



BSI Standards Publication

Rims for agricultural, forestry and construction machines

National foreword

This British Standard is the UK implementation of ISO 18804:2021. It supersedes BS ISO 18804:2017, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee AUE/4, Tyres and wheels for motor vehicles.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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INTERNATIONAL STANDARD

**ISO
18804**

Second edition
2021-08

Rims for agricultural, forestry and construction machines

*Jantes pour machines agricoles, engins forestiers et engins de
construction*



Reference number
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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. Each 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 31, *Tyres, rims and valves*, Subcommittee SC 5, *Agricultural tyres and rims*.

This second edition cancels and replaces the first edition (ISO 18804:2017), which has been technically revised.

The main changes compared to the previous edition are as follows:

- all figures and tables have been corrected;
- the valve hole description for other drop-centre rims has been revised.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Rims for agricultural, forestry and construction machines

1 Scope

This document specifies rim dimensions for rims for agricultural, forestry, and construction machines.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3911, *Wheels and rims for pneumatic tyres — Vocabulary, designation and marking*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 3911 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

4 General

All dimensions in this document are given in millimetres and are applicable to the side of the rim which is in contact with the tyre during the mounting and in service.

5 Rim diameter and circumferences

Nominal rim diameter codes, D_R , are shown in [Table 1](#) in relation to the specified rim diameter given in [Figure 1](#).

Actual rim diameter measurements shall be as given in [Annex A](#).

Table 1 — Rim diameters

Dimensions in millimetres

5° drop-centre rims

Nominal rim diameter code D_R	Specified rim diameter ^a D
4	100,8
6	151,6
8	202,4
9 ^b	227,8
10	253,2
12	304,0
13 ^b	329,4
14	354,8
15	380,2
16	405,6
17 ^b	436,6
18	462,0
19 ^b	487,4
20	512,8
22	563,6
24	614,4
26	665,2
28	716,0
30	766,8
32	817,6
34	868,4
36	919,2
38	970,0
40	1 020,8
42	1 071,6
44	1 122,4
46	1 173,2
48	1 224,0
50	1 274,8
52	1 325,6
54	1 376,4

^a The specified rim diameters, D , in millimetres, are derived from the nominal rim diameter codes, D_R , as follows:

a) $D_R > 16$, $D = 25,4 (D_R + 0,187 5)$;

b) $D_R \leq 16$, $D = 25,4 (D_R - 0,031 25)$.

The values are rounded to 0,1 mm.

^b Value not recommended.

See [Annex B](#) for additional regionally recognized 5° diameter codes.

15° drop-centre rims

Nominal rim diameter code D_R	Specified rim diameter D
19.5	495,3
22.5	571,5
24.5	622,3
26.5	673,1
28.5	723,9
30.5	774,7
See Annex C for additional regionally recognized 15° diameter codes.	

Semi-drop-centre rims (multi-piece)

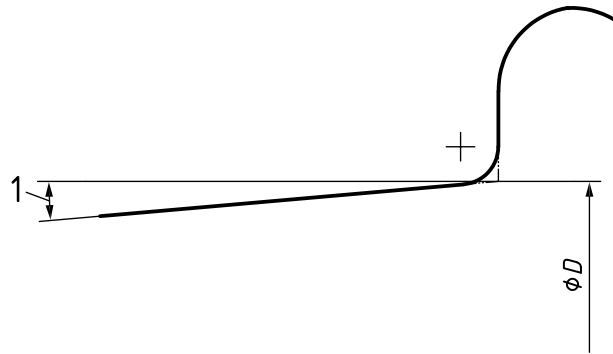
Nominal rim diameter code D_R	Specified rim diameter D
20	512,8
24	614,4
See 6.6 .	

Divided rims

Nominal rim diameter code D_R	Specified rim diameter D
4	100,8
6	151,6
8	202,4
9	227,8
10	253,2
12	304,0
See 6.7 .	

Flat base rims and full tapered bead seat rims

Nominal rim diameter code D_R	Specified rim diameter D
20	514,4
25	635,0
32	817,6
See 6.8 and 6.9 .	

**Key**

1 bead taper

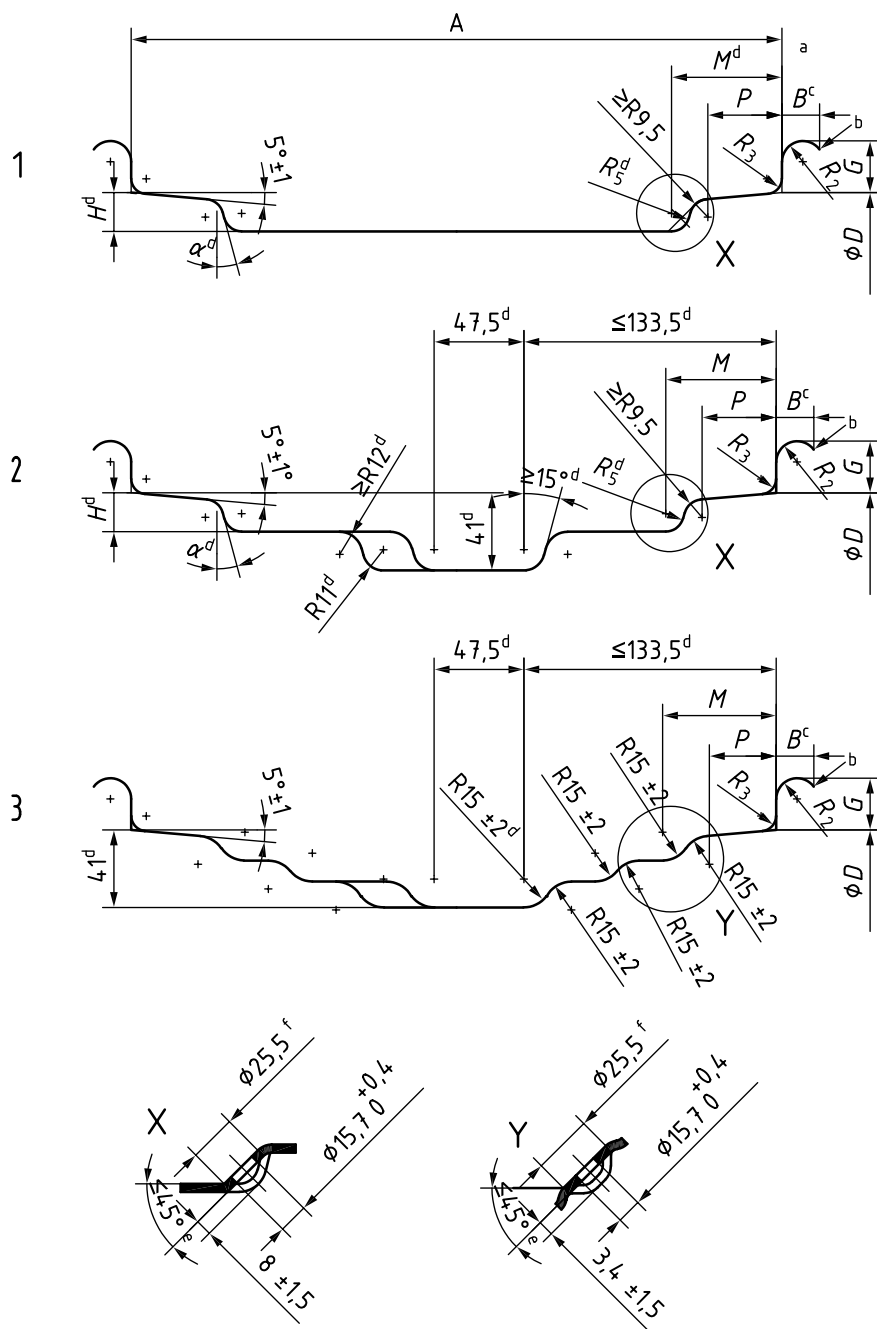
Figure 1 — Specified rim diameter**6 Rim contours and valve holes****6.1 Drop-centre W, DW and TW rims**

Dimensions and tolerances of drop-centre W, DW and TW rims (includes all suffixes, for example, DW-A) shall be as given in [Table 2](#) and shown in [Figure 2](#). For W-C rims, refer to [Annex B](#).

The valve hole shall have a diameter of $15,7 \text{ mm}^{+0,4}_0$ and may be on either side of the rim.

The nominal valve seat angle is $30^\circ \pm 5^\circ$. To provide for valve-to-vehicle clearance, optional valve seat angles of 45° maximum are permissible. For any angle selected for a given rim, the tolerance is $\pm 5^\circ$.

Dimensions in millimetres



Key

- 1 W contour
- 2 DW contour
- 3 TW contour
- X valve hole detail (W and DW contour)
- Y valve hole detail (TW contour)
- a The tyre-mounting side is that side of the rim for which the dimension M is shown.
- b The break corner is equivalent to $R = 0,5 \text{ min}$.
- c The flange width includes the edge radius. The portion of flange beyond the minimum width shall be lower than the highest point of the flange. For suffix B (example: DW20B), the contour can either follow a continuation of R_2 to full width or, if conical shaped, a minimum 30° angle applies between the upper G horizontal reference line.

- d These dimensions comprise the minimum well envelope for tyre-mounting purposes.
- e For any angle selected for a given rim, the tolerance is $\pm 5^\circ$.
- f Flat surface for valves.

EXAMPLE Dimensions A , B , G , M , P , R_2 and R_3 all apply to W, DW and TW contours; H and R_5 apply to W and DW contours.

Figure 2 — Contour W, DW and TW rims

Table 2 — Dimensions of W, DW and TW rims

Dimensions in millimetres

Rim width code	A	A_{tol}	B_{min}	$G \pm 1,0$	H_{min}	M_{max}	P_{min}	R_2	$R_{3,\text{max}}$	$R_{5,\text{max}}$	α_{min}					
W6	152,5	$\pm 2,5$	10,0	22,5	20,5	44,5	23,5	9,5	6,5	11,0	6°					
W7	178,0			19,3		44,5						11,0				
W7L													22,5	57,5	33,0	
W8	203,0		11,5	25,5		51,0	27,0	11,0								
W8H											22,0		57,5	41,0	15,0	8,0
W8L																
W9	254,0		16,0	22,0		57,5	41,0	15,0	8,0							
W10											11,5	22,0	66,0	33,0	11,0	6,5
W10A																
W10H	305,0		11,5	66,0		27,0	11,0	6,5								
W10L									330,0		16,0	57,5	41,0	15,0	8,0	
W11																355,5
W11H	381,0		16,0	57,5		41,0	15,0	8,0								
W12									406,5		11,5	66,0	27,0	11,0	6,5	
W12A																432,0
W13	457,0		11,5	66,0		27,0	11,0	6,5								
W13A									66,0		41,0	15,0	8,0			
W14L														66,0	41,0	15,0
W15A	66,0	41,0	15,0	8,0												
W15L					66,0	41,0	15,0	8,0								
W16A									66,0	41,0	15,0	8,0				
W16L	66,0	41,0	15,0	8,0												
W17L					66,0	41,0	15,0	8,0								
W18A									66,0	41,0	15,0	8,0				
W18L	66,0	41,0	15,0	8,0												
					66,0	41,0	15,0	8,0								
									66,0	41,0	15,0	8,0				
	66,0	41,0	15,0	8,0												

Nominal rim diameters 16 to 54 for W rims and 24 to 54 for DW and TW rims; see details in [Table 1](#) on 5° drop-centre rims.

NOTE 1 Where DW rims are specified, also the optional TW contour is allowed.

NOTE 2 Rim width guidelines:

- rim width codes to be in increments of 2,00 for width codes ≤ 48 ;
- rim width codes to be in increments of 4,00 for width codes > 48 .