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Rims for agricultural, forestry and construction machines

Jantes pour machines agricoles, engins forestiers et engins de construction

ICS: 83.160.30

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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.

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

— Correction of Figures and Tables

— Changes of valve hole description for other drop-centre rims

A list of all parts in the ISO ##### series can be found on the ISO website.

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.

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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.

2 Normative references

Terms used are in accordance with ISO 3911

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 https://www.iso.org/obp

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4 Rim diameter and circumferences

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Nominal rim diameter codes, D_R, are shown in Table 1 related to the specified rim diameter given in Figure 1.

Actual rim diameter measurements shall be as given in Annex A.

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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
28.5	723,9
30.5	774,7

See Annex C for additional regionally recognized 15°diameter codes.

Semi-drop-centre rims (multi-piece)

Dimensions in millimetres

Nominal rim diameter code D_R	Specified rim diameter D
20	514,4
24	614,4

See 5.6.

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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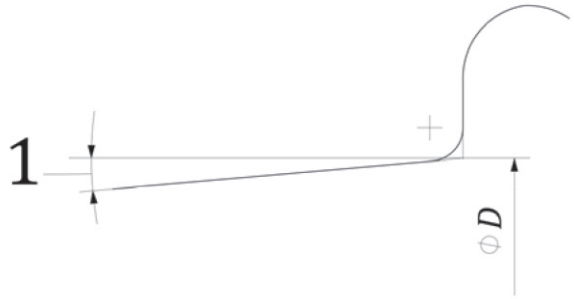

Key

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.

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

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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°.

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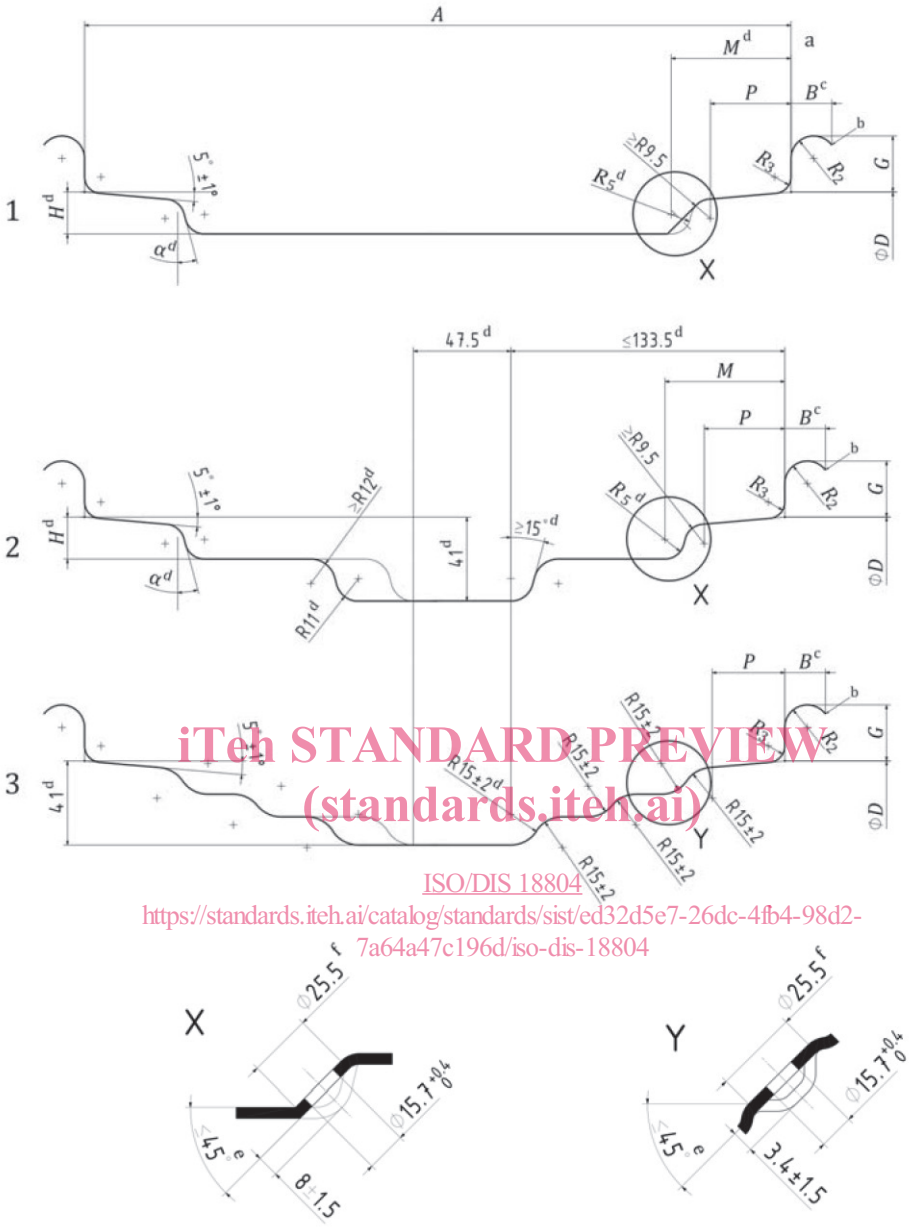
Dimensions in millimetres



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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 R_2 to full width or, if conical shaped, a minimum 30° angle applies between the upper *G* horizontal reference line.

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[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	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				
W12	305,0					57,5	27,0				
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	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										
W18A	457,0		16,0				41,0	15,0			
W18L			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.

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Table 2 *(continued)*

Rim width code	*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										
DW18	457,0	±5,0		29,0	27,0	63,5	36,5		8,0		
DW13L	330,0			25,5							
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	21,0	29,0	27,0	66,0	41,0				
DW20B	508,0					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										

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.

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

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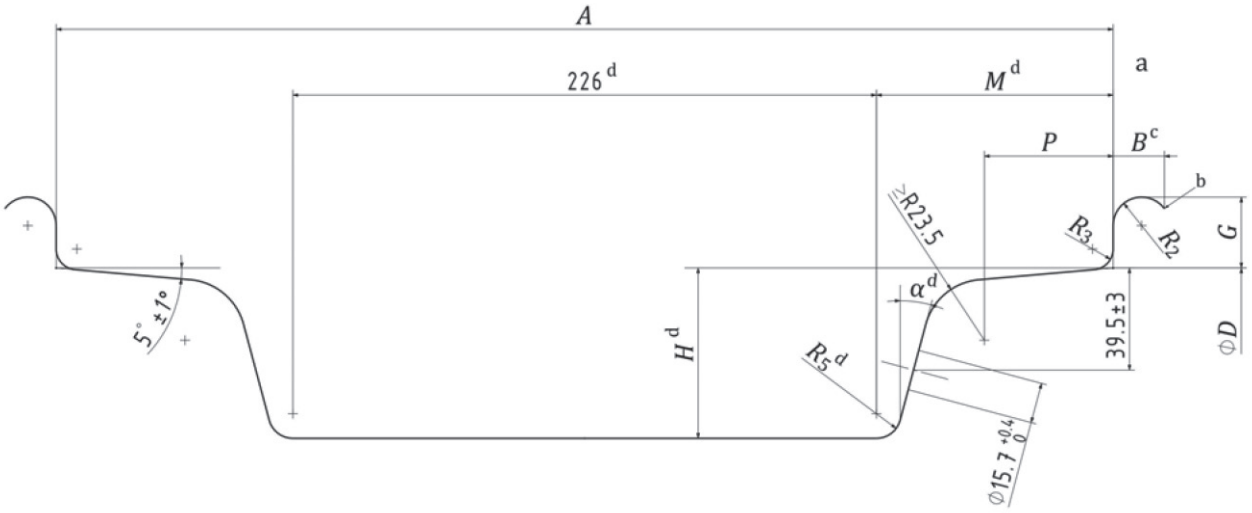
Dimensions in millimetres



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 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.

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Figure 3 — Contour of DH rims

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Table 3 — Dimensions of DH rims

Dimensions in millimetres

Rim width code	*A*	tol.	*B* min.	*G* ±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								

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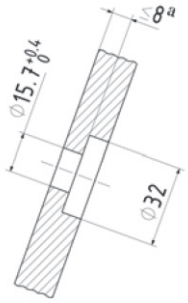
Dimensions in millimetres



[a] Maintain 8 max. dimension by counterboring on the weather side of the rim only.

Figure 4 — Dimension of the valve holes in DH rims

5.3 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.

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