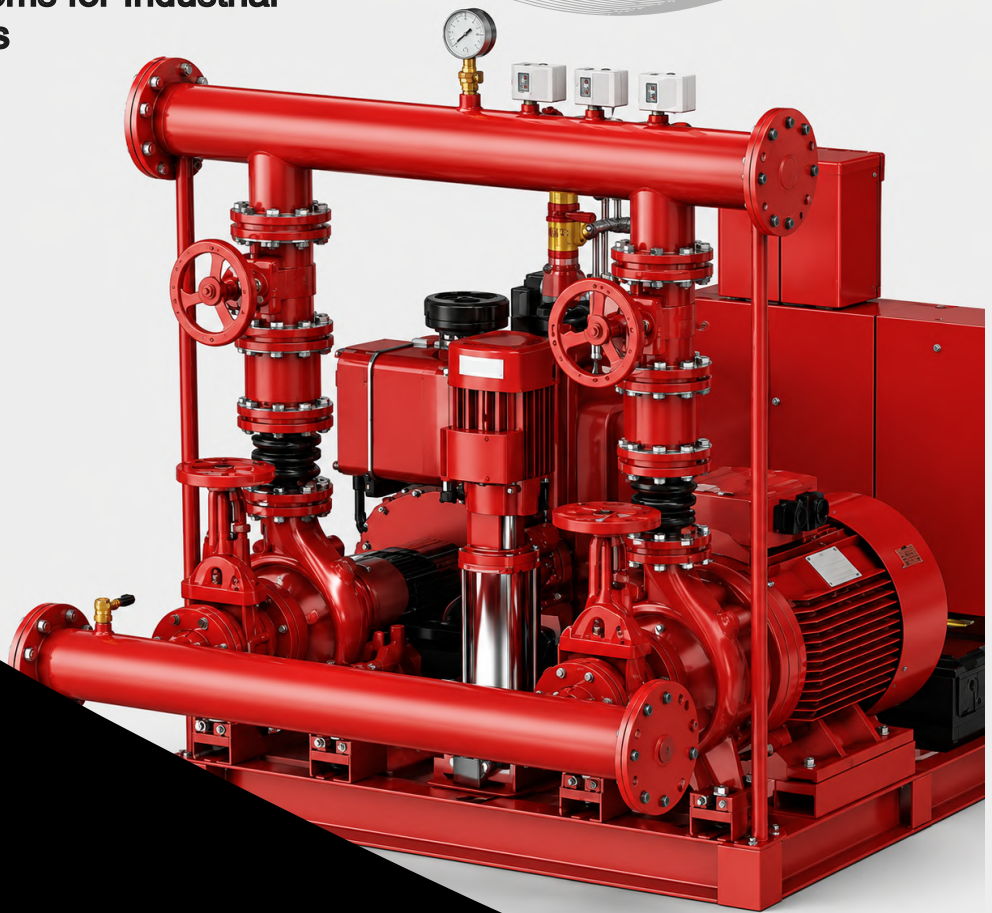


PACKAGED FIRE PUMP SYSTEMS

Engineered Fire Pump Systems for Industrial
and Commercial Applications

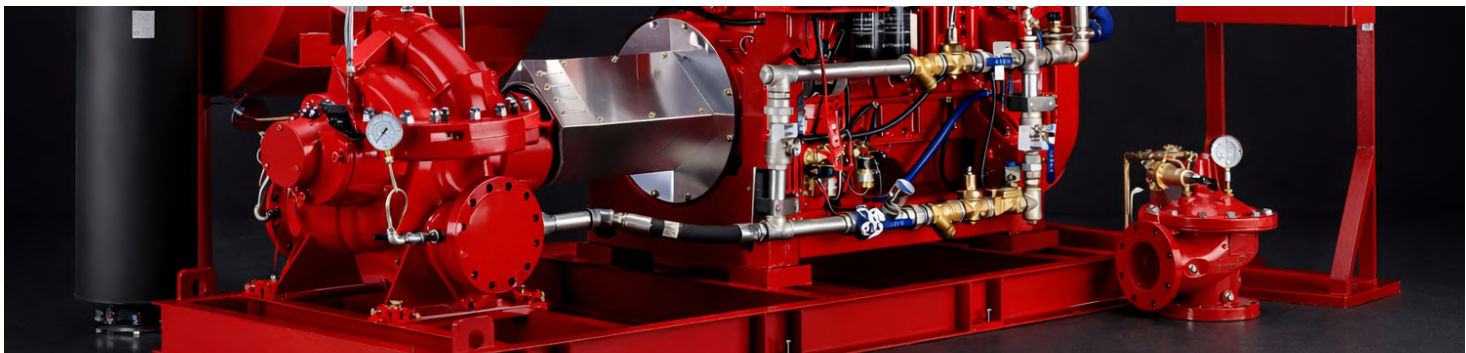


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PACKAGED FIRE PUMP SYSTEMS



Structured Solutions for Varied Project Requirements

Orbis Fire offers packaged fire pump systems developed to support a broad range of fire protection applications across industrial, commercial, and infrastructure environments. Our product range is organized to provide a clear and structured selection path for projects with differing operational priorities, technical expectations, and commercial objectives.

Standard configurations may include electric motor-driven systems, diesel engine-driven systems, and combined electric plus diesel arrangements, typically supplied with integrated jockey pump support and coordinated package components. Depending on project scope, systems may be configured with standard commercial components or with selected UL-listed critical elements within the overall package. Systems are designed per NFPA 20 standards.

To support clearer system selection at the early stage of a project, the Orbis Fire range is presented through three distinct series: Essential, Performance, and Advanced. Each series is intended to provide an appropriate balance between package level, component specification, and intended application profile.

System Series Overview			
	Essential Series	Performance Series	Advanced Series
Positioning	Economical packaged solution	Balanced commercial solution	Higher-spec packaged solution
Driver Configurations	Electric / Diesel	Electric / Diesel	Electric / Diesel
Flow Range	50 - 2500 GPM		
Pressure Range	6 - 14 BAR		
Pump Configuration	Standard horizontal or end-suction package	End suction or split case (enhanced configuration)	Split case or higher-grade configuration
Controller Level	Standard controller	Standard or UL-listed controller	UL-listed controller
UL Critical Components	Limited or optional	Selected UL-listed critical components	Greater use of UL-listed critical components
Package Components	Fire pump, driver, jockey pump, base, valves, piping, basic control package	Fire pump, driver, jockey pump, base, valves, piping, upgraded control package	Fire pump, driver, jockey pump, base, valves, piping, upgraded control and component package
Best Fit	Cost-sensitive applications	General commercial and industrial projects	Specification-driven or higher-demand projects

General Scope of Offering

Orbis Fire packaged fire pump systems are supplied as complete assemblies incorporating the principal components required for fire pump operation. Final scope may vary depending on system configuration, selected series, and project requirements. The packaged fire pump range may be configured to include, as applicable:

- Main fire pump
 - Electric motor and/or diesel engine driver
 - Jockey pump
 - Fire pump controller
 - Pressure gauges and pressure switches
- Valve trim and piping connections
 - Pressure relief provisions where required
 - Base frame or skid-mounted assembly
 - Diesel support accessories for engine-driven systems

Standard packaged selections are generally aligned with common fire pump duty requirements, with model and configuration selection typically based on flow, pressure, driver arrangement, and overall package composition.

PACKAGED FIRE PUMP SYSTEMS



Typical Fire Pump Package Configurations

Orbis Fire packaged fire pump systems are available in multiple configurations to support different project layouts, power sources, and operating preferences. Standard offerings include electric motor-driven systems, diesel engine-driven systems, and combined arrangements incorporating jockey pumps for pressure maintenance.

Each package is built around the essential architecture of a complete fire pump set, typically including the main fire pump, driver, control panel, discharge and suction piping connections, pressure gauges, pressure switches, valves, and supporting base structure.

Main Package Types

Electric Fire Pump Package

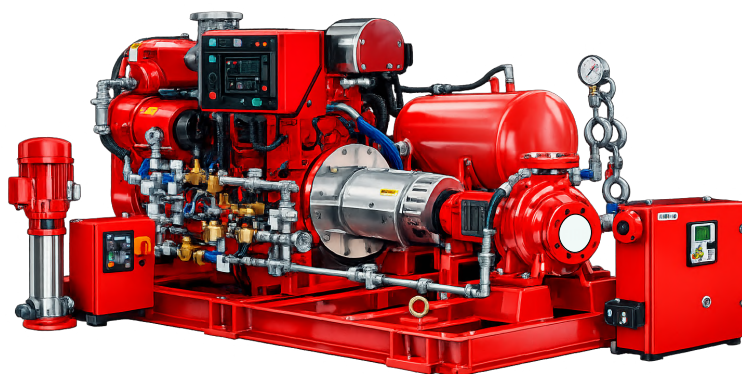
Designed for applications where a stable electrical power source is available, electric fire pump systems provide a practical and efficient packaged solution for primary fire water delivery. These systems typically include the main fire pump, electric motor, controller, jockey pump, valve trim, and associated piping connections.

Diesel Fire Pump Package

Diesel fire pump systems are intended for applications requiring engine-driven operation. These packages typically include the main fire pump, diesel engine, controller, batteries, jockey pump, valve trim, gauges, switches, and base-mounted assembly. They are commonly selected for projects where diesel drive is preferred as part of the overall fire protection strategy.

Combined Electric + Diesel Fire Pump Systems

Combined systems incorporate both an electric motor-driven fire pump and a diesel engine-driven fire pump within one coordinated package arrangement, together with jockey pump support. These configurations are typically used where system redundancy, alternate power strategy, or a more robust fire pump arrangement is desired.



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Available Across Multiple Series

Electric, diesel, and combined electric plus diesel arrangements may be offered across the Essential, Performance, and Advanced series. The selected series determines the overall package level, control configuration, and extent of UL-listed critical components included within the system.

Application Summary Table			
System Type	Primary Driver Arrangement	Typical Package Composition	Typical Use
Electric Fire Pump System	Electric motor	Main pump, controller, jockey pump, valves, gauges, piping connections	Facilities with reliable electrical infrastructure
Diesel Fire Pump System	Diesel engine	Main pump, engine, controller, batteries, jockey pump, valves, gauges, piping connections	Projects requiring engine-driven fire pump operation
Combined Electric + Diesel System	Electric motor + diesel engine	Dual main pump arrangement, controllers, jockey pump, valves, gauges, piping connections	Projects requiring redundancy or enhanced system flexibility

Main Components

Fire Pump

The main fire pump is the principal hydraulic component of the system and is selected to deliver the required fire water flow and pressure for the intended application. Depending on project requirements, the packaged system may incorporate end suction, horizontal split case, or other appropriate pump configurations within the overall assembly. The main pump duty is typically defined by the system flow and pressure requirement and forms the basis for driver selection, controller arrangement, and package composition.

Jockey Pump

The jockey pump is included to maintain standby pressure within the fire protection network under normal conditions. Its function is to compensate for minor pressure loss within the system and reduce unnecessary starts of the main fire pump. Within the packaged assembly, the jockey pump is treated as an integrated support component rather than a separate system category.

Controller

The controller manages pump starting, operating, and supervision functions in accordance with the selected package arrangement. Depending on the package series, controller configuration may range from standard commercial control arrangements to UL-listed controller options for selected critical applications. Typical operating modes may include manual and automatic functions, with provision for system status monitoring, run indication, and fault indication according to the selected control concept.



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Main Components

Pressure Gauges and Pressure Switches

Pressure gauges and pressure switches provide local monitoring and control input within the packaged fire pump system. These components support pressure indication, start sequencing, and standby pressure management as part of the overall control arrangement. Their placement and quantity may vary depending on whether the package is electric, diesel, or combined electric plus diesel.

Valve Trim and Piping Connections

Packaged fire pump systems generally include the principal valve and piping elements required for coordinated hydraulic operation. These may include suction and discharge connections, check valves, gate valves, branch piping provisions, and pressure relief arrangements where applicable. The extent of included trim may vary according to package type, project scope, and selected series.

Base Frame / Skid Assembly

The package is typically mounted on a common base frame or skid structure designed to support the assembled fire pump system as one coordinated unit. This structure supports alignment, handling, assembly integrity, and simplified installation planning.

Fire Pump Types

End Suction Fire Pump Systems



Best For:

Small to mid-size systems, commercial buildings, light industrial applications, and space constrained mechanical rooms.

Configuration Characteristics:

- Single stage centrifugal design
- Inline suction with discharge arrangement
- Compact footprint
- Direct coupled driver arrangement

Horizontal Split Case Fire Pump Systems



Best For:

Large commercial, industrial, infrastructure, and high-flow fire protection applications.

Configuration Characteristics:

- Double suction centrifugal design
- Horizontally split casing for maintenance access
- Stable operation at higher flow rates
- Suitable for continuous-duty service

PACKAGED FIRE PUMP SYSTEMS



Fire Pump Types

Vertical Inline Pump Systems



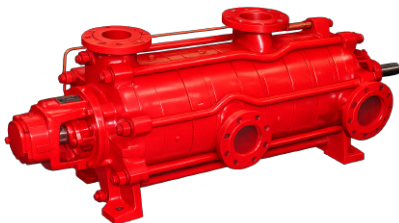
Best For:

Used for space-constrained applications where vertical orientation, compact footprint, and simplified piping alignment are priorities.

Configuration Characteristics:

- Vertical inline centrifugal design
- Suction and discharge arranged on a common centerline
- Compact floor-space requirement
- Direct-coupled driver arrangement
- Suitable for mechanical rooms with limited horizontal space

Multistage Fire Pump Systems



Best For:

Used for applications requiring higher pressure where increased head performance and compact pump construction are priorities.

Configuration Characteristics:

- Multiple impeller stages arranged in series
- Higher pressure capability compared with single-stage designs
- Compact horizontal or vertical configuration depending on model
- Stable pressure development across demanding duty points
- Suitable for applications requiring elevated discharge pressure

Configuration Comparison

Pump Type	Flow Capability	Pressure Capability	Footprint	Typical Role
End Suction	Low to mid	Standard	Compact	General-purpose systems
Horizontal Split Case	Mid to high	Standard to high	Larger	High-flow systems
Vertical In-Line	Low to mid	Standard	Very compact	Space-constrained systems
Multistage	Low to mid	High	Compact	High-pressure systems

Selection Considerations

Fire pump system selection is dependent on project-specific conditions, including hydraulic requirements, system layout, and operating parameters.

Typical considerations include required flow and pressure, driver arrangement, installation conditions, and overall system configuration.

Final system selection is determined based on project data and technical evaluation. System configuration should be confirmed through review of project requirements prior to supply.