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# International Standard



# 6903

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## **Cinematography — Motion-picture camera cartridge, 8 mm Type S, Model I (capacity 60 m) — Cartridge-camera interface and sprocket drive — Dimensions and specifications**

*Cinématographie — Chargeur modèle I, de capacité 60 m, pour caméra 8 mm type S — Ajustement du chargeur dans la caméra et entraînement du débiteur — Dimensions et spécifications*

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## Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 6903 was developed by Technical Committee ISO/TC 36, *Cinematography*, and was circulated to the member bodies in June 1983.

It has been approved by the member bodies of the following countries:

Canada	Italy	USA
Czechoslovakia	Japan	USSR
France	Mexico	
Germany, F.R.	Sweden	

No member body expressed disapproval of the document.

# Cinematography — Motion-picture camera cartridge, 8 mm Type S, Model I (capacity 60 m) — Cartridge-camera interface and sprocket drive — Dimensions and specifications

## 1 Scope and field of application

This International Standard lays down the dimensions of the 8 mm Type S Model I [capacity 60 m (200 ft)] motion-picture film camera cartridge and gives cartridge-camera interface specifications. This International Standard also lays down the dimensions of the sprocket drive opening and critical dimensions of the sprocket. In addition, the driving force, direction of drive and recommended drive ratio for 8 mm Type S [capacity 60 m (200 ft)] motion-picture film camera cartridge are specified.

An optional means of retaining the film supply until the cartridge is placed in the camera is described.

## 2 Dimensions

**2.1** The dimensions shall be as shown in the figures and given in the tables.

**2.2** The dimensions apply to an assembled cartridge with a film load at the time of manufacture.

**2.3** Datum planes B, C and A are referred to as first, second, and third respectively. These planes, which are used for dimensioning, are mutually perpendicular and are jointly called a datum reference frame.

**2.3.1** Datum plane A is coincident with the centre of a circle, located by basic dimension  $T$ . The circle is in contact with edges of the locating slot defined by dimensions  $A$ ,  $O$ ,  $P$  and  $Q$ . The diameter of the circle is such that it applies regardless of feature size (RFS) of the locating slot. (See the annex, clause A.3.)

**2.4** Datum features B, C and A are primary, secondary, and tertiary respectively.

**2.4.1** Datum feature B is the unnotched, unlabelled surface of the cartridge extending 50,8 mm (2.00 in) basic below and 41,53 mm (1.635 in) basic above the datum plane A. It is the primary datum feature and relates the cartridge to the datum reference plane by having a minimum of three points in contact with the first datum plane B.

**2.4.2** Datum feature C is the front seating surface of the cartridge, extending 50,8 mm (2.00 in) basic below and 41,53 mm (1.635 in) basic above datum plane A. It is the secondary datum feature and relates the cartridge to the datum reference frame having a minimum of two points in contact with the second datum plane C.

**2.5** Dimensions  $L$ ,  $N$ ,  $U$ ,  $A_m$ ,  $V$ ,  $M$ ,  $W$  and  $R_3$ , measured from datum planes A and C to the depth of dimension  $E$ , as shown in the view of the label side, describe the extent of both triangular recessed areas. The inboard wall of the recessed area, defined by dimensions  $L$  and  $N$ , shall be a smooth surface and may be tilted from the perpendicular to the datum plane B sufficiently to allow proper mould release when the cartridge is manufactured in a moulding process.

**2.6** The thickness of the wall of the cartridge used for notching, dimension  $W$ , shall be sufficient to withstand a force of at least 10 N (2.2 lbf), while deflecting no more than 1 mm (0.04 in).

NOTE — For the purpose of measurement, the force is applied by a solid round pin of nominal diameter 1,3 mm (0.05 in) centred 0,8 mm (0.03 in) nominally, above or below the film speed or filter notch coincident with basic dimension  $T$  on datum feature C.

**2.7** Dimension  $A$  specifies the normal overall thickness of the cartridge, extending from the bottom edge of the cartridge to the light lock rib (dimension  $U$ ), and within the light lock channel (dimension  $D_g$ ).

**2.8** Some cartridge manufacturers may desire to provide a means of retaining the film supply and take-up spools until the cartridge is placed in the camera. One method employs a spool locking device which is activated by a lock pin extending through datum feature B. Such a device should be designed to unlock the spools when the lock pin is depressed by seating the cartridge on the datum reference plane B (camera mechanism plate). The lock pin should be located within a zone from 12,7 mm (0.05 in) basic from datum plane A to 33 mm (1.3 in) basic from datum plane A within dimension  $B$ . The force required to hold the lock pin coincident with datum plane B shall not exceed 5,4 N (20 oz). The initial force to depress the lock pin may be significantly higher than the force required to hold the lock pin coincident with the datum plane B.