Pump Start-Up & Shut-Down Checklist

PUMP TAG: ___ SERVICE/FLUID: ___ OPERATOR: ___ DATE/TIME: ___

1) SAFETY & PRE-JOB

- Job brief/toolbox done; hazards identified.
- PPE on (minimum: safety glasses, gloves, hearing; add as required).
- Work permits in place (hot work, confined space, line break).
- LOTO removed from pump; isolation status confirmed.
- Area clear; guards/couplings in place; drip trays/bunds set.

2) PRE-START MECHANICAL & SYSTEM CHECKS

- Suction/discharge lines aligned, supported, strain-free.
- Suction valve fully open; strainers clean; vented of air.
- Discharge valve throttled (10-30% open for centrifugal; fully open for PD).
- Check-valves free and correctly oriented.
- Seal system on and flowing; pressure per spec.
- Cooling to bearings/jackets on (if fitted).
- Oil level correct; grease points serviced.
- Coupling alignment OK; bolts tight.
- Pump casing primed and vented.
- Relief/bypass protection available and set.
- Instrumentation live and zeroed.
- Confirm correct rotation with bump/jog.

3) ELECTRICAL/VFD CHECKS

- Voltage/frequency match; breakers set; interlocks OK.

- VFD parameters loaded; min/max speed, accel/decel, current limit.

- Start permissives satisfied.

4) START-UP

CENTRIFUGAL:

- Start with discharge throttled, suction open.

- Confirm pressure rise and stable prime.

- Gradually open discharge to target flow/pressure.

PD:

- Discharge open, relief path active.

- Start at low speed; increase to duty.

5) POST-START (First 5-10 min)

- Check suction/discharge pressures; record baseline.

- Verify flow, no surging/cavitation.

- Seal leakage within limits; flush rates correct.

- No abnormal vibration/noise.

- Bearing temps <80 degC and steady.

6) STEADY-STATE (First Hour)

- Operate within allowable region.

- Motor current within limits.

- Temperatures steady.

- Seal pot levels OK.

7) NORMAL SHUT-DOWN

CENTRIFUGAL:

- Throttle discharge, ramp down speed.

- Stop motor; close discharge after stop.

PD:

- Reduce speed, stop with discharge open.

- Close suction first, then discharge; relieve trapped pressure.

8) EMERGENCY SHUT-DOWN

- Hit E-STOP or open breaker.

- Relieve pressure safely.

- Close suction/discharge per SOP.

- Notify supervisor; lock/tag unsafe equipment.

9) AFTER MAINTENANCE / FIRST START

- Shaft turns freely; clearances set.

- Oil replaced; piping aligned.

- Bump test for rotation; controlled step-up start.

10) STORAGE/STANDBY

- Rotate shaft weekly; keep primed/wetted.

- For long-term, drain/flush and preserve.

Disclaimer:
This checklist is provided as a general guide only. It is not a substitute for the manufacturer's operating instructions, your site's standard operating procedures (SOPs), or applicable legal and regulatory requirements. All equipment must be operated, maintained,

and inspected by trained and authorised personnel. Conditions, configurations, and hazards may vary between installations. Always refer to the pump manufacturer’s manual and your organisation’s safety policies before starting, operating, or shutting down equipment. The author and distributor of this checklist accept no liability for damages, injury, or loss arising from its use.