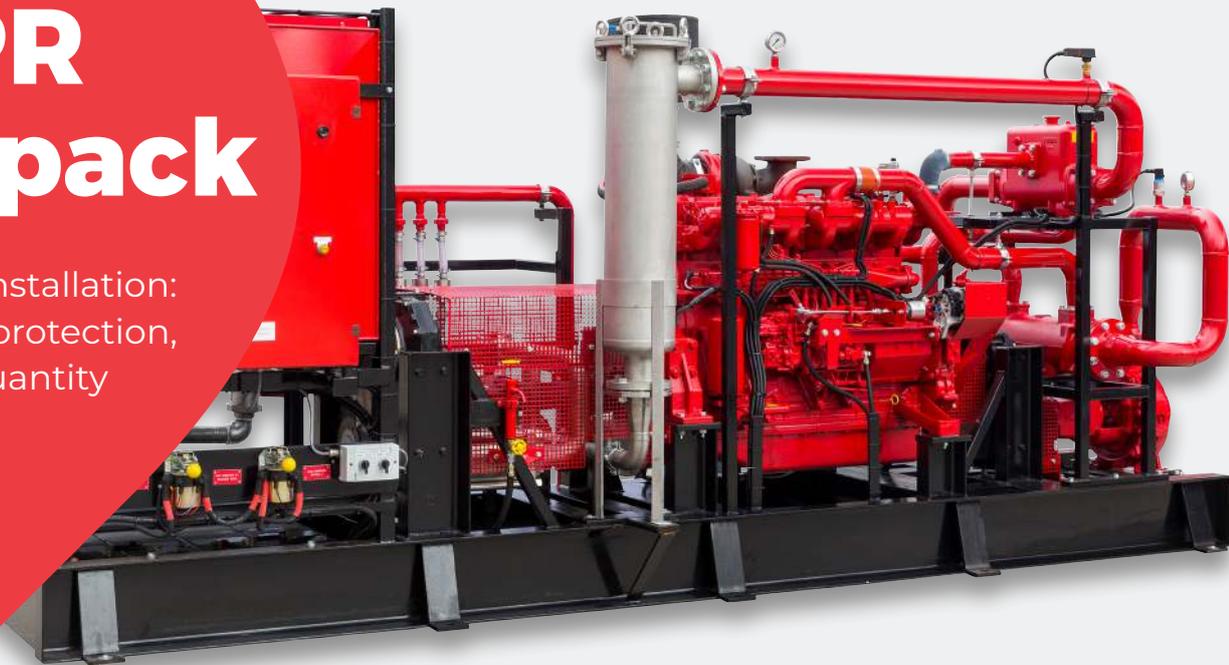


HI-PR Firepack

Water mist installation:
optimal fire protection,
minimum quantity
of water



The HI-PR Firepack is a High Pressure Firepack for application in water mist systems. In these systems a very fine mist is created by a combination of high pressure and special sprinkler heads. The fast evaporation of the small droplets dissipates heat from the fire and displace the oxygen.

Main features

- ✓ A much lower water consumption.
- ✓ Virtual absence of water damage.
- ✓ Integrated boost pump so the HI-PR Firepack functions as standalone unit, without external energy source.
- ✓ Cooling of diesel engine integrated in the main circuit, no need for separate cooling pumps and piping.
- ✓ Standard equipped with WBCAN controller, listed according NFPA-20.
- ✓ Combination of electronically controlled valves and speed control ensures gradual pressure control without pressure spikes.
- ✓ Long service life due to automatic test procedure and "cool-down" cycle.

Function

The HI-PR Firepack is a High Pressure Firepack for application in water mist systems. In these systems a very fine mist is created by a combination of high pressure and special sprinkler heads. The fast evaporation of the small droplets dissipates heat from the fire and displace the oxygen.

The low water consumption saves costs in the construction of water supply tanks as well as smaller pipe dimensions. The absence of water damage makes applications possible, which were unthinkable before, such as data centres, museums, theatre buildings, etcetera.

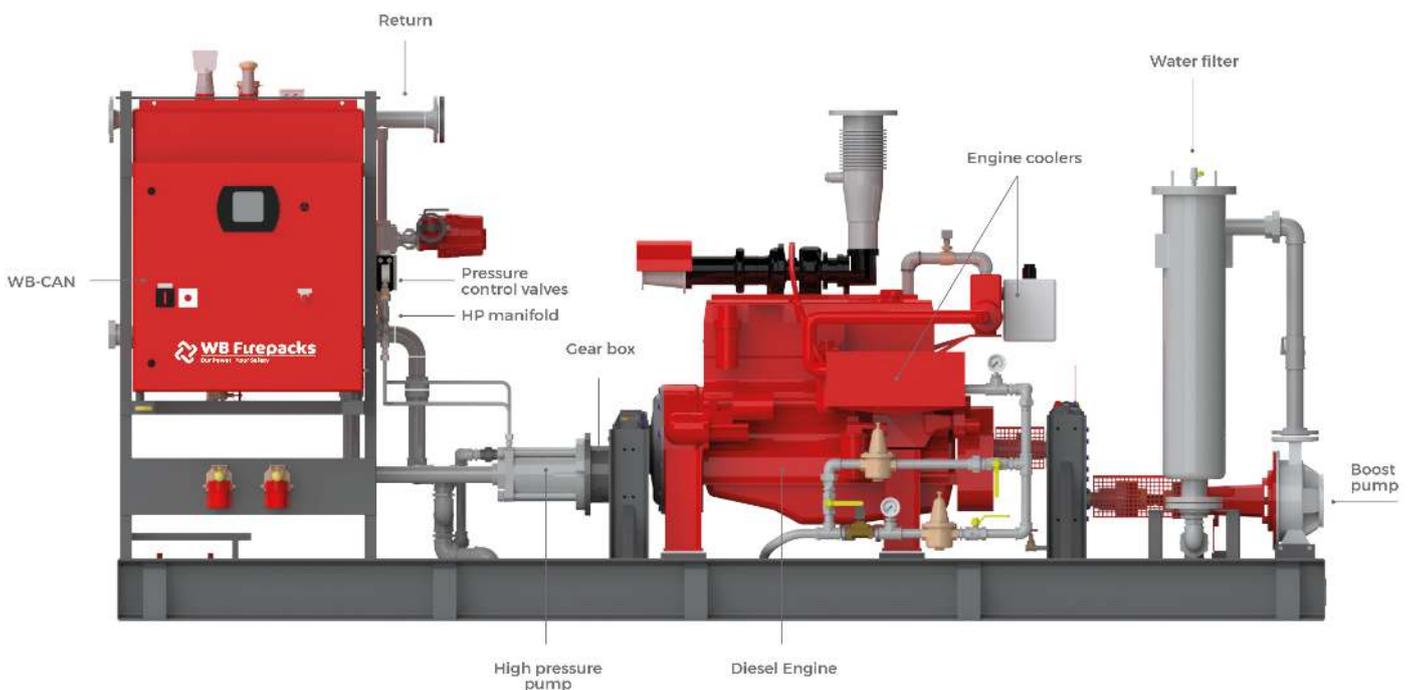
The HI-PR Firepack is capable of water pressures up to 140 bars and can therefore be used for every water mist system. The HI-PR Firepack is built around the high pressure plunger pumps which are rated at 160 bar. These pumps are cooled as well as lubricated by the water itself and therefore maintenance free. Depending on the required capacity multiple pumps are driven by the same diesel engine through a gearbox.

The philosophy of WBFP is that a diesel driven HI-PR Firepack should be able to operate autonomously in case of emergency, just like every other diesel Firepack. A result of this philosophy is the fact that the boost pump is driven by the diesel engine instead of a, commonly used, separate drive.

The engine coolers and the water filter are installed between the boost and high pressure pumps. The system works according the full flow principle, which means no failure prone control valves are required and no adjustments need to be performed. Also the installation is simplified because no additional pumps, control valves and piping for cooling the engine are required.

Just before the inlet of the high pressure pumps a 10 micron filter is installed, which guarantees the lifespan of the pumps and avoids contamination of the system. The large capacity ensures a low pressure drop and increases the lifespan of the easy to replace filter elements. A flow switch guards against excessive filter restriction.

Construction



Speed control

The HI-PR Firepack is equipped with a speed control system. Together with the motor operated ball valves this provides a gradual increase of pump pressure. After an engine start the valves are closed first at reduced engine speed, so pressure is gradually increased to the required value, after which the engine speed is increased to the nominal value to make the full capacity available. Compared with the usually applied solenoid valves this system greatly reduces the occurrence of pressure spikes in the system.

The combination of speed control and motor operated valves also makes it possible to include a cool down cycle in which the engine runs at reduced engine load and speed before being stopped. This significantly improves engine life and maintenance requirements compared to the current systems where the engine is usually stopped while running at nominal speed and load.



Control valves

The pump pressure of the HI-PR Firepack is controlled by means of purpose designed control valves. These pilot controlled valves are much more stable than the usual spring loaded valves. For a diesel HI-PR Firepack unloading the pumps is required for starting and stopping the diesel engine. This is performed by electric controlled ball valves, which of course work with 24V from the batteries, ensuring autonomous operation.

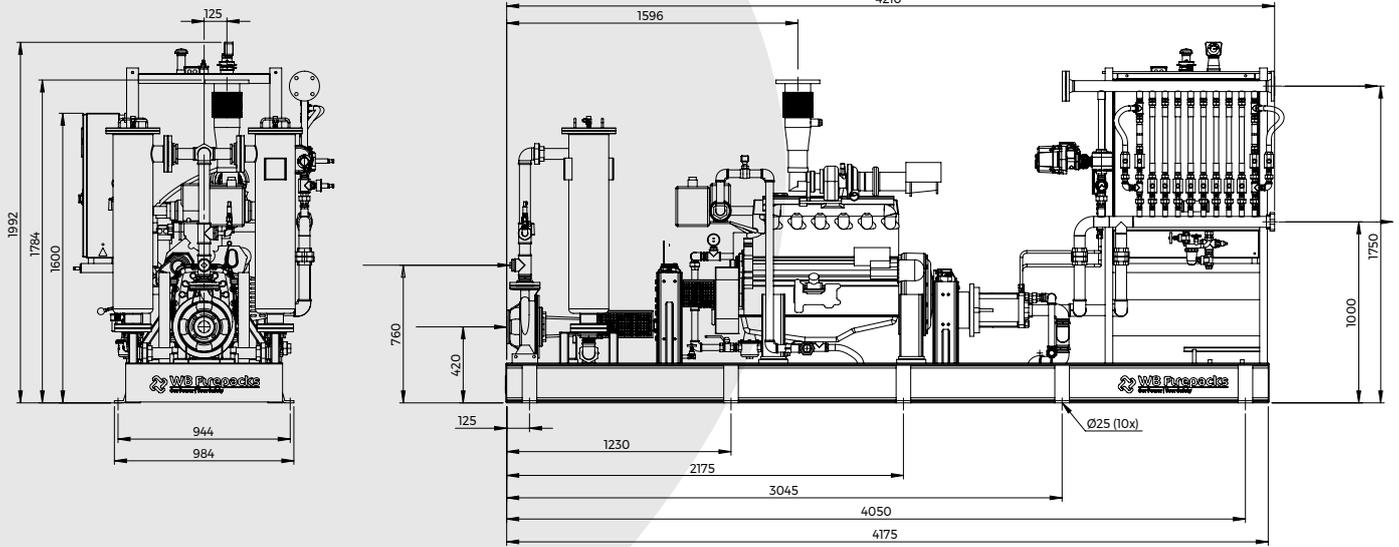


Technical Specifications

max flow : 2600 liter/min
max druk : 140 bar
Note : 140 bar is no longer possible at 2600 lpm, so these limits are separate.

- ✓ 10 micron waterfilter
- ✓ Pressure build-up time: ~ 10sec
- ✓ Water lubricated (low maintenance) stainless steel high pressure pumps
- ✓ Speed pressure control
- ✓ Gradually controlled pressure build up
- ✓ Double wall fuel tank
- ✓ Lead acid batteries
- ✓ Pilot controlled pressure control valves
- ✓ Cool-down functionality

Dimensions



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