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भारतीय मानक मसौदा

मैनुअल पोर्टेबल ग्रीस गन — विशिष्टि

(IS 7794 *का दूसरा पुनरीक्षण*)

Draft Indian Standard

Manual Portable Grease Guns – Specification

(*Second Revision of* IS 7794)

ICS 75.100; 43.060.30

Lubricating Equipment Sectional Committee, PGD 19	Last Date for Comments: **15-01-2024**

FOREWORD

(*Formal clause shall be added later on*)

Manual portable grease guns are versatile tools designed for applying grease without needing external power sources, making them ideal for on-the-go lubrication tasks in industrial applications. These grease guns are typically lightweight, easy to transport, and can operate in areas without access to electricity or compressed air.

This Indian Standard was first published in 1975 and subsequently revised in 1984. The second revision has been taken up for incorporating a new type of grease gun, and the modifications found necessary as a result of experience gained with the use of this standard. Also, in this revision, the standard has been brought into the latest style and format of Indian Standards, and references wherever applicable have been updated. BIS certification marking clause has also been modified to align with the revised Bureau of Indian Standards Act, of 2016. The major modifications incorporated in this revision are as follows:

a) Requirements for pistol-type grease guns have been added; and

b) Packaging and marking requirements have been updated.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (second revision).’ The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Draft Indian Standard

SPECIFICATION FOR MANUAL PORTABLE GREASE GUNS

(*Second revision of* IS 7794)

1 SCOPE

This standard covers the requirements of manually operated grease guns intended for use with grease having worked penetration of 220 or above at 25°C for general-purpose applications.

2 REFERENCES

The following Indian Standards contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	*Title*
IS 2500 (Part 1) : 2021	Sampling procedures for inspection by attributes Part 1 Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

3 TERMINOLOGY

As given in Fig. 1, 2 and 3 and 4.

4 TYPES

Manual portable grease guns shall be of the following types:

a) Push type (*see* Fig. 1),
b) Lever type with screw-down follower (*see* Fig. 2),
c) Lever type with spring-loaded follower (*see* Fig. 3). And
d) Pistol type with spring loaded follower (*see* Fig. 4)

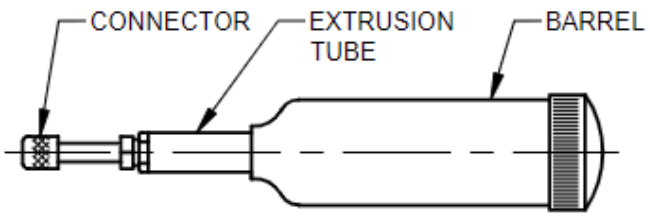

FIG 1 PUSH TYPE GREASE GUN

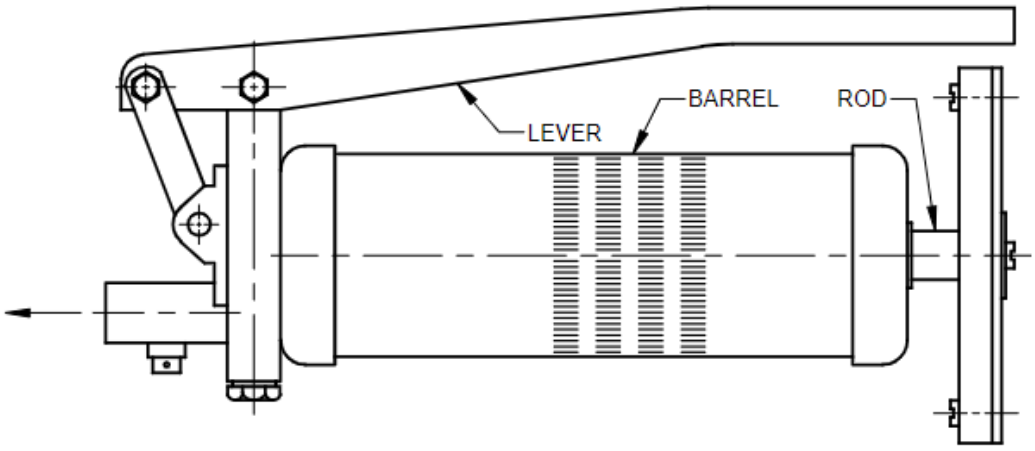

FIG 2 LEVER TYPE GREASE GUN SCREW – DOWN FOLLOWER

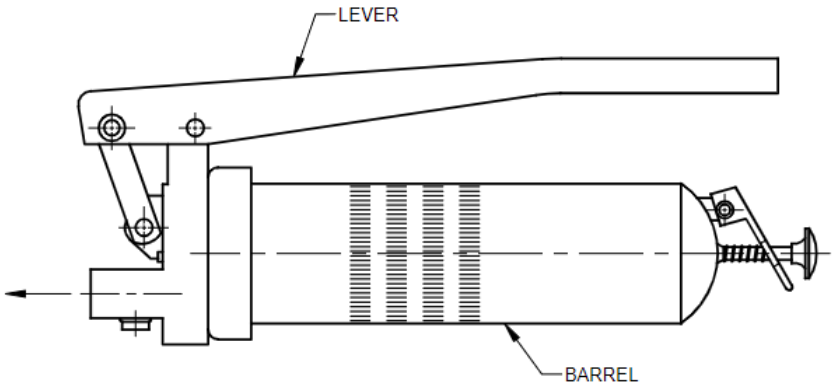

FIG 3 LEVER TYPE GREASE GUN WITH SPRING – LOADED FOLLOWER

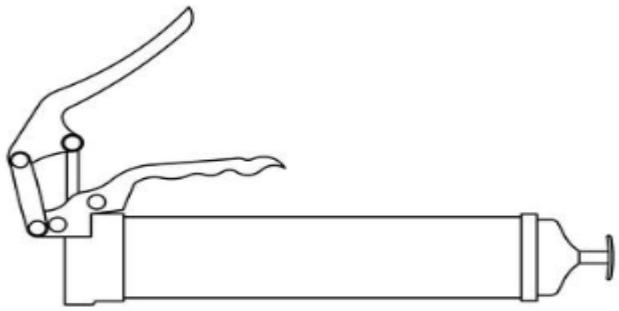

FIG 4 PISTOL TYPE GREASE GUN WITH SPRING LOADED FOLLOWER

5 MATERIAL

The material used for grease guns shall be such as to withstand normal wear and handling when used with grease.

6 CAPACITY

The nominal capacity, discharge per stroke, overall length and operating discharge pressure shall be as given in Table 1.

TABLE 1 Capacity Requirements for Manual Portable Grease Guns

(*Clause* 6)

Sl No.	Parameter	Push Type	Lever Type	Pistol Type
(1)	(2)	(3)	(4)	(5)
i)	Nominal capacity of the gun, cm^3	150	400	400
ii)	Discharge per stroke, cm^3	0.4	1.00	1.00
iii)	Maximum overall length in fully charged condition, mm	325	750	750
iv)	Operating/discharge pressure, Min, kgf/cm^2	200	300	400

7 DESIGN FEATURES

7.1 Grease guns shall be robust in construction and shall be capable of feeding the grease nipples easily, a hydraulic coupler shall be installed for this purpose.

7.2 Grease guns shall be capable of being fed and charged easily with effective quantity of grease and may have a nipple for charging.

7.3 Grease Guns shall have air release valve, which is helpful in removing air contamination from grease

7.4 All packings shall be made from oil-resisting materials.

8 DESIGNATION

Grease guns shall be designated by the following:

a) Type,
b) Nominal capacity, and
c) Number of this Indian Standard.

Example:

Grease gun of lever type with spring-loaded follower and nominal capacity 400 cm3 shall be designated as:

Lever Grease Gun Spring-Loaded 400 IS 7794

9 WORKMANSHIP AND FINISH

9.1 The grease guns shall be finished smooth and shall be free from burrs, cracks and other manufacturing defects.

9.2 Grease guns shall be painted or plated, or powder coated.

10 SAMPLING

10.1 Unless otherwise agreed to between the buyer and the supplier, the sampling plan as given in Appendix A shall be followed. For further information reference may be made to IS 2500 Part 1.

11 PERFORMANCE TESTS

When tested on a test rig shown in Fig. 5, the volume of grease extruded per stroke at different operating pressures shall be as given in Table 2.

TABLE 2 Performance Requirements for manual portable grease guns
(*Clause* 11)

Sl No.	**Operating Pressure**	**Extrusion per Stroke**		
		Lever Type	Push Type	Pistol Type
(1)	(2)	(3)	(4)	(5)
i)	Kgf/cm^2 gauge	cm^3	cm^3	cm^3
ii)	0	1.00	0.4	1.00
iii)	100	0.97	0.39	0.97

iv)	200	0.87	0.35	0.87
v)	300	0.64	0.25	0.64

Note — Before taking measurements, the test rig shall be primed with grease and continuous smooth discharge ensured at the outlet. The volumetric reading shall be the average for 10 strokes. There shall be no external leakage on the gun and at the various connections of the rig.

12 ENDURANCE TEST

The grease gun shall be operated for 3,500 operations on a test rig shown in Fig. **5**. There shall not be any leakage at the end of these operations and the grease gun shall be serviceable.

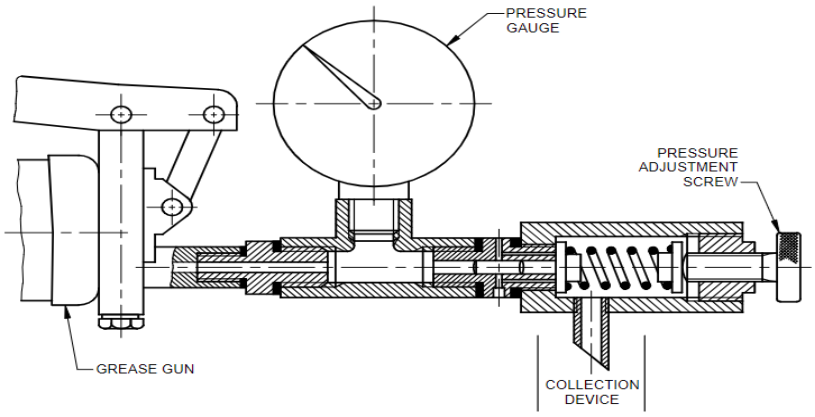

FIG. 5 GREASE GUN TEST RIG

13 MARKING

13.1 The grease guns shall be marked with the nominal capacity and the manufacturer's name or trade-mark.

13.2 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act,* 2016 and the Rules and Regulations framed thereunder, and the product(s) may be marked with the Standard Mark.

14 PACKAGING

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

ANNEX A

(*Clause* 10.1)

SCALE OF SAMPLINS AND CRITERIA FOR CONFORMITY

A-l. Scale of Sampling

A-l.1 *Lot* — In any consignment all the grease guns- of the same type and nominal size and manufactured from the same materials under essentially similar conditions of manufacture shall be grouped together to constitute a lot.

A-l.2 For ascertaining the conformity of the lot to the requirements of the standard, sample shall be selected and tested separately for each lot. The number of guns to be selected at random for this purpose shall be in accordance with col 1 and 2 of Table 3.

TABLE 3 SAMPLE SIZE AND CRITERIA FOR CONFORMITY

(*Clause* A-1.2 and A-1.4)

Sl No.	**Number of Guns in the Lot** *N*	**Sample Size** *n*	**Permissible No of Defective Guns**
(1)	(2)	(3)	(4)
i)	Up to 100	8	0
ii)	101 to 150	18	0
iii)	151 to 300	20	0
iv)	301 to 500	32	1
v)	501 to 1000	50	2
vi)	1001 to 3000	80	3
vii)	3001 and above	125	5

A-l.3 The guns for the sample shall be selected at random from the lot and in order to ensure the randomness of selection, suitable random number tables shall be used. In case such tables are not available, the following procedure for selection may be adopted:

Starting from any gun in the lot count them in one order as 1 2. 3, . . . , up to r and so on, where r is the integral part of N/n (N being the lot size and n the sample size). Every r^{th} cup thus counted shall be selected to constitute the sample.

A-l .4 *Number of Tests and Criteria for Conformity* — The guns selected in accordance with **A-1.2** and **A-l.3** shall be examined for capacity and dimensions requirements and tested for performance and endurance. The lot shall be considered as having satisfied the requirements of the specification, if the number of guns failing to meet the requirements of one or more of the characteristics, is less than or equal to the permissible number of defectives given in col 3 of Table 3.