# Buyer's Guide: Fire Pumps, Jockey Pumps & Fire Water Storage Tanks (UK)

## 1. Overview

Fire pumps, jockey pumps, and fire water storage tanks are essential components of a fire protection water supply system.
They ensure adequate water pressure and flow to fire hydrants, sprinkler systems, and other fire suppression systems during an emergency.

- Fire Pumps – Boost water pressure when demand exceeds supply capability.
- Jockey Pumps – Maintain system pressure during normal operation, preventing frequent start/stop of the main fire pumps.
- Fire Water Storage Tanks – Provide a dedicated, reliable water supply for firefighting when the mains supply is inadequate.

## 2. Key Questions to Ask Suppliers

### Technical & Performance

1. What type of fire pump is recommended? (Diesel, electric, or combination)
2. What is the rated flow (L/min or m³/hr) and pressure (bar) output?
3. Is the pump compliant with BS EN 12845, NFPA 20, or LPCB-approved?
4. Are the pumps tested and certified by a third-party (e.g., FM Approved, UL Listed, LPCB, BSI Kitemark)?
5. What is the suction lift and NPSH (Net Positive Suction Head) required?
6. Does the system include an automatic start sequence and control panel with alarms and indications?

7. Is there redundancy or duty/standby configuration available?
8. How is the jockey pump sized relative to the main fire pump?

**For Fire Water Tanks**

1. Is the tank designed and certified to BS EN 12845 and LPCB LPS 1276?
2. What is the storage capacity and how is it calculated (sprinkler demand + duration)?
3. Is the tank sectional, cylindrical, or GRP/steel construction?
4. What materials are used (galvanized steel, epoxy-coated, GRP)?
5. Is the tank fitted with access ladders, level indicators, and overflow provisions?
6. Does it have a split-compartment (dual-section) design for maintenance?
7. What are the maintenance requirements and lifespan?
8. Is it frost-protected and insulated for outdoor installation?

**Installation & Maintenance**

1. Who is responsible for installation and commissioning?
2. What are the lead times for delivery and setup?
3. Are O&M manuals, training, and certification included?
4. What warranty and after-sales service is provided?
5. Are spare parts locally available?
6. What is the maintenance schedule (weekly, quarterly, annually)?
7. Is there 24/7 emergency service support?

**Compliance & Documentation**

1. Does the supplier provide design calculations and hydraulic analysis?
2. Are test certificates, performance curves, and compliance declarations available?
3. Are the systems designed in line with the local Fire and Rescue Service requirements?

## 3. Best Practices

### Design Phase

- Engage a qualified fire protection engineer early in design.
- Ensure the water storage and pump system meets worst-case fire load demand.
- Verify the pressure and flow testing at design stage.

### Installation

- Use certified installers familiar with BS EN 12845 and LPCB standards.
- Ensure proper alignment, foundation, and anti-vibration fittings for pumps.
- Install pressure relief valves, test lines, and isolation valves.

### Operation & Maintenance

- Test pumps weekly (manual start) and record results.
- Check jockey pump operation regularly.
- Inspect tank water levels and check for corrosion, leaks, and valve functionality.
- Maintain a logbook of all inspections, tests, and maintenance activities.

## 4. Benefits

| Component | Key Benefits |
|---|---|
| Fire Pump | Ensures sufficient water pressure during firefighting; enables large sprinkler or hydrant systems. |
| Jockey Pump | Prevents main pump wear; keeps system pressurized and leak-free. |
| Fire Water Tank | Provides a dedicated water reserve; ensures compliance where mains water is insufficient. |

## 5. Negatives / Common Challenges

| Issue | Description |
|---|---|
| High Initial Cost | Pumps, tanks, and installation can be capital-intensive. |
| Space Requirements | Requires mechanical room and large footprint for tanks. |
| Maintenance Needs | Regular testing, cleaning, and servicing required. |
| Corrosion Risk | Particularly in steel tanks if not properly coated or maintained. |
| Energy Usage | Diesel or electric pumps may consume significant power during operation. |

## 6. Helpful Tips

### UK Compliance Standards & Regulations

#### Fire Pumps

- BS EN 12845: Fixed firefighting systems – Automatic sprinkler systems – Design, installation, and maintenance.
- BS EN 12259-12: Components for sprinkler systems – Pumps.
- NFPA 20: Standard for the Installation of Stationary Pumps for Fire Protection (internationally recognized).

- LPCB (Loss Prevention Certification Board): Approval and listing of fire pumps and pump sets.

**Fire Water Storage Tanks**

- BS EN 12845: Requirements for water supplies and storage capacity.
- LPS 1276: LPCB approval for fire-fighting water tanks.
- BS 5306-1: Fire extinguishing installations and equipment on premises – Code of practice for system design.
- Building Regulations (Approved Document B): Fire safety design standards.
- Water Supply (Water Fittings) Regulations 1999: Backflow prevention and water hygiene.

**Maintenance**

- BS EN 671-3: Maintenance of fixed firefighting systems.
- BS 9999: Fire safety in the design, management, and use of buildings.
- Fire Safety Act 2021 & Regulatory Reform (Fire Safety) Order 2005 – Legal responsibilities for fire systems.

## 8. Summary Checklist

| Item | Status |
|---|---|
| LPCB/FM-approved pump sets | ☐ |
| BS EN 12845-compliant design | ☐ |
| Dual-compartment water tank | ☐ |
| Commissioning & test certificates | ☐ |
| Maintenance contract in place | ☐ |
| Weekly and monthly test procedures | ☐ |