

# INTERPLANT STANDARD — STEEL INDUSTRY



## SPECIFICATION FOR PNEUMATICALLY OPERATED DRILLING MACHINE

IPSS : 1-07-007-77

BASED ON IS : 5441-1969

AUTHENTICATED COPY

(ASHOK KUMAR)  
SR. DY. DIR. & I/C (IPSS)

### 0. Foreword

**0.1** Interplant standardization activity in steel industry is being pursued under the aegis of the Indian Standards Institution (ISI) and the Steel Authority of India Limited (SAIL). This Interplant Standard prepared by the Subcommittee on Portable Maintenance Equipment, IPSS 1:7, with the active participation of the representatives of all the steel plants and established manufacturers of pneumatic tools, was adopted by the Approval Committee on Consumable Stores and General Equipment, IPSS 1, on 25 June 1977.

**0.2** Interplant standards for steel industry primarily aim at achieving rationalization 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 the 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.

**0.3** Since the production facilities of the indigenous manufacturers have been oriented to the use of the fps units, it has not been possible to give rationalized metric dimensions in all cases. For guidance, therefore, dimensions in inch units have been given in parenthesis in this standard following the converted metric dimensions in millimetres. The IPSS Technical Committee responsible for the formulation of this standard hopes that the rationalized metric dimensions in those cases would be arrived at through revision of the corresponding national standard at a suitable date.

**1. Scope** — This Interplant Standard, which covers the requirements of portable pneumatic drilling machines, is generally based on IS : 5441-1969 'Specification for pneumatic portable drilling machine'. Hence, the stipulations of this Indian Standard regarding terminology, material, general requirements and acceptance tests are applicable as such.

**1.1** Other technical requirements for meeting the specific needs of the steel industry are covered by this Interplant Standard.

**2. Requirements** — The requirements of nominal size, maximum diameter of drill in each size, type, speed, maximum mass, spindle off-set, length of feed, maximum overall length, air inlet connection, air consumption and type of handle shall be as given in Table 1.

**2.1** The exhauster shall be so provided that it can be adjusted to any direction, as required.

**2.2** The drilling machine shall be provided with a governor or any other feature to prevent excessive speeds and air consumption and to maintain efficient speed under loads.

**2.3** All rotating parts shall preferably be supported on anti-friction bearings with arrangements to lubricate the bearings and the gears.

**2.4** The drilling machine shall be fitted with an air strainer or screen which shall be effective against ingress of solid particles and which shall be easy to clean.

**2.5** The air inlet nipple shall be properly protected by a plastic cap or any other means to avoid damage to the thread and to prevent entry of dirt into the machine. Further, the lubricating parts shall be properly enclosed so as to prevent entrance of foreign particles and leakage of lubricants.

**3. Workmanship and Finish** — The drilling machine shall be of rugged construction so as to withstand the rough usage likely to be encountered in steel plants and shall be free from all imperfections which may affect the serviceability of the machine.

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

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

**TABLE 1 REQUIREMENTS FOR PNEUMATIC PORTABLE DRILLING MACHINES**

(Clause 2)

Nominal Size	Dia of Drill, Max	Type	Speed, Max (rpm)	Mass of Machine, Max (kg)	Spindle Off-set	Length of Feed, Max	Overall Length, Max	Air Connection Size*	Air Consumption at 6 kg/cm <sup>2</sup> (+10 percent), Max (m <sup>3</sup> /min)	Type of Handle (see IS : 5441-1954)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
G13 (with drilling chuck)	13 mm (1/2")	Non-reversible	1 000	3.75	31.75 mm (1 1/8")	—	295 mm (11 1/2")	R 1/2	1.2	Pistol grip with trigger throttle
M2 (with self-holding sockets)	25.4 mm (1")	Reversible	700	8	46 mm (1 1/2")	98 mm (3 7/8")	355 mm (14")	R 1/2	1.8	Double hand grip with twist (rolling) throttle
M3 (with self-holding sockets)	31.75 mm (1 1/8")	Reversible	400	15.5	46 mm (1 1/2")	98 mm (3 7/8")	355 mm (14")	R 1/2	2.2	Double hand grip with twist (rolling) throttle

\* Conforming to IS : 554-1975. Dimensions for pipe threads where pressure tight joints are required on the threads (second revision).

