

Centre Flange Bearings Type WM

Diameter Range 140...450 mm

Centre flange bearings type WM are general purpose bearing systems with housings according to DIN 31694.

They are mostly used in horizontal electrical machines such as generators and motors.

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Applications

Centre flange bearings type WM are usually applied in horizontal electrical machines such as generators and motors. They are mounted directly into the machine shield with one side extending into the machine.

Materials

Housings are made of cast iron EN-GJS-300. For high thrust loads, EN-GJS-400-15 is available. Bearing shells are made of high quality steel lined with a layer of babbitt.

Seals

Different types of seals are available, ranging from protection class IP44 up to IP55 to suit your application. Seals are available as floating labyrinth seals for sizes 18 through 28 and as fixed labyrinth seals for sizes 22 through 35. Combined seals with an extra chamber for aeration are available. Special seals are also available.

Electric Insulation

Centre flange bearings type WM are available with electrical insulation between shell and housing. Insulation is ensured by a high-quality spray-cast layer of ECTFE with excellent long-term stability in the spherical seat of the housing.

Special Designs

Modifications to the bearings of the WM series are available to optimally suit your machine design and application. The majority of WM bearings is specially adapted to the customers' specifications.

Oil Supply

Depending upon the application, different modes of lubrication are available. Under most conditions, lubrication is achieved via an external oil circulation system. A loose oil ring may achieve lubrication in emergency run-down condition. For slow-running applications, lubrication may be achieved by a loose oil ring alone. Bearings supplied through a single oil pocket due to changing load angles are available.

Heat Dissipation

In case of an external oil circulation system, the friction heat is dissipated by convection via the same. For slow-running low-load applications, dissipation via the housing surface may be sufficient.

Temperature Control

Provisions for temperature measurements in shell and oil sump are available on both sides of the bearing. In case of tilting pad thrust bearings, provision for axial bearing temperature measurement is also available on both sides. Additional measurement provisions are available on request. Temperature readings may help in determining bearing failure when evaluating transient temperature changes.

Bearing Selection

Calculation software based on E DIN 31652, DIN 31653 and DIN 31654 for bearing pre-selection is available on request. Specified load cases will be calculated by GTW with specialized calculation software able to model bearing behaviour more precisely.

Designation of Bearing Types

1.) Manufacturer

W Gleitlagertechnik Weißbacher GmbH

2.) Type

M Centre flange housing according to DIN 31694

3.) Heat dissipation

N Convection via the housing surface

Z External oil circulation system with oil cooling

X External oil circulation system with oil cooling and large oil throughput

4.) Shape of bore and ring lubrication

C Cylindrical bore without oil ring

L Cylindrical bore with loose oil ring

Y Two lobe bore without oil ring

V Four lobe bore without oil ring

5.) Thrust part

Q Without thrust part

B Babbitt-lined plain shoulders with oil grooves for small dynamic thrust loads

K Taper land faces for both directions of rotation

D Taper land faces for a single direction of rotation

A Circular tilting pad thrust pads type WD

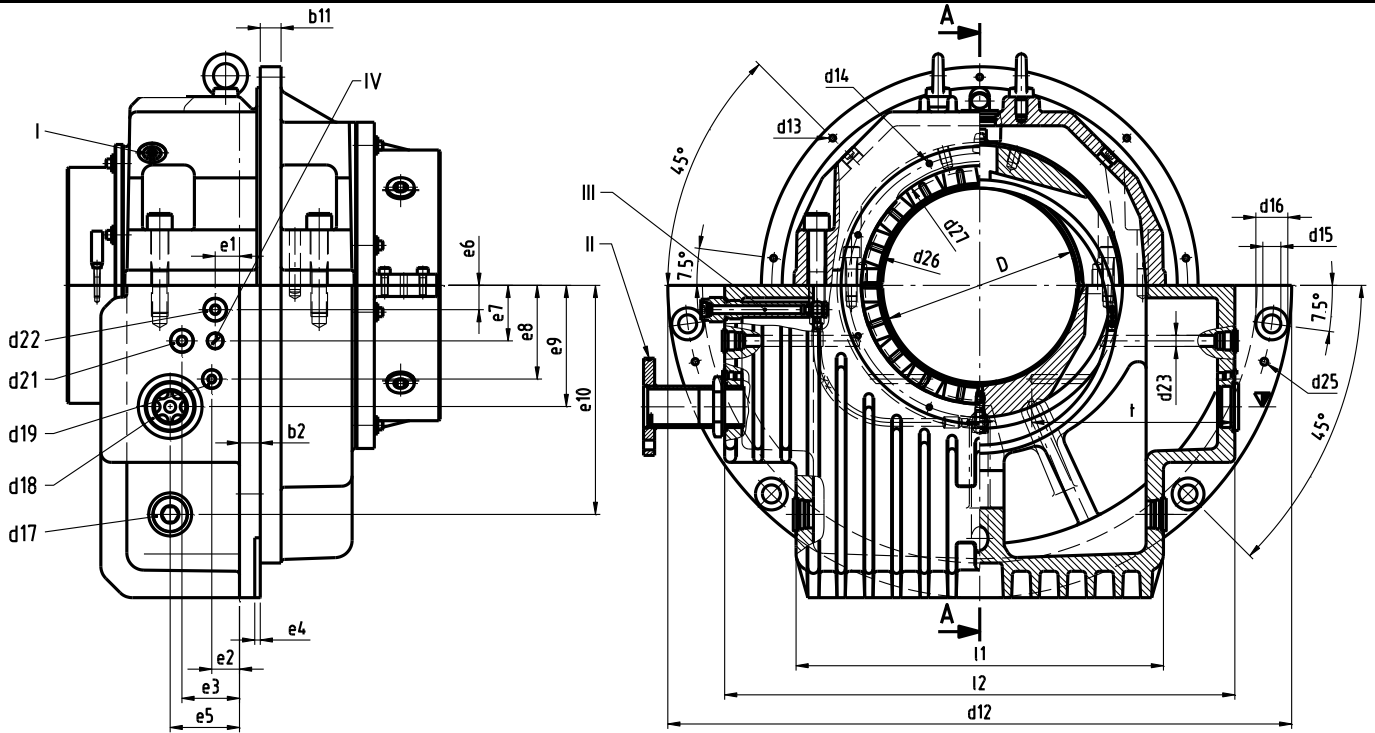
6.) Housing size

7.) Nominal bearing diameter

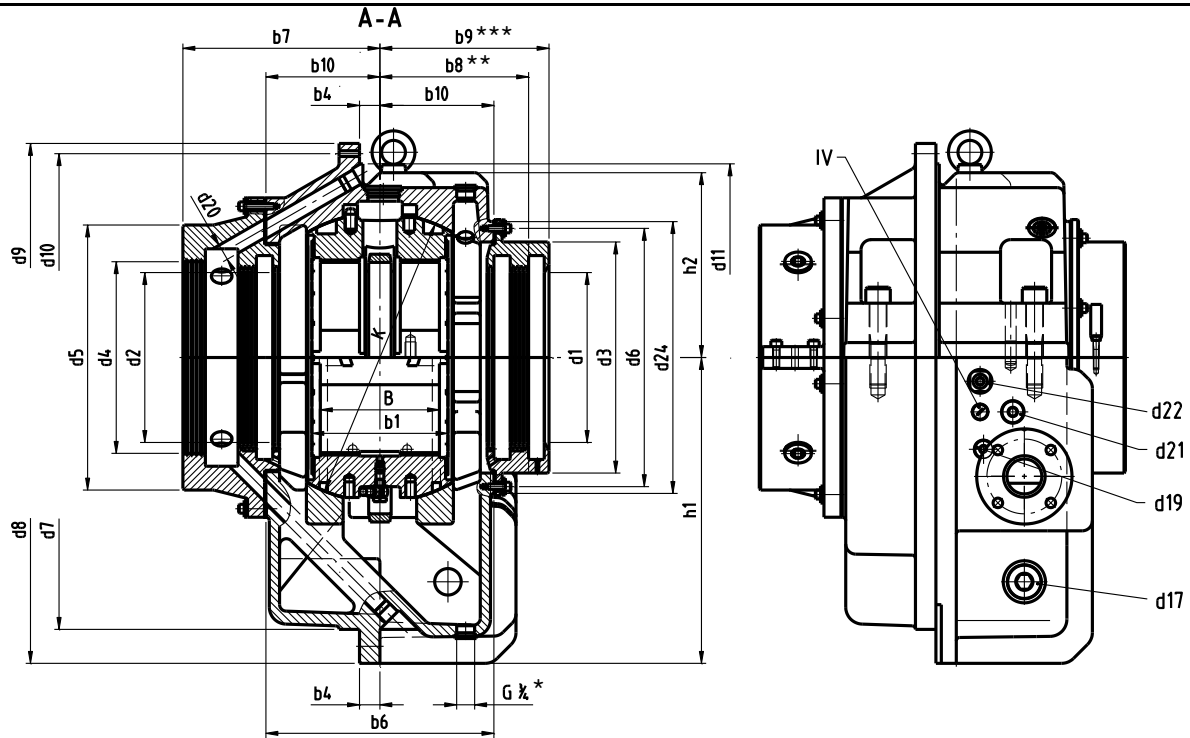
Example Center flange bearing, housing size 35, shaft diameter 400 mm with external oil circulation system and oil cooling, cylindrical bore and without thrust part.

Slide bearing WMZLQ 35-400

Dimensions of Bearings Type WM



Size	D H7	B	b ₁	b ₂ b ₁₁	b ₄	b ₆	b ₇	b ₈	b ₉	b ₁₀	d ₁ /d ₂	d ₃	d ₄	d ₅	d ₆	d ₉	d ₁₀	d ₁₁	d ₁₂	d ₁₃	d ₁₄	d ₁₅ d ₁₆	d ₁₈																																																																																																																																																																																																																																																																																																																																																																																													
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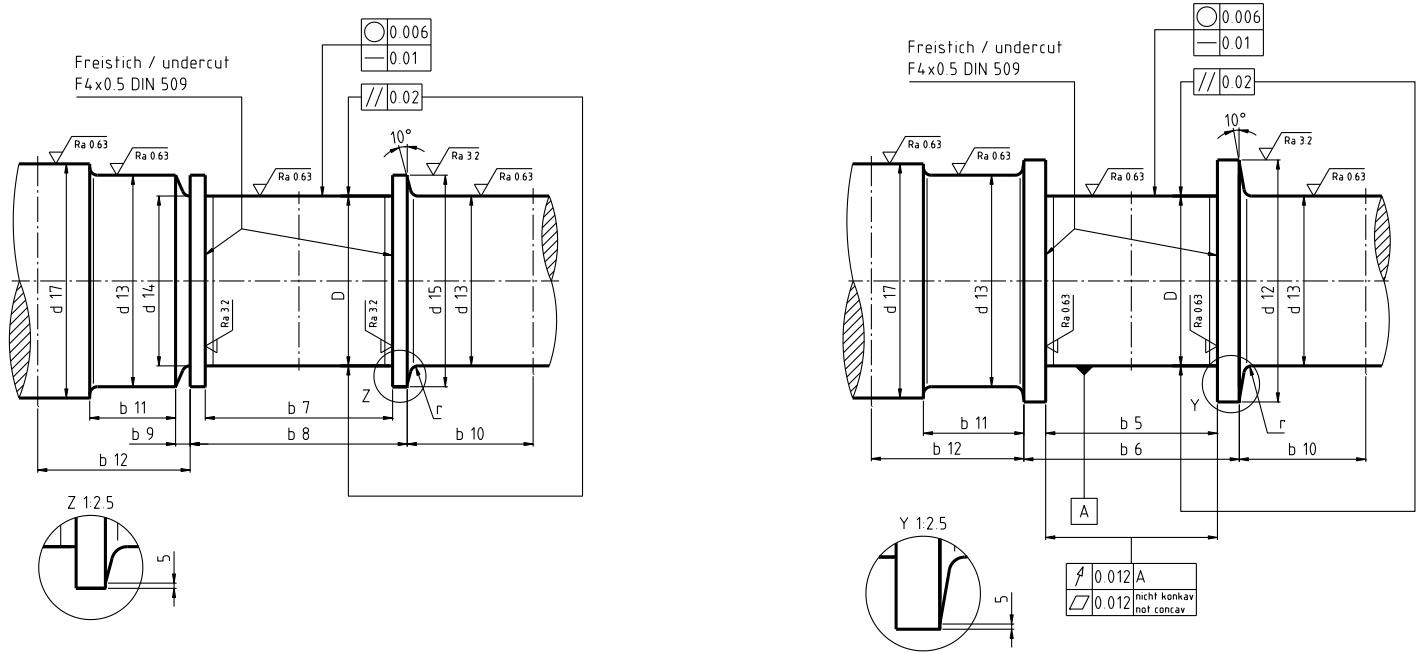


d ₁₉	d ₂₀	d ₂₁	d ₂₂	d ₂₃	d ₂₄	d ₂₆	d ₂₇	e ₁	e ₂	e ₃	e ₄	e ₅	e ₆	e ₇	e ₈	e ₉	e ₁₀	h ₁	h ₂	l ₁	l ₂	m [kg]	V [l]
G $\frac{1}{2}$	18	G $\frac{3}{4}$	G $\frac{3}{4}$	12	340	152	195	30	30	68	6	80	30	70	105	155	260	355	213	419	572	250	11
						172	215																
						192	240																
						212	250																
						237	275																
G $\frac{1}{2}$	24	G $\frac{3}{4}$	G $\frac{3}{4}$	16	400	194	245	35	40	83	8	100	35	80	135	175	330	450	272	530	736	445	27
						214	265																
						239	290																
						264	315																
						294	345																
G $\frac{1}{2}$	30	G $\frac{3}{4}$	G $\frac{3}{4}$	20	525	241	300	50	50	106	8	130	45	95	155	230	400	560	345	670	918	880	52
						266	325																
						296	355																
						316	375																
						331	390																
G $\frac{1}{2}$	39	G 1	G $\frac{3}{4}$	20	640	351	410	48	65	100		130	30	130	200	295	500	700	435	850	1060	1500	80
						371	430																
						300	365																
						320	385																
						335	400																
						355	425																
						375	450																
395	470																						
420	495																						
445	520																						
470	520																						

All dimensions in mm

We reserve the right to introduce modifications

Shaft Dimensions



Size	D	b ₅ (±0.1)	b ₆	b ₇	b ₈	b ₉	b ₁₀	b ₁₁	b ₁₂	d ₁₂		d ₁₃ (e8)/d ₁₄	d ₁₅	d ₁₆ (e8)	d ₁₇ (e8)	r			
										B,K,D	A								
18	140	160.4	190	180	190	10	60	65	127	195	224/242/262	160/140	180	140	180	6			
	215									244/262	180/160						200	160	215
	240									264	200/180						225	180	240
	250									-	225/200						250	200	250
	275									-	225/225						265	225	280
22	180	200.4	240	220	240	13.5	70	70	140	245	288/308/336	200/180	225	180	225	10			
	265									308/328	225/200						250	200	265
	290									328/348	250/225						280	225	280
	315									-	280/250						300	250	290
	345									-	280/280						315	280	315
28	225	250.4	300	280	300	19	70	75	140	300	348/380/418	250/225	280	225	280	10			
	325									378/411/438	280/250						300	250	290
	355									408/441	300/280						315	280	315
	375									433	315/300						335	300	325
	390									443	335/315						355	315	355
	410									-	355/335						375	335	375
	430									-	355/355						400	355	390
35	280	300.5	360	315	335	10	145	120	195	365	435/472/512	300/280	315	280	315	12			
	385									455/487/527	315/300						335	300	325
	400									470/507	335/315						355	315	355
	425									490/522	355/335						375	335	375
	450									510	375/355						400	355	390
	470									525	400/375						425	375	425
	495									-	425/400						450	400	450
	520									-	450/425						475	425	475
	520									-	450/450						500	450	450

All dimensions in mm

We reserve the right to introduce modifications





Weseler Straße 32
D-46519 Alpen
www.gtwalpen.de

Tel. +49-2802-1025-0
Fax. +49-2802-7435
E-Mail: office@gtwalpen.de