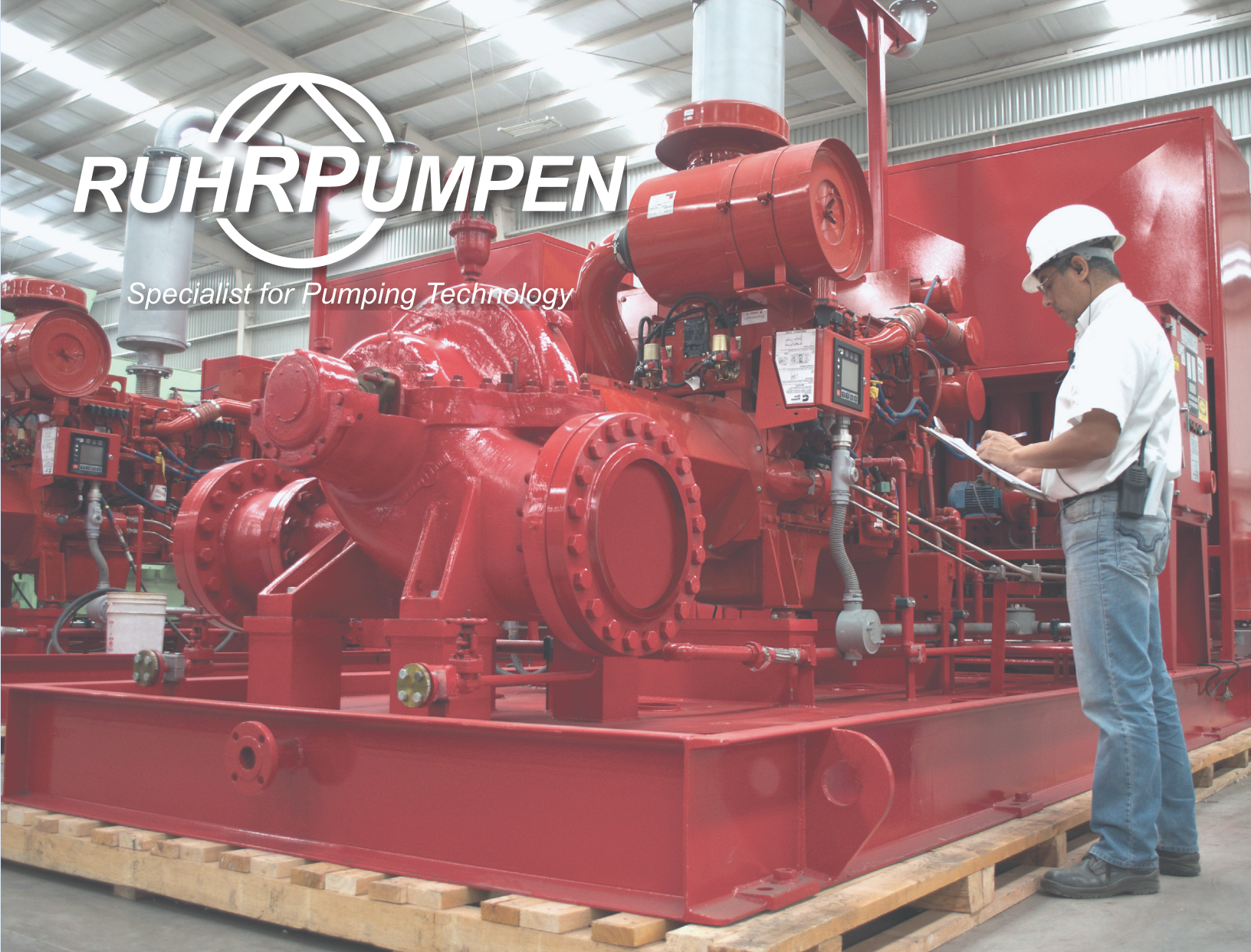




RUHRPUMPEN

Specialist for Pumping Technology



FIRE SYSTEMS AFTERMARKET SERVICES

Service Catalogue

FIRE SYSTEMS AFTERMARKET SERVICES

+75 years developing the pumping technology that drives progress

Ruhrpumpen is an innovative and efficient pump technology company that offers highly engineered, custom made solutions for oil & gas, chemical processing, power generation, industrial applications and water.

Implementation of cutting-edge technology and world-class engineering, combined with our unique vertically integrated structure, allows Ruhrpumpen to design complex technical solutions, creating the most robust and powerful pump systems in the marketplace.

Our broad product line complies with the most demanding quality standards and industry specifications such as **American Petroleum Institute (API)**, **American National Standards Institute (ANSI)**, **Underwriter's Laboratories (UL)**, **Factory Mutual (FM)**, **National Fire Protection Association (NFPA)**, **ISO** and **Hydraulic Institute**.

Products Include:

- Single stage overhung pumps
- Vertical in-line pumps
- Single and multi-stage between bearing pumps
- Multi-stage vertical pumps
- Reciprocating plunger pumps
- Sealless magnetic drive pumps
- Fire protection systems
- Pitot tube pumps
- Hydraulic decoking systems
- Horizontal pumping systems



Ruhrpumpen is your single source supplier

- Original Equipment
- Spare parts
- Installation and startup support
- Repair and maintenance
- Engineering, training and consulting
- Reverse engineering

Benefits of our pumps

- Proven reliability
- High efficiency designs ensure lowest operating cost
- Robust design allows for long system life with minimal maintenance
- Optimized total cost of ownership

Aftermarket Services

Fire pump systems are vital to life safety and property protection. This Service Catalog offers end-to-end support, from installation supervision and commissioning to training and annual maintenance, ensuring full NFPA-20 and NFPA-25 compliance.

With manufacturer expertise and certified supervision, we help guarantee that fire pump systems are properly installed, tested, and maintained for long-term reliability.





Fire Systems Installation Supervision

Objective

Ensure the fire pump system (installed by others) is in full compliance with NFPA-20 standards, guaranteeing operational reliability and safety during emergencies.

Scope of Service

- Supervision of fire pump installation activities.
- Verification of proper alignment, mounting, and piping.
- Inspection of environmental and structural conditions of the pump room.
- Coordination with contractors and site personnel to ensure NFPA compliance.

Stakeholders Involved

- **Installation Contractor / Site Supervisor:** Executes installation under supervision.
- **Pump Manufacturer or Authorized Technician:** Verifies installation quality and compliance.
- **Project Manager / Customer Representative:** Oversees project milestones and readiness.

Key Activities

- **Location Assessment:** Ensure the pump is installed in a dedicated pump room, protected from flooding, fire, and physical damage.

- **Alignment and Mounting:** Confirm pump is mounted on a stable foundation and properly aligned to minimize vibration and ensure efficient operation.
- **Suction and Discharge Piping:** Verify pipe sizing, layout, and support per NFPA-20 to prevent cavitation or flow restriction.
- **Component Verification:** Ensure all system components (controllers, drivers, pressure maintenance pumps) meet NFPA standards.
- **Documentation:** Record installation details, deviations, and corrective actions for commissioning readiness.

Deliverable

Installation details, deviations, and corrective actions report for commissioning readiness in accordance with NFPA-20 and NFPA-25.

Compliance References

- **NFPA-20:** Standard for the Installation of Stationary Pumps for Fire Protection.
- **NFPA-25:** Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems.

FIRE SYSTEMS AFTERMARKET SERVICES

Fire Systems Startup Supervision / Commissioning

Objective

Ensure a smooth, compliant startup of the fire pump system in accordance with NFPA-20 and NFPA-25 standards.

Scope of Service

- Supervision of fire pump startup and commissioning.
- Validation of alignment reports and pump performance.
- Coordination with all required stakeholders on-site.

Stakeholders Required On-Site

(per NFPA-20 Section 14.2.1)

- **Owner/Customer Representative:** Witnesses the commissioning, confirms system readiness, and receives training.
- **Pump Manufacturer or Authorized Technician:** Supervises startup, validates alignment report, and verifies pump performance.
- **Diesel Engine or Generator Supplier (if applicable):** Verifies engine/generator operation, fuel system, and load handling.
- **Authority Having Jurisdiction (AHJ) (if required):** Witnesses final acceptance test and ensures code compliance.

Key Activities

- Review of installation and alignment.
- Verification of pump performance against factory-certified curve.
- Supervision of full flow test (annual performance test).
- Documentation of commissioning results.
- Training for customer personnel.

Compliance References

- NFPA-20 Section 14.2.1 & 14.5.2
- NFPA-25 Section 8.3.3

Critical Path Components

(if replacement is needed)

- Fire Pumps, Impellers, Casings, Gear Drives.
- Fire Pump Controllers (electric/diesel).
- Drivers (Electric motors, Diesel engines).

Testing Requirements

(if components are replaced)

- Field/on-site retest.

- Must meet/exceed original factory-certified performance.
- Conducted by qualified personnel.
- Results within NFPA-20 accuracy limits.

Deliverables

- RP Startup Form which has been created using extracts from on NFPA 20 form A.14.2.6.3 (A), signed according to NFPA-20 Section 14.2.1 & 14.5.2

Additional Notes

If the Installation Supervision service is not purchased, the deliverable checklist must be filled in and sent by the customer at least 2 weeks in advance of the service.





Fire Systems Training Services

Objective

Equip customer personnel with the knowledge and skills required to operate, maintain, and troubleshoot fire pump systems in compliance with NFPA-20 and NFPA-25 standards.

Scope of Service

- Delivery of structured training sessions for operators, technicians, and safety personnel.
- Coverage of fire pump system components, operation, maintenance, and emergency procedures.
- Training formats include on-site sessions, virtual webinars, and printed manuals.

Stakeholders Involved

- **Customer Personnel:** Operators, maintenance staff, and safety officers.
- **Pump Manufacturer or Authorized Trainer:** Delivers training and provides technical expertise.
- **Project Manager / Customer Representative:** Coordinates training logistics and ensures attendance.

Key Activities

- Overview of typical fire pump installations.

- Introduction to NFPA-20 (2019): Definitions, installation requirements, pump selection, pressure relief valves, sensing lines.
- Review of NFPA-25 Chapter 8: Weekly inspections, diesel/electric pump testing, annual performance tests.
- Description of fire system equipment: pump, driver, controller, valves, jockey pump, diesel tank.
- Maintenance programs: weekly, semi-annual, and annual tasks.
- Hands-on demonstration of startup, shutdown, and emergency procedures.
- Q&A session and feedback collection.

Training Duration and Capacity

The training session lasts approximately 4 hours (theoretical) and 2 hours (hands-on), where the team is trained by an engineer on how to perform weekly testing and troubleshooting on the equipment. The number of trainees depends on the customer's classroom space availability.

Deliverables

- Training Completion Certificate.
- **Editable Presentation:** Slides 27–40 customized with project-specific equipment details.

FIRE SYSTEMS AFTERMARKET SERVICES

Fire Systems Annual Maintenance Supervision



Objective

Accompany the customer/end user through their annual maintenance with the objective of ensuring the fire pump system remains in optimal operating condition through a comprehensive annual maintenance program aligned with NFPA-25 standards.

Scope of Service

This service includes auditing inspection, testing, and preventive maintenance of all critical fire pump components. The checklist is extensive and customized per equipment type and manufacturer recommendations.

Key Activities Summary

The annual maintenance checklist covers, but is not limited to, the following areas:

- Battery condition and voltage checks.
- Circulating water filter replacement.
- Inspection of power and control wiring connections.

Note:

- Calibration and recertification of valves, flowmeters, and accessories on site are expressly excluded from the scope of services and shall remain the sole responsibility of the client.
- Adjustment of setpoints for valves, flowmeters, and accessories on site may be performed by Ruhrpumpen as part of its scope; however, such adjustments do not constitute calibration or certification.
- All fluids required for maintenance activities (including but not limited to battery acid, engine oil, coolant, and fuel) are excluded from the scope of services and must be supplied by the client.

Disclaimer:

Ruhrpumpen does not perform the physical installation of fire pump systems. While our team may provide supervision and technical guidance to support compliance with NFPA standards, all responsibility for installation, startup, and maintenance remains solely with the contractor or customer.

Our supervision is intended to assist the on-site team in identifying potential issues and promoting best practices; however, it does not constitute acceptance, certification, or validation of the installation or of any activities performed by third parties.

- Controller and pump assembly preventive maintenance.
- Diesel engine and electric motor system checks.
- Lubricating oil and filter replacement.
- Fuel filter and tank inspection.
- Turbo backpressure measurement.
- Pressure gauge and sensor calibration.
- Couplings, bearings, and sacrificial anode inspection.
- Control panel alarm verification.

Compliance References

- NFPA-25: Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems.
- Manufacturer-specific maintenance guidelines.

Deliverables

Completed and signed annual maintenance checklist, summary report of findings, and recommendations for corrective actions if needed.

+75 years creating the pumping technology that moves our world

Ruhrpumpen is an innovative and efficient pump technology company that offers highly-engineered and standard pumping solutions for the oil & gas, power generation, industrial, water and chemical markets. We offer a broad range of centrifugal and reciprocating pumps that meet and exceed the requirements of the most demanding quality specifications and industry standards such as API, ANSI, UL, FM, ISO and Hydraulic Institute.



Ruhrpumpen Plants

-  ARGENTINA, Buenos Aires
-  BRAZIL, Rio de Janeiro
-  CHINA, Changzhou
-  EGYPT, Suez
-  GERMANY, Witten
-  INDIA, Chennai
-  MEXICO, Monterrey
-  UK, Lancing
-  USA, Tulsa

-  Manufacturing plant & service center
-  Service center