

# INTERPLANT STANDARD — STEEL INDUSTRY



## SPECIFICATION FOR PNEUMATIC SUMP PUMP — EJECTOR TYPE

IPSS : 1-02-054-90

CORRESPONDING INDIAN STANDARD DOES NOT EXIST

### 0. Foreword

**0.1** Interplant standardization activity in steel industry has been initiated under the aegis of the Bureau of Indian Standards ( BIS ) and the Steel Authority of India Ltd ( SAIL ). This Interplant Standard prepared by the Standards 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 established manufacturers of pneumatic sump pump, was adopted by the Approval Committee on Consumable Stores and General Equipment, IPSS 1 on 26 February 1990.

**0.2** Interplant Standards for steel industry primarily aim at achieving rationalization and unification of parts and assemblies used in steel plant equipment and accessories, and provide guidance in indenting stores or equipment ( or while placing orders for additional requirements ) by individual steel plants. For exercising effective control on inventories, it is advisable to select a fewer number of sizes ( or types ) from among those 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

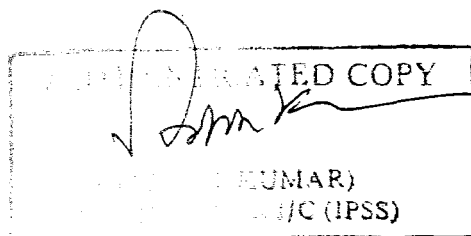
**1.1** This standard covers the requirements of pneumatically operated sump pumps — ejector type generally used for pumping out water mixed with solids up to 15 percent and in size maximum up to 25 mm containing sand, stone chips, brick-pieces, etc, found in all fields of building and contracting work in plant units, mines, quarries, etc, at ambient temperature.

**1.2** The pump covered under this standard is a heavy duty type meant for constant use under severe conditions.

### 2. Technical Requirements

**2.1** The general specification of the pump shall be as follows:

- a) Air inlet with:
  - i) claw coupling 20 mm ( 3/4" ), and
  - ii) line oiler complete.
- b) Water inlet NB 80 mm ( 3" );
- c) Water outlet nipples 65 mm ( 2.5" BSP );
- d) Overall height : 600 mm;
- e) Base width : 300 mm; and
- f) Maximum mass : 30 kg.



**2.2** The capacity of the pump shall be as given in Table 1 considering air pressure at 6 kg/cm<sup>2</sup> ( free air volume of 136 m<sup>3</sup>/hour ). However, the pump shall also be operable with a minimum air pressure of 4 kg/cm<sup>2</sup>.

**2.3** The pump shall operate without priming.

**3. Material of Construction** — Since solids will also be pumped out along with water, the material of construction shall have wear resistant property.

**4. Designation** — The pump shall be designated as 'Pneumatic Sump Pump — Ejector Type' — IPSS : 1-02-054-90.

**5. Workmanship** — The pump shall be of sturdy design so as to withstand, the impact of solid particles to be encountered in its pumping operation. The pump shall be free from all imperfections which may effect its serviceability.

Amendments Issued ( to be filled up by the user department ):

| No. | Date of Issue | No. | Date of Issue |
|-----|---------------|-----|---------------|
| 1   |               | 3   |               |
| 2   |               | 4   |               |

**Table 1 Capacity of Pump***(Clause 2.2)*

| Discharge Head | Flow Rate/Minute, Min |
|----------------|-----------------------|
| m              | l                     |
| 7.5            | 340                   |
| 15.25          | 295                   |
| 22.75          | 260                   |
| 30.50          | 230                   |
| 45.75          | 180                   |
| 53.00          | 140                   |

**6. Guarantee** — The manufacturers shall guarantee the optimum performance of the pump for a period of 12 months of operation or 18 months from the date of supply whichever is earlier and shall rectify/replace defective parts of the pump free of cost during this guarantee period.

**7. Test Certificate** — The supplier/manufacturer shall submit a test certificate/performance characteristic curves alongwith the pump.

**8. Marking** — The pump shall be fitted with a name plate at a suitable place. The name plate shall legibly be marked with the following:

- a) Manufacturers name and trade-mark, and
- b) IPSS Standard No : 1-02-054-90.