EKKI®
PUMPS | SYSTEMS

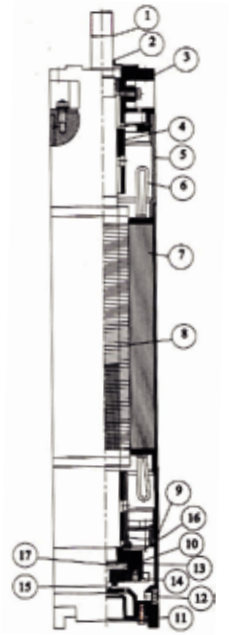
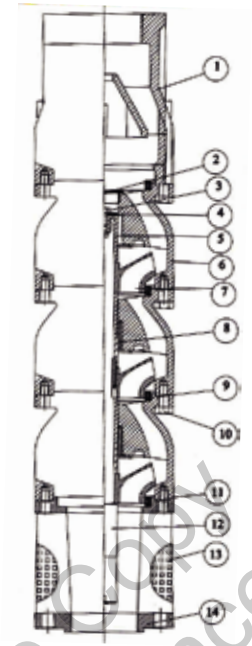
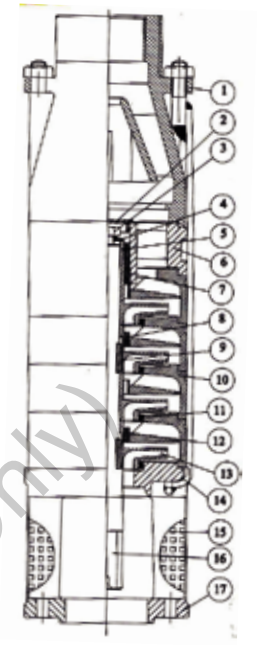
INSTRUCTION MANUAL
BOREHOLE SUBMERSIBLE PUMPS

INSTALLATION AND OPERATING INSTRUCTIONS

- The Bore well should fully be developed and Flushed free of cuttings and Sand.
- Determine the Maximum depth of well and the draw down level at max pump capacity. Pump setting depth should be at least one meter below the max draw down level.
- Ensure a minimum velocity of 0.2 m/s part the motor for proper cooling.
- The Motor should be filled with pure drinking water free of any silt or suspended particles. Replace the water filling drain plugs without fail.
- The Electrical Connections should be carried out by a qualified electrician.
- Earthing should be provided with the motor body.
- Ensure correct size of cable and suitable electrical protection devices like MCB, Cut-off relay, Contactors, etc. are provided.
- Relay should be set for full load current mentioned and single phasing, dry run protection should be used to avoid coil burning on account of dry running and single phasing.
- Check for free rotation of pump and motor before coupling.
- Check for vertical play before and after coupling.
- Ensure that only recommended size of piping is used and the pump should be gripped by two flats of pipe wrench.
- The threaded joints of pipe must be well cut and fit together tightly to ensure they do not work loosely.
- Ensure the motor cable is not damaged, when pump is lowered into the well.
- Ensure the pump is completely submerged in the liquid, before starting.
- Ensure the pump is not stopped till the water becomes clearer, free of impurities, otherwise pump parts and check valve gets clogged.
- Operate pumpsets for at least 5 Minutes daily to avoid pump jamming.
- Ensure the inbuilt non return valve, if provided is not removed which shall damage the pump parts.
- Ensure no oversize backup fuse wires are used. This will damage the motor winding in case of short circuiting.
- Ensure the valve is throttled to avoid dry running in case of low discharge.
- Do not test the pumpset outside bore in dry conditions as this damages seals and bearings.
- Do not use pump to handle water containing solid / fibrous substances.

TROUBLE SHOOTING

Fault	Cause	Remedy
1. The pump does not run	a. The fuses are blown	Replace the blown fuses. If the new fuses blow too, check the electrical installation and drop cable
	b. The circuit breaker has tripped	Reset the circuit breaker
	c. No electricity supply	Contact the electricity provider
	d. The motor protection has cut off the electricity supply due to overload.	Check for Motor / Pump blockage
	e. The drop cable is defective	Repair / Replace the pumps cable
	f. Overvoltage has occurred	Check the electricity supply
2. The pump runs but gives no water	a. The discharge valve is closed	Open the valve
	b. No water or too low water level in well	Allow water to get collected
	c. Check valve is stuck in its closed position	Pull the pump and clean or replace the valve
	d. The suction strainer is closed	Pull the pump and clean the strainer
	e. The pump is defective	Repair / Replace the pump
3. The pump runs at reduced capacity	a. The drawdown is larger than anticipated	Increase the installation depth of the pump Throttle the pump or replace it with a smaller capacity model
	b. The valves in the discharge pipe are partly closed / blocked	Check and Clean / Replace the valve as necessary
	c. The discharge pipe is partly chocked by impurities	Clean / Replace the discharge pipe
	d. The non return valve of the pump is blocked	Pull the pump and clean or replace the valve
	e. The pump and the riser pipe are partly chocked by impurities	Pull out, Check and clean/replace the pump, if necessary clean the pipes
	f. The pump is defective	Repair / Replace the pump
	g. Hole in discharge pipe	Check and repair the pipe
	h. The riser pipe is defective	Replace the riser pipe
	i. Under voltage has occurred	Check the electricity supply
4. Frequent starts and stops	a. The differential of the pressure switch between the start & stop pressures is too small	Increase the differential however the stop pressure must not exceed the operating pressure of the pressure tank and the start pressure should be high enough to ensure sufficient water supply
	b. The water level electrodes or level switches in the reservoir have not been installed correctly	Adjust the intervals of the electrodes level switches to ensure suitable time between the cutting in and cutting out of the pump. See installation & operating instructions for the automatic devices used. If the intervals between start/stop cannot be changed via the automatics, the pump capacity may be reduced by throttling the discharge valve
	c. Non return valve is leaking, Stuck half-open or damaged	Pull the pump and clean / replace the non return valve
	d. The supply voltage is unstable	Check the electrical supply
	e. The motor temperature is too high	Check the water temperature

Submersible Motor	Mixed Flow	Radial Flow
		
1. Shaft 2. Rubber boot 3. Upper housing 4. Radial bearing 5. Joint pipe 6. Winding 7. Stator core 8. Rotor core 9. Lower housing 10. Thrust bearing 11. Motor base 12. Drain plug 13. Circlip 14. T.B Segment carrier 15. T.B Rocker 16. T.B Carbon/Synthetic pad	1. NRV Casing 2. Shaft cover 3. Lock bolt 4. Lock washer 5. Spacer sleeve 6. Diffuser bowl 7. Impeller 8. Bush 9. Neck ring 10. Nut 11. Stud 12. Pump shaft 13. Strainer 14. Connector	1. NRV Casing 2. Shaft cover 3. Lock bolt 4. Lock washer 5. Spacer sleeve 6. DOL 7. DOL Bush 8. Bearing bush 9. Key 10. Diffuser casing 11. Neck ring 12. Casing bush 13. Impeller 14. Patta 15. Strainer 16. Shaft 17. Connector