INTER PLANT STANDARD IN STEEL INDUSTRY		
IPSS	**SPECIFICATION FOR OIL TRANSFER PUMPS**	**IPSS: 1-02-012-18** *(First Revision)*
	BASED ON IS14298:1995	Formerly: IPSS: 1-02-012-81

0. FOREWORD

0.1 Interplant standardisation in steel industry has been initiated under the aegis of the Indian Standards Institution (ISI) and the Steel Authority of India Limited (SAIL). This Interplant Standards prepared by the Standard Committee on Basic Standards and Hydraulic, Pneumatic and Lubricating Equipment, IPSS 1 : 2 with the active participation of the representatives of all the steel plants, leading consultants and established manufacturers of oil transfer pumps and was first adopted in November 1981 by the approval committee on Consumable Stores and General Equipment, IPSS. Thereafter standard was first revised in January, 2018.

0.2 Interplant Standards for steel industry primarily aim at achieving rationalisation and unification of parts and sub-assemblies used in steel plant equipment and accessories and provide guidance in indenting stores or equipment for existing or new installations by individual steel plants. For exercising effective control on inventories, it is advisable to select a fewer number of sizes (or types) from among the products mentioned in this standard for the purpose of company standards of individual steel plants. It is not desirable to make deviations in technical requirements.

1 SCOPE

This Inter Plant standard covers the types, constructional and operational features, tests, etc. for oil transfer pumps for oil in viscosity range 30 to 500 centistokes at 40 deg. C from 200 litre nominal capacity oil drums conforming to IS : 1783-1993 ‘Specification for drums, large, fixed ends – (Third Revision)’to any container without allowing any contamination.

2 TYPES

The oil transfer pumps shall be of two types as follows:

a) **Type A – Semi – rotary Oil Transfer Pump**

A pump which is operated by semi-rotary motion of the handle. The pump is primed through a priming plug during every initial start of the pump.

b) **Type B – Motorised Oil Transfer Pump**

The suction hose is placed in the oil drum and delivery hose in the machine reservoir. The unit is plugged into an electric cutlet. By use of switch provided on the unit, the pump is operated.

3 DIMENSIONS& OPERATING PRESSURES

The main dimensions for different oil transfer pumps are given in Fig. 1&2 for Types A&B respectively.

4 PERFORMANCE REQUIREMENTS

4.1 The performance requirements of the two types of oil transfer pumps shall be as indicated in **Table 1.**

TABLE - 1 – Requirements of Different Types of Oil Transfer Pumps

(Clause 4 and 6.1)

Type	Delivery	Operating Pressure
A	650 l/h at 160 strokes/ min	-
B	1100 l/h	1 BAR

5. CONSTRUCTIONAL FEATURES

5.1 General

5.1.1 The semi-rotary oil transfer pumps (Type A) unit shall have a robust constructed semi-rotary pump, suction pipe and non-return foot valve. The suction pipe shall have a split out which could be adjusted to suit the height.

5.1.2 The motorized oil transfer pumps (Type B) unit shall have a filter, pump and electronic motor mounted on a hand trolley. A disposable 25 micron filter cartridge shall be provided in pressure line which can be changed without removing filter from the unit. A pressure gauge shall be provided to indicate the need for change of filter cartridge. The unit shall be provided with a by pass relief valve.

5.2 Material – The material for the pump body, barrel, etc. shall be homogeneous free from manufacturing defects and of robust construction for rugged handling.

5.3 Seals – Seals shall be of adequate design and compatible with grease, and shall conform to IS:5129 (Part-2) -2003 ‘Specification for rotary shaft oil seal units (Third Revision).

5.4 Hoses – The semi-rotary oil transfer pump (Type A) unit shall have delivery hoses of 1.5 m length and material SAE 100 R4 with the control valve at the end. The motorized oil transfer pump (Type B) unit shall have suction and delivery hose.

5.5 Motors – The motor for the motorized oil transfer pump shall be 0.5 kW, 240V, single phase, ac squirrel cage induction motor type with IP 54 protection (see IS : 4691-1985 ‘Degrees of protection provided by enclosures for rotating electrical machinery)’with method of cooling IC 0141 (ref. IS:6362 – 1995 ‘Designation of methods of cooling for rotating electrical machines and with Class B insulation,

and shall conform to IS:996- 1979 'Specification for single phase small AC and universal motors (Second Revision)'.

6. TESTS

6.1 **Performance Test –**During the test, the pump shall be able to deliver oil at discharge pressure and discharge rate mentioned in Table 1 continuously without leakage at any sealing points till the drum is emptied. For mortised pumps with fully closed delivery line, full delivery of pumps shall be discharges to the suction line through a by-pass relief valve.

6.2 **Sequence of Testing –** Following shall be the sequence of testing:

a) Visual inspection, and

b) Performance Test (See 6.1)

7. DESIGNATION

The grease transfer pump shall be designated by:

a) Type (see 2), and

b) Delivery quantity in l /h (see table 1) and

c) Number of this standard.

For Example : -Motorised oil transfer pump having delivery of 3000 litres / h conforming to this standard shall be designated as :

Pump B – 3000 IPSS: 1-02-012-18

8. TEST CERTIFICATE

The manufacturer shall provide a test certificate with every grease transfer pump for conformity to this standard.

9. GUARANTEE

The oil transfer pumps shall be guaranteed for manufacturing defect for a period of one year after commissioning or 18 months from date of receipt whichever is earlier.

10. PAINTING

Parts of oil transfer pump which will not come in contact with grease shall be suitably painted against corrosion.

11. MARKING

The oil transfer pump shall be marked with direction of rotation and provided with a name plate giving the following information:

a) The manufacturer's name or trade-mark,

b) Serial and batch number, and

c) Designation of the pump (see 7)

12. PACKING

The oil transfer pump shall be packed in accordance with the best prevalent practice or as agreed to between the purchaser and the supplier.

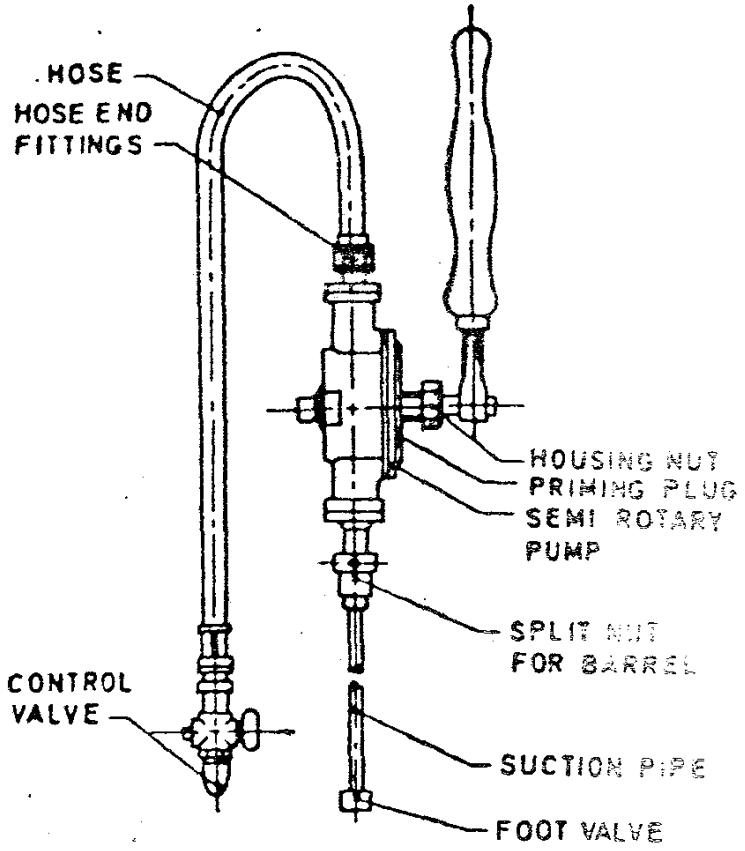

FIG. 1 SEMI-ROTARY OIL TRANSFER PUMP (TYPE A)

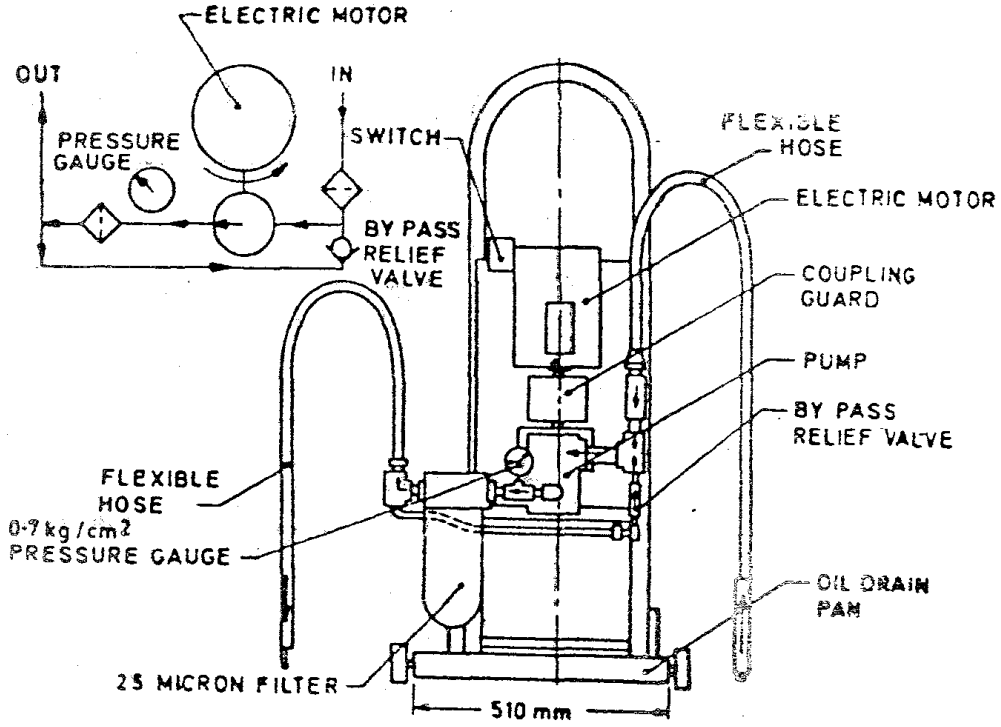

FIG. 2 MOTORIZED OIL TRANSFER PUMP (TYPE B)