilities:

- ↳ large inside dampers for problems with need of weather safe ventilation due to high heat emission
- ↳ standard inside dampers for normal requirements
- ↳ different unit top flap versions (transparent or sound insulated etc.)
- ↳ Ventilation, daylighting and natural smoke and heat exhaust ventilation in one
- ↳ few but large roof openings

SOUND INSULATION

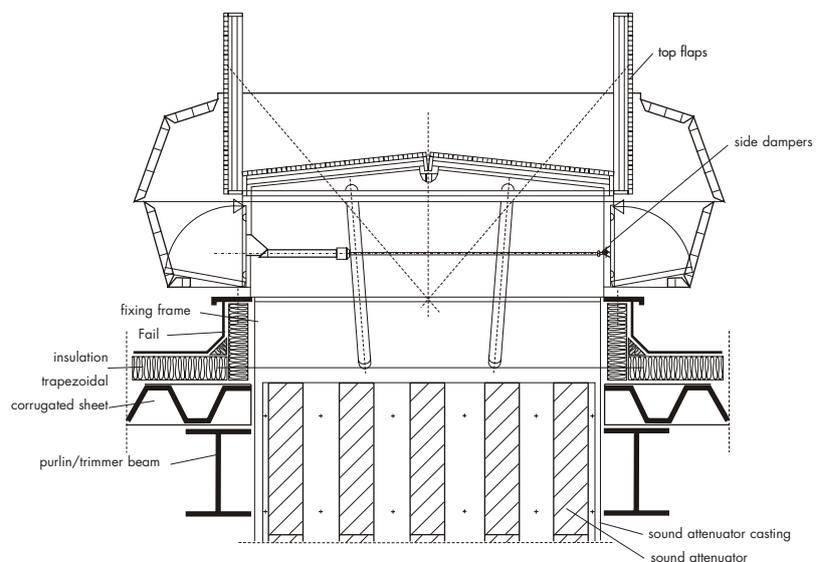
The MEGA PHOENIX can be equipped additionally with sound attenuator. The noise is reduced to the required outside values. The geometrical free ventilation area must be adjusted to the required conditions due to the throat restriction of the ventilator.

MEGA PHOENIX

ON THE SUBJECT OF VERSATILITY, SIMPLY UNBEATABLE

MEGA PHOENIX offers two possibilities:

1. The top flaps as well as the case of the MEGA PHOENIX can be noise insulated additionally.
2. Sound attenuator can be provided additionally.



Sketch: MEGA PHOENIX with sound attenuator

The sound attenuator is dimensioned according to the requirements.

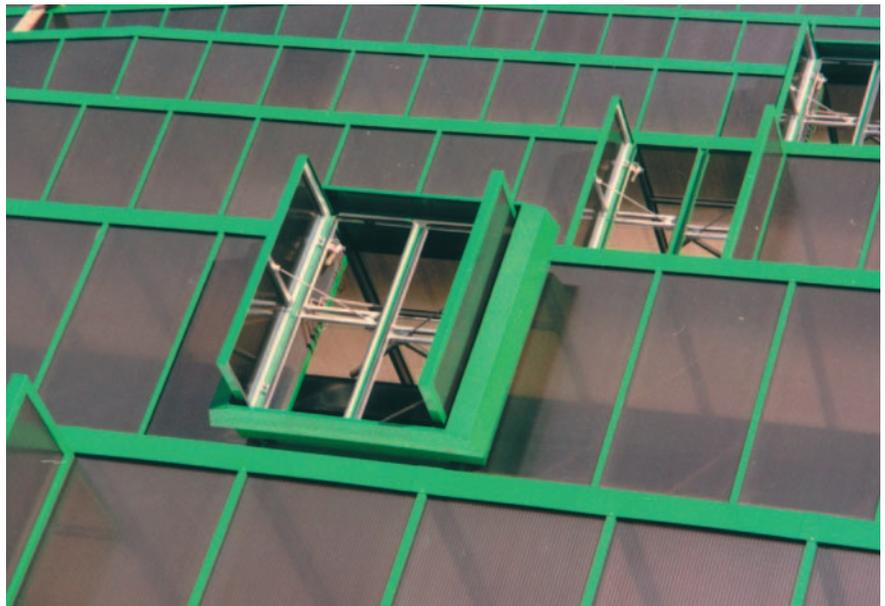
FITTING OPTIONS



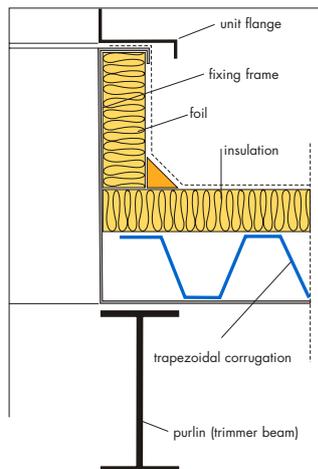
MEGA PHOENIX integrated into the skylight system EUROLIGHT

An ideal solution is the combination with a continuous roof-light system. Here the daylighting efficiency is optimised because the ventilator unit is equipped with transparent top flaps.

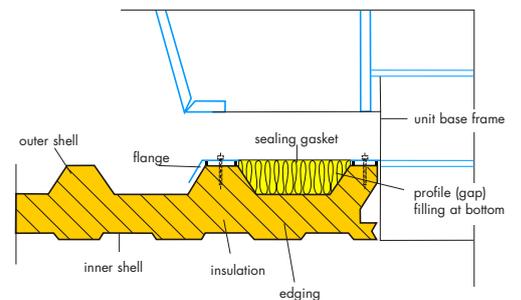
Different flange versions allow the fitting to different roof types and fixing frames and therefore guarantee an easy installation. The MEGA PHOENIX can be installed into all roofs with a slope of up to 25° as well as in continuous roof-light systems or northlight glazing constructions without any problem.



MEGA PHOENIX in the skylight construction DELTALIGHT



Installation on a fixing frame
No wooden planks or edgings are required



Installation on an insulated roof
With made-to-fit flange and profile(gap) filling.



MEGA PHOENIX



REDEVELOPMENT

In older production halls or when shifting production daylighting and ventilation often were not considered sufficiently. These halls had artificial lighting and were poorly ventilated.

The well being of the labourers suffered due to these working-conditions and lead to lower productivity and sometimes to health problems.

SIMPLE CONCEPT - LARGE EFFECT

Over the years engineering and technology have developed to the advantage of the labourers. By taking simple measures, ventilation and lighting problems can be solved easily. Besides creating friendly working environments the energy costs are lowered as well. Especially during the summer companies try to ventilate with self constructed devices. Particularly when the installed units are out of date and have to small ventilation openings.



Before: Skylight damaged by hail including single flap-smoke-vents.

Large inner heat volumes require larger ventilation openings. The MEGA PHOENIX offers 100% ventilation area. When ventilation openings are too small, heat builds up and can lead to deformation of the ventilation units. Here simply an exchange of the ventilation units without any costly additional roof openings can help to solve the problem and increase the ventilation rate extremely.

For example: The company Sortimo



After: Eurolight continuous roof-light system consisting of Aluminium-construction with integrated ventilators - MEGAPHOENIX multifunctional for good weather position + rain-safe position + smoke-extract-position also from Aluminium profiles and Polycarbonate double top-flaps.

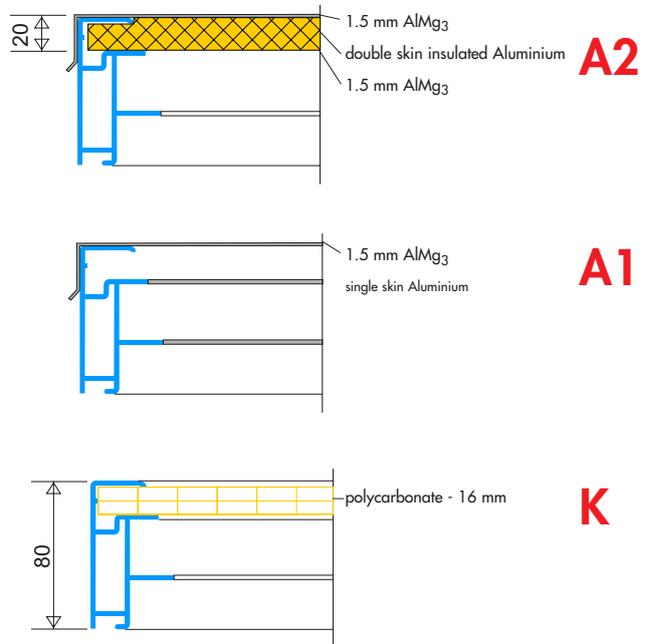
Redevelopment possibilities with MEGA PHOENIX

before	after
dome lights	stable and transparent multifunction ventilators of the type MEGA PHOENIX with smoke and heat extraction
northlight glazing	continuous roof-light system type DELTALIGHT with integrated multifunction ventilator type MEGA PHOENIX (transparent top flaps)
non weather proof ventilation	multi-function ventilator type MEGA PHOENIX with weather-safe permanent ventilation
energy consuming ventilation with mechanical ventilators	energy free multi-function ventilator type MEGA PHOENIX
out of date controlling	rain safe control with smoke and heat extraction priority valve or dependant on inner or outer temperature
pure ventilation systems (without preventive fire heat precautions)	multi-function ventilator type MEGA PHOENIX with smoke and extraction functions according to the latest standards

UNIT-TOP FLAP VERSIONS



Pneumatic control with a thermal priority valve.



A2 - double skin aluminium with 20 mm insulation

A1 - single skin aluminium

K - aluminium frame with transparent plastic (16 mm polycarbonate)

TECHNICAL SPECIFICATIONS

Type	Unit opening mm width	mm length	Type	Unit opening mm width	mm length	Type	Unit opening mm width	mm length
MZP-2H-1010	1000	1000	MZP-2H-1510	1500	1000	MZP-2H-1910	1900	1000
MZP-2H-1013	1000	1300	MZP-2H-1513	1500	1300	MZP-2H-1913	1900	1300
MZP-2H-1015	1000	1500	MZP-2H-1515	1500	1500	MZP-2H-1915	1900	1500
MZP-2H-1017	1000	1700	MZP-2H-1517	1500	1700	MZP-2H-1917	1900	1700
MZP-2H-1019	1000	1900	MZP-2H-1519	1500	1900	MZP-2H-1919	1900	1900
MZP-2H-1021	1000	2100	MZP-2H-1521	1500	2100	MZP-2H-1921	1900	2100
MZP-2H-1023	1000	2300	MZP-2H-1523	1500	2300	MZP-2H-1923	1900	2300
MZP-2H-1025	1000	2500	MZP-2H-1525	1500	2500	MZP-2H-1925	1900	2500
MZP-2H-1310	1300	1000	MZP-2H-1710	1700	1000	all other dimensions on demand possible		
MZP-2H-1313	1300	1300	MZP-2H-1713	1700	1300			
MZP-2H-1315	1300	1500	MZP-2H-1715	1700	1500			
MZP-2H-1317	1300	1700	MZP-2H-1717	1700	1700			
MZP-2H-1319	1300	1900	MZP-2H-1719	1700	1900			
MZP-2H-1321	1300	2100	MZP-2H-1721	1700	2100			
MZP-2H-1323	1300	2300	MZP-2H-1723	1700	2300			
MZP-2H-1325	1300	2500	MZP-2H-1725	1700	2500			

table: MEGA PHOENIX with high side dampers.

The unit dimensions are the same as those of units with low inner flaps.

The multi-function ventilator MEGA PHOENIX extracts the warm air naturally and energy free via two independently working pairs of double flaps.

The rain safe ventilation is done with pneumatically or electrically controlled side dampers.

The unit-top flaps are controlled either by end position interlocking pneumatic cylinders with a remote unlocking system, electrical or manual.

The MEGA PHOENIX meets the requirements of natural smoke and heat exhaust ventilation systems according to DIN 18232 as well as to the VdS regulations. An automatic - independent from any other control system - thermal release mechanism is integrated for the opening of the top flaps in the event of fire. The unit is controlled by a thermal priority valve according to DIN 18232 with a release temperature of 68° respectively 93° C.

The aerodynamically formed top flaps and the inner side dampers are provided with rubber tube sealings.

The top flaps are manufactured from either:

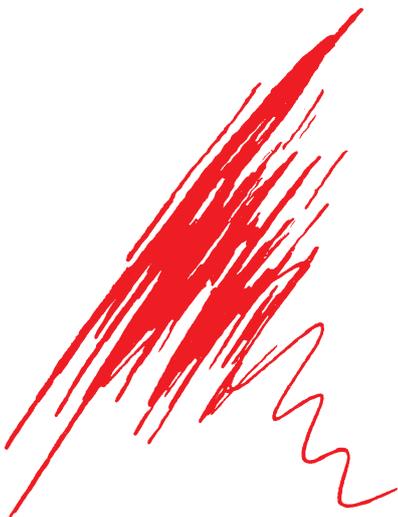
- K – aluminium frame with a filling of transparent plastic (16 mm polycarbonate)
- A1 – single skinned aluminium
- A2 – double skinned aluminium with a filling of 20 mm insulation material

MEGA PHOENIX

SPECIFICATION

The corrosion resistant construction is made of the aluminium alloy AlMg3 and steel profiles.

Geometric free area: _____ m²
Aerodynamic free area: _____ m²
Releasing temperature: _____ °C
Roof opening length: _____ mm
Roof opening width: _____ mm
Flange length: _____ mm
Flange width: _____ mm
Installation version/type: _____





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