EPS
Electric Power System

The first hybrid energy system for firefighting vehicles
HYBRID: Generally, the term hybrid in the field of technology means a system in which two technologies are combined with each other. The advantage is that the combined elements provide solutions as separate entities, while the combination itself brings new, desired features as well.
EPS Electric Power System.

New. Unrivalled. Hybrid!

Rosenbauer – always a step ahead.

Rosenbauer has been synonymous with fire safety for over 140 years. Today, Rosenbauer is among the world’s largest manufacturers of municipal fire trucks, aerial appliances, special airport and industry vehicles and stationary and half-stationary fire extinguishing systems. Professional, volunteer, industrial and airport fire fighters around the world trust the technologically superior solutions by Rosenbauer.

Rosenbauer is now yet another step ahead with its innovative and patented hybrid energy system for fire fighting vehicles and opens new possibilities for supplying electricity to components in use.

Revolutionary energy system.

Apart from extinguishing with water and the centrifugal pump required, more and more operational units have to be operated at and from the truck. The challenges faced by fire fighters are on the rise. They are increasingly using electrical devices such as hydraulic rescue systems, lighting, positive pressure ventilators and electric submersible pumps, and thus bring the existing generators to the limit of their performance. To operate a vehicle-mounted generator along with the centrifugal fire pump, up until now, the generator required an expensive hydrostatic drive. Otherwise, it was not possible to use a generator with constant rotational speed and a vehicle-mounted fire pump with changeable rotational speed at the same time. Now it is!

The advantages of the EPS Electric Power System.

- Highest electrical performance – up to 140 kVA, depending on the chassis and power take off speed
- Parallel operation of pump and generator possible at high load
- Rotational speed independence
- Almost maintenance-free system (owing to the hydraulic drives having been done away with)
- Versatile applications (all electrical equipment)
- Freedom in positioning the devices in the truck
- Ease of retrofitting additional equipment
- Operation from screen
- Conforms to DIN 14686

The Electric Power System.

In the new EPS, the truck-mounted pump is driven in the conventional way directly via a power take off. A second power take off is used to drive a new kind of high-power generator, which supplies electrical energy independently of the rotational speed to a 600 V DC on-board supply system in the detachable unit. From this DC supply, the individual loads are supplied with traditional 400 V AC through inverters.

The generator starts automatically when the pump is started. Independent operation is also possible. With up to 140 kVA, it delivers sufficient energy to supply all the required electrical equipment in the truck. For the first time, electrically driven devices can be flexibly supplied with current in the vehicle and simultaneously pressure proportioning systems with high output and compressed air foam systems.
The customized solution for you.

The modular system comprising of the generator, inverters and electrical loads can be matched to flexibly fit any customer requirement and hence to any vehicle category as well. The entire system, including safety equipment, is designed in conformity with DIN 14686.

The high-capacity generator and the matching inverters were developed in partnership with renowned specialists, and these system components are available exclusively to Rosenbauer.

can be operated and independently controlled through the EPS. Electrical energy with high output is also available for the flexible release of extinguishing agents from the vehicle.

Any misgivings about the safety of the system can be simply discarded. The system conforms to the current DIN 14686. All current-carrying cables are well-insulated; the entire system is monitored through a two-level insulation monitor. The network configuration is through an especially secure insulated grid (IT grid). The system provides fire departments with a versatile power supply, as well as an almost maintenance-free drive system for electrically operated modules. The new hybrid energy system is integrated in the Rosenbauer LCS (Logic Control System) and can thus be operated from a monitor.
Example of a system setup.

After the generator and power electronics, the insulation monitor constantly checks the operation safety of the system. A separate 30 kVA inverter is used to control the compressor of a CONTI CAFS 30E compressed air foam system. It can also be used for compressed air supply, completely independently of the centrifugal pump. Devices such as submersible pumps can be directly operated through the 50 kVA inverter. Various direct injection foam proportioning systems can also be used and regulated independently of each other. A neutral line is generated through an autotransformer to make the use of 230 V sockets possible. Then, for instance, a light tower with halogen lamps is connected directly to it. High amounts of energy can be supplied through sockets that can be flexibly positioned in the vehicle.