

 **MARKES**

# CERTIFICATE



Management system as per  
**DIN EN ISO 9001 : 2000**

In accordance with TÜV CERT procedures, it is hereby certified that

**Markes & Co. KG**  
**Metallwarenfabrik**  
Wiesenstraße 61  
58507 Lüdenscheid  
Germany



applies a management system in line with the above standard for the following scope

**Metal and plastic working**  
**Manufacture of ball bearings**

Certificate Registration No. 04 100 970659  
Audit Report No. 3501 2490

Valid until 2010-04-10  
Initial certification 1997

*G. Brüntigam*  
TÜV CERT Certification Body  
at TÜV NORD CERT GmbH

Essen, 2007-08-03

This certification was conducted in accordance with the TÜV CERT auditing and certification procedures and is subject to regular surveillance audits.

TÜV NORD CERT GmbH

Langemarckstrasse 20

45141 Essen

[www.tuev-nord-cert.com](http://www.tuev-nord-cert.com)



TGA-ZM-30-96-00



## Load capacity:

The load capacity of the ball bearing is specified as load rating C in daN and tested under following conditions:

- 200mm roller length (short roller)
- axis fixed restrained
- rotational speed 100min<sup>-1</sup> - 200min<sup>-1</sup>
- 1.000.000 revolutions (load change)

## Service life:

From the load capacity the service life of the ball bearing could be calculated with following formula:

$$Lh = \frac{1000000}{60 \times n} \left( \frac{C}{P} \right)^p$$

Herein are:

- L<sub>h</sub>: nominal service life [h]
- C: dynamic load rating [N]
- n: revolutions [min<sup>-1</sup>]
- P: dynamic bearing load [N]  
(P = C in case of radial load only)
- p: exponent of service life equation  
(for ball bearing is considered p=3)

## Plastics:

Polypropylen (PP)

- good mechanical characteristic
- excellent shock resistance

Polyacetal (POM)

- high hardness and stiffness
- low absorbtion of humidity
- good friction and abrasion characteristic

Polyamid (PA)

- tenacious/rigid
- very good mechanical characteristic and abrasion resistance

Antistatic Plastics

- PP
- POM

The use of antistatic plastics is only premissible in the provided temperature range. We can not give any guarantee for the conductivity.

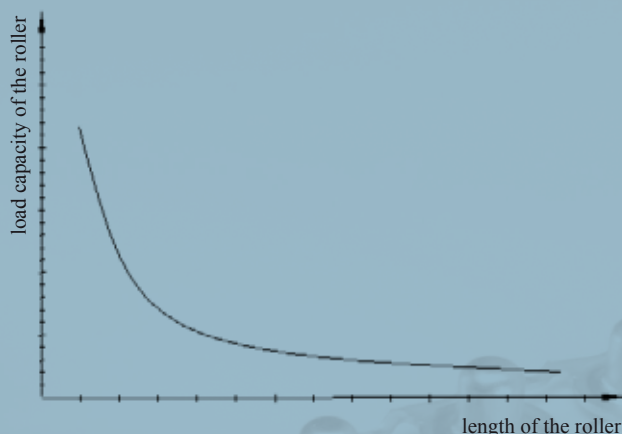
**Attention: Do not use in explosion-proofed areas !!!**

## Affecting conditions:

Under different conditions the roller manufacturer has to determine the real new load capacity of the roller by himself. Kindly note that the service life and the load capacity of your roller will be determined by:

- roller length
- axis diameter
- style of the axis
- environment influences

Influence of the roller length for the load rating:



## Lubricants:

Our ball bearings are equipped with high quality lubricants. Furthermore our special greases and oils can reach a temperature range from -35°C to +180°C. Our tested lubricants are best proved for many years under every conditions. In a given case please ask for the optimal lubricants recommended by MARKES..



**Metal roller bearings  
MTR up to 150 daN**

**1**

**Metal roller bearings  
MTS up to 250 daN**

**2**

**Plastic roller bearings  
KTR up to 10 daN**

**3**

**Plastic roller bearings  
KTR/KTE up to 150 daN**

**4**

**Skate Wheels  
KLR/SLR**

**5**

**Retainer for standard bearings  
LH/FL**

**6**

**Sprockets**

**7**

**Components**

**8**

**Special bearings**

**9**

**Additional Products  
Attachment**

**10**



**MTR**



**MTS**

Plastic roller bearings KTR up to 10 daN

3



**KTR**

Plastic roller bearings KTR/KTE up to 150 daN

4



**KTR/KTE**



**KLR/SLR**





**Retainer for standard bearings LH/FL**

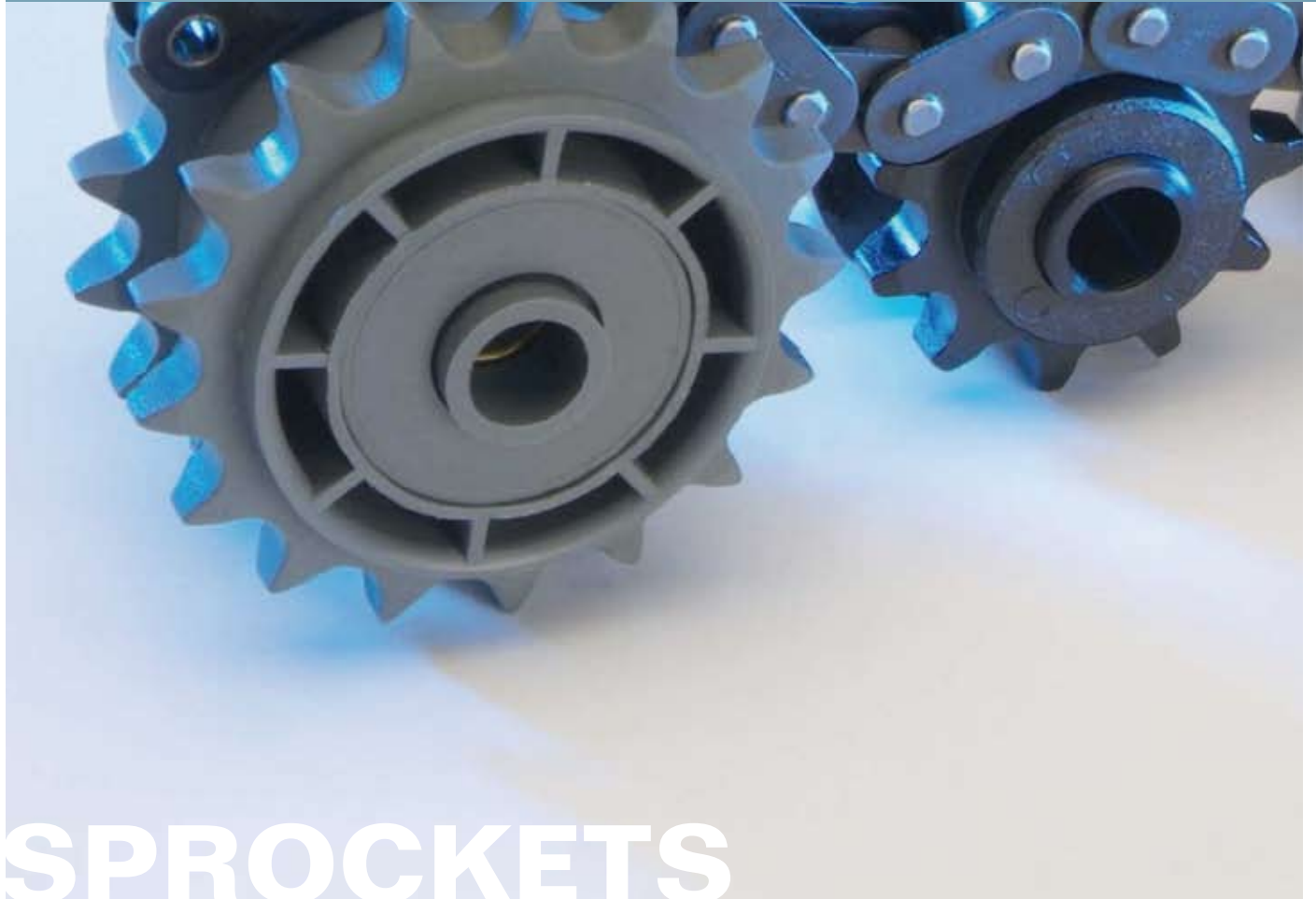
**6**



**LH/FL**



Sprockets 7

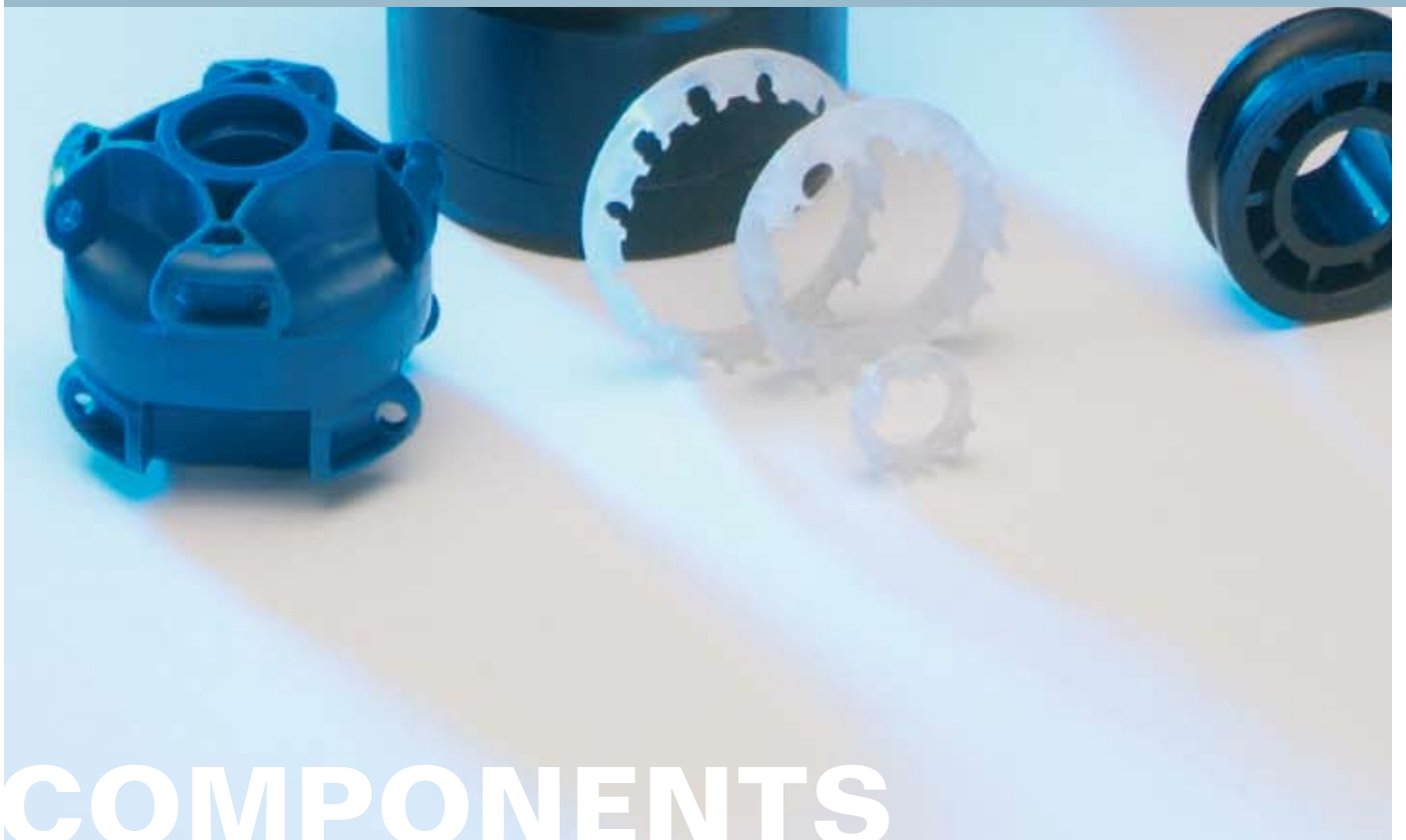


# SPROCKETS



Components

8



COMPONENTS



**Special bearings**

**9**



# **SPECIAL BEARINGS**

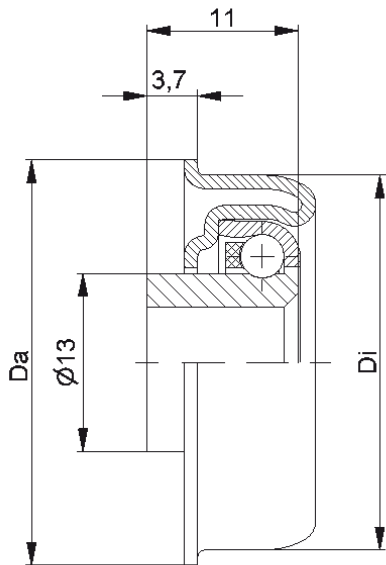


**Additional products/Attachment**

**10**



**ADDITIONAL PRODUCTS**



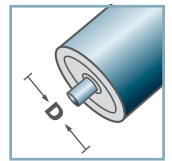
MTR-16			
Type	Di ±0.1	Da ±0.2	Load Rating C [daN]
MTR-30x1,2.16	27,6	29,6	30
MTR-30x1,5.16	27,3	29,6	30

**Other dimensions on request!**

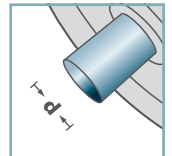
- ☛ Housing: Steel, Zinc plated
- ☛ Bearing RL-16
  - ☛ Bearing Shell: Steel, Hardened
  - ☛ Inner Race: Steel, Hardened, Zinc plated
  - ☛ Ball Cage: Plastic
  - ☛ Ball: Steel



## MTR-16



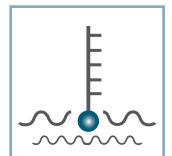
**D** [mm]  
30



**d** [mm]  
8; 10



**C** [daN]  
30



**T** [°C]  
0° - 100°



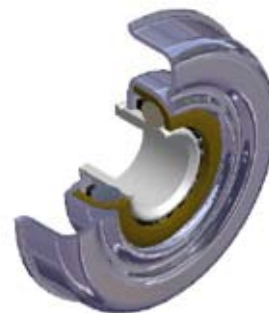
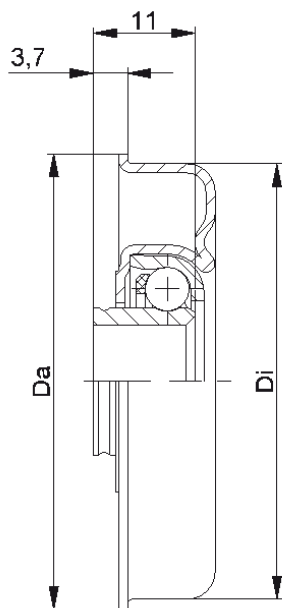
Vactra No. 2



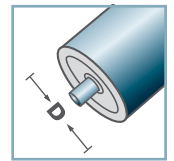
**Carton** [pcs.]

500

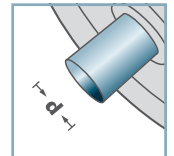
# MTR



## MTR-20



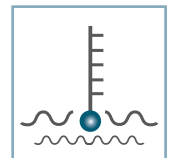
**D** [mm]  
40 - 80



**d** [mm]  
8; 10; 12; SW11



**C** [daN]  
80



**T** [°C]  
0° - 100°



Vactra No. 2



**Carton** [pcs.]

ø40: 250  
ø48: 350  
ø50: 350  
ø60: 200  
ø80: 125

MTR-20			
Type	Di ±0.1	Da ±0.2	Load Rating C [daN]
MTR-40x1,5.20	37,3	39,5	80
MTR-40x2,0.20	36,3	39,5	80
MTR-48x1,5.20	45,3	47,5	80
MTR-50x1,5.20	47,3	49,5	80
MTR-50x2,0.20	46,3	49,5	80
MTR-60x1,5.20	57,3	59,5	80
MTR-60x2,0.20	56,3	59,5	80
MTR-80x2,0.20	76,4	79,5	80

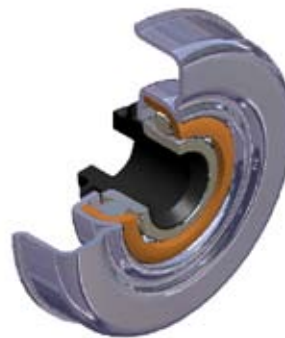
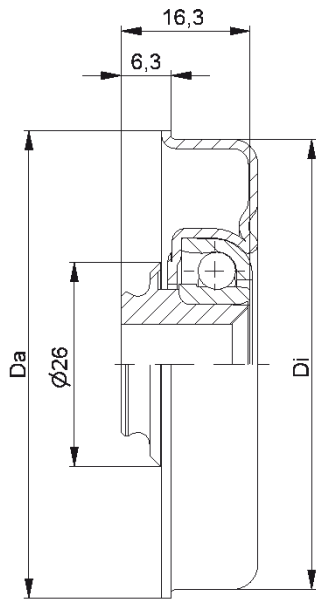
### Other dimensions on request!

- ☛ Housing: Steel, Zinc plated
- ☛ Bearing RL-20
  - ☛ Bearing Shell: Steel, Hardened
  - ☛ Inner Race: Steel, Hardened, Zinc plated
  - ☛ Ball Cage: Plastic
  - ☛ Ball: Steel

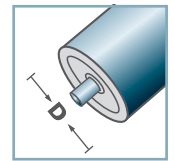


# MTR

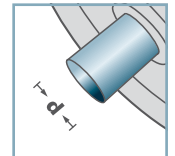




## MTR-30



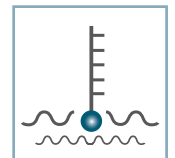
**D** [mm]  
50 - 80



**d** [mm]  
8; 10; 12; SW11



**C** [daN]  
120



**T** [°C]  
0° - 100°



EP 0



**Carton** [pcs.]

ø50: 300  
ø60: 200  
ø80: 125

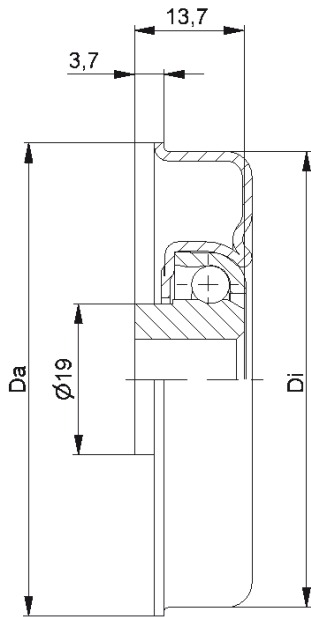
MTR-30			
Type	Di ±0.1	Da ±0.2	Load Rating C [daN]
MTR-50x1,5.30	47,3	49,5	120
MTR-50x2,0.30	46,3	49,5	120
MTR-50x3,0.30	44,3	49,5	120
MTR-60x1,5.30	57,3	59,5	120
MTR-60x2,0.30	56,3	59,5	120
MTR-80x2,0.30	76,4	79,5	120

**Other dimensions on request!**

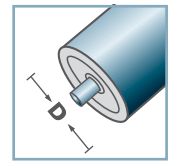
- ☛ Housing: Steel, Zinc plated
- ☛ Reducing Bush: Plastic
- ☛ Bearing RL-30
  - ☛ Bearing Shell: Steel, Hardened
  - ☛ Inner Race: Steel, Hardened
  - ☛ Ball: Steel



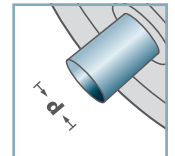
# MTR



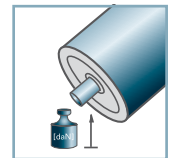
## MTR-30-2



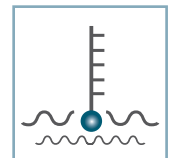
**D** [mm]  
50 - 80



**d** [mm]  
12; 14; 15; SW11



**C** [daN]  
120



**T** [°C]  
0° - 100°



EP 0



**Carton** [pcs.]

ø50: 300  
ø60: 200  
ø80: 125

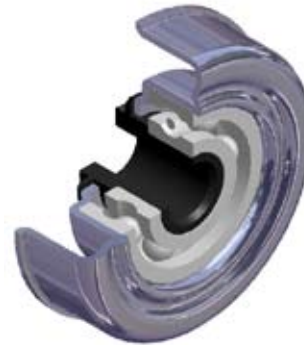
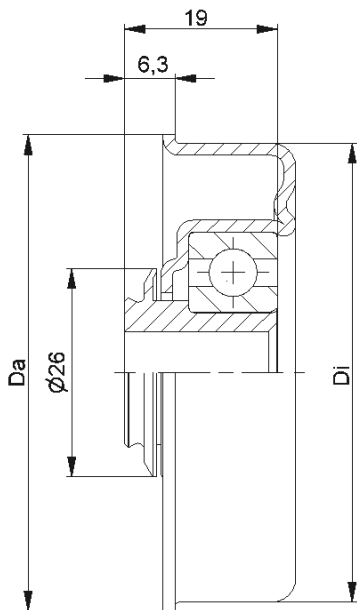
MTR-30-2			
Type	Di ±0.1	Da ±0.2	Load Rating C [daN]
MTR-50x1,5.30-2	47,3	49,5	120
MTR-50x2,0.30-2	46,3	49,5	120
MTR-60x1,5.30-2	57,3	59,5	120
MTR-60x2,0.30-2	56,3	59,5	120
MTR-80x2,0.30-2	76,4	79,5	120

### Other dimensions on request!

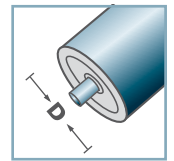
- ☛ Housing: Steel, Zinc plated
- ☛ Bearing RL-30-2
  - ☛ Bearing Shell: Steel, Hardened
  - ☛ Inner Race: Steel, Hardened
  - ☛ Ball: Steel



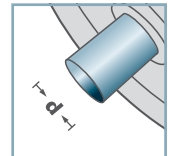
# MTR



## MTR-40



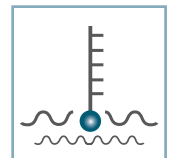
**D** [mm]  
50 - 80



**d** [mm]  
10; 12; SW11



**C** [daN]  
120 - 150



**T** [°C]  
0° - 80°



EP 2



**Carton** [pcs.]

ø50: 100  
ø60: 200  
ø80: 125

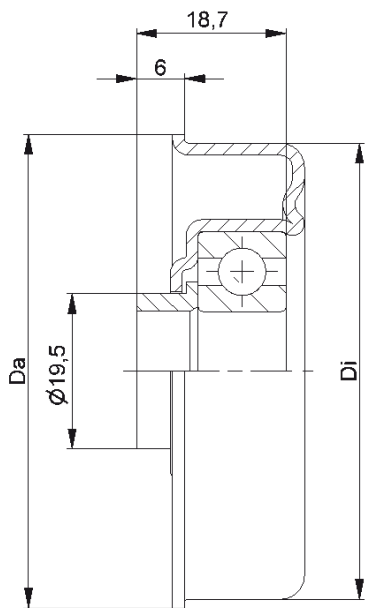
MTR-40			
Type	Di ±0.1	Da ±0.2	Load Rating C [daN]
MTR-50x1,5.40	47,3	49,5	120
MTR-50x2,0.40	46,3	49,5	120
MTR-60x1,5.40	57,3	59,5	150
MTR-60x2,0.40	56,3	59,5	150
MTR-60x3,0.40	54,3	59,5	150
MTR-80x2,0.40	76,5	79,5	150

**Other dimensions on request!**

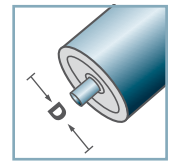
- ☛ Housing: Steel, Zinc plated
- ☛ Reducing Bush: Plastic
- ☛ Bearing 6202



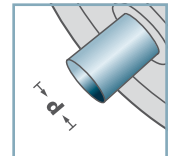
# MTR



**MTR-40.15**



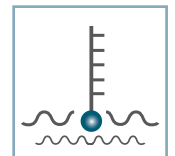
**D** [mm]  
50 - 80



**d** [mm]  
15



**C** [daN]  
120 - 150



**T** [°C]  
0° - 80°



EP 2



**Carton** [pcs.]

ø50: 100  
ø60: 200  
ø70: 125  
ø80: 125

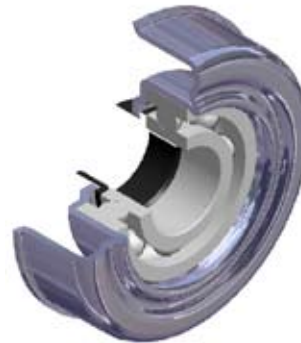
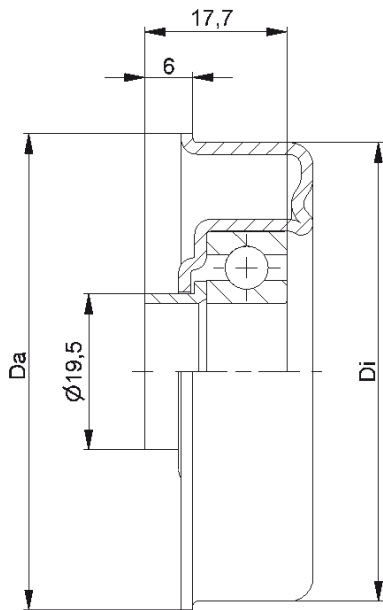
<b>MTR-40.15</b>			
Type	Di ±0.1	Da ±0.2	Load Rating C [daN]
MTR-50x1,5.40.15	47,3	49,5	120
MTR-50x2,0.40.15	46,3	49,5	120
MTR-60x1,5.40.15	57,3	59,5	150
MTR-60x2,0.40.15	56,3	59,5	150
MTR-60x3,0.40.15	54,3	59,5	150
MTR-70x2,0.40.15	66,4	69,5	150
MTR-80x2,0.40.15	76,5	79,5	150

**Other dimensions on request!**

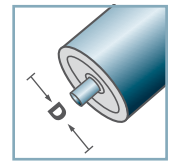
- Ⓒ Housing: Steel, Zinc plated
- Ⓒ Distance Bush: Plastic
- Ⓒ Bearing 6202



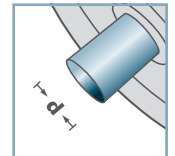
**MTR**



**MTR-45.17**



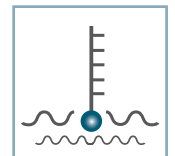
**D [mm]**  
80



**d [mm]**  
17



**C [daN]**  
150



**T [°C]**  
0° - 80°



EP 2



**Carton [pcs.]**

ø50: 100  
ø80: 125

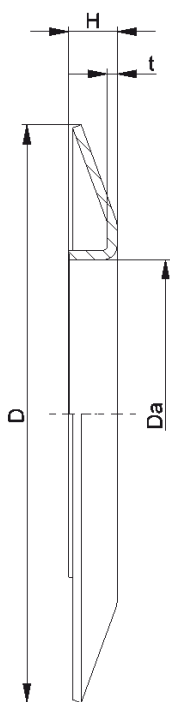
<b>MTR-45.17</b>			
<b>Type</b>	<b>Di ±0.1</b>	<b>Da ±0.2</b>	<b>Load Rating C [daN]</b>
MTR-50x1,5.45.17	47,3	49,5	120
MTR-80x2,0.45.17	76,5	79,5	150

**Other dimensions on request!**

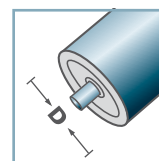
- ☛ Housing: Steel, Zinc plated
- ☛ Distance Bush: Plastic
- ☛ Bearing 6003



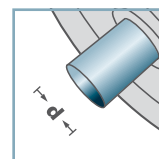
**MTR**



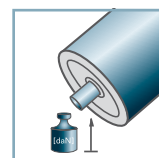
BS-



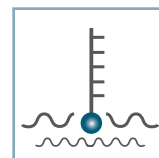
**D** [mm]  
50 - 108



**d** [mm]  
-



**C** [daN]  
-



**T** [°C]  
-



-



**Carton** [pcs.]

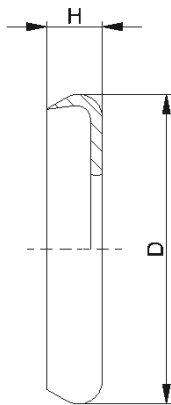
25

BS-				
Type	Da ±0.1	D -2	H ±0.5	t
BS-50-130	49,9	130	10	1,5
BS-60-130	59,9	130	10	1,5
BS-80-150	79,9	150	14	2,5
BS-89-150	88,9	150	14	2,5
BS-108-150	107,9	150	14	2,5

**Other dimensions on request!**

**Wheel Flange:** Steel





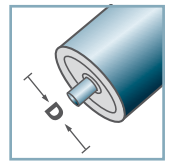
DK-MTR		
Type	D	H
DK-MTR-20	34	7
DK-MTR-30-2	39	7

**Other dimensions on request!**

☛ Seal Bonnet: Plastic

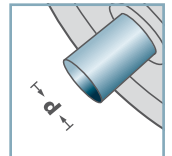


DK-MTR-



D [mm]

-



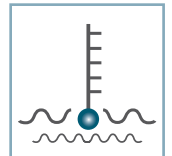
d [mm]

-



C [daN]

-



T [°C]

0° - 80°

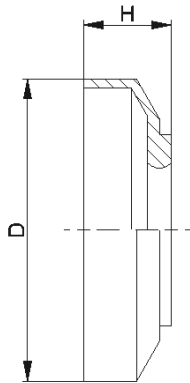


-



Carton [pcs.]

-



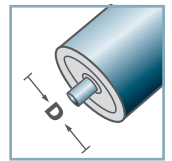
DK-MTR		
Type	D	H
DK-MTR-30	38	11

Other dimensions on request!

Seal Bonnet: Plastic

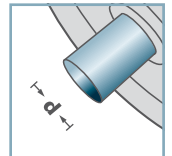


DK-MTR-



D [mm]

-



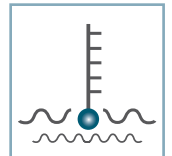
d [mm]

-



C [daN]

-



T [°C]

0° - 80°



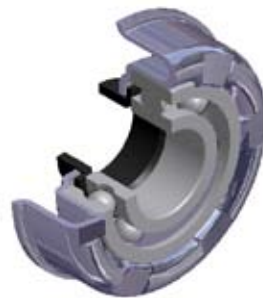
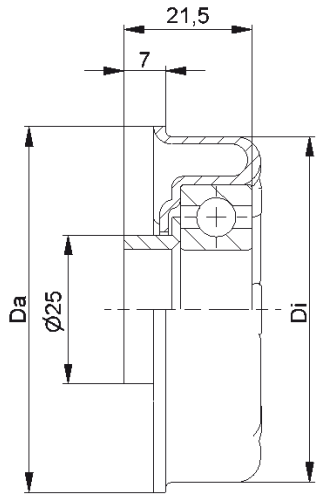
-



Carton [pcs.]



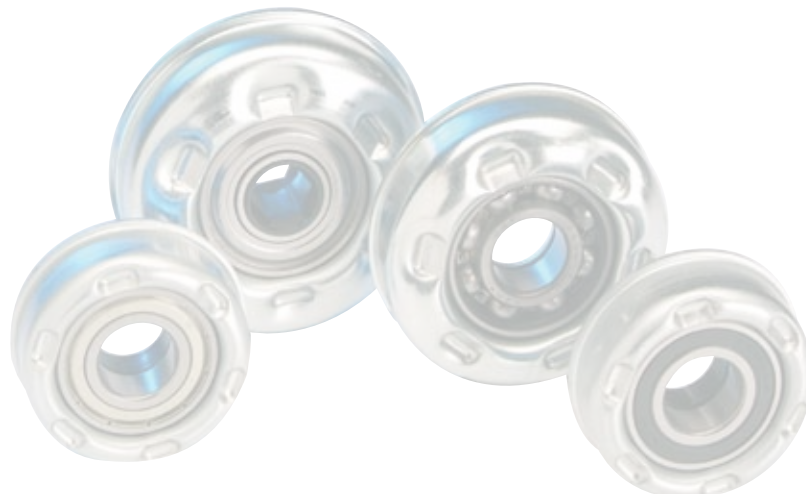




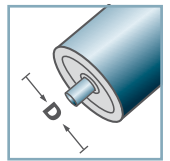
<b>MTS-46</b>			
<b>Type</b>	<b>Di ±0.1</b>	<b>Da ±0.2</b>	<b>Load Rating C [daN]</b>
MTS-63,5x2,9.46	58,1	61,5	200

**Other dimensions on request!**

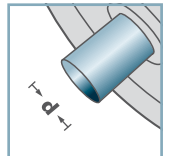
- ☛ Housing: Steel, Zinc plated
- ☛ Distance Bush: Plastic
- ☛ Bearing 6004



**MTS-46**



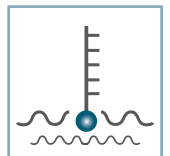
**D [mm]**  
63,5



**d [mm]**  
20



**C [daN]**  
200



**T [°C]**  
0° - 100°

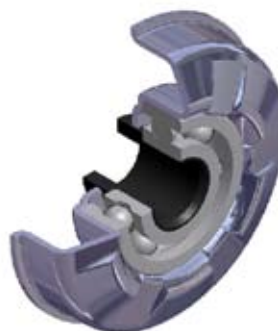
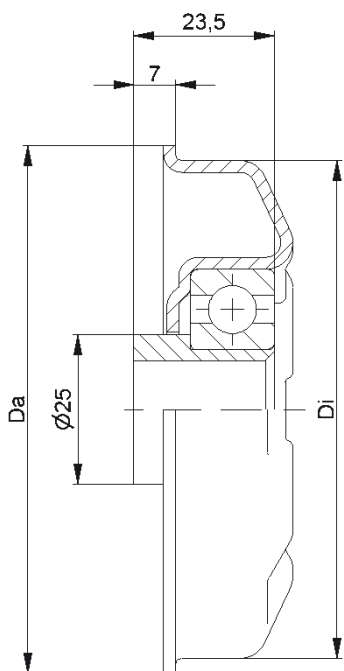


EP 2

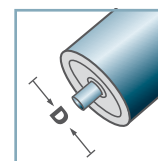


**Carton [pcs.]**

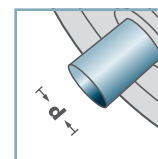
50



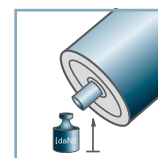
**MTS-44**



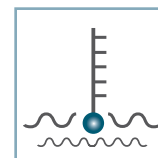
**D** [mm]  
80 - 108



**d** [mm]  
16; 17; SW14



**C** [daN]  
250



**T** [°C]  
0° - 100°



EP 2



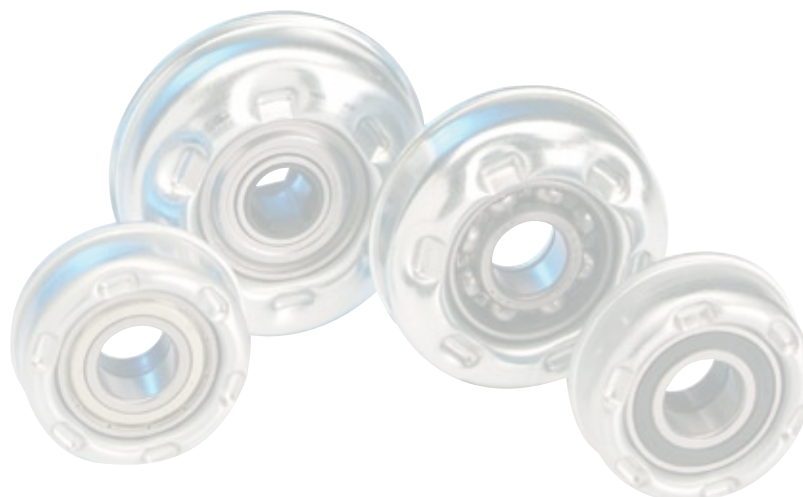
**Carton** [pcs.]

50

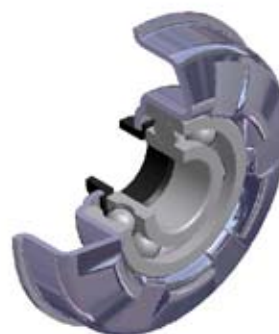
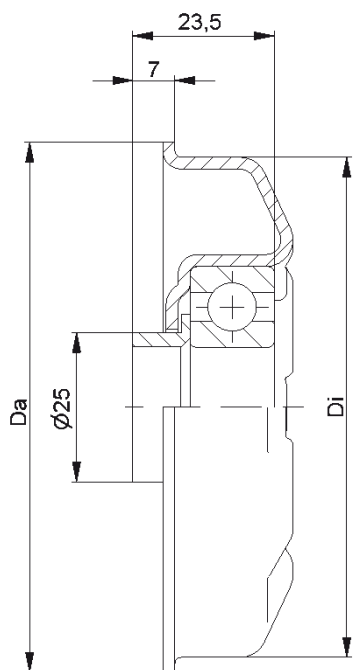
<b>MTS-44</b>			
<b>Type</b>	<b>Di ±0.1</b>	<b>Da ±0.2</b>	<b>Load Rating C [daN]</b>
MTS-80x2,0.44	76,5	79,5	250
MTS-80x3,0.44	74,5	79,5	250
MTS-89x3,0.44	83,5	88,5	250
MTS-89x3,25.44	83,0	88,5	250
MTS-108x3,25.44	102,0	107,5	250

**Other dimensions on request!**

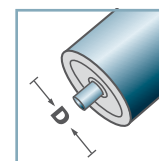
- ☛ Housing: Steel, Zinc plated
- ☛ Reducing Bush: Plastic
- ☛ Bearing 6204



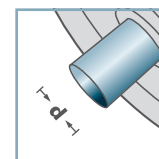
**MTS**



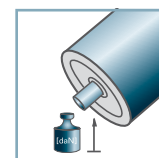
**MTS-44**



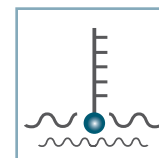
**D** [mm]  
80 - 108



**d** [mm]  
20



**C** [daN]  
250



**T** [°C]  
0° - 100°



EP 2



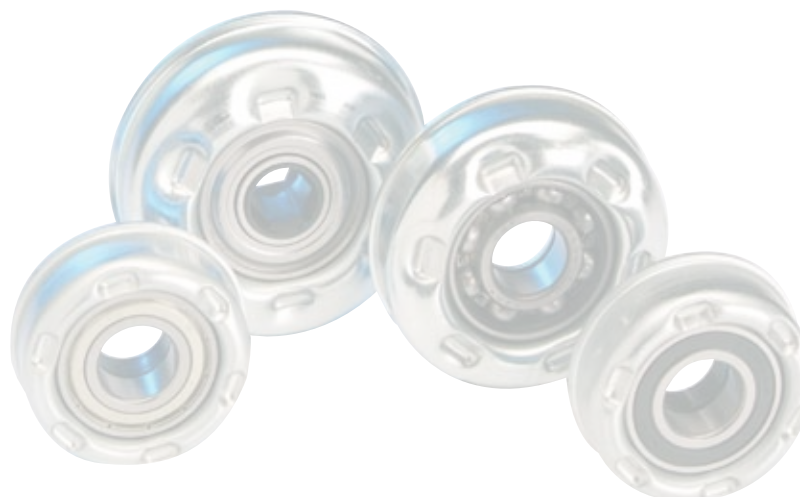
**Carton** [pcs.]

50

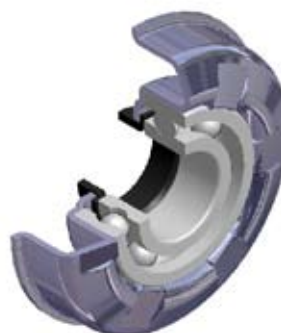
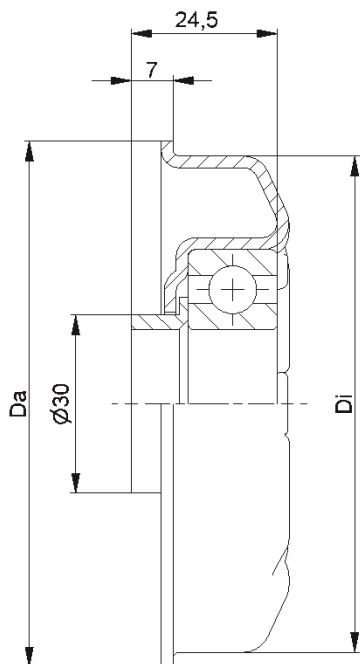
<b>MTS-44</b>			
<b>Type</b>	<b>Di ±0.1</b>	<b>Da ±0.2</b>	<b>Load Rating C [daN]</b>
MTS-80x2,0.44	76,5	79,5	250
MTS-80x3,0.44	74,5	79,5	250
MTS-89x3,0.44	83,5	88,5	250
MTS-89x3,25.44	83,0	88,5	250
MTS-108x3,25.44	102,0	107,5	250

**Other dimensions on request!**

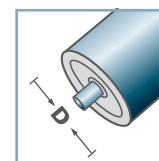
- ☛ Housing: Steel, Zinc plated
- ☛ Distance Bush: Plastic
- ☛ Bearing 6204



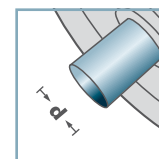
**MTS**



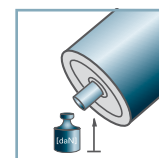
**MTS-47**



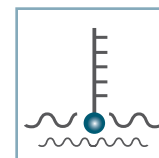
**D [mm]**  
89 - 108



**d [mm]**  
25



**C [daN]**  
250



**T [°C]**  
0° - 100°



EP 2



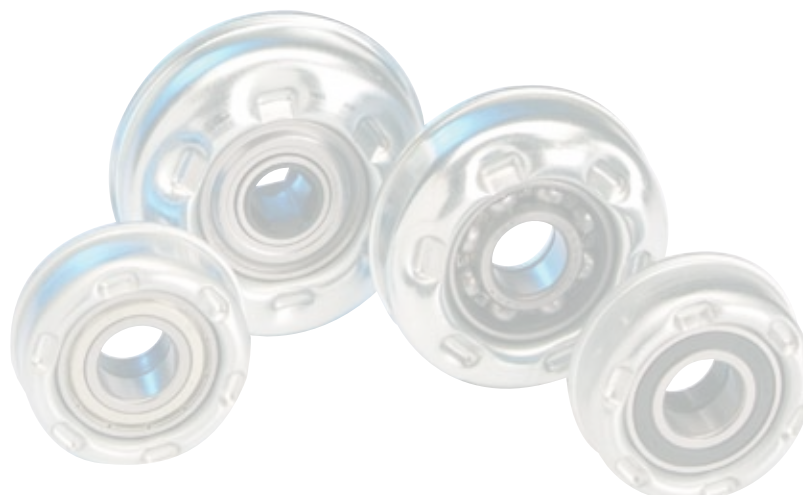
**Carton [pcs.]**

50

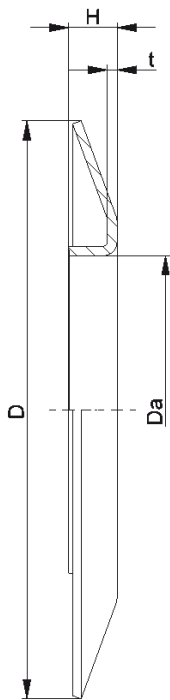
<b>MTS-47</b>			
<b>Type</b>	<b>Di ±0.1</b>	<b>Da ±0.2</b>	<b>Load Rating C [daN]</b>
MTS-89x3,0.47	83,5	88,5	250
MTS-108x3,25.47	102,0	107,5	250

**Other dimensions on request!**

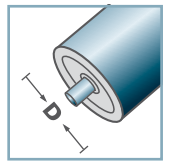
- ☛ Housing: Steel, Zinc plated
- ☛ Distance Bush: Plastic
- ☛ Bearing 6205



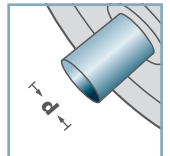
**MTS**



BS-



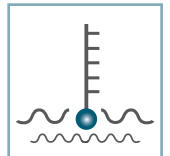
**D** [mm]  
50 - 108



**d** [mm]  
-



**C** [daN]  
-



**T** [°C]  
-



-



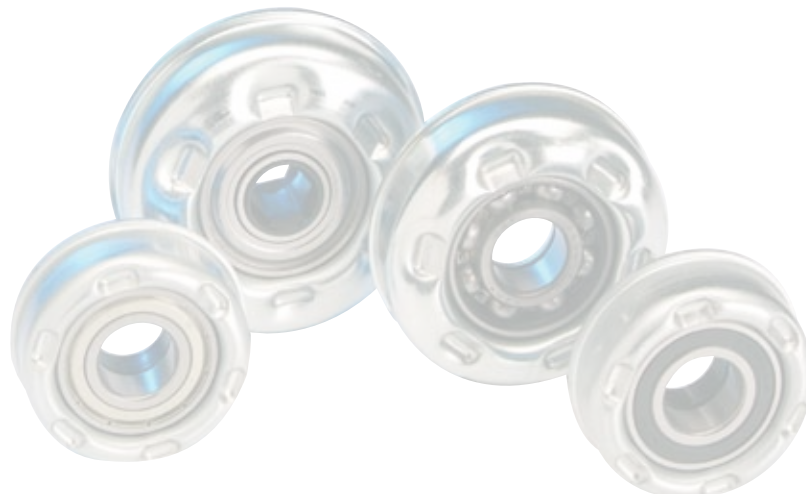
**Carton** [pcs.]

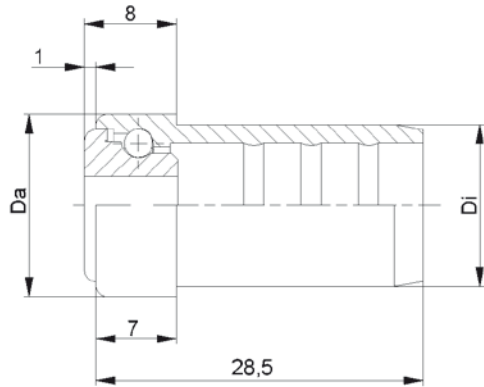
25

BS-				
Type	Da ±0.1	D -2	H ±0.5	t
BS-50-130	49,9	130	10	1,5
BS-60-130	59,9	130	10	1,5
BS-80-150	79,9	150	14	2,5
BS-89-150	88,9	150	14	2,5
BS-108-150	107,9	150	14	2,5

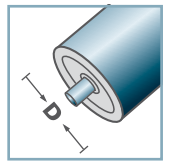
**Other dimensions on request!**

**W** Wheel Flange: Steel

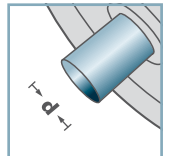




**KTR-16.00**  
**KTR-16.01**



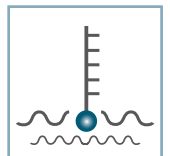
**D** [mm]  
16



**d** [mm]  
5; 6



**C** [daN]  
3



**T** [°C]  
0° - 80°

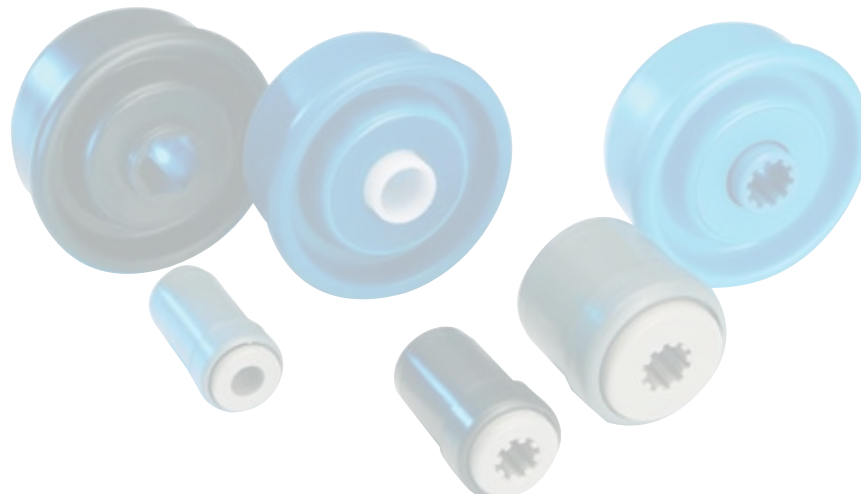


**KTR-16.00/.01**

Type	Normal .00	Stainless .01	Di +0,15	Da	Load Rating C [daN]
KTR-16x1,0	x	x	14,1	15,9	3

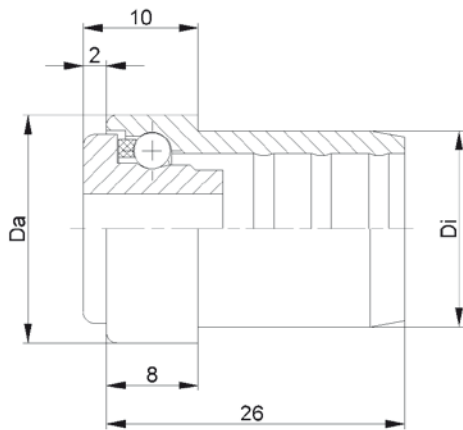
**Other dimensions on request!**

- ☛ Housing: Plastic
- ☛ Inner Race: Plastic
- ☛ Ball
  - ☛ 00: Steel
  - ☛ 01: 1.4034

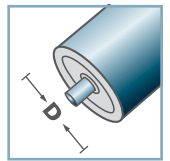


**Carton** [pcs.]

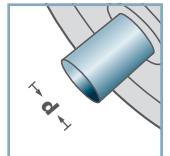
500



**KTR-20.00**  
**KTR-20.01**



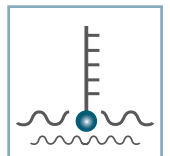
**D** [mm]  
20



**d** [mm]  
6; 8



**C** [daN]  
5



**T** [°C]  
0° - 80°

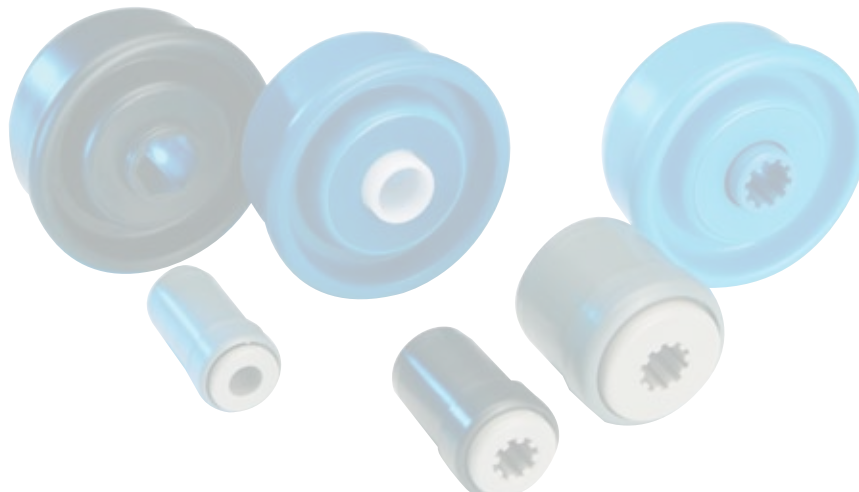


**KTR-20.00/.01**

Type	Normal .00	Stainless .01	Di +0,15	Da	Load Rating C [daN]
KTR-20x1,0	x	x	18,1	19,9	5
KTR-20x1,5	x	x	17,1	19,9	5

**Other dimensions on request!**

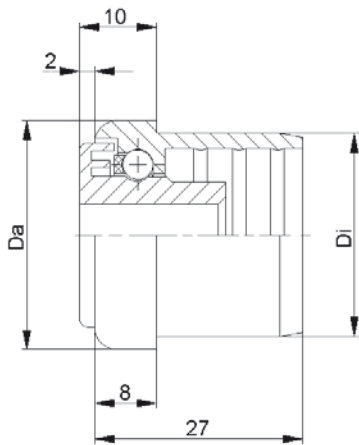
- ☛ Housing: Plastic
- ☛ Inner Race: Plastic
- ☛ Ball Cage: Plastic
- ☛ Ball
  - ☛ 00: Steel
  - ☛ 01: 1.4034



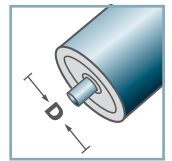
**Carton** [pcs.]

1000

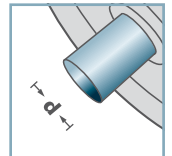
**KTR**



**KTR-30.00**  
**KTR-30.01**



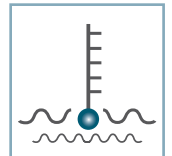
**D** [mm]  
30



**d** [mm]  
6; 8; 10



**C** [daN]  
7



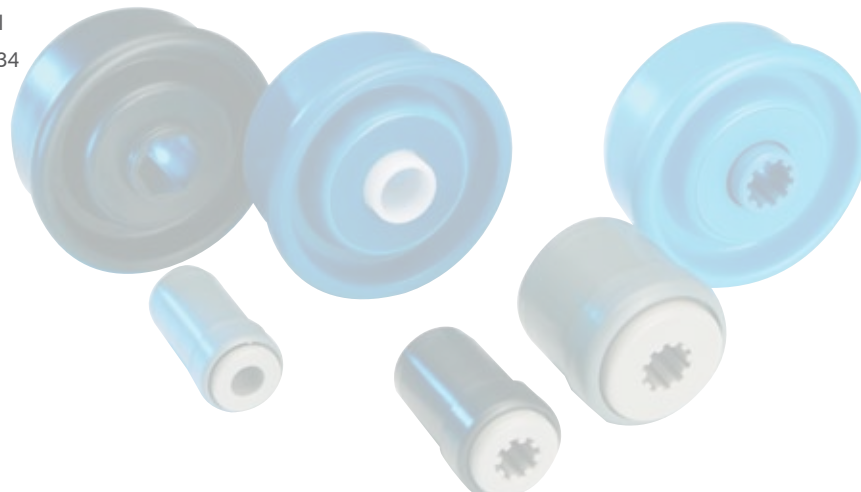
**T** [°C]  
0° - 80°



KTR-30.00/.01					
Type	Normal .00	Stainless .01	Di +0,25	Da	Load Rating C [daN]
KTR-30x1,0	x	x	28,1	29,9	7
KTR-30x1,5	x	x	27,1	29,9	7
KTR-30x1,8	x	x	26,5	29,9	7
KTR-30x2,0	x	x	26,35	29,9	7

**Other dimensions on request!**

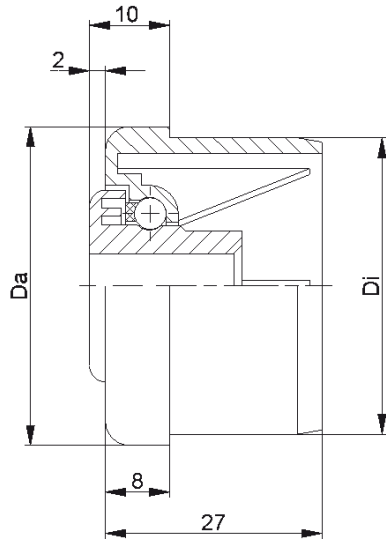
- ☛ Housing: Plastic
- ☛ Inner Race: Plastic
- ☛ Ball Cage: Plastic
- ☛ Ball
  - ☛ 00: Steel
  - ☛ 01: 1.4034



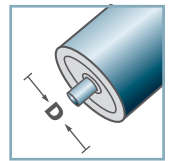
**Carton** [pcs.]

250

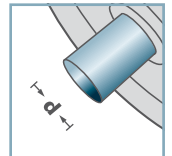




**KTR-40.00**  
**KTR-40.01**



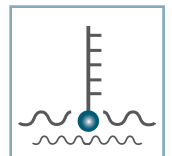
**D** [mm]  
40



**d** [mm]  
6; 8; 10



**C** [daN]  
7



**T** [°C]  
0° - 80°

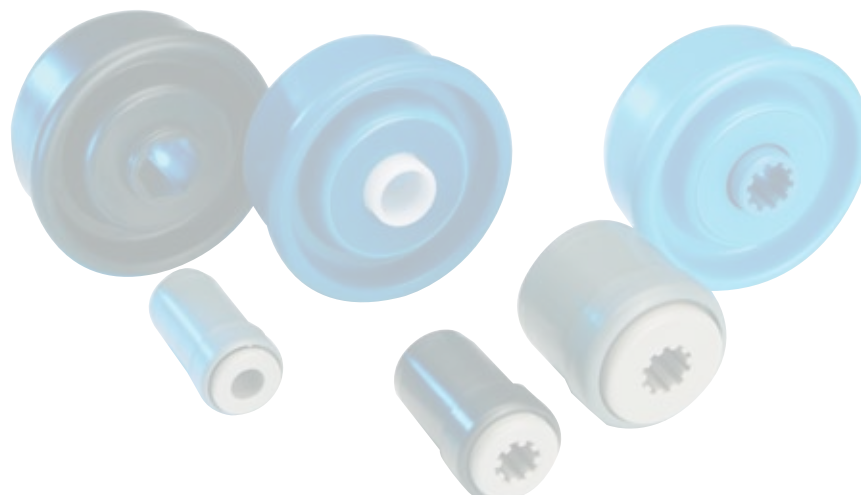


**KTR-40.00/.01**

Type	Normal .00	Stainless .01	Di +0,25	Da	Load Rating C [daN]
KTR-40x1,5	x	x	37,1	39,9	7
KTR-40x2,3	x	x	35,5	39,9	7

**Other dimensions on request!**

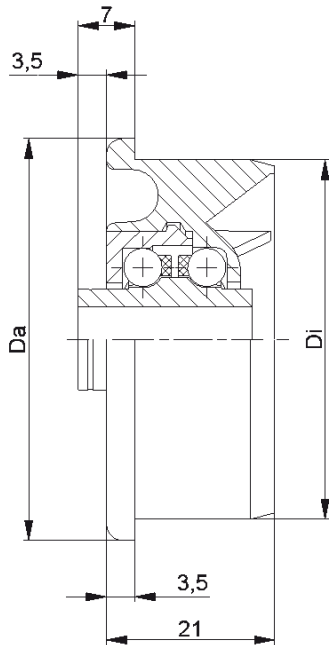
- ☛ Housing: Plastic
- ☛ Inner Race: Plastic
- ☛ Ball Cage: Plastic
- ☛ Ball
  - ☛ 00: Steel
  - ☛ 01: 1.4034



**Carton** [pcs.]

500  
250

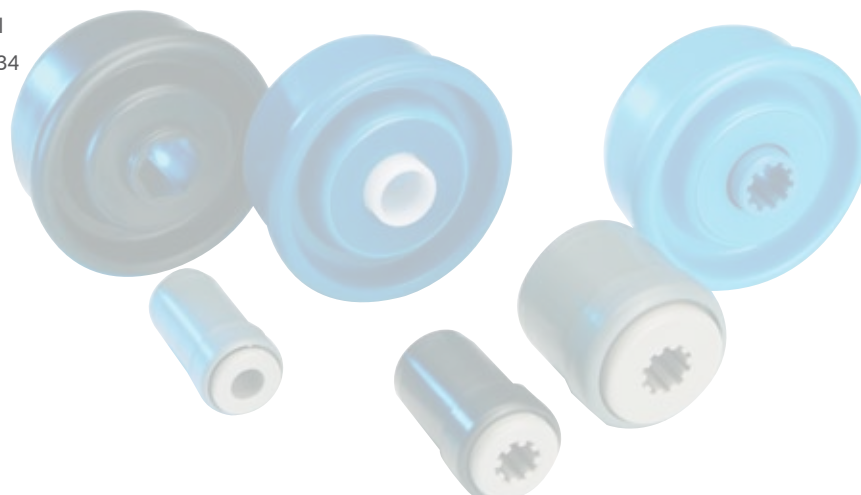
**KTR**



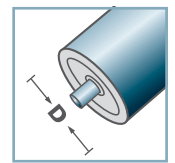
KTR-02/03					
Type	Normal .02	Stainless .03	Di +0,2	Da	Load Rating C [daN]
KTR-50x1,5	x	x	47,3	49,9	10
KTR-50x2,0	x	x	46,3	49,9	10
KTR-50x2,8	x	x	44,6	49,9	10

**Other dimensions on request!**

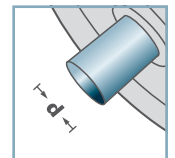
- ☛ Housing: Plastic
- ☛ Inner Race: Plastic
- ☛ Bearing Cap: Plastic
- ☛ Ball Cage: Plastic
- ☛ Ball
  - ☛ 02: Steel
  - ☛ 03: 1.4034



**KTR-02  
KTR-03**



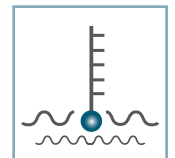
**D** [mm]  
50



**d** [mm]  
8; 10



**C** [daN]  
10

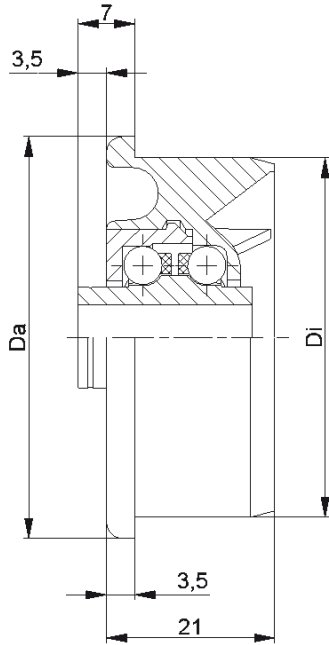


**T** [°C]  
0° - 80°



**Carton** [pcs.]

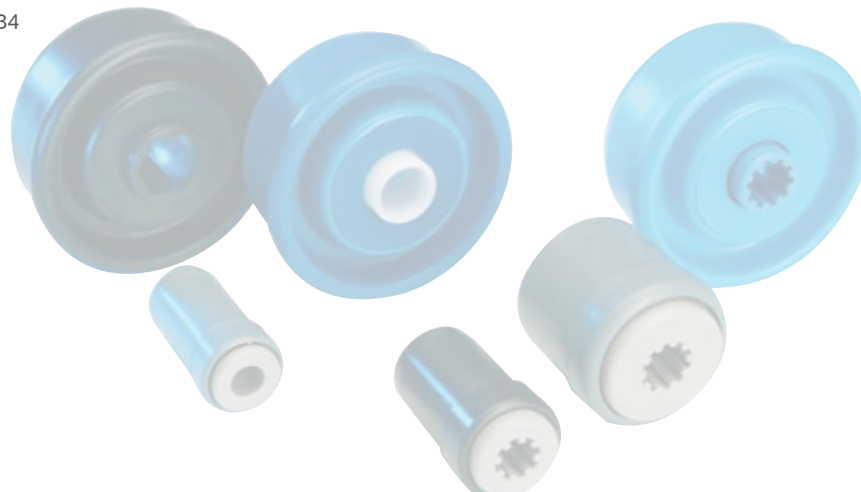
50x1,5:	250
50x2,0:	300
50x2,8:	250



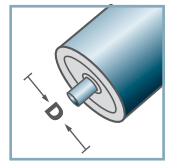
KTR-02/03					
Type	Normal .02	Stainless .03	Di +0,2	Da	Load Rating C [daN]
KTR-50x1,5	x	x	47,3	49,9	10
KTR-50x2,8	x	x	44,6	49,9	10

**Other dimensions on request!**

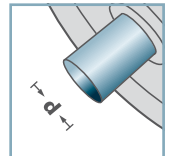
- ☛ Housing: Plastic
- ☛ Inner Race: Plastic
- ☛ Bearing Cap: Plastic
- ☛ Ball Cage: Plastic
- ☛ Ball
- ☛ 02: Steel
- ☛ 03: 1.4034



**KTR-02  
KTR-03**



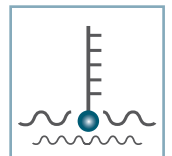
**D** [mm]  
50



**d** [mm]  
12; SW11



**C** [daN]  
10

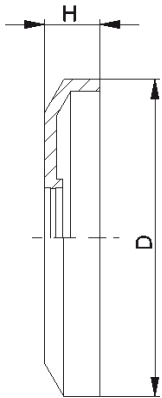


**T** [°C]  
0° - 80°



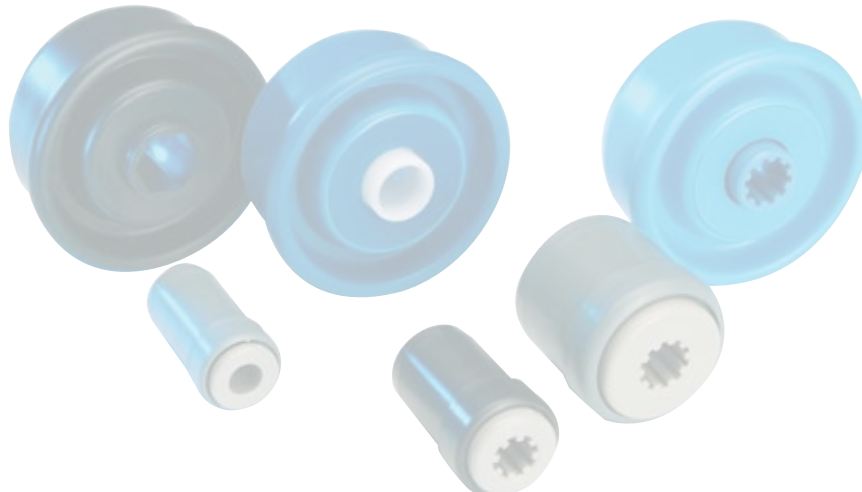
**Carton** [pcs.]

250

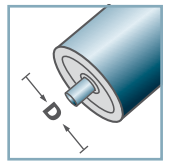


DK-KTR		
Type	D	H
DK-KTR-02	40,5	7
<b>Other dimensions on request!</b>		

🔩 Seal Bonnet: Plastic

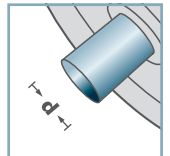


DK-KTR-02



D [mm]

-



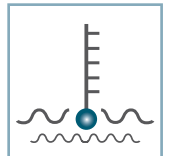
d [mm]

-



C [daN]

-



T [°C]

0° - 80°

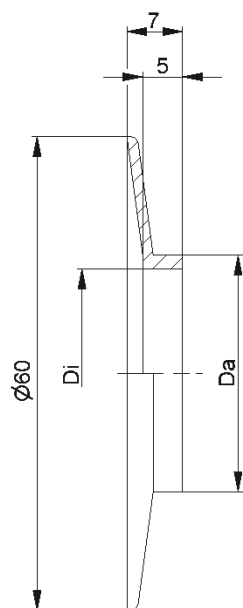


-



Carton [pcs.]

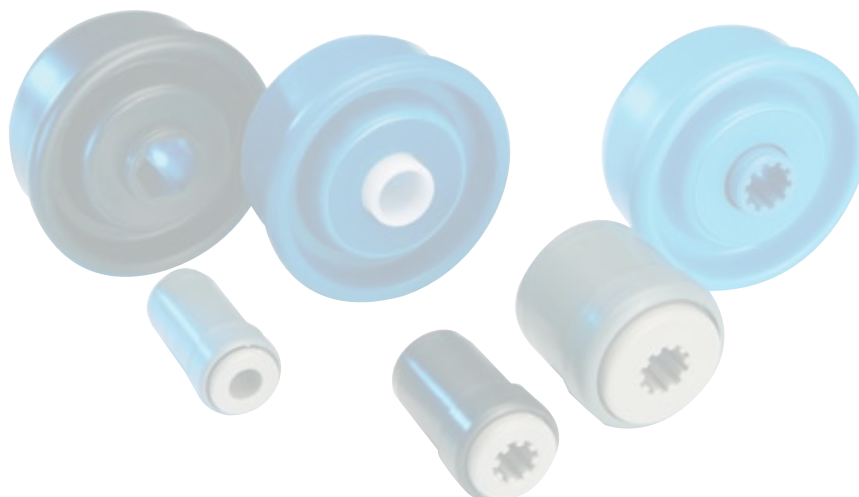
-



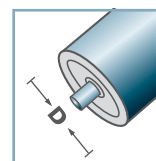
BS-		
Type	Di	Da
BS-30x1,0	28,1	29,9
BS-30x1,8	26,5	29,9
BS-40x1,5	37,1	39,9
BS-40x2,3	35,5	39,9

**Other dimensions on request!**

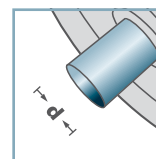
Wheel Flange: Plastic



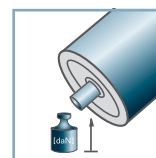
BS-



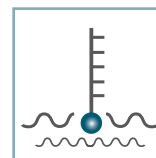
D [mm]



d [mm]



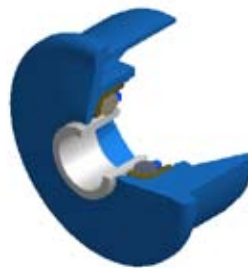
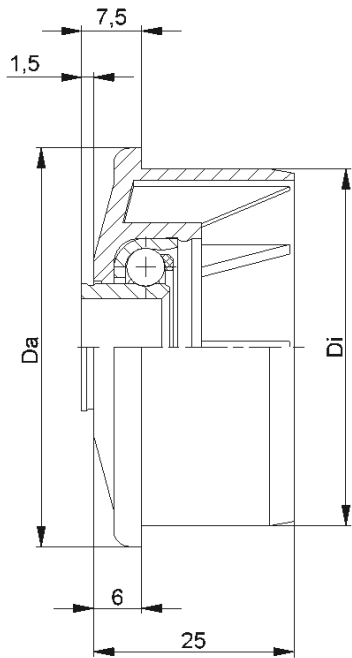
C [daN]



T [°C]  
0° - 80°



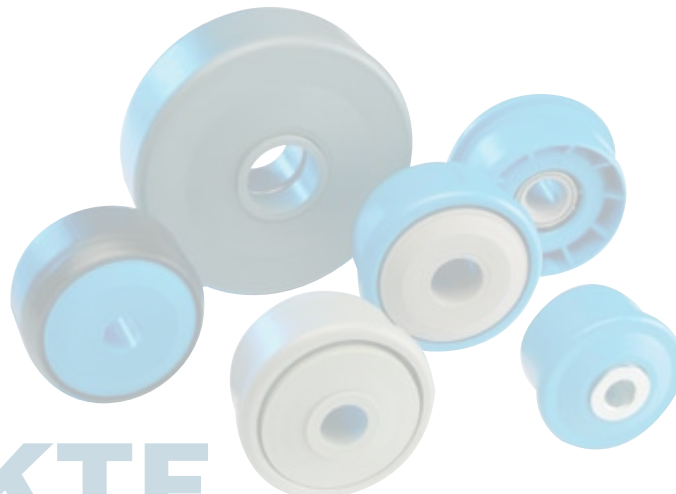
Carton [pcs.]



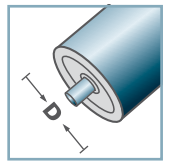
KTR-25			
Type	Di +0,2	Da	Load Rating C [daN]
KTR-40x3,0.25	37,3	39,9	50
KTR-50x1,5.25	47,3	49,9	50
KTR-50x2,8.25	44,6	49,9	50

**Other dimensions on request!**

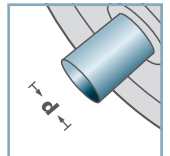
- ☛ Housing: Plastic
- ☛ Bearing RL-25
  - ☛ Bearing Shell: Steel, Hardened
  - ☛ Inner Race: Steel, Hardened, Zinc plated
  - ☛ Ball Cage: Plastic
  - ☛ Ball: Steel



**KTR-25**



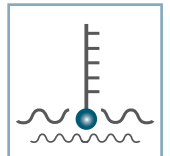
**D** [mm]  
40 - 50



**d** [mm]  
8; 10; 12



**C** [daN]  
50



**T** [°C]  
0° - 80°



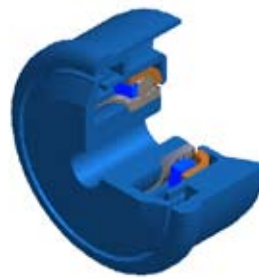
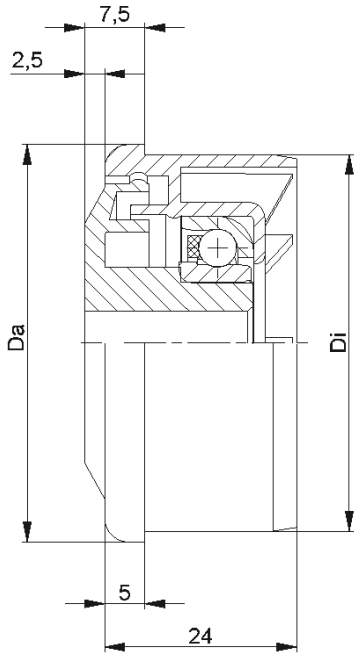
Vactra No. 2



**Carton** [pcs.]

ø40: 400  
ø50: 300

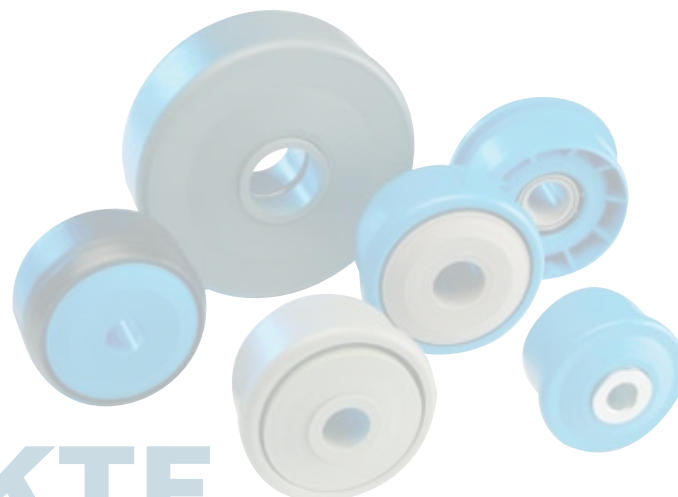
**KTR/KTE**



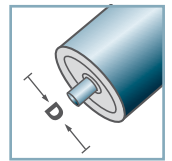
KTR-30			
Type	Di +0,2	Da	Load Rating C [daN]
KTR-50x1,5.30	47,3	49,9	80
KTR-50x2,8.30	44,6	49,9	80
KTR-60x1,5.30	57,3	59,9	80

**Other dimensions on request!**

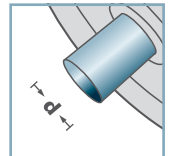
- ☛ Housing: Plastic
- ☛ Single Labyrinth Seal: Plastic
- ☛ Bearing RL-30
  - ☛ Bearing Shell: Steel, Hardened
  - ☛ Inner Race: Steel, Hardened
  - ☛ Ball Cage: Plastic
  - ☛ Ball: Steel



**KTR-30**



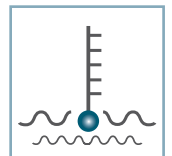
**D** [mm]  
50 - 60



**d** [mm]  
10; 12; 15; SW11



**C** [daN]  
80



**T** [°C]  
0° - 80°



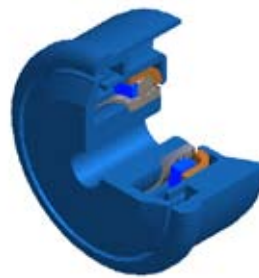
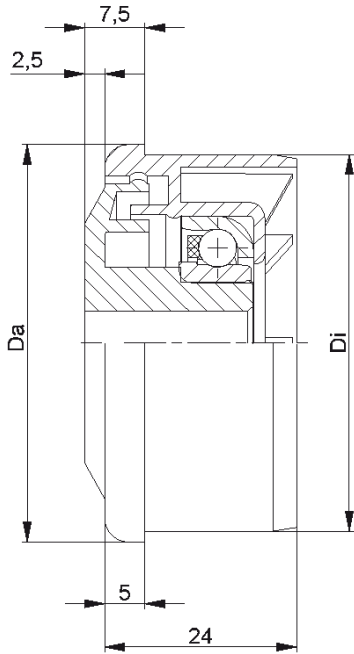
Vactra No. 2



**Carton** [pcs.]

250

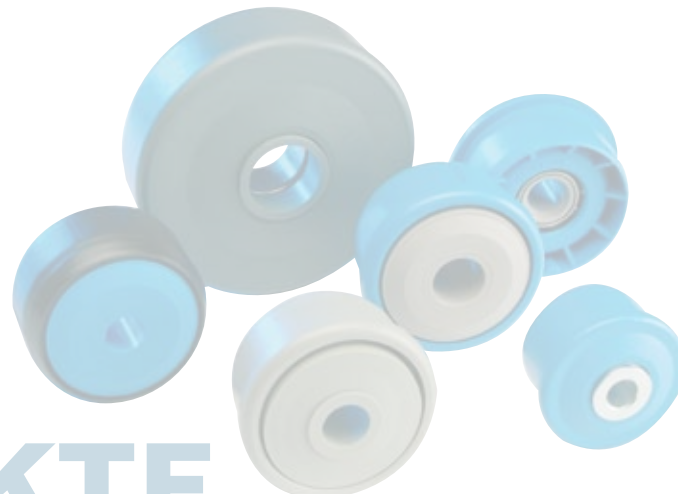
**KTR/KTE**



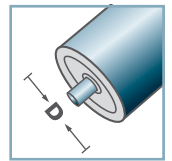
KTR-31			
Type	Di +0,2	Da	Load Rating C [daN]
KTR-50x1,5.31	47,3	49,9	25
KTR-50x2,8.31	44,6	49,9	25
KTR-60x1,5.31	57,3	59,9	25

**Other dimensions on request!**

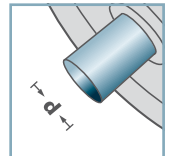
- ☛ Housing: Plastic
- ☛ Single Labyrinth Seal: Plastic
- ☛ Bearing RL-31
  - ☛ Bearing Shell: 1.4301
  - ☛ Inner Race: 1.4305
  - ☛ Ball Cage: Plastic
  - ☛ Ball: 1.4301



**KTR-31**



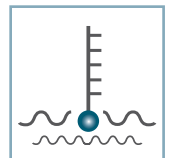
**D** [mm]  
50 - 60



**d** [mm]  
10; 12; 15; SW11



**C** [daN]  
25



**T** [°C]  
0° - 80°



Vactra No. 2

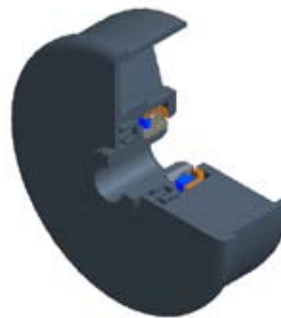
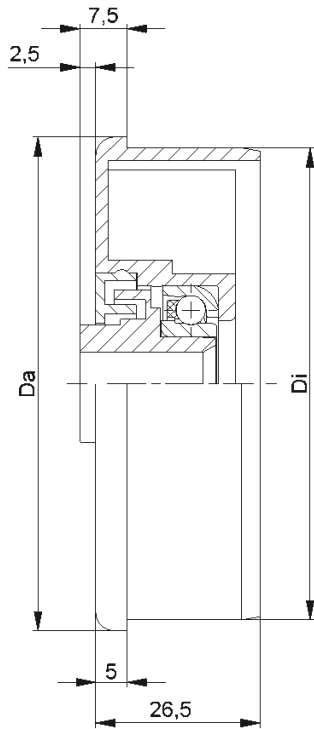


**Carton** [pcs.]

250

**KTR/KTE**

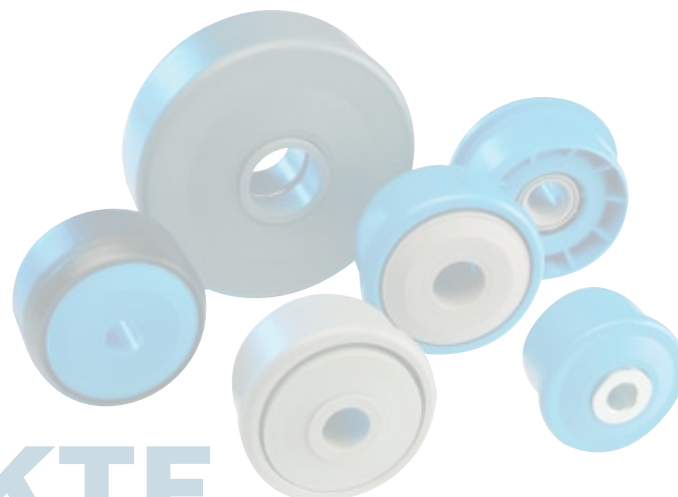




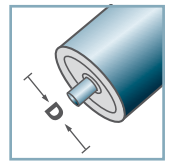
KTR-30			
Type	Di +0,2	Da	Load Rating C [daN]
KTR-80x2,0.30	76,3	79,9	80

**Other dimensions on request!**

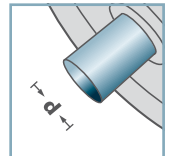
- ☛ Housing: Plastic
- ☛ Inner Labyrinth Seal: Plastic
- ☛ Outer Labyrinth Seal: Plastic
- ☛ Bearing RL-30
  - ☛ Bearing Shell: Steel, Hardened
  - ☛ Inner Race: Steel, Hardened
  - ☛ Ball Cage: Plastic
  - ☛ Ball: Steel



**KTR-30**



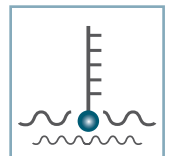
**D** [mm]  
80



**d** [mm]  
12; 15; SW11



**C** [daN]  
80



**T** [°C]  
0° - 80°



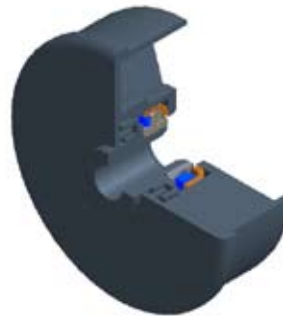
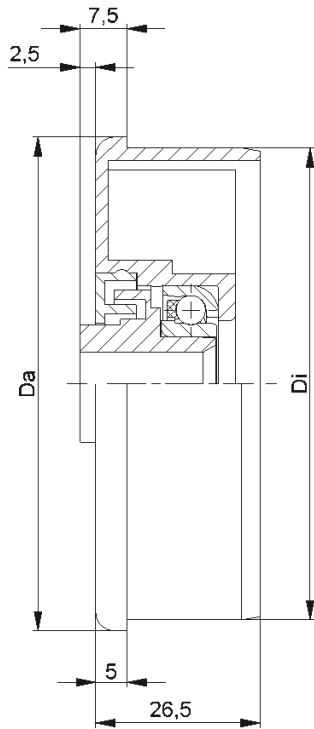
Vactra No. 2



**Carton** [pcs.]

100

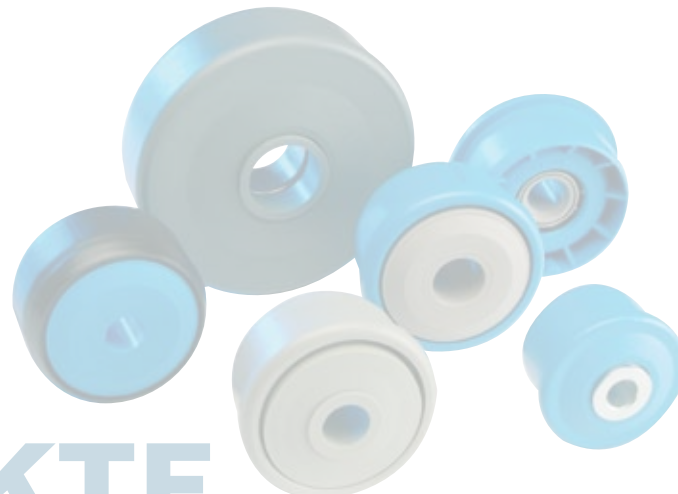
**KTR/KTE**



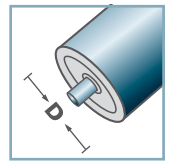
KTR-31			
Type	Di +0,2	Da	Load Rating C [daN]
KTR-80x2,0.31	76,3	79,9	25

Other dimensions on request!

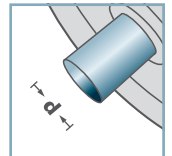
- ☛ Housing: Plastic
- ☛ Inner Labyrinth Seal: Plastic
- ☛ Outer Labyrinth Seal: Plastic
- ☛ Bearing RL-31
  - ☛ Bearing Shell: 1.4301
  - ☛ Inner Race: 1.4305
  - ☛ Ball Cage: Plastic
  - ☛ Ball: 1.4301



KTR-31



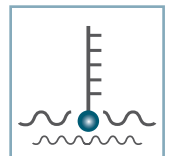
**D** [mm]  
80



**d** [mm]  
12; 15; SW11



**C** [daN]  
25



**T** [°C]  
0° - 80°



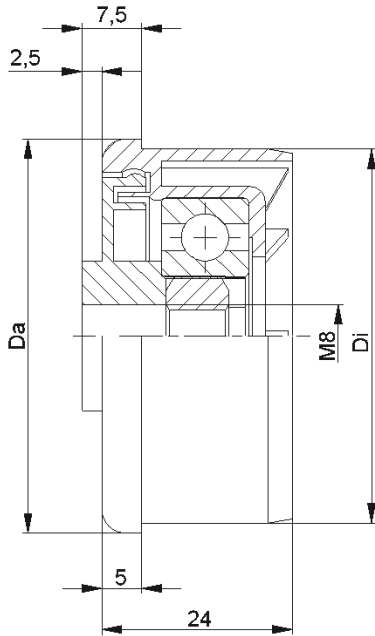
Vactra No. 2



**Carton** [pcs.]

100

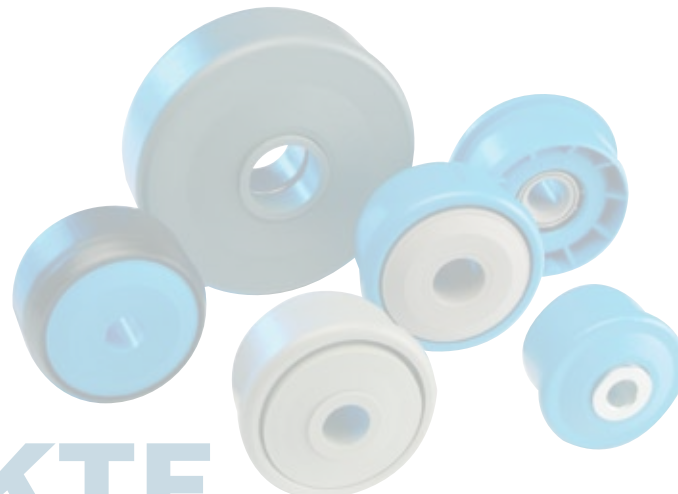
KTR/KTE



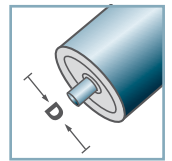
KTR-40			
Type	Di +0,2	Da	Load Rating C [daN]
KTR-50x1,5.40	47,3	49,9	80
KTR-60x1,5.40	57,3	59,9	80

**Other dimensions on request!**

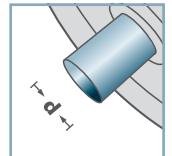
- ☛ Housing: Plastic
- ☛ Single Labyrinth Seal: Plastic
- ☛ Bearing 6202
- ☛ Hexagon Nut



**KTR-40**



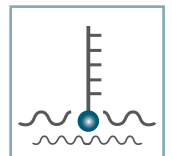
**D** [mm]  
50 - 60



**d** [mm]  
M8



**C** [daN]  
80



**T** [°C]  
0° - 80°

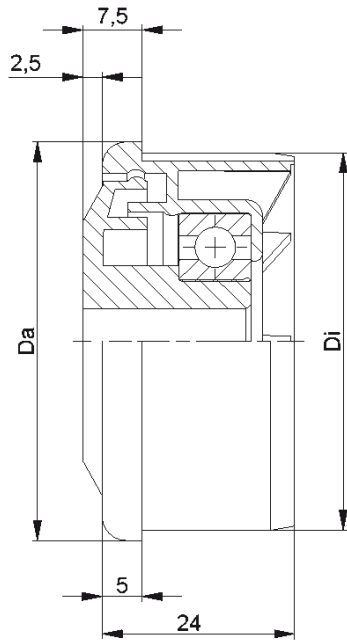


EP 2



**Carton** [pcs.]  
ø50: 250  
ø60: 100

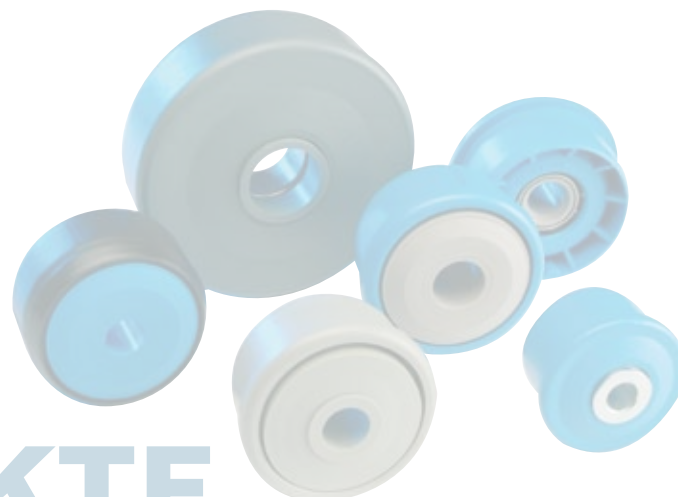
**KTR/KTE**



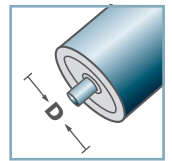
KTR-42			
Type	Di +0,25	Da	Load Rating C [daN]
KTR-50x1,5.42	47,3	49,9	80
KTR-50x2,0.42	46,3	49,9	80
KTR-50x2,8.42	44,6	49,9	80
KTR-60x1,5.42	57,3	59,9	80
KTR-60x2,0.42	56,3	59,9	80

**Other dimensions on request!**

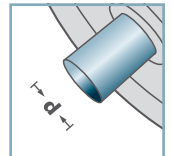
- ☛ Housing: Plastic
- ☛ Single Labyrinth Seal: Plastic
- ☛ Bearing 6002



**KTR-42**



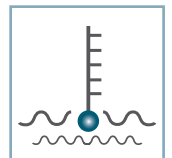
**D** [mm]  
50 - 60



**d** [mm]  
10; 12; 15; SW11



**C** [daN]  
80



**T** [°C]  
0° - 80°

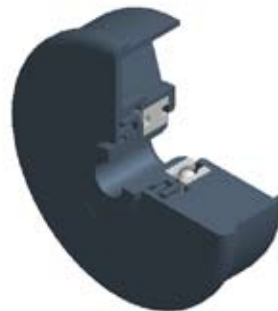
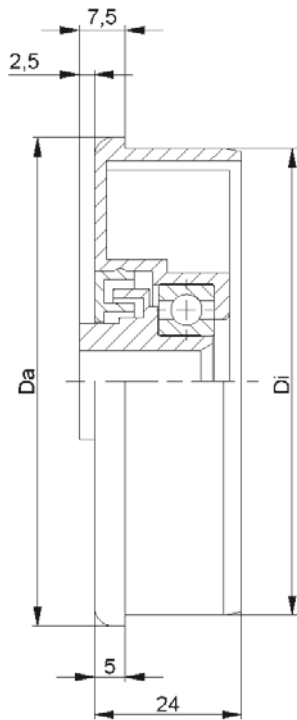


EP 2

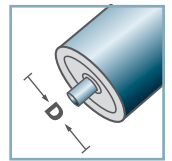


**Carton** [pcs.]  
ø50: 250  
ø60: 100

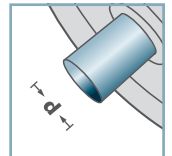
**KTR/KTE**



**KTR-42**



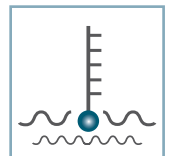
**D** [mm]  
80



**d** [mm]  
12; 15; SW11



**C** [daN]  
150



**T** [°C]  
0° - 80°



EP 2



**Carton** [pcs.]

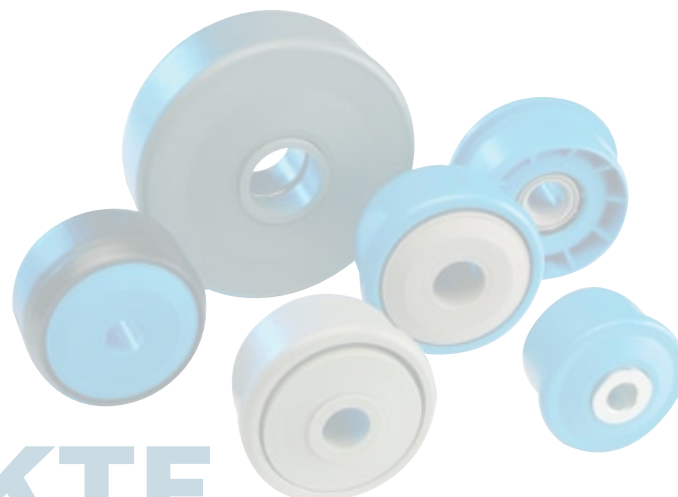
100

**KTR-42**

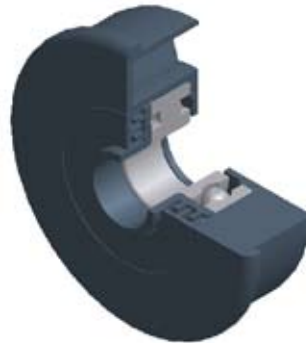
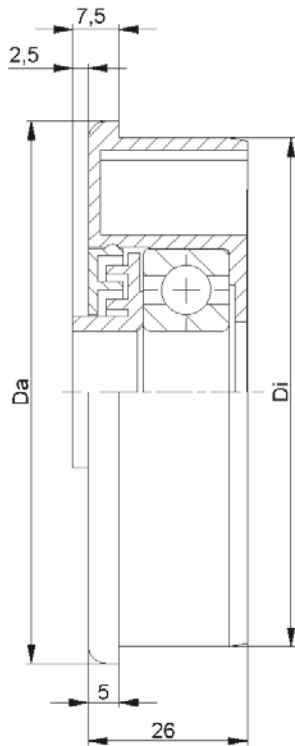
Type	Di +0,2	Da	Load Rating C [daN]
KTR-80x2,0.42	76,3	79,9	150
KTR-80x3,0.42	74,3	79,9	150

**Other dimensions on request!**

- ☛ Housing: Plastic
- ☛ Inner Labyrinth Seal: Plastic
- ☛ Outer Labyrinth Seal: Plastic
- ☛ Bearing 6002



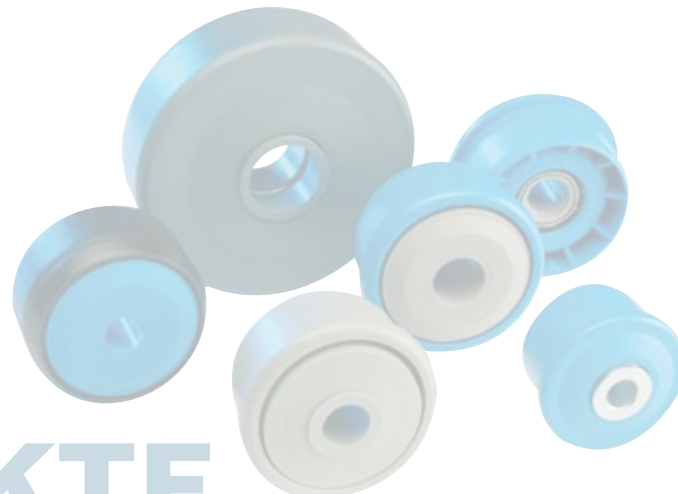
**KTR/KTE**



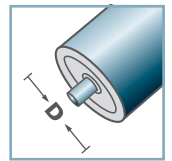
KTR-44			
Type	Di +0,2	Da	Load Rating C [daN]
KTR-89x3,0.44	83,3	88,9	150

Other dimensions on request!

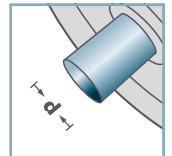
- ☛ Housing: Plastic
- ☛ Inner Labyrinth Seal: Plastic
- ☛ Outer Labyrinth Seal: Plastic
- ☛ Bearing 6204



**KTR-44**



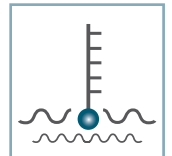
**D** [mm]  
89



**d** [mm]  
20



**C** [daN]  
150



**T** [°C]  
0° - 80°

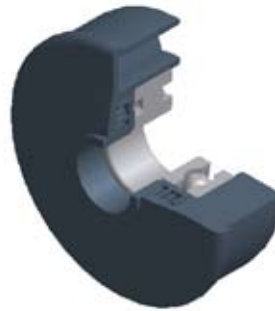
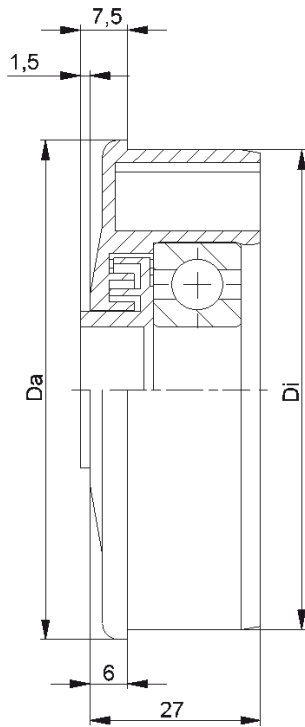


EP 2



**Carton** [pcs.]

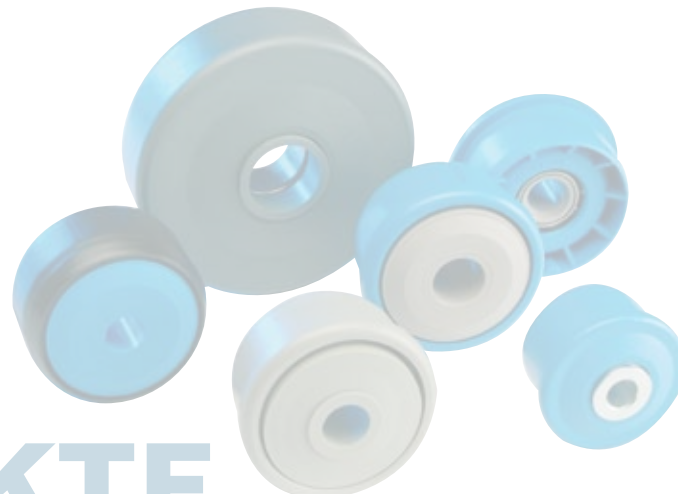
80



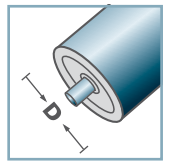
KTR-44			
Type	Di +0,2	Da	Load Rating C [daN]
KTR-63,5x2,9.44	58,0	63,4	150
KTR-80x2,0.44	76,4	79,9	150

**Other dimensions on request!**

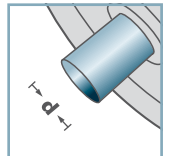
- ☛ Housing: Plastic
- ☛ Multiple Labyrinth Seal: Plastic
- ☛ Bearing 6204



**KTR-44**



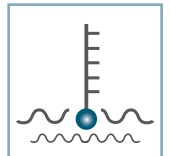
**D** [mm]  
63,5 - 80



**d** [mm]  
20



**C** [daN]  
150



**T** [°C]  
0° - 80°



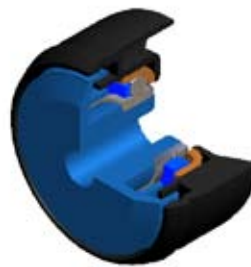
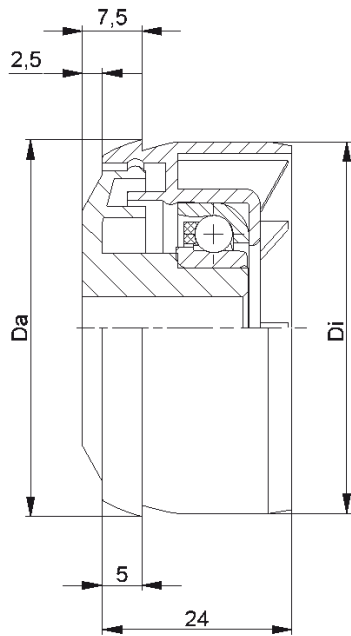
EP 2



**Carton** [pcs.]

100

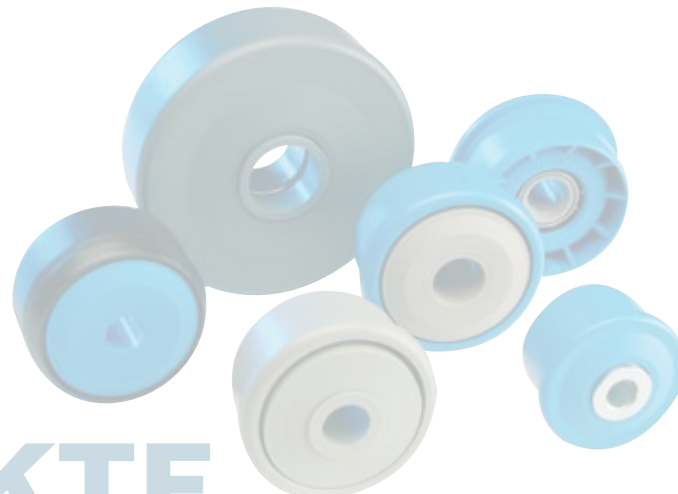
**KTR/KTE**



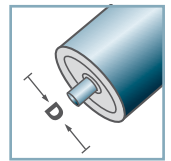
KTE-30			
Type	Di +0,3	Da	Load Rating C [daN]
KTE-50x1,5.30	47,1	47,9	80

**Other dimensions on request!**

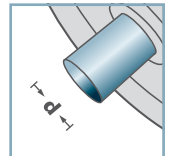
- ☛ Housing: Plastic
- ☛ Single Labyrinth Seal: Plastic
- ☛ Bearing RL-30
  - ☛ Bearing Shell: Steel, Hardened
  - ☛ Inner Race: Steel, Hardened
  - ☛ Cage: Plastic
  - ☛ Ball: Steel



**KTE-30**



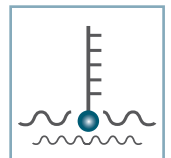
**D** [mm]  
50



**d** [mm]  
10; 12; 15; SW11



**C** [daN]  
80



**T** [°C]  
0° - 80°



Vactra No. 2

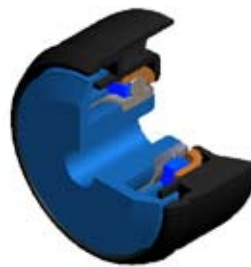
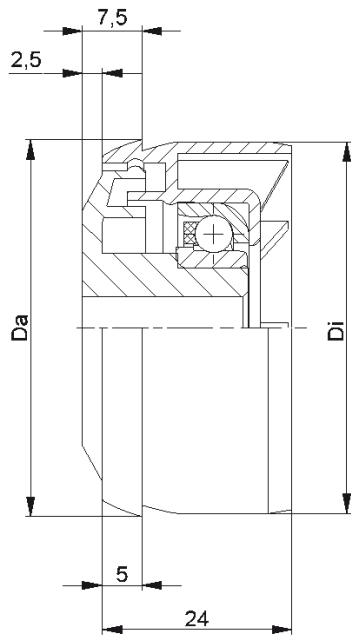


**Carton** [pcs.]

250

**KTR/KTE**

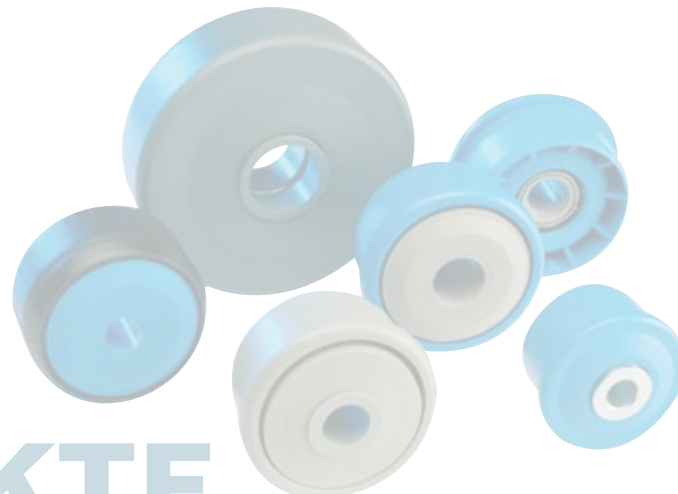




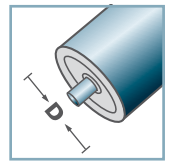
KTE-31			
Type	Di +0,3	Da	Load Rating C [daN]
KTE-50x1,5.31	47,1	47,9	25

Other dimensions on request!

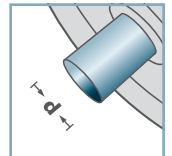
- ☛ Housing: Plastic
- ☛ Single Labyrinth Seal: Plastic
- ☛ Bearing RL-31
  - ☛ Bearing Shell: 1.4301
  - ☛ Inner Race: 1.4305
  - ☛ Cage: Plastic
  - ☛ Ball: 1.4301



KTE-31



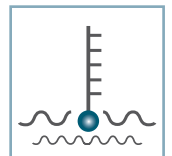
D [mm]  
50



d [mm]  
10; 12; 15; SW11



C [daN]  
25



T [°C]  
0° - 80°



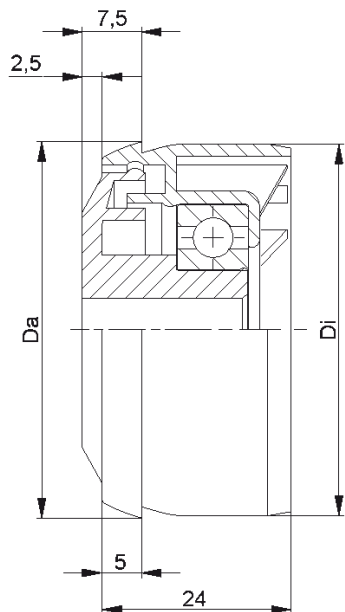
Vactra No. 2



Carton [pcs.]

250

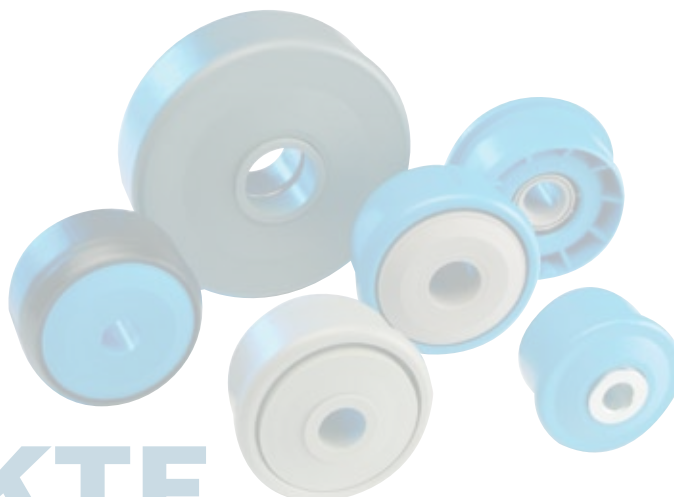
KTR/KTE



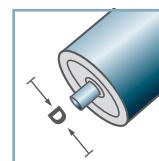
KTE-42			
Type	$D_i +0,3$	$D_a$	Load Rating <b>C [daN]</b>
KTE-50x1,5.42	47,1	47,9	80

**Other dimensions on request!**

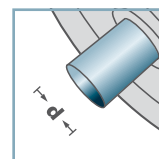
- ☛ Housing: Plastic
- ☛ Single Labyrinth Seal: Plastic
- ☛ Bearing 6002



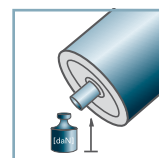
**KTE-42**



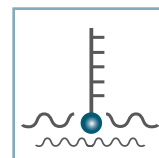
**D [mm]**  
50



**d [mm]**  
10; 12; 15; SW11



**C [daN]**  
80



**T [°C]**  
0° - 80°



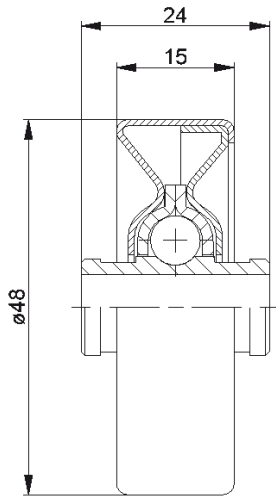
EP 2



**Carton [pcs.]**

250

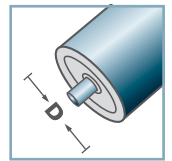
**KTR/KTE**



SLR	
Type	Load Rating <b>C [daN]</b>
SLR-480	20
<b>Other dimensions on request!</b>	

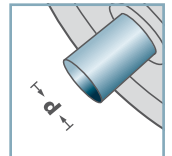
Skate Wheel: Steel

**SLR-**



**D [mm]**

-



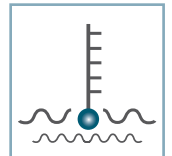
**d [mm]**

6; 8



**C [daN]**

20



**T [°C]**

-



-

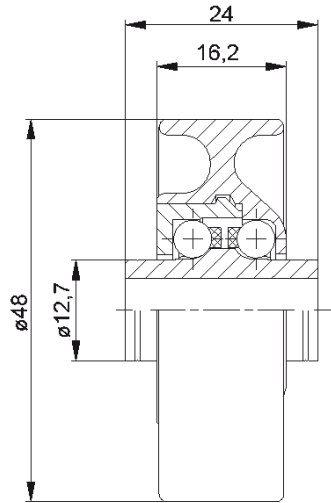


**Carton [pcs.]**

250



**KLR/SLR/SR**



**KLR-02/03**

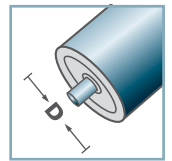
Type	Normal .02	Stainless .03	Load Rating C [daN]
KLR-480	x	x	10

**Other dimensions on request!**

- ☛ Housing: Plastic
- ☛ Inner Race: Plastic
- ☛ Bearing Cap: Plastic
- ☛ Ball Cage: Plastic
- ☛ Ball
  - ☛ 02: Steel
  - ☛ 03: 1.4034

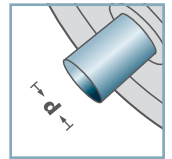


**KLR-02  
KLR-03**



**D** [mm]

-



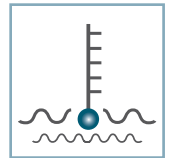
**d** [mm]

6; 8



**C** [daN]

10



**T** [°C]

0° - 80°



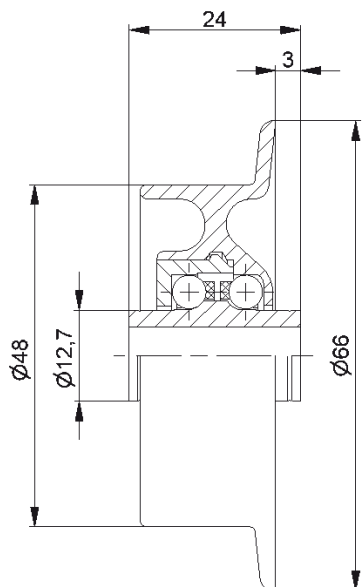
-



**Carton** [pcs.]

250

**KLR/SLR/SR**



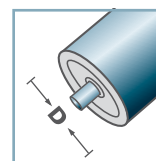
SR-02/03			
Type	Normal .02	Stainless .03	Load Rating C [daN]
SR-480	x	x	10

Other dimensions on request!

- ☛ Housing: Plastic
- ☛ Inner Race: Plastic
- ☛ Bearing Cap: Plastic
- ☛ Ball Cage: Plastic
- ☛ Ball
  - ☛ 02: Steel
  - ☛ 03: 1.4034

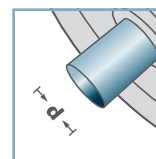


SR-02  
SR-03



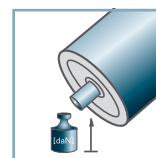
D [mm]

-



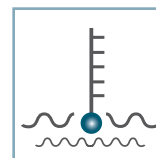
d [mm]

6; 8



C [daN]

10



T [°C]

0° - 80°



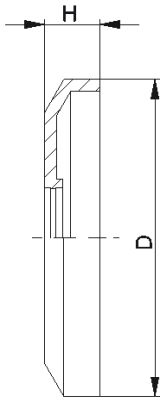
-



Carton [pcs.]

250

KLR/SLR/SR

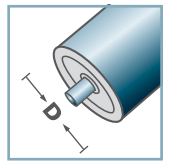


DK-KLR		
Type	D	H
DK-KLR-02	40,5	7
<b>Other dimensions on request!</b>		

🔩 Seal Bonnet: Plastic

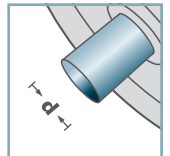


**DK-KLR-02**



**D** [mm]

-



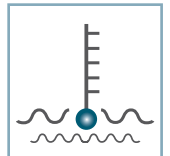
**d** [mm]

-



**C** [daN]

-



**T** [°C]

0° - 80°



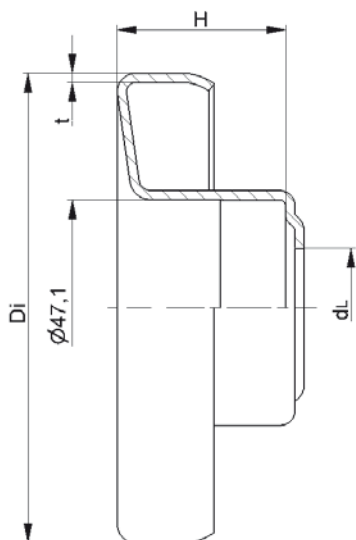
-



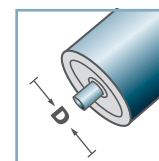
**Carton** [pcs.]



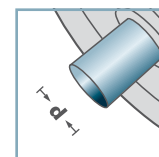
**KLR/SLR/SR**



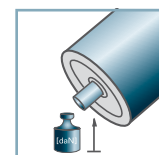
**LH-6204**



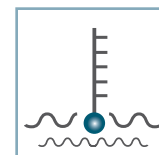
**D** [mm]  
63,5 - 133



**d** [mm]  
20



**C** [daN]  
-



**T** [°C]  
-



6204:  
D47, d20, H14



**Skeleton Container** [pcs.]  
 ø63,5: 6000  
 ø80: 3500  
 ø89: 3100  
 ø108: 2100  
 ø133: 1150

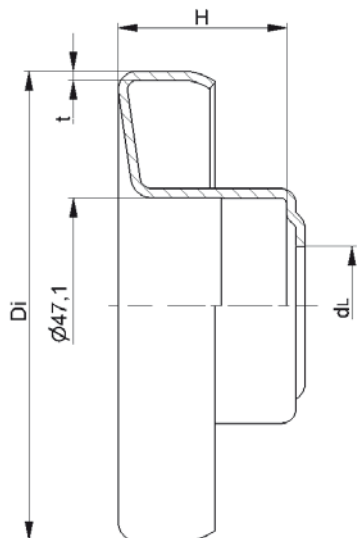
LH-6204				
Type	Di	H	dL	t
LH-63,5x1,75/6204	60,5	33	26	1,5
LH-80x2,0/6204	76,5	36,5	26	2,0
LH-80x3,0/6204	74,5	36,5	26	2,0
LH-89x3,0/6204	83,5	36,5	26	2,0
LH-108x2,5/6204	103,3	36,5	26	2,0
LH-108x3,25/6204	102,1	36,5	26	2,0
LH-133x3,6/6204	126,3	36,5	26	2,5

**Other dimensions on request!**

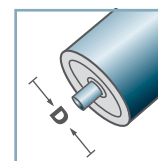
Retainer for Standard Bearings: Steel



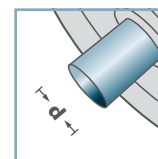
**LH/FL**



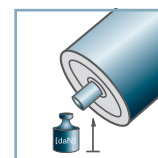
**LH-6204 N**



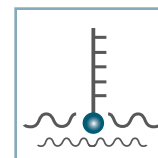
**D** [mm]  
63,5 - 108



**d** [mm]  
20



**C** [daN]  
-



**T** [°C]  
-



6204:  
D47, d20, H14

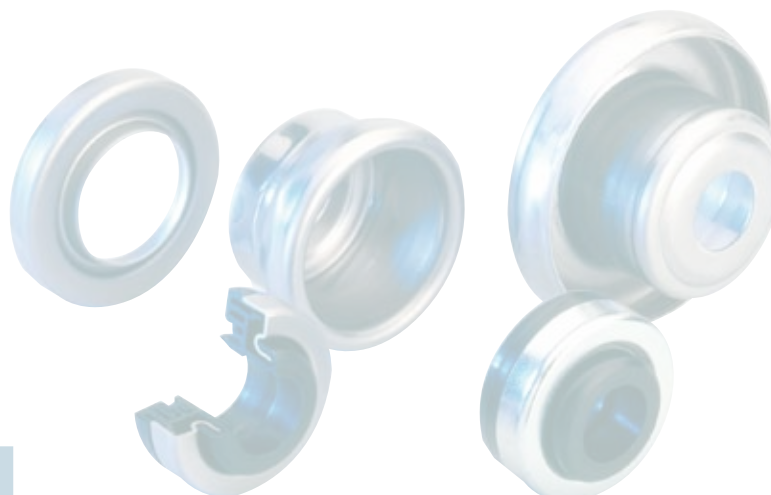


**Skeleton Container** [pcs.]  
 ø63,5: 6000  
 ø89: 3100  
 ø108: 2100

LH-6204 N				
Type	Di	H	dL	t
LH-63,5x1,75/6204N	60,5	31,8	21	1,5
LH-89x3,0/6204N	83,7	33,5	21	1,5
LH-108x3,25/6204N	102,1	36,5	21	2,0

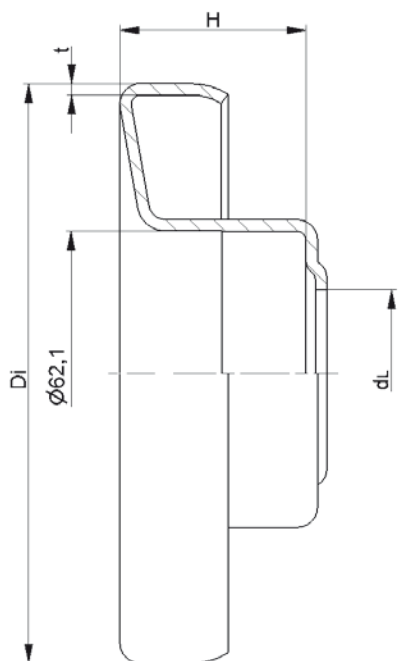
**Other dimensions on request!**

☛ Retainer for Standard Bearings: Steel



**LH/FL**



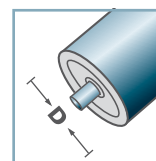


LH-6305				
Type	Di	H	dL	t
LH-89x3,0/6305	83,5	40,5	36,5	2,0
LH-108x2,5/6305	103,3	40,5	36,5	2,0
LH-108x3,25/6305	102,1	40,5	36,5	2,0
LH-133x3,6/6305	126,3	40,5	36,5	2,5

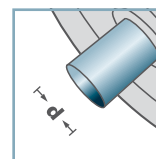
**Other dimensions on request!**

☛ Retainer for Standard Bearings: Steel

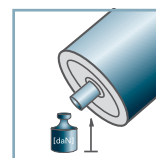
**LH-6305**



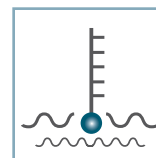
**D** [mm]  
89 - 133



**d** [mm]  
25



**C** [daN]  
-



**T** [°C]  
-



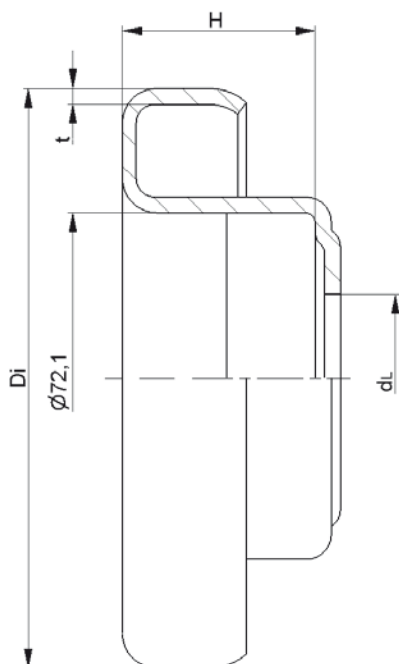
6305:  
D62, d25, H17



**Skeleton Container** [pcs.]  
ø89: 2600  
ø108: 1900  
ø133: 1150



**LH/FL**

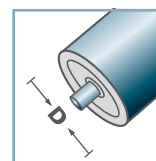


LH-6306				
Type	Di	H	dL	t
LH-108x3,25/6306	102,1	42	36,5	3,0
LH-133x3,6/6306	126,3	42	36,5	3,5

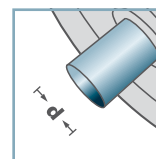
**Other dimensions on request!**

☛ Retainer for Standard Bearings: Steel

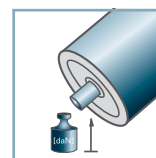
**LH-6306**



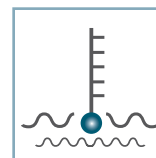
**D** [mm]  
108 - 133



**d** [mm]  
30



**C** [daN]  
-



**T** [°C]  
-



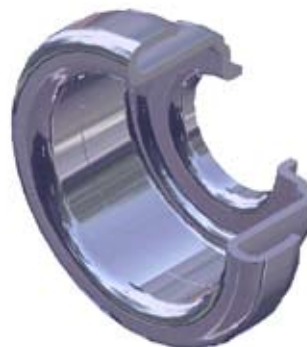
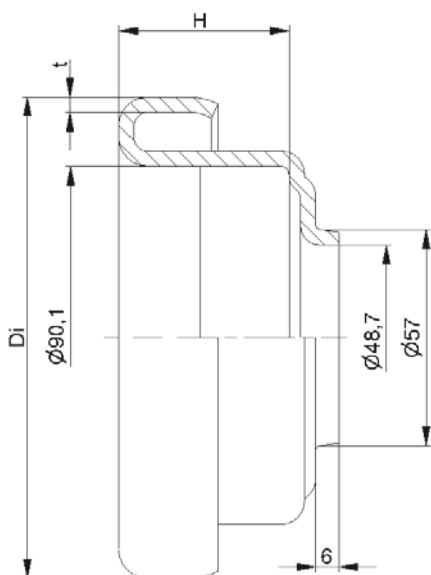
6306:  
D72, d30, H19



**Skeleton Container** [pcs.]  
ø108: 1700  
ø133: 1000



**LH/FL**

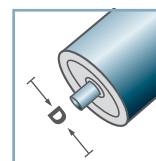


LH-6308			
Type	Di	H	t
LH-133x3,6/6308	126,3	44,6	4,0
LH-159x4,5/6308	150,8	44,6	4,0

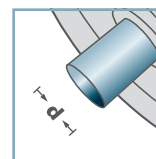
Other dimensions on request!

Retainer for Standard Bearings: Steel

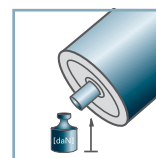
LH-6308



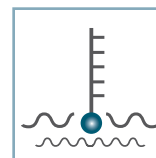
D [mm]  
133 - 159



d [mm]  
40



C [daN]  
-



T [°C]  
-

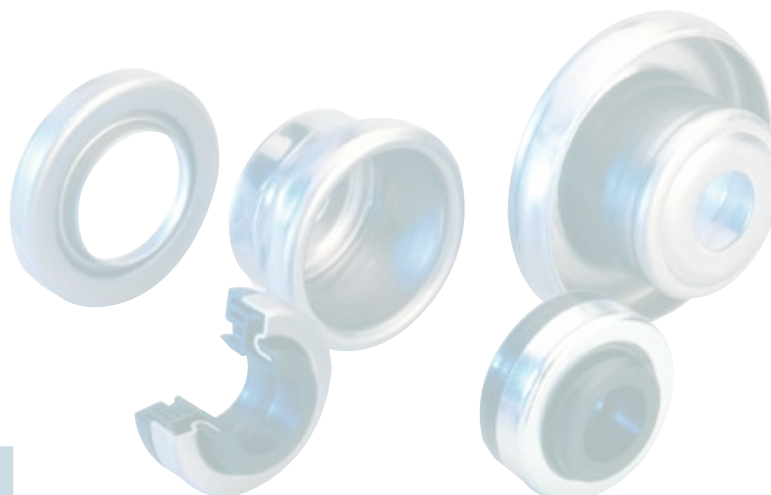


6308:  
D90, d40, H23

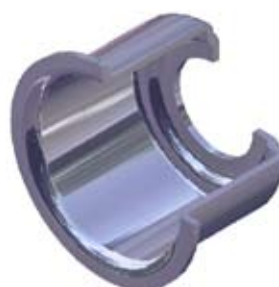
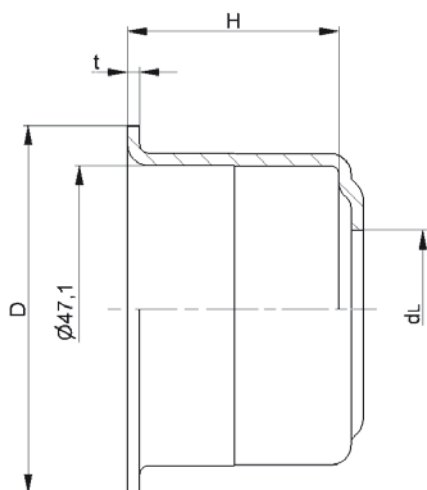


Skeleton  
Container [pcs.]

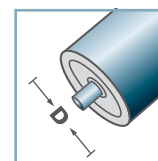
ø133: 800  
ø159: 600



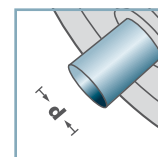
LH/FL



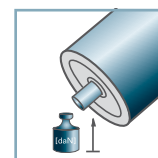
**FL-6204**



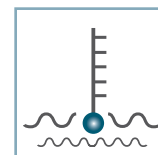
**D** [mm]  
60 - 76



**d** [mm]  
20



**C** [daN]  
-



**T** [°C]  
-



6204:  
D47, d20, H14



**Skeleton Container** [pcs.]  
 ø60: 4000  
 ø63,5: 4000  
 ø70: 2000  
 ø76: 2000

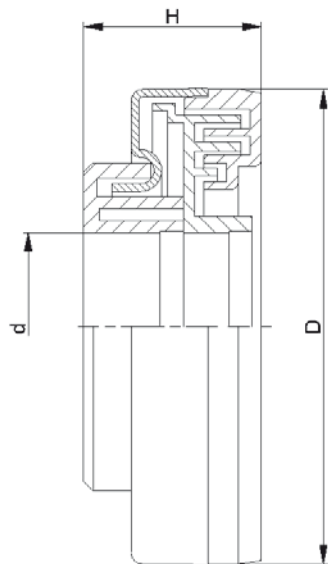
FL-6204				
Type	D	H	dL	t
FL-60x3,0/6204	58,1	34	26	2,0
FL-63,5x2,9/6204	60,0	34,5	26	2,0
FL-70x2,0/6204	68,2	34,5	26	2,0
FL-70x2,9/6204	67,1	34,5	26	2,0
FL-76x2,0/6204	74,1	34,5	26	2,0
FL-76x2,9/6204	73,1	34,5	26	2,0

**Other dimensions on request!**

Retainer for Standard Bearings: Steel



**LH/FL**



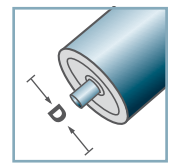
LH-			
Type	D	H	d
LH-6303	47	22,5	17
LH-6204	47	22,5	20
LH-6305	62	23,5	25
LH-6206	62	23,5	30
LH-6306	72	24,5	30
LH-6308	90	23,1	40

**Other dimensions on request!**

- ☛ Seal Bonnet: Steel, Zinc plated
- ☛ Rain Cap: Plastic
- ☛ Inner Labyrinth Seal: Plastic
- ☛ Outer Labyrinth Seal: Plastic

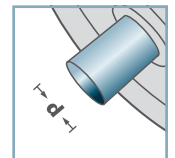


**LH-**



**D** [mm]

-

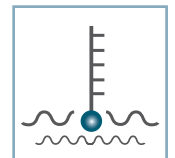


**d** [mm]  
17 - 40



**C** [daN]

-



**T** [°C]  
0° - 80°



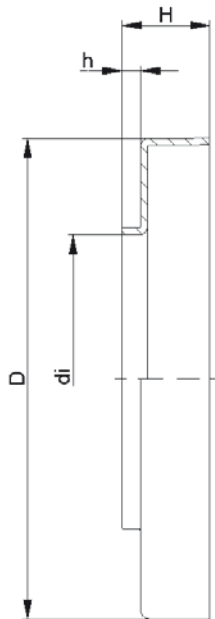
-



**Carton** [pcs.]

6204: 10000  
6305: 5000

**LH/FL**

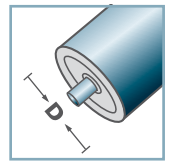


ST-				
Type	D	di	H	h
ST-6204	47,5	27,4	11,9	2,4
ST-6305	62,5	37,4	11,4	2,4
ST-6306	72,5	37,4	11,4	1,4

**Other dimensions on request!**

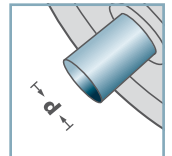
☞ Seal Bonnet: Steel

ST-



**D** [mm]

-



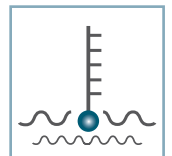
**d** [mm]

-



**C** [daN]

-



**T** [°C]

-

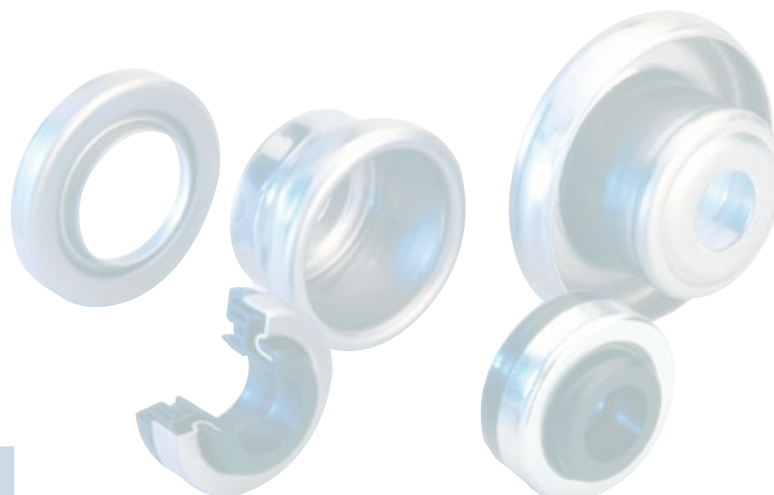


-

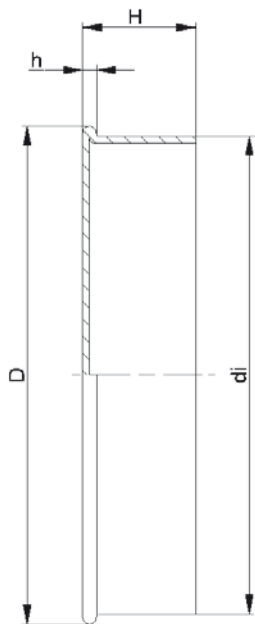


**Carton** [pcs.]

-



LH/FL

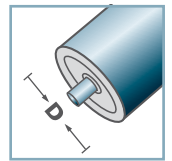


ST-				
Type	D	di	H	h
ST-6204	50	47,4	14,7	1,8
ST-6305	65	62,4	14,7	1,8
ST-6306	77	72,4	12,5	1,8

**Other dimensions on request!**

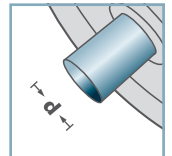
🔩 Seal Bonnet: Steel

ST-



D [mm]

-



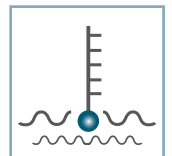
d [mm]

-



C [daN]

-



T [°C]

-



-

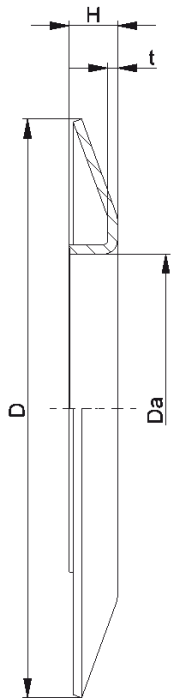


Carton [pcs.]

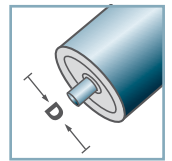
ST-6204 125  
ST-6305 100  
ST-6306 100



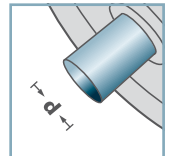
LH/FL



**BS-**



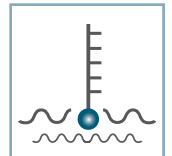
**D** [mm]



**d** [mm]



**C** [daN]



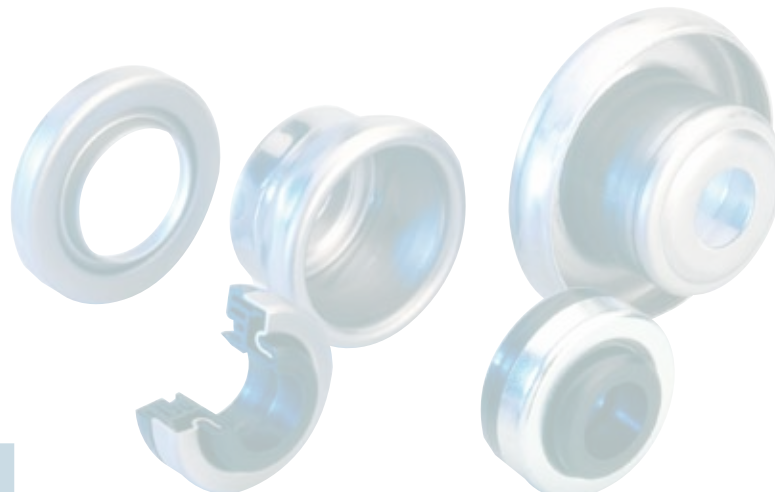
**T** [°C]



<b>BS-</b>				
<b>Type</b>	<b>Da ±0.1</b>	<b>D -2</b>	<b>H ±0.5</b>	<b>t</b>
BS-50-130	49,9	130	10	1,5
BS-60-130	59,9	130	10	1,5
BS-80-150	79,9	150	14	2,5
BS-89-150	88,9	150	14	2,5
BS-108-150	107,9	150	14	2,5

**Other dimensions on request!**

**C** Wheel Flange: Steel

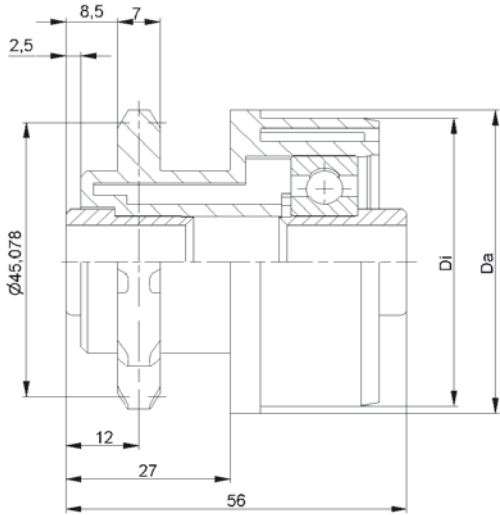


**Carton** [pcs.]

25

**LH/FL**



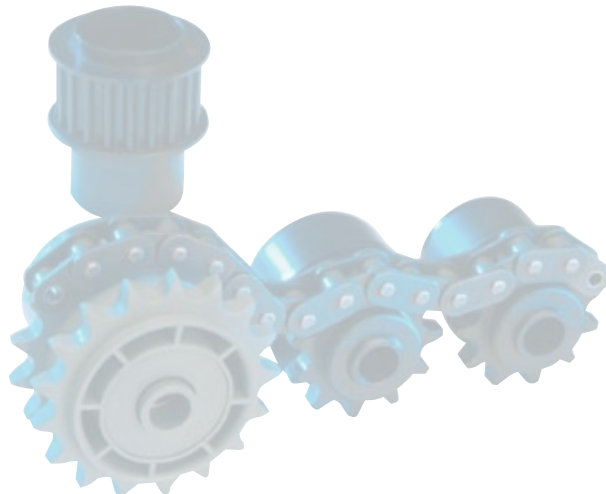


**KKR-1/2"x5/16"-Z11 for fix driving**

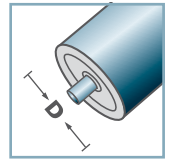
Type	Di +0,2	Da
50x1,5.40	47,3	49,9
50x2,0.40	46,3	49,9
50x2,8.40	44,6	49,9

**Other dimensions on request!**

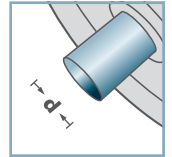
- ☛ Housing: Plastic
- ☛ Reducing Bush: Plastic
- ☛ Bearing 6202



**KKR-40**



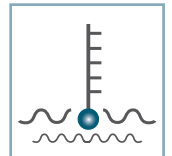
**D** [mm]  
50



**d** [mm]  
12



**C** [daN]  
-



**T** [°C]  
0° - 80°



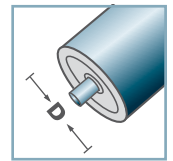
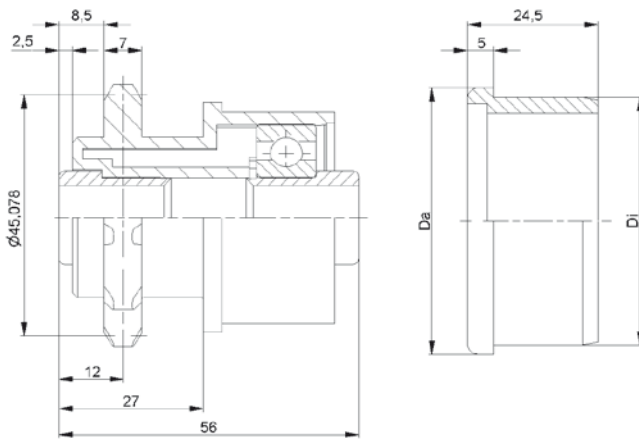
EP 2



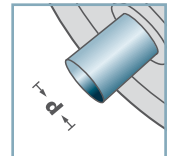
**Carton** [pcs.]

150

**KKR-40**



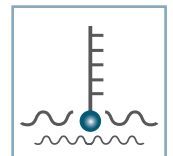
**D** [mm]  
50



**d** [mm]  
12



**C** [daN]  
-



**T** [°C]  
0° - 80°



EP 2



**Carton** [pcs.]

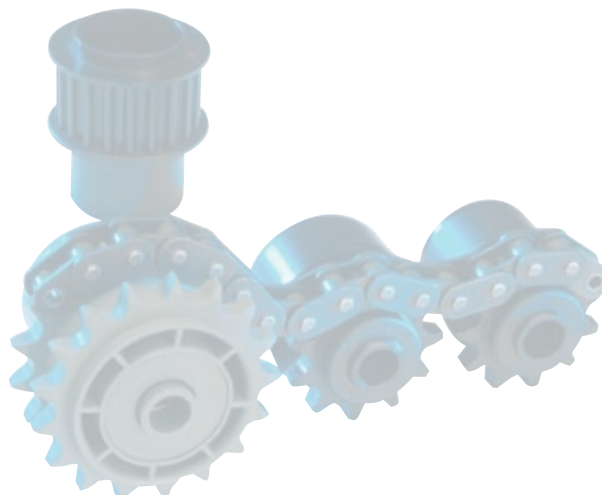
Housing:  
150  
Sliding Ring:  
300

**KKR-1/2"x5/16"-Z11 for friction driving**

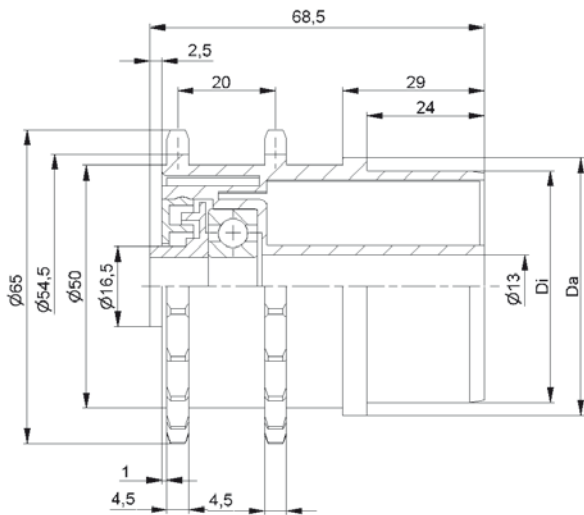
Type	Di +0,2	Da
50x1,5.40 ST	47,3	49,9
50x2,0.40 ST	46,3	49,9
50x2,8.40 ST	44,6	49,9

**Other dimensions on request!**

- ☛ Housing: Plastic
- ☛ Reducing Bush: Plastic
- ☛ Sliding Ring: Plastic
- ☛ Bearing 6202



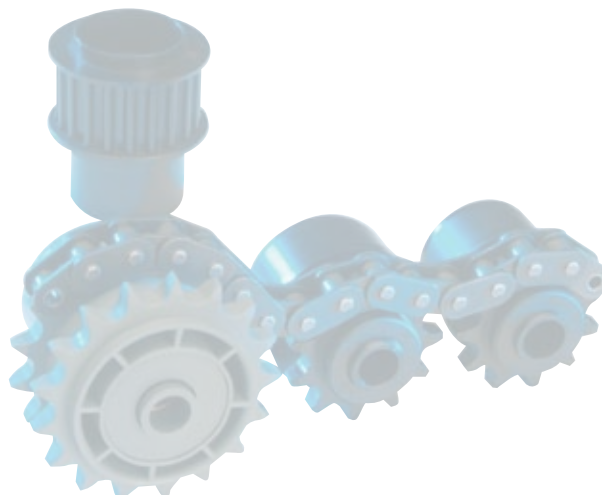
# Sprockets



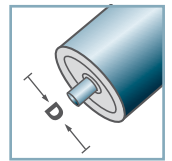
KKR-3/8"x3/16"-Z20		
Type	Di +0,2	Da
53x3,0.41	47,6	52,9

Other dimensions on request!

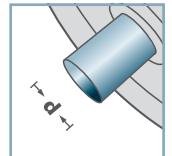
- ☛ Housing: Plastic
- ☛ Inner Labyrinth Seal: Plastic
- ☛ Outer Labyrinth Seal: Plastic
- ☛ Bearing 6201



KKR-41



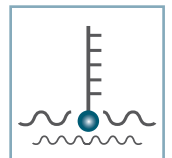
D [mm]  
53



d [mm]  
12



C [daN]  
-



T [°C]  
0° - 80°

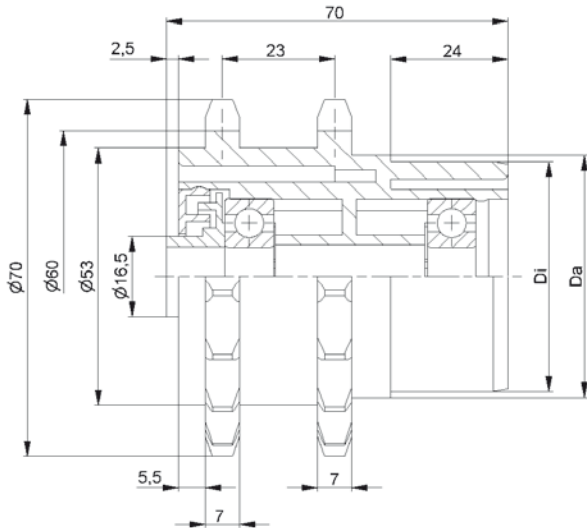


EP 2



Carton [pcs.]

60

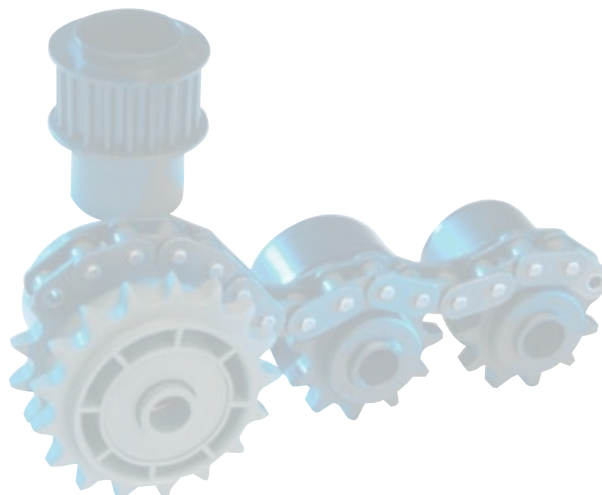


**KKR-1/2"x5/16"-Z17**

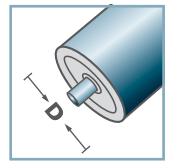
Type	$D_i + 0,2$	$D_a$
50x1,5.41	47,3	49,8

**Other dimensions on request!**

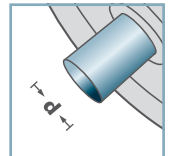
- ☛ Housing: Plastic
- ☛ Inner Labyrinth Seal: Plastic
- ☛ Outer Labyrinth Seal: Plastic
- ☛ Bearing 6201



**KKR-41**



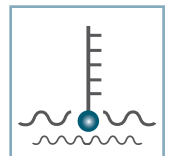
**D** [mm]  
50



**d** [mm]  
12



**C** [daN]  
-



**T** [°C]  
0° - 80°

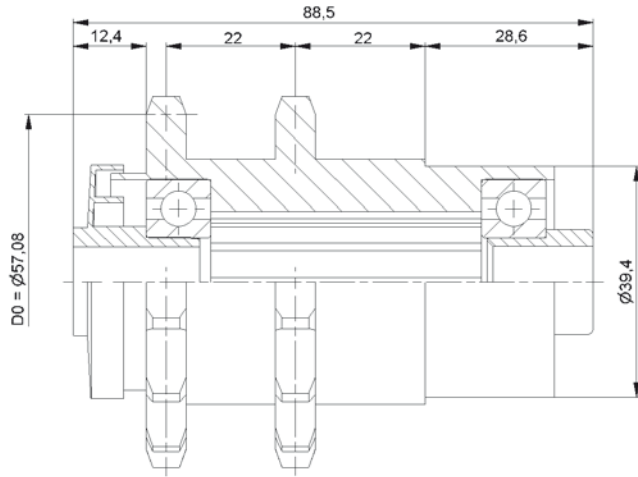


EP 2



**Carton** [pcs.]

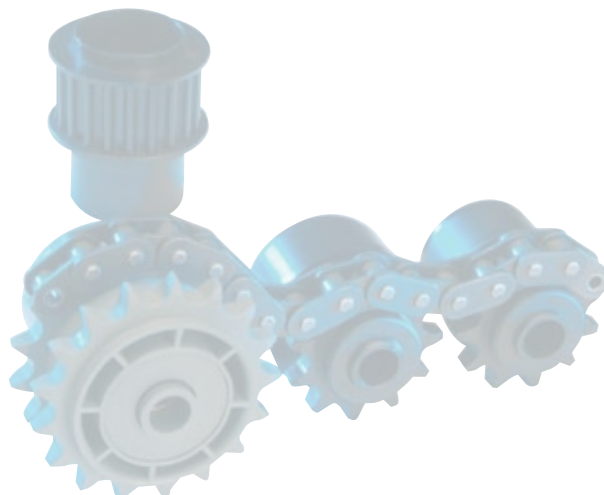
60



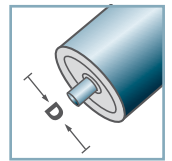
**KKR-1/2"x5/16"-Z14**

**Other dimensions on request!**

- ☛ Housing: Plastic
- ☛ Labyrinth Seal: Plastic
- ☛ Reducing Bush: Plastic
- ☛ Bearing 6202

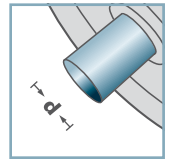


**KKR-40**



**D** [mm]

-



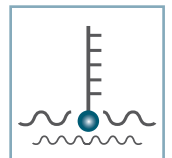
**d** [mm]

12



**C** [daN]

-



**T** [°C]

0° - 80°



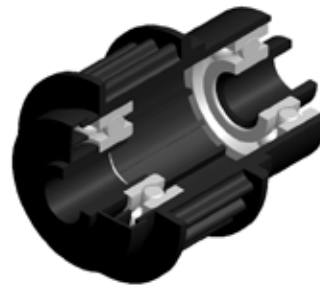
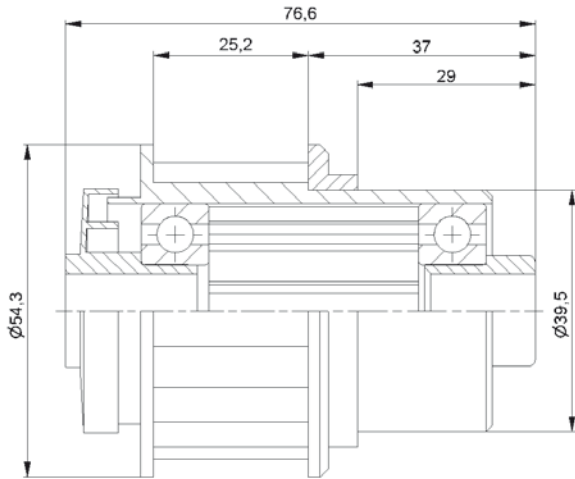
-



**Carton** [pcs.]

100

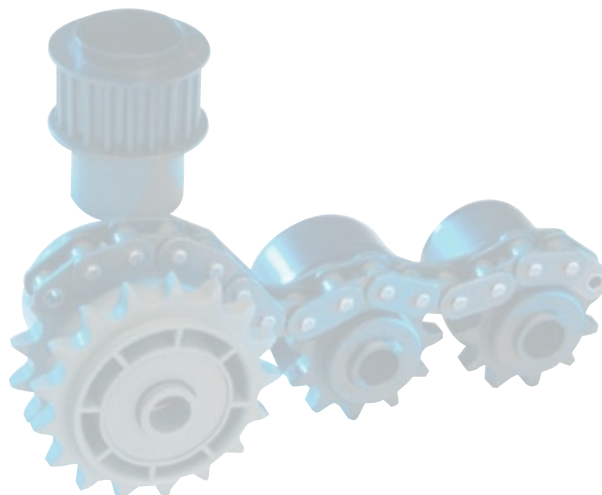
# Sprockets



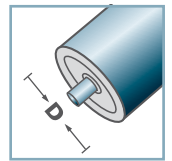
**KZA-Z20.40**

**Other dimensions on request!**

- ☛ Housing: Plastic
- ☛ Labyrinth Seal: Plastic
- ☛ Reducing Bush: Plastic
- ☛ Bearing 6202

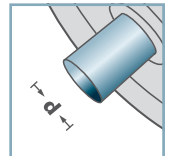


**KZA-40**



**D** [mm]

-



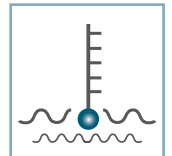
**d** [mm]

12



**C** [daN]

-



**T** [°C]

0° - 80°

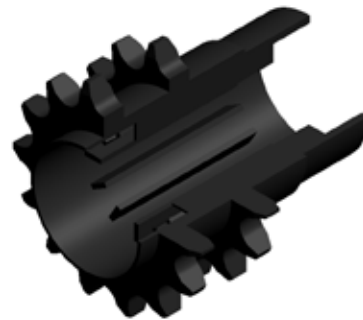
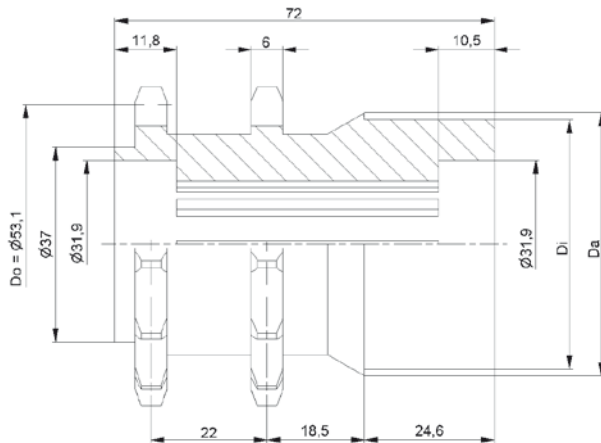


-



**Carton** [pcs.]

100

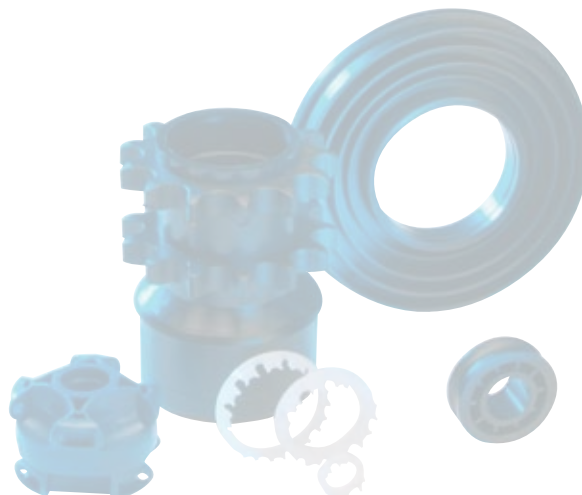


**KKR-1/2"x5/16"-Z13**

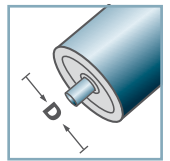
Type	$D_i + 0,2$	$D_a$
50x1,5.40	47,3	49,9

**Other dimensions on request!**

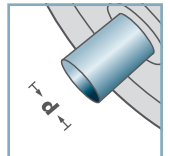
Housing: Plastic



**KKR-40**



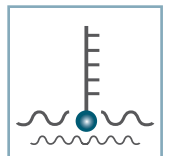
**D** [mm]  
50



**d** [mm]  
-



**C** [daN]  
-



**T** [°C]  
0° - 80°



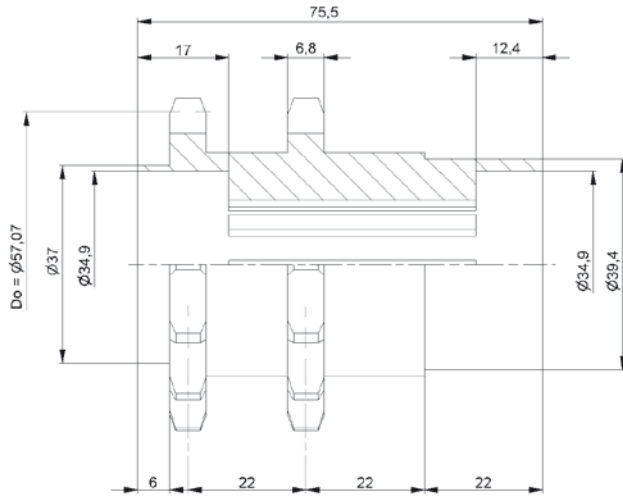
-



**Carton** [pcs.]

150

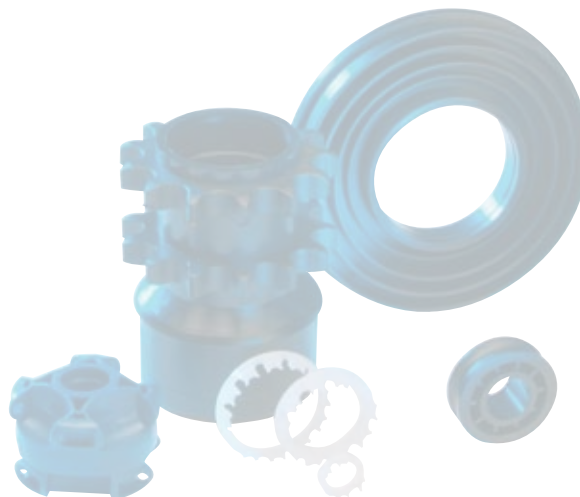
# Plastic Sprocket Wheel



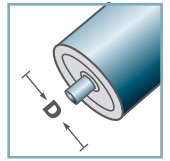
**KKR-1/2"x5/16"-Z14**

**Other dimensions on request!**

**C** Housing: Plastic

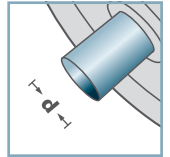


**KKR-40**



**D** [mm]

-



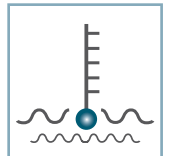
**d** [mm]

-



**C** [daN]

-



**T** [°C]

0° - 80°



-

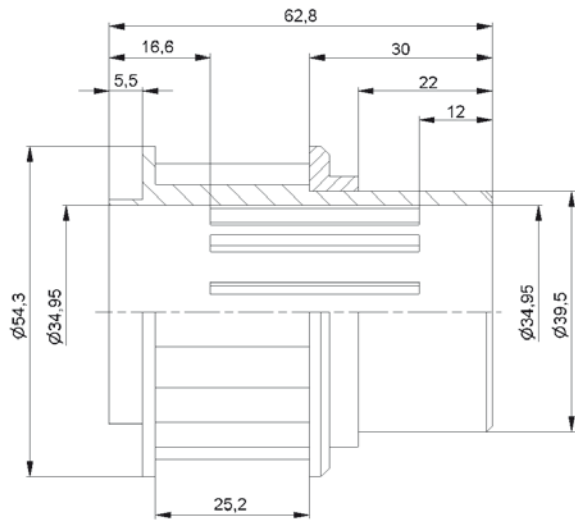


**Carton** [pcs.]

100

# Plastic Sprocket Wheel

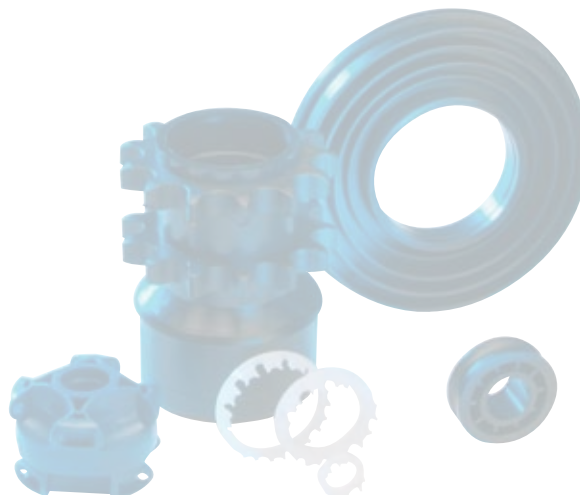




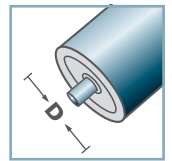
**KZA-Z20.40**

**Other dimensions on request!**

**C** Housing: Plastic

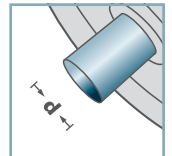


**KZA-40**



**D** [mm]

-



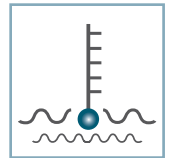
**d** [mm]

-



**C** [daN]

-



**T** [°C]

0° - 80°



-

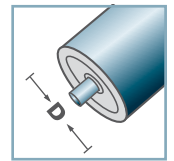
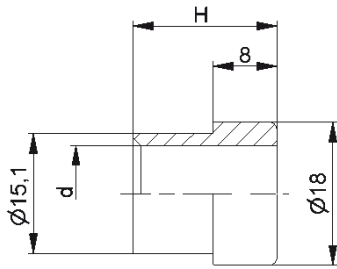


**Carton** [pcs.]

100

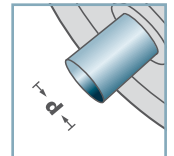
# Plastic Synchronous Belt Drive

**KKR-40**



**D** [mm]

-



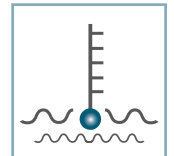
**d** [mm]

10; 12; 14; SW11



**C** [daN]

-



**T** [°C]

0° - 80°



-



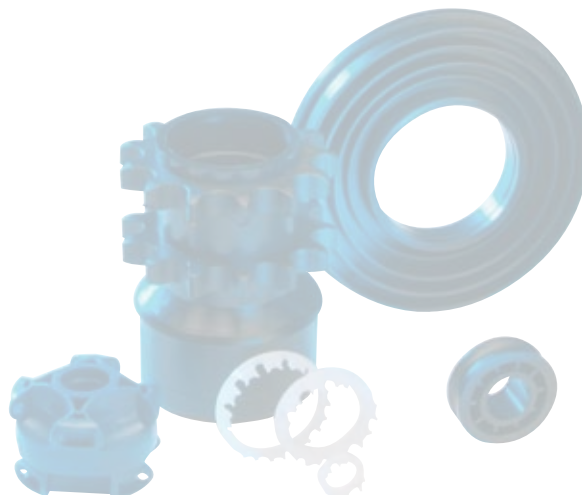
**Carton** [pcs.]

1000

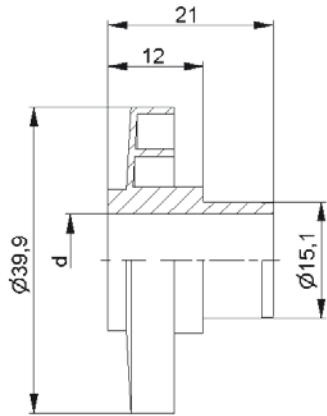
KKR-40		
	<b>d</b>	<b>H</b>
KKR-40	10	19
KKR-40	12	18
KKR-40	14	19
KKR-40	SW11	19

**Other dimensions on request!**

Reducing Bush: Plastic



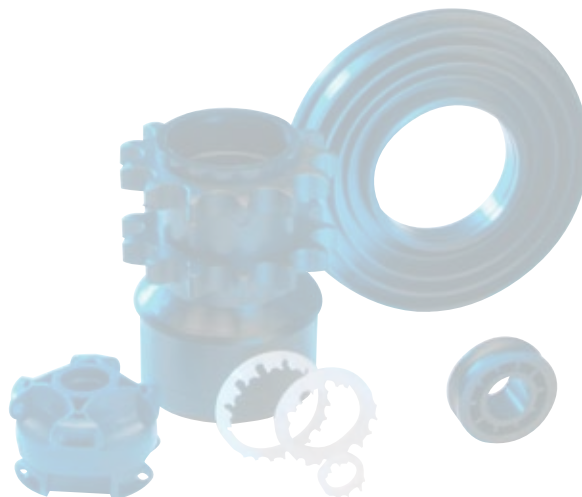
# Reducing Bush



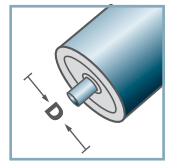
KKR-40	
Typ	d
KKR-40	10
KKR-40	12
KKR-40	14
KKR-40	SW11

**Other dimensions on request!**

Labyrinth Seal: Plastic

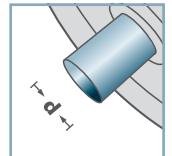


**KKR-40**



**D** [mm]

-



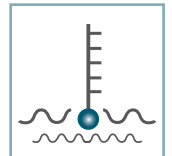
**d** [mm]

10; 12; 14; SW11



**C** [daN]

-



**T** [°C]

0° - 80°



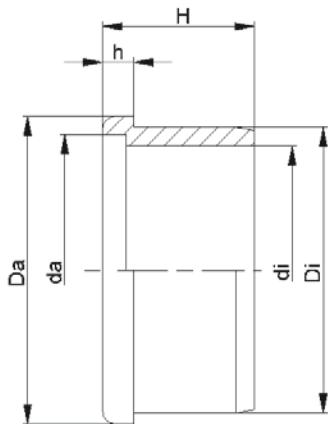
-



**Carton** [pcs.]

200

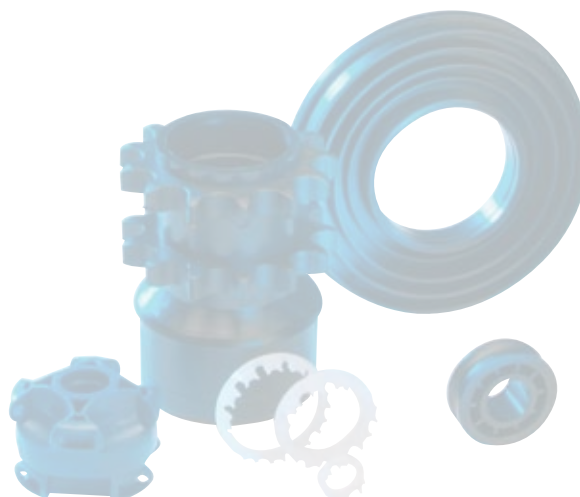
# Labyrinth Seal



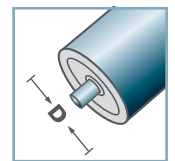
KKR-40						
Typ	Di	Da	di	da	H	h
50x1,5	47,25	50	39,3	42,6	25,2	5
50x2,8	44,7	50	39,3	42,6	25,2	5
60x1,5	57,3	60	47,0	50,7	25,5	5
60x2,0	56,3	60	47,0	50,7	25,5	5

**Other dimensions on request!**

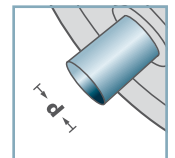
Distance Ring Fix: Plastic



**KKR-40**



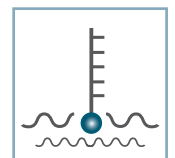
**D** [mm]  
50 - 60



**d** [mm]  
-



**C** [daN]  
-



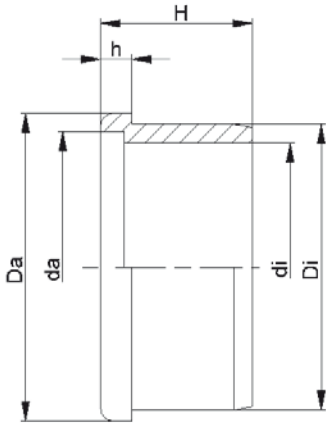
**T** [°C]  
0° - 80°



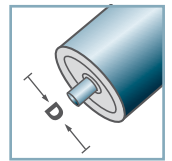
**Carton** [pcs.]

400

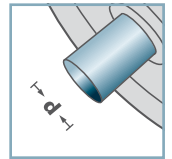
# Distance Ring Fix



**KKR-40**



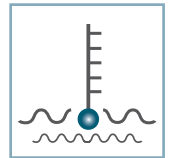
**D** [mm]  
50 - 60



**d** [mm]  
-



**C** [daN]  
-



**T** [°C]  
0° - 80°



-



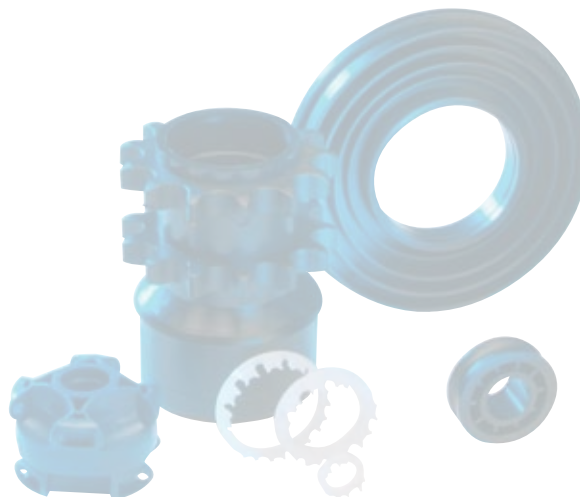
**Carton** [pcs.]

400

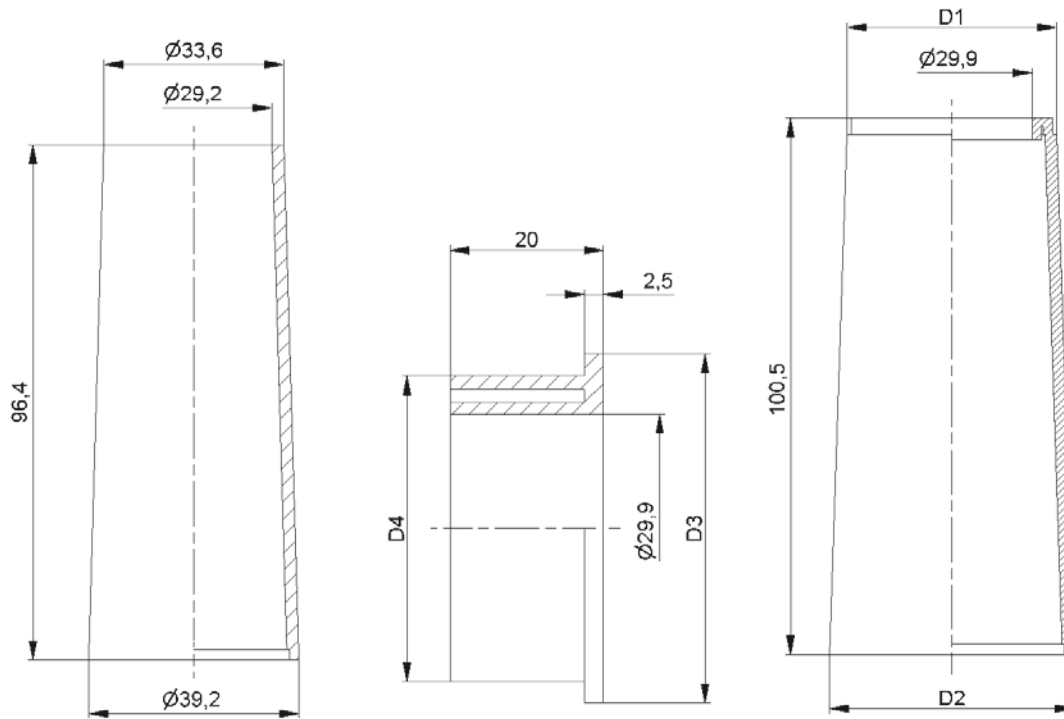
KKR-40						
Typ	Di	Da	di	da	H	h
50x1,5	47,2	50	40,6	44,6	25	5
50x2,8	44,6	49,7	40,6	44,6	25	4,8

**Other dimensions on request!**

Distance Ring Friction: Plastic



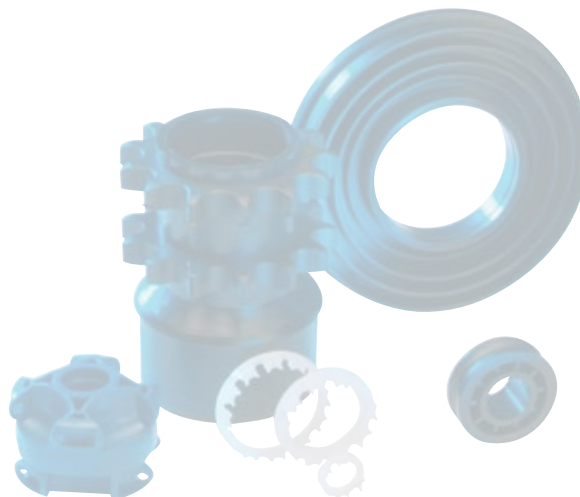
# Distance Ring Friction



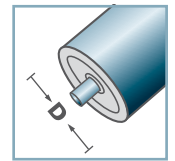
KF-30				
Type	D1	D2	D3	D4
KF-30 II	39,1	45,6	45,6	40,0
KF-30 III	45,7	52,1	52,1	46,7
KF-30 IV	52,2	58,8	57,9	57,9
KF-30 V	58,6	65,1	64,9	60,0
KF-30 VI	65,2	71,9	71,3	66,4

**Other dimensions on request!**

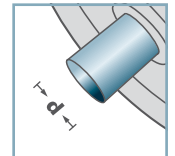
- ☛ Conic Roller: Plastic
- ☛ Endcap: Plastic



**KF-30**



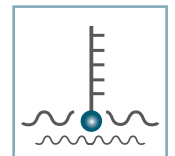
**D** [mm]  
30



**d** [mm]



**C** [daN]

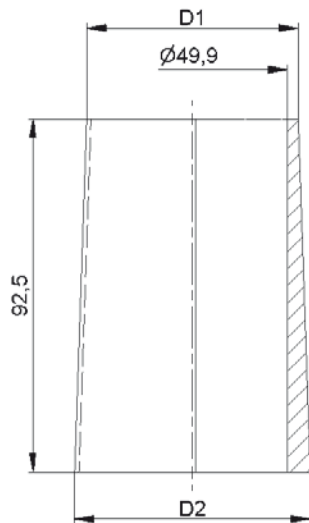


**T** [°C]  
0° - 80°



**Carton** [pcs.]

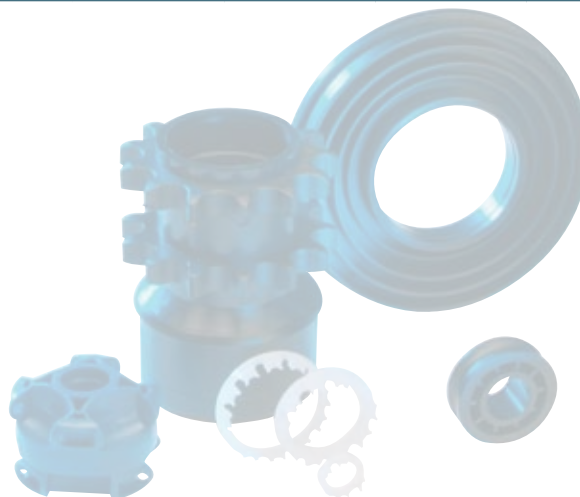
# Taper Sleeves



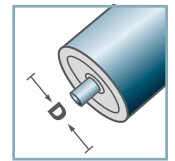
KF-50					
Type	D1	D2	L	D3	D4
KF-50 I-a	53,4	59,7	92,5	-	-
KF-50 II	60,0	66,5	100,0	-	-
KF-50 III	66,5	73,0	99,0	-	-
KF-50 IV	73,5	80,0	100,0	50,6	75,5
KF-50 V	80,0	86,5	95,5	50,7	81,7
KF-50 VI	86,5	93,5	100,0	50,6	87,7
KF-50 VII	93,5	100,0	100,0	50,6	94,3
KF-50 VIII	100,0	106,5	95,5	-	-
KF-50 IX	106,5	113,0	95,5	-	-
KF-50 X	113,0	119,5	95,5	-	-

**Other dimensions on request!**

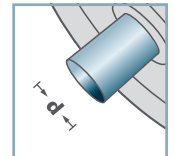
- ☛ Conic Roller: Plastic
- ☛ Endcap: Plastic



**KF-50**



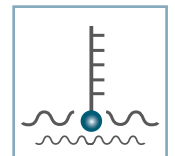
**D** [mm]  
50



**d** [mm]  
-



**C** [daN]  
-



**T** [°C]  
0° - 80°



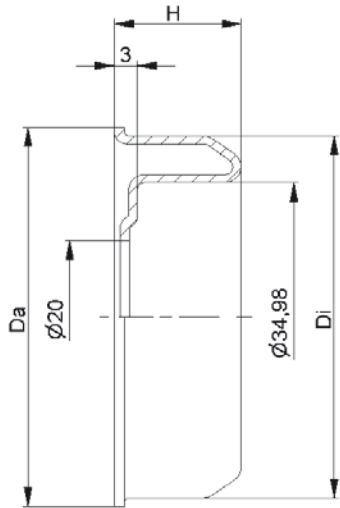
-



**Carton** [pcs.]



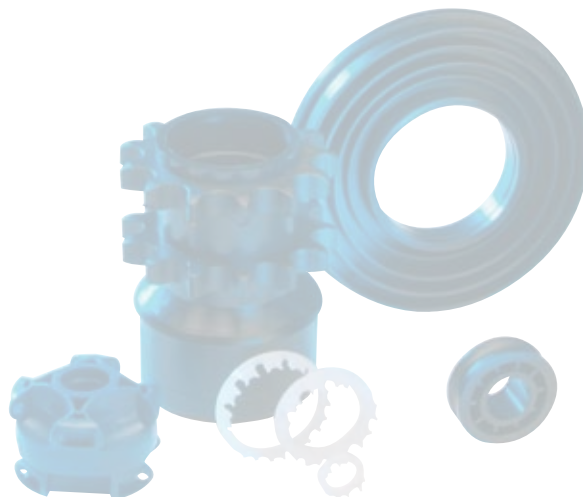
# Taper Sleeves



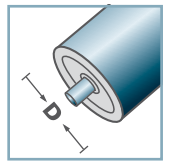
MRK-40			
Type	Di ±0,1	Da	H
MRK-50x1,5.40	47,3	49,5	16
MRK-50x2,0.40	46,3	49,5	16
MRK-60x2,0.40	56,3	59,5	16,5
MRK-60x3,0.40	54,3	59,5	16,5

**Other dimensions on request!**

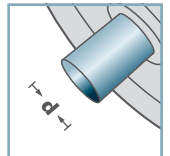
☛ Housing: Steel, Zinc plated



**MRK-40**



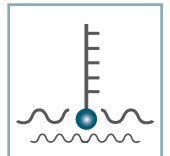
**D** [mm]  
50 - 60



**d** [mm]  
15



**C** [daN]  
-



**T** [°C]  
-



6202:  
D35; d15; H11

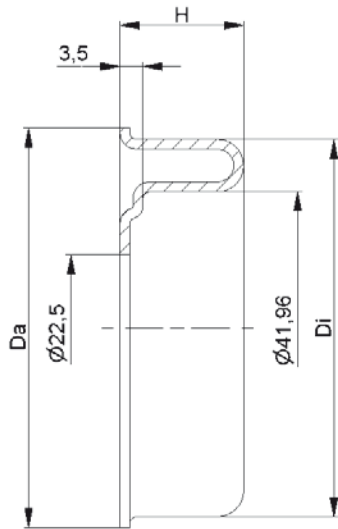


**Carton** [pcs.]

ø50: 100  
ø60: 250

# Steel Housing



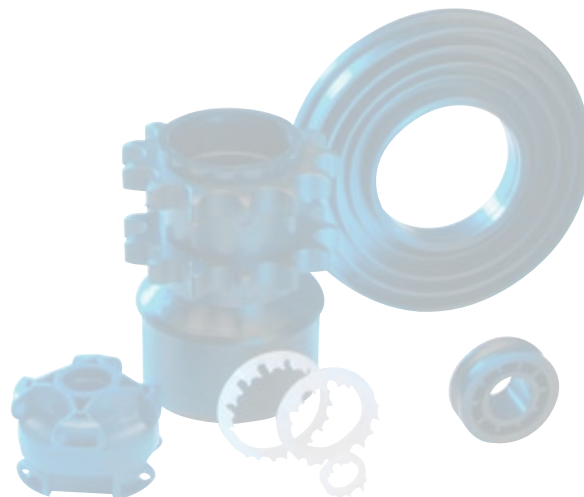


**MRK-6004**

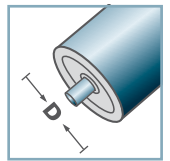
Type	Di ±0,1	Da	H
MRK-63,5x2,9/6004	58,1	61,5	19,0

**Other dimensions on request!**

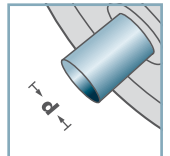
☛ Housing: Steel, Zinc plated



**MRK-6004**



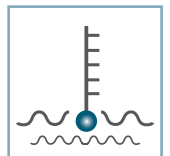
**D** [mm]  
63,5



**d** [mm]  
20



**C** [daN]  
-



**T** [°C]  
-



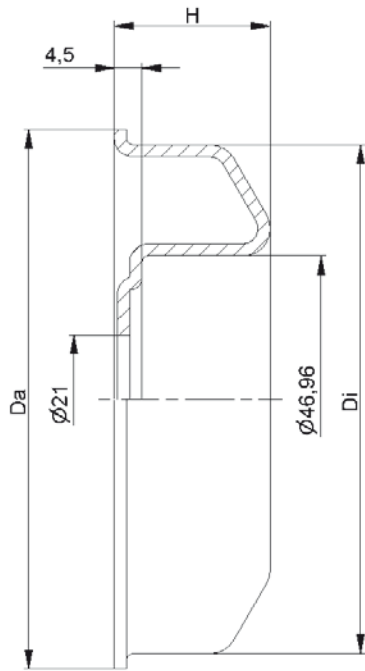
6004:  
D42; d20; H12



**Carton** [pcs.]

50

# Steel Housing

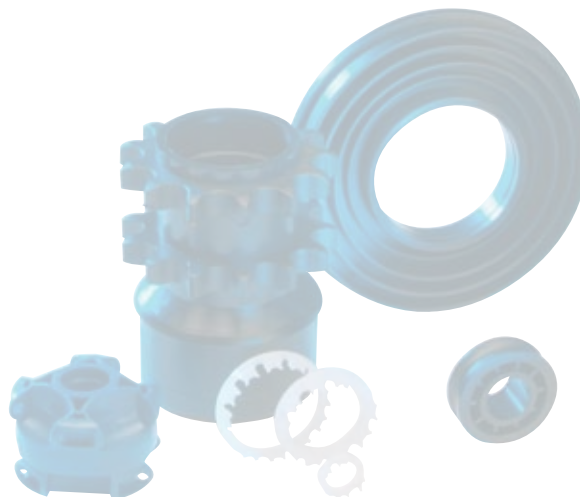


**MRK-6204**

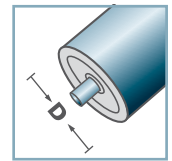
Type	Di ±0,1	Da	H
MRK-80x2,0/6204	76,5	79,5	23,5
MRK-80x3,0/6204	74,5	79,5	23,5
MRK-89x3,0/6204	83,5	88,5	23,5
MRK-89x3,25/6204	83,0	88,5	23,5
MRK-108x3,25/6204	102,0	107,5	25,0

**Other dimensions on request!**

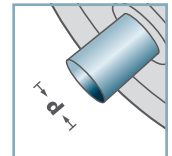
**C** Housing: Steel, Zinc plated



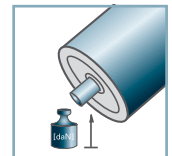
**MRK-6204**



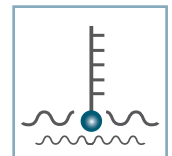
**D** [mm]  
80 - 108



**d** [mm]  
20



**C** [daN]  
-



**T** [°C]  
-



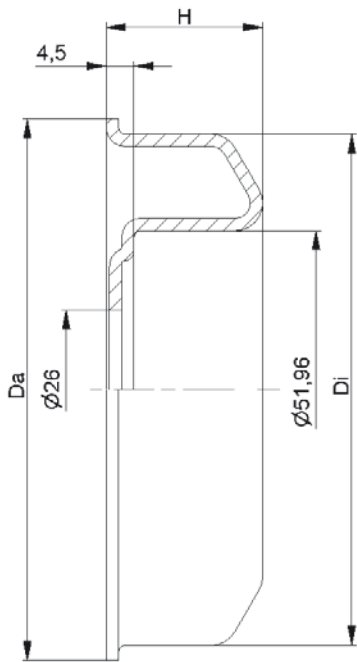
6204:  
D47; d20; H14



**Carton** [pcs.]

50

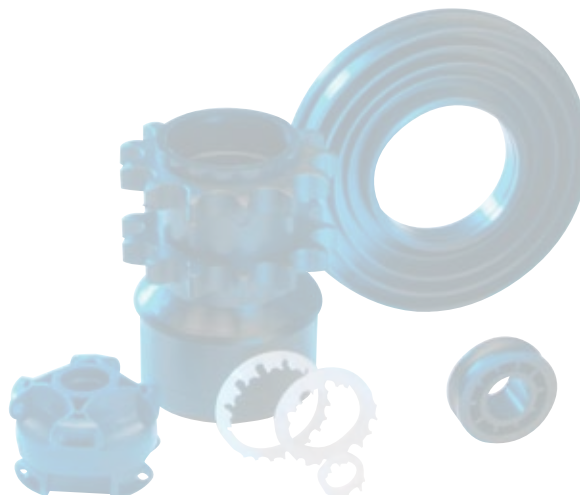
# Steel Housing



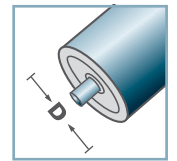
MRK-6205			
Type	Di ±0,1	Da	H
MRK-80x2,0/6205	76,5	79,5	23,5
MRK-80x3,0/6205	74,5	79,5	23,5
MRK-89x3,0/6205	83,5	88,5	24,5
MRK-108x3,25/6205	102,0	107,5	25,5

**Other dimensions on request!**

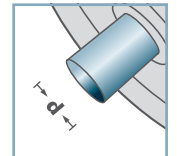
☛ Housing: Steel, Zinc plated



**MRK-6205**



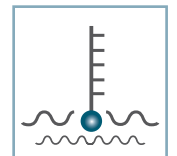
**D** [mm]  
80 - 108



**d** [mm]  
25



**C** [daN]  
-



**T** [°C]  
-



6205:  
D52; d25; H15

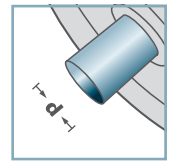
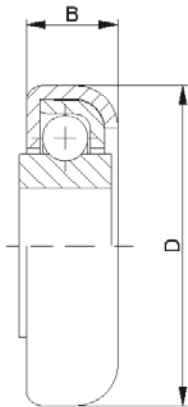


**Carton** [pcs.]

50

# Steel Housing

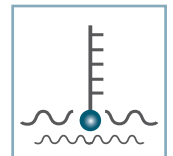
**RL-0.280**



**d** [mm]  
10; 12; 12,8



**C** [daN]  
7 - 10



**T** [°C]  
0° - 80°



RL-0.280		
Type	D	B
RL-0.280	28,0	7,6

**Other dimensions on request!**

- ☛ Capsule: Steel, Zinc Plated
- ☛ Bearing Shell: Steel
- ☛ Ball: Steel
- ☛ Inner Race
  - ☛ Steel: C=10daN
  - ☛ Plastic: C=7daN; 0° - 80°

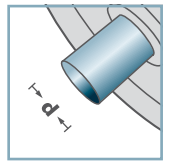
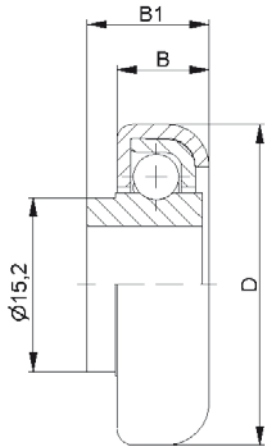


**Carton** [pcs.]

500

# Radial Ball Bearings

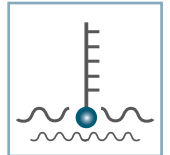
**RL-0.280**



10; 12; 12,8



**C** [daN]  
7 - 10



**T** [°C]  
0° - 80°



**RL-0.280 with collar**

Type	D	B	B1
RL-0.280 m.B.	28,0	7,6	10,0

**Other dimensions on request!**

- ☛ Capsule: Steel, Zinc Plated
- ☛ Bearing Shell: Steel
- ☛ Ball, Steel
- ☛ Inner Race
  - ☛ Steel: C=10daN
  - ☛ Plastic: C=7daN; 0° - 80°

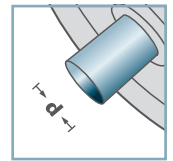
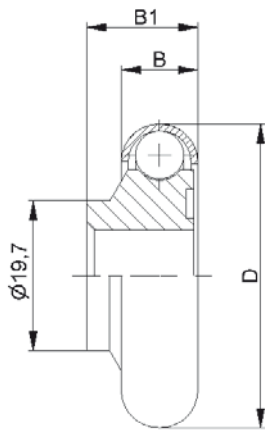


**Carton** [pcs.]

500

# Radial Ball Bearings

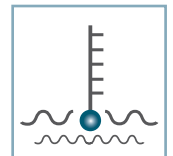
**RL-0.400**



**d** [mm]  
10; 12



**C** [daN]  
7



**T** [°C]  
0° - 80°



<b>RL-0.400</b>			
Type	D	B	B1
RL-0.400	40,0	10,0	14,5

**Other dimensions on request!**

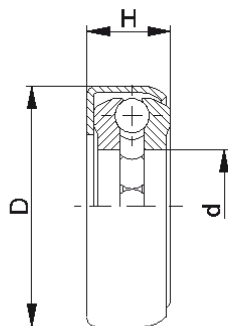
- ☛ Capsule: Steel, Zinc Plated
- ☛ Ball: Steel
- ☛ Inner Race: Plastic



**Carton** [pcs.]

250

# Radial Ball Bearings



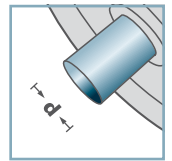
LL-				
Type	d	D	H	Load Rating C [daN]
LL-1.073	7,2	15,0	7,0	20
LL-1.082	8,2	15,8	6,85	20
LL-1.083	8,3	17,5	6,2	20
LL-1.093	9,3	17,5	6,2	20
LL-1.103	10,3	17,5	6,2	22

**Other dimensions on request!**

- ☛ Capsule: Steel
- ☛ Ball Race: Steel, hardened
- ☛ Ball: Steel



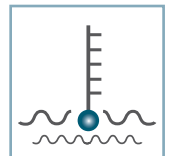
LL-



**d** [mm]  
7; 8; 9; 10



**C** [daN]  
450



**T** [°C]  
-



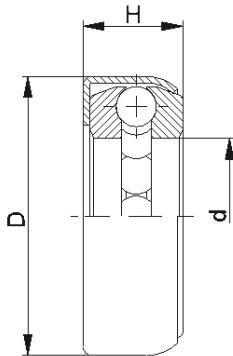
-



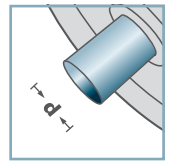
**Carton** [pcs.]

500

# Pressed Thrust Bearings



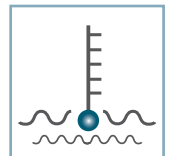
LL-



**d** [mm]  
11; 12; 13; 14



**C** [daN]  
450 - 600



**T** [°C]  
-



LL-				
Type	d	D	H	Load Rating C [daN]
LL-1.113	11,3	20,0	7,0	22
LL-1.123	12,3	22,0	8,0	22
LL-1.133	13,3	22,0	8,0	22
LL-1.141	14,15	22,0	7,7	22

**Other dimensions on request!**

- ☛ Capsule: Steel
- ☛ Ball Race: Steel, hardened
- ☛ Ball: Steel

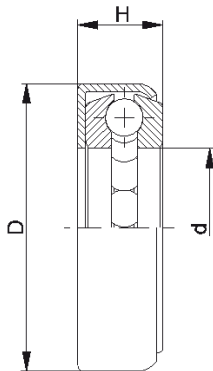


**Carton** [pcs.]

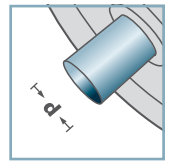
ø11: 500  
ø12: 250  
ø13: 250  
ø14: 250

# Pressed Thrust Bearings





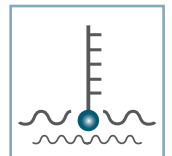
LL-



**d** [mm]  
14; 16; 20



**C** [daN]  
750



**T** [°C]  
-



LL-				
Type	d	D	H	Load Rating C [daN]
LL-1.143	14,3	25,0	8,5	22
LL-1.163	16,4	27,0	9,0	24
LL-1.201	20,1	36,6	10,8	24

**Other dimensions on request!**

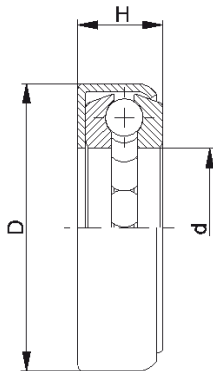
- ☛ Capsule: Steel
- ☛ Ball Race: Steel, hardened
- ☛ Ball: Steel



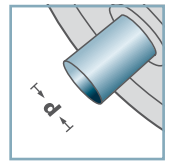
**Carton** [pcs.]

ø14: 200  
ø16: 200  
ø20: 350

# Pressed Thrust Bearings



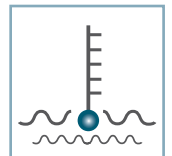
LL-



**d** [mm]  
20; 22; 23;  
24; 25; 26



**C** [daN]  
240 - 260



**T** [°C]  
-



-

LL-				
Type	d	D	H	Load Rating C [daN]
LL-1.203	20,4	33,0	10,0	26
LL-1.223	22,4	43,5	12,0	26
LL-1.233	23,4	43,5	12,0	26
LL-1.243	24,4	43,5	12,0	26
LL-1.253	25,4	43,5	12,0	26
LL-1.263	26,4	43,5	12,0	26

**Other dimensions on request!**

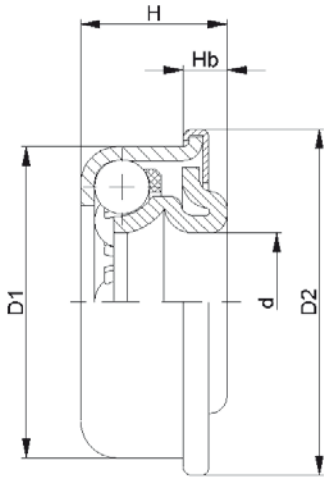
- ☛ Capsule: Steel
- ☛ Ball Race: Steel, hardened
- ☛ Ball: Steel



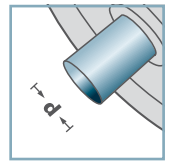
**Carton** [pcs.]

ø20: 100  
ø22: 50  
ø23: 50  
ø24: 50  
ø25: 50  
ø26: 50

# Pressed Thrust Bearings



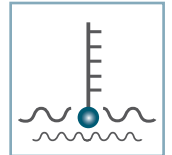
**KL-**



**d** [mm]  
10; 12; 12,7; 14



**C** [daN]  
30



**T** [°C]  
0 - 80°



EP2

<b>KL-</b>					
Type	d	D1	D2	H	Hb
KL-4.10A	10,05	25,05	28,5	12,8	4,0
KL-4.12	12,05	27,05	30,2	12,2	3,8
KL-4.127	12,75	27,05	30,2	12,2	3,8
KL-4.14	14,05	27,05	30,2	12,0	3,6

**Other dimensions on request!**

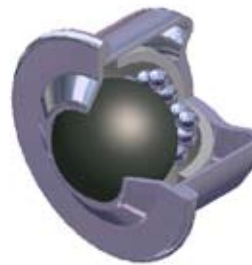
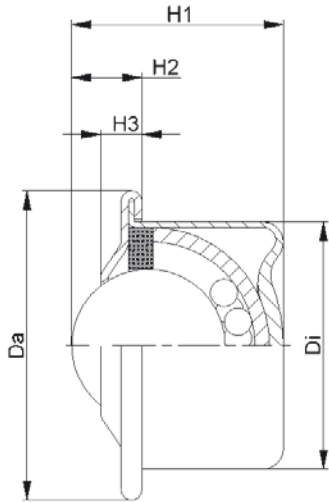
- ☛ Bearing Shell: Steel, Hardened
- ☛ Cone: Steel, Hardened
- ☛ Dust Cap: Steel, Zinc plated
- ☛ Cage: Plastic
- ☛ Ball: Steel



**Carton** [pcs.]

KL-4.10A: 500  
KL-4.12: 1000  
KL-4.127: 1000  
KL-4.14: 1000

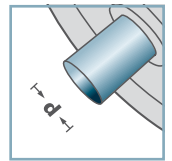
# Cone Ball Bearings



KRO						
Type	Da	Di	H1	H2	H3	Load Rating C [daN]
KRO-015L	31,0	24,0	21,0	9,5	5,5	50
KRO-022L	45,0	36,0	30,5	10,0	6,0	120
KRO-015	31,0	24,0	21,0	9,5	5,5	120
KRO-022	45,0	36,0	30,5	10,0	6,0	350



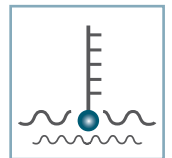
**KRO-**



**d** [mm]



**C** [daN]  
50 - 120



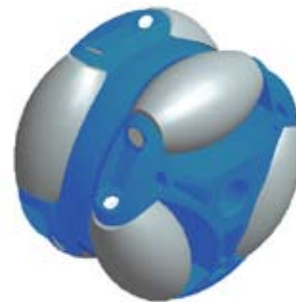
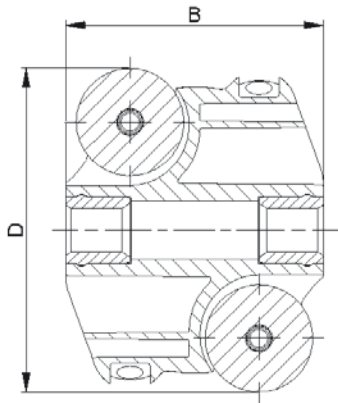
**T** [°C]  
-30° - 100°



**Carton** [pcs.]

50

# Ball Transfer Unit

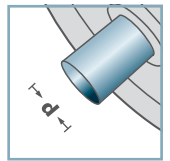


ASR-			
Type	D	B	Load Rating C [daN]
ASR-80	80	64	40
<b>Other dimensions on request!</b>			

- ☛ Housing: Plastic
- ☛ Barrel-shaped Roller: Plastic
- ☛ Axis: 1.4301



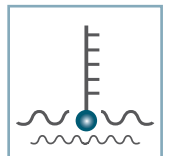
**ASR-**



**d** [mm]  
8; 12; 15; SW14



**C** [daN]  
40



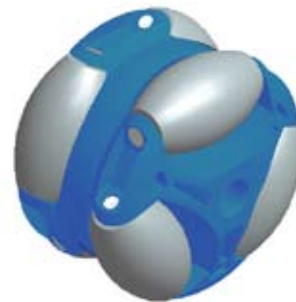
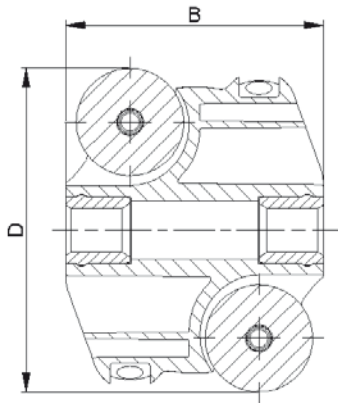
**T** [°C]  
0° - 80°



**Carton** [pcs.]

50

# Polydirectional Wheel



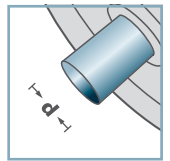
ASR-			
Type	D	B	Load Rating C [daN]
ASR-60	60	48	20
ASR-48	48	39	15
ASR-40	40	29	10

**Other dimensions on request!**

- ☛ Housing: Plastic
- ☛ Barrel-shaped Roller: Plastic
- ☛ Axis: 1.4301



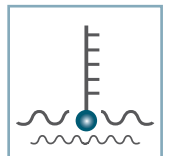
**ASR-**



**d** [mm]  
8; 10; SW9



**C** [daN]  
10 - 20



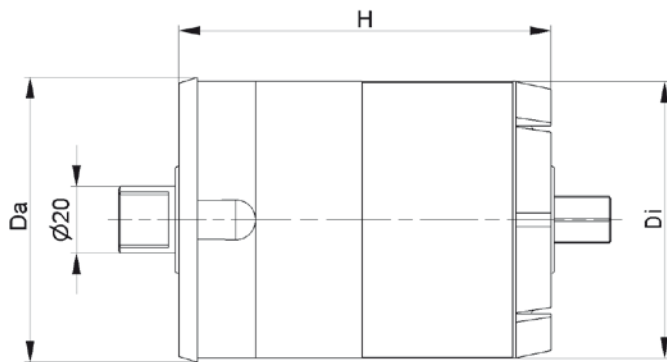
**T** [°C]  
0° - 80°



**Carton** [pcs.]

50

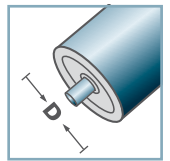
# Polydirectional Wheel



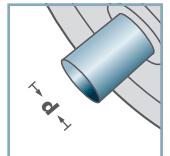
BR-				
Type	Da	Di	H	Load Rating [kg]
BR-500	88,5	83	115	500
BR-800	88,5	83	115	800
BR-1200	88,5	83	115	1200



**BR-**



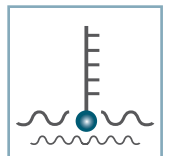
**D** [mm]  
89



**d** [mm]  
20



**C** [daN]  
250



**T** [°C]  
0° - 80°



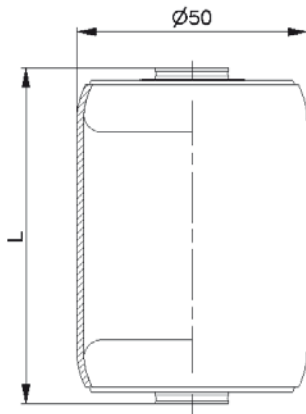
EP2



**Carton** [pcs.]

20

# Brake Roller Unit



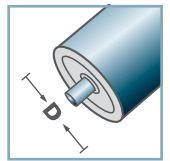
AMR-50x1,5.20		
Type	L	Load Rating C [daN]
AMR-50x1,5.20-66	66	160
AMR-50x1,5.20-73	73	160
AMR-50x1,5.20-80	80	160
AMR-50x1,5.20-100	100	160

**Other dimensions on request!**

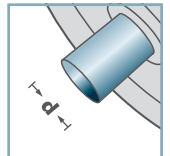
- ☛ Tube: Steel, Zinc plated
- ☛ Metal Roller Bearing MTR-20



**AMR-50.20**



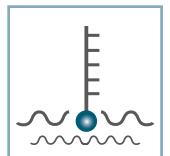
**D** [mm]  
50



**d** [mm]  
8; 10; 12; SW11



**C** [daN]  
160



**T** [°C]  
0° - 100°



Vactra No. 2



**Carton** [pcs.]

# Metal Roller