Pump service checklist

Field Suite · fieldsuiteapp.com/learn/pump-service-checklist · Checked against the manufacturers' manuals and HSE guidance on 5 November 2026. The manufacturer's manual for the equipment in front of you comes first.

Site		**Date**	
Equipment		**Engineer**	

Before you start

Safety checks before any pump work

Check	What good looks like	Source
Isolate the power and lock it off	Supply off and secured so it cannot be switched back on, for example a padlock on the mains switch. Some controllers restart the pumps by themselves after a power cut, and some run a test start after a quiet period, so never rely on the pump being stopped	Grundfos Hydro Multi-S manual, s.12; Wilo SiBoost Smart 1 manual, s.7; Grundfos Multilift MSS manual, s.5.2; Electricity at Work Regulations 1989, regs 12 and 13
Isolate and release the water pressure	Valves upstream and downstream of the set closed, the diaphragm vessel shut off and drained, the set drained if needed. On a lifting station, isolating valves closed or the outlet pipe drained before the non-return valve is opened. Vessels hold gas pressure even when the water side is empty: Wilo warns that too much nitrogen can damage or destroy the vessel and injure people	Wilo SiBoost Smart 1 manual, s.7 and s.8; Grundfos Multilift MSS manual, s.9
Personal protective equipment	Safety footwear and cut-resistant gloves as a minimum on booster sets; waterproof gloves, eye and face protection where there is sewage	Wilo SiBoost Smart 1 manual, s.2.8; HSE INDG198
Sewage: flush first	Pump, pit and tank flushed with clean water and the outlet pipe drained before dismantling; parts rinsed after	Grundfos Multilift MSS manual, s.9; Grundfos Unilift AP manual, s.7
Confined space	Do not enter a wet well, pit, chamber or sewer unless it is essential. If it is, assess the risks, plan how to control them (fumes, lack of oxygen, water flooding in) and have emergency arrangements that do not rely on the emergency services. A space that was safe last time is not safe by default today	HSE, Introduction to working in confined spaces; Confined Spaces Regulations 1997, reg 1
Working alone	The risk assessment says whether lone working is allowed and how you keep in touch. Confined space entry and work near exposed live conductors are examples HSE gives where at least one other person may need to be there	HSE, Protecting lone workers, INDG73
Sewage hygiene	Cuts covered with waterproof dressings; hands washed before eating, drinking or smoking; contaminated kit kept apart from food. Weil's disease is spread by rat urine	HSE INDG198
Hearing	Hearing protection from 85 dB(A)	Wilo SiBoost Smart 1 manual, s.2.9

Every pump

Checks for any pump set

Check	What good looks like, or what to do	Source
Shaft or mechanical seals	No noticeable leak. Wilo says a slight weep can be normal; noticeable leakage means the seal is replaced	Wilo SiBoost Smart 1 manual, s.9.1
Non-return valves	Close tight. A pump that runs backwards when switched off points to a faulty non-return or foot valve	Grundfos Hydro Multi-S manual, s.13
Noise and vibration	Normal. Noise can mean cavitation: check suction pipe, valves and any strainer	Grundfos Hydro Multi-S manual, s.13
Direction of rotation (three-phase)	Correct. If wrong, swap two phases	Grundfos Hydro Multi-S manual, s.13
Motor protection setting	Matches the pump and motor data; trips investigated, not just reset	Wilo SiBoost Smart 1 manual, s.10
Control panel and indicators	Lamps, display and alarms work; faults shown on the controller read and recorded	Wilo SiBoost Smart 1 manual, s.10
Test run	Starts and stops cleanly in automatic	Grundfos Multilift MSS manual, s.8 and s.9

Booster sets

Extra checks for cold water booster sets

Check	What good looks like, or what to do	Source
Ready for operation	Each pump available, in automatic, no standing faults	Wilo SiBoost Smart 1 manual, s.9.1
Diaphragm vessel precharge	Measured on the gas valve with the water side isolated and drained. Set to the figure in the set's manual (examples in the table below). Top up with nitrogen only: Grundfos recommends it, and Wilo refers topping up to its customer service	Grundfos Hydro Solo-S manual, s.5.1; Wilo SiBoost Smart 1 manual, s.9.2
Diaphragm vessel condition	No water from the gas valve. Water there means a leaking diaphragm	Grundfos Hydro Solo-S manual, s.6
Pressure switch or set point	Cut-in and cut-out as designed; cut-out never above the maximum operating pressure of the pump or the vessel	Grundfos Hydro Multi-S manual, s.11 and s.12.2
Starts and stops	No short cycling. If it does, check the pressure setting, the vessel precharge, the diaphragm and the non-return valves	Grundfos Hydro Multi-S manual, s.13; Grundfos Hydro Solo-S manual, s.6
Inlet and dry-running protection	Break tank level and inlet valve working; low-water switch or inlet pressure sensor works	Wilo SiBoost Smart 1 manual, s.10; Grundfos Hydro Multi-S manual, s.13
Frequency converter fan filters	Clean them if very dirty	Wilo SiBoost Smart 1 manual, s.9.2

Check	What good looks like, or what to do	Source
Break tank (water hygiene)	Inspected and any remedial work done, yearly. Stored water temperature, taken away from the ball valve, compared with the incoming mains, yearly in summer or as the temperature profiling says. If a water hygiene contractor does this, note who and when	HSE HSG274 Part 2, Table 2.1
Expansion vessels (water hygiene)	Flushed through and purged to drain where practical, at the frequency in the site's Legionella risk assessment; bladders changed as the manufacturer or the risk assessment says	HSE HSG274 Part 2, Table 2.1
Frost	A set not used in frosty periods is drained: manifolds, pumps and vessel	Grundfos Hydro Multi-S manual, s.12.3

Diaphragm vessel precharge: what three manuals say

Manual	Precharge	How often to check
Grundfos Hydro Solo-S (single-pump set)	0.9 × cut-in pressure, measured with the system unpressurised	At least once a year
Grundfos Hydro Multi-S	About 90% of cut-in pressure, checked with the discharge pipe empty	At least once a year, with the pressure switch settings
Wilo SiBoost Smart 1 (single-pump set)	Pump switch-on pressure minus 0.2 to 0.5 bar, or the value in the table on the vessel	A 3-month cycle is recommended

The full method, with a worked example, is in booster set servicing.

Submersible sump and drainage pumps

These checks come from a drainage pump manual. Grundfos says the Unilift AP is not suitable for sewage; a sewage pump has its own manual and intervals.

Checks for submersible pumps, from the Grundfos Unilift AP manual

Check	What good looks like, or what to do	Source
Pump and oil	Pump checked and oil replaced once a year; more often with abrasive liquids or continuous running	Grundfos Unilift AP manual, s.7.1
Oil condition	Clean. Water or dirt in the drained oil means the shaft seal should be replaced	Grundfos Unilift AP manual, s.7.1
Float switch	Free to move; starts and stops at the right levels, with the stop level above the pump inlet so the pump does not draw in air. If the float switch keeps the pump from starting, adjust or replace it	Grundfos Unilift AP manual, s.3.2.5 and s.8.1
Impeller and outlet	Free of debris. A pump that runs constantly or gives little water may be partly blocked	Grundfos Unilift AP manual, s.8.3
Cable	Undamaged. A damaged power cable or level switch is replaced by a workshop the manufacturer authorises	Grundfos Unilift AP manual, s.7

Sewage lifting stations

Checks for packaged wastewater lifting stations

Check	What good looks like, or what to do	Source

Check	What good looks like, or what to do	Source
Inlet, outlet and vent connections	Tight, no leaks; the weight of pipes and valves supported, not resting on the tank	Grundfos Multilift MSS manual, s.9
Power consumption	Within the nameplate figure	Grundfos Multilift MSS manual, s.9
Cable entries	Watertight; cables not sharply bent or pinched	Grundfos Multilift MSS manual, s.9
Pump vent hole	Clear (pump removed from its support flange to check: undo the clamps, do not loosen the flange from the tank)	Grundfos Multilift MSS manual, s.9
Non-return valve	Where it needs cleaning: isolating valves closed or outlet pipe drained first, cleaned through the inspection cover, new cover gasket fitted	Grundfos Multilift MSS manual, s.9
Level sensor	Pressure tube free of deposits; sensor proved with a test run	Grundfos Multilift MSS manual, s.9.2
Controller	Cabinet gaskets sound, cable connections tight, functions and high-level alarm work, backup battery replaced at the annual service if fitted	Grundfos Multilift MSS manual, s.5.2 and s.9.1
Collecting tank and overflow channel	Clean	Wilo EMUport CORE instructions, maintenance and repair
Solids separation tanks and screens (where fitted)	Cleaned yearly	Wilo EMUport CORE instructions, maintenance and repair

Service intervals and the full pumping station routine are in sump and sewage pumping station maintenance.

Readings to record

- Pump make, model and serial number
- Running hours
- Inlet and outlet pressure (bar)
- Cut-in and cut-out pressure (bar)
- Vessel precharge as found and as left (bar)
- Motor current on each phase (A), against the nameplate
- Oil condition (submersible pumps)
- Alarms tested and the result

Faults found and action taken	
Engineer signature	
Customer signature	