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Second edition
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Rims for agricultural, forestry and construction machines

Jantes pour machines agricoles, engins forestiers et engins de construction

Reference number
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Foreword

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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

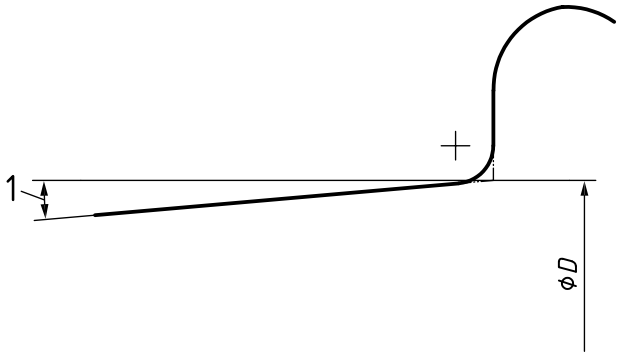
Nominal rim diameter code D_R	Specified rim diameter D
4	100,8
6	151,6
8	202,4
9	227,8
10	253,2
12	304,0

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

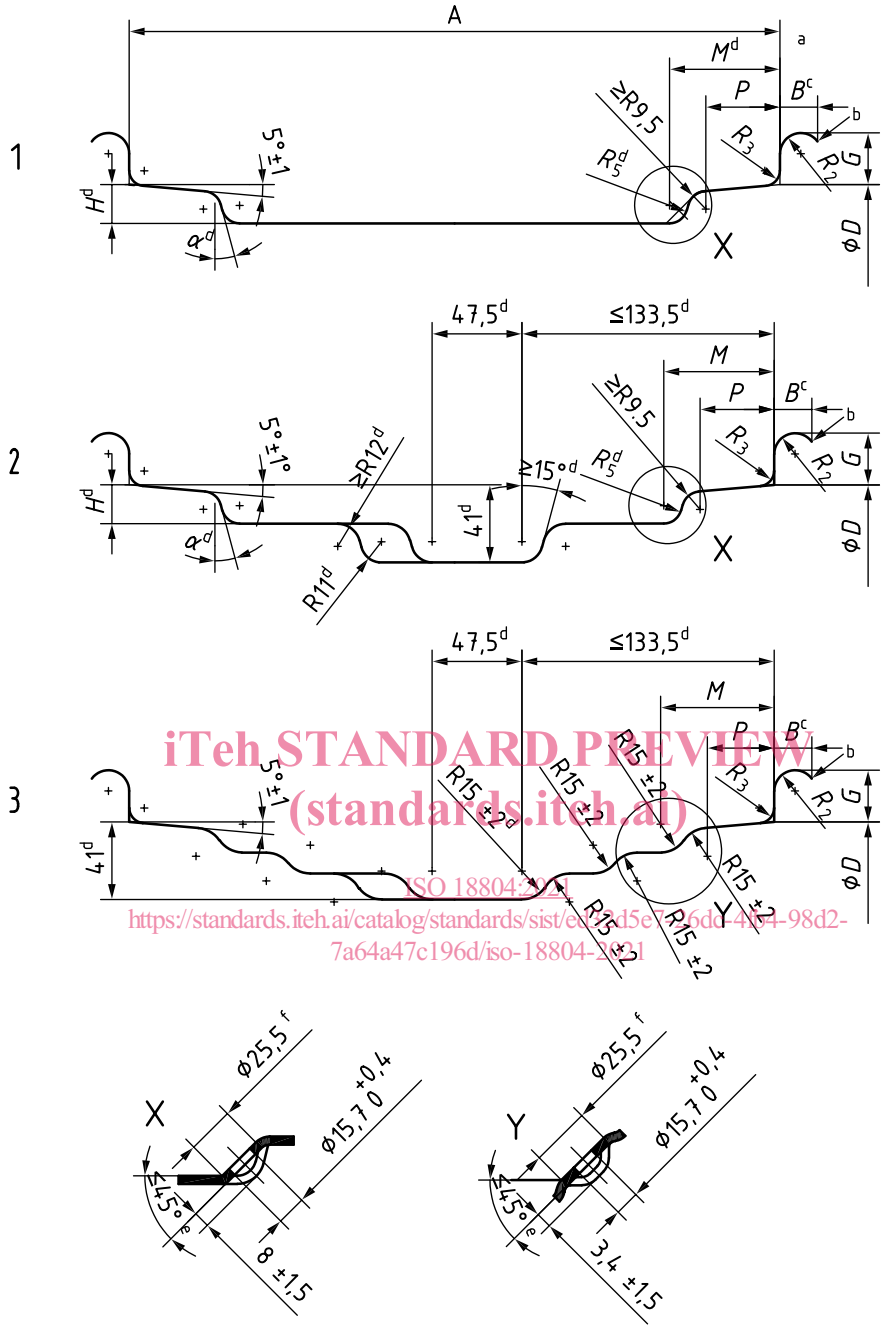
6.1 Drop-centre W, DW and TW rims

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 $15{,}7\ ^{+0{,}4}_{0}$ mm and may be on either side of the rim.

The nominal valve seat angle is 30° ± 5°. 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 ±5°.

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 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 ±5°.

[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 ± 1,0	H_{min}	M_{max}	P_{min}	R_2	$R_{3,max}$	$R_{5,max}$	α_{min}
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										
W7L				19,3		60,5					
W8	203,0			22,5		44,5					
W8H			11,5	25,5		57,5	33,0	11,0			15°
W8L				22,0		51,0	27,0				
W9	228,5			25,5							6°
W10	254,0					57,5					15°
W10A			16,0			66,0	41,0	15,0	8,0		
W10H			11,5			57,5	33,0	11,0	6,5		
W10L				22,0			27,0				
W11	279,5			25,5							
W11H						66,0	41,0	15,0	8,0		
W12	305,0					57,5	27,0	11,0	6,5		
W12A			16,0			66,0	41,0	15,0	8,0		
W13	330,0		11,5			57,5	27,0	11,0	6,5		
W13A			16,0			66,0	41,0	15,0	8,0		
W14L	355,5	±5,0	11,5			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										
W18A	457,0		16,0				41,0	15,0			
W18L			11,5				33,0	11,0			

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.

Table 2 *(continued)*

Rim width code	A	A_{tol}	B_{min}	$G \pm 1{,}0$	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										
DW13A	330,0					66,0					
DW14A	355,5	±5,0				63,5					
DW15A	381,0					66,0					
DW16A	406,5					63,5	36,5				
DW18A	457,0	±6,5				66,0	41,0				
DW20B	508,0		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;

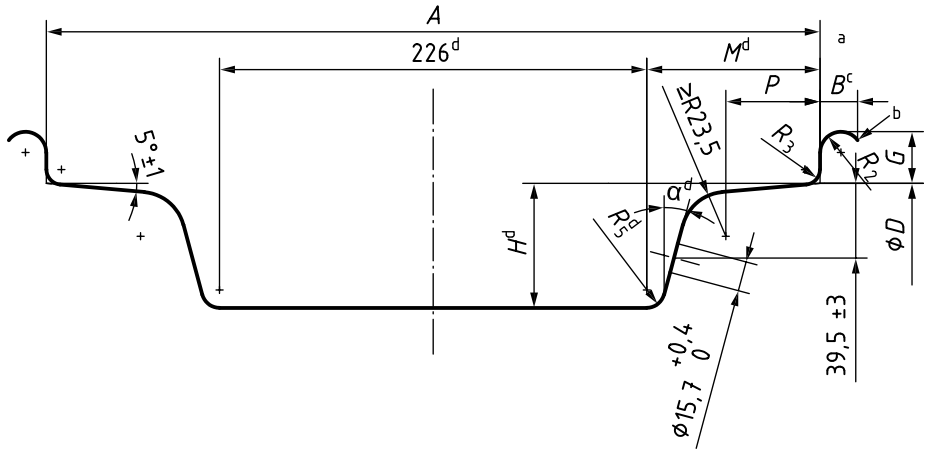
— rim width codes to be in increments of 4,00 for width codes > 48.

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 $15{,}7\ \text{mm}^{+0,4}_{0}$ with location shown in Figure 4.

Dimensions in millimetres



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.

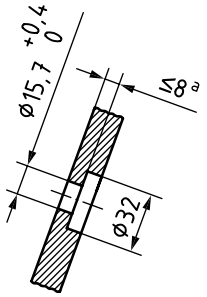
Figure 3 — Contour of DH rims

Table 3 — Dimensions of DH rims

Dimensions in millimetres

Rim width code	A	A_{tol}	B_{min}	$G \pm 1{,}0$	H_{min}	M_{max}	P_{min}	R_2	$R_{3,max}$	$R_{5,max}$	α_{min}
DH21	533,5	±6,5	16,0	29,0	69,0	121,0	54,0	15,0	8,0	22,0	22°
DH21H							60,0				
DH21HB			21,0								
DH27	686,0		16,0				54,0				
DH27H							60,0				
DH27HB			21,0								
DH31	787,5		16,0				54,0				
DH31H							60,0				
DH31HB			21,0								
DH36	914,5		16,0				54,0				
DH36H							60,0				
DH36HB			21,0								
DH44	1 117,5		16,0				54,0				
DH44H							60,0				
DH44HB			21,0								
Nominal rim diameters 32 and 46; see details in Table 1 on 5° drop-centre rims.											

Dimensions in millimetres



a Maintain 8 maximum dimension by counterboring on the weather side of the rim only.

Figure 4 — Dimension of the valve holes in DH rims

6.3 Drop-centre MW rims

Dimensions and tolerances of drop-centre MW rims (includes all suffixes, for example, MW-A) shall be as given in Table 4 and shown in Figure 5.

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