International Standard 7453

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Cinematography — Sound motion-picture camera cartridge, 8 mm Type S Model II — Cartridge-camera fit and take-up core drive — Dimensions and specifications

Cinématographie — Chargeur, modèle II, pour caméra sonore, 8 mm *type S — Ajustement du chargeur et entraînement du noyau récepteur — Dimensions et spécifications*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

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Cinematography — Sound motion-picture camera cartridge, 8 mm Type S Model II — Cartridge-camera fit and take-up core drive — Dimensions and specifications

1 Scope and field of application

This International Standard specifies the external dimensions of the 8 mm Type S Model II sound motion-picture film camera cartridge, cartridge-camera fit specifications and core dimensions.

NOTE — All dimensions in imperial units are shown in the annex.

2 Dimensions and specifications

2.1 The dimensions shall be as shown in the figures and given in the tables and apply to an assembled cartridge containing a film load.

2.2 Datum planes used for dimensioning are coincident with the surfaces that engage mating camera parts when the cartridge is properly aligned in the camera. The datum planes are mutually perpendicular.

2.2.1 Datum plane Z (primary) is established from the extremities of the four seating bosses (lugs) 1, 2 (dimension *L*) 3 and 4.

2.2.2 Datum plane Y (secondary) is established coincident with the axes of the cartridge take-up core opening, dimension W_2, and the supply core opening, dimension W_3.

2.2.3 Datum plane X (tertiary) is also established coincident with the axis of the cartridge take-up core opening, dimension W_2.

2.3 The four bosses (lugs) which established datum plane Z and engage mating surfaces to laterally locate the cartridge in the camera shall be nominally flat.

2.4 The centre line for the supply shaft, dimension F_1, also applies to the right hand view.

2.5 The coaxiality of the core post, dimension *f*, and the core drive openings, dimensions *e* and *h* (see figure 2), with the openings in the cartridge, dimensions W_2 and *J*, (see figure 1), should be within 0,4 mm.

2.6 Regardless of the method of constructing the light trap, a clearance of 1,0 to 1,7 mm is required during rotation.

2.7 Dimensions *a*, *b* and *d* (see figure 2) are measured as the cartridge is supplied by the manufacturer.

NOTE — This requirement applies whether or not a spring is used to load the core towards datum plane Z.

2.8 The minimum torque required for the take-up spindle at the start of drive should be 0,003 43 N·m.

NOTE — ISO (the International Organization for Standardization) has been advised that the Fuji Photo Film Company Ltd. owns the patents as listed below:

Country	Patent No.
Canada	825 419
USA	3599550 and 3434782
Germany, F.R.	1274443

ISO takes no position with respect to the scope and validity of these patents. With respect to the patents, the Fuji Photo Film Company Ltd has assured ISO that it will not assert any claim for infringement of such patents based on the manufacture, sale or use of cartridges in compliance with 2.1 and the figures and tables of dimensions.

3 Bibliography

ISO 1700, *Cinematography — 8 mm Type S motion-picture raw stock film — Cutting and perforating dimensions.*

ISO 1787, *Cinematography — Camera usage of 8 mm motion-picture film perforated Type S.*

ISO 3641, *Cinematography — Motion-picture camera cartridge 8 mm Type S Model II — Cartridge fit and take-up core drive — Dimensions and specifications.*

ISO 7454, *Cinematography — Sound motion-picture camera cartridge, 8 mm Type S Model II — Camera run length and end notches in film — Dimensions and specifications.*

ISO 7455, *Cinematography — Sound motion-picture camera cartridge, 8 mm Type S Model II — Slots and projection for film speed, cartridge hole and projection for film identification and colour-balancing filter — Dimensions and positions.*

ISO 7456, *Cinematography — Sound motion-picture camera cartridge, 8 mm Type S Model II — Film load position.*

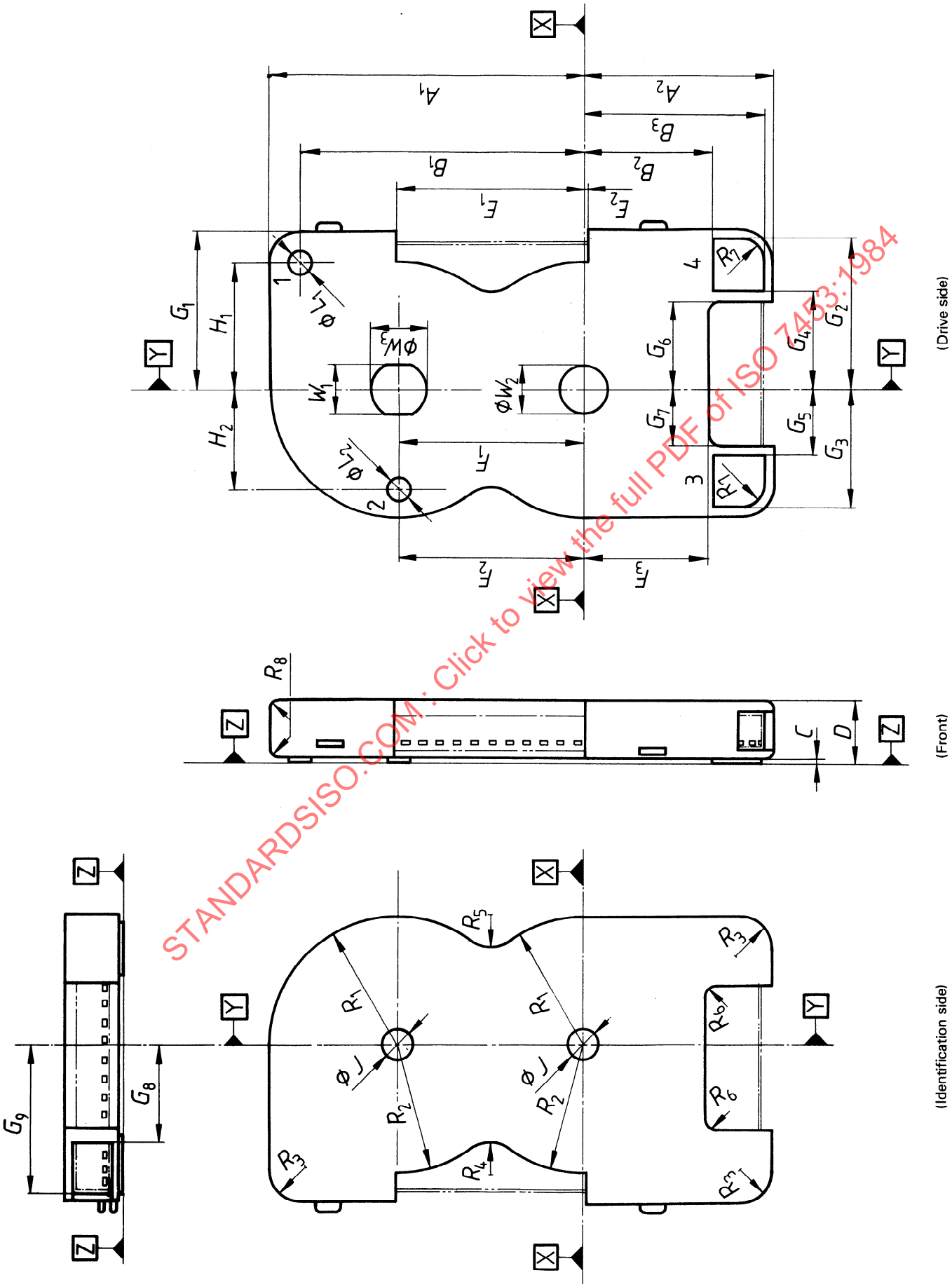
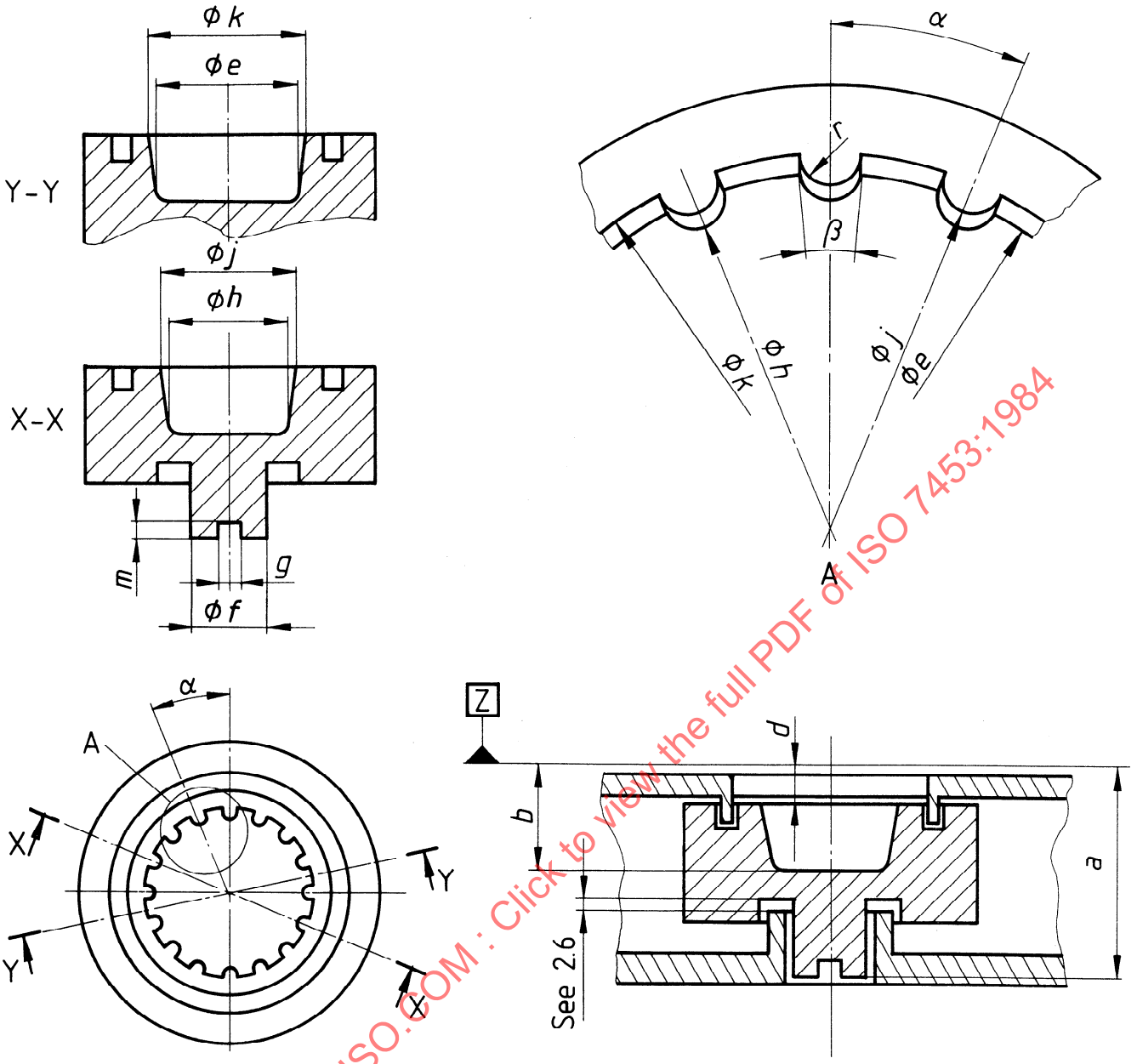


Figure 1 — Cartridge dimensions

Table 1 — Cartridge dimensions

Dimensions	mm
A_1	72,50 ± 0,45
A_2	43,5 ± 0,3
B_1	65,5 ± 0,3
B_2 max.	30,0
B_3 min.	41,0
C	$0{,}30\ ^{0}_{-0{,}20}$
D	$13{,}30\ ^{+0{,}65}_{-0{,}20}$
E_1	43,0 ± 0,3
E_2	0,00 ± 0,15
F_1	43,00 ± 0,15
F_2	43,0 ± 0,3
F_3	28,5 ± 0,3
G_1	36,5 ± 0,2
G_2 min.	34,5
G_3 min.	27,5
G_4 max.	22,0
G_5 max.	15,5
G_6	20,0 ± 0,3
G_7	13,5 ± 0,3
G_8 max.	24,5
G_9 min.	33,5
H_1	29,3 ± 0,3
H_2	23,0 ± 0,3
J	7,0 ± 0,2
L_1, L_2 max.	5,3
W_1	$12{,}00\ ^{+0{,}15}_{0}$
W_2	$12{,}00\ ^{+0{,}15}_{0}$
W_3	12,4 ± 0,1
R_1	29,5 ± 0,3
R_2	28,5 ± 0,3
R_3	8,0 ± 0,3
R_4	10,0 ± 0,3
R_5	10,0 ± 0,3
R_6	3,0 ± 0,3
R_7 nom.	6,0
R_8 max.	1,0



NOTE — Hidden lines not shown

Figure 2 — Section of cartridge containing core (see 2.5)

Table 2 — Core dimensions

Dimensions	mm
a	12,8 ± 0,3
b	7,2 ± 0,2
d	2,2 ± 0,2
e	10,1 ± 0,1
f	$5{,}5\ ^{0}_{-0{,}2}$
g	1,2 ± 0,2
h	$9{,}0\ ^{+0{,}2}_{0}$
j	9,2 ± 0,1
k	10,3 ± 0,1
m	1,2 ± 0,2
r	calculated from $k/2 \sin \beta/2$
α	22 1/2 ° nom.
β	10 ± 1/2 °