

Introduction of Products

SAND PUMP MOTOR FOR CONSTRUCTION WORKS

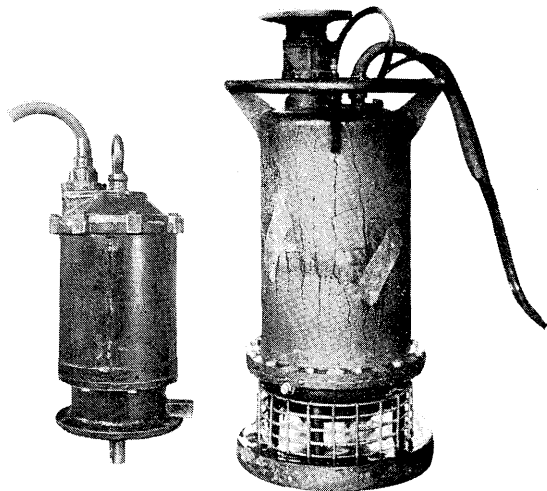


Fig. 1. Sand pump motor

Portable type sand pump motors for construction works were hitherto considered to be like a consumption goods because of its short durability owing to hard use.

In order to conquer this fatal point, we made a common study of its durability with Ebara Mfg. Co., Ltd. and succeeded in making durable products. Here we introduce the fruits.

1. Specification

Table 1. Standard specification for sand pump motor

		Voltage : 200/220 V Frequency : 50/60 c/s			
Caliber (mm)	Motor Output (kW)	Pumping-up quantity (m <sup>3</sup> /min.)			
		Water head 25 m	Water head 20 m	Water head 15 m	Water head 10 m
70	3.7	0.3	0.55	0.7	0.85
100	5.5	0.55	0.80	1.0	1.15

2. Construction

1) It is designed to be small in size and light in weight by adopting a 2 pole motor.

Rough construction of this pump motor is as follows.

Upper part : Motor

Lower part : Pump

Shaft : Common shaft

At the bottom of the pump, it is equipped with a impellor and water enters from the strainer attached under the impellor and is discharged from the upper caliber after passing through the space between the

motor and the pump case. In this way motor is cooled by the pumped-up water, so the temperature rise is very low.

2) The motor is special oil immersed type so no oiling is required for both upper and lower bearings. Even if oil sinks, oil is automatically fed by inducing oil through screw groove ditched on the rotor, when a part of core is dipped in the oil.

3) Wire is finished with water and heat resistance enamel, besides, in the motor all conductors are insulated, so the insulation resistance is not affected by the deterioration of oil or immersion of water.

4) At cable lead, the end of cable and coil are firmly connected and moulded with synthetic resins, so despite of its small size, there is no fear of damage.

Though inside coil and lead are united in one, it is ready to assemble or disassemble the motor. For cable, heat resisting cabtired cable is used.

5) For watertight of the motor, severe test is conducted in every manufacturing processes, besides when assembling O type ring is used to insure the watertight of the motor.

6) Construction of pump

In pump room, there is a pocket which works to increase or decrease the oil in the motor freely at the start or stop of the operation and construction of which is dirt and mud water proof type.

Impellor is made of stainless so as to be proof against corrosion and wear, moreover it is designed to pass stones, clods and other solid things mixing in the pumped-up water. Lining is made of wear-proof stainless and gape between the impellor is easily adjusted so the characteristics of pump can be maintained in good condition.

Besides, the shaft part which pass through the pump body has special watertight construction which protect water from mixing the oil.

As mentioned above, it is small in size, light in weight and portable. In addition to these, it has following features, (a) priming is not necessary, (b) possible to drain a depressed land, (c) temperature rise is very low, (d) dualability is very long. So, this pump motor will be of great service not only to construction works but also to various kind of irrigation and drainage we believe.

At the end, we express our sincere thanks to Messrs. Ebara Mfg. Co., Ltd. for offering us the deta of this pump.

(By S. Akashi, Mie Factory)