INTER PLANT STANDARD IN STEEL INDUSTRY		
IPSS	**SPECIFICATION FOR GREASE TRANSFER PUMP** **(First Revision)**	**IPSS: 1-02-011-18** *(Second Revision)*
	BASED ON IS 14279: 1995 (Under Revision)	Formerly: IPSS: 1-02-011-81

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 and leading consultants and was first adopted in March. 1985 and was first revised in the year 1997. Thereafter standard was again revised in January, 2018.

0.2 This standard was first published in the year 1981 and need for revision was felt to incorporate some of the changes in dimensions and to add pneumatically operating pump as alternative.

1 SCOPE

This Inter Plant standard covers the types, constructional and operational features, tests, etc., grease transfer pumps for transferring grease of self collapsible type NLGI No (upto) 2 consistency, from 180 kg capacity grease drums conforming to IS: 1783 (Part 1): 2014 ‘Specification for drums, large, fixed ends – Part 1 Grade A (Third Revision) (Amendment 1)’to any container without allowing any contamination.

2 TYPES

The grease transfer pumps shall be of following types:

a) **Type A – Motorized Grease Transfer Gear Pump**

A Pump which is mounted at the bottom of the long barrel and is driven by flange mounted motor placed at the top.

b) **Type B – Hand Operated Grease Transfer Pump**

The pump is operated by a rotating handle which actuates the piston at the bottom of the barrel.

c) **Type C – Pneumatic operated Grease Transfer Pump**

Air operated pump mounted on a standard barrel with follower plate to ensure continuous output of grease during operation.

3 DIMENSIONS

The main dimensions for different grease transfer pumps are given in Fig. 1, 2 & 3 for Types A, B & C respectively (see Page 4 & 5)

4 PERFORMANCE REQUIREMENTS

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

4.2 The weight of each type of the pumps shall not be more than that specified in Table 1.

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

Type	Delivery	Discharge Pressure (bar) (Minimum)	Weight (kg) (Maximum)
A	200 Kg / h	30	36
B	50 g / rotation of handle	7	20
C	300-400 g /min. at 10 bar Pneumatic Pr.	3.0 Pneumatic Pr. (min. required air pr)	25 (Excluding follower)

5. CONSTRUCTIONAL FEATURES

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

5.2 **Seals –** Seals shall be of adequate design and compatible with grease, and shall conform to IS:5129-1987 (Part 1) 'Specification for rotary shaft oil seal units (Second Revision)'or graphite asbestos gland.

5.3 **Hoses –** The hoses shall be suitable to withstand the operating pressure given in Table 1 and the other details shall be as agreed to between the purchaser and the supplier.

5.4 **Strainer –** The motorized grease transfer pump shall have a strainer of stainless steel wire mesh of 1.68 mm aperture at the suction point.

5.5 **Motors –** The motor for the different types of pumps shall be suitable for 415 V 3-phase, 50 Hz with IS 54 protection (ref IS:4691-1985 (First Revision) '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 IC 0141 (ref. IS: 6362 – 1995 'Designation of methods of cooling for rotating electric machines (Reaffirmed 1991) and with Class B insulation, and shall conform to IS:325-1978 'Specification for three-phase induction motors (Fourth Revision)'(Amendments 4) with the following ratings:

For Type A pumps – 1.1 KW, Vertical flange mounted (Type VI) as specified in ÍS: 2253-1974 Designations for types of construction and mounting arrangements of rotating electrical machines (First Revision).

5.6 **Cover –** In case of motorized and pneumatic pumps (Types A & C) suitable cover to fit 180 Kg grease drum shall be supplied along with the pump.

5.7 **Follower –** In case of pneumatic pump Type C, the follower to be connected shall be supplied along with the pump.

6. TESTS

6.1 **Performance Test –** The grease transfer pump when fitted on a drum of 180 Kg. capacity shall be able to deliver grease at discharge pressure and discharge rate given in Table 1 for continuous half an hour duration, without any leakage at any of sealing points. With fully closed delivery line, full delivery of pump shall be discharged to drum at pre-set pressure rating of the 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) Number of this standard.

For Example : - Grease transfer gear pump, Type A, conforming to this standard shall be designated as: **Grease Transfer Pump A – IPSS: 1-02-011-18.**

8. TEST CERTIFICATE

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

9. GUARANTEE

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

11. MARKING

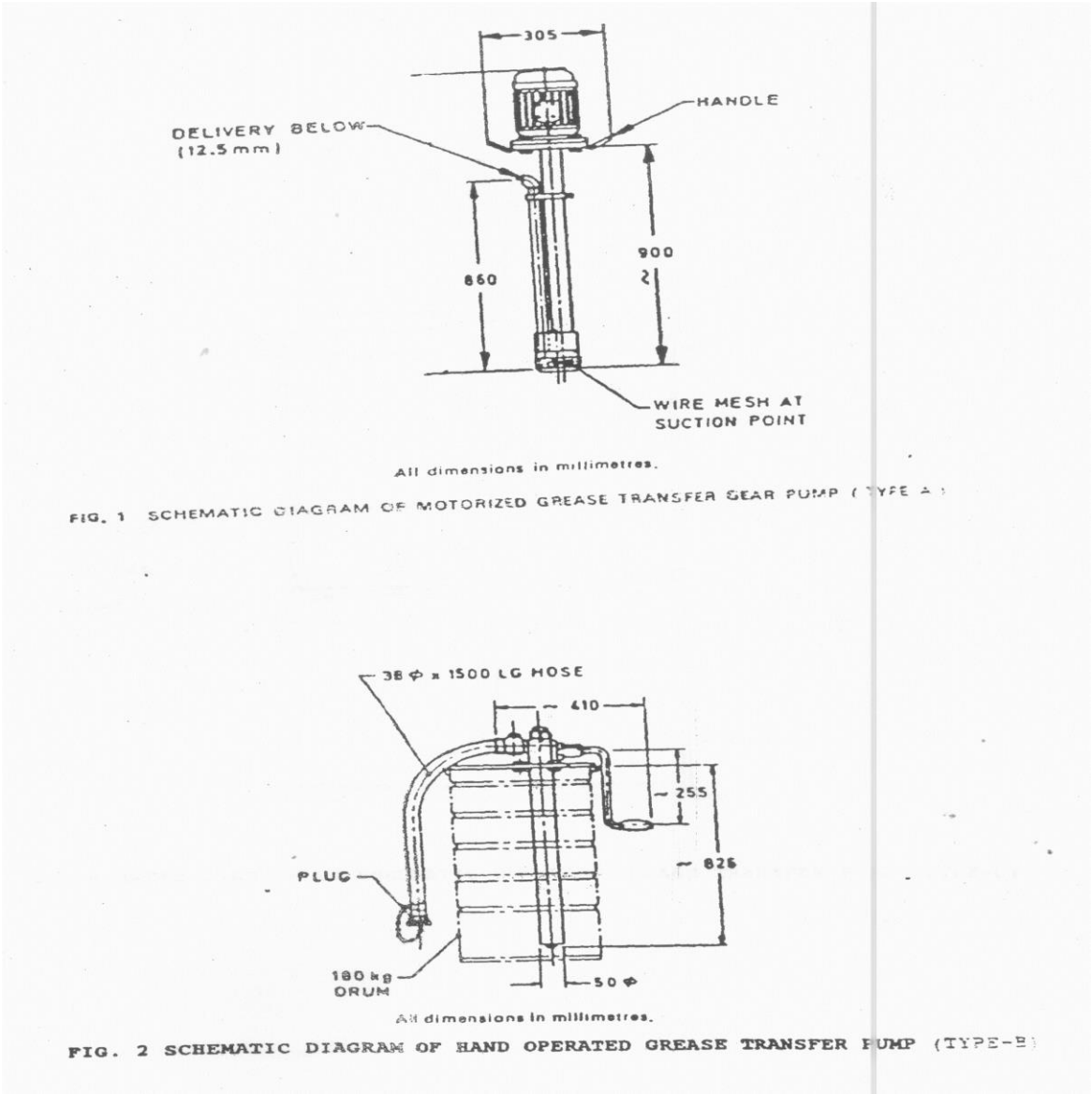
The grease transfer pump shall be marked with direction of rotation and provided with a name plate giving the following information:

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

b) Serial and batch number,

c) Designation of the pump (see 7), and

d) Capacity of the pump



(All dimensions in millimetres)

Fig. 1: SCHEMATIC DIAGRAM OF MOTORIZED GREASE TRANSFER GEAR PUMP (TYPE A)

(All dimensions in millimetres)

Fig. 2: SCHEMATIC DIAGRAM OF HAND OPERATED GREASE TRANSFER PUMP (TYPE-B)

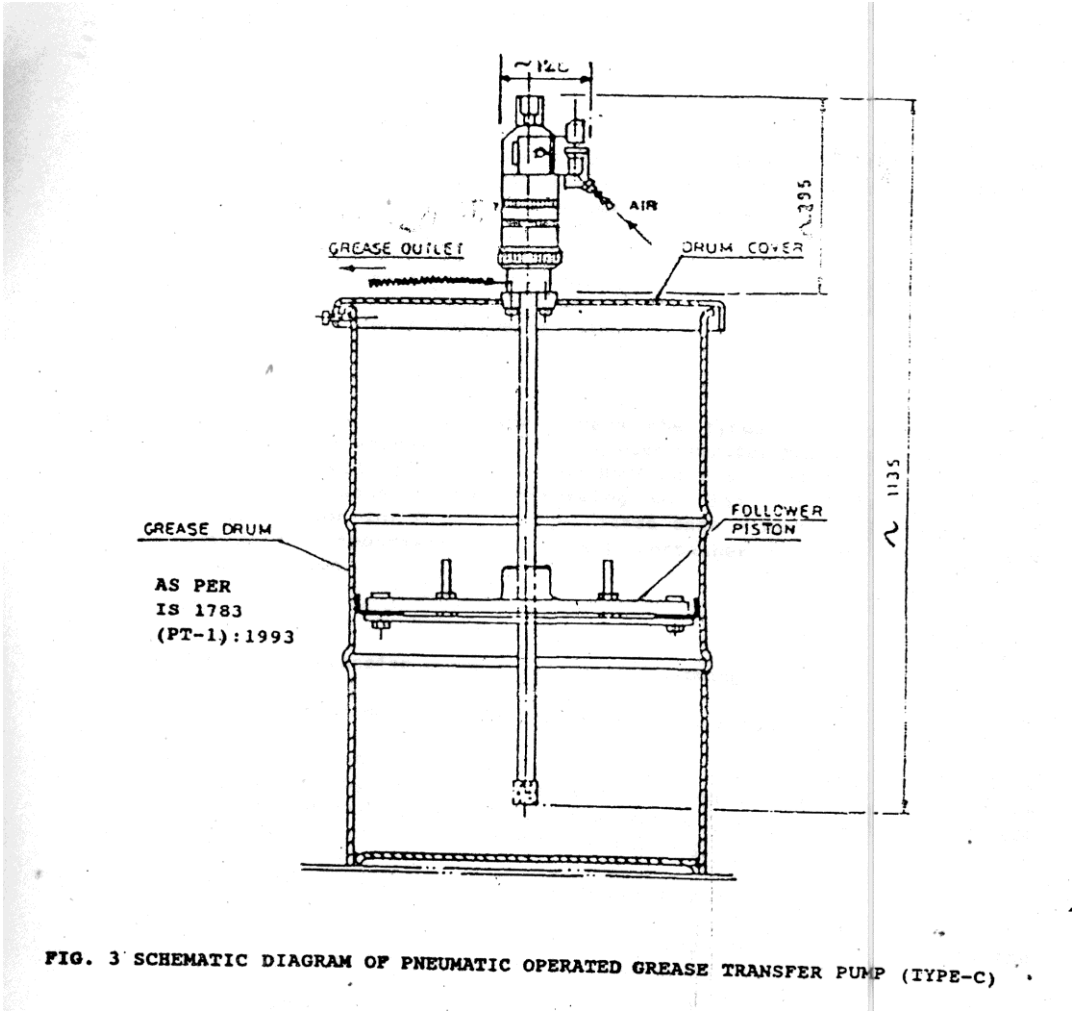


FIG. 3 SCHEMATIC DIAGRAM OF PNEUMATIC OPERATED GREASE TRANSFER PUMP (TYPE-C)

Fig. 3 SCHEMATIC DIAGRAM OF PNEUMATIC OPERATED GREASE TRANSFER PUMP (TYPE-C)

12. PACKING

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