

A detailed 3D rendering of a red plain bearing assembly. The bearing is mounted on a red cast-iron housing. It features a large central bore with a silver-colored inner ring. The housing has several mounting points, including two lifting eyes at the top and various bolts and nuts. The overall design is robust and industrial.

**PLAIN BEARINGS  
TYPE ZR/ ZG**

The ZOLLERN logo, featuring a crown above a large, stylized 'Z' followed by the word 'OLLERN' in a bold, black, sans-serif font.

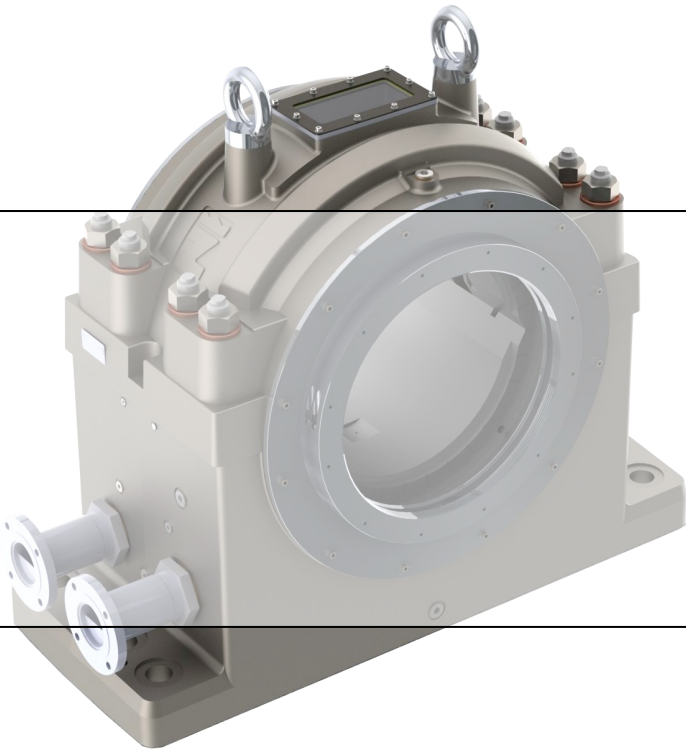
**ZOLLERN**

A detailed 3D rendering of a blue plain bearing assembly. The bearing is mounted on a blue cast-iron housing. It features a large central bore with a white inner ring. The housing has several mounting points, including a lifting eye at the top and various bolts and nuts. The overall design is robust and industrial.

**PLAIN BEARING TECHNOLOGY**

## The ZOLLERN Group

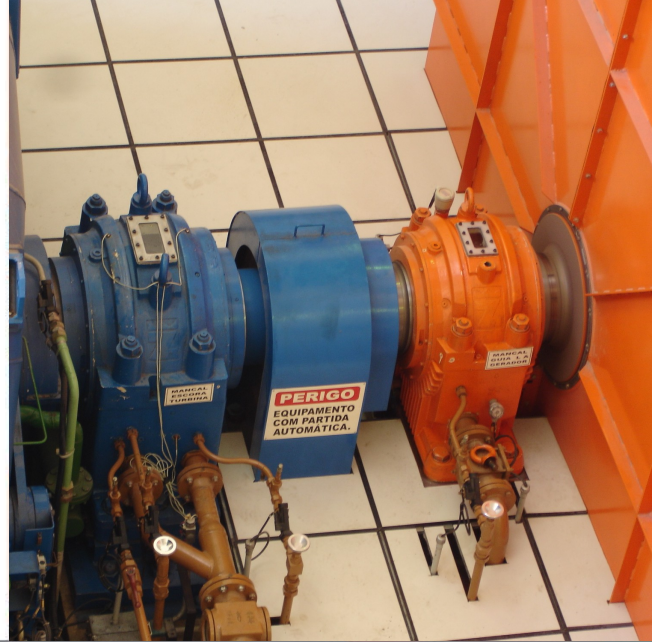
ZOLLERN GmbH & CO. KG is a company with world wide operations, employing over 3000 employees in the business fields of transmission technology (automation, gear boxes and winches), plain bearing technology, machine components, foundry technology and steel profiles.



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# PLAIN BEARINGS TYPE ZR/ZG



## Nomination of bearings



The nomination of the different bearings is acc. to the following table:

### 1 Type

Z

### 2 Type of housing

- R pedestal bearing, finned
- G pedestal bearing, smooth

### 3 Heat dissipation

- N natural cooled by convection
- Z lubrication by oil circulation with external oil cooling
- X lubrication by oil circulation with external oil cooling for high oil throughput
- W finned water cooler in the oil sump
- U recirculating oil pump and natural cooling
- T recirculating oil pump and water cooler in the oil sump

### 4 Shape of bore and type of lubrication

- C plain cylindrical bore without oil ring
- L plain cylindrical bore with loose oil ring
- F plain cylindrical bore with oil disk
- Y two-lobe bore without oil ring
- V four-lobe bore without oil ring
- K journal tilting pads without oil ring

### 5 Geometry of thrust bearing

- Q without thrust capability
- B plain white metal lined shoulders with oil grooves
- K tapered land thrust faces for both sense of rotation
- D tapered land thrust faces for one sense of rotation
- A round tilting thrust pads, cup spring supported

### 6 Size

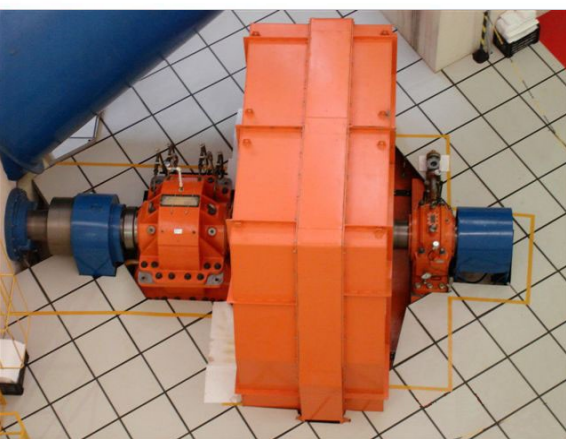
### 7 Shaft diameter

## Example for the nomination of a complete bearing

Z R N L B 35-355

ZOLLERN pedestal bearing, finned bearing, natural cooled by convection, plain cylindrical bore with loose oil ring, plain white metal lined shoulders with oil grooves (locating or non-locating bearing), size 35, for shaft diameter 355 mm.

## DESCRIPTION OF THE DESIGN



The Zollern Z type of horizontal bearings are designed according to different DIN and ISO specifications for a wide range of heavy duty applications (electrical machines, fans and blowers, turbines and test rings). The modular system applies for the different types of bearings (pedestal, end flange and centre flange), i.e. the combination of different modules of this modular system is always possible. This has resulted in simple assembly and elimination of mistakes during installation, commissioning and maintenance procedures due to the positioning of screws and pins.

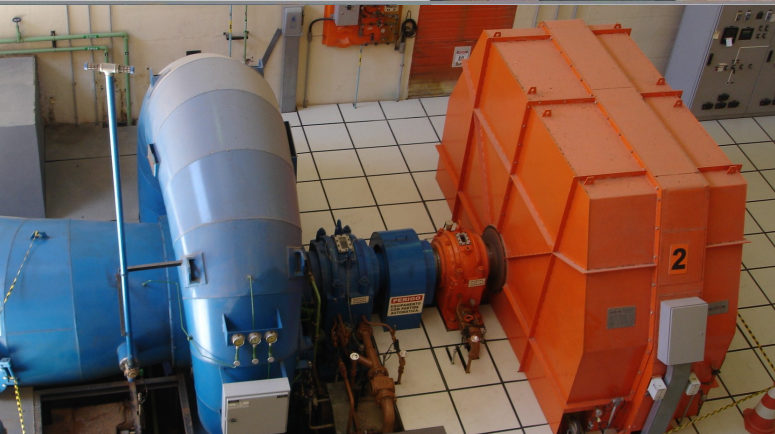
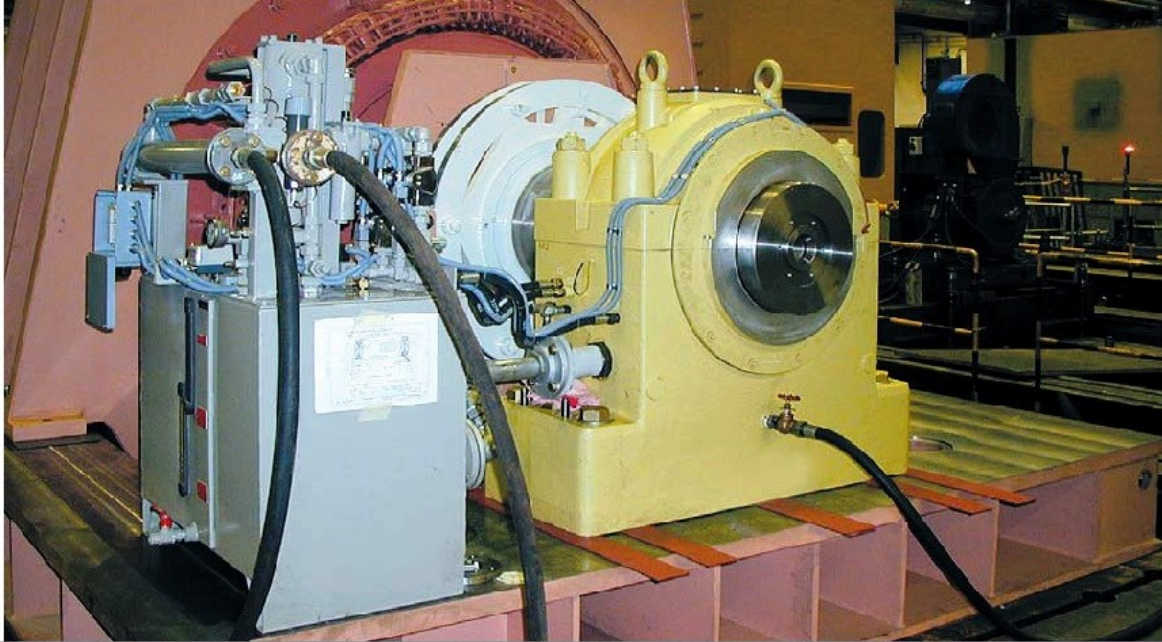
### Housing

The bearing housings are finned and manufactured from nodular cast iron GGG 40 giving high strength and best heat dissipation. The spherical seat in the housing ensures easy alignment during assembly and the loads are steady induced to the lower part of the housing. Therefore these bearings are designed for highest stress. Thread holes for the fitting of thermo sensors in the journal bush and oil sump as well as for oil inlet and outlet pipes are provided on both sides of the housings as a standard. Water cooling tubes and vibration probes can be easily fitted by small amendments of the housings.

### Bearing shells

The shell is supplied in halves and spherically seated in the housing ensuring easy alignment during assembly. The material is low carbon steel lined with high tin based white metal. This construction allows easy assembly and long life cycle. Bearing shells with plain cylindrical bore and loose oil ring are used in most cases, but other shapes of bore are possible. Optional water coolers are available and the bearing can be connected to an oil circulation. Where the specific load on start-up is too high, or for slow speed applications a hydrostatic jacking system can be incorporated. Zollern will give recommendations for the oil supply pressure and the required flow rate. Bearing shells without thrust capability, or with plain white metal lined shoulders (small, temporary thrust loads) with oil grooves, or taper land faces (medium thrust loads) for one or both sense of rotation can be selected depending on the level of the thrust load. The bearing shells are equipped with tilting thrust pads for highest thrust loads.





### **Oil supply**

Fully self contained lubrication is achieved from a loose oil ring. Alternatively, where bearings are lubricated by an external oil circulation system, this loose oil ring can be used to permit emergency shutdown without damage if a system failure occurs. Z-bearings can be used for marine applications by using an oil ring guide to cater for vessel motions.

### **Sealing**

The seals are selected for the different operation conditions and for the requested protection level. The standard arrangement is the floating labyrinth seal (IP 44) made of high heat resistant, fibre-reinforced synthetic material. Bearings for high oil throughput are equipped with adjustable rigid seals (IP 44) made of aluminum alloy. Both types of seals can be equipped with bolt-on baffles (IP 55) or dust flingers (IP 54) if the bearing is operating in a dusty or a wet environment or if rotating parts (clutches, couplings, fans etc.) are fitted close to the bearing. Special seals offering higher protection, or pressurized seals etc. can be supplied for special applications. Details upon request. An end cover is used while the end of the shaft is inside the bearing.

### **Electrical insulation**

To prevent stray currents conducted by the shaft Z-bearings can be supplied electrically insulated as an option. In this case the spherical seat of the housing is coated with a wear-resistant and temperature-resistant synthetic material.

### **Selection of oil**

It is recommended that any branded mineral oil (preferably inhibited against foaming, ageing and oxidation) is used as the lubricant. The viscosity for every application is selected by the Zollern bearing design computer program. The output resulting is provided with every quotation.

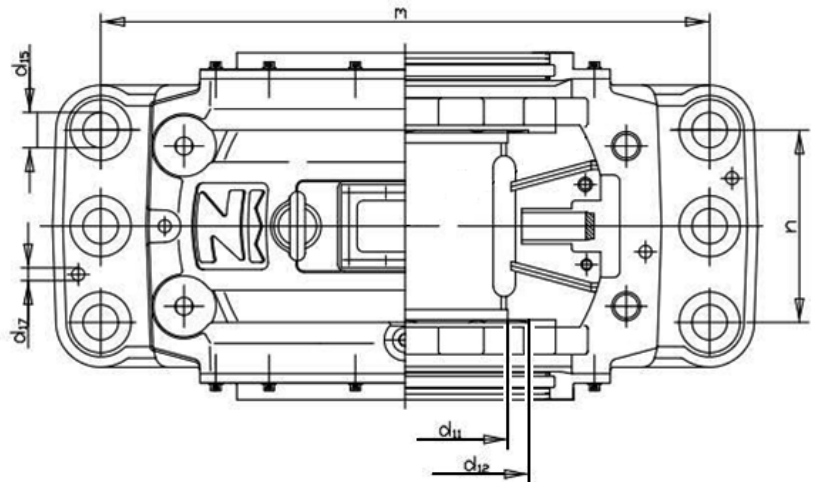
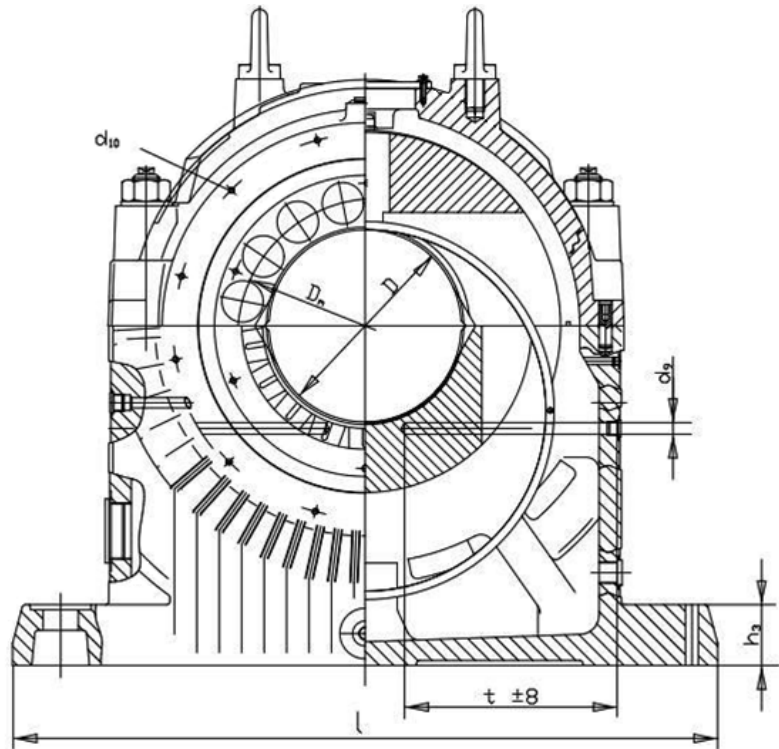
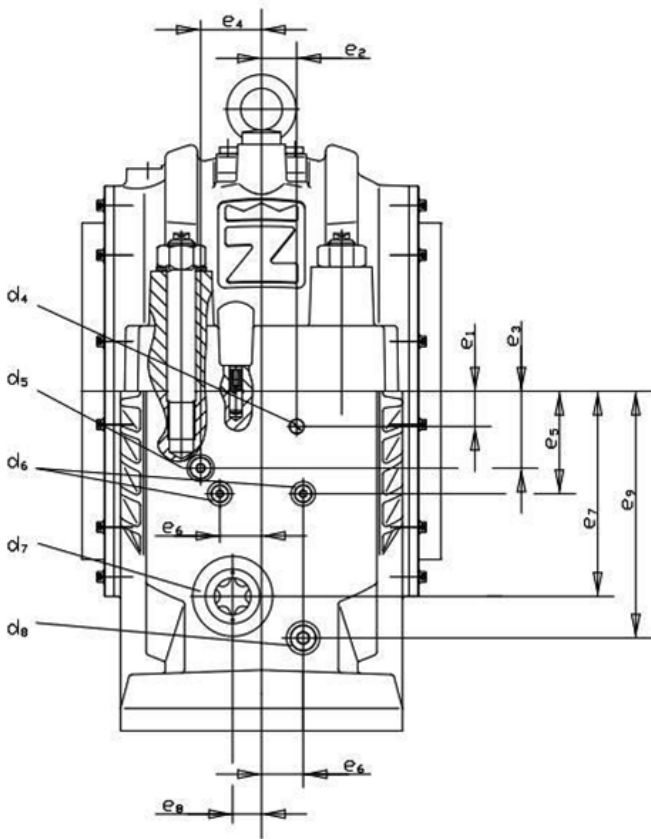
### **Temperature control**

Provisions for the fitting of thermo sensors in the journal bush and oil sump are provided as standard. Which type of sensor is used depends on the type of reading (direct reading, centralized control system, recording instrument). It is possible to fit two different and independent thermo sensors.

# DIMENSIONS ZR / ZG

| SIZE | D (H7) | B     | b1  | b2  | b3  | b13 | d1/<br>d2 | d3  | d5   | d7 | d8 | d9 | d10          | d11 | d12 | Dm  | Dz | ZD Pads<br>per side | d13 | d14 | d15               | D17 <sup>1)</sup> |
|------|--------|-------|-----|-----|-----|-----|-----------|-----|------|----|----|----|--------------|-----|-----|-----|----|---------------------|-----|-----|-------------------|-------------------|
| 35   | 300    | 254   |     |     |     |     | 300       | 480 |      |    |    |    |              | 320 | 385 | 390 | 63 | 16                  |     |     |                   |                   |
|      | 315    | 254   |     |     |     |     | 315       | 480 |      |    |    |    | 335          | 400 | 405 | 63  | 18 |                     |     |     |                   |                   |
|      | 335    | 254   | 300 | 562 | 460 | 360 | 335       | 480 | G3/4 | G3 | G1 | 18 | M10<br>(12x) | 355 | 425 | 425 | 63 | 18                  | 600 | 640 | 55<br>para<br>M42 | 20                |
|      | 355    | 254   |     |     |     |     | 355       | 480 |      |    |    |    | 375          | 450 | 445 | 63  | 20 |                     |     |     |                   |                   |
|      | 375    | 263,5 |     |     |     |     | 375       | 525 |      |    |    |    | 395          | 470 | 455 | 50  | 24 |                     |     |     |                   |                   |
|      | 400    | 263,5 |     |     |     |     | 400       | 525 |      |    |    |    | 420          | 495 | 470 | 50  | 24 |                     |     |     |                   |                   |
| 45   | 375    | 318,8 |     |     |     |     | 375       | 530 |      |    |    |    | 400          | 480 | 485 | 80  | 16 |                     |     |     |                   |                   |
|      | 400    | 318,8 |     |     |     |     | 400       | 530 |      |    |    |    | 425          | 505 | 510 | 80  | 18 |                     |     |     |                   |                   |
|      | 425    | 318,8 | 375 | 652 | 550 | 530 | 425       | 530 | G3/4 | G3 | G1 | 18 | M10<br>(12x) | 450 | 530 | 535 | 80 | 18                  | 730 | 780 | 62<br>para<br>M48 | 20                |
|      | 450    | 318,8 |     |     |     |     | 450       | 600 |      |    |    |    | 475          | 555 | 560 | 80  | 20 |                     |     |     |                   |                   |
|      | 475    | 318,8 |     |     |     |     | 475       | 600 |      |    |    |    | 500          | 580 | 580 | 63  | 26 |                     |     |     |                   |                   |
|      | 500    | 318,8 |     |     |     |     | 500       | 600 |      |    |    |    | 525          | 605 | 590 | 63  | 26 |                     |     |     |                   |                   |

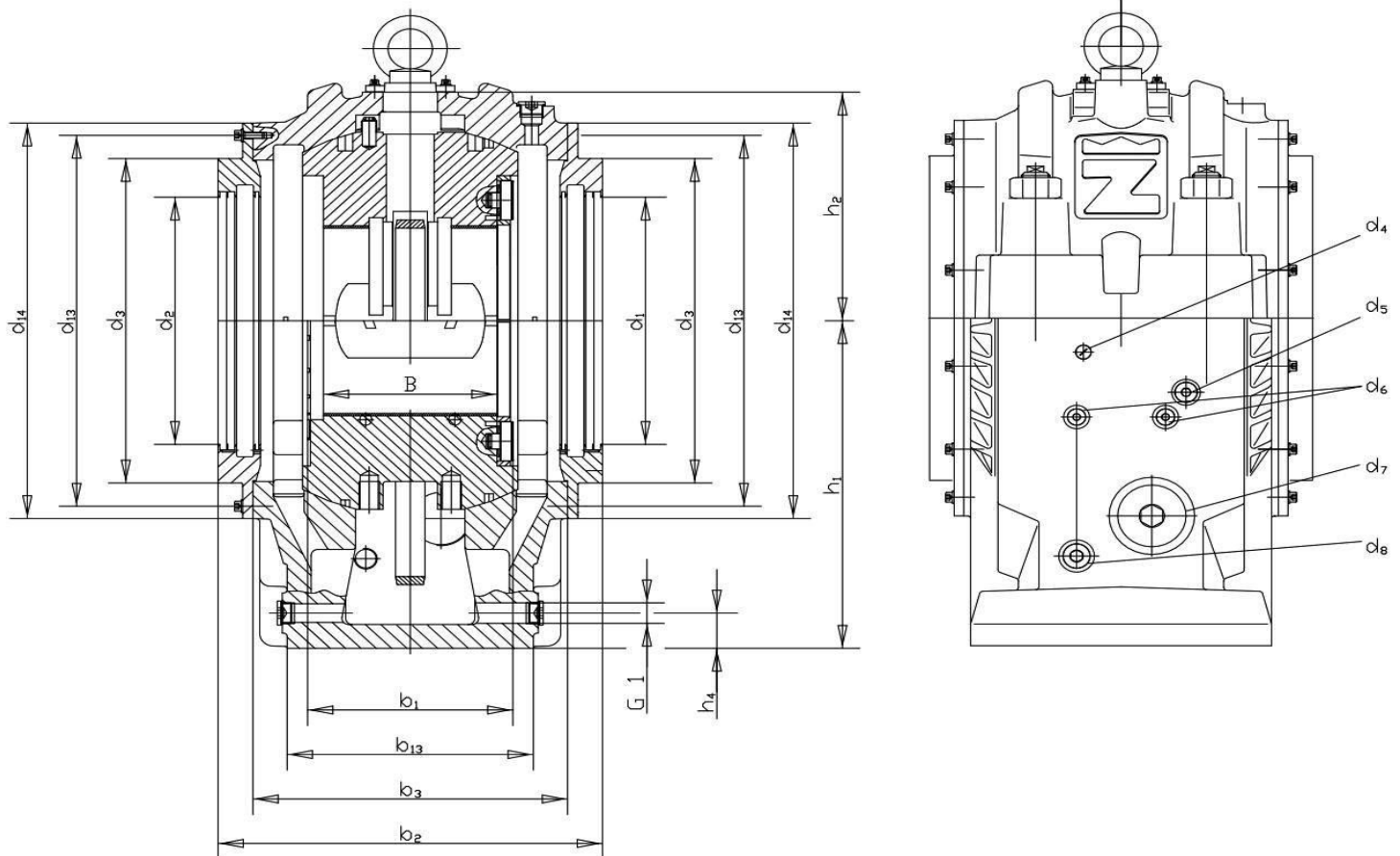
dimensions in millimeters



- d4 = earthing device or plug - Pg7
- d5 = oil inlet (oil circulation or Recirculating pump)
- d6 = provision for thermometer - G1/2"
- d7 = oil sight glass or oil outlet (oil circulation)
- d8 = plug (connection for heater, oil sump thermometer, water cooler)
- t = depth of thermometer bore

1) Bore for dowel pin

| e1 | e2 | e3  | e4  | e5                                     | e6 | e7                                     | e8 | e9  | h1  | h2  | h3  | h4 | L    | m    | n   | t   | Weight<br>appr. kg | oil<br>content<br>appr. l |
|----|----|-----|-----|--|----|--|----|-----|-----|-----|-----|----|------|------|-----|-----|--------------------|---------------------------|
| 55 | 55 | 120 | 95  | 160<br>170<br>180<br>190<br>200<br>210 | 65 | 295<br>295<br>310<br>310<br>320<br>320 | 45 | 385 | 530 | 370 | 95  | 57 | 1100 | 950  | 300 | 332 | 1300               | 33                        |
| 45 | 45 | 130 | 120 | 190<br>205<br>215<br>230<br>245<br>255 | 75 | 335<br>335<br>350<br>350<br>360<br>360 | 90 | 420 | 600 | 475 | 120 | 60 | 1350 | 1150 | 355 | 396 | 2300               | 63                        |



### Example for the nomination of a bearing

**Z R Z L K 35 - 355**

- Z** Zollern plain bearing
- R** Pedestal bearing, finned
- Z** Lubrication by oil circulation, with external oil cooling
- L** Plain cylindrical bore with loose oil ring
- K** Tapered land thrust faces for both sense of rotation
- 35** Size 35
- 355** Shaft diameter 355mm

#### 1 Type

Z = Zollern plain bearing

#### 2 Housing

R = Pedestal bearing, finned  
G = Pedestal bearing, smooth

#### 3 Heat dissipation\*

N = Natural cooled by convection  
Z = Lubrication by oil circulation with external oil cooling  
W = Finned water cooler in the oil sump

#### 4 Type of lubrication\*

L = Plain cylindrical bore with loose oil ring

#### 5 Thrust part\*

B = Plain White metal lined shoulders with oil grooves  
K = Tapered land faced for both sense of rotation  
Q = Without thrust capability

#### 6 Size

#### 7 Shaft diameter

\* Special designs and technical informations are available upon request.



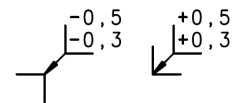
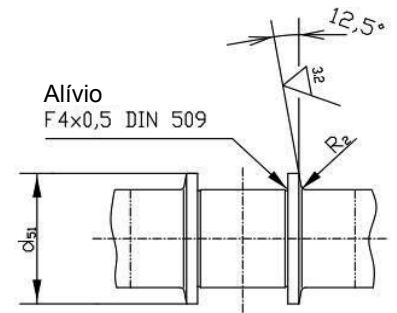
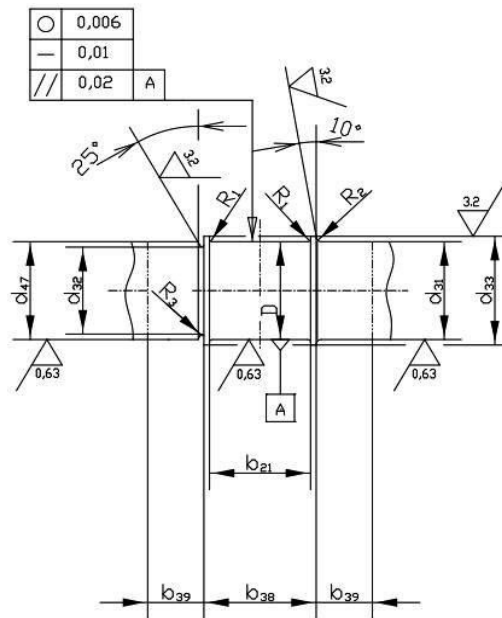
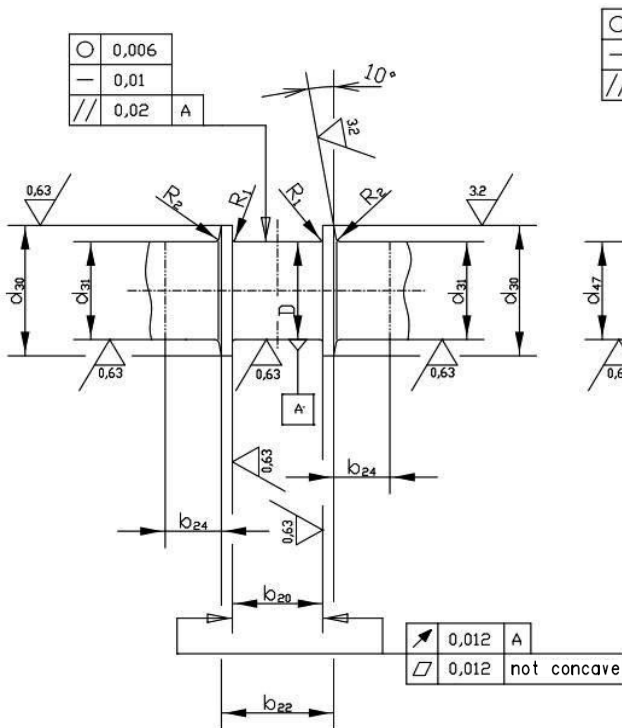
# DIMENSIONS OF SHAFT - ZR / ZG

| SIZE | D <sup>1</sup> | b20 <sup>2</sup> | b21 <sup>3</sup> | b22 | d24 | b38 | B39 | d30     | D31 <sup>4</sup><br>(e8) | D47 (e8)         |       | d33 | d51 | R1 | R2 | R3  |
|------|----------------|------------------|------------------|-----|-----|-----|-----|---------|--------------------------|------------------|-------|-----|-----|----|----|-----|
|      |                |                  |                  |     |     |     |     |         |                          | D32 <sup>5</sup> |       |     |     |    |    |     |
| 35   | 300            | 300,5            | 315              | 360 | 115 | 335 | 130 | 385     | 300, 315                 | 315/300          | 300/— | 335 | 458 | 8  | 12 | 2,5 |
|      | 315            |                  |                  |     |     |     |     | 355     |                          |                  |       | 473 |     |    |    |     |
|      | 335            |                  |                  |     |     |     |     | 375     | 493                      |                  |       |     |     |    |    |     |
|      | 355            |                  |                  |     |     |     |     | 400     | 513                      |                  |       |     |     |    |    |     |
|      | 375            |                  |                  |     |     |     |     | 425     | 510                      |                  |       |     |     |    |    |     |
|      | 400            |                  |                  |     |     |     |     | 450     | 525                      |                  |       |     |     |    |    |     |
| 45   | 375            | 375,5            | 400              | 445 | 120 | 425 | 130 | 480     | 375, 400                 | 400/375          | 375/— | 425 | 570 | 10 | 16 | 4   |
|      | 400            |                  |                  |     |     |     |     | 450     |                          |                  |       | 595 |     |    |    |     |
|      | 425            |                  |                  |     |     |     |     | 475     | 620                      |                  |       |     |     |    |    |     |
|      | 450            |                  |                  |     |     |     |     | 500     | 645                      |                  |       |     |     |    |    |     |
|      | 475            |                  |                  |     |     |     |     | 530     | 648                      |                  |       |     |     |    |    |     |
|      | 500            |                  |                  |     |     |     |     | 560     | 658                      |                  |       |     |     |    |    |     |
|      |                |                  |                  |     |     |     |     | 530/500 |                          |                  |       |     |     |    |    |     |
|      |                |                  |                  |     |     |     |     | 560/530 |                          |                  |       |     |     |    |    |     |

Design for locating bearing  
Bearing type Z...B  
Z...K

Design for non-locating bearing  
bearing type Z...Q  
(Z...B)

Design for locating bearing  
Bearing type-type Z...A



surface acc. DIN ISO 1302

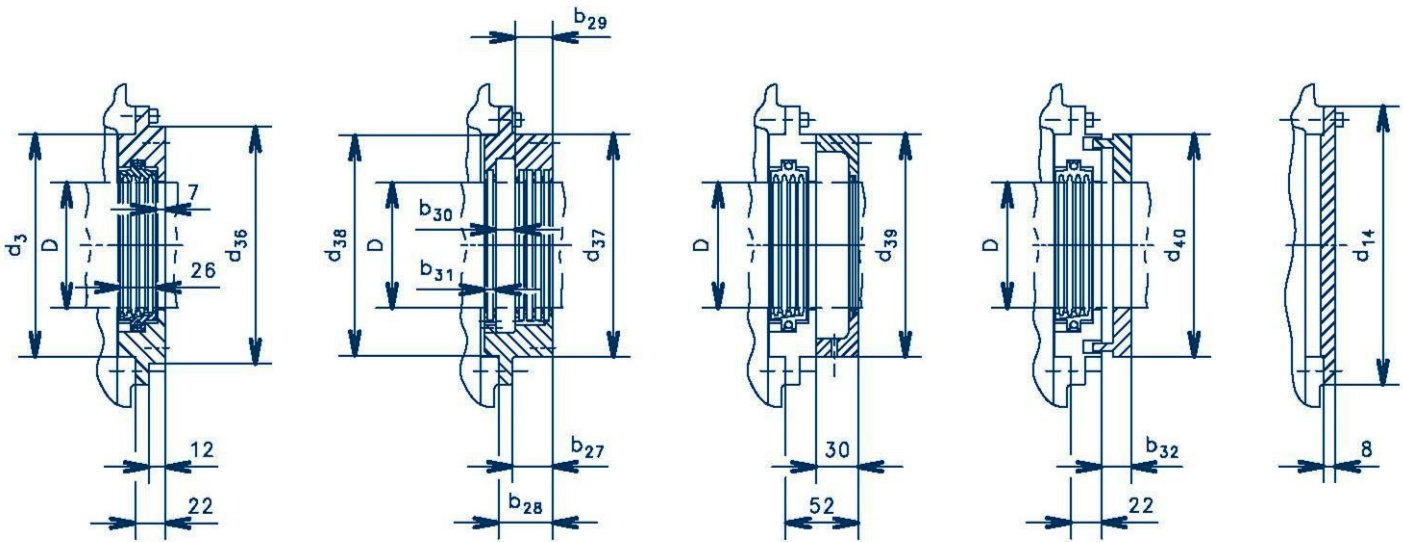
dimensions in millimeters

- 1 - Limit dimensions of the shaft acc. DIN 31 698, form and positional tolerances and surface roughness acc. DIN 31 699
- 2 - Standard trust clearance is 0,6mm. If reversible trust loads or shock loads occur, dimension b20 can be reduced by 0,3mm. If a locating bearing (Shell type B,K) is needed only for test runs, dimension b20" can be enlarged by 4 up to 6 mm.
- 3 - If the non-locating bearing has to allow lager motions (due to heat expansion or to large thrust clearances caused by the unit), dimension b21 can be enlarged.
- 4 - The plunge cut d32 is dropped, if it is equal or smaller as the shaft diameter D.
- 5 - .The radii R1 and R2 can be replaced by a plunge cut acc. DIN 509.



# DIMENSIONS OF SEALS ZR / ZG

| Size | D   | b27 | b28 | b29 | b30 | b31 | b32 | d3  | d14 | d36 | d37 | d38 | d39 | d40 |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 35   | 300 | 36  | 51  | 27  | 25  | 10  | 32  | 520 | 640 | 480 | 525 | 520 | 525 | 525 |
|      | 315 |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 335 |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 375 |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 400 |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 45   | 375 | 36  | 51  | 27  | 25  | 10  | -   | -   | 780 | -   | 600 | 657 | 600 | 600 |
|      | 400 |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 425 |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 450 |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 500 |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 56   | 475 | 36  | 51  | 27  | 25  | 10  | -   | -   | 950 | -   | 730 | 797 | -   | -   |
|      | 500 |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 530 |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 560 |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 630 |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 71   | 600 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   |
|      | 630 |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 670 |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 710 |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 750 |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | 850 |     |     |     |     |     |     |     |     |     |     |     |     |     |



**Floating labyrinth seal**  
(protection IP 44)

**Rigid seal \***  
(protection IP 44)

**Floating labyrinth seal with bolt-on baffle**  
(protection IP 55)

**Floating labyrinth seal with dust flinger**  
(protection IP 54)

**End cover**

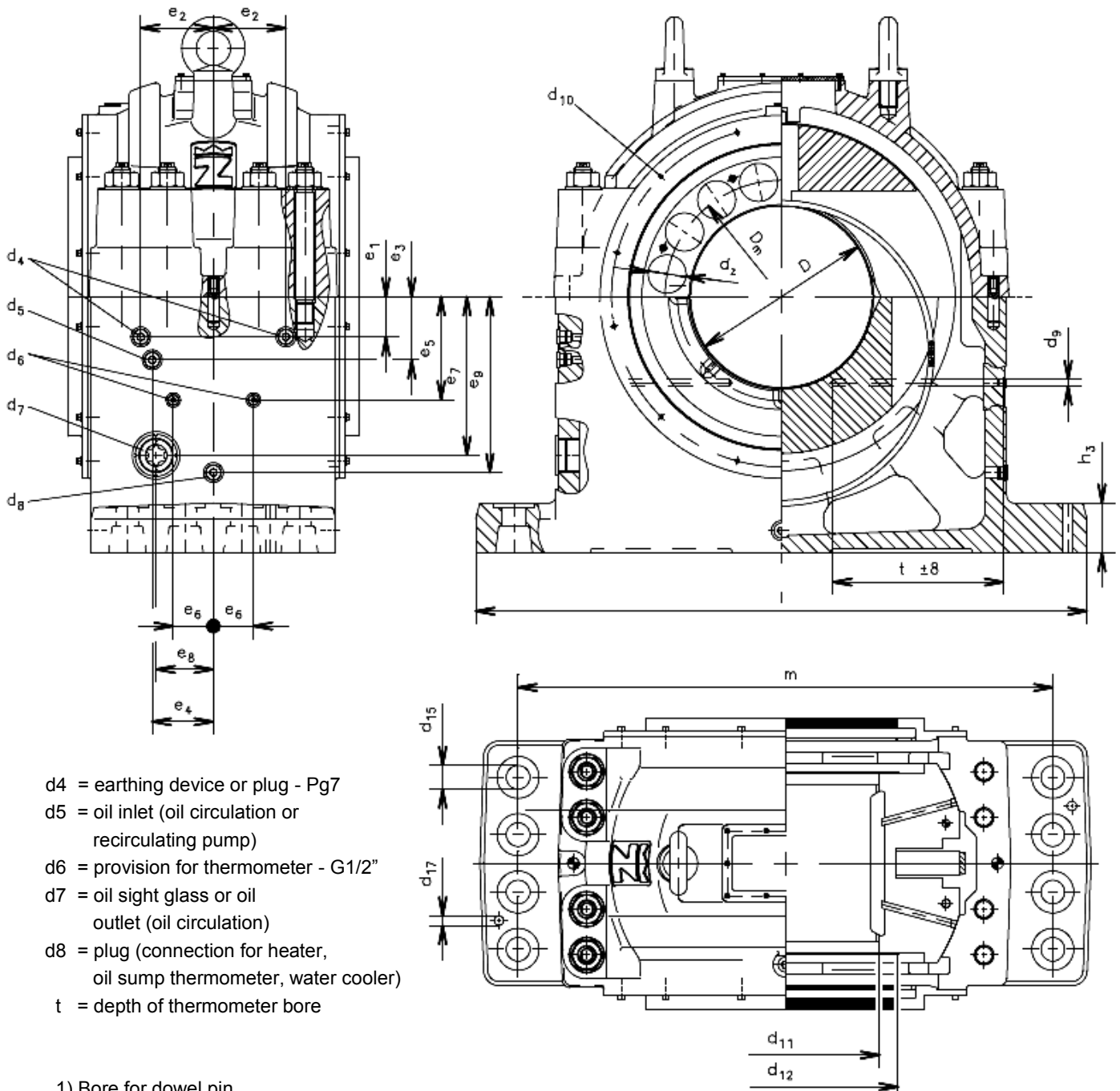
max. axial movement of the dust flinger  $\pm 6,5$  mm (meets NEMA spec.)

\* can be combined with a bolt-on baffle (IP 55) or a dust flinger (IP 54) too.

# DIMENSIONS ZG

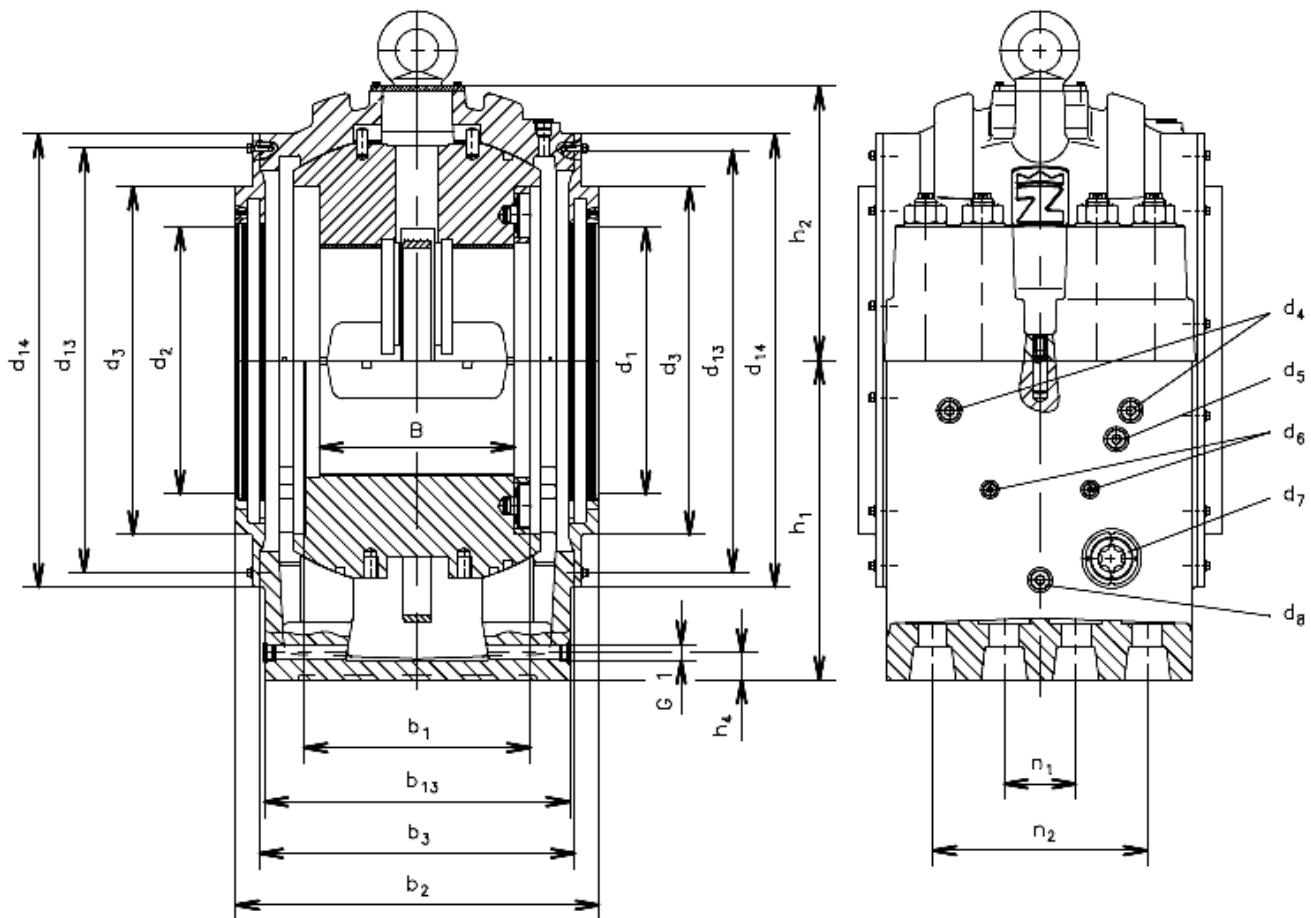
| SIZE | D (H7) | B     | b1  | b2  | b3  | b13 | d1/d2   | d3  | d5 | d7 | d8 | d9 | d10       | d11 | d12 | Dm  | Dz  | ZD pads per side | d13 | d14  | d15         | D17 <sup>1)</sup> |
|------|--------|-------|-----|-----|-----|-----|---------|-----|----|----|----|----|-----------|-----|-----|-----|-----|------------------|-----|------|-------------|-------------------|
| 56   | 475    | 409   |     |     |     |     | 475     |     |    |    |    |    |           |     |     |     |     | 16               |     |      |             |                   |
|      | 500    | 409   |     |     |     |     | 500     |     |    |    |    |    |           |     |     |     |     | 18               |     |      |             |                   |
|      | 530    | 409   | 475 | 762 | 660 | 640 | 530     | 730 | G1 | G3 | G1 | 18 | M10 (12x) | 505 | 590 | 610 | 100 | 18               |     |      |             |                   |
|      | 560    | 418,8 |     |     |     |     | 560     |     |    |    |    |    |           |     |     |     |     | 22               | 890 | 950  | 62 para M48 | 25                |
|      | 600    | 418,8 |     |     |     |     | 600     |     |    |    |    |    |           |     |     |     |     | —                |     |      |             |                   |
|      | 630    | 418,8 |     |     |     |     | 630     |     |    |    |    |    |           |     |     |     |     | —                |     |      |             |                   |
| 71   | 600    | 522   |     |     |     |     | 600/630 |     |    |    |    |    |           |     |     |     |     | 18               |     |      |             |                   |
|      | 630    | 522   |     |     |     |     | 670/710 | 2)  | G1 | G3 | G1 | 18 | M10 (12x) | 635 | 725 | 765 | 125 | 18               |     |      |             |                   |
|      | 670    | 522   | 600 | 912 | 810 | 780 | 670/710 |     |    |    |    |    |           |     |     |     |     | 24               | 107 | 1165 | 70 para M64 | 25                |
|      | 710    | 534   |     |     |     |     | 750/800 |     |    |    |    |    |           |     |     |     |     | —                | 6   |      |             |                   |
|      | 750    | 534   |     |     |     |     | 850     |     |    |    |    |    |           |     |     |     |     | —                |     |      |             |                   |
|      | 750    | 534   |     |     |     |     | 850     |     |    |    |    |    |           |     |     |     |     | —                |     |      |             |                   |
|      | 800    | 549,2 |     |     |     |     |         |     |    |    |    |    |           |     |     |     |     | —                |     |      |             |                   |

dimensions in millimeters



- 1) Bore for dowel pin
- 2) Details on request

| e1  | e2  | e3  | e4  | e5                                     | e6  | e7                                     | e8  | e9  | h1  | h2  | h3  | h4 | L    | m    | n1  | n2  | t   | Weight<br>appr. kg | oil<br>content<br>appr. l |
|-----|-----|-----|-----|--|-----|--|-----|-----|-----|-----|-----|----|------|------|-----|-----|-----|--------------------|---------------------------|
| 105 | 190 | 165 | 160 | 225<br>240<br>255<br>270<br>295<br>310 | 105 | 415                                    | 150 | 460 | 670 | 575 | 130 | 58 | 1600 | 1400 | 150 | 450 | 450 | 4000               | 76                        |
| 125 | 240 | 175 | 200 | 250<br>270<br>295<br>320<br>340<br>370 | 140 | 500<br>500<br>500<br>490<br>480<br>485 | 190 | 540 | 750 | 720 | 160 | 62 | 2000 | 1800 | 200 | 560 | 560 | 6400               | 125                       |



### Example for the nomination of a bearing

**Z** **G** **Z** **L** **K** **56** - **500**

- Z** Zollern plain bearing
- G** Pedestal bearing, smooth
- Z** Lubrication by oil circulation, with external oil cooling
- L** Plain cylindrical bore with loose oil ring
- K** Tapered land thrust faces for both sense of rotation
- 56** Size 56
- 500** Shaft diameter 500mm

#### 1 Type

#### 2 Housing

#### 3 Heat dissipation\*

#### 4 Type of lubrication\*

#### 5 Thrust part\*

#### 6 Size

#### 7 Shaft diameter

Z = Zollern plain bearing

R = Pedestal bearing, finned  
G = Pedestal bearing, smooth

N = Natural cooled by convection  
Z = Lubrication by oil circulation with external oil cooling  
W = Finned water cooler in the oil sump

L = Plain cylindrical bore with loose oil ring

B = Plain White metal lined shoulders with oil grooves  
K = Tapered land faced for both sense of rotation  
Q = Without thrust capability

\* Special designs and technical informations are available upon request.



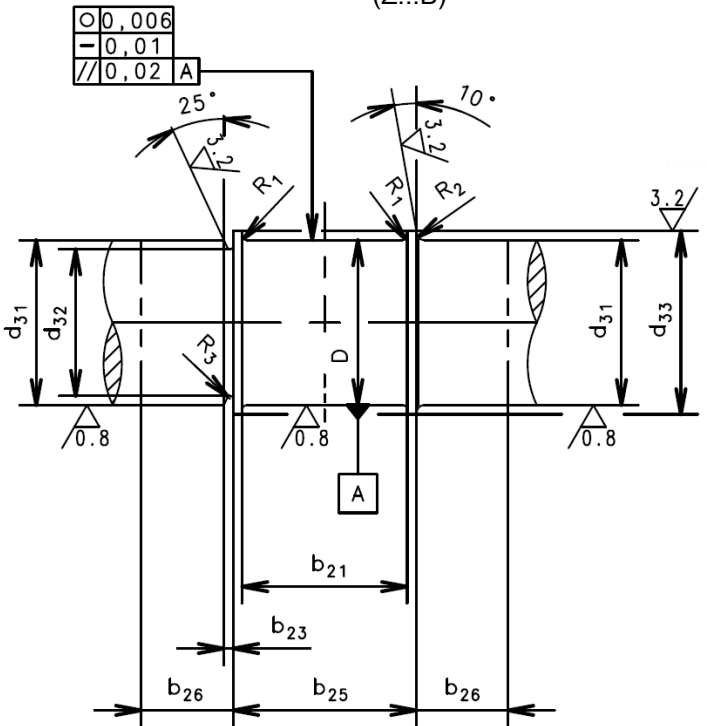
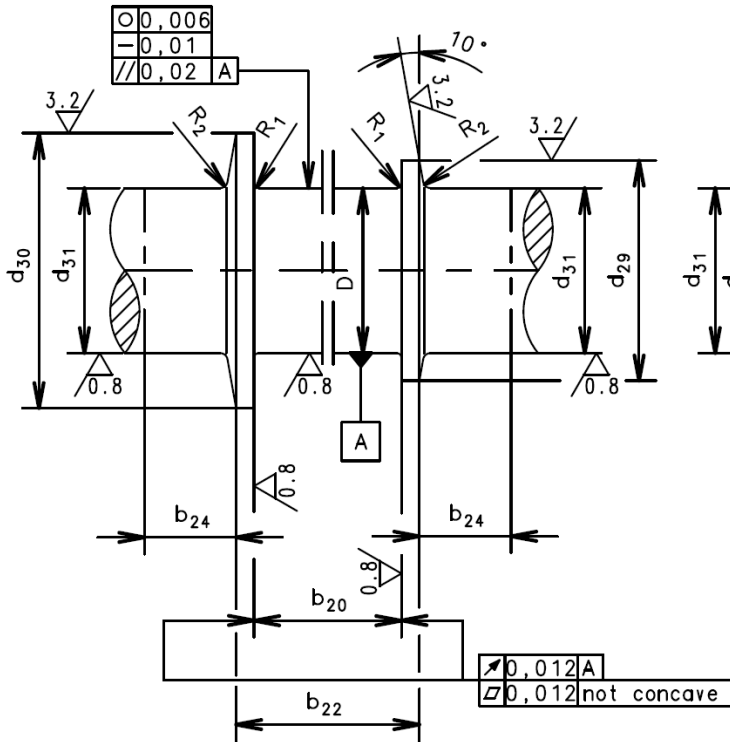
# DIMENSIONS OF SHAFT - ZG

| SIZE | D <sup>1</sup> | b <sub>20</sub> <sup>2</sup> | b <sub>21</sub> <sup>3</sup> | b <sub>22</sub> | b <sub>23</sub> <sup>4</sup> | b <sub>24</sub> | b <sub>25</sub> | b <sub>26</sub> | d <sub>29</sub> | d <sub>30</sub> | d <sub>31</sub> (e8) |     |      | d <sub>33</sub> | R1 <sup>5</sup> | R2 <sup>5</sup> | R3 |     |     |
|------|----------------|------------------------------|------------------------------|-----------------|------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------------|-----|------|-----------------|-----------------|-----------------|----|-----|-----|
|      |                |                              |                              |                 |                              |                 |                 |                 |                 |                 | d <sub>32</sub>      |     |      |                 |                 |                 |    |     |     |
| 56   | 475            | 475,5                        | 500                          | 555             | 16                           | 120             | 530             | 135             | 590             | 715             | 475                  | 500 | 530  | 530             | 10              | 16              | 4  |     |     |
|      | 500            |                              |                              |                 |                              |                 |                 |                 |                 |                 |                      |     |      |                 |                 |                 |    | 560 | 600 |
|      | 530            |                              |                              |                 |                              |                 |                 |                 |                 |                 |                      |     |      |                 |                 |                 |    | 630 | 670 |
|      | 560            |                              |                              |                 |                              |                 |                 |                 |                 |                 | 560                  | 600 | 630  |                 |                 |                 |    |     |     |
|      | 600            |                              |                              |                 |                              |                 |                 |                 |                 |                 |                      |     |      |                 |                 |                 |    | 670 | 710 |
|      | 630            |                              |                              |                 |                              |                 |                 |                 |                 |                 |                      |     |      |                 |                 |                 |    | 745 | 785 |
| 71   | 600            | 600,5                        | 630                          | 690             | 20                           | 125             | 670             | 135             | 725             | 900             | 600                  | 630 | 670  | 670             | 10              | 16              | 6  |     |     |
|      | 630            |                              |                              |                 |                              |                 |                 |                 |                 |                 |                      |     |      |                 |                 |                 |    | 710 | 750 |
|      | 670            |                              |                              |                 |                              |                 |                 |                 |                 |                 | 670                  | 710 | 750  |                 |                 |                 |    |     |     |
|      | 710            |                              |                              |                 |                              |                 |                 |                 |                 |                 |                      |     |      |                 |                 |                 |    | 785 | 825 |
|      | 750            |                              |                              |                 |                              |                 |                 |                 |                 |                 |                      |     |      |                 |                 |                 |    | 860 | 900 |
|      | 800            |                              |                              |                 |                              |                 |                 |                 |                 |                 | 925                  | 965 | 1005 |                 |                 |                 |    |     |     |

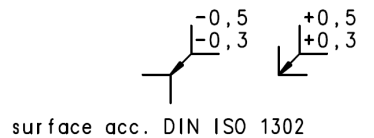
Design for locating bearing  
Bearing type-type Z...A

Design for locating bearing  
Bearing type Z...B  
Z...K

Design for non-locating bearing  
bearing type Z...Q  
(Z...B)



dimensions in millimeters



- 1 - Limit dimensions of the shaft acc. DIN 31 698, form and positional tolerances and surface roughness acc. DIN 31 699
- 2 - Standard trust clearance is 0,6mm. If reversible trust loads or shock loads occur, dimension b<sub>20</sub> can be reduced by 0,3mm. If a locating bearing (Shell type B,K) is needed only for test runs, dimension b<sub>20</sub> can be enlarged by 4 up to 6 mm.
- 3 - If the non-locating bearing has to allow lager motions (due to heat expansion or to large thrust clearances caused by the unit), dimension b<sub>21</sub> can be enlarged.
- 4 - The plunge cut d<sub>32</sub> is dropped, if it is equal or smaller as the shaft diameter D.
- 5 - .The radii R1 and R2 can be replaced by a plunge cut acc. DIN 509.

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