

THE WORLD OF CRANE COMPONENTS



KARL GEORG

# WHEEL SETS KG 125 SERIES

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Driven and non driven  
Low Maintenance



GENERAL CATALOGUE



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# KG 125

## Perspective view

RA 160/250



RAD 160/250



RA 400/500



RAD 400/500



RA 630

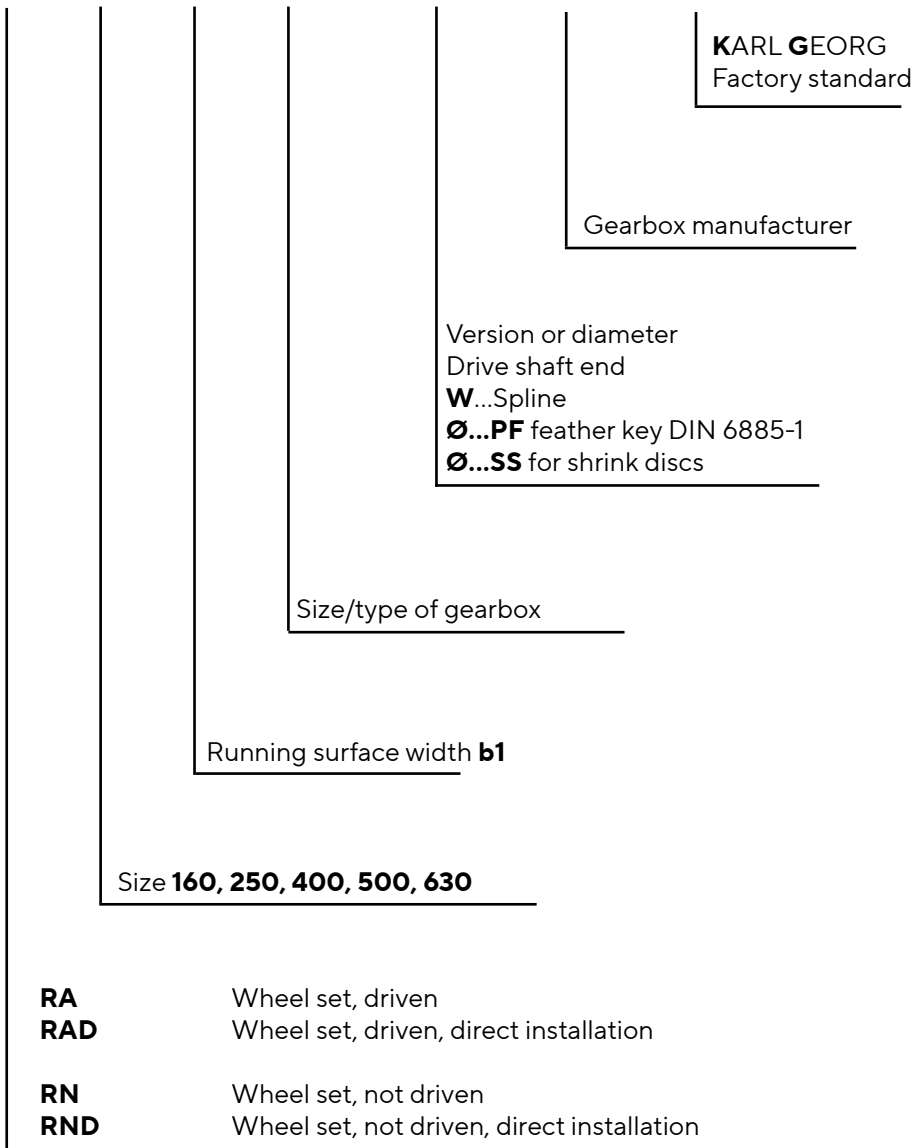


RAD 630



# Design key

**RAD 400 x 80 - ADK70 - W75 - DEMAG - KG 125**  
**RND 400 x 80**



# KG 125

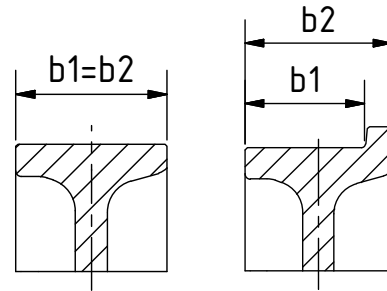
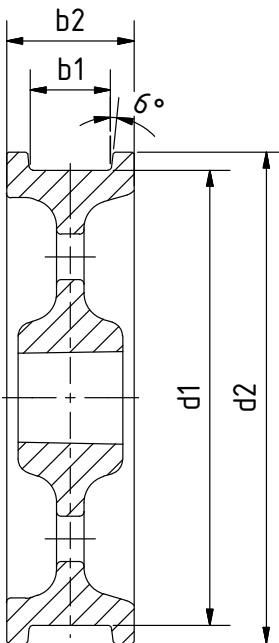
## Wheel set driven and not driven

The wheel sets are used in crane engineering, materials handling and for transport tasks in machine building.

### Particular features and technical details

#### • Travel wheels

- Running surface diameter  
160, 250, 400, 500, 630 mm
- with 2 wheel flanges,  
with wheel flange on one side,  
without wheel flanges,  
and special designs



Crane wheel diameter d1	Wheel width b2*	Flange width b1* (with 2 wheel flanges)	d2	Max. wheel load kg
160	87	47/60	190	4,560
250	100	65/75	282	8,500
400	125	70/80	437	16,300
500	140	75/90	535	26,500
630	170	75/110	680	50,000

\* Standard version; other dimensions on request

#### • Crane wheel material (standard)

- Spheroidal graphite iron GJS-700-2 (GGG-70)  
alternatively: hardened to HRc 46-52  
Hardening depth: approx. 3 mm

#### • Crane wheel material (special)

- 42CrMo4V (forged)  
alternatively: hardened to HRc 48-54  
Hardness depth: approx. 10 mm

#### • Antifriction bearings and lubrication

Self-aligning roller bearings/grooved ball bearings/pivot grooved ball bearings can be relubricated via lubrication nipple in flanged bearing housing (self-aligning roller bearings)

#### • Drive shafts

- suitable for slip-on gearboxes from all manufacturers at customer's choice
- with splined-shaft profile in accordance with DIN 5480
  - with feather key in accordance with DIN 6885-1
  - for shrink disc attachment
  - extended with coupling and connecting shaft as central drive unit
  - with hole for oil pressure interference fit
  - material: 42CrMo4V

## KG 125

# Wheel set driven and not driven

The wheel sets are used in crane engineering, materials handling and for transport tasks in machine building.

### Particular features and technical details

#### • Track gauge compensation

Interchangeable compensating discs between self-aligning roller bearing/grooved ball bearing and circlip or flanged bearing housing allow the track dimension to be changed.

Crane wheel diameter d1	Max. adjustment option with lubrication RA/RN	Max. adjustment option without lubrication RA/RN	Max. adjustment option without lubrication RAD/RND
160	x	6.5	7
250	x		10.5
400	6	8	8
500	7	8	12
630	5	13	12

#### • Flanged bearing housing

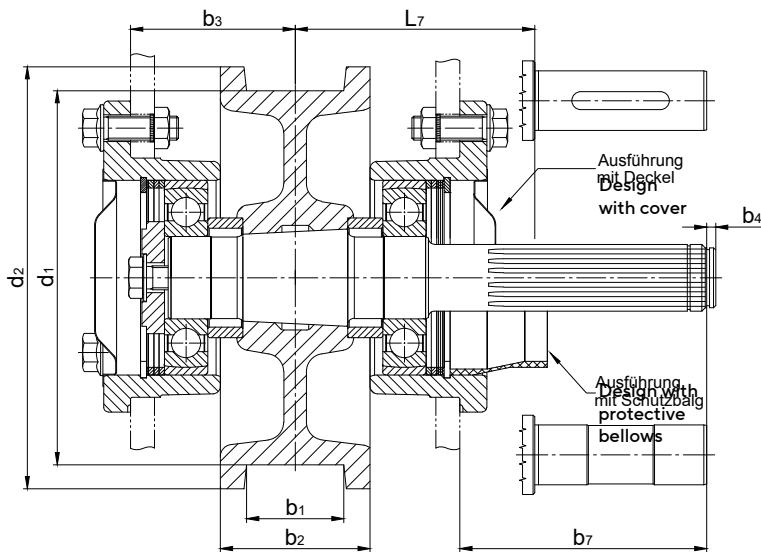
- can be screwed on with locking screws and retained nuts
- additionally fixed with locking pins with flame-cut locating hole
- Compensation for up to 2° slope of the connecting assembly
- Material: spheroidal graphite iron





# Wheel set RA/RN 160, RA/RN 250

with flanged bearing housings for installation  
in steel structures without boring mill work



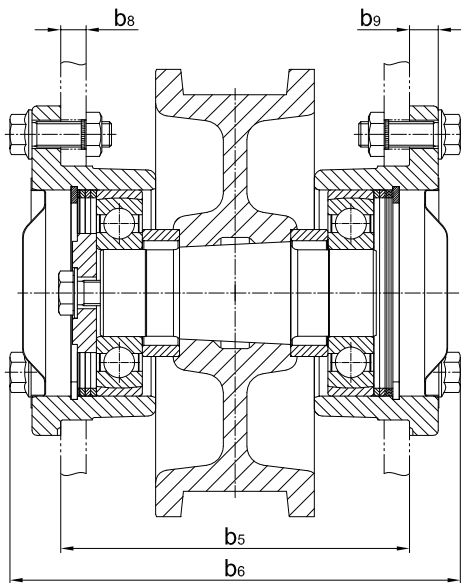
**Specify gearbox make and size when ordering!**

with feather key in accordance with DIN 6885-1  
(Designation: Ø ... PF)

with spline in accordance with DIN 5480  
(Designation: W ...)

Suitable for shrink disc  
(Designation: Ø ... SS)

For installation specifications, see pages 10-11



**b1** Standard recesses.  
Others on request, at additional cost.

**b3** Track gauge adjustable  
with compensating discs:  
- RA/RN 160: ± 6.5 mm  
- RA/RN 250: ± 10 mm

**L7** shaft dimensions are on pages 14+15 or  
on request.

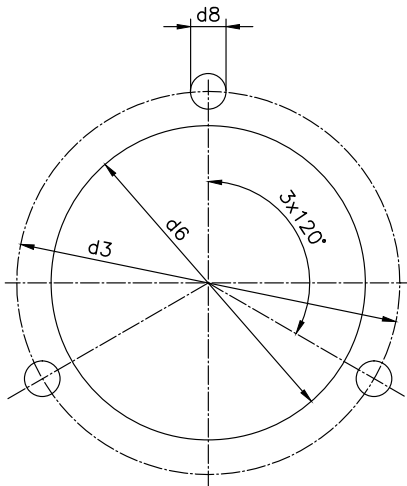
All necessary connection elements are  
included in the scope of delivery.

Wheel set d1	d2	b1	b2	b3	b5	b6	b8	b9	DEMAG Gearbox type	Drive shaft	b7	b4
<b>h9</b>	<b>±2.0</b>		<b>±1.0</b>		<b>+1.0</b>							
160	190	47/60	87	85	170	216	>8	12	AF 04	W30x1.25x22	133.5	5
									AF 05	W35x2x16	137.5	
									AF 06	W35x2x16	144.5	
250	282	65/75	100	110	220	280	>14	18	AF 05	W35x2x16	136	5
									AF 06	W45x2x21	152	
									AF 08	W45x2x21	199	6

# Wheel set RA/RN 160, RA/RN 250

## Installation specifications

Hole pattern in steel structure for the flanged bearing housing.



Wheel set	d3	d6 cauterized	d6 finish-bored	d8
<b>RA/RN 160</b>	Ø 150	Ø 124 +1.0	Ø 120 H7	Ø 14.5 H11
<b>RA/RN 250</b>	Ø 200	Ø 164 +1.0	Ø 160 H7	Ø 18.5 H11

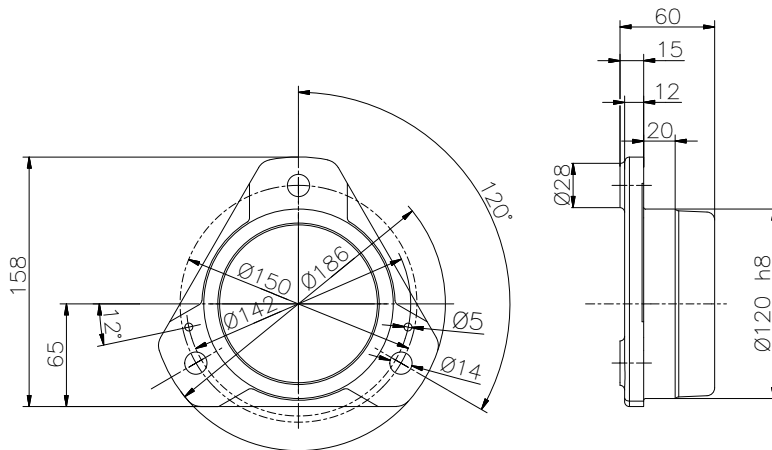
For required plate thickness (b8), see table on page 9

The steel structure of the chassis support is finished. The locating holes  $d6$  for the flanged bearing housing (see table) are flame-cut or finish-bored according to the specified wheel bases. The fixing holes  $d8$  for the retained nuts must be marked and drilled in their position relative the centre point  $d6$ .

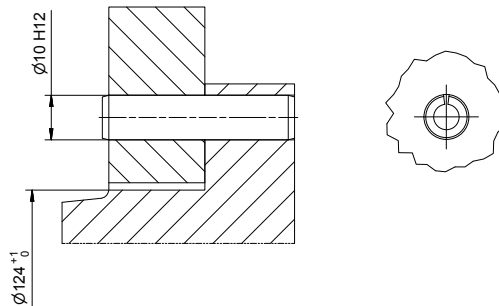
If the locating holes for the flanged bearing housing are flame-cut, the flanged bearing housings must be aligned in the chassis support. The flanges are aligned by levelling and opto-mechanical measuring methods.

The exact position of the flanges is fixed by clamping sleeves after alignment.

## Installation specifications

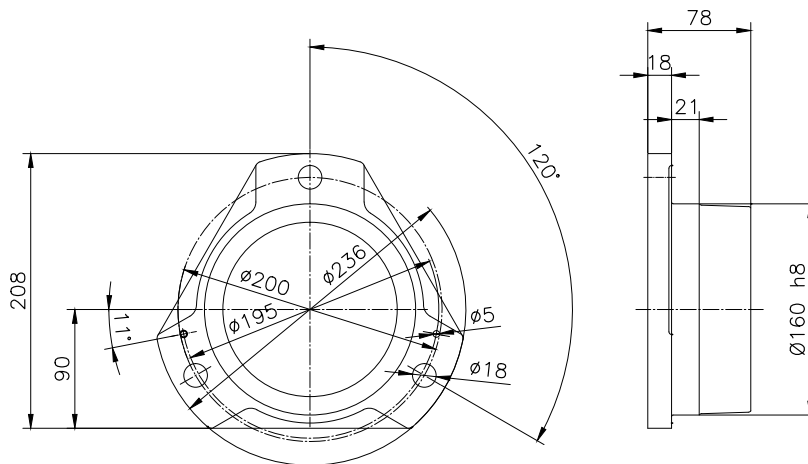


Locating holes for flanged housing, flame-cut to  $\text{Ø}124^{+1}$

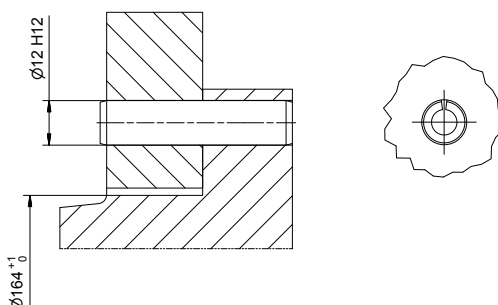


Bore diameter 10 <sup>H12</sup> for clamping sleeve 10 x 24I; radial force is absorbed via clamping sleeve.  
Install slot in direction of force.  
Measuring and alignment required.

## Design of the flanged bearing housing RA/RN 250



Locating holes for flanged housing, flame-cut to  $\text{Ø}164^{+1}$



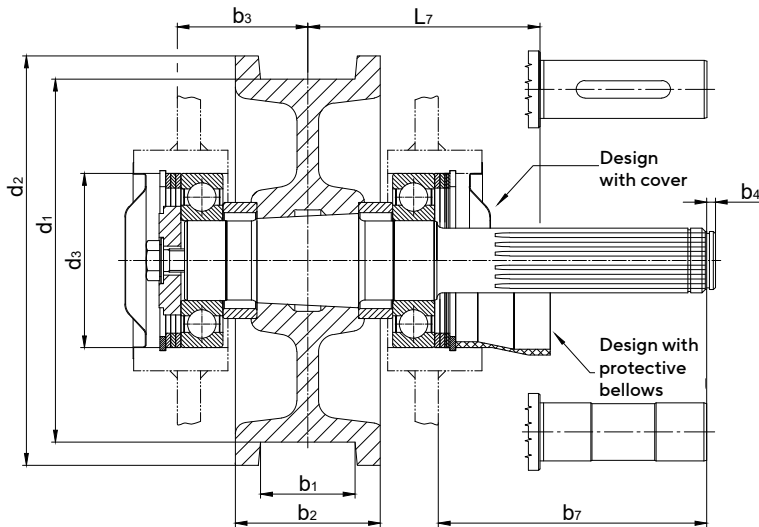
Bore diameter 12 <sup>H12</sup> for clamping sleeve 12 x 30I; radial force is absorbed via clamping sleeve.  
Install slot in direction of force.  
Measuring and alignment required.



# Wheel set RAD/RND 160, RAD/RND 250

Without flanged bearing housing for direct installation in mechanically machined steel structures

RAD/RND 160/250 also available with DIN 635 self-aligning roller bearings.

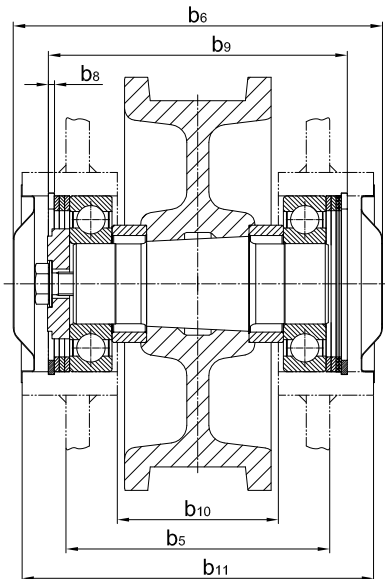


**Specify gearbox make and size when ordering!**

with feather key in accordance with DIN 6885-1  
(Designation: Ø ... PF)

with spline in accordance with DIN 5480  
(Designation: W ...)

Suitable for shrink disc  
(Designation: Ø ... SS)



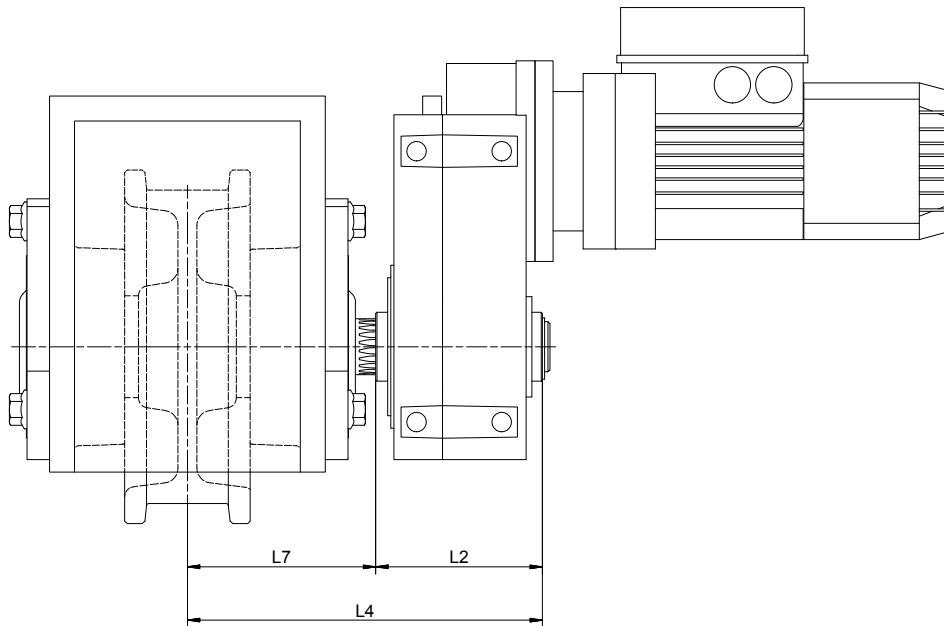
**b1** Standard recesses.  
Others on request, at additional cost.

**b3** Track gauge adjustable with compensating discs:  
- RAD/RND 160: ± 7 mm  
- RAD/RND 250: ± 10.5 mm

**L7** shaft dimensions are on pages 14+15 or on request.

Wheel set d1 h9	d2	d3	b1	b2	b3	b5	b6	b8	b9	b10	b11	DEMAG / Gearbox type	Drive shaft	b7	b4
160	190	90	47/60	87	85	170	194	3.15	166	94	186	AF 04	W30x1.25x22	133.5	
												AF 05	W35x2x16	137.5	5
												AF 06	W35x2x16	144.5	
250	282	120	65/75	100	110	220	250	4.15	204	110	240	AF 05	W35x2x16	136	5
												AF 06	W45x2x21	152	
												AF 08	W45x2x21	199	6

# Drive shafts for RA/RAD 160



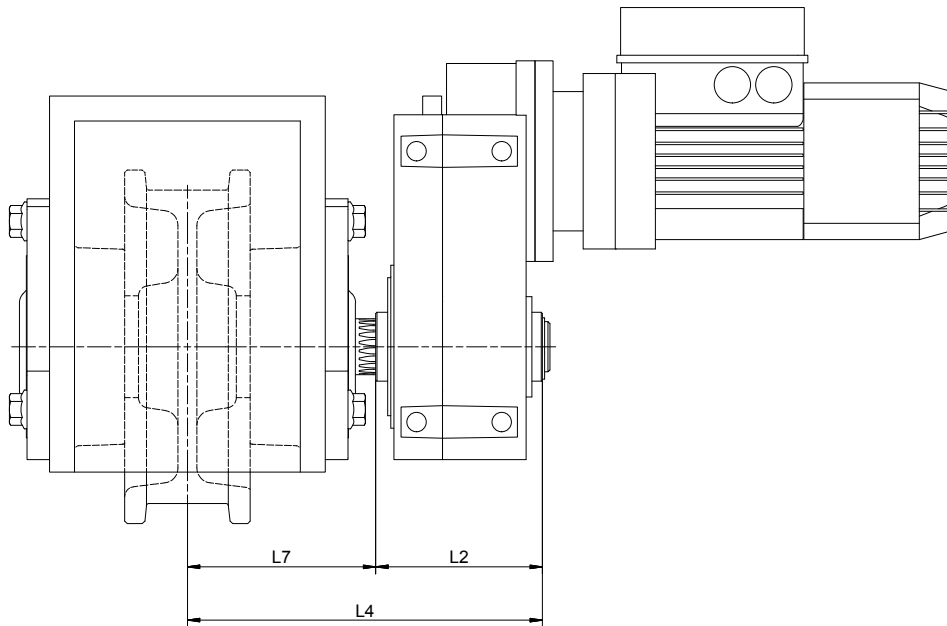
## DEMAG gearboxes

Gearbox type	Hollow shaft	L7	L2	L <sub>4</sub>	Protection Drive side
<b>AMK 10</b>	N25x1.25x18	109.5	90.5	204.5	Bellows
<b>AF 04</b> <b>AFM 04</b> <b>AUK 20</b>	N30x1.25x22	112.5 122.5 122.5	106 96 96	223.5	Bellows
<b>AF 05</b>	N35x2x16	117.5	105	227.5	Bellows
<b>AF 06</b> <b>AUK 30</b>	N35x2x16	108.5 113.5	121 116	234.5	Bellows
<b>AUH 20</b>	Ø 24	122.5	96	223.5	Bellows
<b>AUH 30</b>	Ø 35	113.5	116	235.5	Bellows
<b>WUK 20</b>	N30x1.25x22	135	155	295	Cover
<b>WUK 30</b>	N35x2x16	135	175	315	Cover

## Gearboxes from other manufacturers

The standard clearance  $L_7$  for gearboxes from other manufacturers is **130** mm. Protection on the drive side is provided by a cover.

# Drive shafts for RA/RAD 250



## DEMAG gearboxes

Gearbox type	Hollow shaft	L7	L2	L <sub>4</sub>	Protection Drive side
<b>AUK 20</b>	N30x1.25x22	155	96	256	Cover
<b>AF 05</b> <b>AF 06</b> <b>AUK 30</b>	N35x2x16	141 140 145	105 121 116	266	Bellows
<b>AF 06</b> <b>AUK 40</b>	N45x2x21	141 142	121 133	281	Bellows
<b>AF 08</b>	N45x2x21	154	155	315	Bellows
<b>AUK 50</b>	N50x2x24	147	157	310.5	Bellows
<b>AUH 30</b>	Ø 35	145	116	267	Bellows
<b>AUH 40</b>	Ø 40	142	133	281	Bellows
<b>WUK 30</b>	N35x2x16	165	175	345	Cover
<b>WUK 40</b>	N45x2x21	165	204	375	Cover

## Gearboxes from other manufacturers

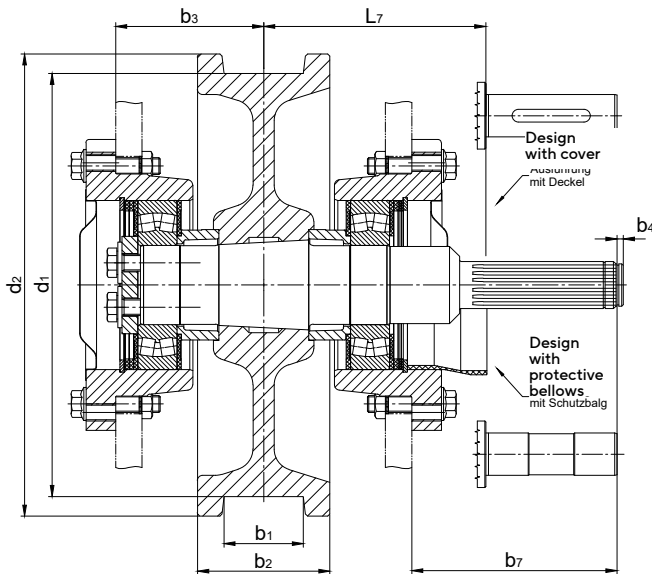
The standard clearance  $L_7$  for gearboxes from other manufacturers is **160** mm. Protection on the drive side is provided by a cover.





# Wheel set RA/RN 400, RA/RN 500

With flanged bearing housing for installation in steel structures without boring mill work



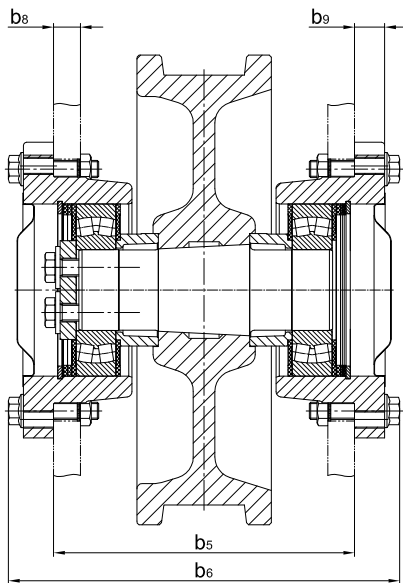
**Specify gearbox make and size when ordering!**

with feather key in accordance with DIN 6885-1  
(Designation: Ø ... PF)

with spline in accordance with DIN 5480  
(Designation: W ...)

Suitable for shrink disc  
(Designation: Ø ... SS)

For installation specifications, see pages 18+19



**b1** Standard recesses.

Others on request, at additional cost.

**b3** Track gauge adjustable with compensating discs:

- RA/RN 400: ± 8 mm, with relubrication: max. ± 6
- RA/RN 500: ± 8 mm, with relubrication: max. ± 7 mm

**L7** shaft dimensions are on pages 22+23 or on request.

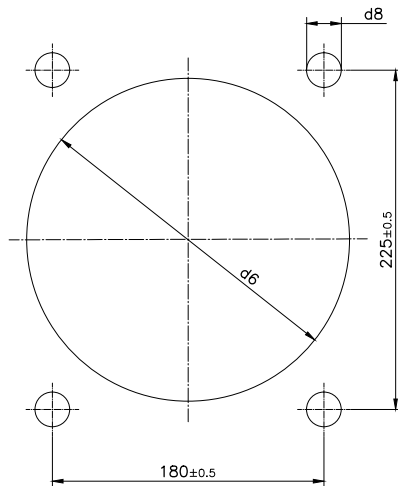
All necessary connection elements are included in the scope of delivery.

Wheel set d1	d2	b1	b2	b3	b5	b6	b8	b9	DEMAG / Gearbox type	Drive shaft	b7	b4
<b>h9</b>	<b>±2.0</b>		<b>±1.0</b>		<b>+1.0</b>		<b>+0.2</b>	<b>+0.2</b>				
400	437	70/80	125	140	280	360	>18	28	AF 08	W50x2x24	196.5	7
									AF 10	W65x2x31	250	7.5
500	535	75/90	140	160	320	400	>25	28	AF 12	W85x3x27	299	8

# Wheel set RA/RN 400, RA/RN 500

## Installation specifications

Hole pattern in steel structure for the flanged bearing housing.



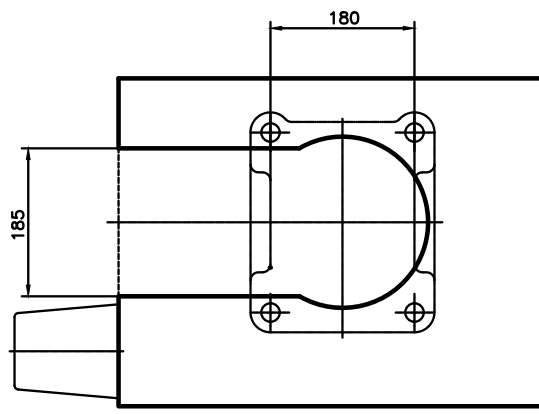
Wheel set	d6 cauterized	d6 finish-bored	d8
<b>RA/RN 400</b>	Ø 214 +1.0	Ø 210 H7	Ø 18.5 H11
<b>RA/RN 500</b>	Ø 214 +1.0	Ø 210 H7	Ø 23 H11

For required plate thickness (b8), see table on page 17

The steel structure of the chassis support is finished. The locating holes d6 for the flanged bearing housing (see table) are flame-cut or finish-bored according to the specified wheel bases. The fixing holes d8 for the retained nuts must be marked and drilled in their position relative the centre point d6.

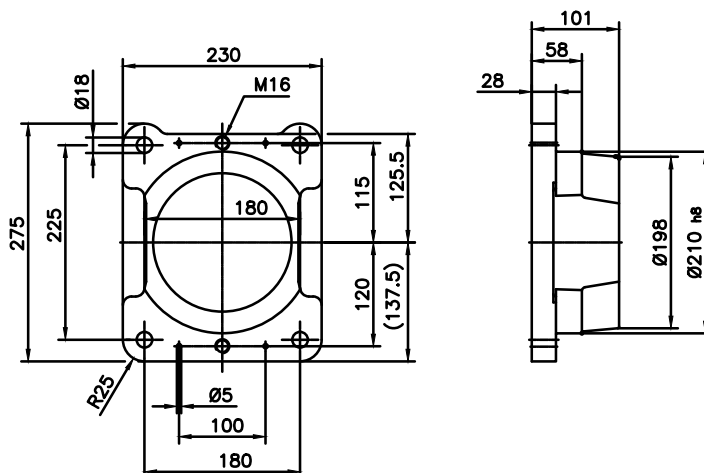
If the locating holes for the flanged bearing housing are flame-cut, the flanged bearing housings must be aligned in the chassis support. The flanges are aligned by levelling and opto-mechanical measuring methods.

The exact position of the flanges is fixed by clamping sleeves after alignment.

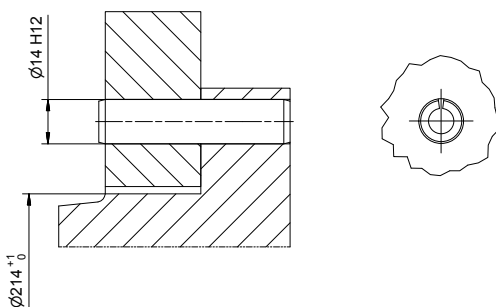


With the RA/RN 400/500 wheel set, corner installation is possible thanks to the flanged bearing housings being flattened on the sides. For a slotted chassis support (see figure), the completely mounted wheel set can be installed and removed after a 90° turn of the flanged bearing housing.

## Design of the flanged bearing housing RA/RN 400

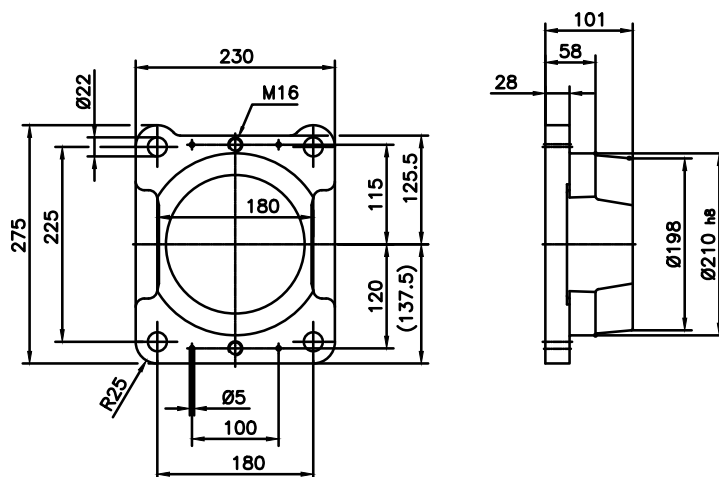


Locating holes for flanged housing, flame-cut to  $\varnothing 214^{+1}$

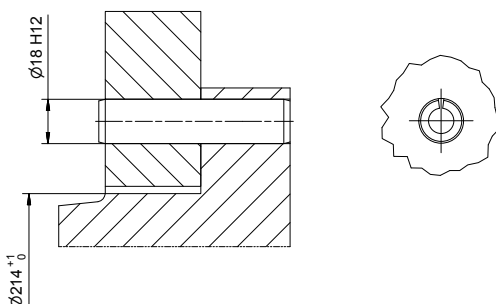


Bore diameter 14 <sup>H12</sup> for clamping sleeve 14 x 60l; radial force is absorbed via clamping sleeve.  
Install slot in direction of force.  
Measuring and alignment required.

## Design of the flanged bearing housing RA/RN 500



Locating holes for flanged housing, flame-cut to  $\varnothing 214^{+1}$



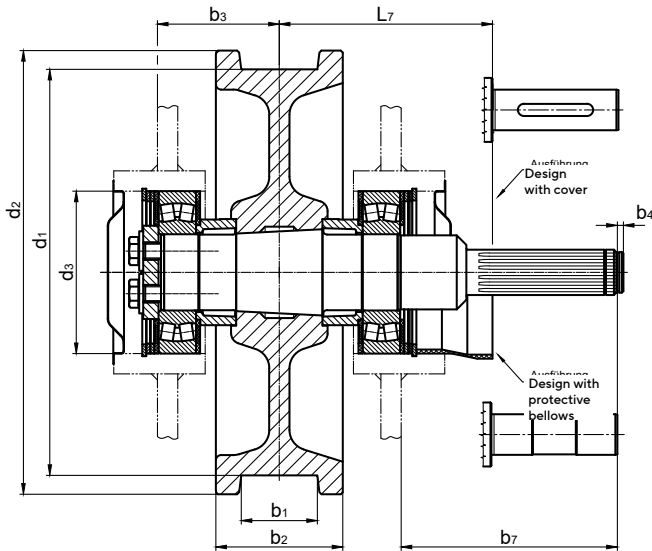
Bore diameter 18 <sup>H12</sup> for clamping sleeve 18 x 60l; radial force is absorbed via clamping sleeve.  
Install slot in direction of force.  
Measuring and alignment required.



# Wheel set RAD/RND 400, RAD/RND 500

Without flanged bearing housing for direct installation in mechanically machined steel structures

RAD/RND 400 is also available with DIN 625 grooved ball bearings.

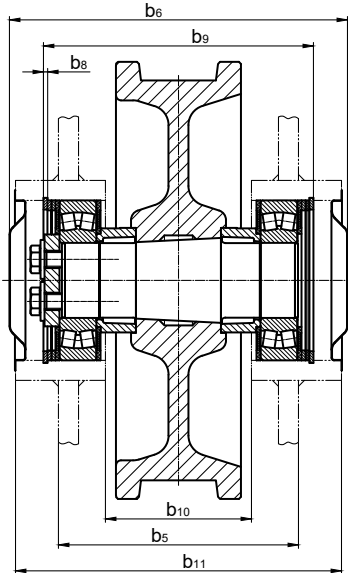


**Specify gearbox make and size when ordering!**

with feather key in accordance with DIN 6885-1  
(Designation: Ø ... PF)

with spline in accordance with DIN 5480  
(Designation: W ...)

Suitable for shrink disc  
(Designation: Ø ... SS)



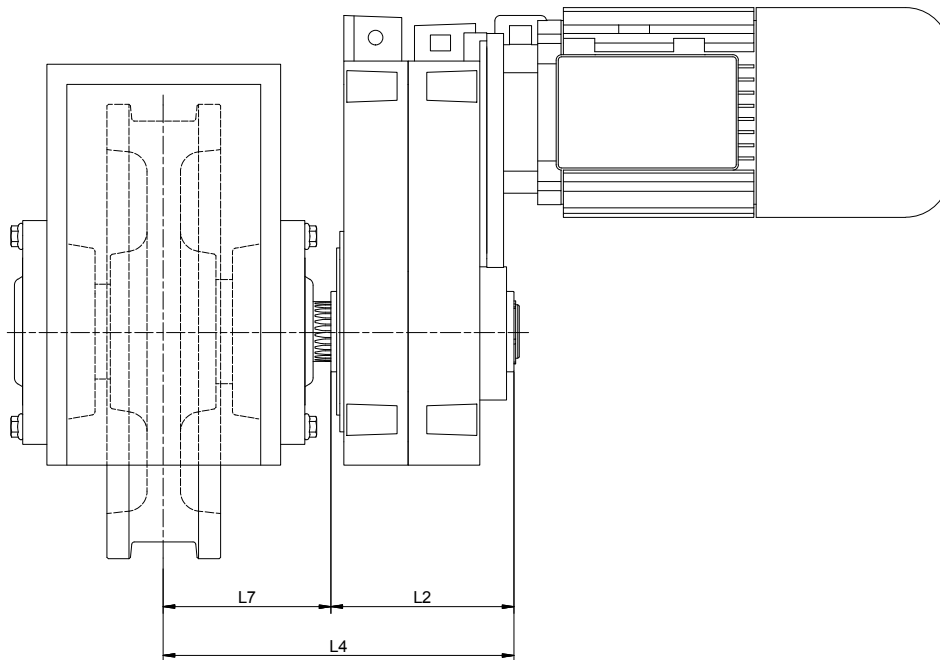
**b1** Standard recesses.  
Others on request, at additional cost.

**b3** Track gauge adjustable with compensating discs:  
- RAD/RND 400: ± 8 mm  
- RAD/RND 500: ± 12 mm

**L7** shaft dimensions are on pages 22+23 or on request.

Wheel set d1	d2	d3	b1	b2	b3	b5	b6	b8	b9	b10	b11	DEMAG / Gearbox type	Drive shaft	b7	b4
h9	±2.0	H7		±1.0				+0.2	+0.2						
400	437	160	70/80	125	140	280	336	4.15	270	146	326	AF 08	W50x2x24	196.5	7
												AF 10	W65x2x31	250	7.5
500	535	160	75/90	140	160	320	360	4.15	316	170	350	AF 12	W85x3x27	299	8

## Drive shafts for RA/RAD 400



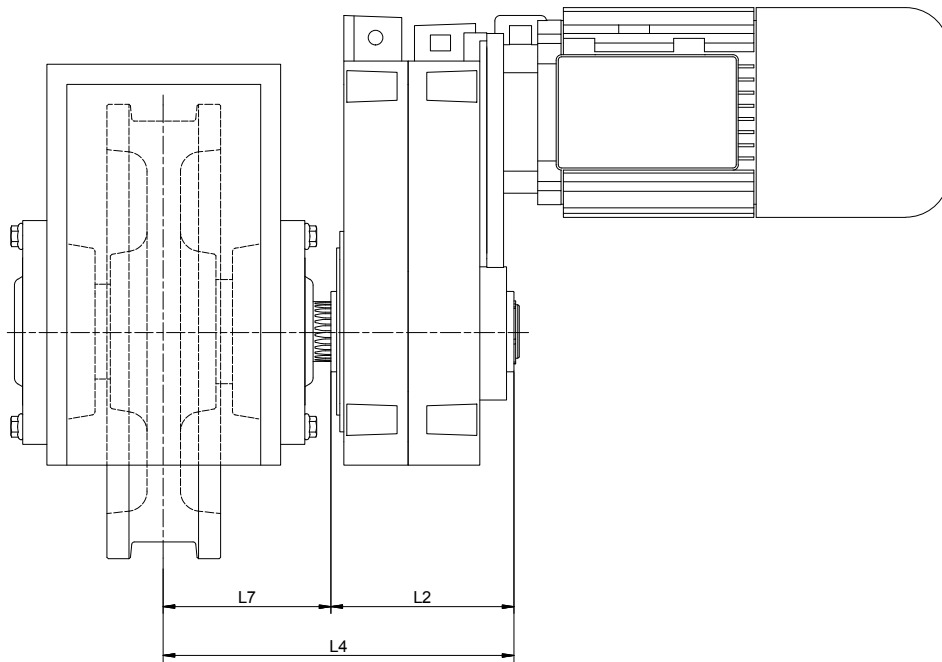
### DEMAG gearboxes

Gearbox type	Hollow shaft	L7	L2	L <sub>4</sub>	Protection Drive side
<b>AUK 40</b>	N45x2x21	190	133	329	Cover
<b>AF 08</b> <b>AUK 50</b>	N50x2x24	181.5 188	155 157	351.5	Bellows
<b>AF 10</b> <b>AUK 60</b>	N65x2x31	182.5 185	207.5 187	397.5	Bellows
<b>AUK 70</b>	N75x3x24	192	240	440	Bellows
<b>AUH 40</b>	Ø 40	190	133	329	Bellows
<b>AUH 50</b>	Ø 50	188	157	351.5	Bellows
<b>AUH 60</b>	Ø 60	185	187	379.5	Bellows
<b>AUH 70</b>	Ø 70	192	240	440	Bellows
<b>WUK 50</b>	N50x2x24	210	229	445.5	Cover
<b>WUK 60</b>	N50x2x24	210	254	470.5	Cover
<b>WUK 70</b>	N65x2x31	210	295	512.5	Cover
<b>WUH 60</b>	Ø 50	210	229	470.5	Cover

### Gearboxes from other manufacturers

The standard clearance  $L_7$  for gearboxes from other manufacturers is **210** mm. Protection on the drive side is provided by a cover.

## Drive shafts for RA/RAD 500



### DEMAG gearboxes

Gearbox type	Hollow shaft	L <sub>7</sub>	L <sub>2</sub>	L <sub>4</sub>	Protection Drive side
<b>AUK 50</b>	N50x2x24	208	157	371.5	Bellows
<b>AF 10</b> <b>AUK 60</b>	N65x2x31	209.5 205	207.5 187	424.5	Bellows
<b>AUK 70</b>	N75x3x24	212	240	460	Bellows
<b>AF 12</b>	N85x3x27	204	255	467	Bellows
<b>AUK 80</b>	N90x3x28	220	274	502	Cover
<b>AUH 50</b>	Ø 50	208	157	371.5	Bellows
<b>AUH 60</b>	Ø 60	205	187	399.5	Bellows
<b>AUH 70</b>	Ø 70	212	240	460	Bellows
<b>AUH 80</b>	Ø 90	220	274	503	Cover
<b>WUK 70</b>	N65x2x31	250	295	552.5	Cover
<b>WUK 80</b>	N75x3x24	250	299	557	Cover
<b>WUK 90</b>	N90x3x28	255	336	599	Cover

### Gearboxes from other manufacturers

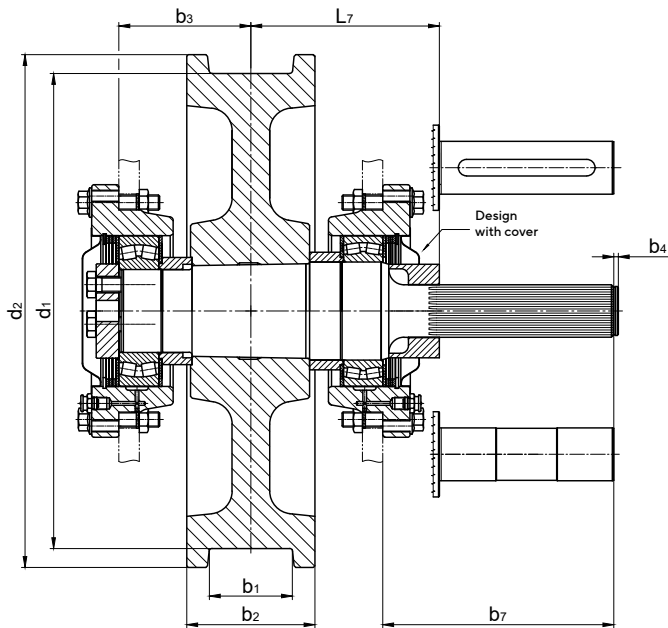
The standard clearance  $L_7$  for gearboxes from other manufacturers is **230** mm. Protection on the drive side is provided by a cover.





# Wheel set RA/RN 630

With flanged bearing housings for installation in steel structures without boring mill work



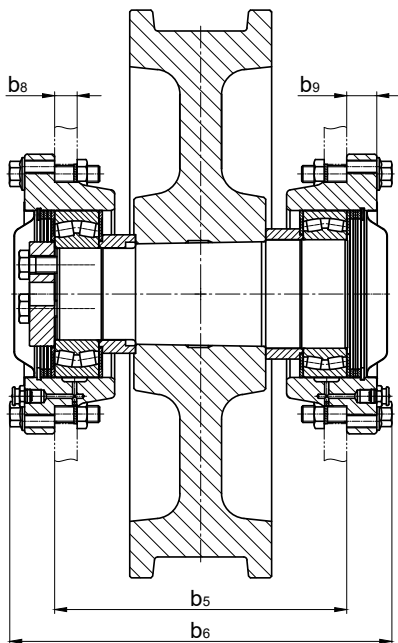
**Specify gearbox make and size when ordering!**

with feather key in accordance with DIN 6885-1  
(Designation: Ø ... PF)

with spline in accordance with DIN 5480  
(Designation: W ...)

Suitable for shrink disc  
(Designation: Ø ... SS)

For installation specifications, see pages 26-27



**b1** Standard recesses.  
Others on request, at additional cost.

**b3** Track gauge adjustable with compensating discs:  
with relubrication:  $\pm 5$  mm  
without relubrication:  $\pm 13$  mm

**L7** shaft dimensions are on page 29 or on request.

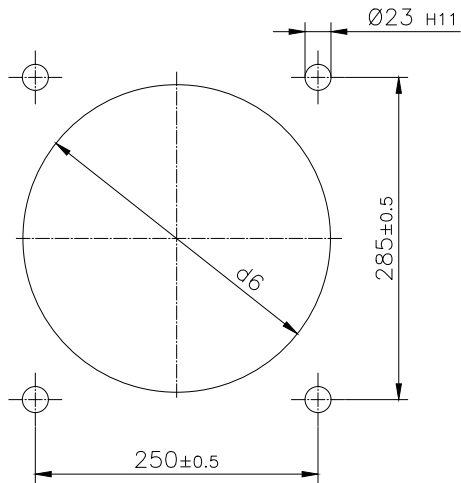
All necessary connection elements are included in the scope of delivery.

Wheel set d1	d2	b1	b2	b3	b5	b6	b8	b9	DEMAG / Gearbox type	Drive shaft	b7	b4
<b>h9</b>	<b><math>\pm 2.0</math></b>		<b><math>\pm 1.0</math></b>		<b><math>\pm 1.0</math></b>							
630	680	75/110	170	175	350	456	>24	36	AF 12	W85x3x27 Ø 75 h6	295 342	9
									AF 18	W110x3x35 Ø 100 h6	397.35 457.35	9.15

# Wheel set RA/RN 630

## Installation specifications

Hole pattern in steel structure for the flanged bearing housing.



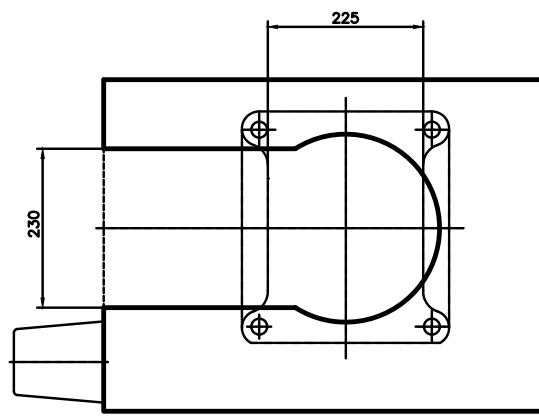
Wheel set	d6 cauterized	d6 finish-bored
<b>RA/RN 630</b>	Ø 272 +2.0	Ø 268 H7

For required plate thickness (b8), see table on page 25

The steel structure of the chassis support is finished. The locating holes d6 for the flanged bearing housing (see table) are flame-cut or finish-bored according to the specified wheel bases. The Ø23 H11 locating holes for the M20 retained nuts must be marked and drilled in their position relative to the centre point d6.

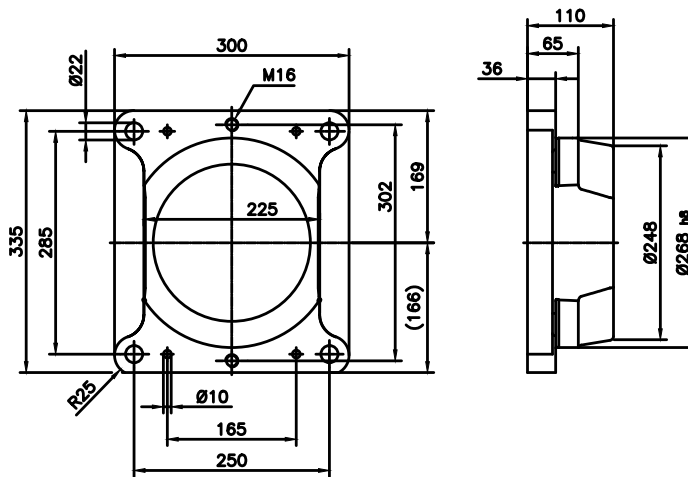
If the locating holes for the flanged bearing housing are flame-cut, the flanged bearing housings must be aligned in the chassis support. The flanges are aligned by levelling and opto-mechanical measuring methods.

The exact position of the flanges is fixed by clamping sleeves after alignment.

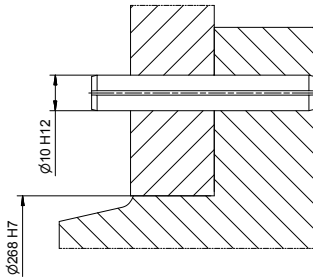


With the RA/RN 630 wheel set, corner installation is possible thanks to the flanged bearing housings being flattened on the sides. For a slotted chassis support (see figure), the completely mounted wheel set can be installed and removed after a 90° turn of the flanged bearing housing.

## Design of the flanged bearing housing RA/RN 630

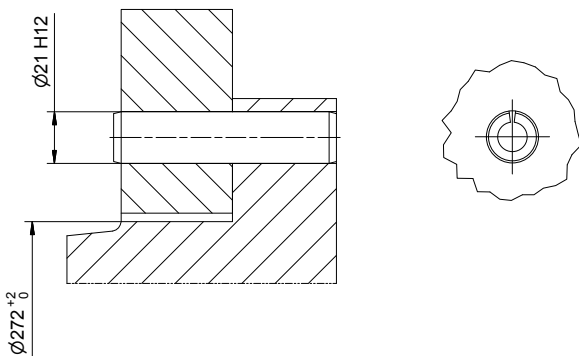


Locating holes for flanged bearing housing, finish-bored to  $\varnothing 268^{H7}$



Bore diameter  $10^{H12}$  for clamping sleeve  $10 \times 80$ ; radial force is absorbed by interference fit.  
No subsequent alignment required if the outer sides of the chassis supports are mechanically machined in the area of the flanged bearing housings.

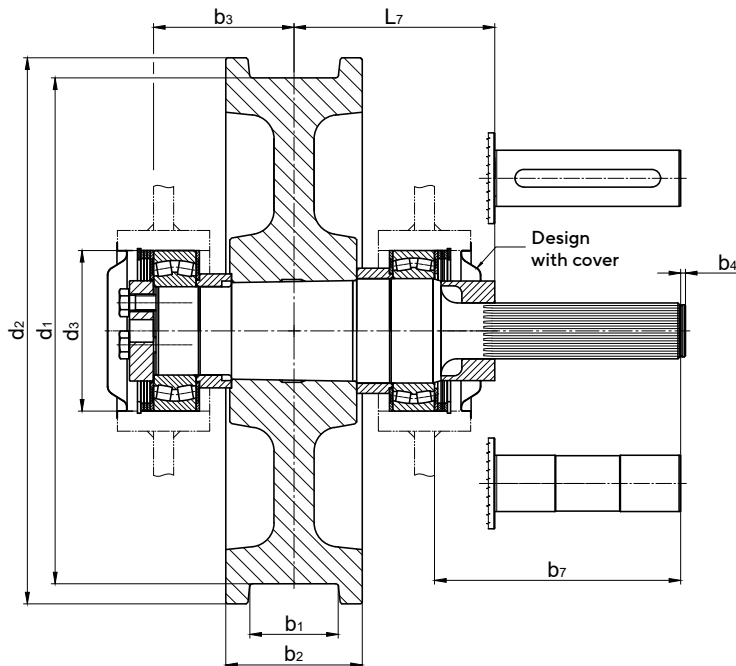
Locating holes for flanged housing, flame-cut to  $\varnothing 272^{+2}$



Bore diameter  $21^{H12}$  for clamping sleeve  $21 \times 80$ ; radial force is absorbed via clamping sleeve.  
Install slot in direction of force.  
Measuring and alignment required.

# Wheel set RAD/RND 630

Without flanged bearing housing for direct installation in mechanically machined steel structures

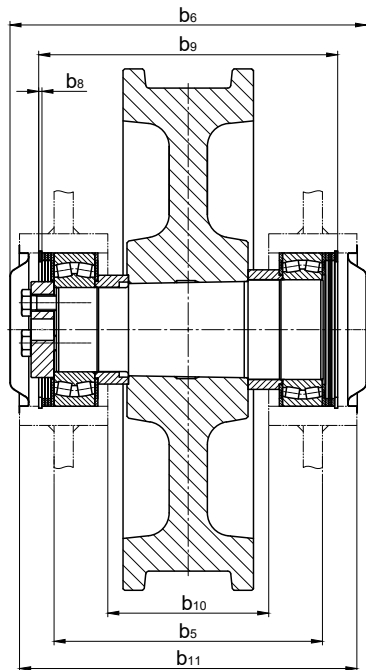


**Specify gearbox make and size when ordering!**

with feather key in accordance with DIN 6885-1  
(Designation: Ø ... PF)

with spline in accordance with DIN 5480  
(Designation: W ...)

Suitable for shrink disc  
(Designation: Ø ... SS)



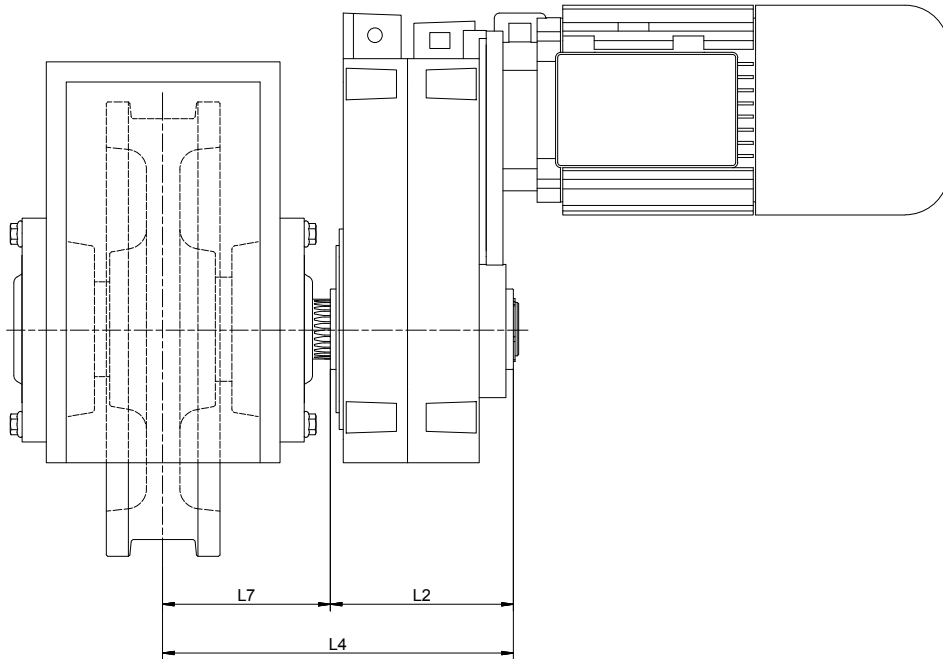
**b1** Standard recesses.  
Others on request, at additional cost.

**b3** Track gauge adjustable with compensating discs:  
± 12 mm

**L7** shaft dimensions are on page 29 or on request.

Wheel set d1	d2	d3	b1	b2	b3	b5	b6	b8	b9	b10	b11	DEMAG / Gearbox type	Drive shaft	b7	b4
h9	±2.0	H7		±1.0		±1.0		+0.2							
630	680	200	75/110	170	175	350	464	4.15	390	210	440	AF 12	W85x3x27	295	9
														Ø 75 h6	342
												AF 18	W110x3x35	397.35	9.15
														Ø 100 h6	457.35

## Drive shafts for RA/RAD 630



### DEMAG gearboxes

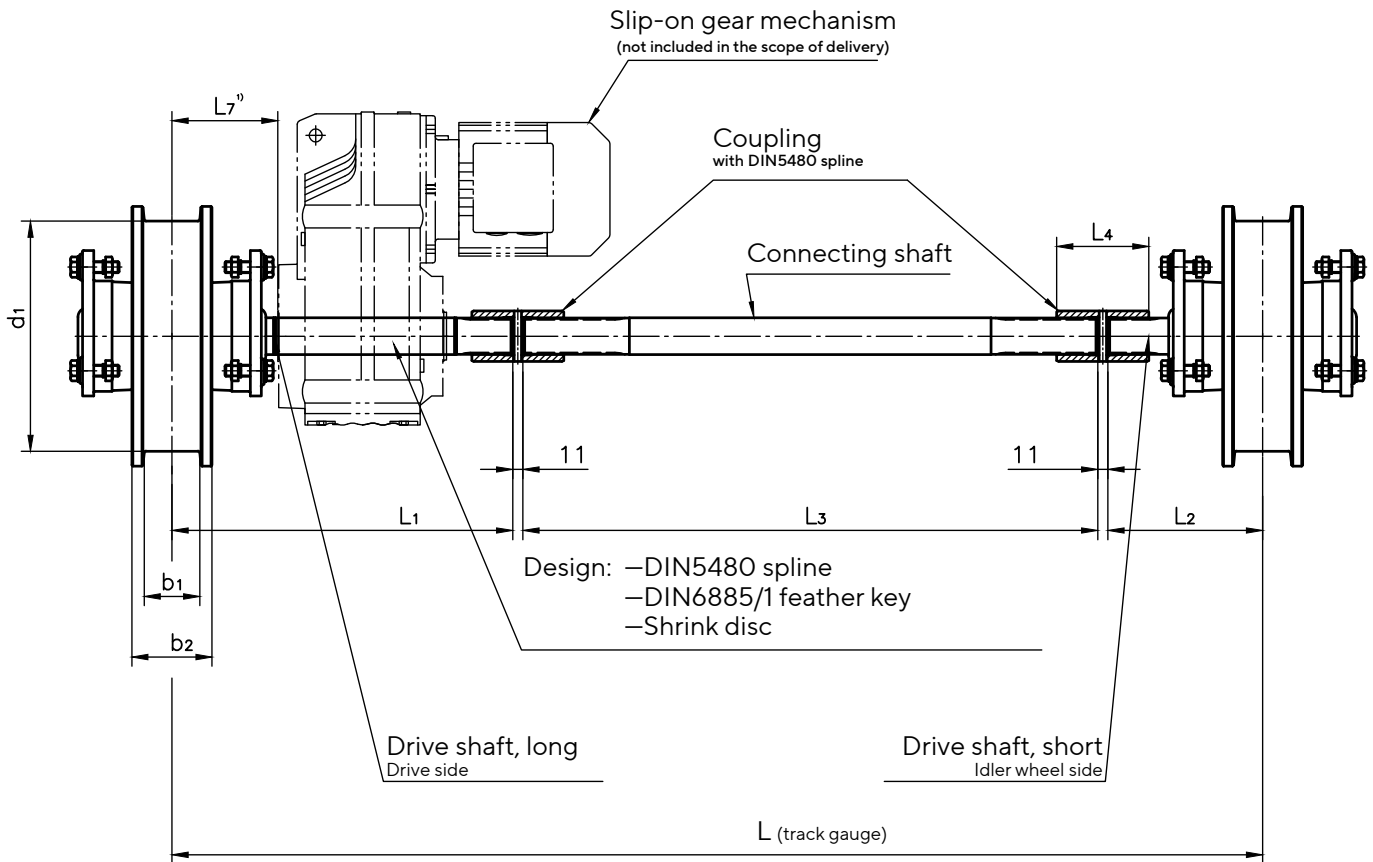
Gearbox type	Hollow shaft	L7	L2	L <sub>4</sub>	Protection Drive side
<b>AF 10</b> <b>AUK 60</b>	N65x2x31	217.5 238	207.5 187	432	Cover
<b>AUK 70</b>	N75x3x24	245	240	493	Cover
<b>AF 12</b>	N85x3x27	215	255	479	Cover
<b>AUK 80</b>	N90x3x28	250	274	532	Cover
<b>AF 18</b>	N110x3x35	247.5	325	581.5	Cover
<b>AUK 90</b>	N110x3x35	250	332	591	Cover
<b>AUH 80</b>	∅ 90	250	274	533	Cover
<b>WUK 90</b>	N90x3x28	267	336	611	Cover

### Gearboxes from other manufacturers

The standard clearance  $L_7$  for gearboxes from other manufacturers is **250** mm. Protection on the drive side is provided by a cover.

# Central drive unit installation version

for wheel sets RA/RAD 160, 250, 400, 500



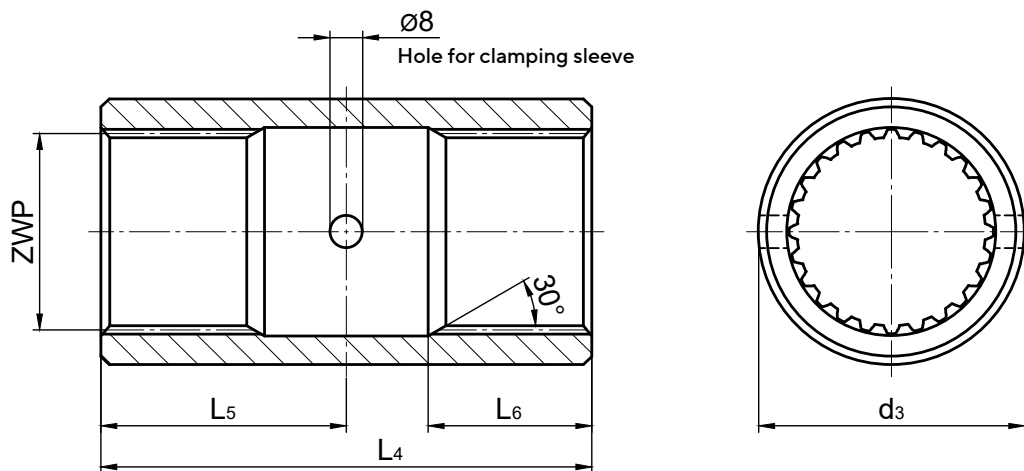
## The following information is required:

- Crane wheel diameter **d1**
- Crane wheel width **b1**
- Track gauge **L**
- **Gearbox make, size and type** (with design of the shaft end)  
The couplings and the connecting shafts are always designed with splines according to DIN 5480

<sup>1)</sup> For dimension  $L7$ , see the dimension sheets of the applicable wheel set size

# Couplings

## Bore with splined-shaft profile in accordance with DIN 5480



Splined-shaft profile (ZWP) DIN 5480 (9H)	$d_3$	$L_4$	$L_5$	$L_6$
<b>N 30 x 1.25 x 22</b>	40	80	40	27.5
<b>N 30 x 2 x 14</b>	40	80	40	27.5
<b>N 35 x 1.25 x 26</b>	50	100	50	44
<b>N 35 x 2 x 16</b>	50	100	50	35
<b>N 40 x 2 x 18</b>	55	100	50	32
<b>N 45 x 2 x 21</b>	60	120	60	50
<b>N 50 x 2 x 24</b>	65	120	60	40
<b>N 60 x 2 x 28</b>	75	125	62.5	47.5
<b>N 65 x 2 x 31</b>	80	125	62.5	50
<b>N 70 x 2 x 34</b>	90	135	67.5	50
<b>N 75 x 3 x 24*</b>	95	145	72.5	52.5
<b>N 80 x 3 x 25*</b>	100	150	75	55
<b>N 85 x 3 x 27*</b>	110	160	80	57.5
<b>N 90 x 3 x 28*</b>	115	170	85	60

\* available on request

# Permissible wheel loads

## Wheel set 160/250

Permissible wheel loads in kg

Calculation of the permissible wheel loads  $R_{per}$  for KG 125 maintenance-free wheel sets

- $R_{max}$  = largest occurring load at full load in kg
- $R_{min}$  = smallest occurring load at full load in kg
- $k_1$  = Usable railhead width in mm  
( $k_1 = k - 2r_1$  or, for flat steel rail,  $k_1 = k$ )

$R_{max}$  and  $R_{min}$  for the crane must be determined from the different trolley operating positions.

$$R = \frac{R_{min} + 2 R_{max}}{3} \leq R_{per}$$

For trolleys with a fixed hoist, the maximum occurring wheel load is the relevant parameter for calculating the permissible wheel load.

$$R_{max} \leq R_{per}$$

Drive mechanism group	Usable railhead width	Crane wheel 160 mm Ø				Crane wheel 250 mm Ø			
		Speed of travel m/min				Speed of travel m/min			
		20	40	63	100	20	40	63	100
FEM/DIN 15020	$k_1$ mm								
<b>1 DM</b>	35	3955	3545	3140	2690	6560	5795	5250	4900
<b>1 CM</b>	40	4520	4050	3585	3070	7495	6625	6330	5600
<b>1 BM</b>	45	4560 <sup>1)</sup>	4305	3700	3170	8435	7695	7125	6170
	≥ 50					8500 <sup>1)</sup>	8380	7200	
<b>1 AM</b>	35	4305	3415	2935	2515	6560	5985	5540	4900
	40					7495	6650	5715	
	≥ 45					8380			
<b>2 m</b>	35	3415	2715	2330	1995	5855	5275	4535	3890
	≥ 40					6650			
<b>3 m</b>	≥ 35	2710	2150	1850	1585	5270	4190	3600	3085
<b>4 m</b>	≥ 35	2160	1715	1475	1265	4210	3340	2870	2460
<b>5 m</b>	≥ 35	1720	1365	1175	1005	3350	2660	2285	1960

<sup>1)</sup> These wheel loads are maximum values for  $R_{max}$  for the applicable crane wheel diameter



# Permissible wheel loads

## Wheel set 400/500

Permissible wheel loads in kg

Calculation of the permissible wheel loads  $R_{per}$  for KG 125 maintenance-free wheel sets

- $R_{max}$  = largest occurring load at full load in kg
- $R_{min}$  = smallest occurring load at full load in kg
- $k_1$  = Usable railhead width in mm  
( $k_1 = k - 2r_1$  or, for flat steel rail,  $k_1 = k$ )

$R_{max}$  and  $R_{min}$  for the crane must be determined from the different trolley operating positions.

$$R = \frac{R_{min} + 2 R_{max}}{3} \leq R_{per}$$

For trolleys with a fixed hoist, the maximum occurring wheel load is the relevant parameter for calculating the permissible wheel load.

$$R_{max} \leq R_{per}$$

Drive mechanism group	Usable railhead width $k_1$ mm	Crane wheel 400 mm Ø <sup>2)</sup>				Crane wheel 500 mm Ø				
		Speed of travel m/min				Speed of travel m/min				
		20	40	63	100	20	40	63	100	
<b>FEM/DIN 15020</b>										
	<b>1 BM</b>	45	14280	13100	12315	11400	18180	16870	15885	14905
		50	15870	14560	13685	12665	20200	18745	17650	16560
		55	16300 <sup>1)</sup>	16015	15640	13615	22200	20620	19420	18215
		60		16300 <sup>1)</sup>			24240	22495	21180	19600
≥ 65				26500 <sup>1)</sup>	24370		22515			
<b>1 AM</b>	45	14280	13100	12315	11055	18180	16870	15885	14905	
	50	15870	14560	12700		20200	18745	17650		
	55	16300 <sup>1)</sup>				22220	20620			
	≥ 60		24240							
<b>2 m</b>	45	12750	11700	10315	8980	16230	15060	14185	12930	
	50	14170	11825			18035	16735			
	≥ 55	14560				19840				
<b>3 m</b>	45	11475	9605	8380	7295	14610	13555	12070	10505	
	≥ 50	11825				16230				
<b>4 m</b>	≥ 45	9650	7835	6840	5950	12985	11285	9850	8575	
<b>5 m</b>	≥ 45	7855	6380	5565	4845	11310	9190	8015	6980	

<sup>1)</sup> These wheel loads are maximum values for  $R_{max}$  for the applicable crane wheel diameter

<sup>2)</sup> With deep groove ball bearings, approx. 20% lower wheel loads

# Permissible wheel loads

## Wheel set 630

Permissible wheel loads in kg

Calculation of the permissible wheel loads  $R_{per}$  for KG 125 maintenance-free wheel sets

- $R_{max}$  = largest occurring load at full load in kg
- $R_{min}$  = smallest occurring load at full load in kg
- $k_1$  = Usable railhead width in mm  
( $k_1 = k - 2r_1$  or, for flat steel rail,  $k_1 = k$ )

$R_{max}$  and  $R_{min}$  for the crane must be determined from the different trolley operating positions.

$$R = \frac{R_{min} + 2 R_{max}}{3} \leq R_{per}$$

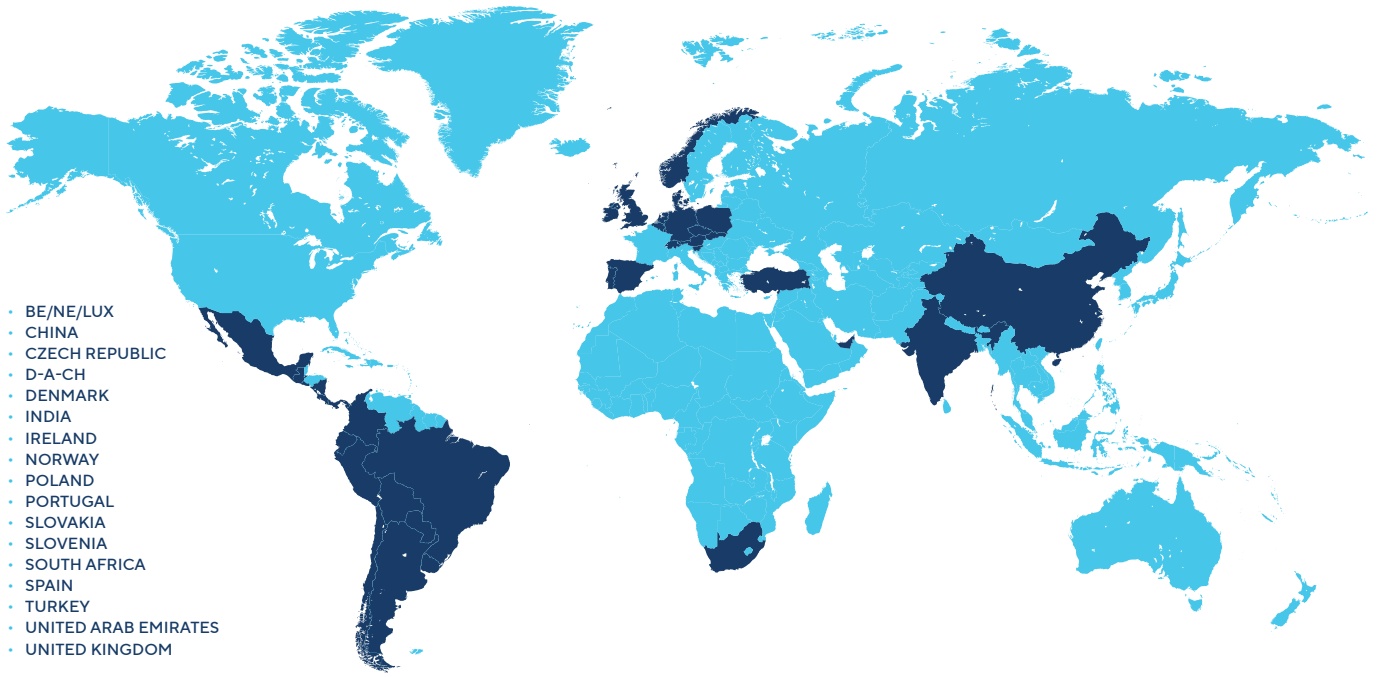
For trolleys with a fixed hoist, the maximum occurring wheel load is the relevant parameter for calculating the permissible wheel load.

$$R_{max} \leq R_{per}$$

Drive mechanism group FEM/DIN 15020	Usable railhead width $k_1$ mm	Crane wheel 630 mm Ø							
		RA/RN self-aligning roller bearing Speed of travel m/min				RAD/RND self-aligning roller bearing Speed of travel m/min			
		20	40	63	100	20	40	63	100
1 BM	≥ 60	31000	29165	27510	25865	31000	29165	27510	25865
	≥ 80	41460	38885	36680	34485	41460	38885	36680	34485
	≥ 90	46640	43750	41270	38800	46640	43750	41270	38800
	100	50000 <sup>1)</sup>	48600	44810	39010	50000 <sup>1)</sup>	48600	44810	39010
1 AM	≥ 60	31000	29165	27510	25865	31000	29165	27510	25865
	≥ 80	41460	38885	36405	31695	41460	38885	36405	31695
	≥ 90	46640	41720			46640	41720		
	100	50000 <sup>1)</sup>			50000 <sup>1)</sup>				
2 m	≥ 60	27760	26040	24565	23090	27760	26040	24565	23090
	≥ 80	37000	33885	29570	25740	37000	33885	29570	25740
	≥ 90	41640				41640			
3 m	≥ 60	24980	23430	22105	20785	24980	23430	22105	20785
	≥ 80	33310	27525	24020	20910	33310	27525	24020	20910
	≥ 90	33880				33880			
4 m	≥ 60	22200	20830	19600	17065	22200	20830	19600	17065
	≥ 80	27650	22460			27650	22460		
5 m	≥ 60	22200	18290	15960	13890	22200	18290	15960	13890
	≥ 80	22510				22510			

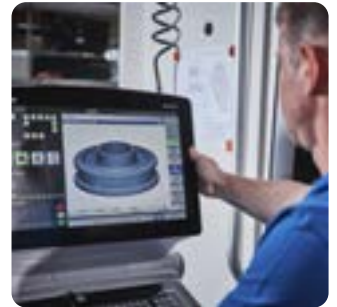
<sup>1)</sup> These wheel loads are maximum values for  $R_{max}$  for the applicable crane wheel diameter





- BE/NE/LUX
- CHINA
- CZECH REPUBLIC
- D-A-CH
- DENMARK
- INDIA
- IRELAND
- NORWAY
- POLAND
- PORTUGAL
- SLOVAKIA
- SLOVENIA
- SOUTH AFRICA
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Subject to alterations by the manufacturer for the purposes of further technical development!

No claims can be derived from the information, figures and descriptions given in these operating instructions.

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