
Rims for agricultural, forestry and construction machines

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

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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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: www.iso.org/iso/foreword.html. (standards.iteh.ai)

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

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This first edition of ISO 18804 cancels and replaces ISO 4251-3:2006, which has been technically revised.

Rims for agricultural, forestry and construction machines

1 Scope

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

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

NOTE Terms used are in accordance with ISO 3911.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

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

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

4 Rim diameter and circumferences

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

For rim diameter measurements, see [Annex A](#).

A tolerance of $\pm 1,2$ mm on the rim circumference is permitted.

Table 1 — Rim diameters

5° drop-centre rims

Dimensions in millimetres

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

Dimensions in millimetres

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
30.5	774,7

See [Annex C](#) for additional regionally recognized 15° diameter codes.

Flat base rims and full tapered bead seat rims

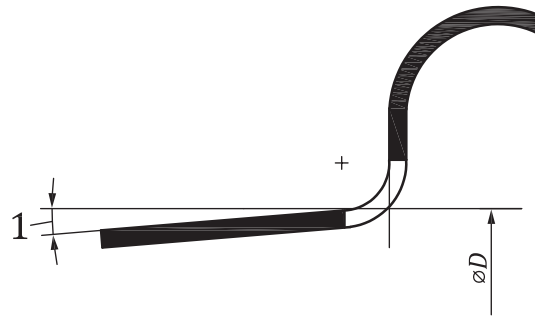
Dimensions in millimetres

Nominal rim diameter code D_R	Specified rim diameter D
20	514,4
25	635,0

See [5.8](#) and [5.9](#).

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**Key**

1 bead taper

Figure 1 — Specified rim diameter**5 Rim contours and valve holes****5.1 Drop-centre W, DW and TW rims**

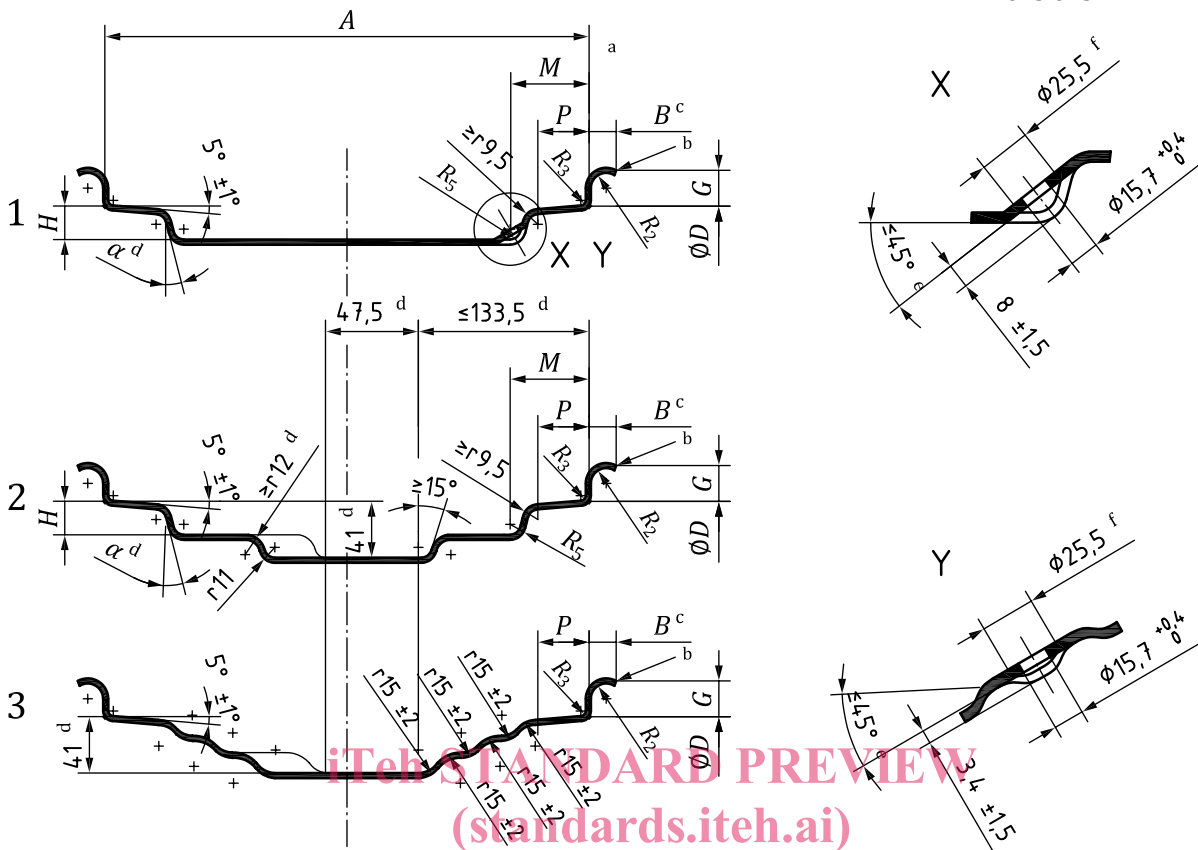
Dimensions and tolerances of drop-centre W, DW and TW rims (includes all suffixes, for example, DW-A) shall be as given in [Table 2](#) and shown in [Figure 2](#). For W-C rims, refer to [Annex B](#).

The valve hole shall have a diameter of 15,7 mm $\begin{matrix} +0,4 \\ 0 \end{matrix}$ 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 $\pm 5^\circ$.

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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 Break corner equivalent to R 0,5 min.
- c Flange width includes 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 R₂ 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, R₂ and R₃ all apply to W, DW and TW contours; H and R₅ 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		B min.	G ±1,0	H min.	M max.	P min.	R ₂	R ₃ max.	R ₅ max.	α min.		
	tol.												
W6	152,5	±2,5	10,0	22,5	20,5	44,5	23,5	9,5	6,5	11,0	6°		
W7	178,0											19,3	60,5
W7L													
W8	203,0		22,5	44,5									
W8H						25,5	57,5	33,0					
W8L			22,0	51,0								27,0	
W9	228,5					25,5	57,5	27,0	11,0		6,5		6°
W10	254,0		16,0	66,0								41,0	
W10A													
W10H			11,5	22,0		57,5	27,0	11,0	6,5				
W10L													
W11	279,5		16,0	66,0		41,0	15,0	8,0					
W11H													
W12	305,0		11,5	57,5		27,0	11,0	6,5					
W12A													
W13	330,0		16,0	66,0		41,0	15,0	8,0					
W13A													
W14L	355,5		25,5	57,5		27,0	11,0	6,5					
W15A	381,0	16,0			66,0				41,0	15,0	8,0		
W15L													
W16A	406,5	11,5	66,0	41,0	15,0	8,0							
W16L													
W17L	432,0	16,0	66,0	33,0	11,0	8,0							
W18A													
W18L	457,0	11,5	33,0	11,0									

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.

Table 2 (continued)

Rim width code	A		B	G	H	M	P	R ₂	R ₃	R ₅	α
	tol.	min.	±1,0	min.	max.	min.	max.	max.	max.	min.	
DW10	254,0	±2,5	11,5	25,5	20,5	54,0	27,0	11,0	6,5		
DW11	279,5										
DW12	305,0										
DW13	330,0										
DW18	457,0	±5,0	11,5	29,0	27,0	63,5	36,5	11,0			
DW14L	355,5										
DW15L	381,0										
DW16L	406,5										
DW17L	432,0										
DW18L	457,0										
DW10A	254,0	±2,5	16,0	25,5	20,5	66,0	41,0				
DW11A	279,5										
DW12A	305,0										
DW13A	330,0										
DW14A	355,5	±5,0	16,0	25,5	20,5	63,5	36,5	15,0	8,0	14,5	15°
DW15A	381,0										
DW16A	406,5										
DW18A	457,0										
DW20A	508,0										
DW20B	508,0										
DW21A	533,5	±6,5	16,0	29,0	27,0	95,5	50,5	15,0	8,0	14,5	15°
DW21B	533,5										
DW23A	584,0										
DW23B	584,0										
DW24A	609,5										
DW24B	609,5										
DW25A	635,0										
DW25B	635,0										
DW27A	686,0										
DW27B	686,0										

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.

Table 2 (continued)

Rim width code	A	B	G	H	M	P	R ₂	R ₃	R ₅	α
	tol.	min.	±1,0	min.	max.	min.		max.	max.	min.
DW28A	711,0	16,0								
DW28B		21,0								
DW30A	762,0	16,0								
DW30B		21,0								
DW31A	787,5	16,0								
DW31B		21,0								
DW36A	914,5	16,0								
DW36B		21,0								
DW44A	1 117,5	16,0								
DW44B		21,0								

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.

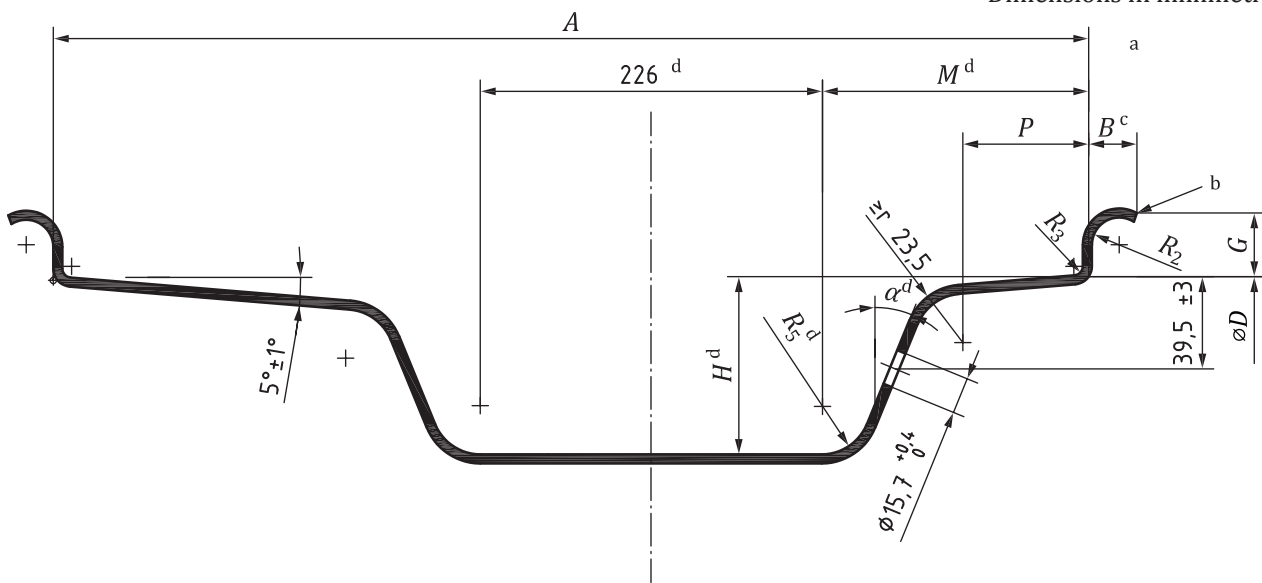
5.2 Drop-centre DH rims

Dimensions and tolerances of drop-centre DH rims (includes all suffixes, for example, DH-H) shall be as given in Table 3 and shown in Figure 3.

The valve hole shall have a diameter of 15,7 mm ^{+0,4} with location shown in Figure 4.

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Dimensions in millimetres



- a The tyre-mounting side is that side of the rim for which the dimension *M* is shown.
- b Break corner equivalent to *R* 0,5 min.
- c Flange width includes edge radius. The portion of flange beyond the minimum width shall be lower than the highest point of the flange. For suffix *B*, the contour can either follow a continuation of *R₂* 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.

Figure 3 — Contour of DH rims
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Table 3 — Dimensions of DH rims

Dimensions in millimetres

Rim width code	<i>A</i>	tol.	<i>B</i> min.	<i>G</i> ±1,0	<i>H</i> min.	<i>M</i> max.	<i>P</i> min.	<i>R₂</i>	<i>R₃</i> max.	<i>R₅</i> max.	<i>α</i> min.
DH21	533,5	±6,5	16,0	29,0	69,0	121,0	54,0	15,0	8,0	22,0	22°
DH21H			21,0				60,0				
DH21HB			16,0				54,0				
DH27	686,0	±6,5	16,0	29,0	69,0	121,0	54,0	15,0	8,0	22,0	22°
DH27H			21,0				60,0				
DH27HB			16,0				54,0				
DH31	787,5	±6,5	16,0	29,0	69,0	121,0	54,0	15,0	8,0	22,0	22°
DH31H			21,0				60,0				
DH31HB			16,0				54,0				
DH36	914,5	±6,5	16,0	29,0	69,0	121,0	54,0	15,0	8,0	22,0	22°
DH36H			21,0				60,0				
DH36HB			16,0				54,0				
DH44	1 117,5	±6,5	16,0	29,0	69,0	121,0	54,0	15,0	8,0	22,0	22°
DH44H			21,0				60,0				
DH44HB			16,0				54,0				