



DRAFT TANZANIA STANDARD

MEDC 10(5692) P3 - SPECIFICATION FOR HONEY EXTRACTOR, RADIAL TYPE

FOR STAKEHOLDERS COMMENTS ONLY

0. FOREWORDS

Honey extractors enable bee-keepers to extract the maximum quantity of honey from their frames. There are many kinds of honey extractors in use; they range from simple hand-driven types used in small apiaries to the complex power-driven types used in large bee-keeping organizations. This standard is intended to give general requirements for a hand-driven honey extractor of the radial type. The standard is intended to give guidance to manufacturing of this type of honey extractor.

In the preparation of this standard assistance has been derived from Indian standard IS 5427:2015 – Specification for honey extractor, radial type.

FOR STAKEHOLDERS COMMENTS ONLY

1. SCOPE

This standard prescribes the requirements for hand operated honey extractors of the hand operated radial type, used for extracting honey centrifugally from the frames. This standard also includes a typical design of the honey extractors of radial type.

2. TERMINOLOGY

For the purpose of this standard, the following definitions shall apply;

2.1 Rotating Frame Holder - A device which holds super frames in place while extracting honey (see 5.2) and rotates around a central shaft.

2.2 Comb frame - A frame which has a depth less than that of the brood frame and in which surplus honey is stored.

3. SIZES

There shall be two sizes of the honey extractor, radial type, namely, Size 1 and Size 2. Size 1 honey extractor shall be used for all the three sizes of the super frames of Type A beehive while Size 2 shall be used for all the three sizes of the super frames of Type B beehive. (ref Table 1)

4. MATERIALS

5. The honey extractor, radial type, shall be constructed from stainless steel sheets or equivalent/superior metal sheet acceptable for food industry.

6. CONSTRUCTION

6.1 Outer Drum – The outer drum of the honey extractor shall be bent and suitable joint to form a cylinder. The bottom shall be soft soldered to the drum. The bottom may be flat or convex as agreed to between the purchaser and the supplier. If required by the purchaser, the bottom of the drum may be provided with a metal ring to avoid grinding off action. The rims of the barrel shall be rolled over and beaded with mild steel wire of 5 or 6 mm diameter. The boarding shall be done in such a way that the wire shall be properly fused before the beading is done. All the joints and seams shall be soldered properly.

6.1.1 Outlet - outlet or honey gate of the outer drum shall be fixed near the bottom in such a position as to enable the outer drum to be completely emptied with minimum tilting. It shall be not less than 25 mm in diameter, Not less than 50 mm in length and shall be soft soldered to the outer drum properly. The outlet shall be provided with a stop cock.

6.2 Rotating Frame Holder (Inner Cage) - The rotating frame holder shall have circular top plate and bottom plate made of galvanized sheets. The thickness of the material shall be such that the plates shall not bend and be strong enough to hold the 10 frames with honey. The top and bottom plates shall be of one-piece construction with slots to hold the frames in position. The plates shall be held in position by firm mild steel rods and the central axle (see Fig. 1D, 1E and Fig. 2). The clearance all around the frame holder and the drum shall be not less than 20 mm; the clearance between the centers of the bottom plate and the bottom of outer drum shall not be less than 75 mm.

6.2.1 The openings in the top plate shall be such as to hold 10 super frames radially (see Fig. 1E).

6.2.2 The bottom plate shall have 10 openings (see Fig. 1E) to fit the lugs of 10 super frames.

6.2.3 The supporting rods of 10 mm diameter and threaded at both ends shall be fixed at the periphery of the top and bottom plates with nuts. The diameter of the central axle rod shall be 12 to 15 mm, as desired by the purchaser.

6.3 Bearings-There shall be at least two bearings, that is, top bearing and bottom bearing.

6.3.1 Bottom Bearing - A bush bearing shall be fixed to the bottom of the outer drum. The upper surface of the bush shall have a socket and steel balls to receive the axle rod. The bush shall be raised and a seal may be provided on the top of the bush to avoid mixing of grease or worn out parts of steel in honey.

6.3.2 Top Bearing-One ball bearing shall be fitted at the top of the top cover of the frame holder where the axle rod is passing through it.

6.4 Handle – The handle of the extractor shall be made in two pieces (see Fig, 1C).

The first piece of the handle shall be passed through the holes provided in the handle support (see 5.4.1 and Fig. 1), which in turn shall be fixed on a steel strip 6 mm thick and 40 mm wide (see Fig. 1B) running across the outer drum. This mild steel strip carrying the handle support shall be supported by two steel brackets riveted to the outer drum. One end of the first piece of the handle shall have beveled gear, which shall engage with a bevelled pinion supported on the top of the central shaft. The gear ratio shall be not less than 1:5. The other end of the first piece of the handle shall be fixed to one end of the second piece of the handle. A wooden grip shall be provided for the other end of the second piece of handle. The handle shall be operated sideways.

6.4.1 The handle support shall be made of mild steel strip or cast iron (see Fig. 1B) and fixed on the mild steel strip running across the barrel. It shall be provided with holes for the passage of the handle. If the handle support is made of cast iron, it shall be provided with lubricating holes on the top and the inside of the holes meant for the passage of the handle shall be provided with liners.

6.5 Cover - -A cover made of the same material as of the outer drum, may be provided if required by the purchaser. The cover may be fitted with a wire gauge on the lower side so that it could be used as an uncapping tray.

7. SHAPE AND DIMENSIONS

The various parts of the two sizes of the honey extractor shall, as far as possible, conform to the shape and dimensions given in Fig. 1. A pictorial view of the rotating frame holder is given in Fig. 2.

Table 1. Dimensions

SIZE	A	B	C	D	E	F	G	H	J	K	L
------	---	---	---	---	---	---	---	---	---	---	---

1	350±10	310±10	225±10	270±10	220	42	50	32	42	210	260
2	450±10	330±10	295±10	310±10	310±10	260	62	44	62	250	300

All dimensions in millimeters.

NOTE: If required by the purchaser, the outlet (spout) may be fixed at the bottom of the outer drum.

8. WORKMANSHIP AND FINISH

8.1 All joints of the honey extractor shall be satisfactory in all respects. The weld shall not be porous or brittle. All welded joints shall be well dressed and smoothly finished. The soldering shall be neat and clean. The honey extractor shall be finished smooth all over. The honey extract- or shall be devoid of cracks, seams, dents and other similar defects.

8.2 The parts which do not come in contact with honey shall be painted with suitable synthetic paint. Removable nuts shall be rust-proofed independently of painting.

9. MARKING

9.1 The honey extractor shall be marked with the following particulars:

- a. Manufacturer's name,
- b. Trade-mark or initials;
- c. Year of manufacture;
- d. Batch or code number; and
- e. Size of the extractor.

LIST OF FIGURES

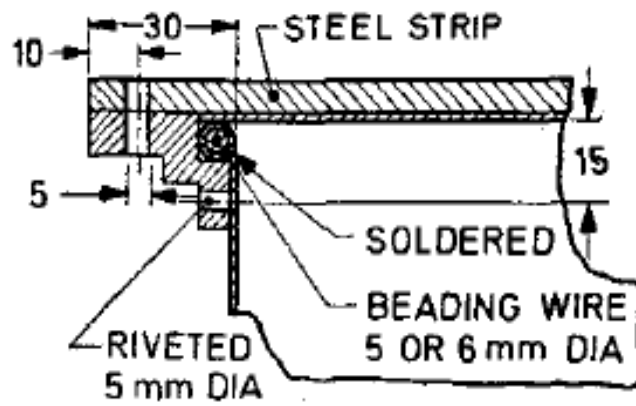


FIG 1A..DETAILS OF BRACKET SUPPORT FOR STEEL STRIP

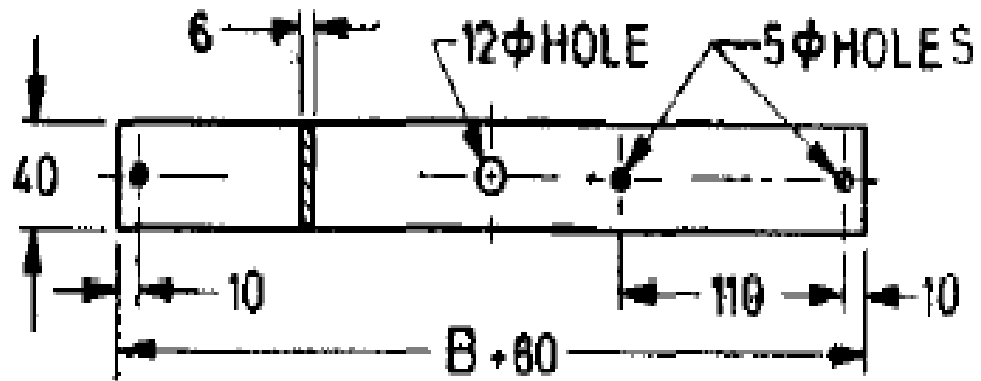


FIG 1B STEEL STRIP

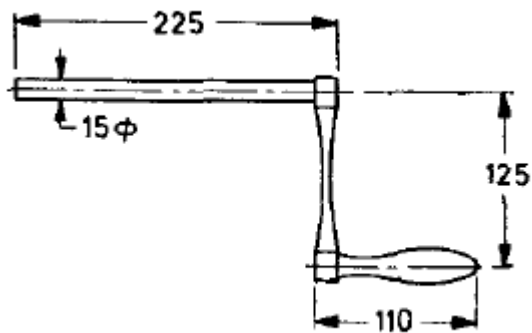


FIG 1C.. HANDLE

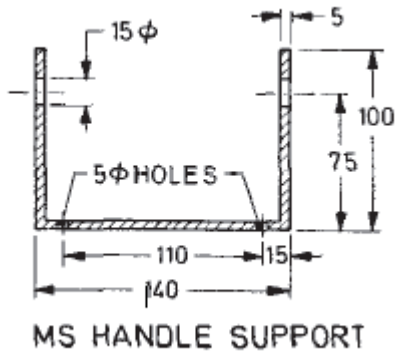


FIG. 1 D HANDLE SUPPORT

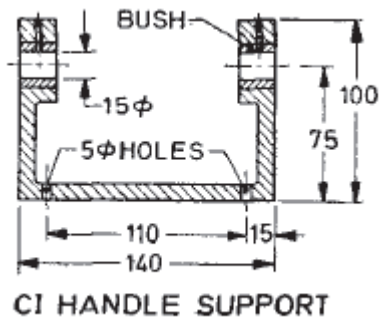


FIG. 1 E HANDLE SUPPORT

10Ø on 245 PCD

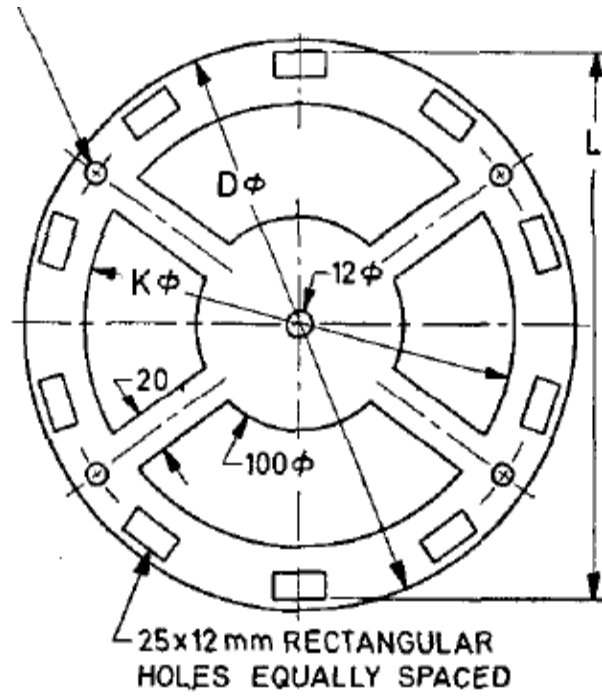


FIG 1F1.. BOTTOM PLATE

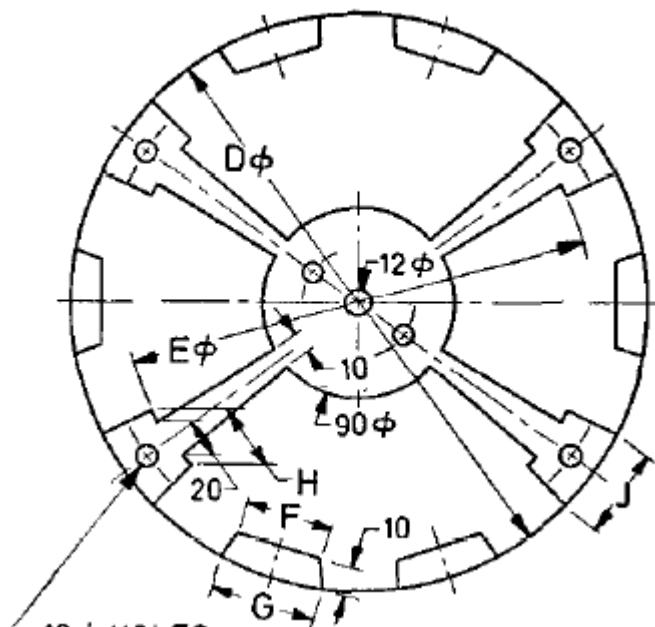


FIG 1F2... TOP PLATE

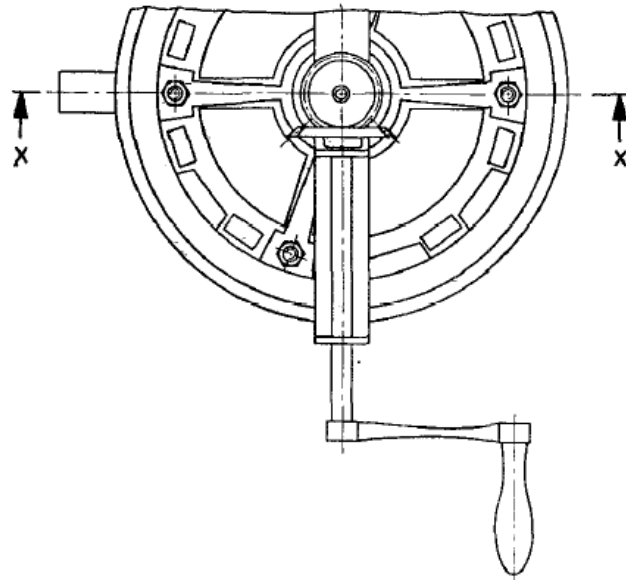


FIG 1G.. PLAN

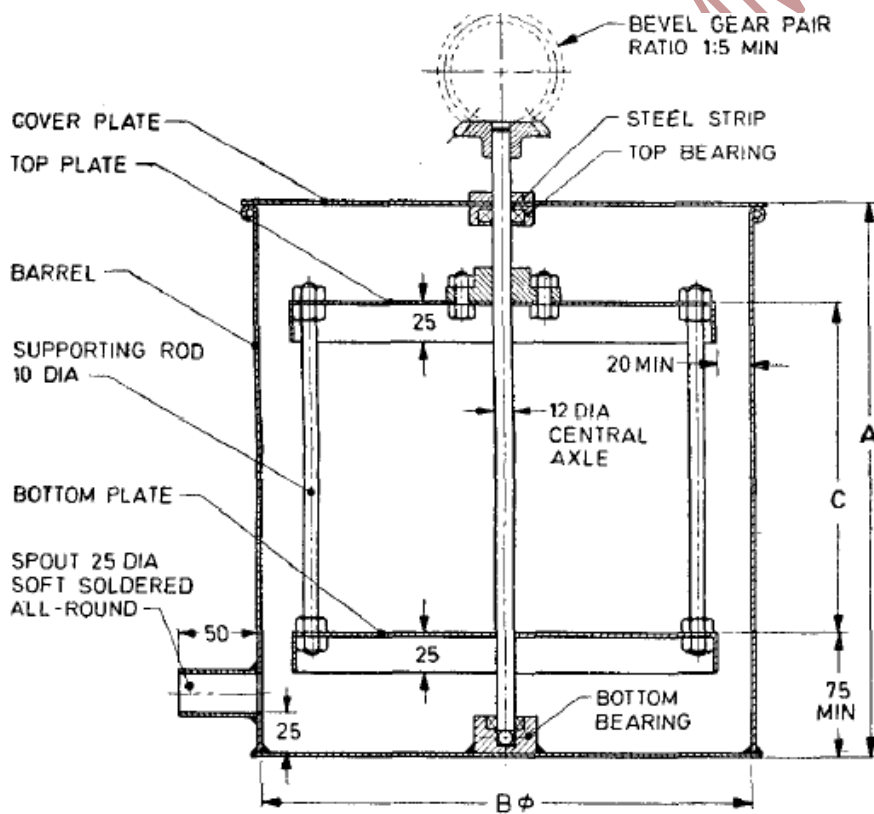


FIG 1G.. SECTION ELEVATION X-X

ASSEMBLY

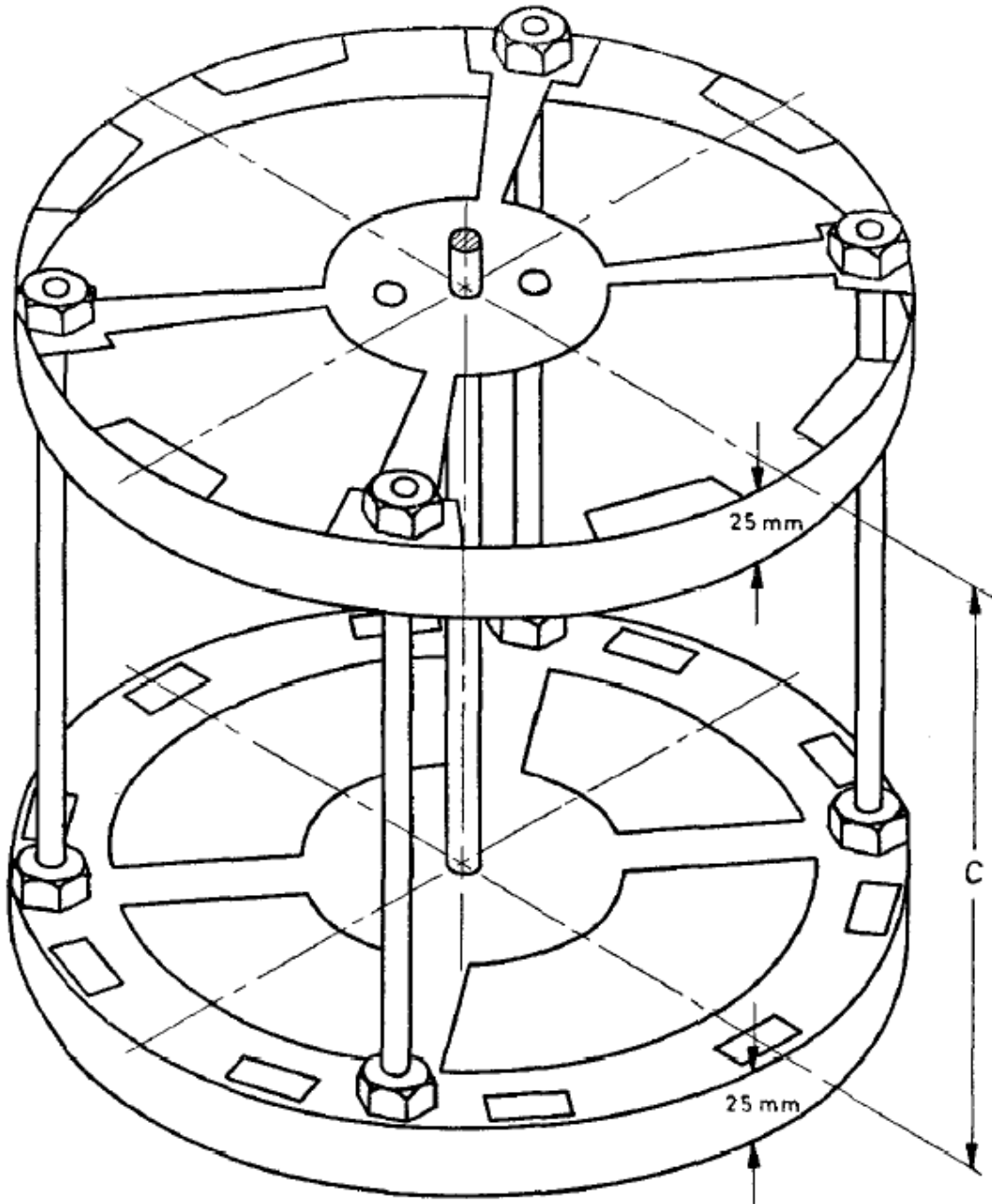


FIG 2 ROTATING FRAME HOLDER

(For other dimensions see Table 1)