International Standard ISO 6687

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Machinery for forestry — Winches — Performance requirements

Matériel forestier — Treuils — Exigences de performance

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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 6687 was developed by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, and was circulated to the member bodies in June 1981.

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Machinery for forestry — Winches — Performance requirements

1 Scope and field of application

This International Standard specifies a uniform method of defining specification definitions, drum storage capacity, line pull and line speed for winches used in tree harvesting machines.

2 Definitions (see figure and table 1)

2.1 barrel diameter, A : Diameter of the cable drum barrel measured in millimetres.

2.2 flange diameter, B : Diameter of the cable drum flanges measured in millimetres.

2.3 distance between flanges, C : Distance measured between the flanges of the cable drum in millimetres, measured at 1/2 × (depth of flange − safety distance).

$$\frac{D-S}{2}$$

2.4 depth of flange, D : Radial distance from the outside diameter of the cable drum flange to the surface on the cable drum barrel measured in millimetres.

2.5 safety distance, S : Outmost periphery of the flange that shall be left free from cable. It shall be equal to two cable diameters, $S = 2d$.

2.6 throat clearance, E : Minimum distance from the barrel of the cable drum to the winch housing at any point located between the flanges of the cable drum.

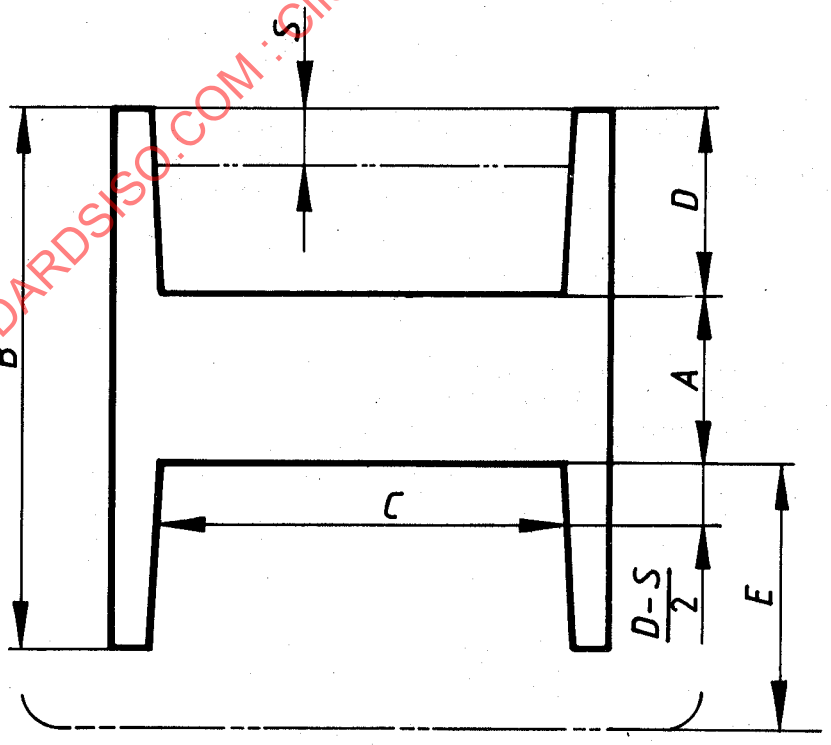
$$E > D$$

3 Performance requirements

3.1 Symbols and units (see the figure)

Table 1 — Symbols and units

Symbol	Definition	Unit
A	Barrel diameter	mm
B	Flange diameter	mm
C	Distance between flanges	mm
D	Depth of flange	mm
E	Throat clearance	mm
L	Cable length	m
S	Safety distance	mm
d	Cable diameter	mm
F	Line pull	N
n	Rotational frequency of input shaft	r/s
T	Torque on winch input shaft	N·m
R	Total gear reduction between the winch input shaft and the cable drum	
u	Efficiency of total gear reduction between input shaft and cable drum at the speed corresponding to the torque used for T	
v	Line speed	m/s



NOTE — This sketch of the winch is only indicative and does not relate to a specific winch.

Figure — Basic dimensions of winches