
Rims for agricultural, forestry and construction machines

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

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Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 General	1
5 Rim diameter and circumferences	1
6 Rim contours and valve holes	3
6.1 Drop-centre W, DW and TW rims	3
6.2 Drop-centre DH rims	6
6.3 Drop-centre MW rims.....	8
6.4 Drop-centre DD rims.....	9
6.5 Other drop-centre rims.....	10
6.6 Semi-drop-centre rims (multi-piece)	14
6.7 Divided rims.....	15
6.8 5° and 3° flat base rims (multi-piece) — DWM, VF and HF	16
6.9 Full tapered bead seat rims (multi-piece) — TH.....	18
6.10 AG 15° drop-centre rims.....	18
7 Rim knurling	20
Annex A (normative) Rim diameter measurements	22
Annex B (informative) 5° drop-centre rims with nominal diameter codes 15.3 and 16.1	24
Annex C (informative) 15° drop-centre rims with nominal diameter codes 14.5, 15.5, 16.5, and 17.5	25
Bibliography	26

ISO 18804:2021

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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 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

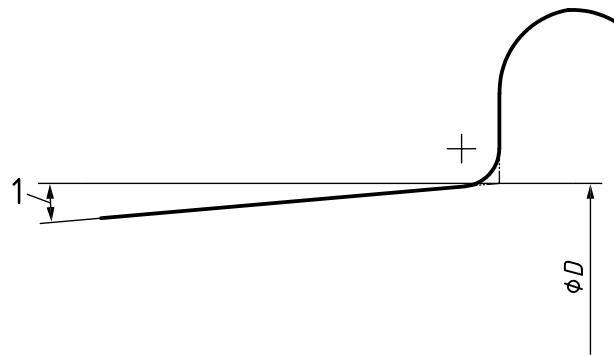
5° drop-centre rims	
Nominal rim diameter code D_R	Specified rim diameter ^a D
4	100,8
6	151,6
8	202,4
9 ^b	227,8
10	253,2
12	304,0
13 ^b	329,4
14	354,8
15	380,2
16	405,6
17 ^b	436,6
18	462,0
19 ^b	487,4
20	512,8
22	563,6
24	614,4
26	665,2
28	716,0
30	766,8
32	817,6
34	868,4
36	919,2
38	970,0
40	1 020,8
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](#).

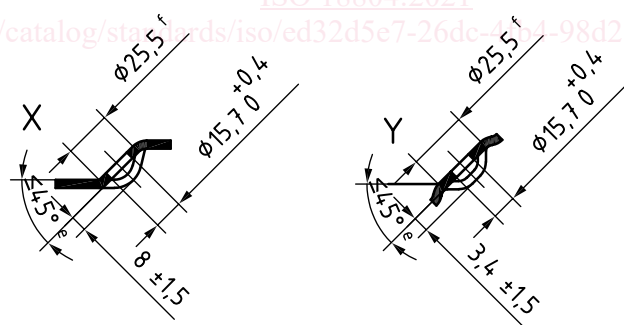
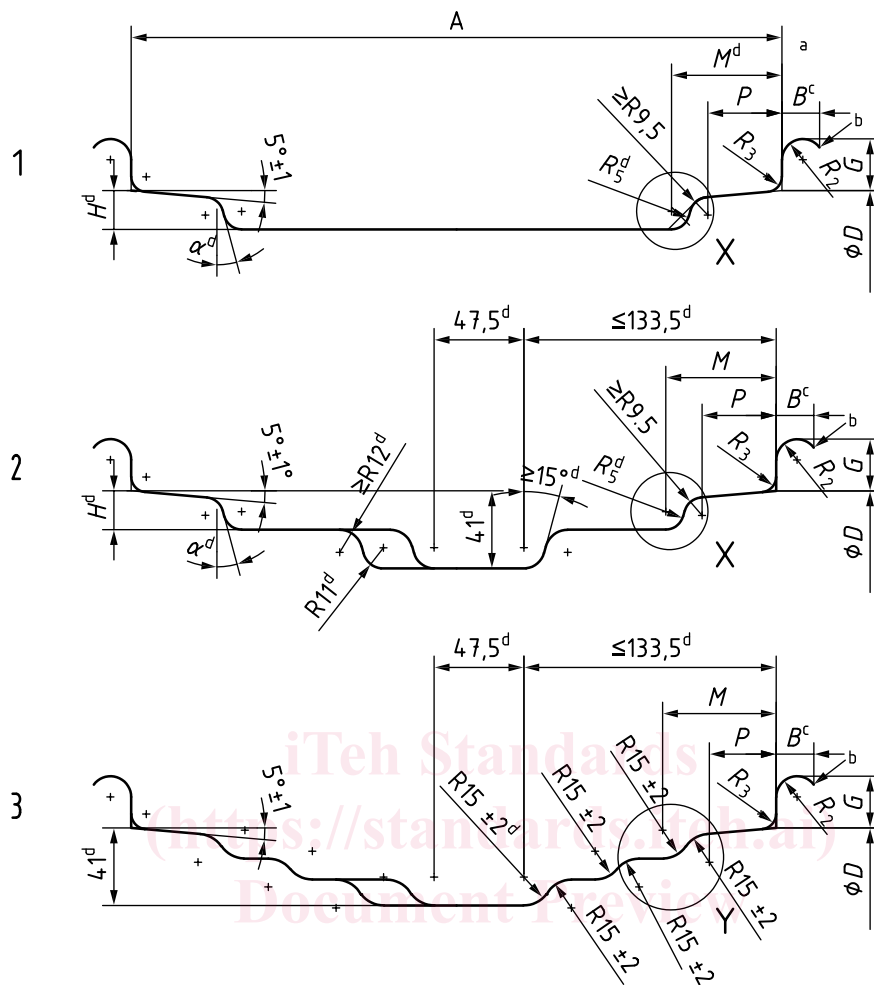
The valve hole shall have a diameter of $15,7 \text{ mm}^{+0,4}_0$ and may be on either side of the rim.

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 $\pm 5^\circ$.

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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 <i>M</i> 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 <i>G</i> 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		60,5					
W7L											
W8	203,0		11,5	25,5		57,5	33,0	11,0			
W8H				22,0		51,0	27,0				
W8L											
W9	228,5		25,5	66,0		41,0	15,0	8,0			
W10	254,0								16,0		
W10A			22,0	33,0		27,0	11,0	6,5			
W10H											
W10L											
W11	279,5		11,5	66,0		41,0	15,0	8,0			
W11H											
W12	305,0		16,0	66,0		41,0	15,0	8,0			
W12A									11,5		57,5
W13	330,0		16,0	66,0		41,0	15,0	8,0			
W13A									11,5		57,5
W14L	355,5	$\pm 5,0$	11,5	25,5	57,5	27,0	11,0	6,5			
W15A	381,0		16,0		66,0	41,0	15,0	8,0			
W15L			11,5		57,5	33,0	11,0	6,5			
W16A	406,5		16,0		66,0	41,0	15,0	8,0			
W16L			11,5			33,0	11,0				
W17L	432,0		16,0			41,0	15,0				
W18A	457,0		11,5			33,0	11,0				
W18L											

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 .

Table 2 (continued)

Rim width code	A	A _{tol}	B _{min}	G ± 1,0	H _{min}	M _{max}	P _{min}	R ₂	R _{3,max}	R _{5,max}	α _{min}		
DW10	254,0	±2,5	11,5	25,5	20,5	54,0	27,0	11,0	6,5	14,5	15°		
DW11	279,5												
DW12	305,0												
DW13	330,0												
DW13L	330,0	±5,0			27,0	63,5	36,5		8,0				
DW14L	355,5												
DW15L	381,0												
DW16L	406,5				27,0	95,5	50,5						
DW17L	432,0												
DW18L	457,0												
DW10A	254,0	±2,5	16,0	25,5	20,5	66,0	41,0	15,0	8,0	14,5	15°		
DW11A	279,5					57,0							
DW12A	305,0					66,0							
DW13A	330,0					63,5							
DW14A	355,5	±5,0			66,0	36,5							
DW15A	381,0				63,5								
DW16A	406,5				66,0							41,0	
DW18A	457,0												
DW20B	508,0	±6,5			21,0	29,0	27,0					95,5	50,5
DW21B	535,5												
DW23B	584,0												
DW24B	609,5												
DW25B	635,0												
DW27B	686,0												
DW28B	711,0												
DW30B	762,0												
DW31B	787,5												
DW36B	914,5												
DW44B	1 117,5												

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.

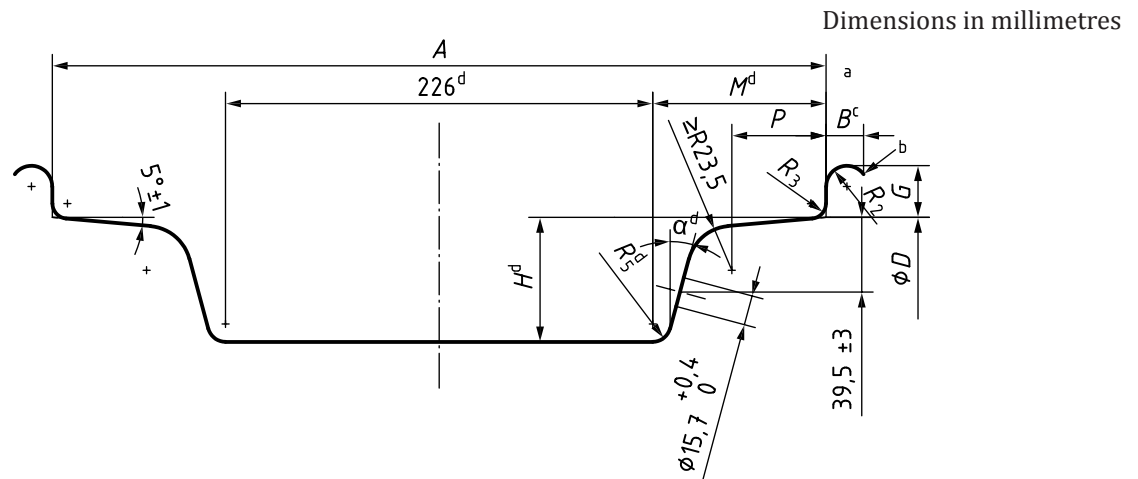
NOTE 2 Rim width guidelines:

- 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.

6.2 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 $^{+0,4}_{0}$ with location shown in Figure 4.



- 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 $R = 0,5$ 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, 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.

Figure 3 — Contour of DH rims

Table 3 — Dimensions of DH rims

ISO 18804:2021

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}
DH21	533,5	$\pm 6,5$	16,0	29,0	69,0	121,0	54,0	15,0	8,0	22,0	22°
DH21H			60,0								
DH21HB											
DH27	54,0										
DH27H	60,0										
DH27HB											
DH31	54,0										
DH31H	60,0										
DH31HB											
DH36	54,0										
DH36H	60,0										
DH36HB											
DH44	54,0										
DH44H	60,0										
DH44HB											

Nominal rim diameters 32 and 46; see details in [Table 1](#) on 5° drop-centre rims.

Nominal rim diameters 32 and 46; see details in Table 1 on 5° drop-centre rims.