

Motion-Picture Equipment—Projection Reels (75-mm Diameter)—8-mm Type S Motion-Picture Film

PH22.212M

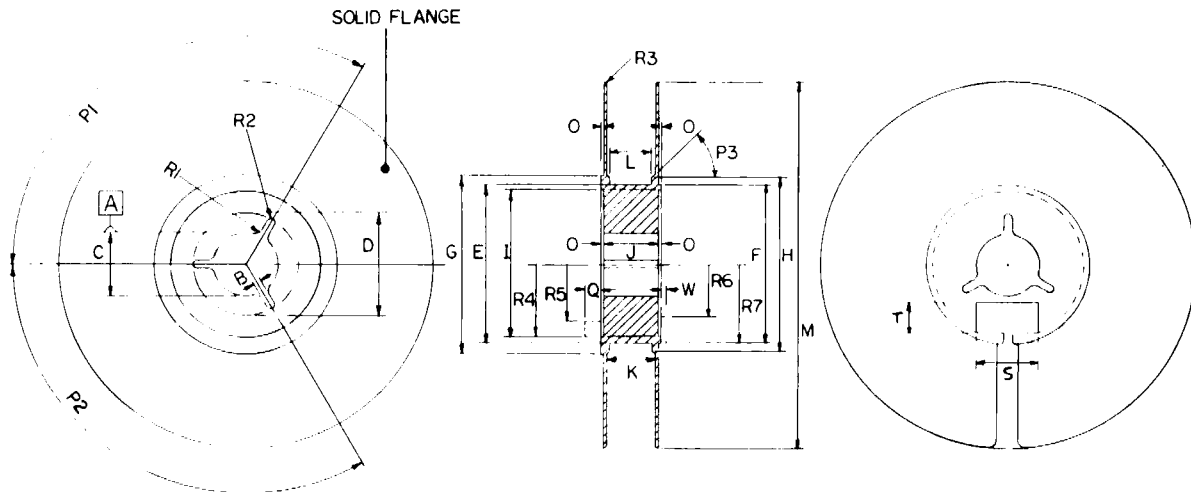


Fig. 1
Reel Dimensions

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1. Scope

This standard specifies the dimensions of size 7 8-mm Type S motion-picture projection reels of 75-mm (2.95-in) diameter with a nominal film capacity of 15 m (50 ft) generally used for returning the film from the processing laboratory. The reels fit reel-to-reel equipment and are interchangeable in projection cassettes.

2. Dimensions

- 2.1 The dimensions shall be as given in the figures and tables.
- 2.2 The dimensions shall apply regardless of the material (generally plastic) used for construction.
- 2.3 The reel shall be designed with at least one solid flange (see Fig. 1), with the exception of the hub area. By definition, the solid flange should not contain openings such as thread-up slots.
- 2.4 Film attachment shall be provided by a slot in the reel hub, and a minimum cutout in the flange opposite the solid flange shall be provided for easy access to the film end. In order to secure the end of the film to the reel for automatic re-winding, a means of film retention, such as a special retention plug or clip, shall be provided. (See Dimensions S and T in Fig. 1.)
- 2.4.1 For reel-to-reel operation, the retention means shall not protrude beyond Dimensions $O \pm J \pm O$. For projection cassette operation, if a plug or clip is used, it shall not protrude beyond Dimensions Q, R4, and R5 and/or W, R6, and R7 in Fig. 1.
- 2.4.2 When the retention means is utilized, it shall retain a polyester film of 0.1 mm (0.004 in) thickness when a tension of 5 N (18 oz-f) is applied in a radial direction.
- 2.5 The rings defined by Dimensions F, G, and O are guiding means for horizontal operation of the reel.
- 2.6 Maximum lateral and radial runouts are given in Fig. 2 and Table 2.
- 2.6.1 The primary datum reference plane of rotation is defined with the surface of a flat 25.0-mm (0.98-in) diameter support which is centered on the spindle hole datum axis A. The reference surface makes contact with the reel in the minimum 1-diameter area. The datum axis, which is perpendicular to the primary datum reference plane of rotation, does not necessarily coincide with the axis derived from the center of the spindle holes.
- 2.6.2 Dimensions U1, U2, U3, and U4 are measured at the periphery of the flanges and are the allowable lateral distances from the datum reference plane when the reel is rotated on a test spindle.
- 2.6.3 Dimensions V1 and V2 specify the radial runout of the flanges and hub, respectively. These dimensions exceed Dimensions M and E by 0.5 mm (0.02 in) to allow for eccentricity of the spindle holes, hub, and flanges.

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Table 1

| Dimensions | Millimeters | Inches |
|------------|--------------|---------------|
| B | 1.5 ± 0.3 | 0.06 ± 0.01 |
| | — 0.0 | — 0.00 |
| C | 12.75 ± 0.15 | 0.502 ± 0.006 |
| | — 0.00 | — 0.000 |
| D | 20.6 ± 0.5 | 0.81 ± 0.02 |
| | — 0.0 | — 0.00 |
| E | 32.5 ± 0.5 | 1.28 ± 0.02 |
| F | 32.5 ± 0.5 | 1.28 ± 0.02 |
| G | 36.6 max | 1.44 max |
| H | 33.5 ± 0.5 | 1.32 ± 0.02 |
| I | 30.0 ± 0.5 | 1.18 ± 0.02 |
| | — 0.0 | — 0.00 |
| J | 10.9 ± 0.3 | 0.43 ± 0.01 |
| K* | 8.4 min | 0.33 min |
| L | 8.4 ± 0.3 | 0.33 ± 0.01 |
| | — 0.0 | — 0.00 |
| M | 74.9 ± 0.0 | 2.95 ± 0.00 |
| | — 1.0 | — 0.04 |
| O | 0.51 ± 0.13 | 0.020 ± 0.005 |
| | — 0.25 | — 0.010 |
| P1 | 120° ± 2° | |
| P2 | 120° ± 2° | |
| P3 | 45° ± 2° | |
| Q | 4.3 max | 0.17 max |
| R1 | 1.0 max | 0.04 max |
| R2 | 8/2 max | 8/2 max |
| R3† | 0.5 max | 0.02 max |
| R4 | 15.0 max | 0.59 max |
| R5 | 11.25 min | 0.443 min |
| R6 | 10.92 min | 0.430 min |
| R7 | 16.0 max | 0.63 max |
| S | 11.9 min | 0.47 min |
| T | 6.1 min | 0.24 min |
| W | 0.8 max | 0.03 max |

*At hub.
†If metal flanges are used, there should be no burr on the flange periphery.

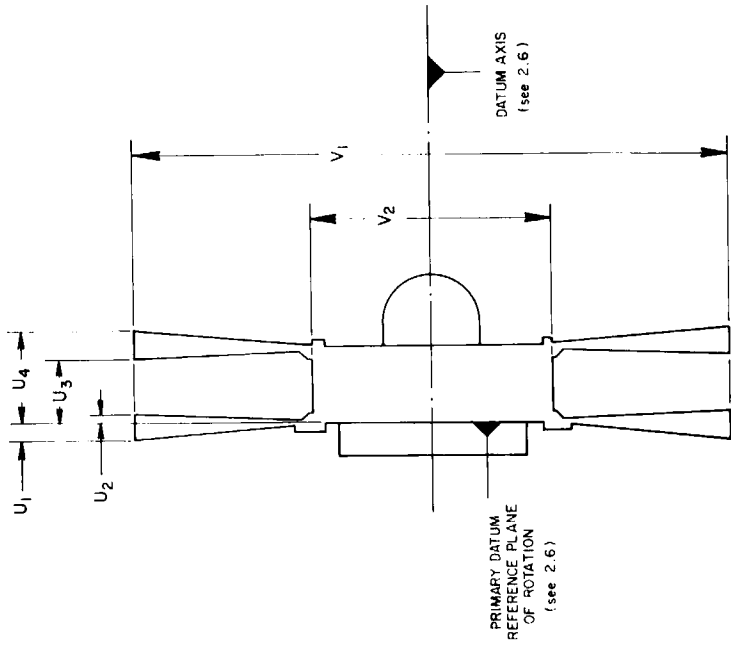


Fig. 2
Maximum Volume of Rotation
(Not intended as a true view or section figure.)

Table 2

| Dimensions | Millimeters | Inches |
|------------|-------------|-----------|
| U1 | 0.65 max | 0.026 max |
| U2 | 1.10 max | 0.043 max |
| U3 | 9.50 min | 0.374 min |
| U4 | 11.75 max | 0.463 max |
| V1 | 75.4 max | 2.97 max |
| V2 | 33.5 max | 1.32 max |