

HYDRO EN

GRUNDFOS FIREFIGHTING SYSTEMS

IN COMPLIANCE WITH EN 12845



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GRUNDFOS 

YOUR TRUSTED PARTNER FOR FIRE PROTECTION

GRUNDFOS IS THE HEART OF THE SYSTEM

Grundfos, world leader in the development and manufacturing of pumping solutions, has designed and produced a range of pumps for fire-fighting applications in full compliance with EN 12845 and prEN 12259-12 standards.

The NKF pumps have a stable performance curve, the power consumption curve has been extended to the value corresponding to 16m NPSHr and the motor is sized accordingly.

The duty electric pump is coupled to the motor via a spacer coupling, while the duty diesel pump is coupled to the diesel engine via a cardan shaft.

Together with a 'back pull-out' construction design, these types of couplings enable extraction of vital pump parts without removing the pump housing or the engine, thus considerably facilitating maintenance.

This pump has proven its high level of reliability and durability over time - fundamentally important features for this type of application - thanks to the carefully chosen materials, such as the bronze impeller and wear rings, high-precision manufacturing techniques, PN 16 construction, cataphoresis treatment and the dynamic balancing of the rotating masses.



COMPLIANCE

Active fire protection is of fundamental importance to safeguard people and property. With this in mind, Grundfos has developed the Hydro EN pump sets to provide an effective fire-fighting solution with an extremely high level of reliability due to full compliance with the relevant norms and standards.

MODULAR

The flexible modular design of Grundfos Hydro EN pump sets means they can be adapted to suit various different installation requirements. Installation also becomes easier thanks to the system being delivered in large sections for on-site assembly - an especially valuable benefit if access is an issue.

COMPLETE

Grundfos offers a wide range of accessories that make it easy to customise the standard scope of supply according to the actual needs of the system. Each accessory has been selected or designed in order to ensure the perfect mechanical and functional fit and a complete, tailor-made solution.

RELIABLE

All Hydro EN pump sets are factory-tested and each diesel pump is supplied with a test report. To ensure your system runs at peak efficiency and reliability, we recommend that Grundfos specialists carry out commissioning and regular maintenance. Just contact Grundfos to find out more.

Hydro EN pump sets are equipped with NKF pumps and all components (all PN 16) are engineered in full compliance with the relevant standards for this application to minimise friction losses and ensure compliance with the water speed limit throughout the performance curve.

The drivers, whether electric or diesel, provide the power required by the pump to the corresponding 16m NPSHr value. The diesel engines, in particular, are set according to the nominal continuous power curve (IC according to ISO 3046 or DIN Na 6271.4)

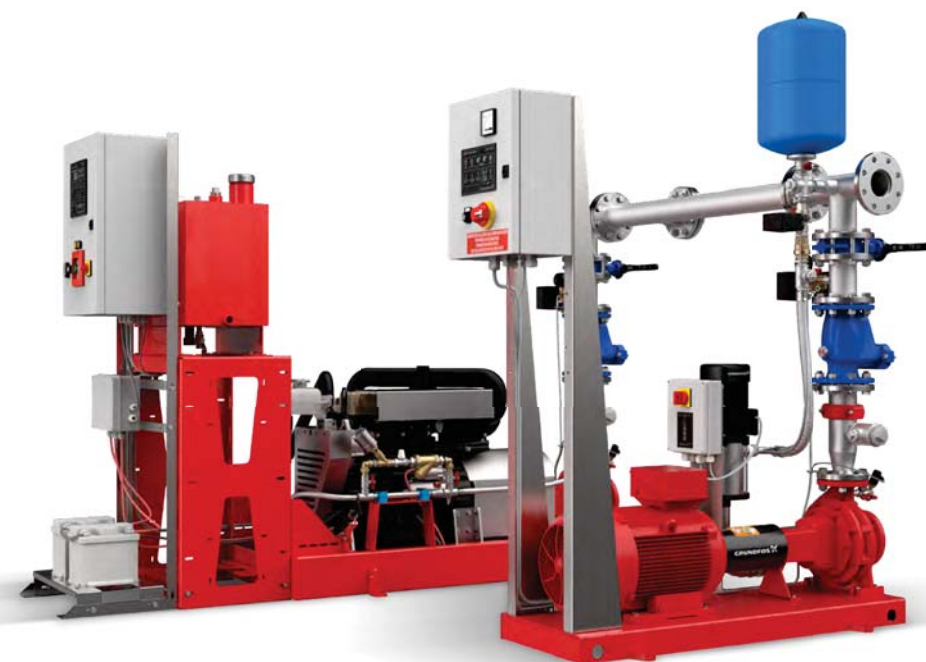
All the diesel pumps are fully equipped and include a fuel tank for 6 hours of full speed operation and a leak tray. All systems are factory-tested and, in the case of diesel pumps, a test report is always included in the scope of supply.

The control panels feature lights and contacts for remote signaling and the automatic stop that can be enabled if necessary.

Accessories such as the flow rate measuring kit or the suction kit have been designed in compliance with the norm requirements and ensure high performance and precision.

The Hydro EN has been designed to meet the needs of both installer and end-user, providing the following benefits:

- The system's modular setup and the design criteria, such as using a water-water heat exchanger to cool the diesel engines, make it easier to design the technical room.
- Delivery of the system in easily-assembled sections makes handling and installation on-site easier and less costly.
- Maintenance time is reduced and system testing is easier to carry out thanks to its check valves with inspection access, its shut-off valves with handwheel (sizes higher than DN100), and the generously-spaced arrangement of the components.
- Thanks to a communication interface for Modbus RTU network, all control panels can be easily integrated into a supervision system.



RANGE AND PERFORMANCE

Hydro EN pumping sets are designed to supply water to fire-fighting systems, in compliance with the relevant applicable norms, covering performance up to 650 m³/h per pump.

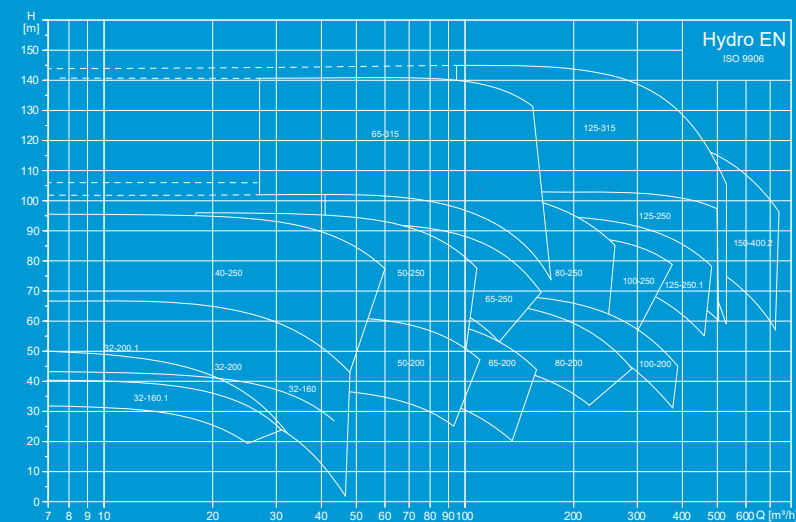
The following standard configurations are available:

- Hydro EN S1: One duty pump operated by an electric motor.
- Hydro EN S2: Two duty pumps operated by an electric motor.
- Hydro EN T1: Two duty pumps operated by a diesel engine.
- Hydro EN T2: Two duty pumps operated by a diesel engine.
- Hydro EN Y: Two duty pumps of which one is operated by an electric motor, and the other is operated by a diesel engine.

Grundfos also offers 3-pump solutions by request.

For customised versions to suit your pump, just contact Grundfos.

A jockey pump is always included in the scope of supply.



Hydro EN performance curve



Hydro EN S2

Two duty pumps operated by an electric motor



Hydro EN S1

One duty pump operated by an electric motor



Hydro EN T1

One duty pump operated by a diesel engine



Hydro EN T2

Two duty pumps operated by a diesel engine

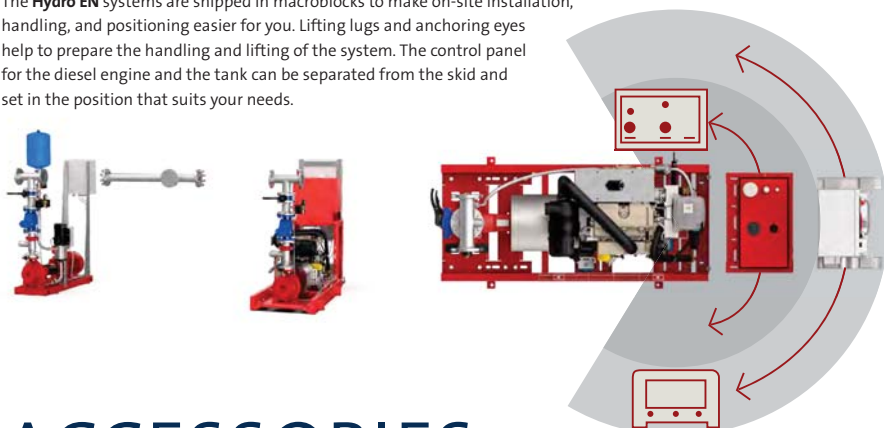
Hydro EN Y

Two duty pumps. One pump is operated by an electric motor and the other pump is operated by a diesel engine.



MODULARISED CONCEPT

The **Hydro EN** systems are shipped in macroblocks to make on-site installation, handling, and positioning easier for you. Lifting lugs and anchoring eyes help to prepare the handling and lifting of the system. The control panel for the diesel engine and the tank can be separated from the skid and set in the position that suits your needs.



ACCESSORIES

To ensure that an installation complies with the guidelines of the EN 12845 standard, you will need an installation kit that includes an eccentric divergent pipe with a controlled taper, a vacuum pressure gauge, an isolating valve on the side where the pipe is connected.

All these components are sized in accordance with the requirements of the standard in terms of the minimum diameter and the maximum water velocity prescribed at the maximum flow rate shown on the performance curve:

- Positive head installation: a minimum permissible diameter of DN 65 and a maximum water speed of 1.8 m/s
- Suction lift installation: a minimum permissible diameter of DN 80 and a maximum water speed of 1.5 m/s.



Suction kit, suction lift installation

Suction kit, positive head installation

Test kit

A complete flow rate test circuit is available as an optional add-on. The test circuit includes a flow meter, spacers, and an adjustment valve. With this configuration, you can measure the flow rate with adequate accuracy, enabling you to verify performance easier. Verifying performance is a requirement when carrying out inspections and periodic verifications.

Other accessories are available on request.

FULL CUSTOMER SUPPORT

Grundfos has decades of experience in designing and manufacturing pumping fire-fighting solutions that are renowned throughout the world for their high quality and reliability.

Our manufacturing facilities are certified according to the ISO 9001, OHSAS 18001 and ISO 14001 standards, ensuring a high standard of management and production.

Choose a **Hydro EN** pump set and, as well as getting a high-quality, fully compliant system, you can expect full support from our team of expert engineers in all phases of the project, from quotation through to final testing.

Right from the quotation phase onwards, Grundfos can provide complete technical specifications including detailed descriptions, performance curves and to-scale CAD drawings, enabling system designers and installers to draft their own specifications for presentation of the project to the end-user and the relevant authorities.

The wide range of solutions means most system needs can be covered by the standard offering. In case of specific needs, Grundfos can also develop a customised solution, tailor-made for the installation's characteristics.

Each **Hydro EN** pump set is delivered with a full binder of information including all relevant declarations and test reports, installation and operating instructions, data booklets, drawings and electrical diagrams essential for correct installation, use and maintenance of the system.

Grundfos Service specialists are located throughout the country and can provide value-adding services to increase your system's reliability, from commissioning to scheduled maintenance and extended warranty.

Grundfos Product Center, our online search and sizing tool, helps you make the right choice. Just select your country to view the product range available to you. Use Grundfos Product Center for:

- Easy sizing and product selection
- Download drawings

Discover Grundfos Product Center at <http://product-selection.grundfos.com>



GRUNDFOS FIRE SYSTEMS

Grundfos is a full-line fire system supplier that fully complies with a globally recognised list of approvals and listings.

We design, manufacture and service our fire pump systems all over the world, and our products are renowned for their quality, high performance and reliability.