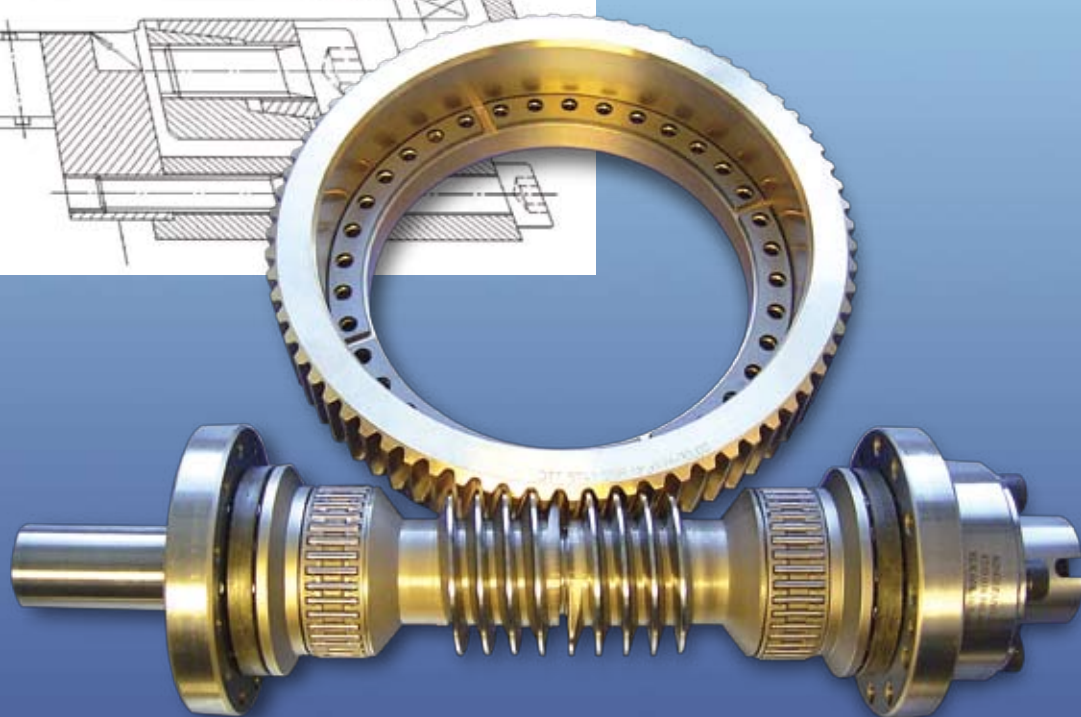
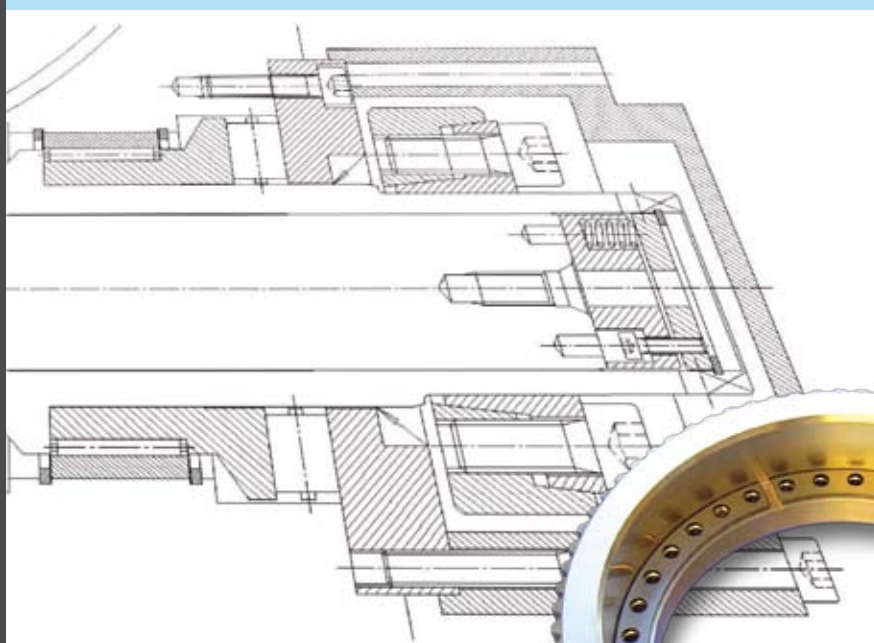


...toothed
innovations!

Zahnradfertigung OTT

OTT – Worm Gears

PATENTED PRECISION WORM GEAR



Type G1 Catalogue

Zahnradfertigung OTT GmbH & Co. KG

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Last updated: 2007

Company profile

Zahnradfertigung Ott is a family business founded in 1957.

Top quality, reliability and expert advice are basic values for our company. At Ott, our top priority is to implement such aims in daily business with our customers. This applies not just to standard manufacturing processes, but also to customised designs.

Our services include the cutting of your gears, shafts, coupling components and hollow gears, and the complete manufacture of these components to your drawing or sample. You will find our manufacturing options in the manufacturing programme.

With our range of worm gear pairs, we can offer you very special solutions and manufacturing designs.

We can supply any conceivable power transmissions in this field - from "standard" worm gear pairs to duplex models, to OTT worm gears with adjustable flank clearances.



Zahnradfertigung Ott GmbH & Co.KG
72411 Bodelshausen

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OTT worm gear classification

OTT worm gears are characterised by their extremely high rotational accuracy. To achieve this requirement, the gear must have a high contact factor. That means many teeth and faces on the gear and worm parts being in contact. This is achieved in gear manufacturing by choosing a low pressure angle and high tooth flanks (high toothing).

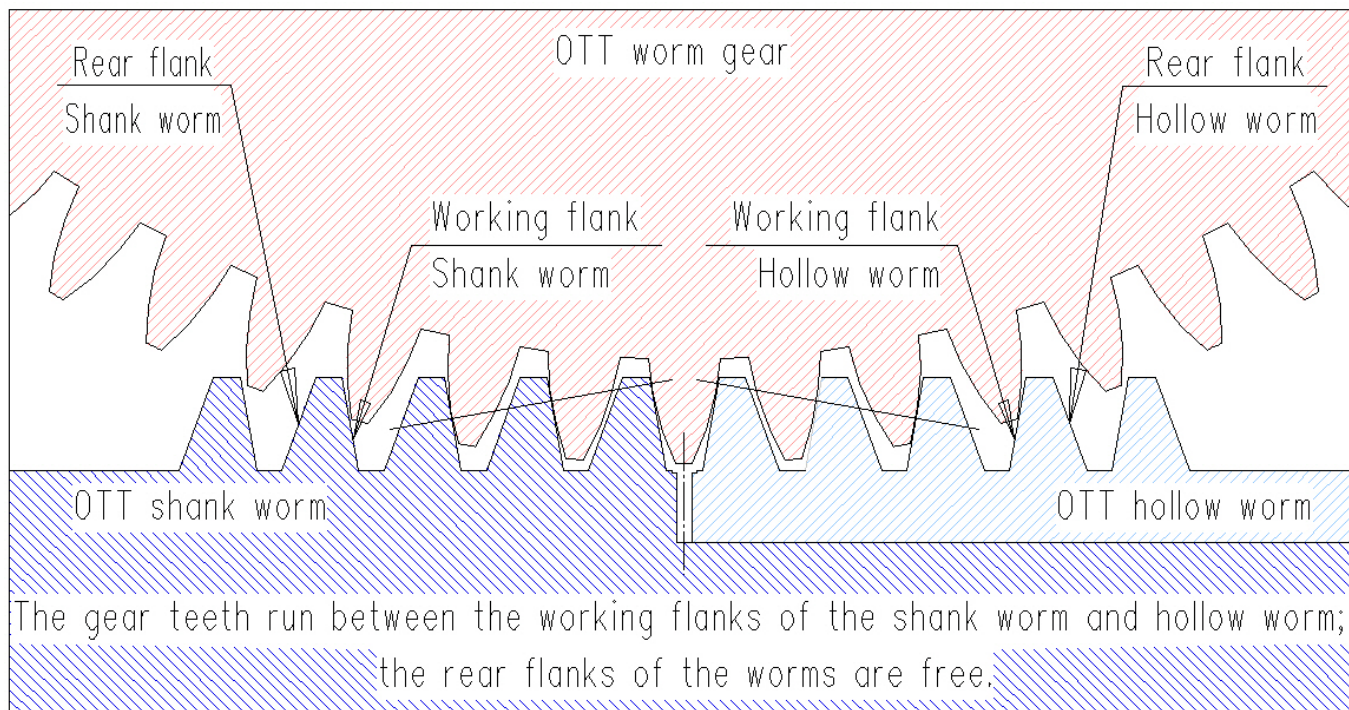
The flank clearance of OTT worm gears is also easy to adjust during new installation or after flank wear, without changing the centre distance.

The worm in OTT worm gears consists of 2 parts, the shank worm and the hollow worm. The tooth flanks of the worm gear have a very positive addendum modification coefficient. This allows the lines of action of the shank worm and hollow worm to disengage. The shank worm adopts the direction of rotation of the worm gear, and the hollow worm the opposite direction. One half of the worm drives, while the other half absorbs the return stroke on the gear, something that is very important in many rotational processes, especially in machine tool manufacture.

Only the working flanks of the worms make contact with the gear flanks. The rear flanks of the worms do not make contact and remain free. The back angle of the worm is much greater than that of the working flank, and serves to strengthen the helix. See section in plane of rotation of worm gear.

Rotating the shank worm in relation to the hollow worm and subsequently locating it in position allows the tooth flank clearance to be changed over a wide range.

Strong and rigid teeth are obtained as a result of the large positive addendum modification coefficient and the large back angle of the worm. The large contact factor of the teeth means that high torques are possible on the worm gear.



Section in plane of rotation of worm gear with line of action

OTT worm gears materials in this catalogue

The shank worm and hollow worm are machined in 31CrMoV9 steel and are plasma nitrided.

The worm gears themselves are generally made of GZ-CuSn12Ni bronze.

Note: In the case of larger centre distances, especially, the worm bearings limit the permitted load on the gears. If this is the case, appropriate worm shanks and bearings need to be developed.



YRT gear bearings

Important: In this catalogue, gear bearings are based on the YRT bearing from INA. Before selecting a YRT bearing, please check on availability and delivery.

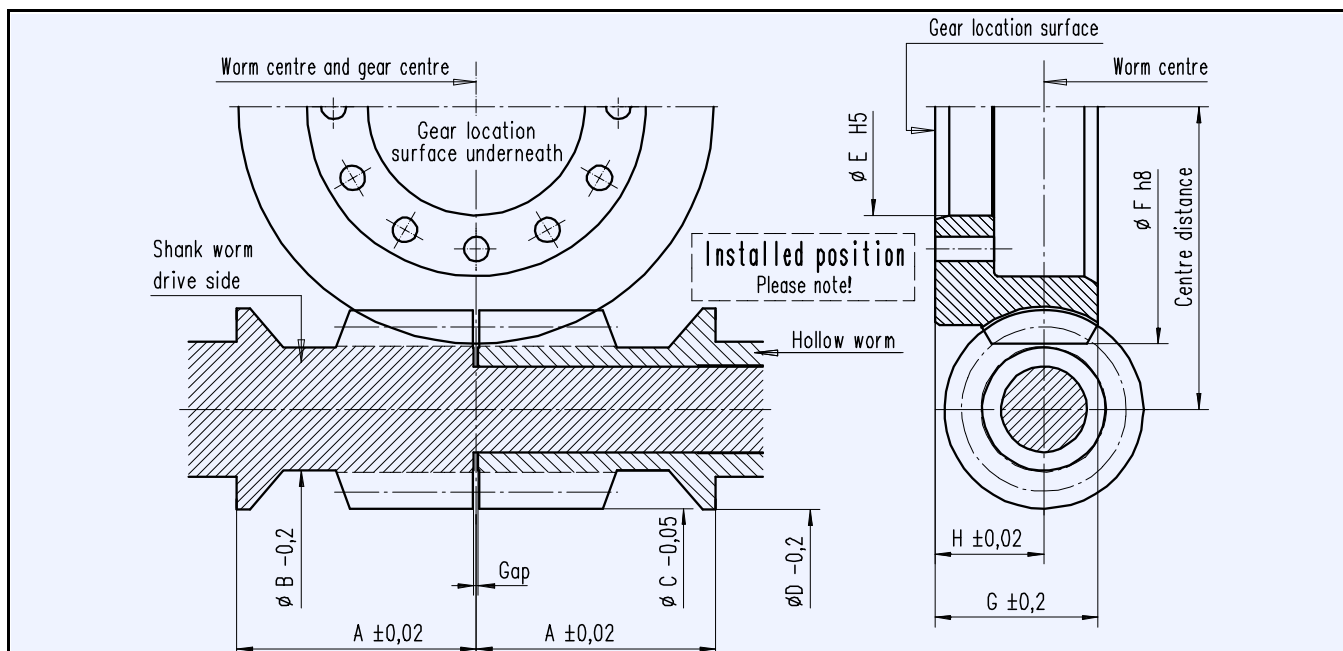


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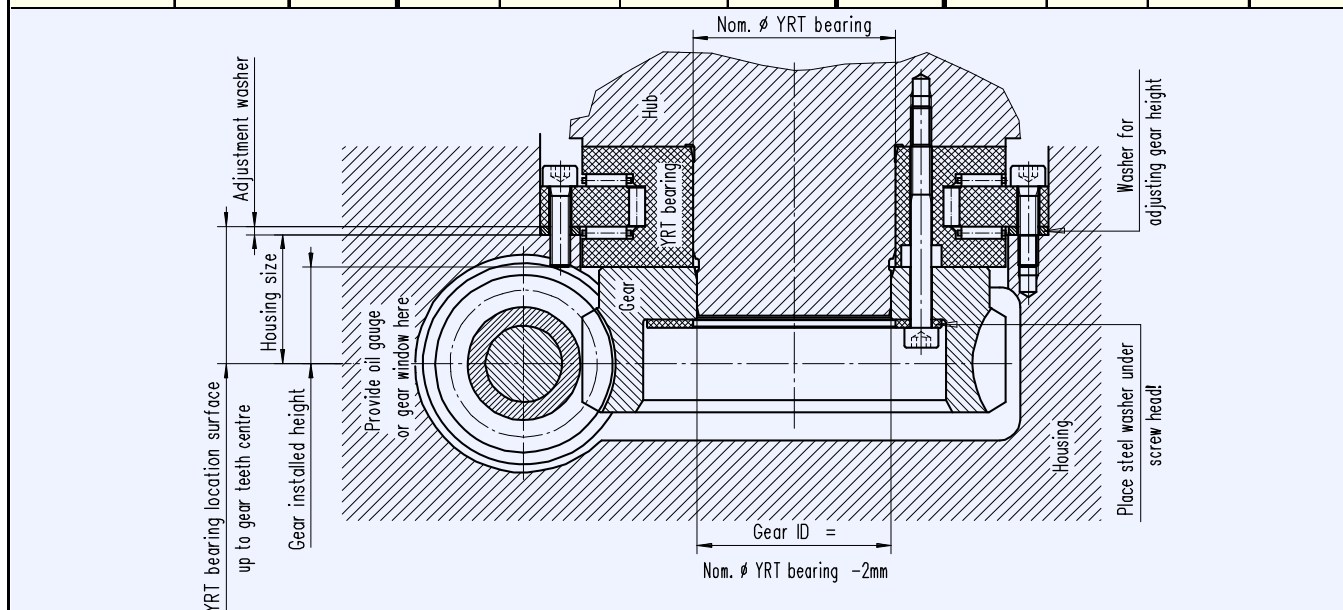
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Blöhsteinstraße 20
D-72411 Bodelshausen

OTT worm gears - centre distance 67 mm

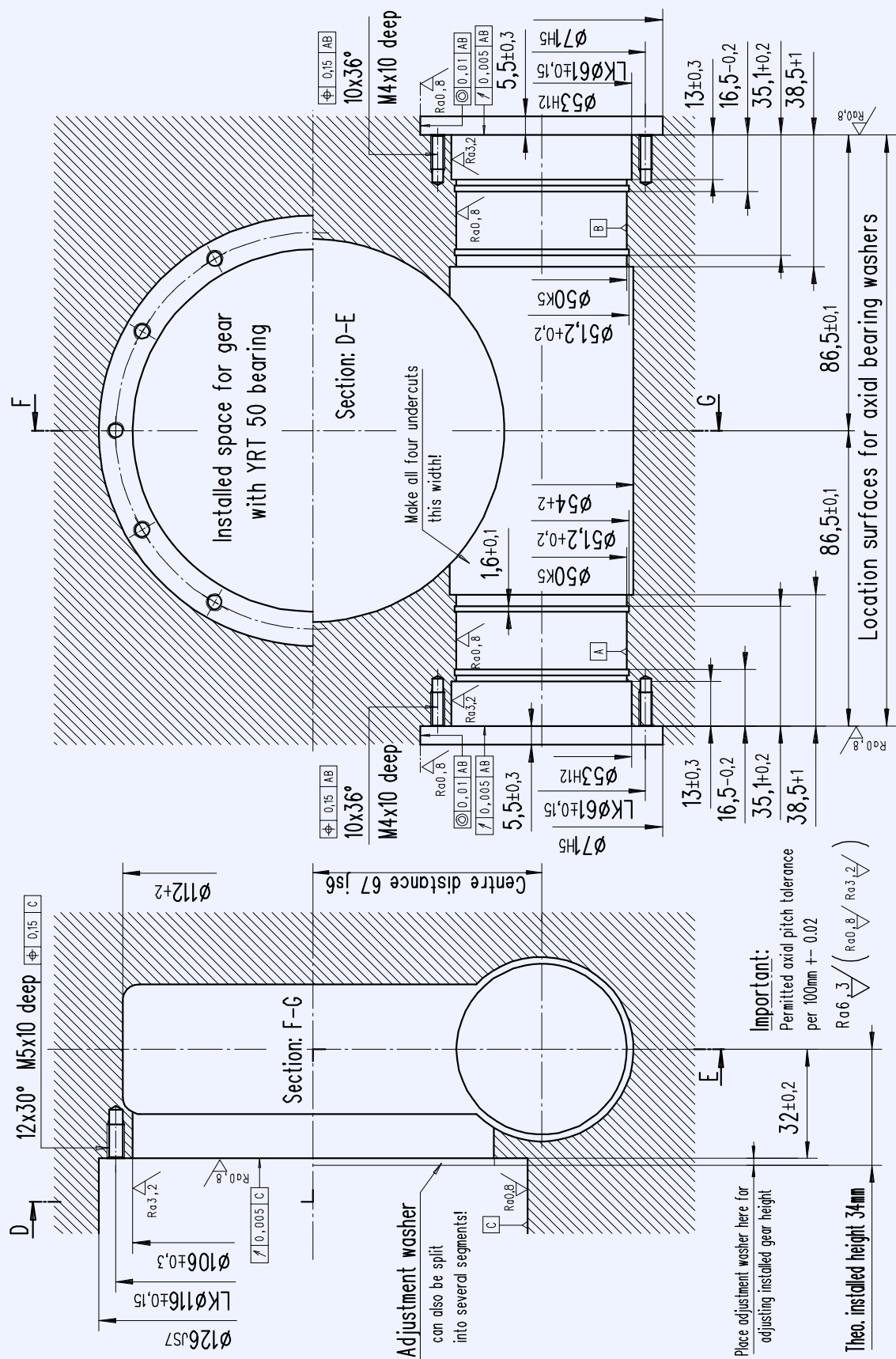
Main dimensions



OTT gear no.	Ratio		Worm				YRT gear bearing	Gear			
	No. starts Z1	No. teeth Z2	Distance A	Undercut Ø B	Head Ø C	Collar Ø D		Internal Ø E	Head Ø F	Width G	Height H
4849 SSR	1	36	53	27,2	44,0	44,6	50	48	105	36	24
4866 SSR	1	45		27,5	41,0						
4859 SSR	1	60		27,8	38,8						
4830 SSR	1	72		28,0	37,4						
4812 SSR	1	90		28,2	36,0						
4831 SSR	1	120		28,4	34,2						
							See comments page 5!				



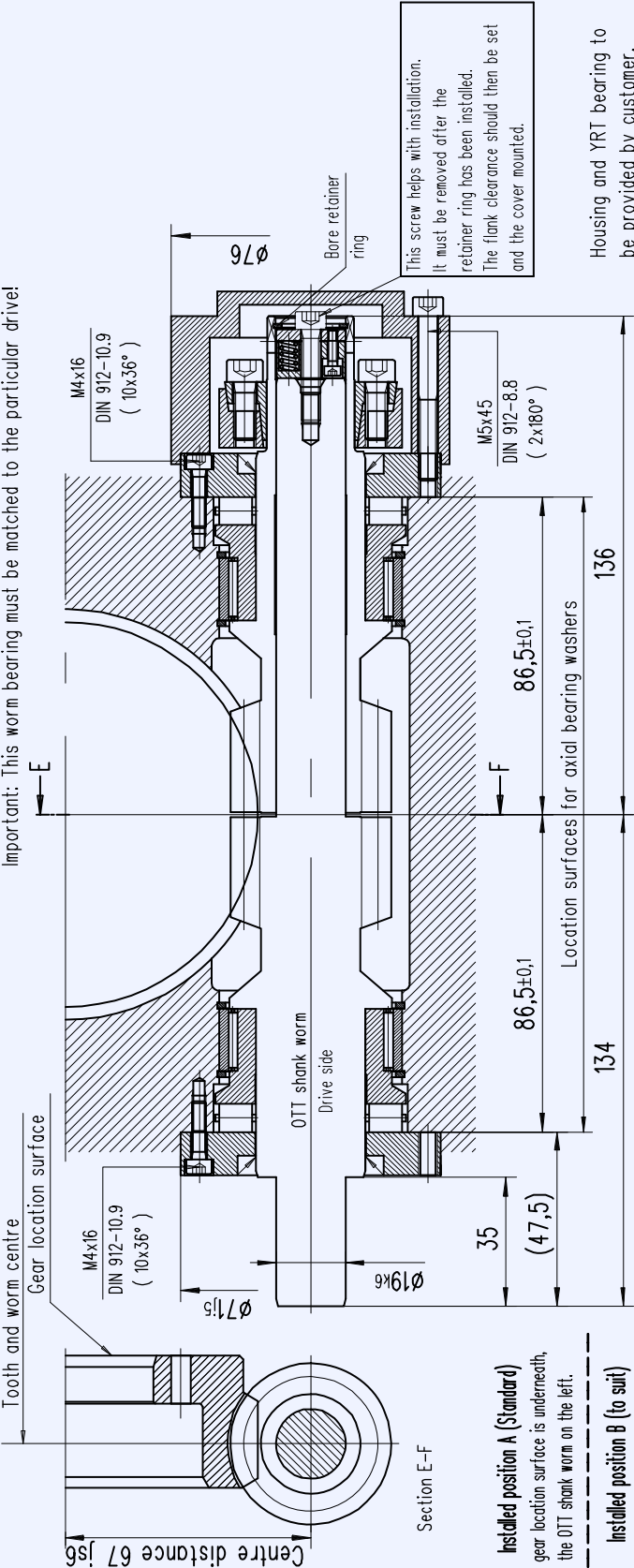
Required internal contour of gear housing for centre distance 67 mm





Worm bearings

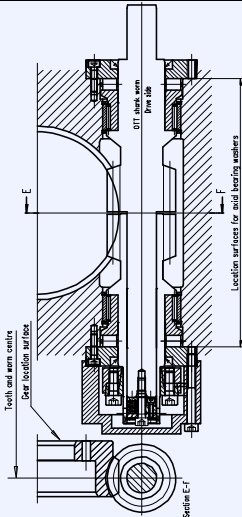
Worm bearing for centre distance 67 mm



Section E-F

- ☐ **Installed position A (Standard)**
The gear location surface is underneath, the OTT shank worm on the left.
- ☐ **Installed position B (to suit)**
The gear location surface is underneath, the OTT shank worm on the right.

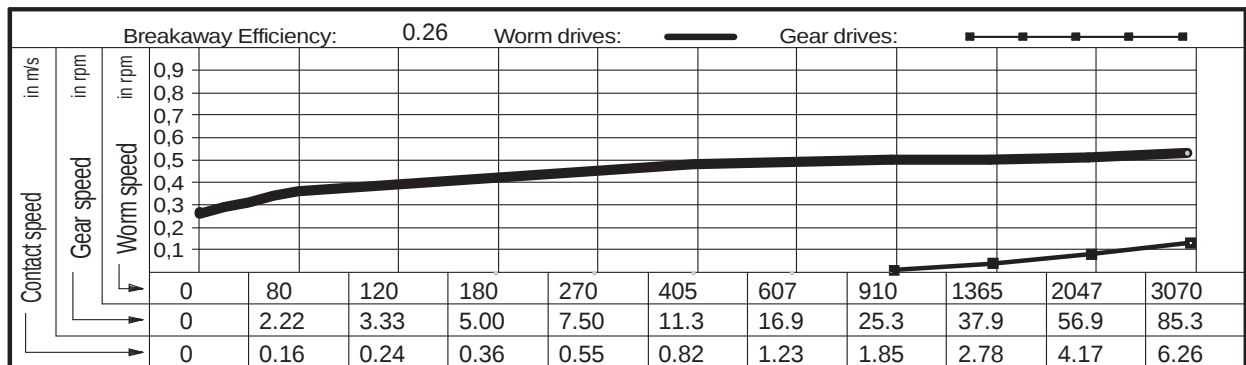
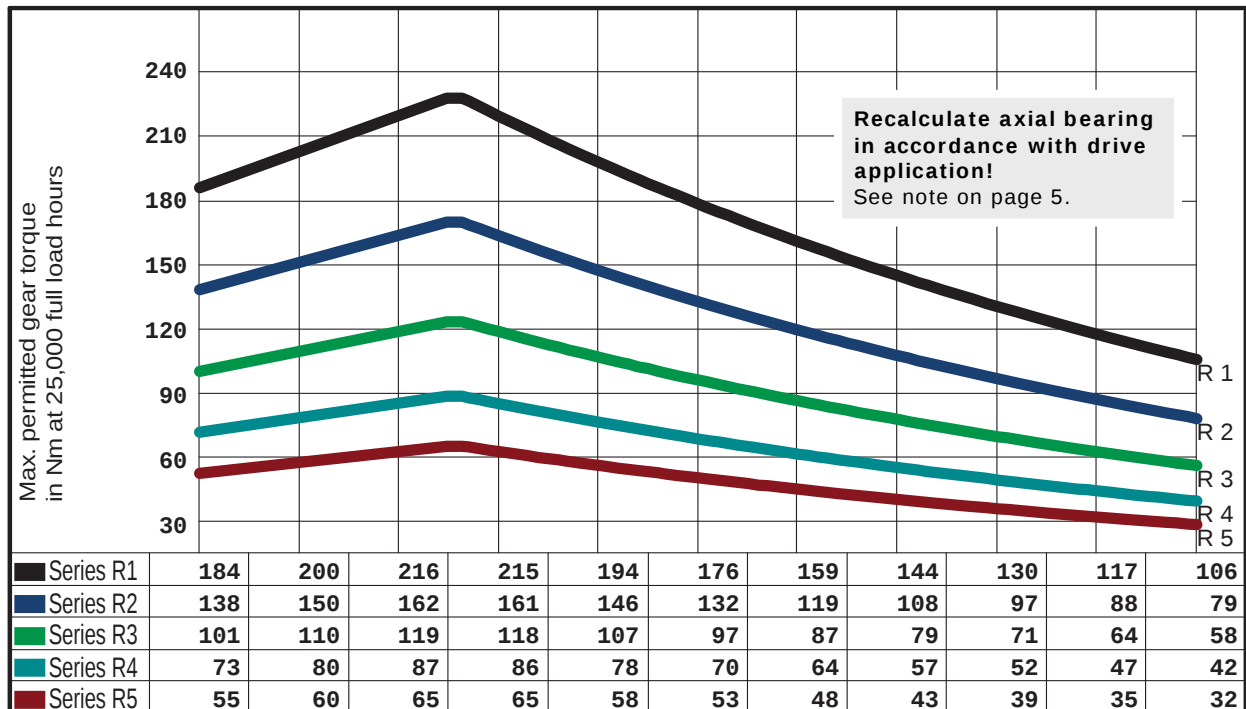
OTT worm gear				Bearing parts per gear		
OTT no.	Worm gear	Shank worm	Hollow worm	Qty	Name	Typ/Dwg no.
☐ 4849 SSR	T00407-G-RAO	T00237-G-SSC	T00238-G-HSC	2	AXIAL CYLINDER ROLLER BEARING	K812 06 TV
☐ 4866 SSR	T00408-G-RAO	T00239-G-SSC	T00240-G-HSC	2	RADIAL NEEDLE BEARING	RNAO 40x50x17
☐ 4859 SSR	T00409-G-RAO	T00241-G-SSC	T00242-G-HSC	2	SHAFT SEAL	30x40x5
☐ 4830 SSR	T00410-G-RAO	T00243-G-SSC	T00244-G-HSC	1	SHRINK DISC	HSD 24-22
☐ 4812 SSR	T00411-G-RAO	T00245-G-SSC	T00246-G-HSC	4	CIRCLIP	SB 50
☐ 4831 SSR	T00412-G-RAO	T00247-G-SSC	T00248-G-HSC	20	CYLINDER BOLT DIN 912	M4x16 - 10.9
				20	CYLINDER BOLT DIN 912	M5x45 - 8.8
				1	CYLINDER BOLT DIN 912	M5x25 - 8.8
				1	RETAINER RING DIN 472	19
				2	BEARING SLEEVE	T00220-G-LHÜ
☐ REQUEST	Date:	Name:		2	AXIAL BEARING WASHER	T00231-G-LDX
☐ ORDER				1	COVER	T00214-G-ADH
				1	THRUST PIECE	B00007-G-DST

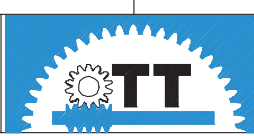


- Order using set of OTT worm gears
- ☐ Gearset incl. thrust piece without bearing parts
- ☐ Gearset incl. all bearing parts

Operational characteristics

Centre distance	67.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4849 SSR
Outer Ø worm	44.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	105.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	38.90 mm	
No. teeth, gear	36	Lead angle at Bks	3.7522 °	

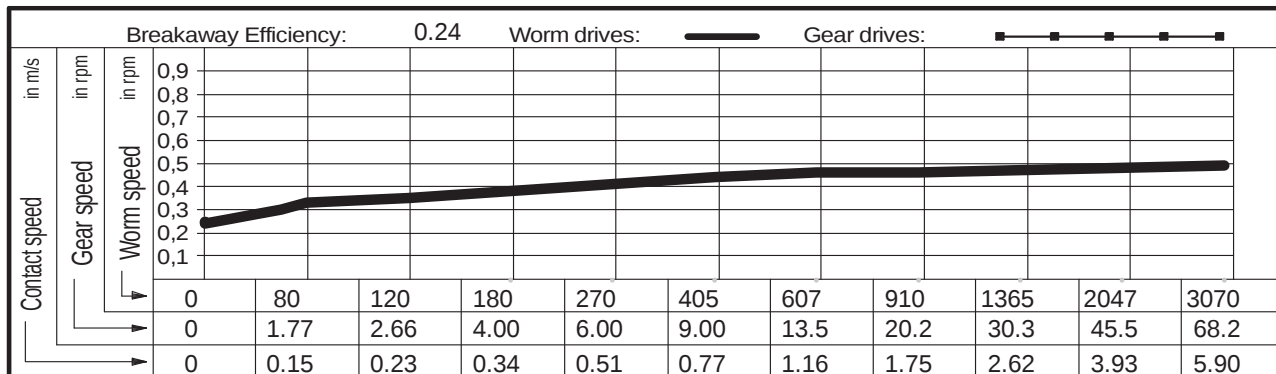
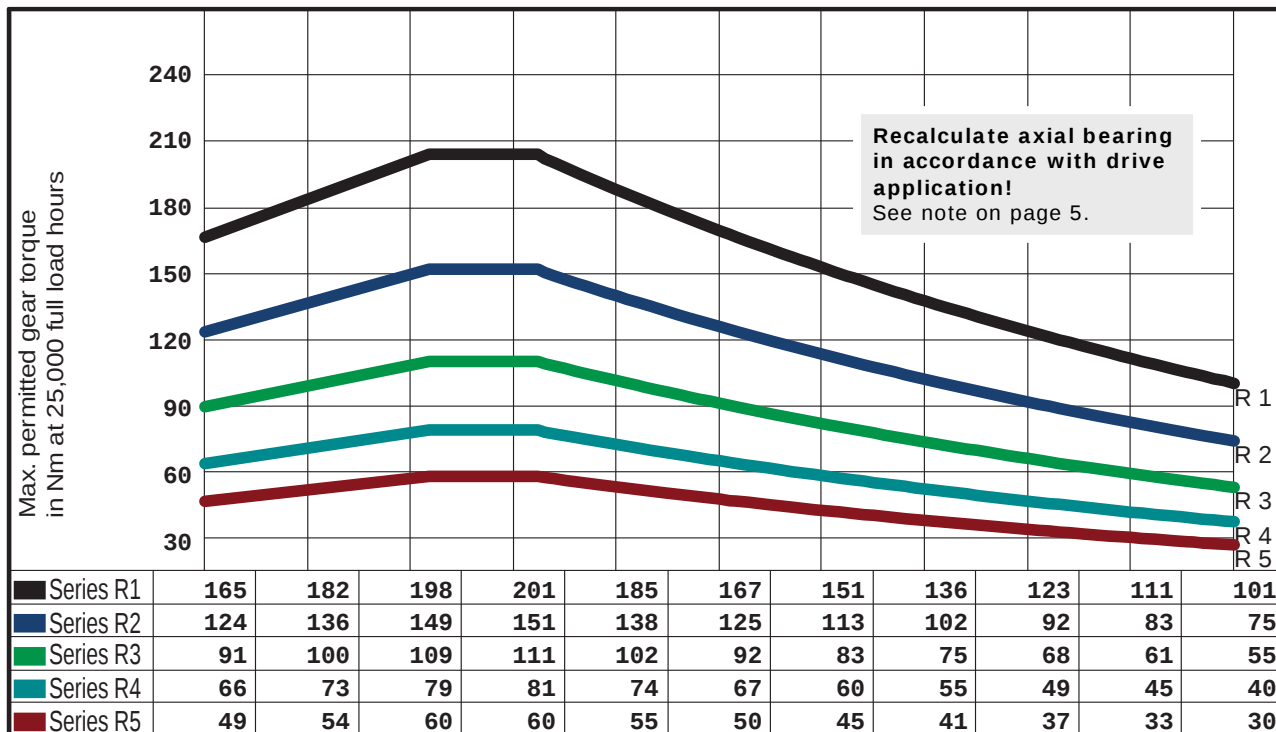


Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de		

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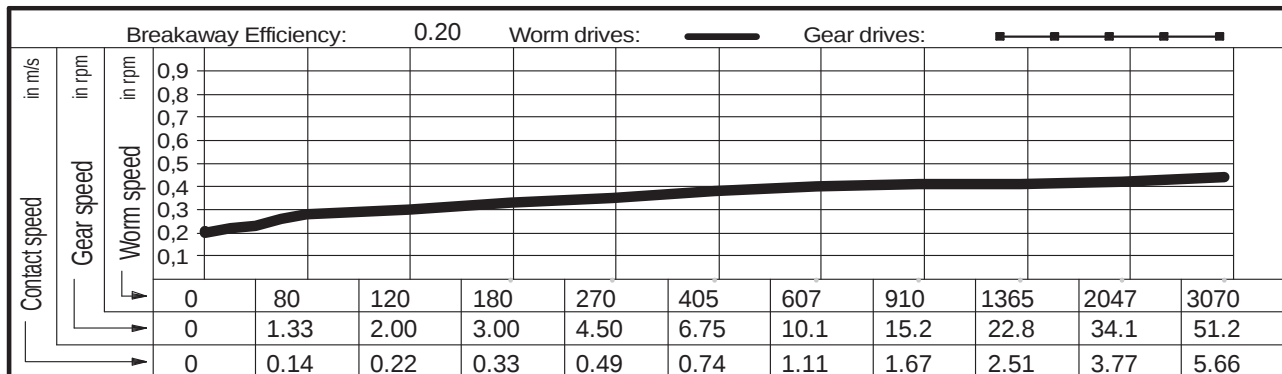
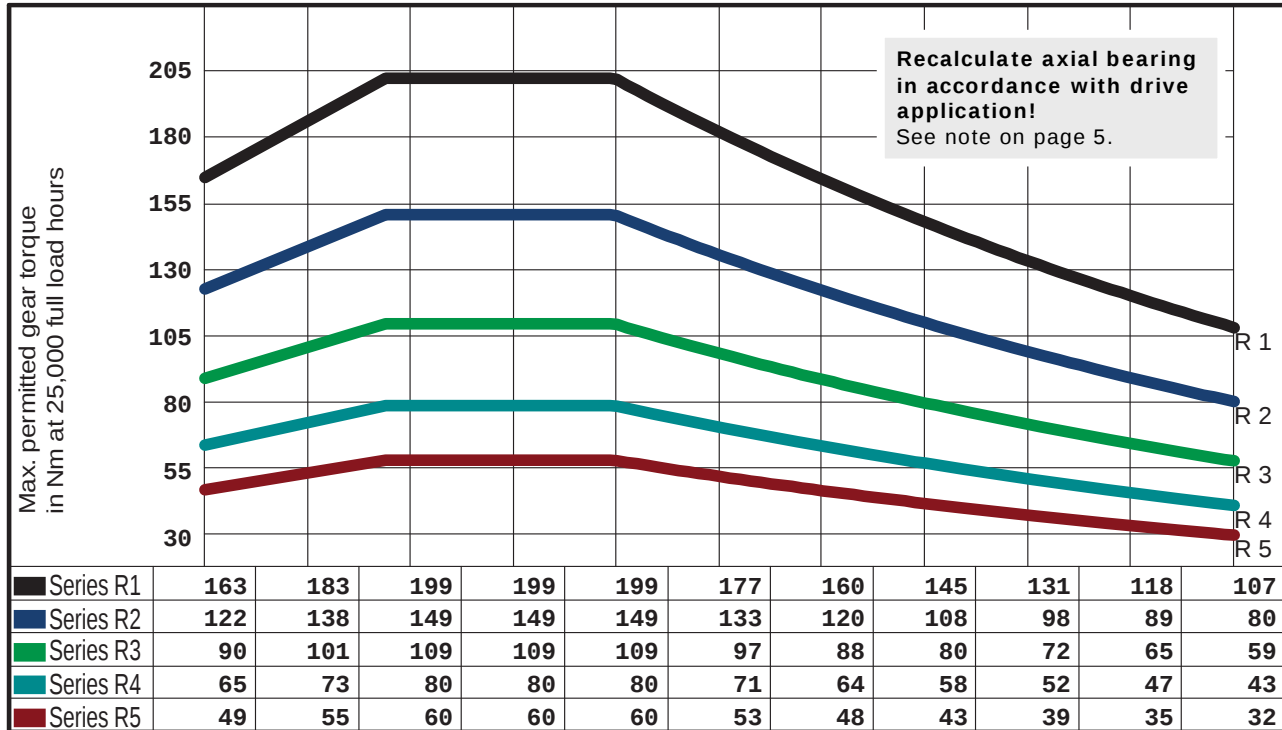


Centre distance	67.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4866 SSR
Outer Ø worm	41.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	105.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	36.68 mm	
No. teeth, gear	45	Lead angle at Bks	3.2778 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions. CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de 		

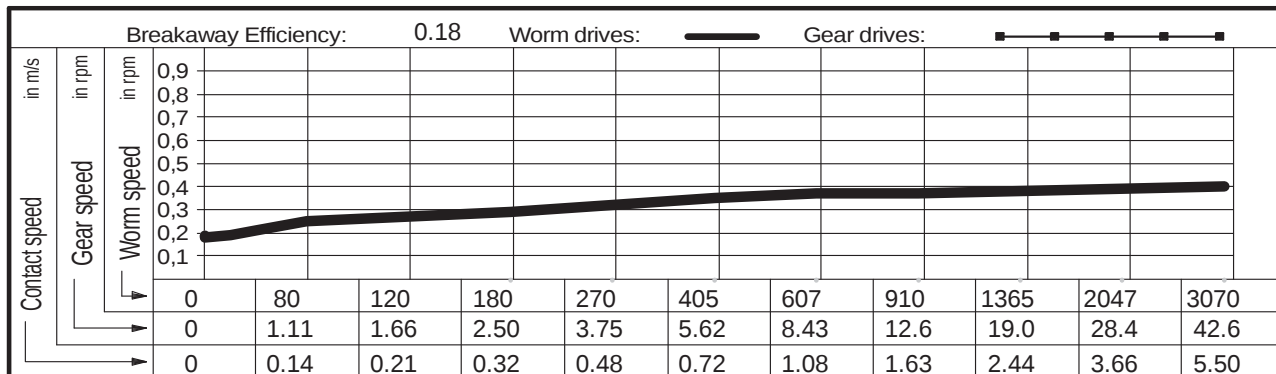
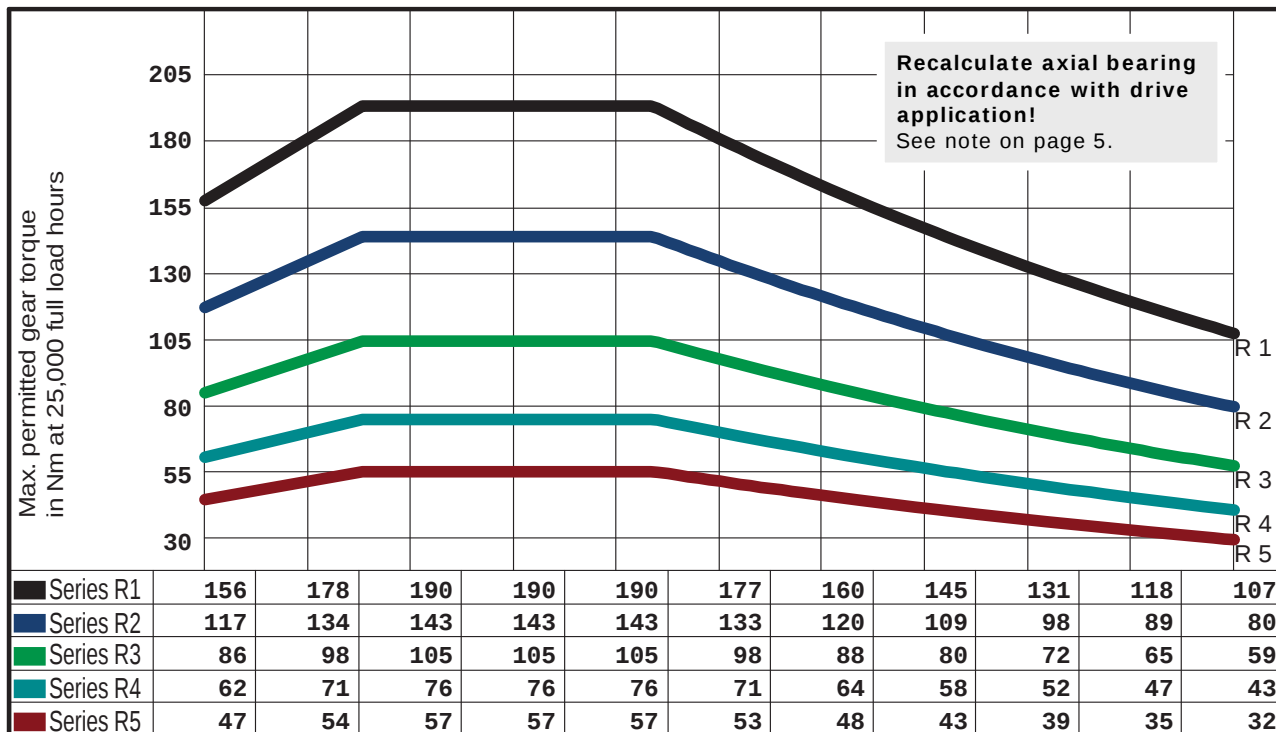
Centre distance	67.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4859 SSR
Outer Ø worm	38.80 mm	Material, worm	31CrMoV9	
Outer Ø gear	105.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	35.18 mm	
No. teeth, gear	60	Lead angle at Bks	2.6142 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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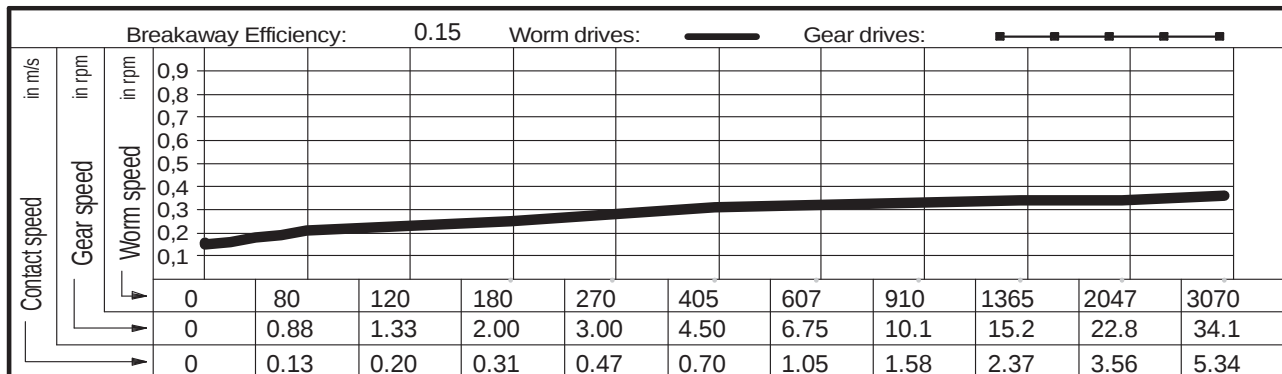
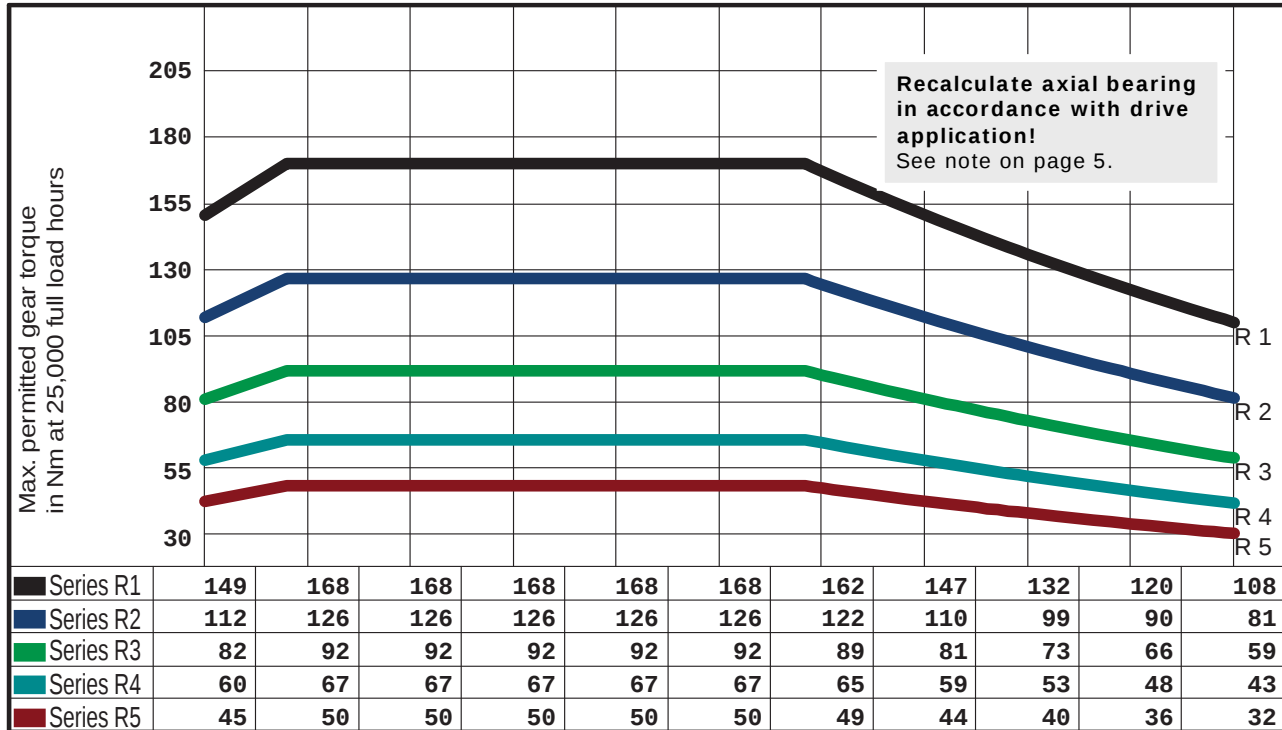


Centre distance	67.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4830 SSR
Outer Ø worm	37.40 mm	Material, worm	31CrMoV9	
Outer Ø gear	105.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	34.21 mm	
No. teeth, gear	72	Lead angle at Bks	2.2689 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de 		

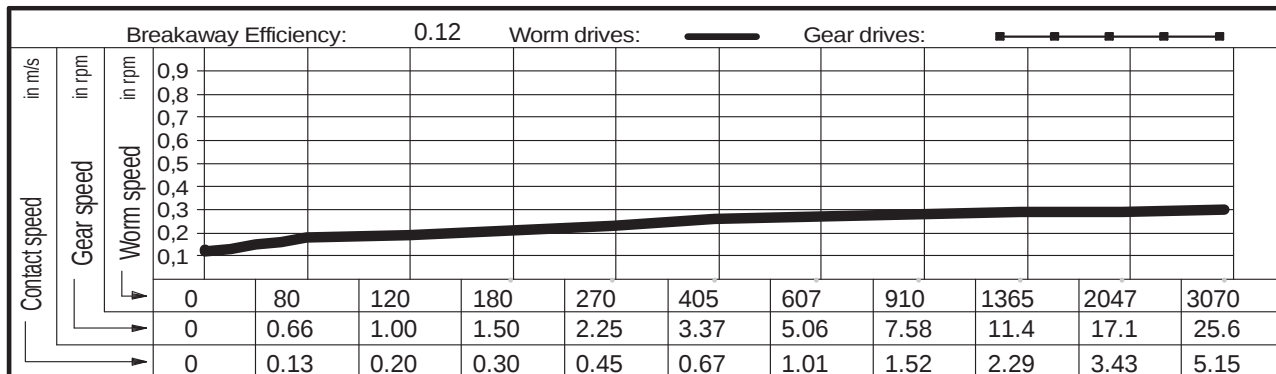
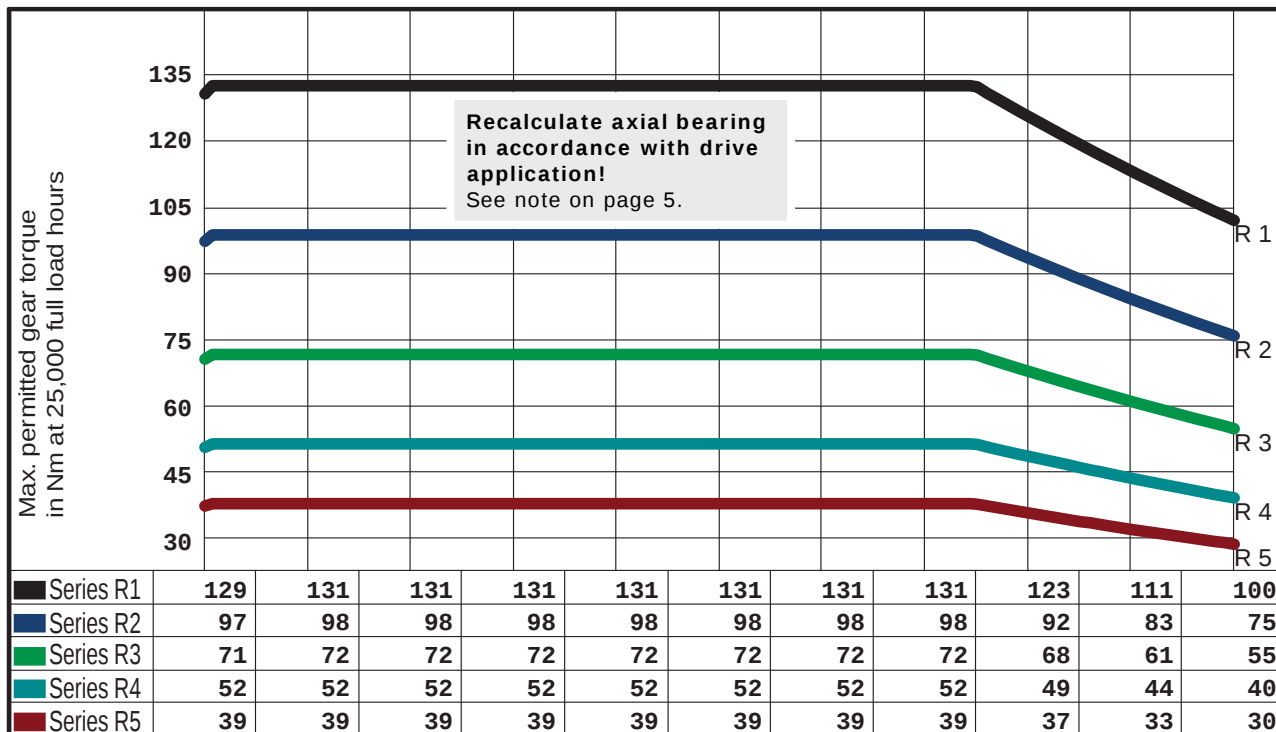
Centre distance	67.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4812 SSR
Outer Ø worm	36.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	105.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	33.26 mm	
No. teeth, gear	90	Lead angle at Bks	1.8904 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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Centre distance	67.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4831 SSR
Outer Ø worm	34.20 mm	Material, worm	31CrMoV9	
Outer Ø gear	105.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	32.04 mm	
No. teeth, gear	120	Lead angle at Bks	1.4958 °	

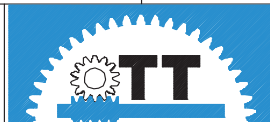


Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de		

Zahnradfertigung OTT

Blöhsteinstraße 20
 D-72411 Bodelshausen
 www.zahnrad-ott.de

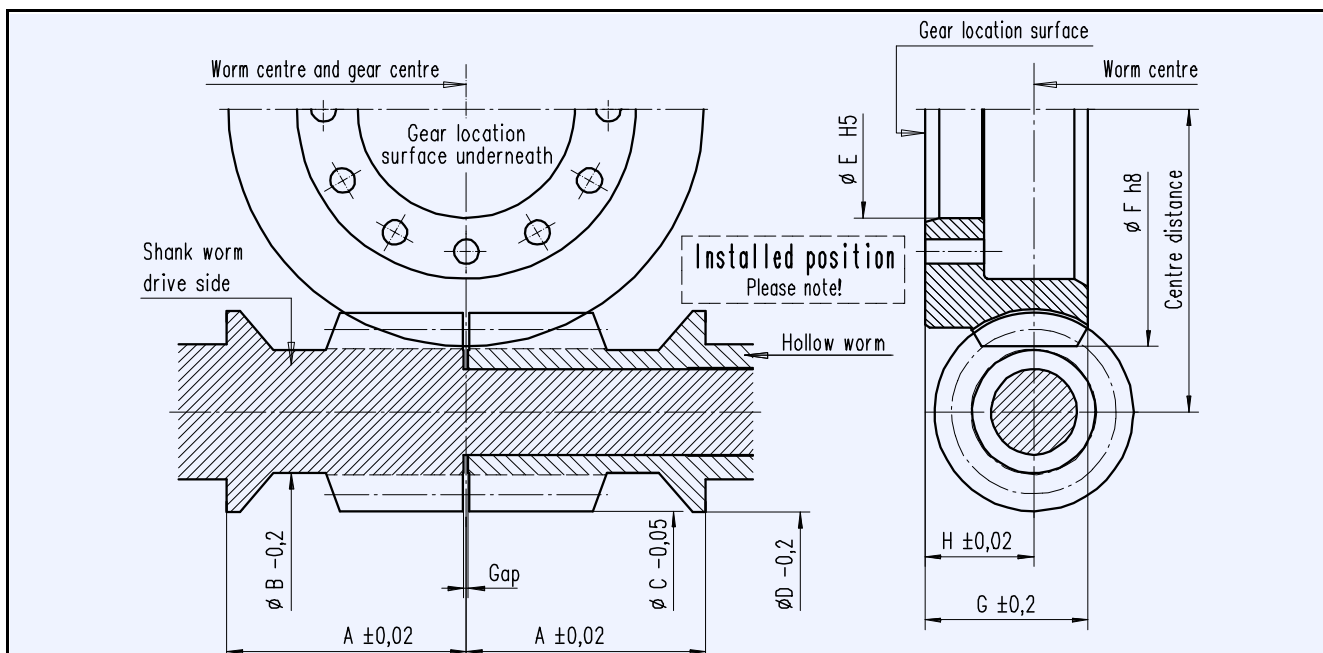
Tel. 07471 - 705 0
 Fax. 07471 - 705 39
 Email. Info@zahnrad-ott.de



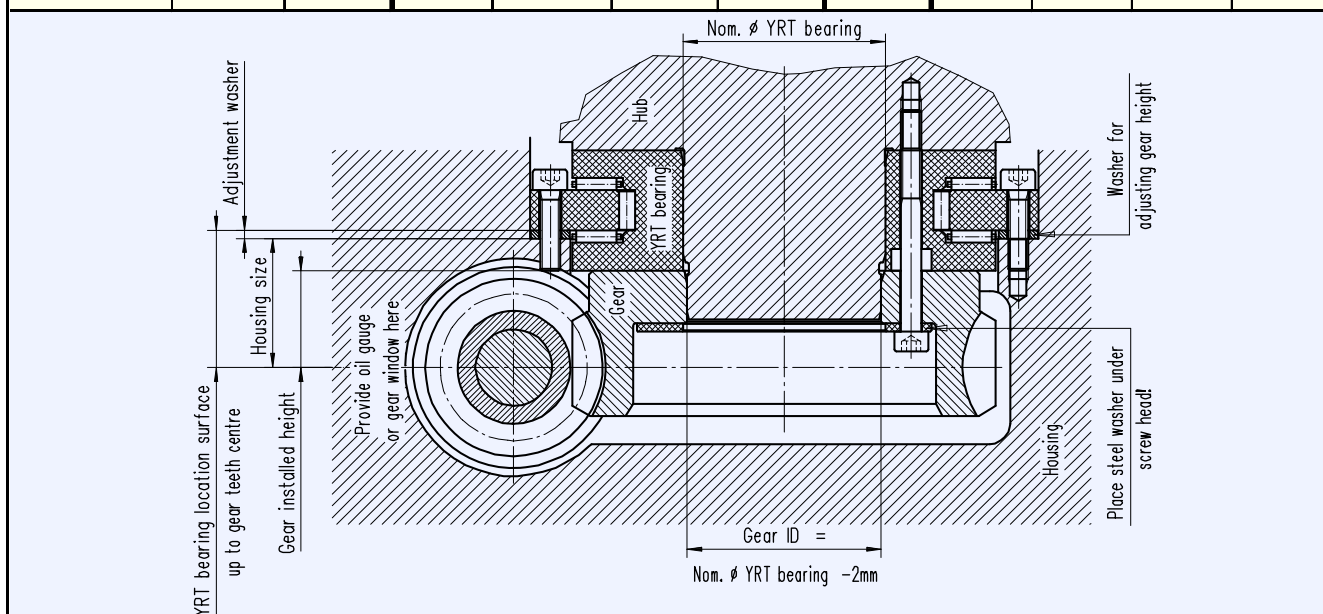


OTT worm gears - centre distance 75 mm

Main dimensions



OTT gear no.	Ratio		Worm				YRT gear bearing	Gear			
	No. starts Z1	No. teeth Z2	Distance A	Undercut ϕ B	Head ϕ C	Collar ϕ D		Internal ϕ E	Head ϕ F	Width G	Height H
4863 SSR	2	60	47	28,7	41,2	44,6	60 See comments page 5!	58	120	37	25
5422 SSR	2	72		28,9	39,6						
4885 SSR	2	90		29,1	38,0						
4871 SSR	1	60		28,7	41,2						
4872 SSR	1	72		28,9	39,6						
4873 SSR	1	90		29,1	38,0						
4813 SSR	1	120		29,3	35,8						

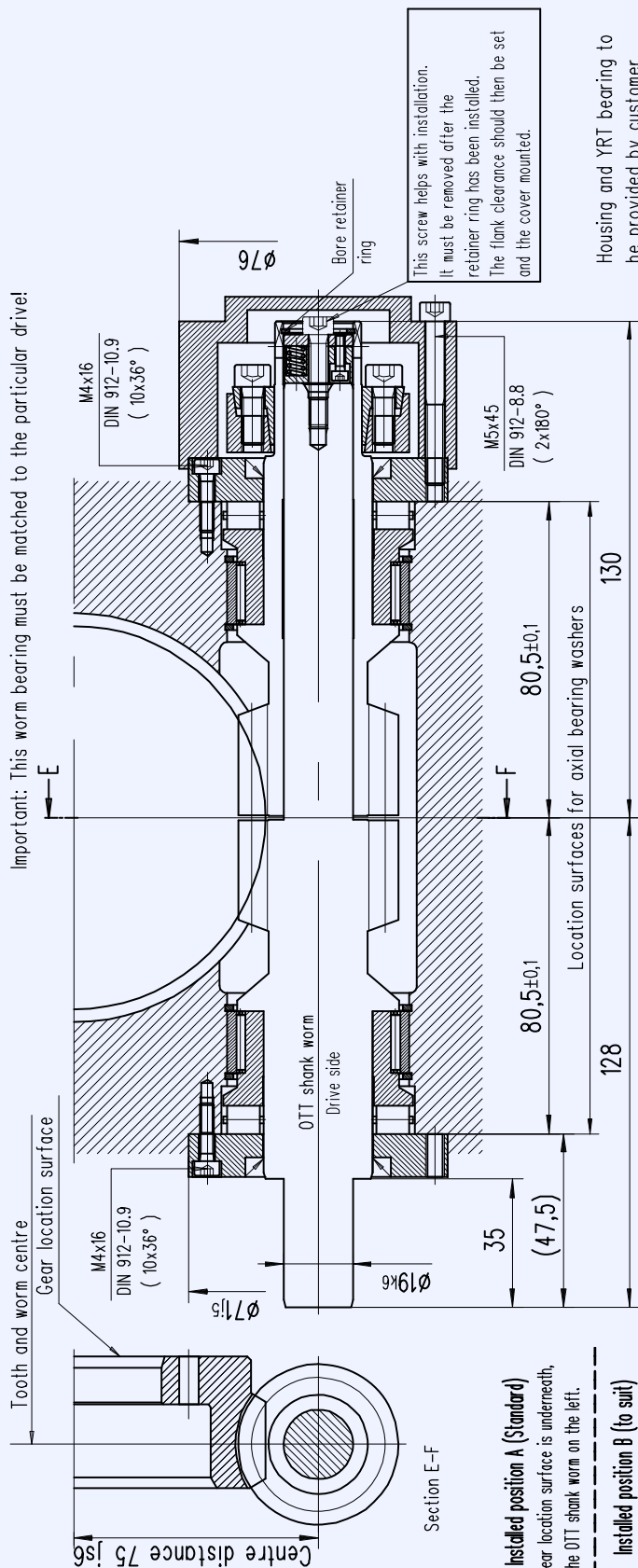


Required internal contour of gear housing for centre distance 75 mm



Worm bearings

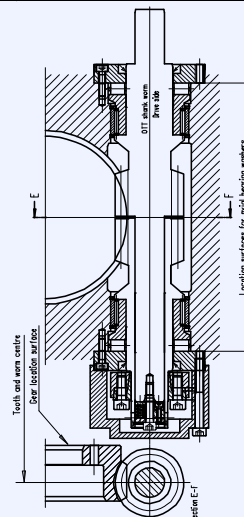
Worm bearing for centre distance 75 mm

☐ Installed position A (Standard)

The gear location surface is underneath, the OTT shank worm on the left.

☐ Installed position B (to suit)

The gear location surface is underneath, the OTT shank worm on the right.



Order using set of OTT worm gears

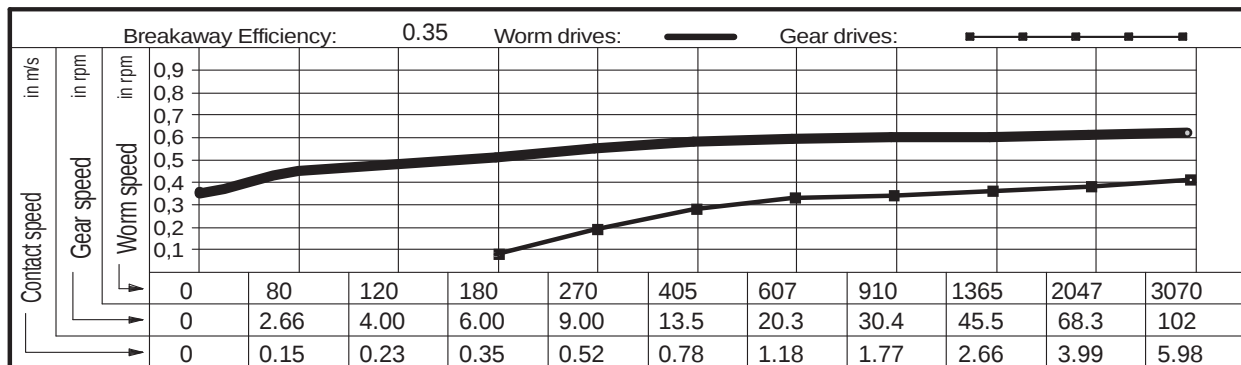
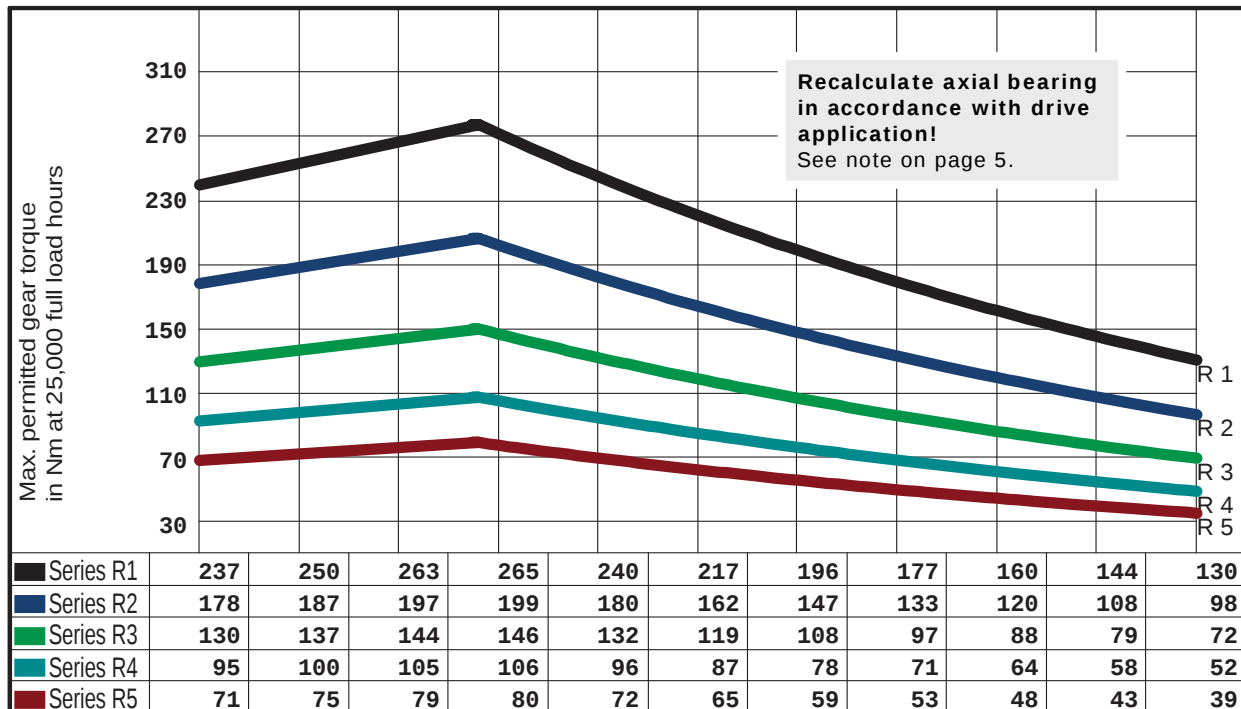
☐ Gearset incl. thrust piece without bearing parts

☐ Gearset incl. all bearing parts

OTT worm gear				Bearing parts per gear		
OTT no.	Worm gear	Shank worm	Hollow worm	Q'ty	Name	Typ/Dwg no.
☐ 4863 SSR	T00413-G-RAO	T00249-G-SSC	T00250-G-HSC	2	AXIAL CYLINDER ROLLER BEARING	K812 06 TV
☐ 5422 SSR	T00414-G-RAO	T00251-G-SSC	T00252-G-HSC	2	RADIAL NEEDLE BEARING	RNAO 40x50x17
☐ 4885 SSR	T00415-G-RAO	T00253-G-SSC	T00254-G-HSC	2	SHAFT SEAL	30x40x5
☐ 4871 SSR	T00416-G-RAO	T00255-G-SSC	T00256-G-HSC	1	SHRINK DISC	HSD 24-22
☐ 4872 SSR	T00417-G-RAO	T00257-G-SSC	T00258-G-HSC	4	CIRCLIP	SB 50
☐ 4873 SSR	T00418-G-RAO	T00259-G-SSC	T00260-G-HSC	20	CYLINDER BOLT DIN 912	M4x16 - 10.9
☐ 4813 SSR	T00419-G-RAO	T00261-G-SSC	T00262-G-HSC	2	CYLINDER BOLT DIN 912	M5x45 - 8.8
				1	CYLINDER BOLT DIN 912	M5x25 - 8.8
				1	RETAINER RING DIN 472	19
				2	BEARING SLEEVE	T00220-G-LHÜ
☐ REQUEST	Date:	Name:		2	AXIAL BEARING WASHER	T00231-G-LDX
☐ ORDER				1	COVER	T00214-G-ADH
				1	THRUST PLECE	B00007-G-DST

Operational characteristics

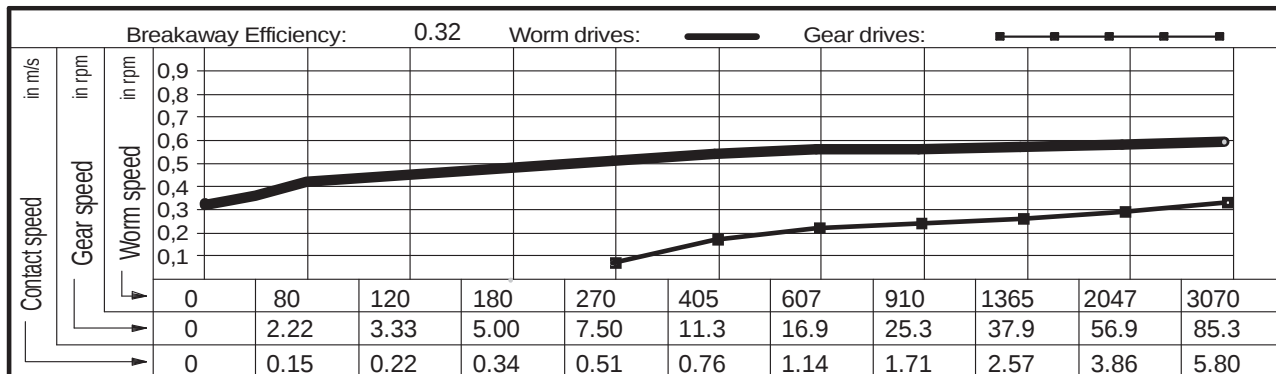
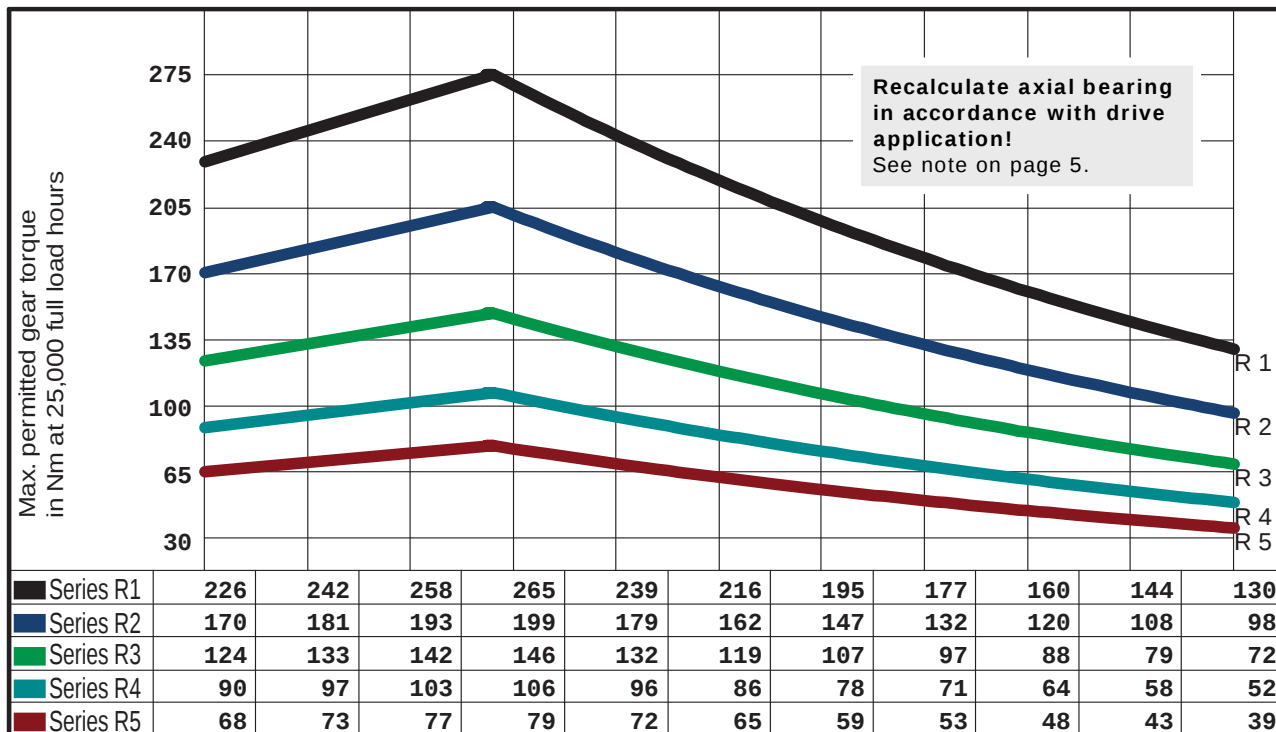
Centre distance	75.00	mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4863 SSR
Outer Ø worm	41.20	mm	Material, worm	31CrMoV9	
Outer Ø gear	120.00	mm	Pressure angle in NS	10 °	
No. starts, worm	2		Back angle in NS	20 °	
Worm direction	right		Calculated circle Ø	37.06	
No. teeth, gear	60		Lead angle at Bks	5.6576 °	



Gear selection by load type and application				Lubricant: Synthetic oil
Series R1 	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 	a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	
Series R2 	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 	a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions	
Series R3 	a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions. CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de		
				

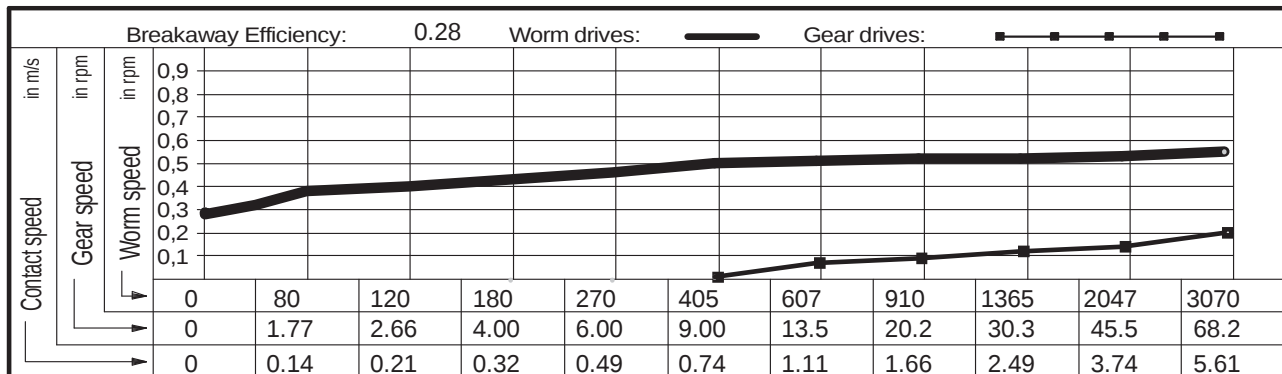
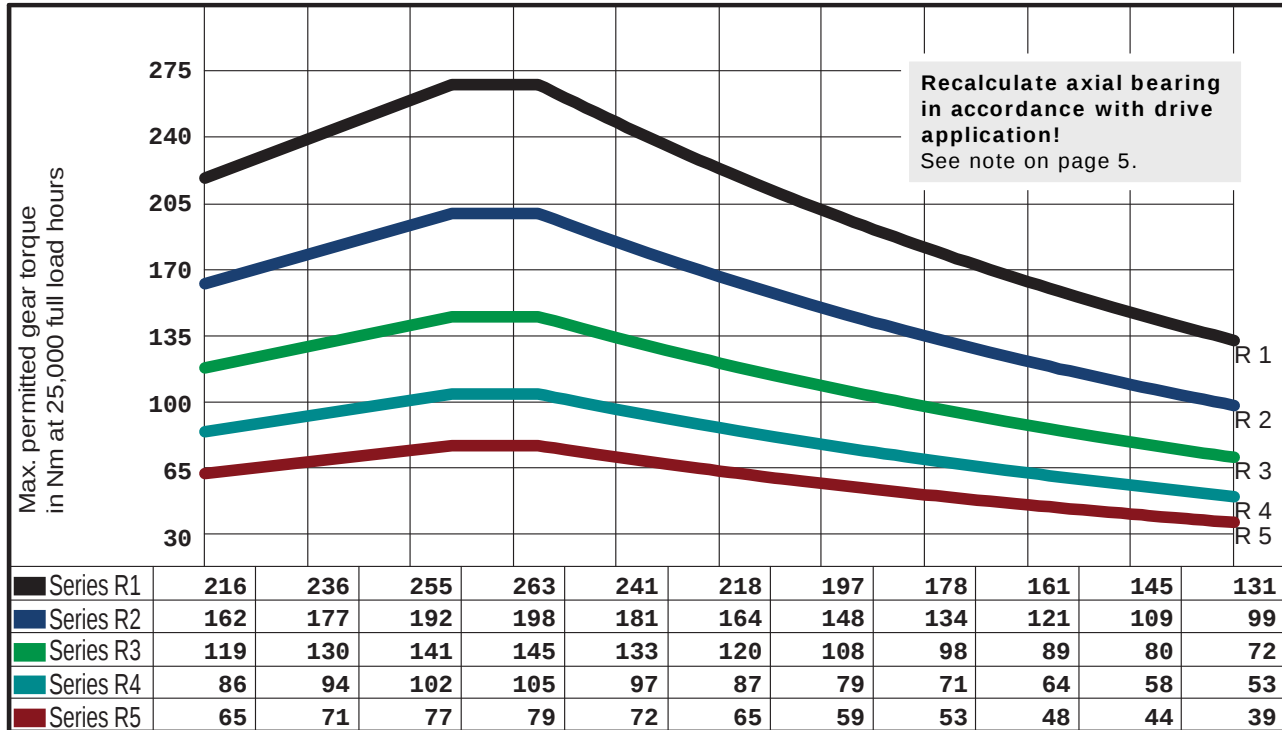


Centre distance	75.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 5422 SSR
Outer Ø worm	39.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	120.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	35.95 mm	
No. teeth, gear	72	Lead angle at Bks	4.9252 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de		

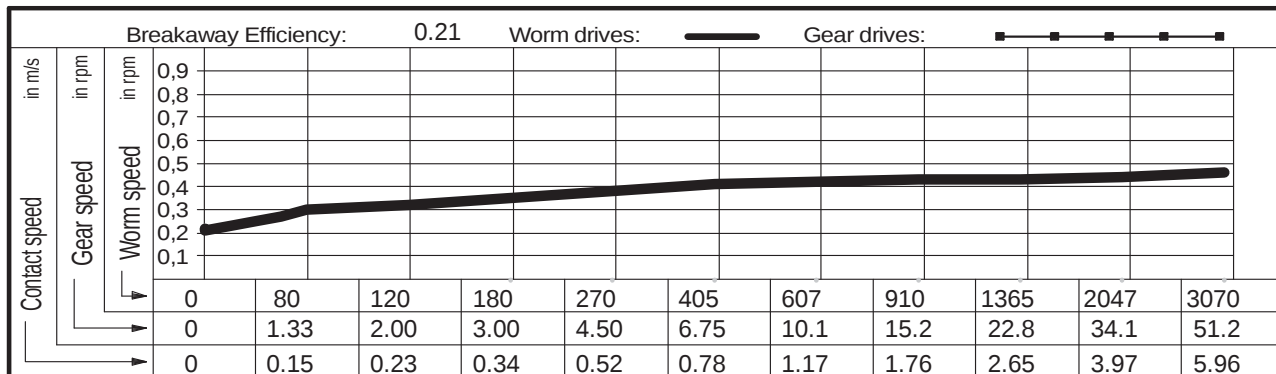
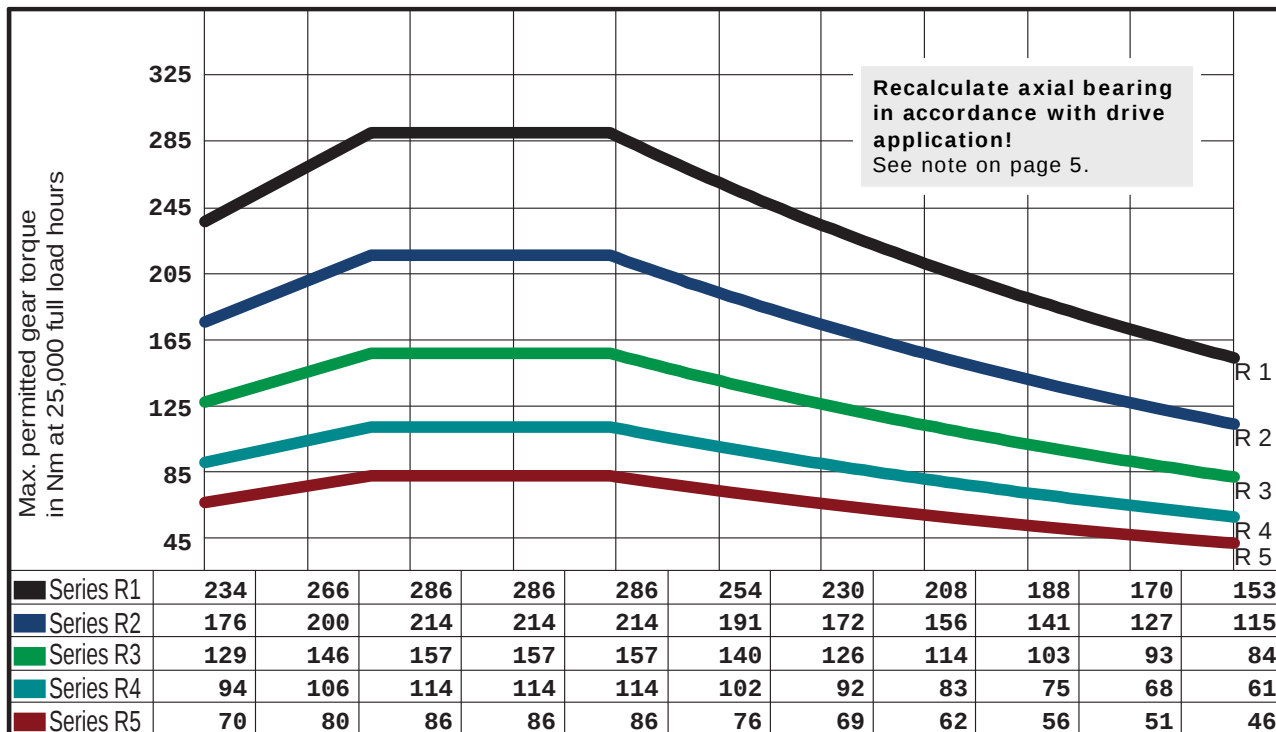
Centre distance	75.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4885 SSR
Outer Ø worm	38.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	120.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	34.87 mm	
No. teeth, gear	90	Lead angle at Bks	4.1160 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions, Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de			

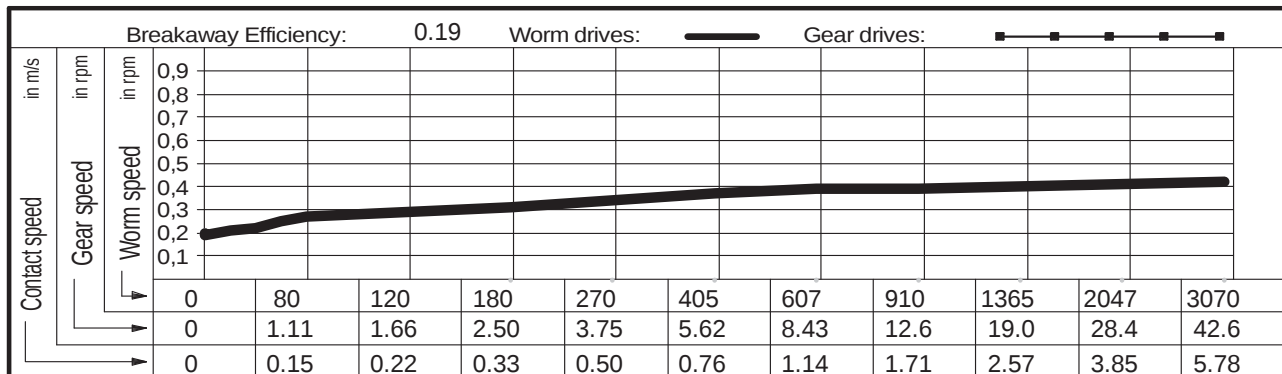
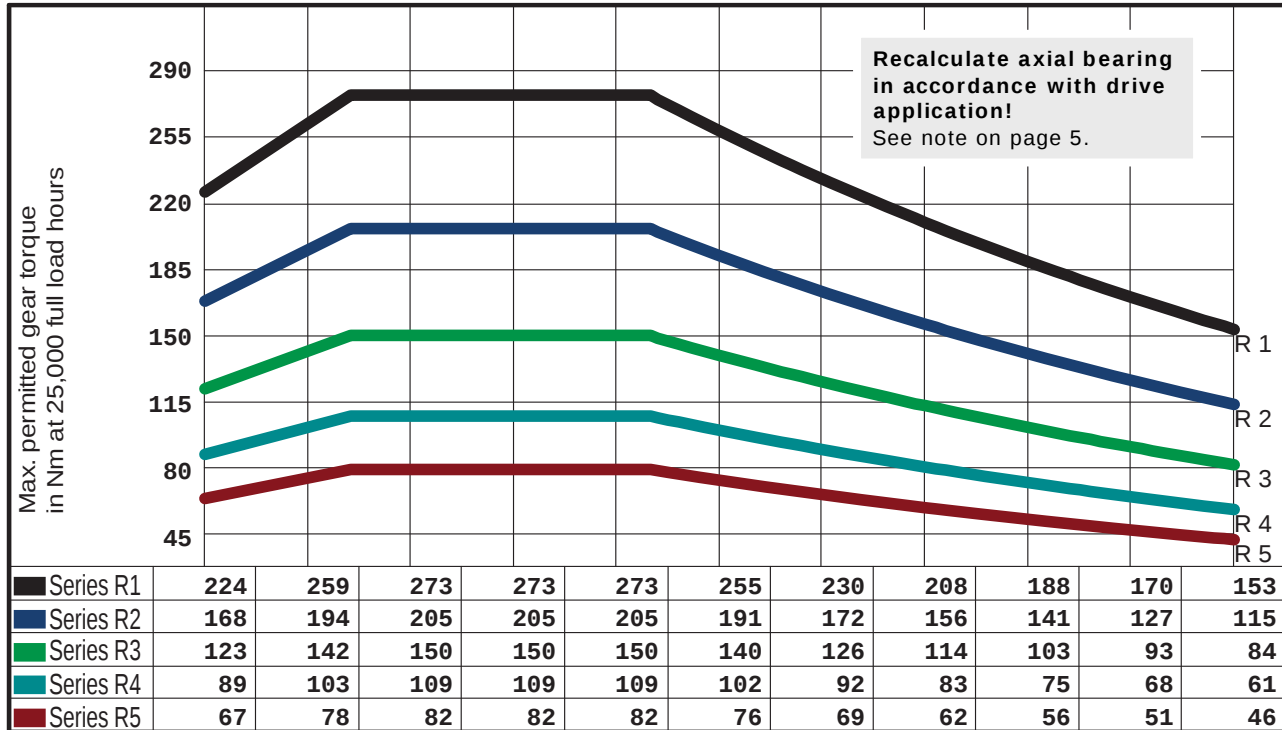


Centre distance	75.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4871 SSR
Outer Ø worm	41.20 mm	Material, worm	31CrMoV9	
Outer Ø gear	120.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	37.06 mm	
No. teeth, gear	60	Lead angle at Bks	2.8352 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles
			Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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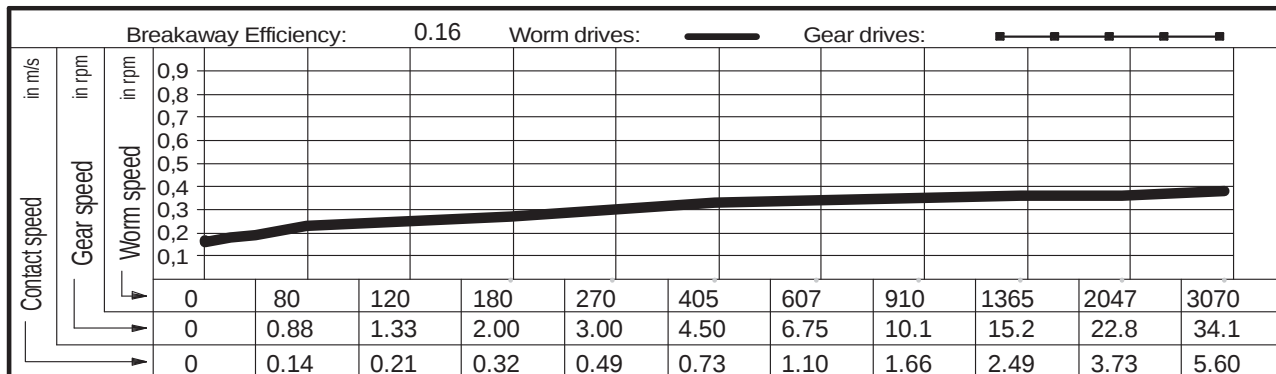
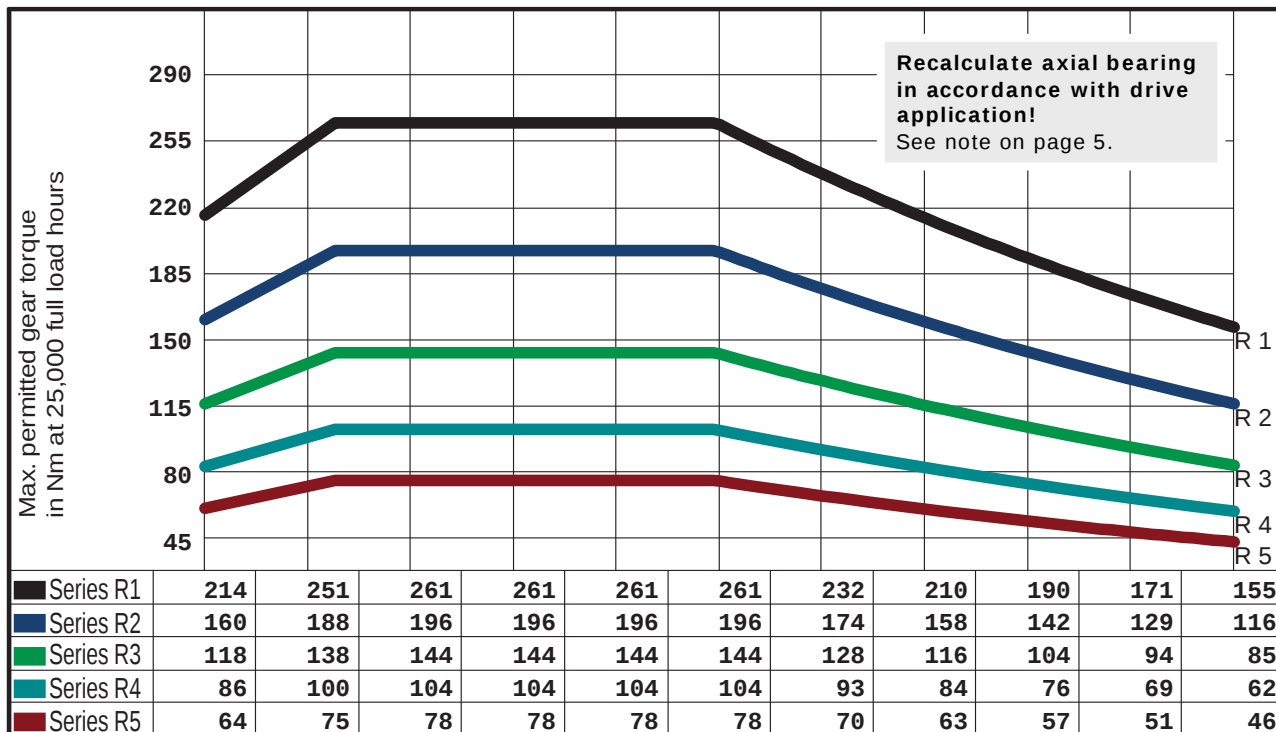
Centre distance	75.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4872 SSR
Outer Ø worm	39.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	120.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	35.96 mm	
No. teeth, gear	72	Lead angle at Bks	2.4669 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de			

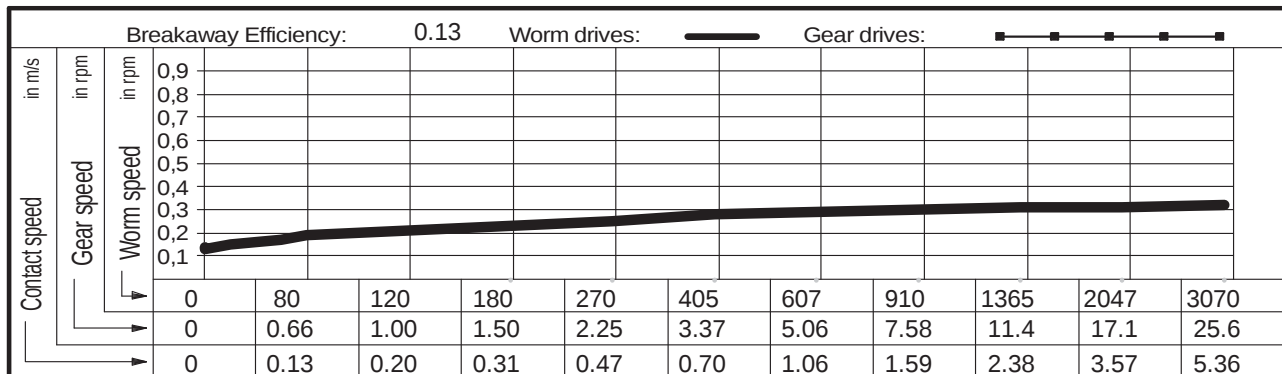
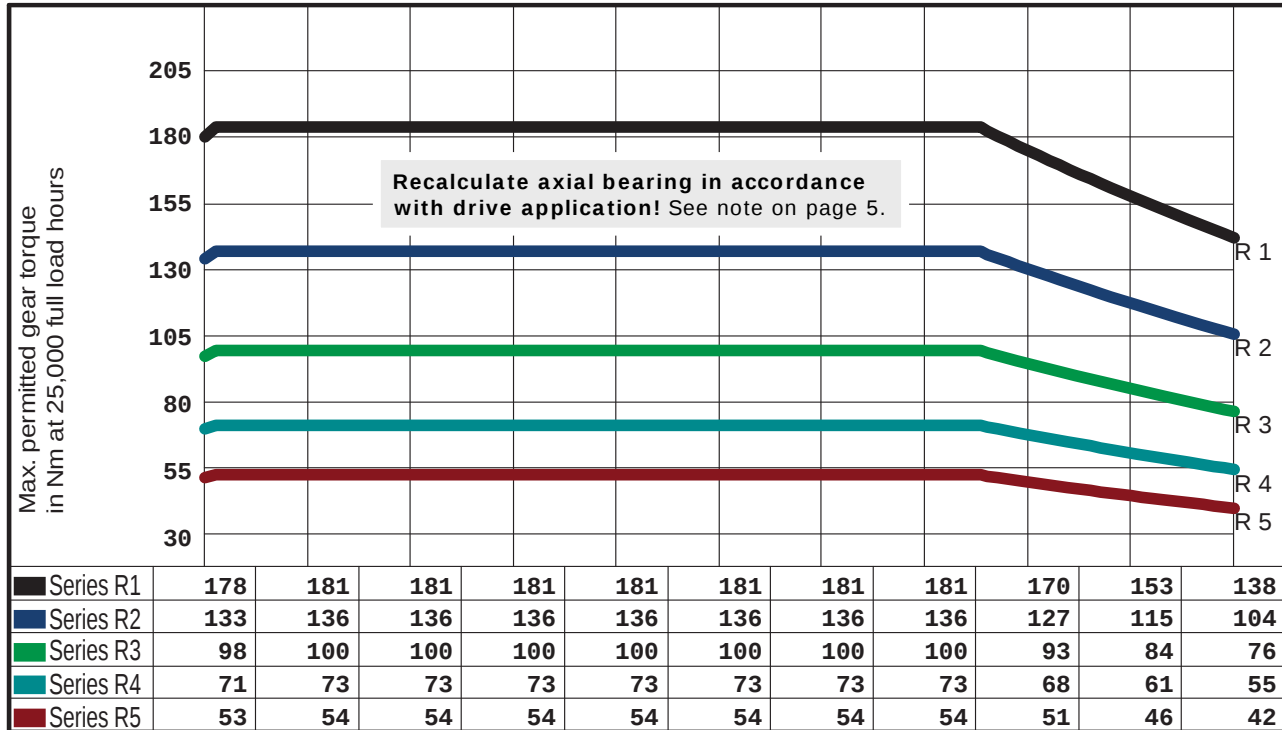


Centre distance	75.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4873 SSR
Outer Ø worm	38.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	120.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	34.87 mm	
No. teeth, gear	90	Lead angle at Bks	2.0605 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de 		

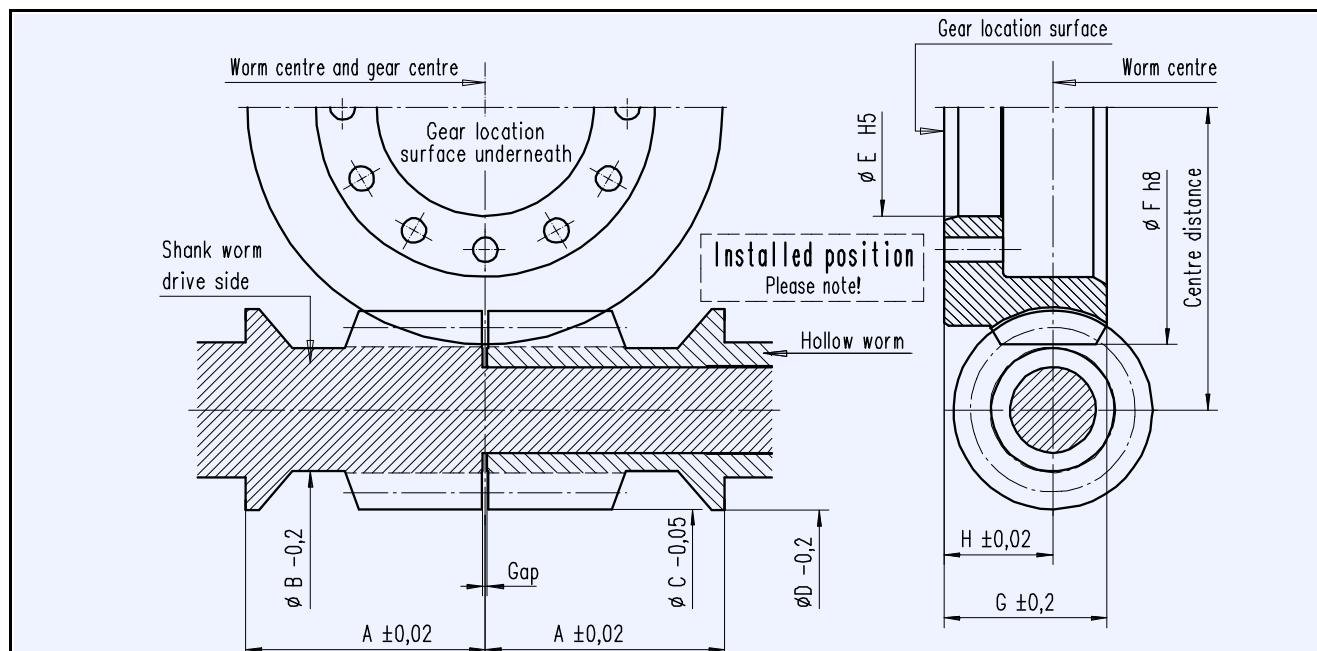
Centre distance	75.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4813 SSR
Outer Ø worm	35.80 mm	Material, worm	31CrMoV9	
Outer Ø gear	120.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	33.36 mm	
No. teeth, gear	120	Lead angle at Bks	1.6439 °	



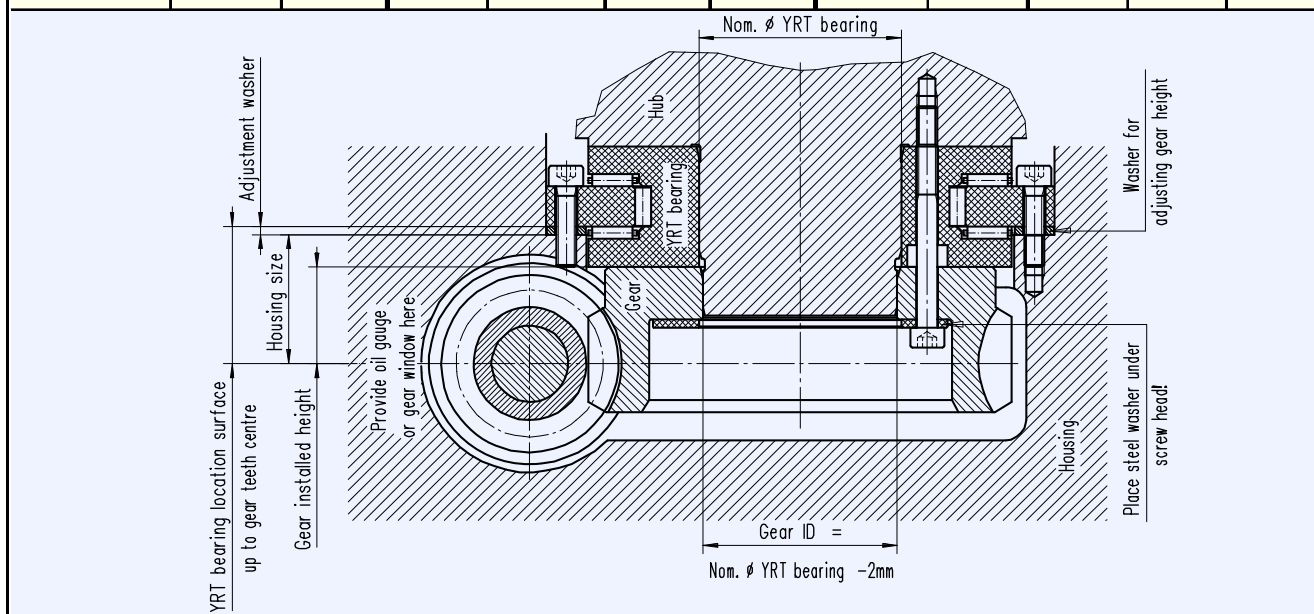
Gear selection by load type and application			Lubricant: Synthetic oil
Series R1	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes)	Series R4	
Application:	Measurement and test machinery drives, CNC axes	Application:	
Series R2	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes)	Series R5	
Application:	Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Application:	
Series R3	a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes)	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de	
Application:	Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes		

OTT worm gears - centre distance 82 mm

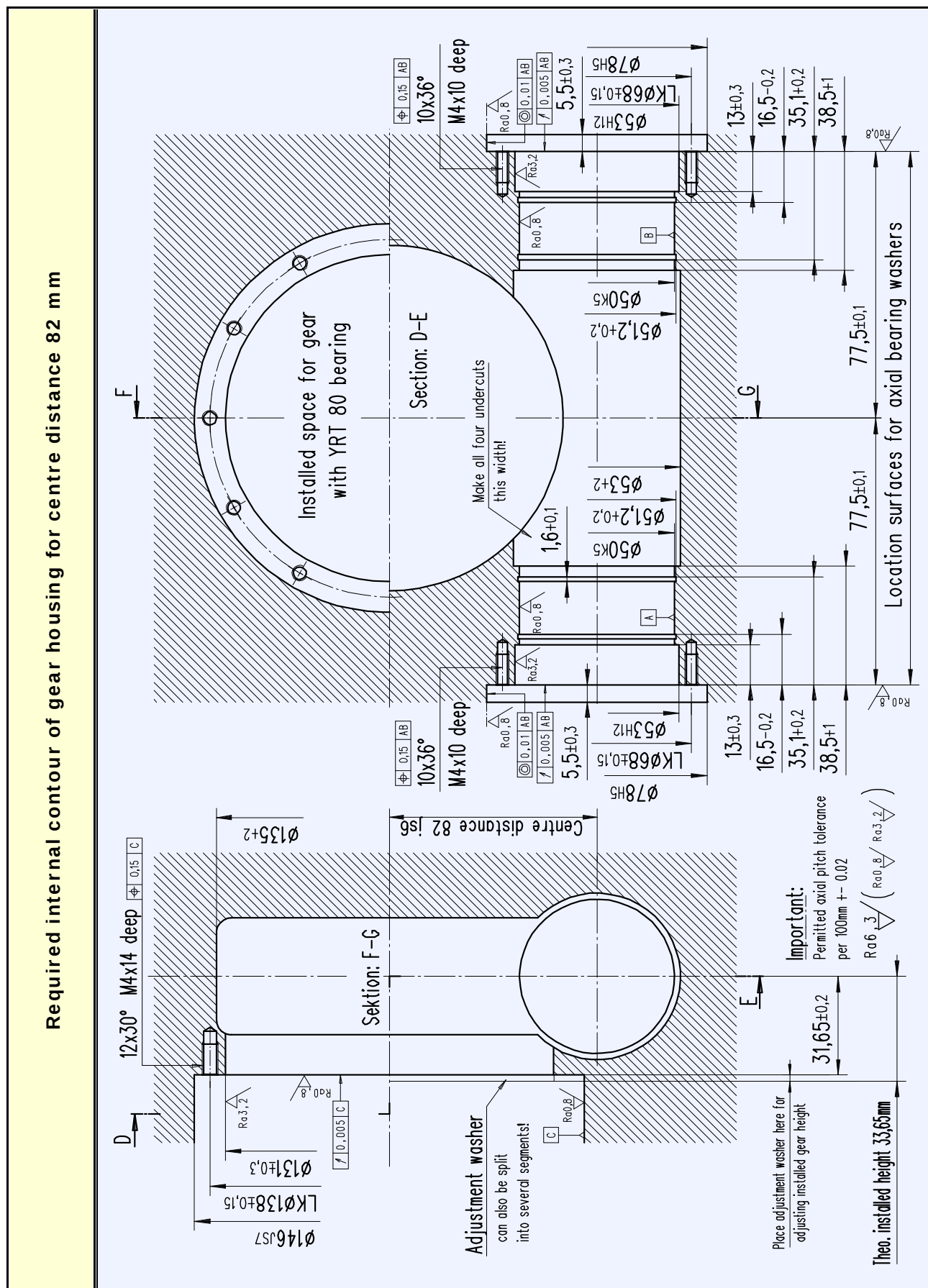
Main dimensions



OTT gear no.	Ratio		Worm				YRT gear bearing	Gear			
	No. starts Z1	No. teeth Z2	Distance A	Undercut ϕ B	Head ϕ C	Collar ϕ D		Internal ϕ E	Head ϕ F	Width G	Height H
4801 SSR	6	66	44	32,7	44,6	44,6	80 See comments page 5!	78	130	35	22
2833 SSR	3	72		32,8	44,4						
4835 SSR	3	90		33,0	42,6						
5266 SSR	2	72		32,8	44,4						
4884 SSR	2	90		33,0	42,6						
4824 SSR	1	72		32,8	44,4						
2735 SSR	1	90		33,0	42,8						
4833 SSR	1	120		33,2	40,8						

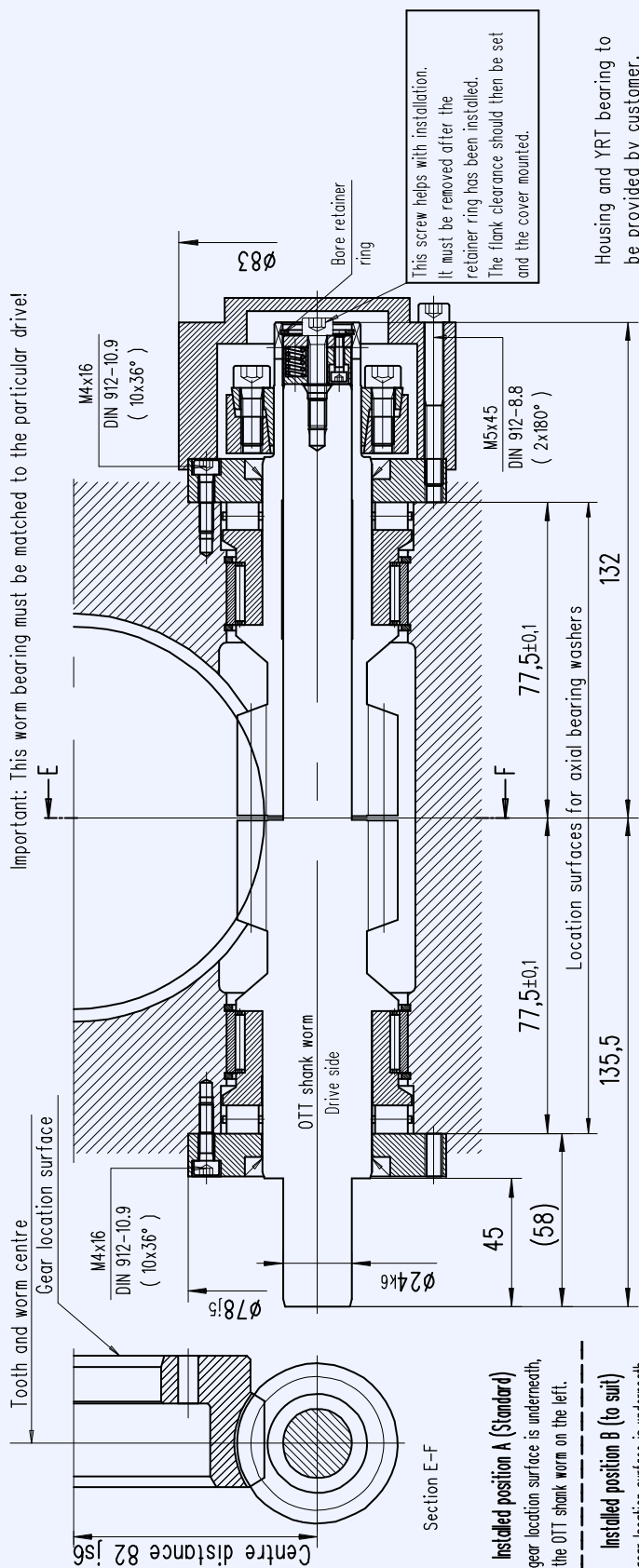


Gear housing - required internal contour



Worm bearings

Worm bearing for centre distance 82 mm

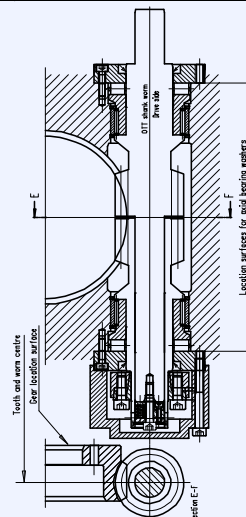
☐ Installed position A (Standard)

The gear location surface is underneath, the OTT shank worm on the left.

☐ Installed position B (to suit)

The gear location surface is underneath, the OTT shank worm on the right.

OTT worm gear				Bearing parts per gear		
OTT no.	Worm gear	Shank worm	Hollow worm	Q'ty	Name	Typ/Dwg no.
☐ 4801 SSR	T00420-G-RAO	T00263-G-SSC	T00264-G-HSC	2	AXIAL CYLINDER ROLLER BEARING	K812.06 TV
☐ 2833 SSR	T00421-G-RAO	T00265-G-SSC	T00266-G-HSC	2	RADIAL NEEDLE BEARING	RNAO 40x50x17
☐ 4835 SSR	T00422-G-RAO	T00267-G-SSC	T00268-G-HSC	2	SHAFT SEAL	30x40x5
☐ 5266 SSR	T00423-G-RAO	T00269-G-SSC	T00270-G-HSC	1	SHRINK DISC	HSD 30-22
☐ 4884 SSR	T00424-G-RAO	T00271-G-SSC	T00272-G-HSC	4	CIRCLIP	SB 50
☐ 4824 SSR	T00425-G-RAO	T00273-G-SSC	T00274-G-HSC	20	CYLINDER BOLT DIN 912	M4x16 - 10.9
☐ 2735 SSR	T00426-G-RAO	T00275-G-SSC	T00276-G-HSC	2	CYLINDER BOLT DIN 912	M5x45 - 8.8
☐ 4833 SSR	T00427-G-RAO	T00277-G-SSC	T00278-G-HSC	1	CYLINDER BOLT DIN 912	M5x25 - 8.8
☐				1	RETAINER RING DIN 472	24
☐				2	BEARING SLEEVE	T00220-G-LHÜ
☐ REQUEST	Date:	Name:				
☐				2	AXIAL BEARING WASHER	T00232-G-LDX
☐				1	COVER	T00215-G-ADH
☐ ORDER				1	THRUST PLECE	B000008-G-DST



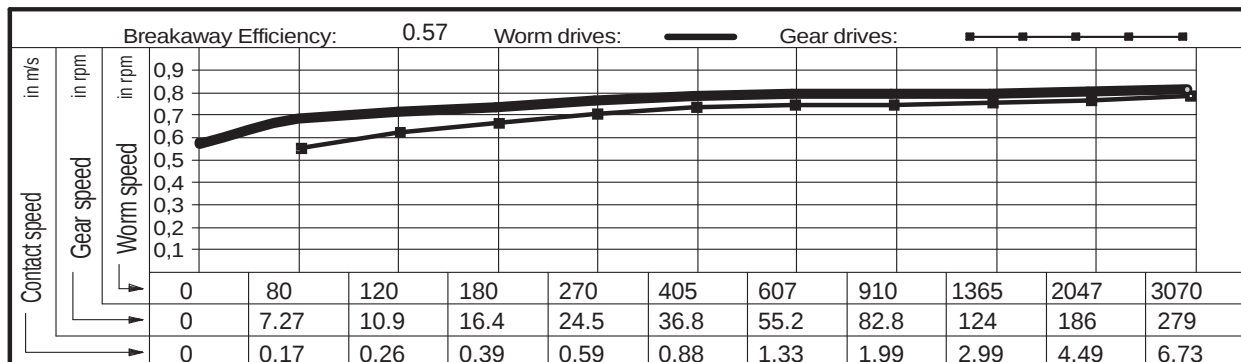
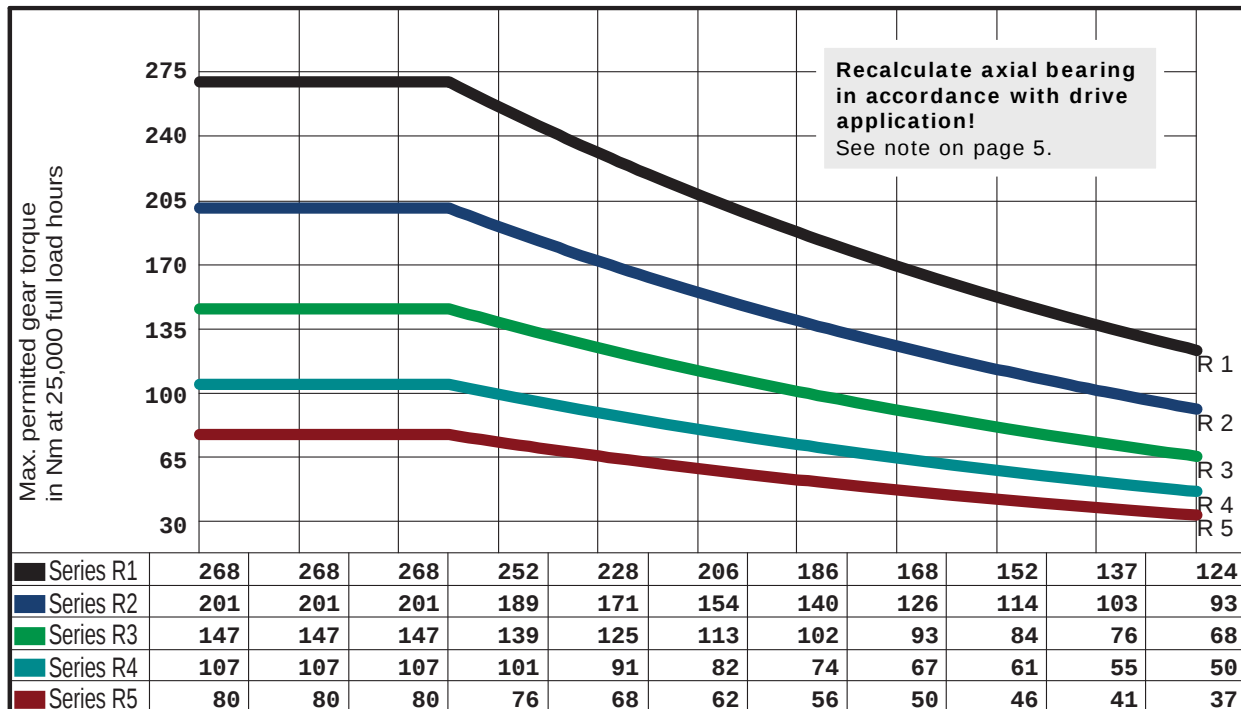
Order using set of OTT worm gears

☐ Gearset incl. thrust piece without bearing parts

☐ Gearset incl. all bearing parts

Operational characteristics

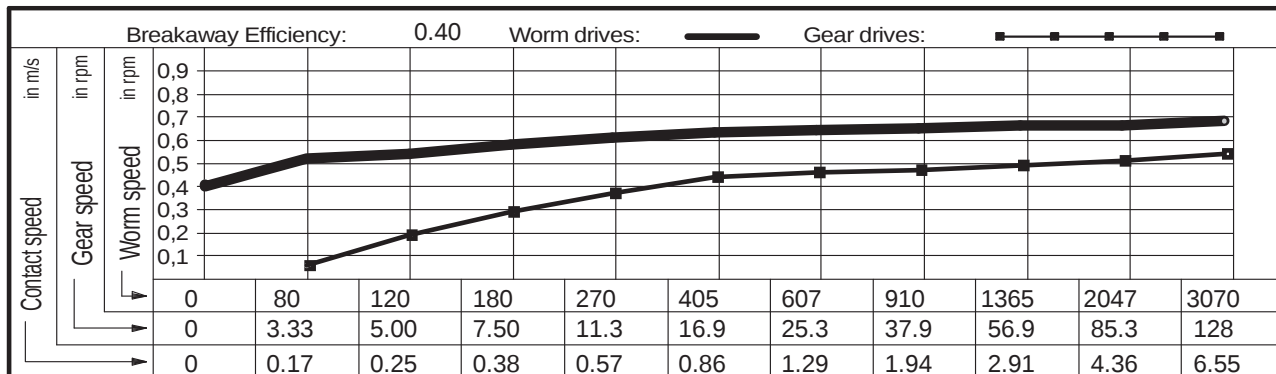
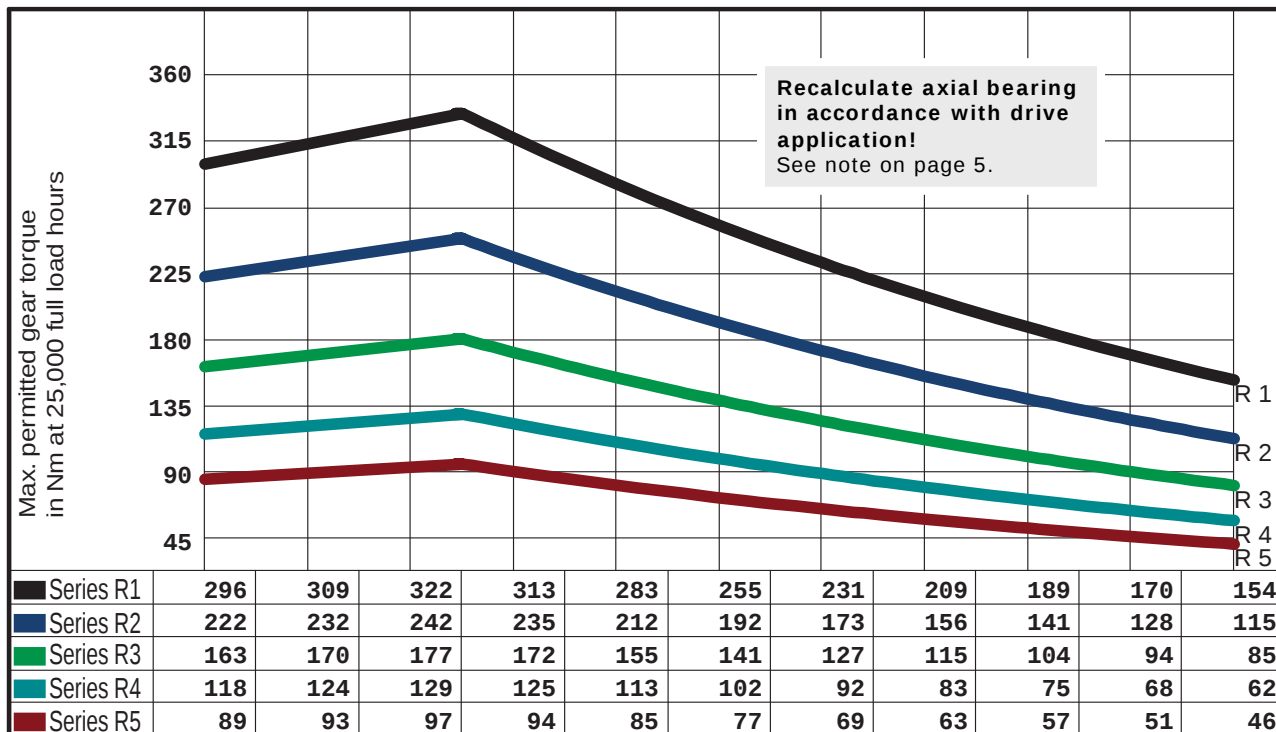
Centre distance	82.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4801 SSR
Outer Ø worm	44.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	130.00 mm	Pressure angle in NS	10 °	
No. starts, worm	6	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	40.46 mm	
No. teeth, gear	66	Lead angle at Bks	15.1767 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de			

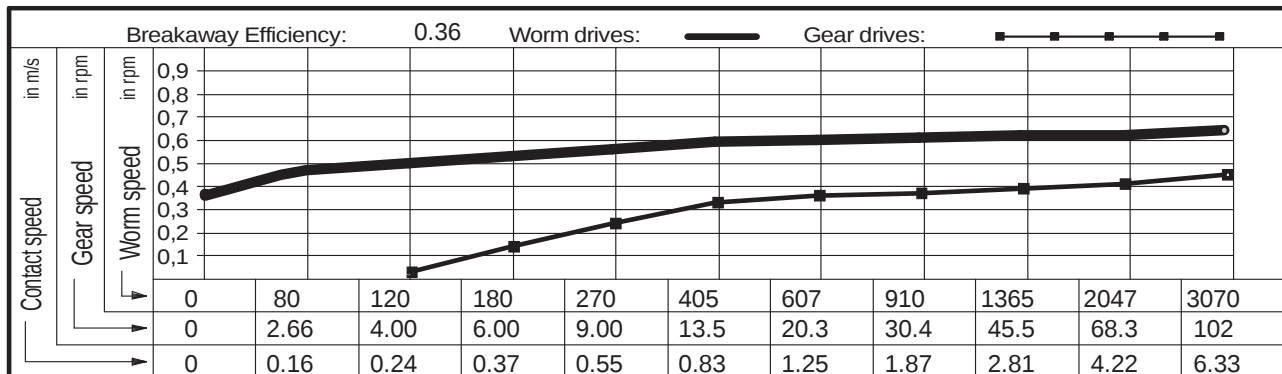
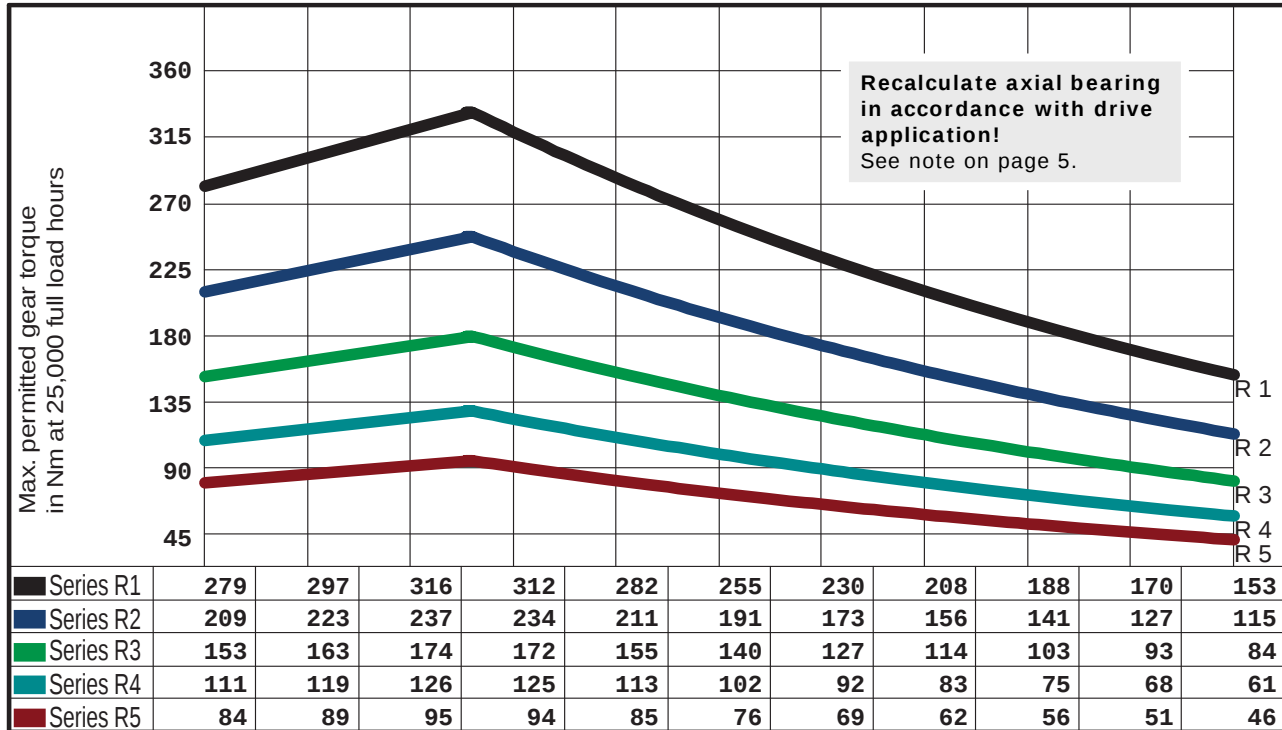


Centre distance	82.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 2833 SSR
Outer Ø worm	44.40 mm	Material, worm	31CrMoV9	
Outer Ø gear	130.00 mm	Pressure angle in NS	10 °	
No. starts, worm	3	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	40.44 mm	
No. teeth, gear	72	Lead angle at Bks	7.0963 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
			Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de

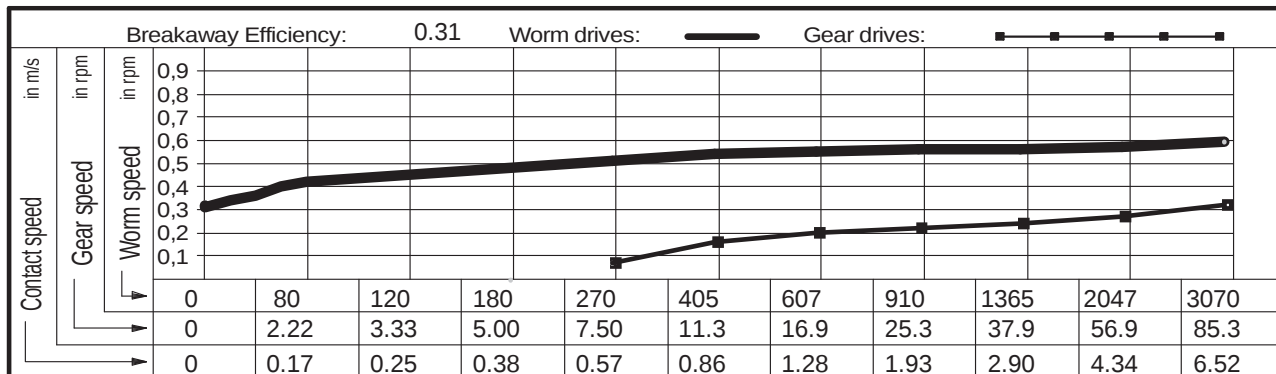
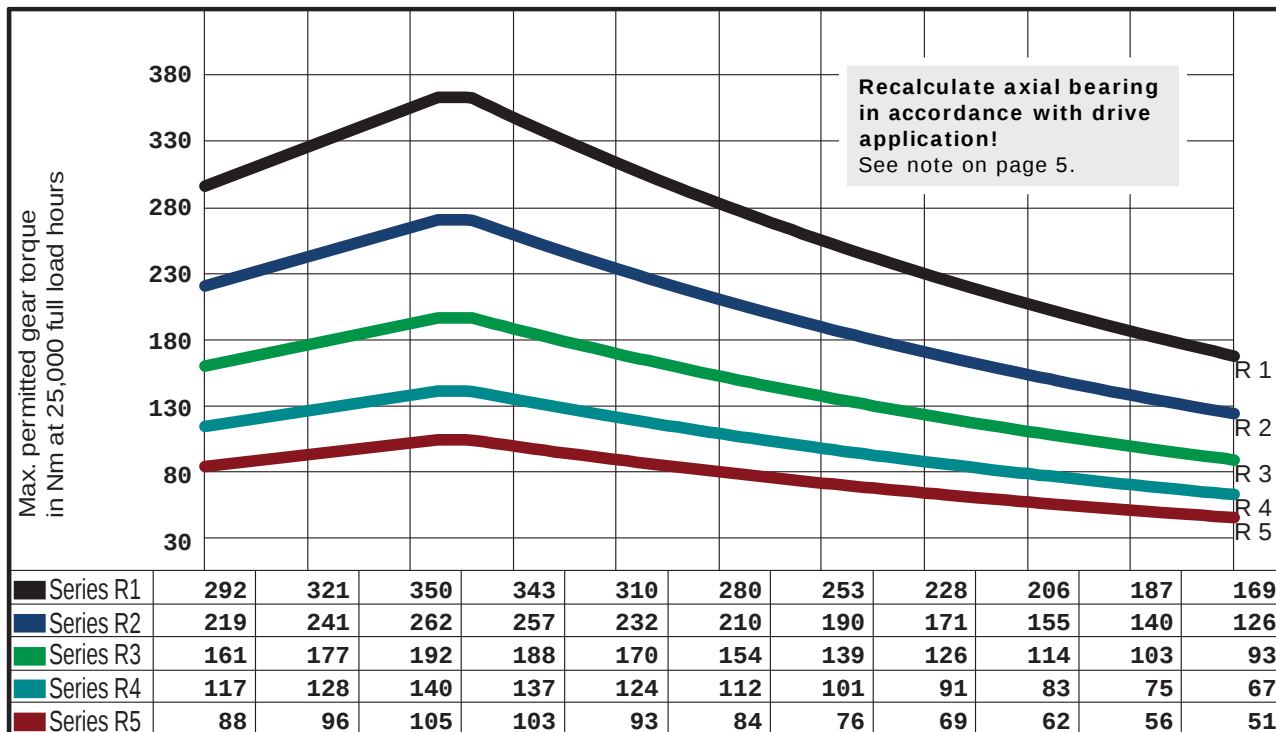
Centre distance	82.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4835 SSR
Outer Ø worm	42.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	130.00 mm	Pressure angle in NS	10 °	
No. starts, worm	3	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	39.22 mm	
No. teeth, gear	90	Lead angle at Bks	5.9389 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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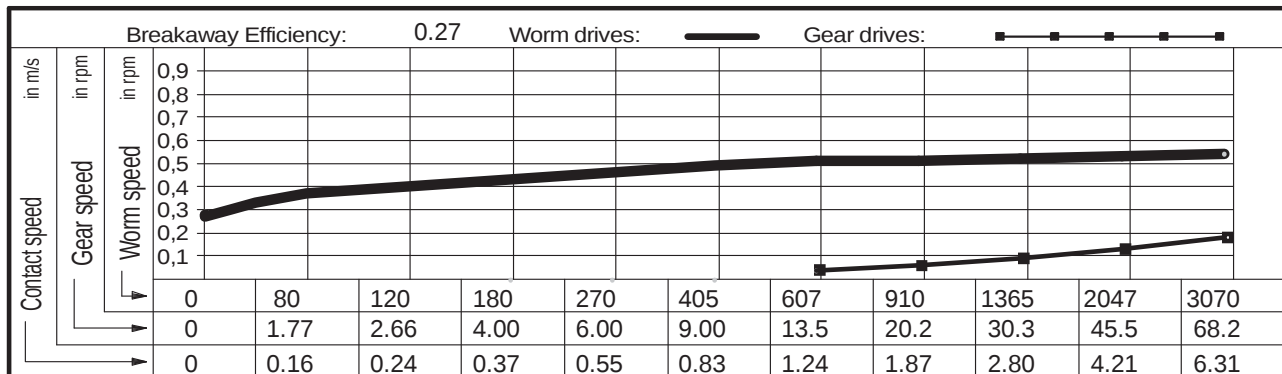
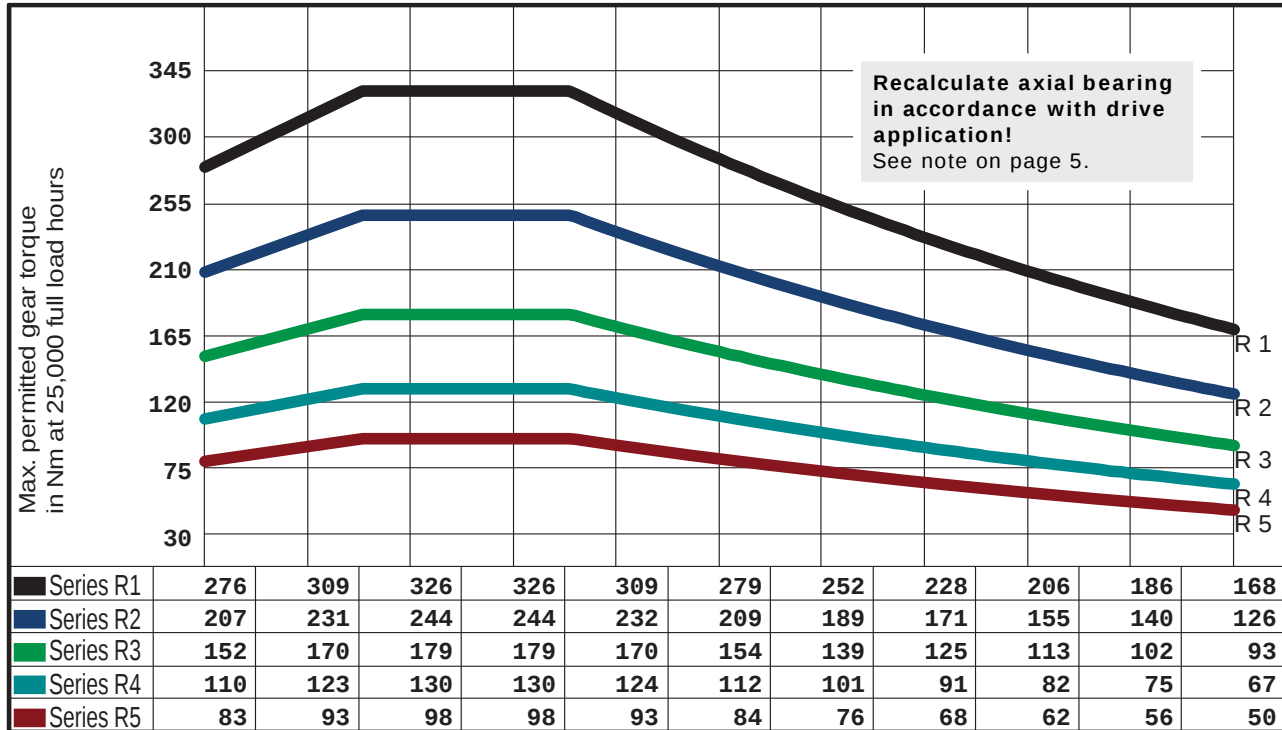


Centre distance	82.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 5266 SSR
Outer Ø worm	44.40 mm	Material, worm	31CrMoV9	
Outer Ø gear	130.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	40.45 mm	
No. teeth, gear	72	Lead angle at Bks	4.7435 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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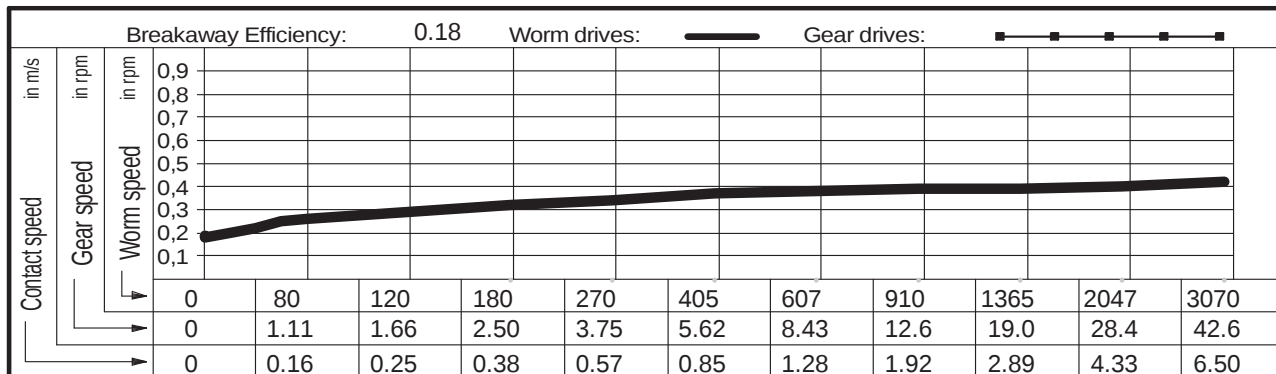
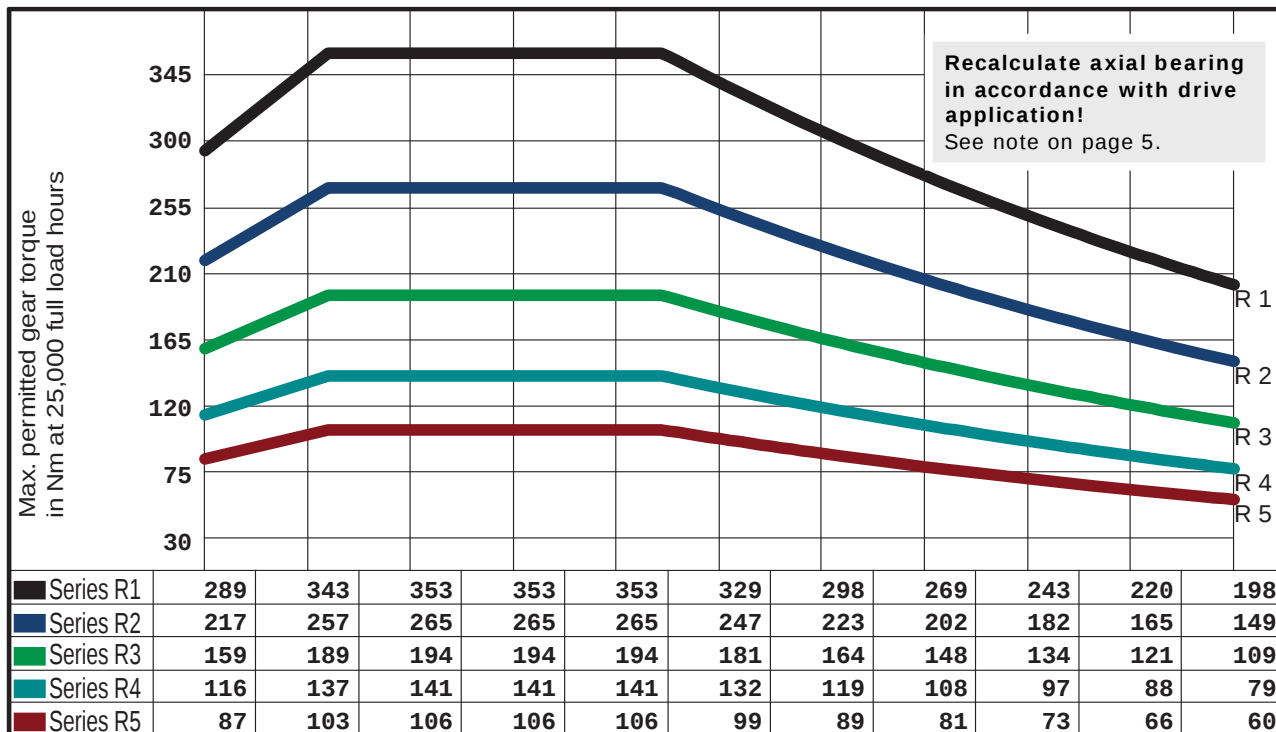
Centre distance	82.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4884 SSR
Outer Ø worm	42.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	130.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	39.22 mm	
No. teeth, gear	90	Lead angle at Bks	3.9667 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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Centre distance	82.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4824 SSR
Outer Ø worm	44.40 mm	Material, worm	31CrMoV9	
Outer Ø gear	130.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	40.45 mm	
No. teeth, gear	72	Lead angle at Bks	2.3756 °	

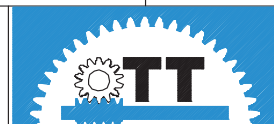


Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de 		

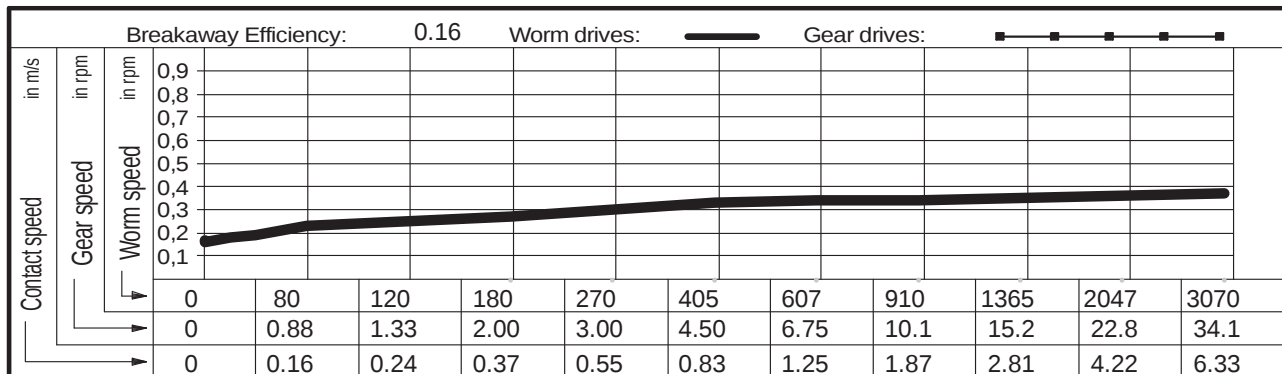
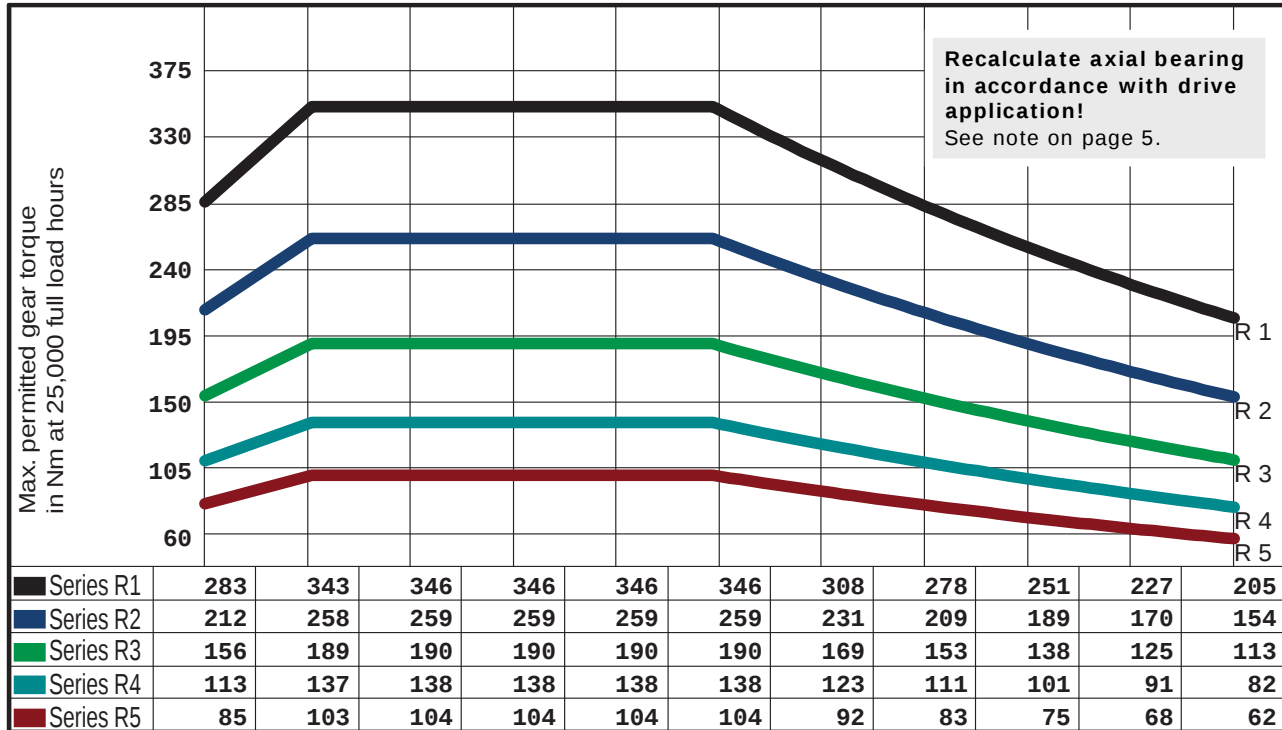
Zahnradfertigung OTT

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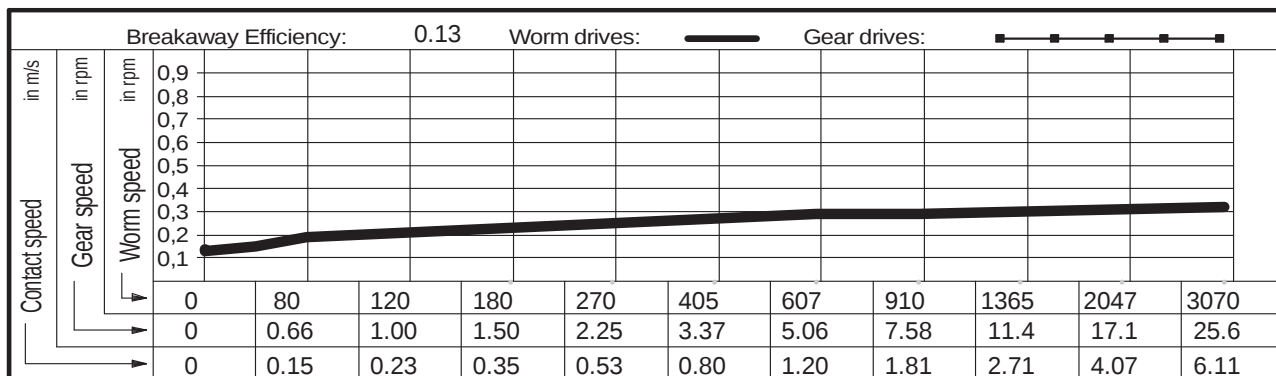
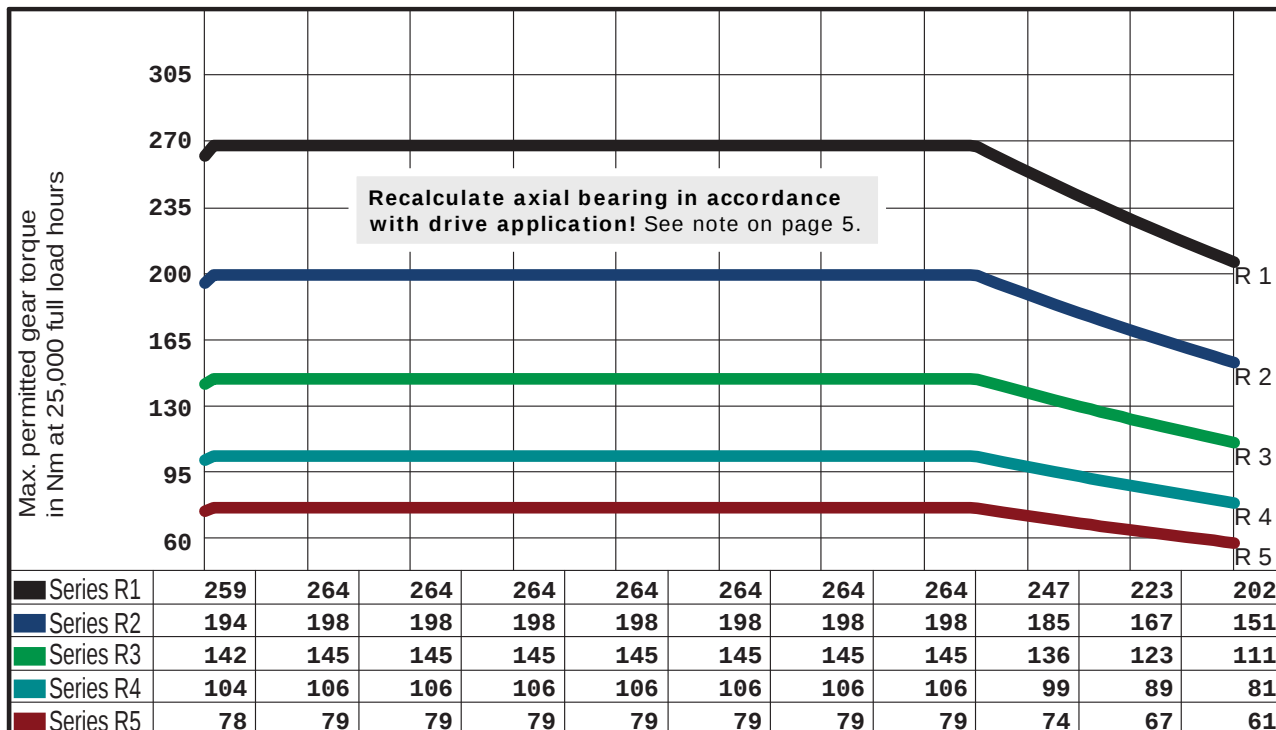
Centre distance	82.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 2735 SSR
Outer Ø worm	42.80 mm	Material, worm	31CrMoV9	
Outer Ø gear	130.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	39.38 mm	
No. teeth, gear	90	Lead angle at Bks	1.9747 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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Centre distance	82.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4833 SSR
Outer Ø worm	40.80 mm	Material, worm	31CrMoV9	
Outer Ø gear	130.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	38.04 mm	
No. teeth, gear	120	Lead angle at Bks	1.5555 °	

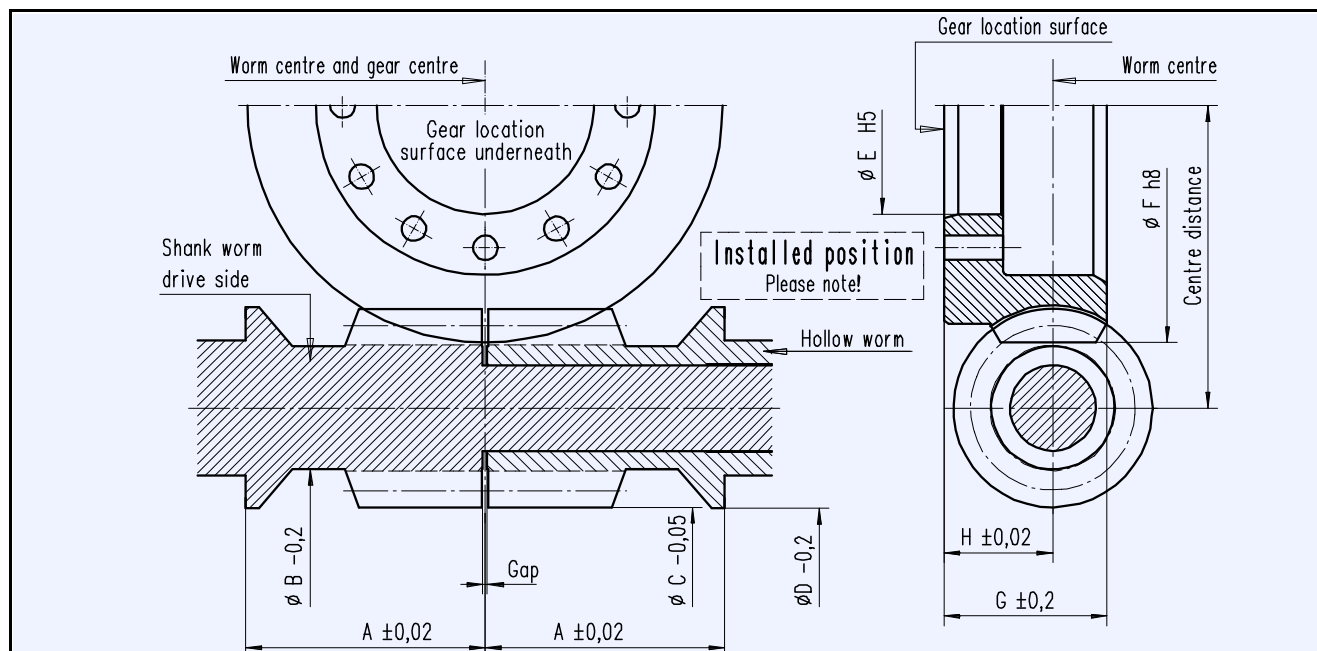


Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions. CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de 		

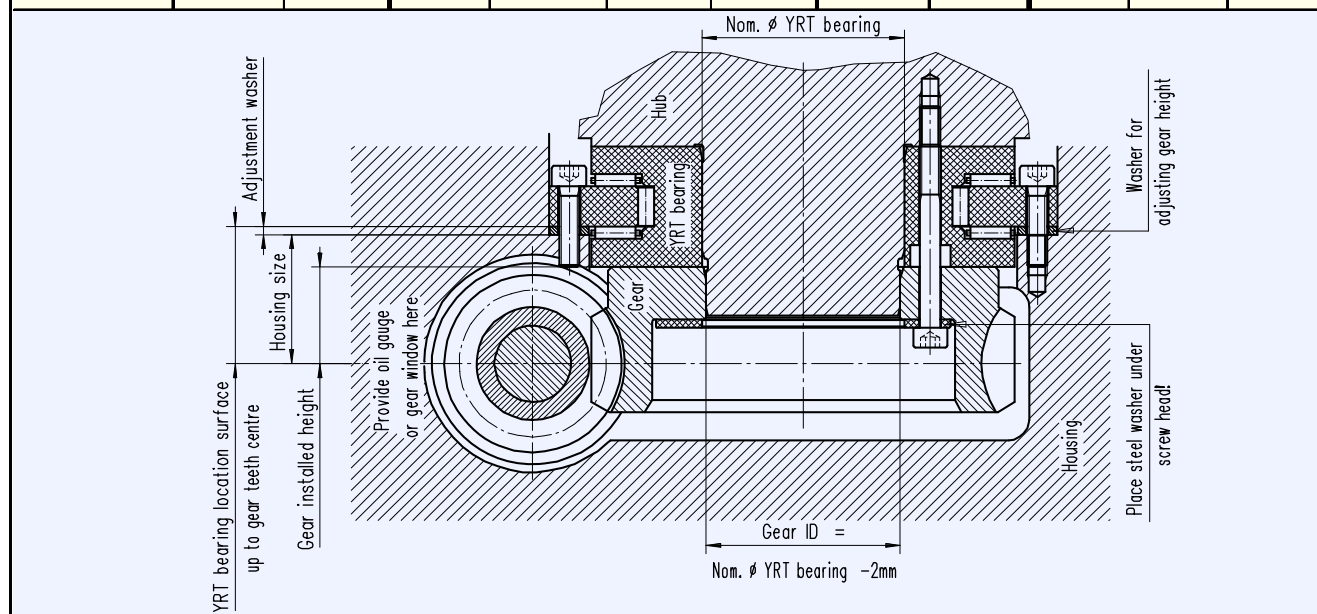


OTT worm gears - centre distance 96 mm

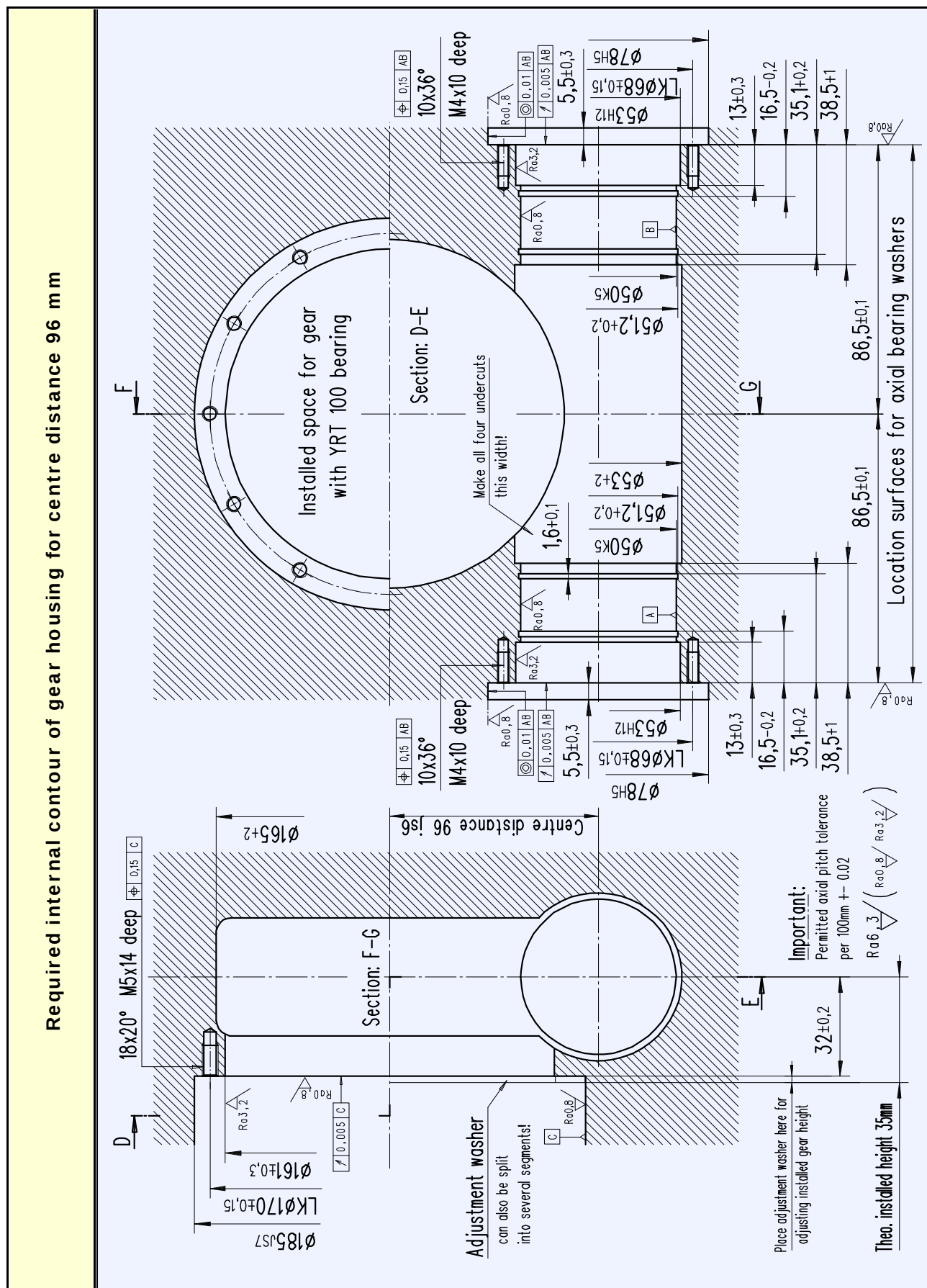
Main dimensions



OTT gear no.	Ratio		Worm				YRT gear bearing	Gear			
	No. starts Z1	No. teeth Z2	Distance A	Undercut ϕ B	Head ϕ C	Collar ϕ D		Internal ϕ E	Head ϕ F	Width G	Height H
4837 SSR	3	90	53	30,8	42,8	44,6	100	98	160	37	22
4856 SSR	2	72		30,5	44,6						
4803 SSR	2	90		30,8	42,6						
4848 SSR	1	72		30,5	44,6						
4802 SSR	1	90		30,8	42,6						
4823 SSR	1	120		31,1	40,6						
							See comments page 5!				

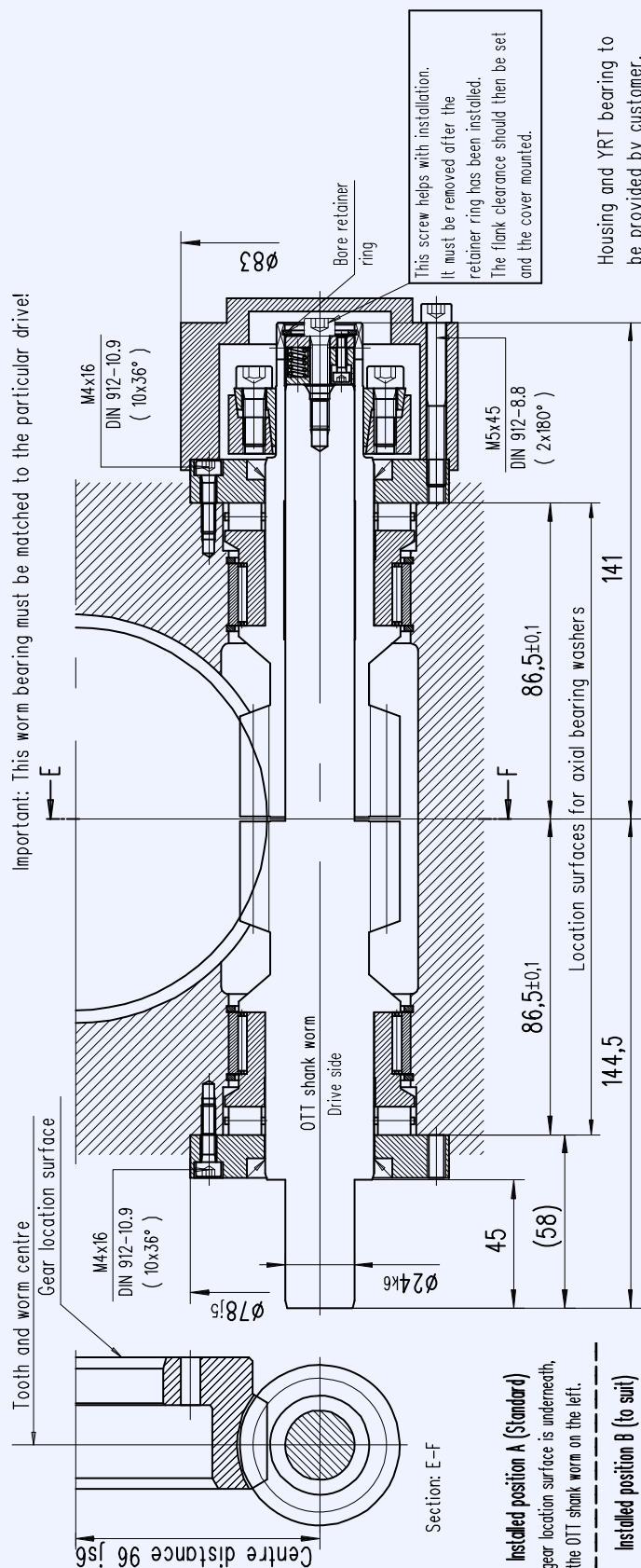


Gear housing - required internal contour



Worm bearings

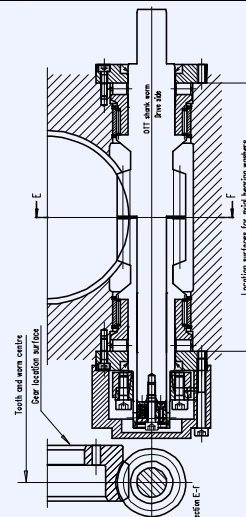
Worm bearing for centre distance 96 mm

☐ Installed position A (Standard)

The gear location surface is underneath, the OTT shank worm on the left.

☐ Installed position B (to suit)

The gear location surface is underneath, the OTT shank worm on the right.

[illegible]

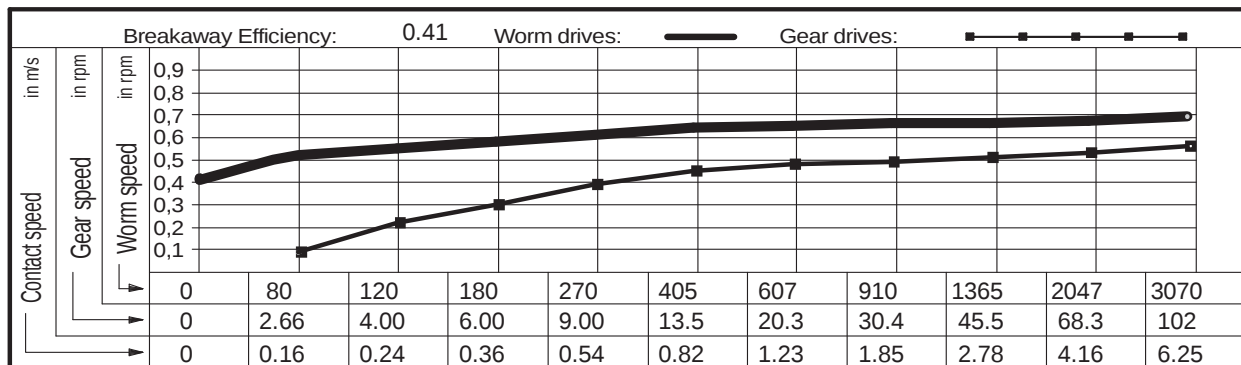
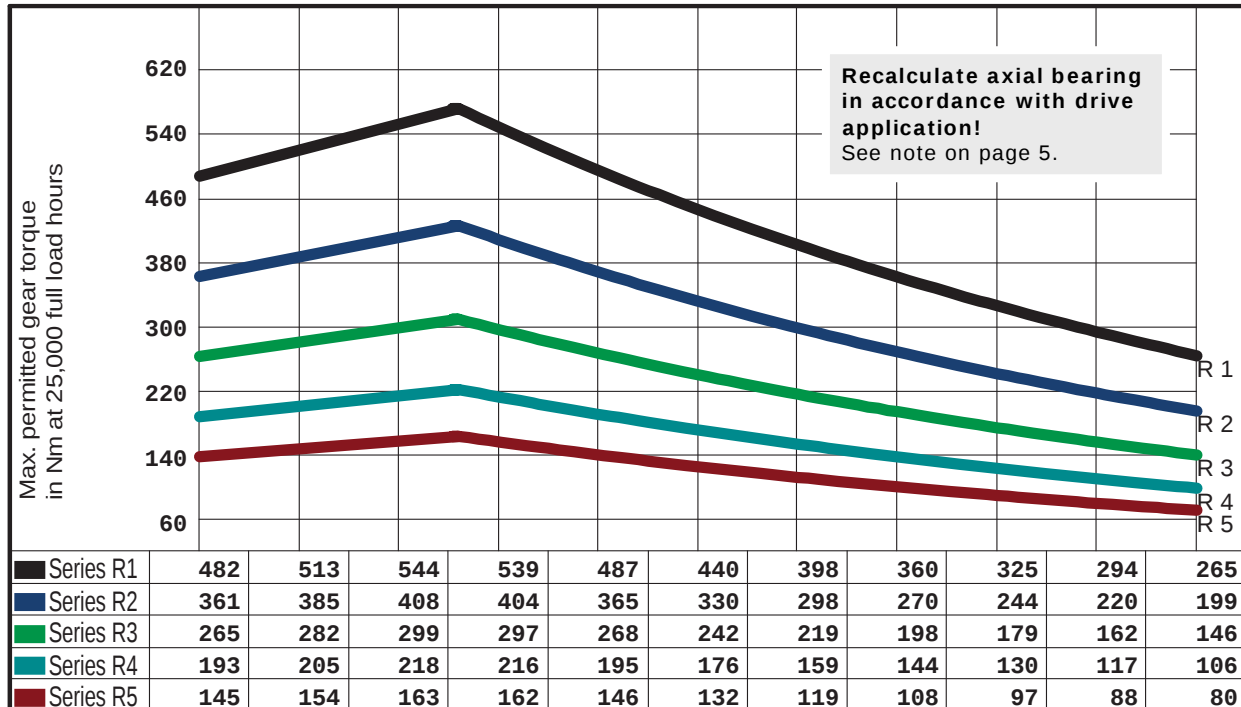
Order using set of OTT worm gears

☐ Gearset incl. thrust piece without bearing parts

☐ Gearset incl. all bearing parts

Operational characteristics

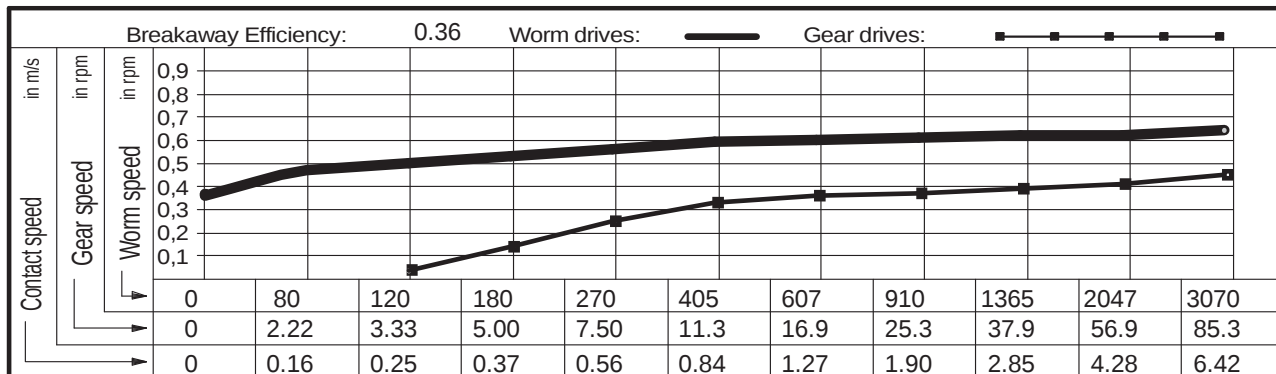
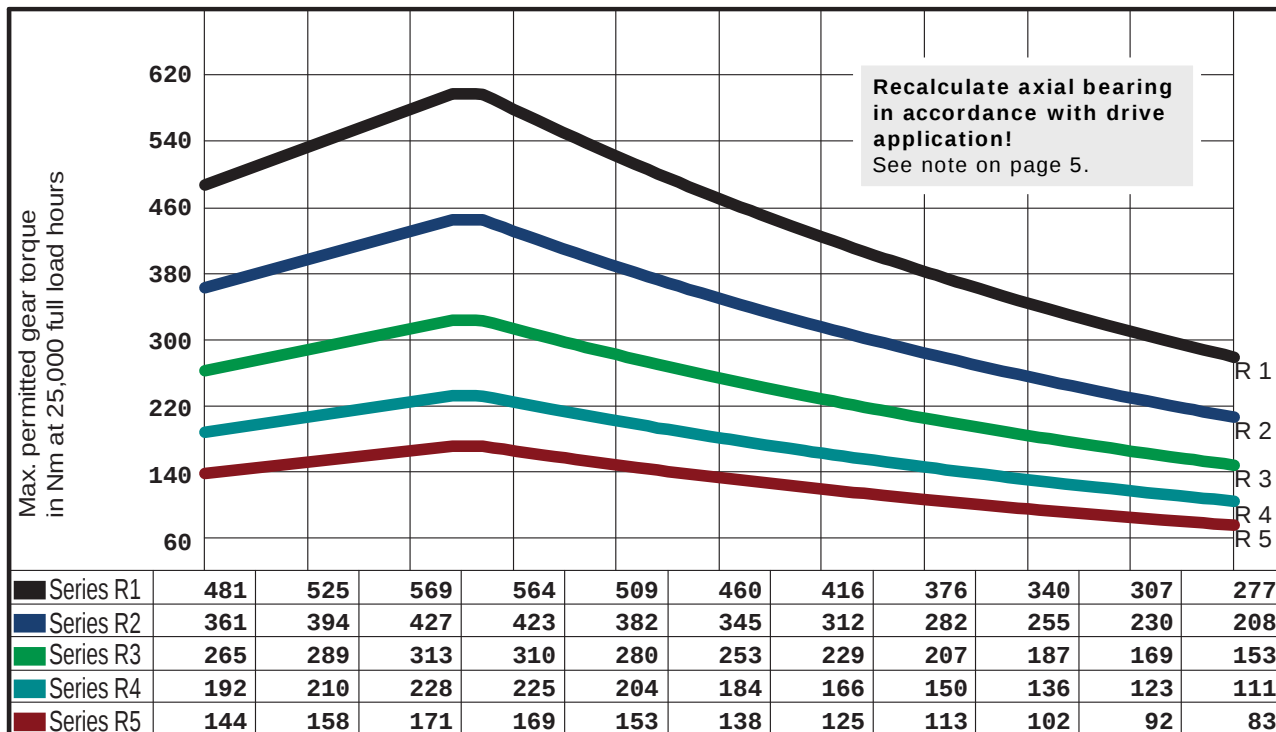
Centre distance	96.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4837 SSR
Outer Ø worm	42.80 mm	Material, worm	31CrMoV9	
Outer Ø gear	160.00 mm	Pressure angle in NS	10 °	
No. starts, worm	3	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	38.58 mm	
No. teeth, gear	90	Lead angle at Bks	7.4054 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions. CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de		

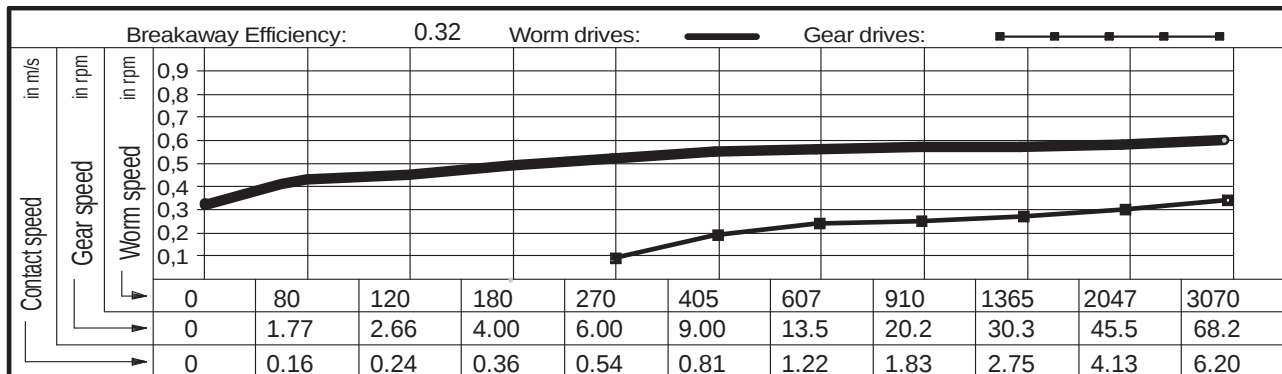
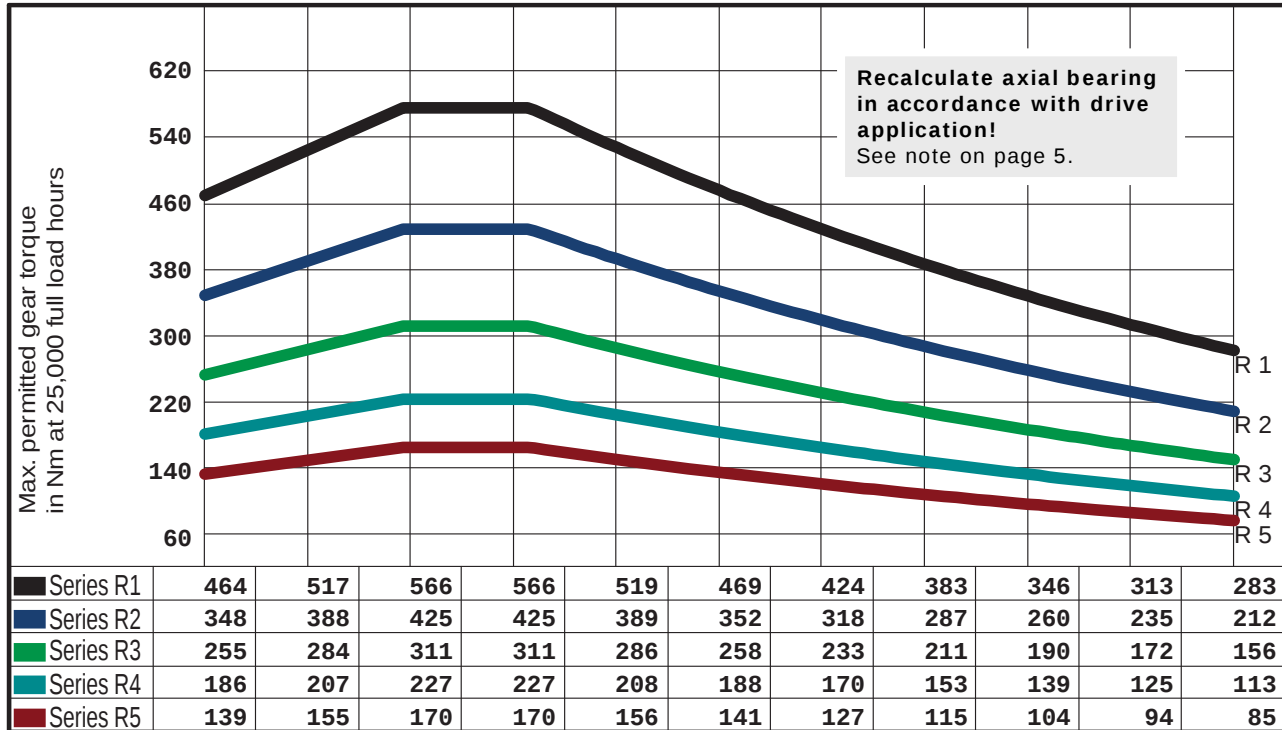


Centre distance	96.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4856 SSR
Outer Ø worm	44.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	160.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	39.77 mm	
No. teeth, gear	72	Lead angle at Bks	5.9382 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de

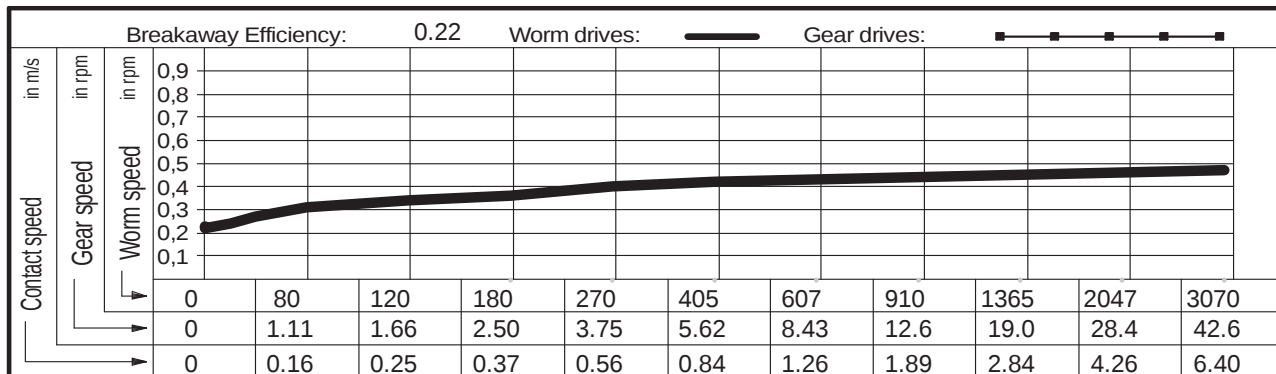
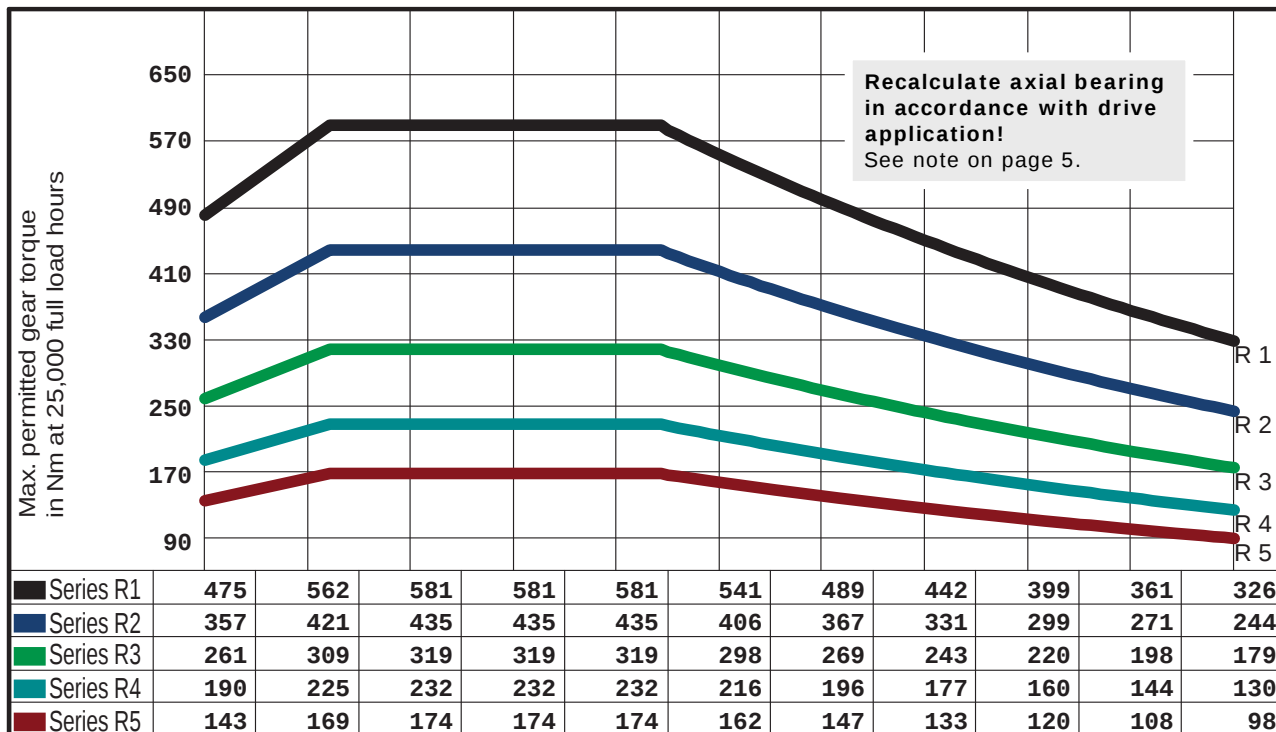
Centre distance	96.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4803 SSR
Outer Ø worm	42.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	160.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	38.43 mm	
No. teeth, gear	90	Lead angle at Bks	4.9774 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de			

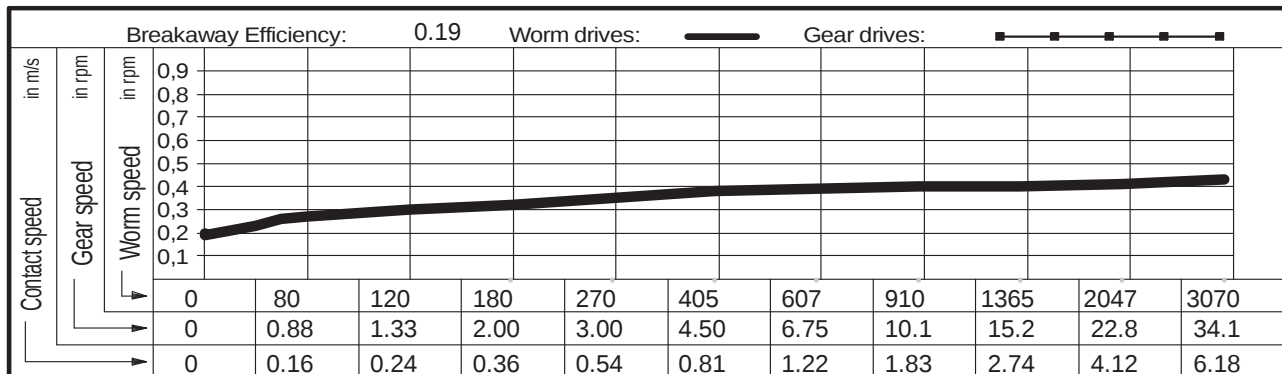
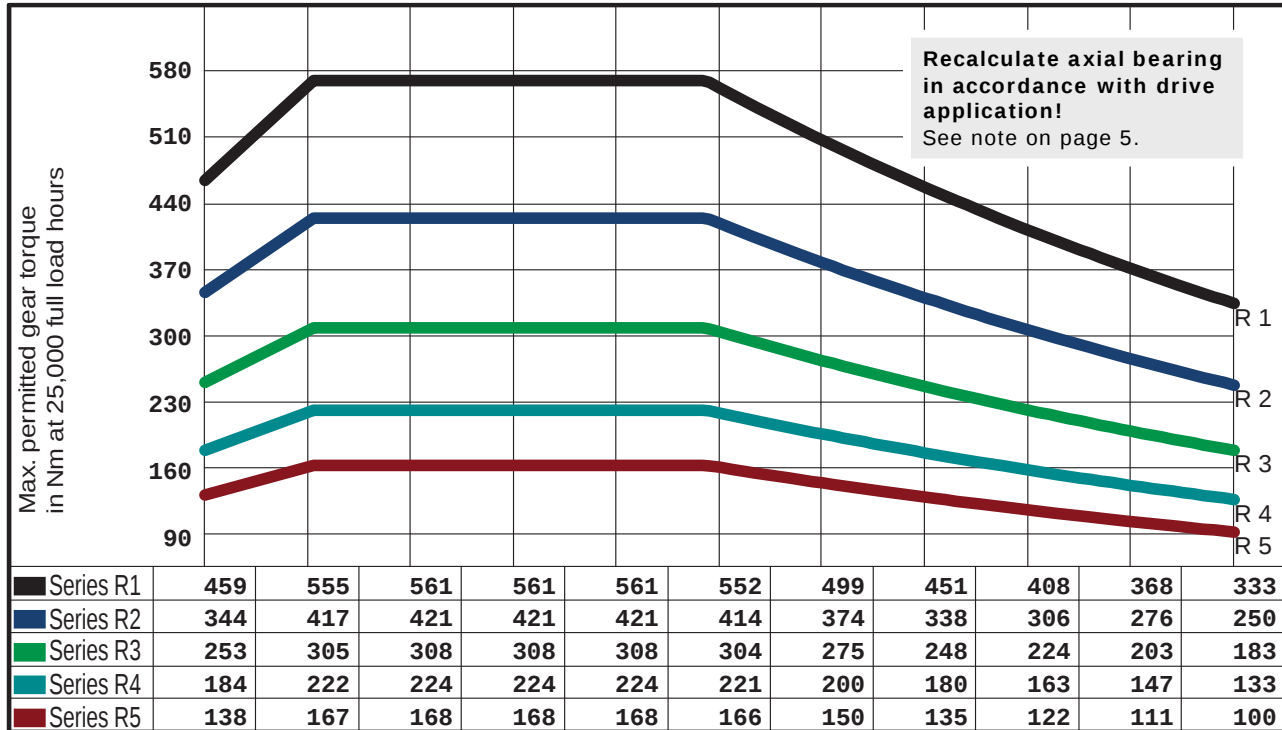


Centre distance	96.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4848 SSR
Outer Ø worm	44.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	160.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	39.78 mm	
No. teeth, gear	72	Lead angle at Bks	2.9765 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de 		

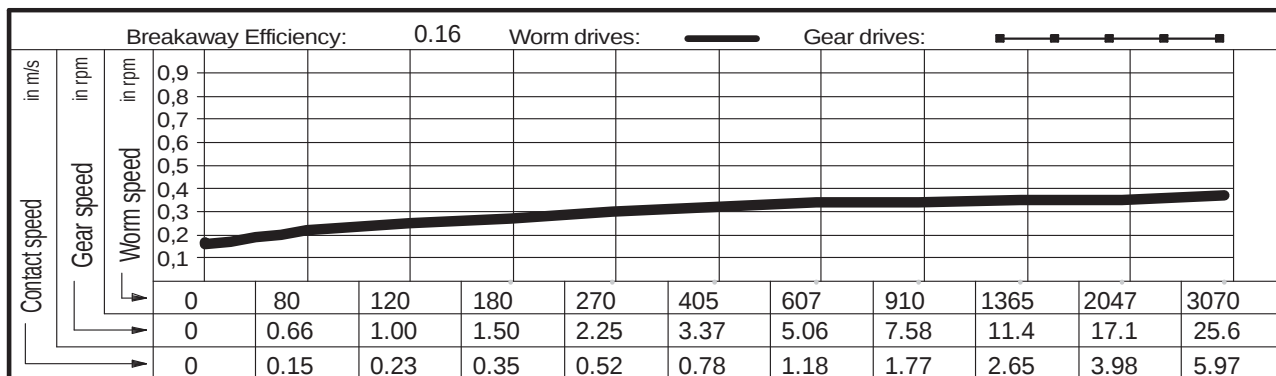
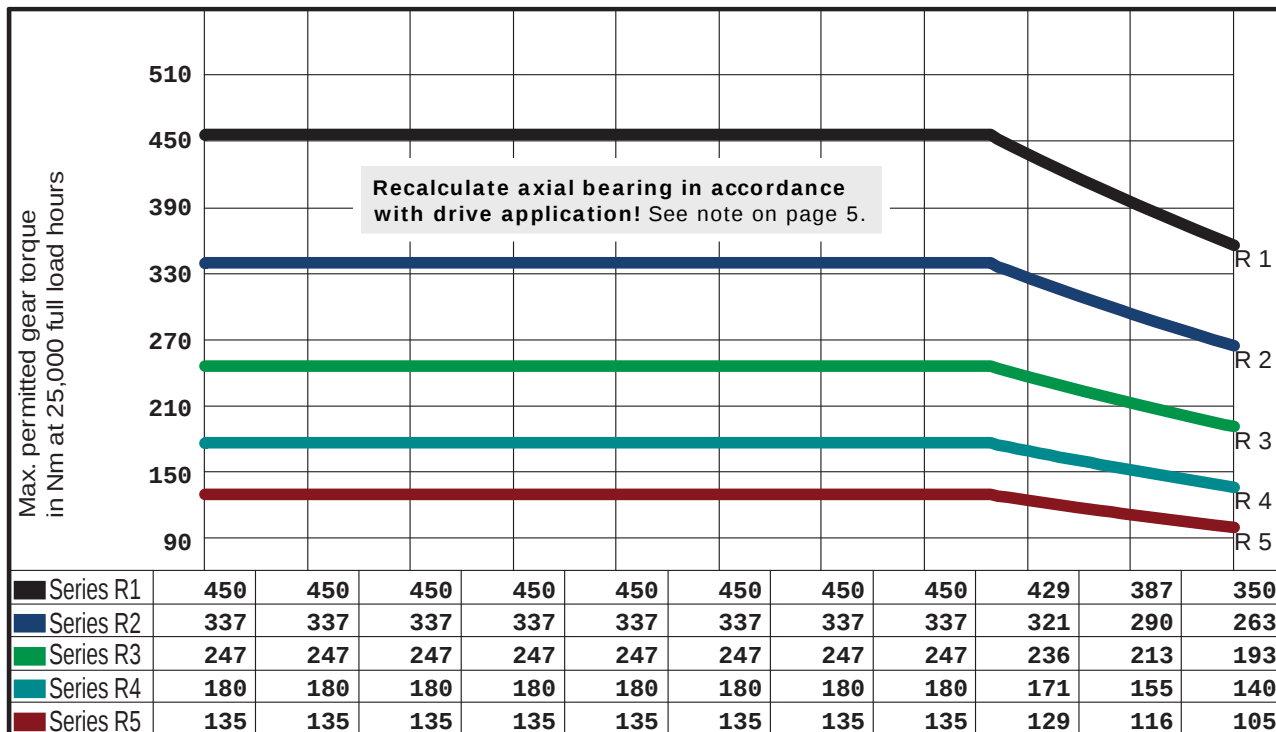
Centre distance	96.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4802 SSR
Outer Ø worm	42.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	160.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	38.44 mm	
No. teeth, gear	90	Lead angle at Bks	2.4931 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de
			Lubricant: Synthetic oil



Centre distance	96.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4823 SSR
Outer Ø worm	40.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	160.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	37.14 mm	
No. teeth, gear	120	Lead angle at Bks	1.9577 °	

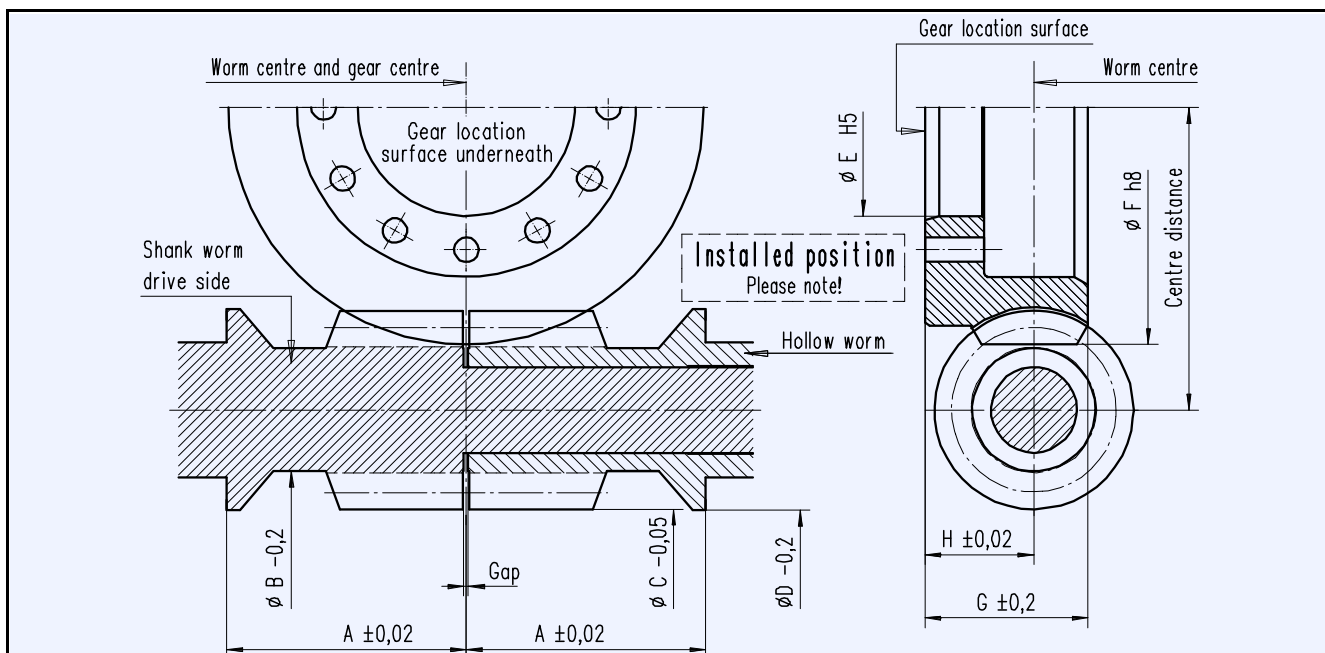


Gear selection by load type and application				Lubricant: Synthetic oil
Series R1 	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 	a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	
Series R2 	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 	a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions	
Series R3 	a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions. CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de		

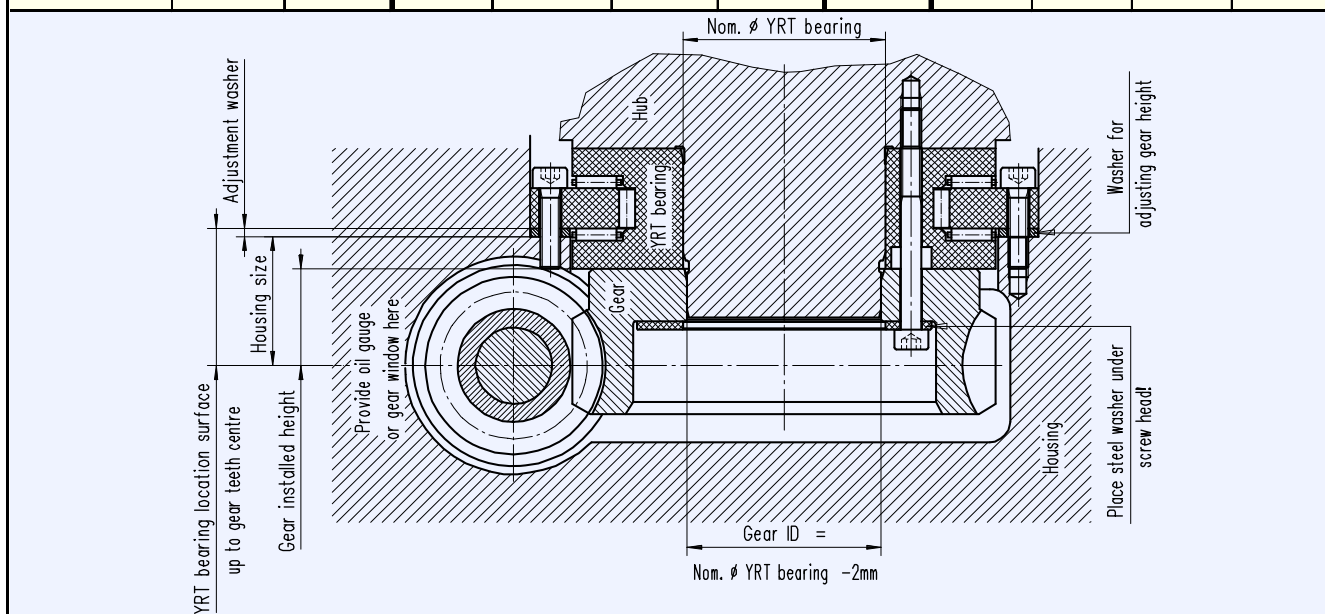


OTT worm gears - centre distance 110 mm

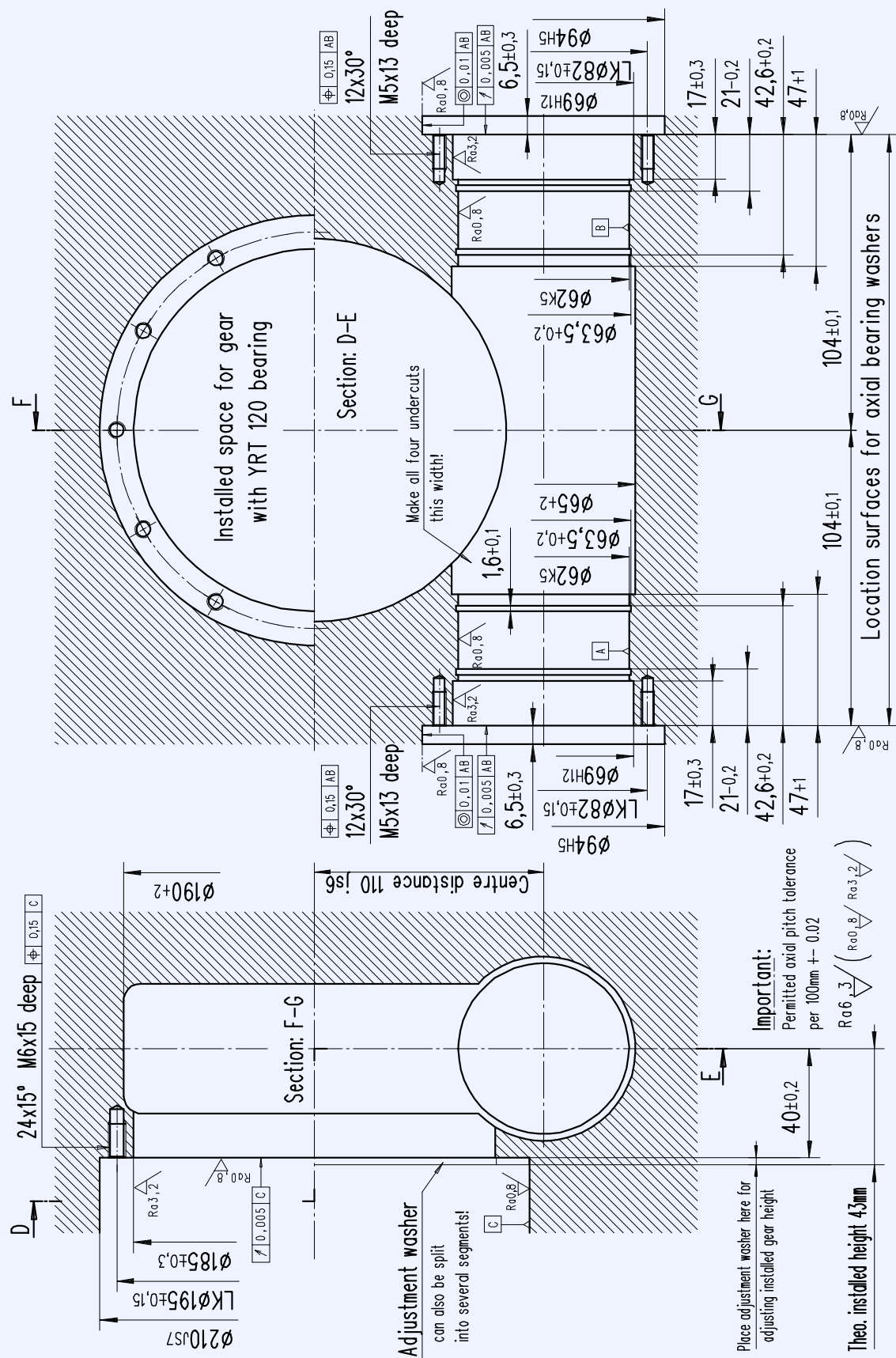
Main dimensions



OTT gear no.	Ratio		Worm				YRT gear bearing	Rad			
	No. starts Z1	No. teeth Z2	Distance A	Undercut ϕ B	Head ϕ C	Collar ϕ D		Internal ϕ E	Head ϕ F	Width G	Height H
5448 SSR	2	80	63	35,1	49,4	54,6	120	118	184	45	29
4867 SSR	2	120		34,9	45,6						
4847 SSR	1	72		34,3	50,8						
4817 SSR	1	90		34,6	48,3						
4800 SSR	1	120		34,9	45,6						
4814 SSR	1	144		35,1	44,6						
1664 SSR	1	180		35,3	42						
							See comments page 5!				

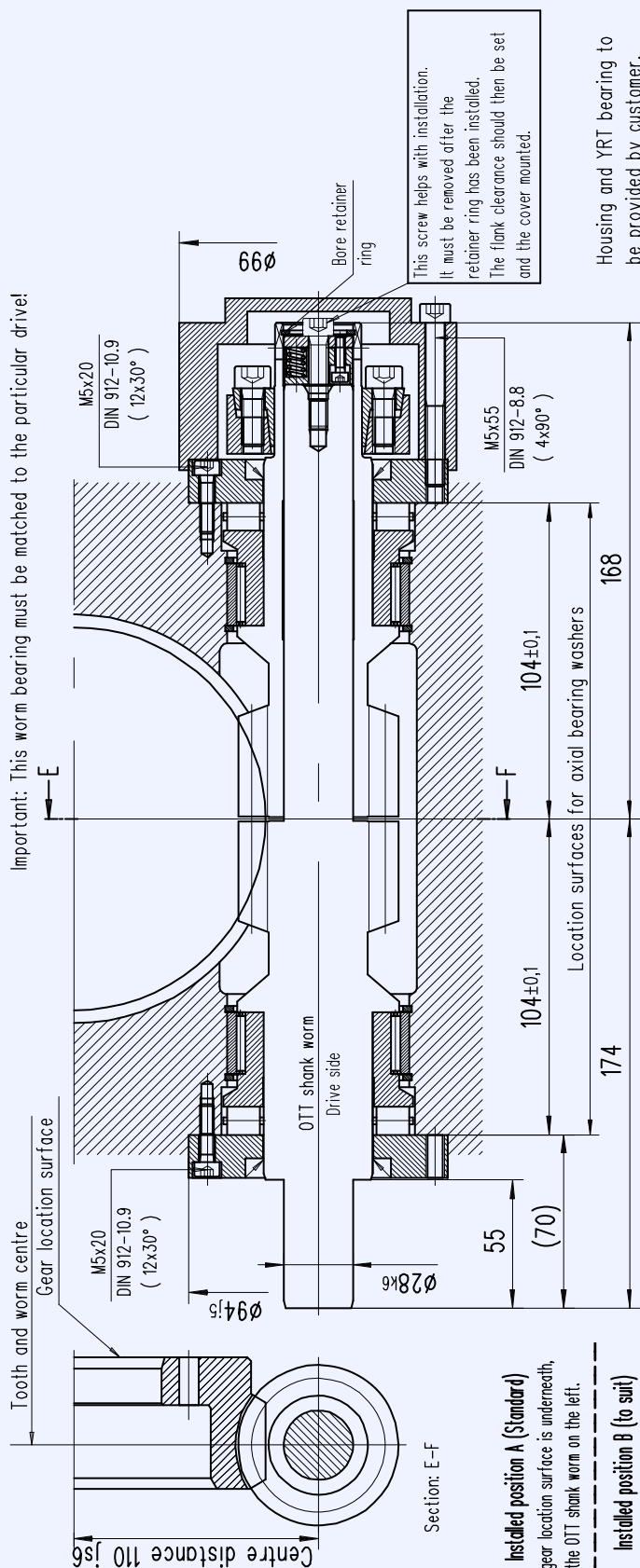


Required internal contour of gear housing for centre distance 110 mm



Worm bearings

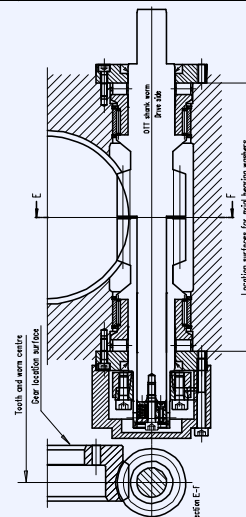
Worm bearing for centre distance 110 mm

☐ Installed position A (Standard)

The gear location surface is underneath, the OTT shank worm on the left.

☐ Installed position B (to suit)

The gear location surface is underneath, the OTT shank worm on the right.

[illegible]

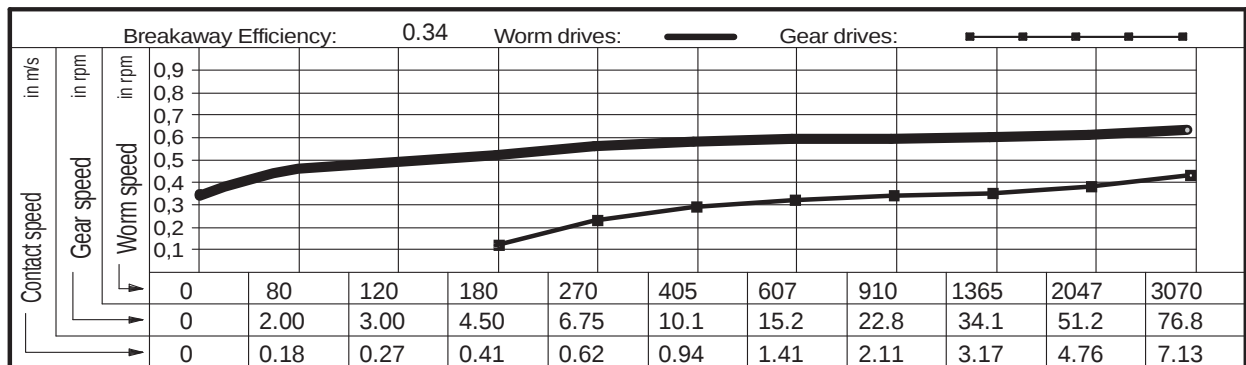
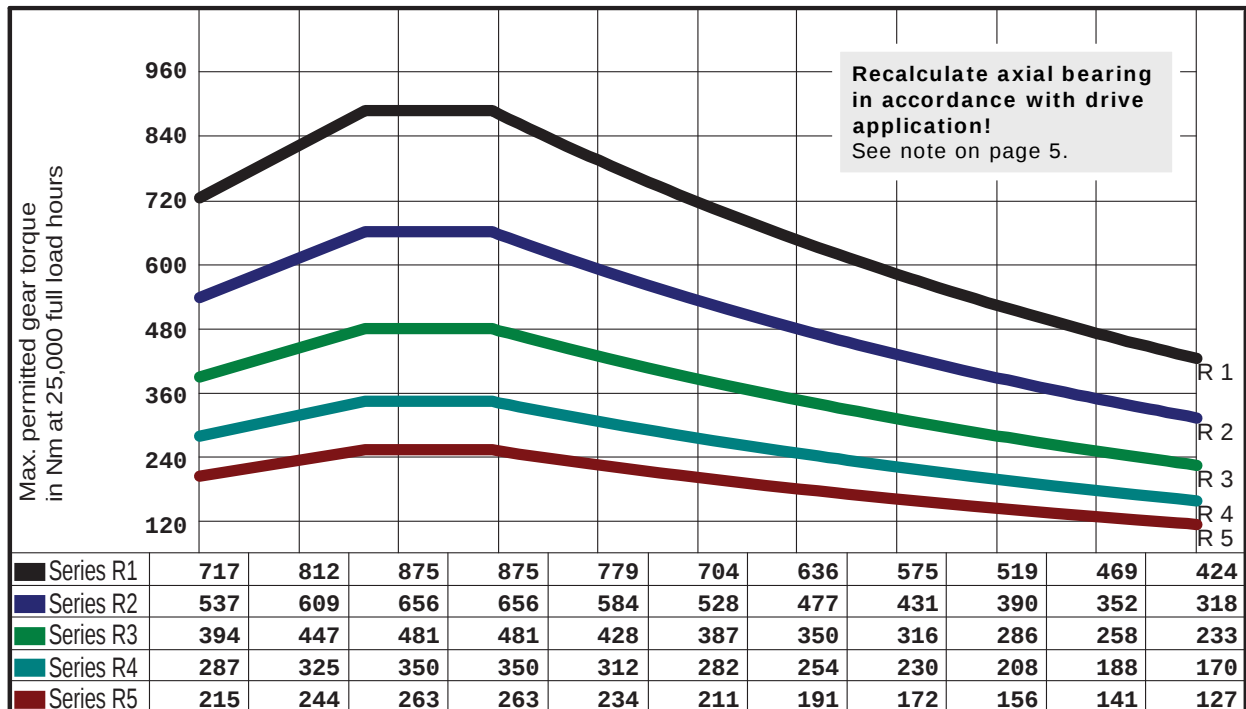
Order using set of OTT worm gears

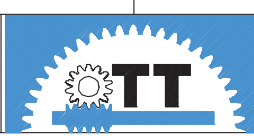
☐ Gearset incl. thrust piece without bearing parts

☐ Gearset incl. all bearing parts

Operational characteristics

Centre distance	110.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 5448 SSR
Outer Ø worm	49.40 mm	Material, worm	31CrMoV9	
Outer Ø gear	184.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	44.21 mm	
No. teeth, gear	80	Lead angle at Bks	5.5615 °	

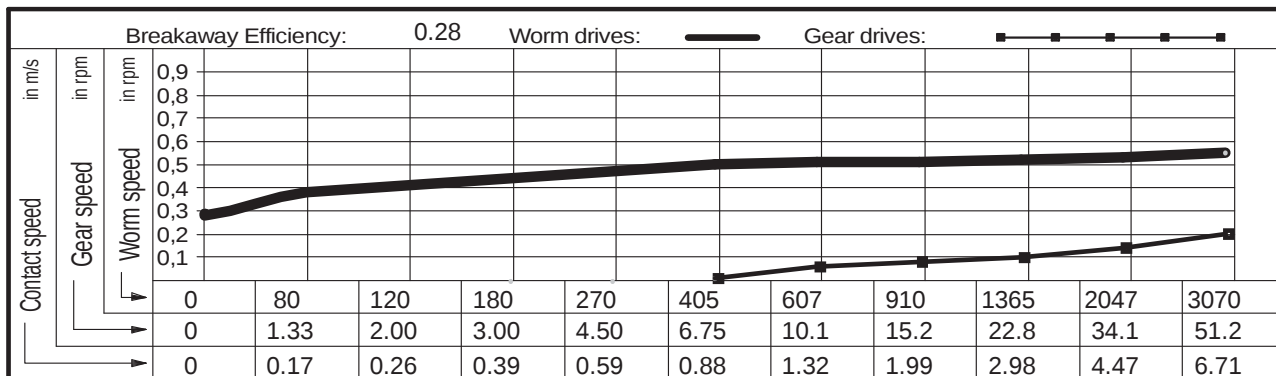
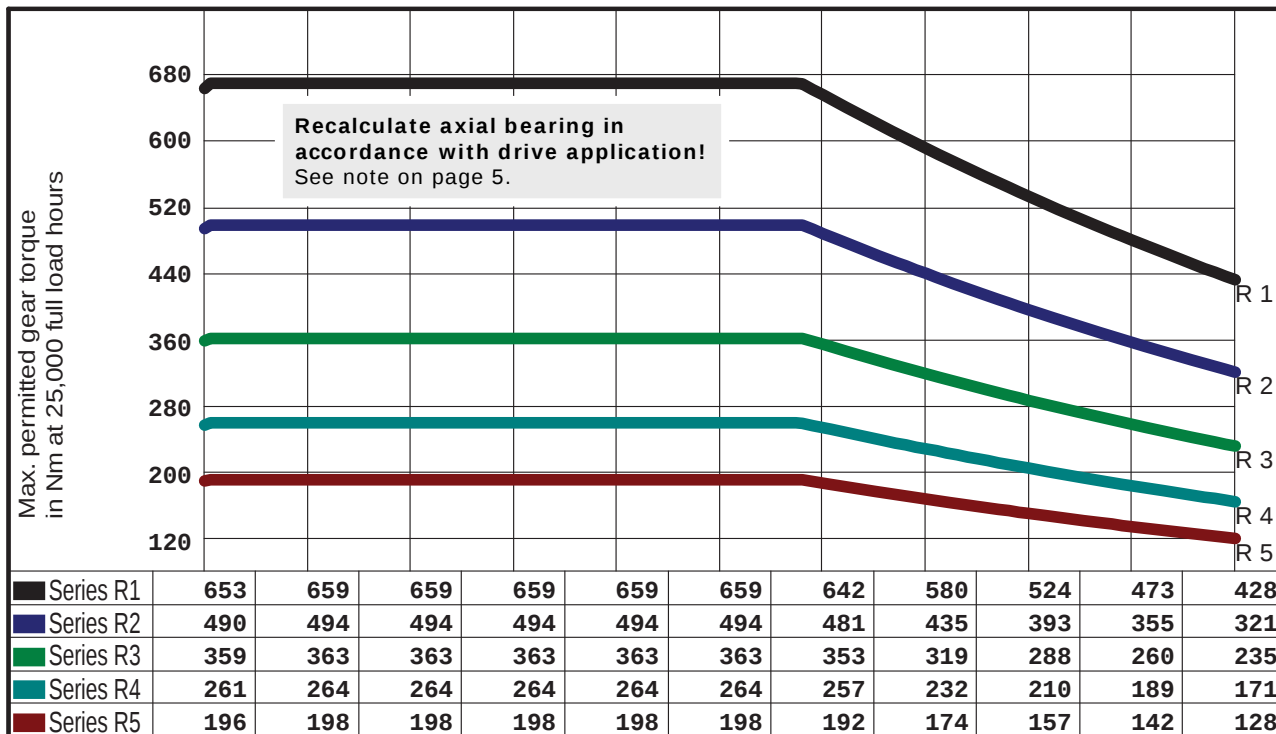


Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de		

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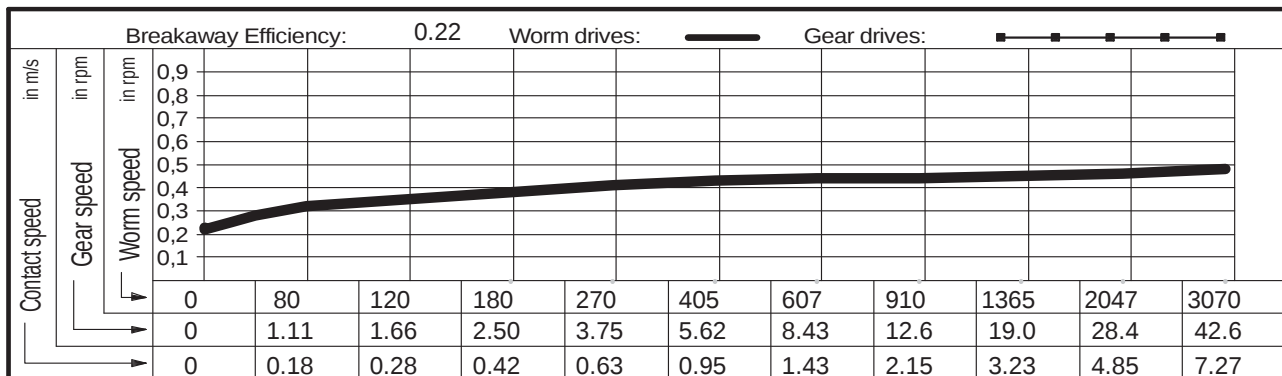
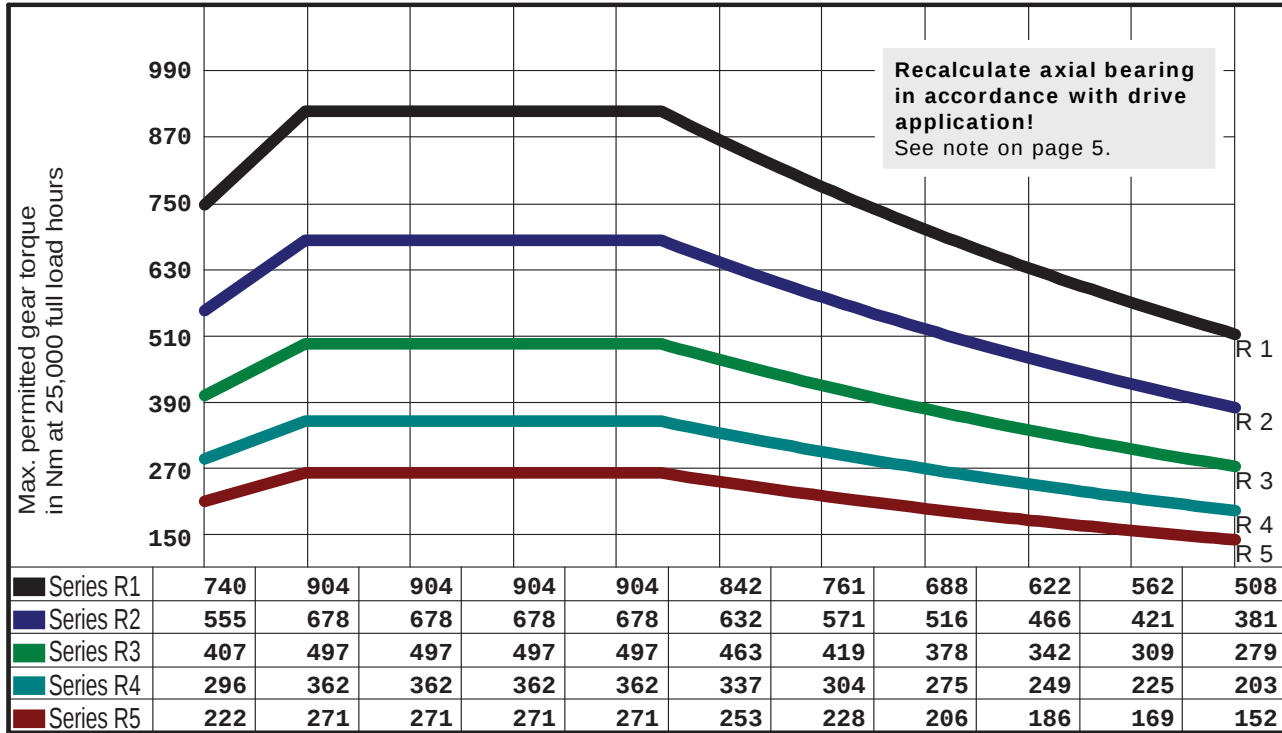


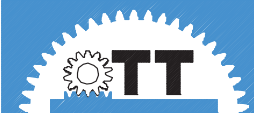
Centre distance	110.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4867 SSR
Outer Ø worm	45.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	184.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	41.69 mm	
No. teeth, gear	120	Lead angle at Bks	4.0126 °	



Gear selection by load type and application			Lubricant: Synthetic oil
Series R1 —	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 —	
Series R2 —	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 —	
Series R3 —	a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de	

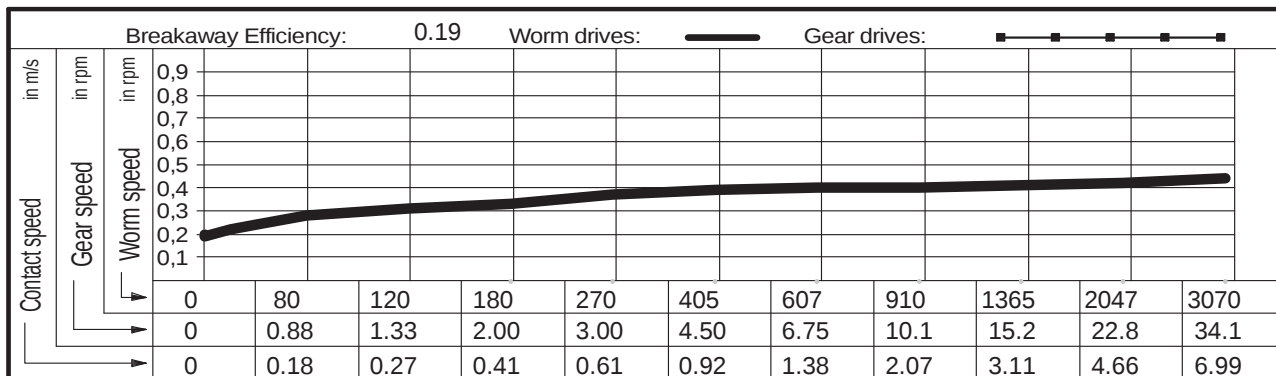
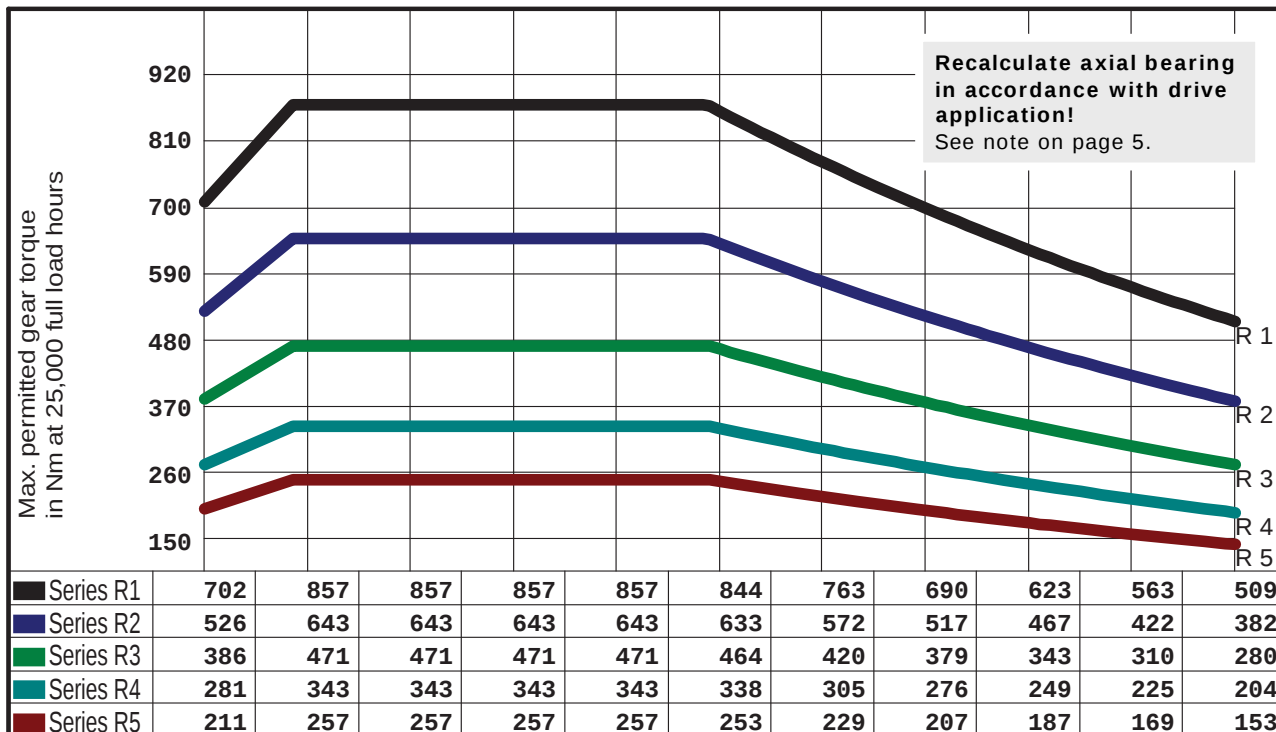
Centre distance	110.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4847 SSR
Outer Ø worm	50.80 mm	Material, worm	31CrMoV9	
Outer Ø gear	184.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	45.19 mm	
No. teeth, gear	72	Lead angle at Bks	3.0074 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de		

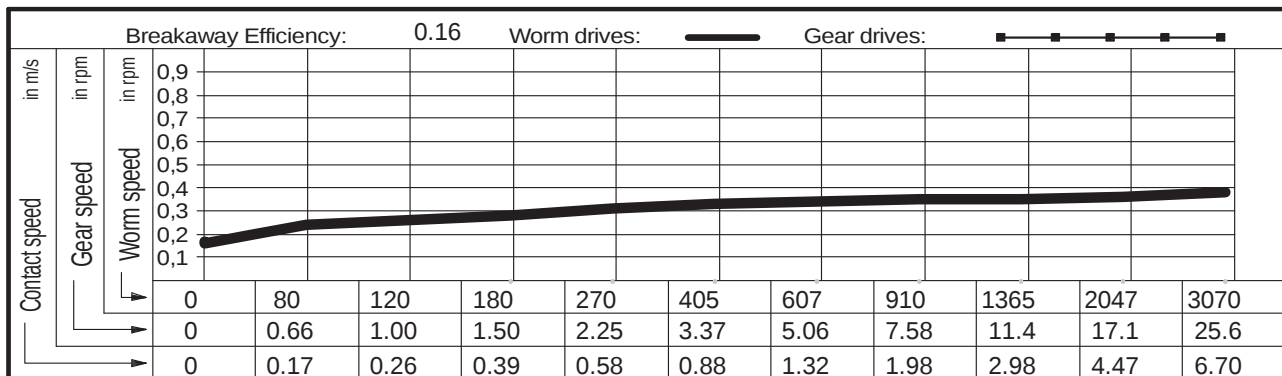
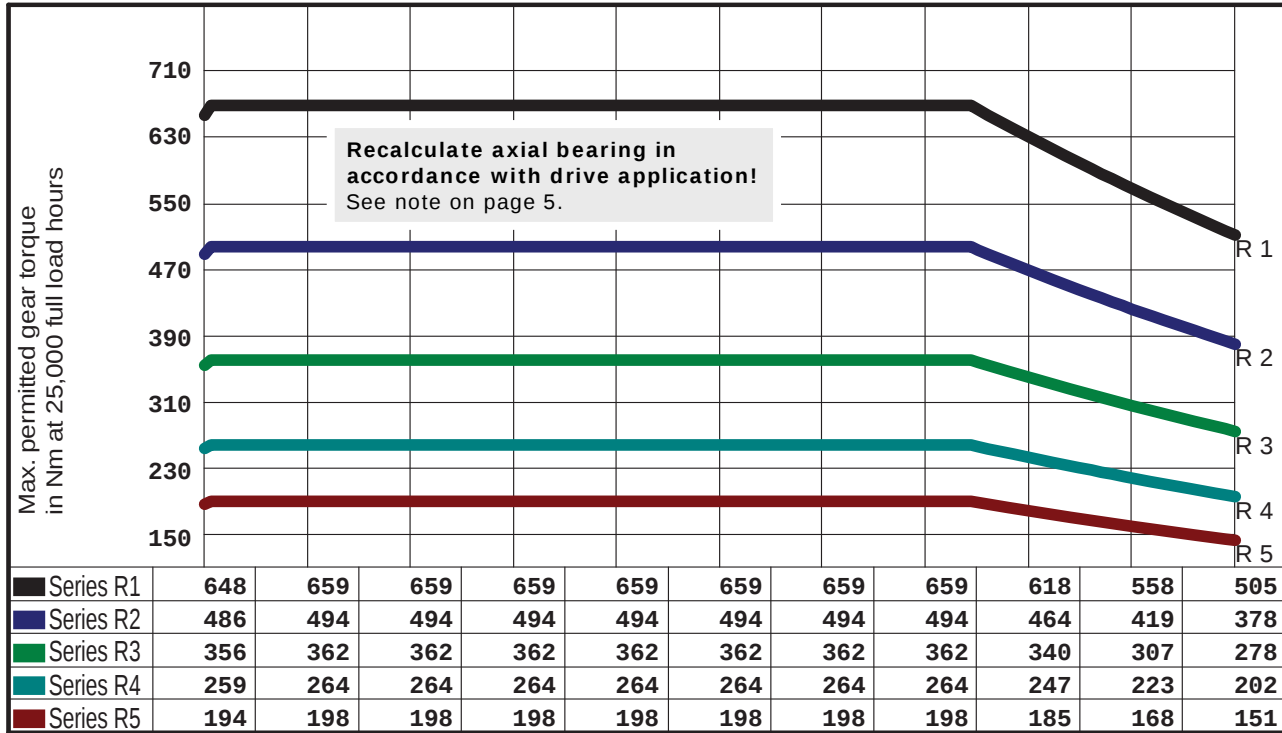


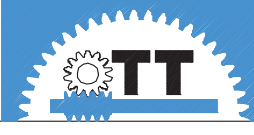
Centre distance	110.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4817 SSR
Outer Ø worm	48.30 mm	Material, worm	31CrMoV9	
Outer Ø gear	184.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	43.49 mm	
No. teeth, gear	90	Lead angle at Bks	2.5323 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de 		

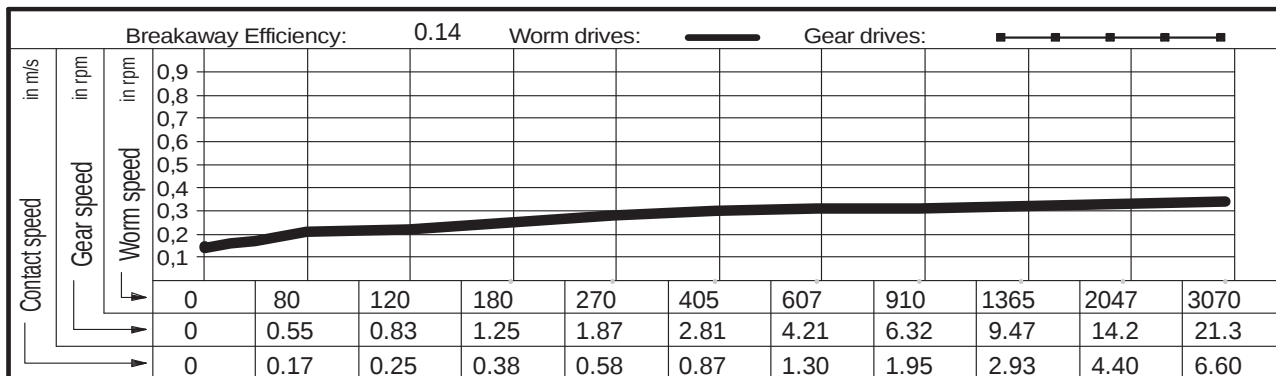
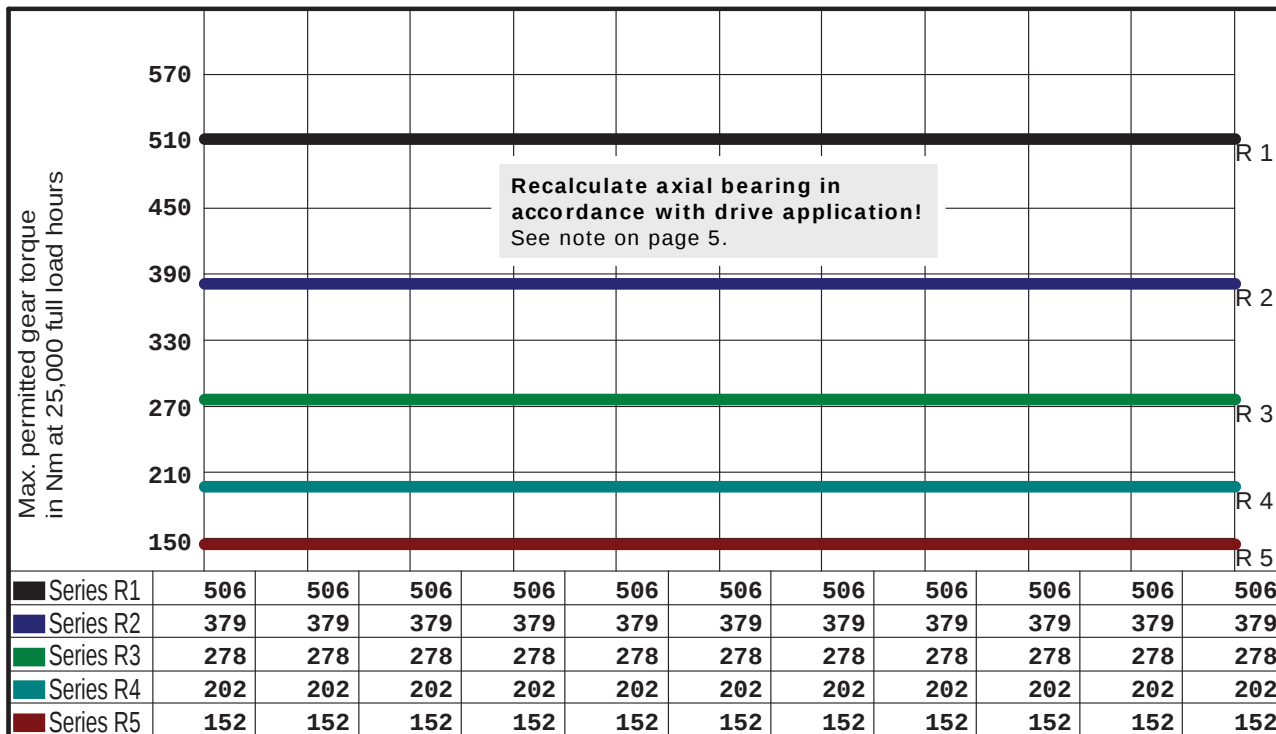
Centre distance	110.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4800 SSR
Outer Ø worm	45.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	184.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	41.69 mm	
No. teeth, gear	120	Lead angle at Bks	2.0086 °	



Gear selection by load type and application			Lubricant: Synthetic oil
Series R1	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes)	Series R4	
Application: Measurement and test machinery drives, CNC axes		Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	
Series R2	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes)	Series R5	
Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications		Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions	
Series R3	a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes)	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de	
Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes			

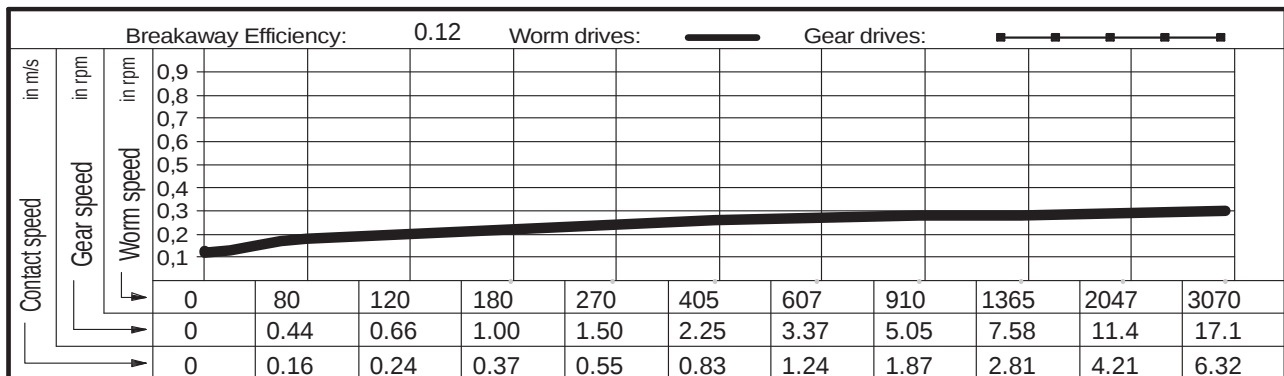


Centre distance	110.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4814 SSR
Outer Ø worm	44.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	184.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	41.07 mm	
No. teeth, gear	144	Lead angle at Bks	1.7075 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de			

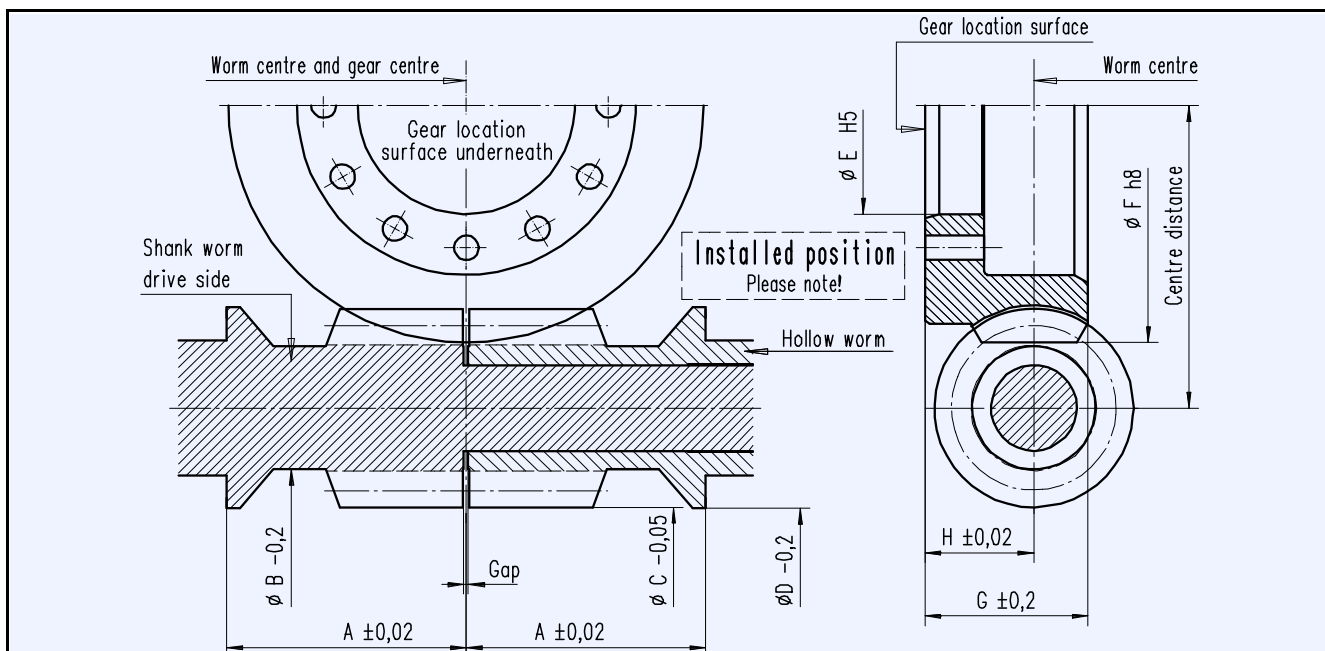
Centre distance	110.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 1664 SSR
Outer Ø worm	42.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	184.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	39.31 mm	
No. teeth, gear	180	Lead angle at Bks	1.4467 °	



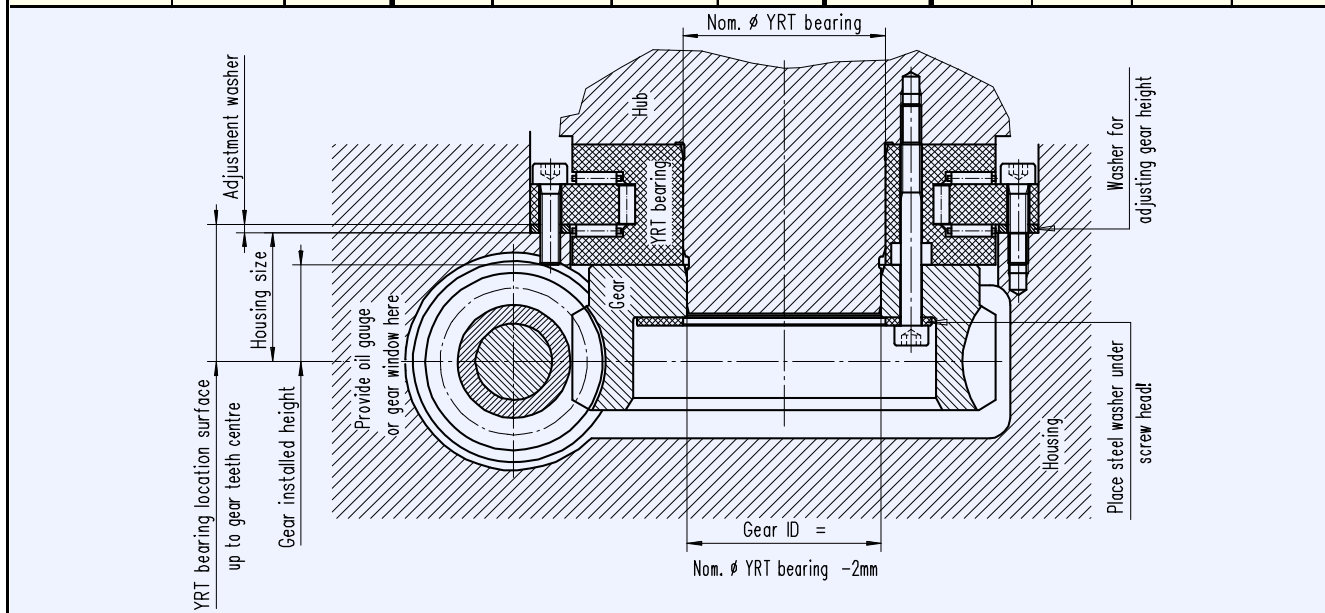
Gear selection by load type and application			Lubricant: Synthetic oil
Series R1 ■	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 ■	
Series R2 ■	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 ■	
Series R3 ■	a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de	

OTT worm gears - centre distance 125 mm

Main dimensions



OTT gear no.	Ratio		Worm				YRT gear bearing	Gear			
	No. starts Z1	No. teeth Z2	Distance A	Undercut ϕ B	Head ϕ C	Collar ϕ D		Internal ϕ E	Head ϕ F	Width G	Height H
5549 SSR	2	80	71	34,2	51,7	54,6	150	148	214	48	30
4879 SSR	2	100		34,5	49,2						
4877 SSR	2	120		34,8	47,4						
4804 SSR	1	70		34,0	53,6						
5741 SSR	1	72		34,0	53,2						
4853 SSR	1	90		34,4	50,4						
4861 SSR	1	120		34,8	47,4						
4846 SSR	1	144		35	46						
							See comments page 5!				

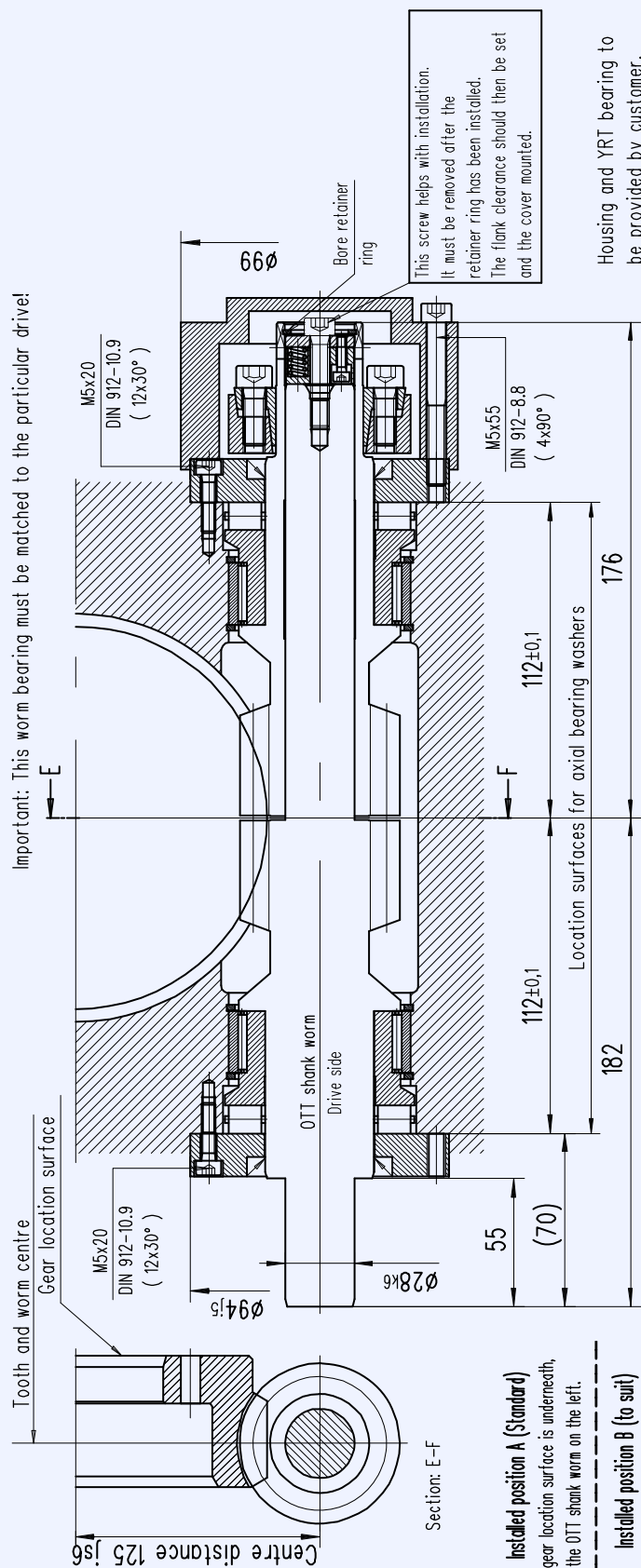


Required internal contour of gear housing for centre distance 125 mm



Worm bearings

Worm bearing for centre distance 125 mm

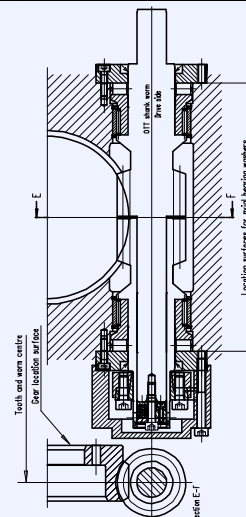
☐ Installed position A (Standard)

The gear location surface is underneath, the OTT shank worm on the left.

☐ Installed position B (to suit)

The gear location surface is underneath, the OTT shank worm on the right.

OTT worm gear				Bearing parts per gear		
OTT no.	Worm gear	Shank worm	Hollow worm	Q'ty	Name	Typ/Dwg no.
☐ 5549 SSR	T00441-G-RAO	T00305-G-SSC	T00306-G-HSC	2	AXIAL CYLINDER ROLLER BEARING	K812 08 TV
☐ 4879 SSR	T00442-G-RAO	T00307-G-SSC	T00308-G-HSC	2	RADIAL NEEDLE BEARING	RNAO 50x62x20
☐ 4877 SSR	T00443-G-RAO	T00309-G-SSC	T00310-G-HSC	2	SHAFT SEAL	40x52x6
☐ 4804 SSR	T00444-G-RAO	T00311-G-SSC	T00312-G-HSC	1	SHRINK DISC	HSD 36-22
☐ 5741 SSR	T00445-G-RAO	T00313-G-SSC	T00314-G-HSC	4	CIRCLIP	SB 62
☐ 4853 SSR	T00446-G-RAO	T00315-G-SSC	T00316-G-HSC	24	CYLINDER BOLT DIN 912	M5x20 - 10.9
☐ 4861 SSR	T00447-G-RAO	T00317-G-SSC	T00318-G-HSC	4	CYLINDER BOLT DIN 912	M5x55 - 8.8
☐ 4846 SSR	T00448-G-RAO	T00319-G-SSC	T00320-G-HSC	1	CYLINDER BOLT DIN 912	M6x30 - 8.8
☐				1	RETAINER RING DIN 472	28
☐				2	BEARING SLEEVE	T00221-G-LHÜ
☐ REQUEST	Date:	Name:		2	AXIAL BEARING WASHER	T00233-G-LDX
☐ ORDER				1	COVER	T00216-G-ADH
				1	THRUST PLECE	B00009-G-DST



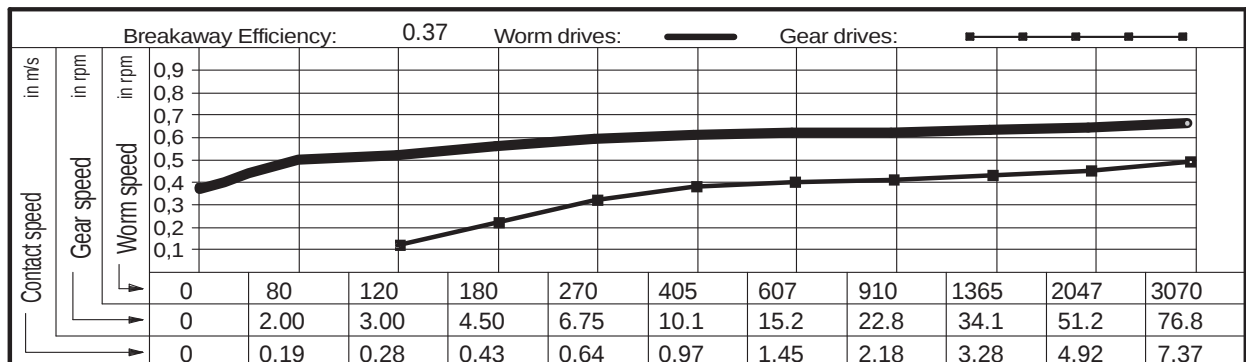
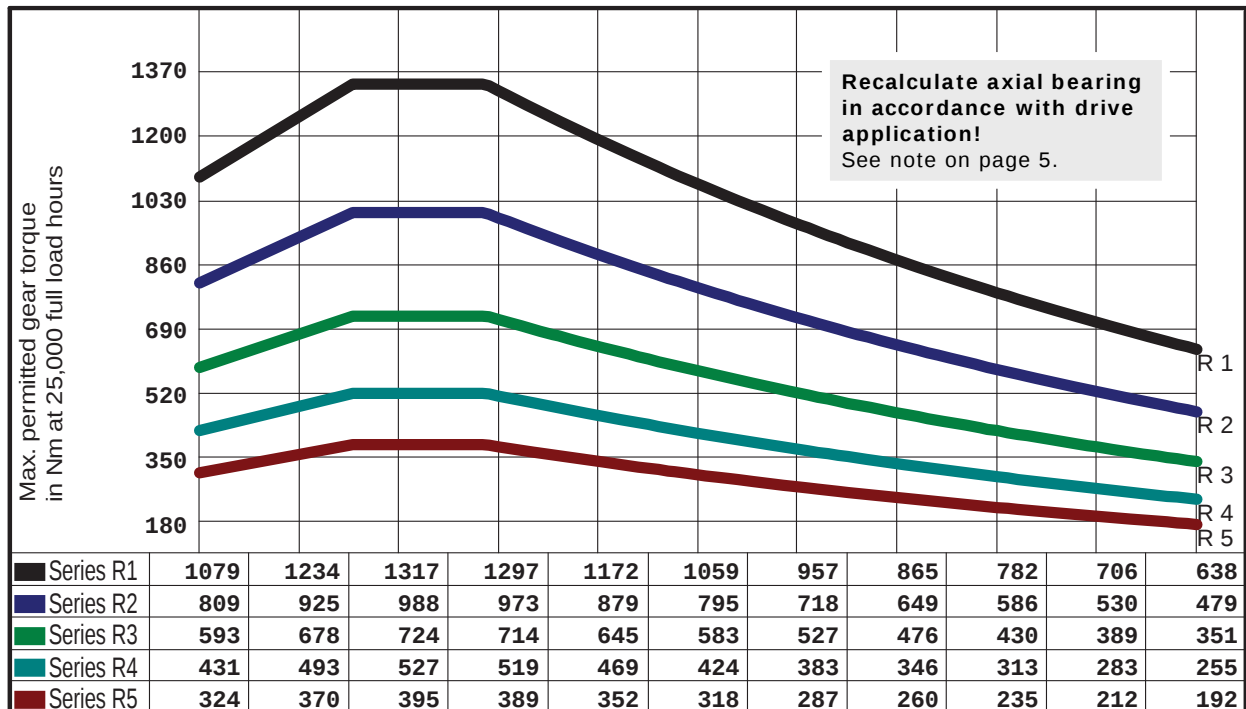
Order using set of OTT worm gears

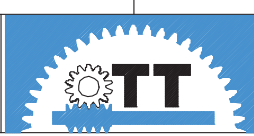
☐ Gearset incl. thrust piece without bearing parts

☐ Gearset incl. all bearing parts

Operational characteristics

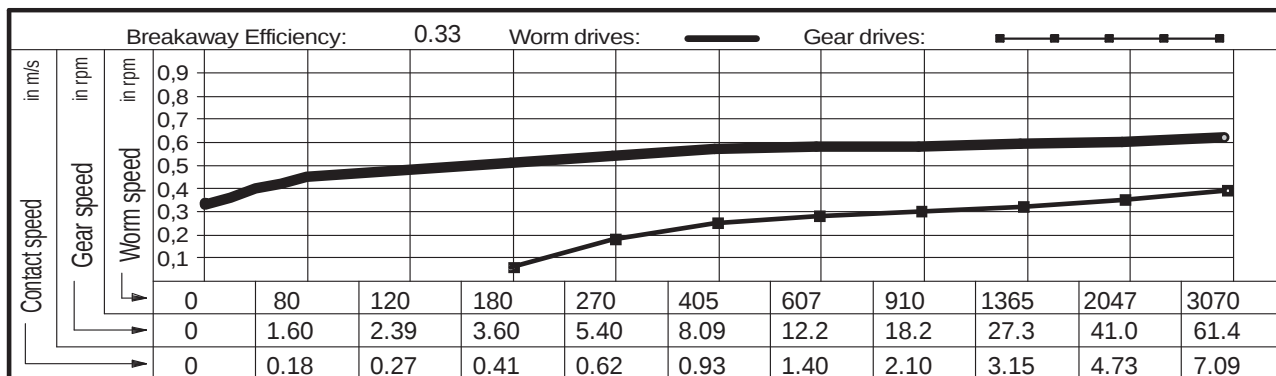
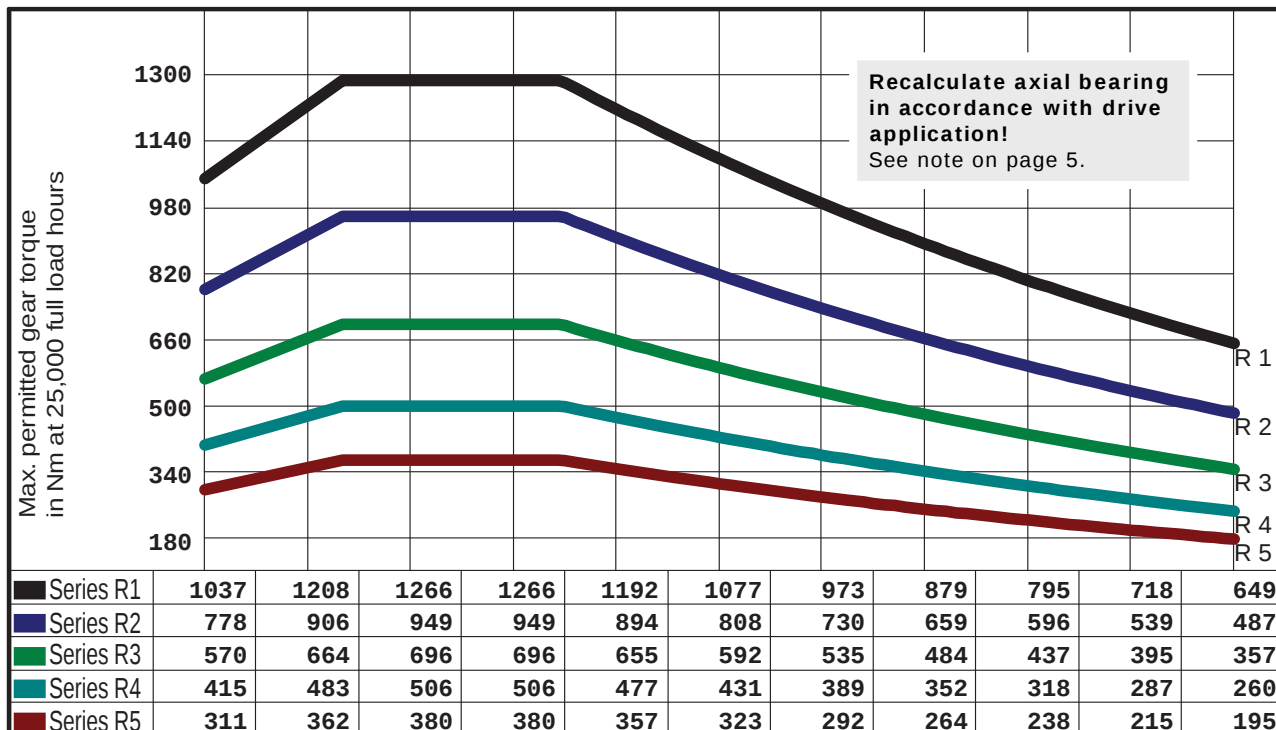
Centre distance	125.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 5549 SSR
Outer Ø worm	51.70 mm	Material, worm	31CrMoV9	
Outer Ø gear	214.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	45.63 mm	
No. teeth, gear	80	Lead angle at Bks	6.2567 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de		

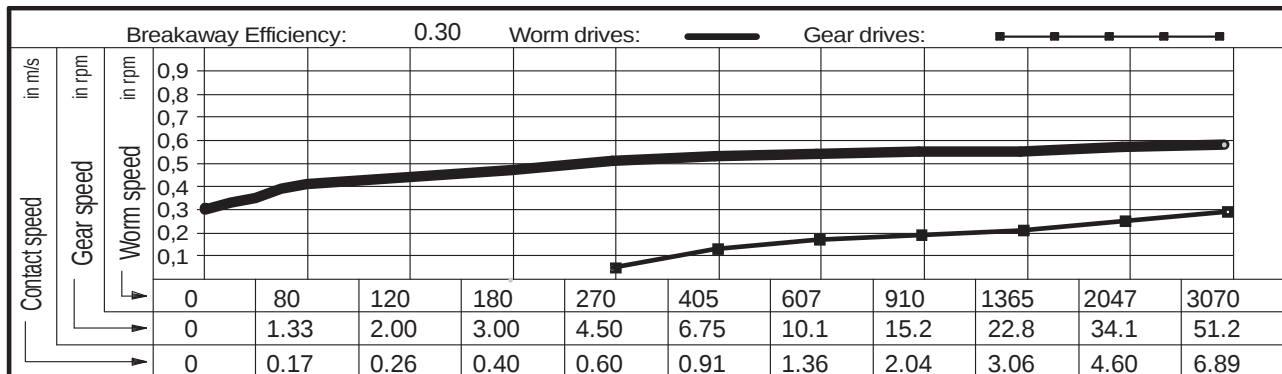
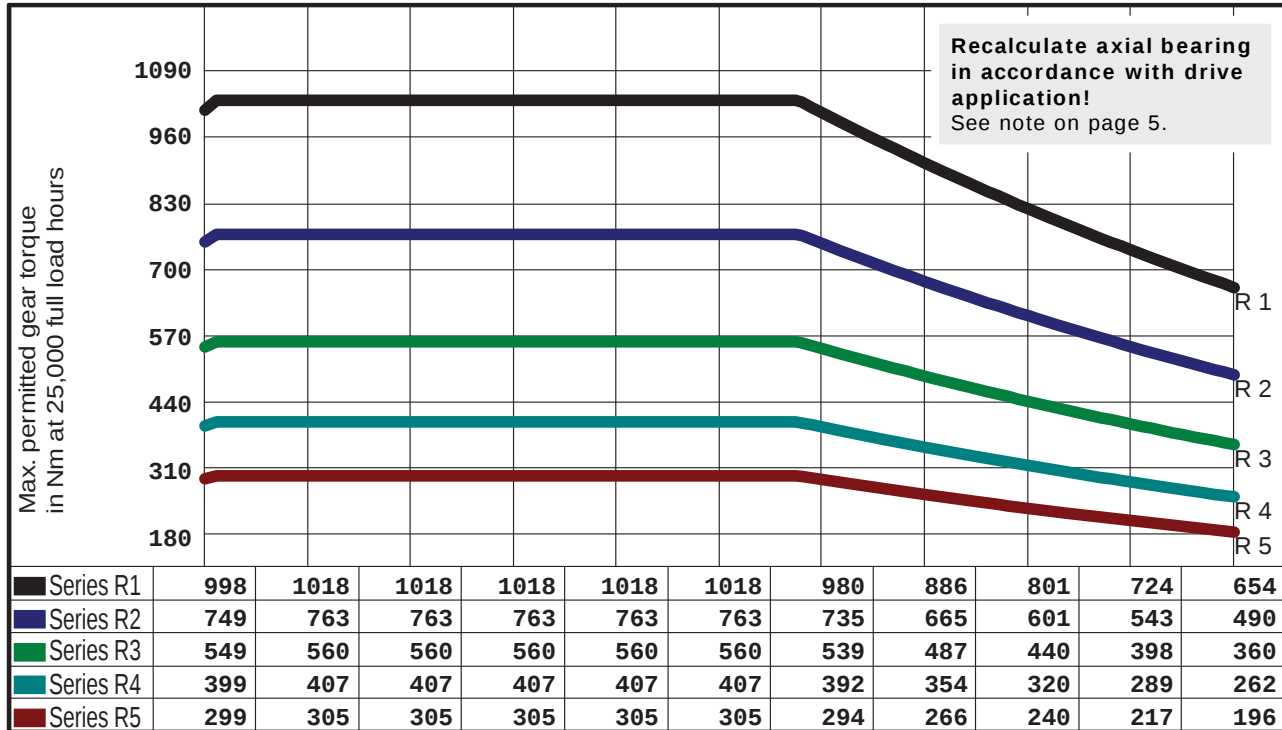
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Fax. 07471 - 705 39
Email. Info@zahnrad-ott.de

Centre distance	125.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4879 SSR
Outer Ø worm	49.20 mm	Material, worm	31CrMoV9	
Outer Ø gear	214.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	43.97 mm	
No. teeth, gear	100	Lead angle at Bks	5.2566 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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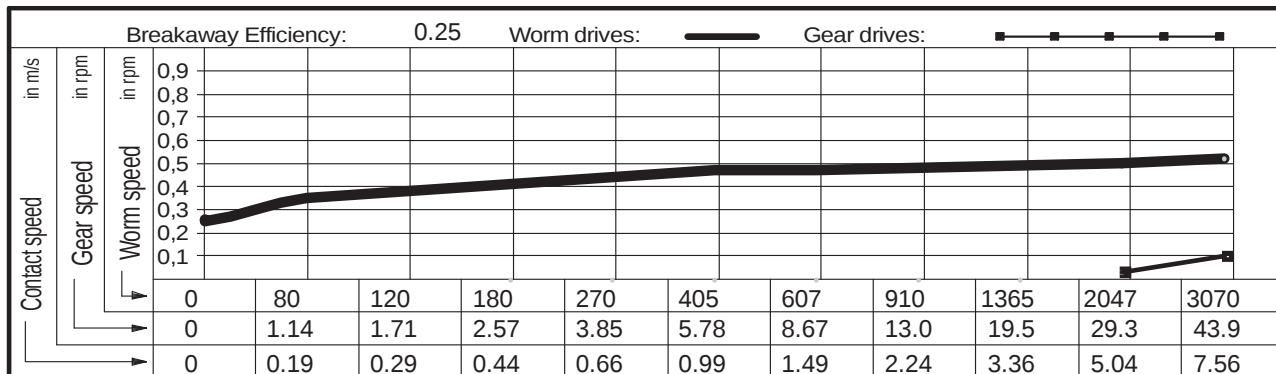
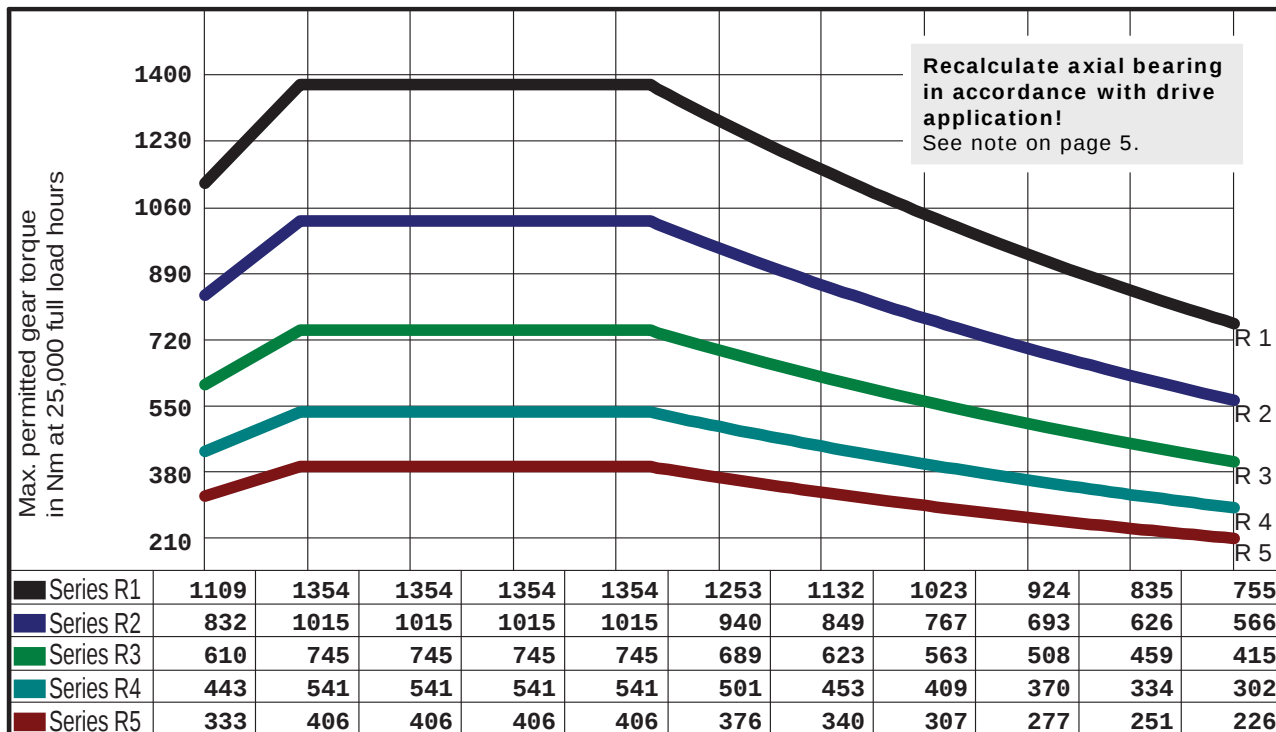
Centre distance	125.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4877 SSR
Outer Ø worm	47.40 mm	Material, worm	31CrMoV9	
Outer Ø gear	214.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	42.79 mm	
No. teeth, gear	120	Lead angle at Bks	4.5399 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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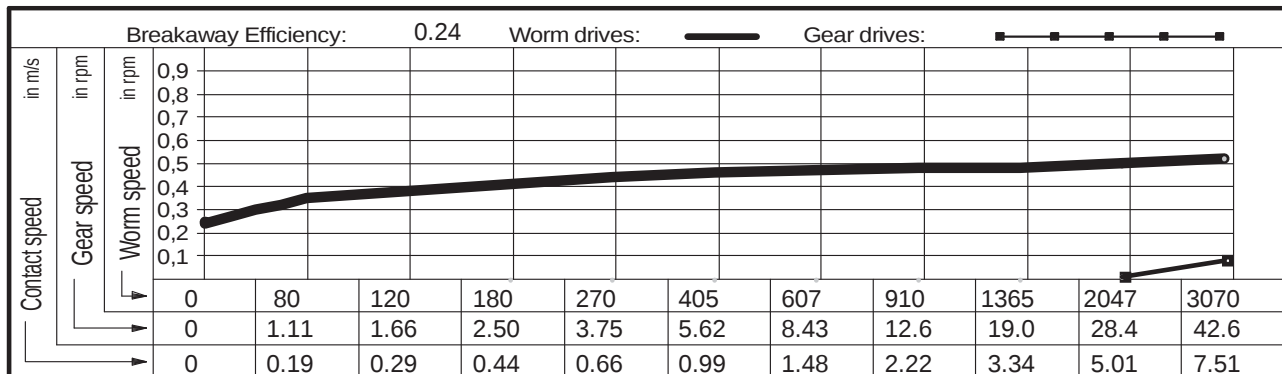
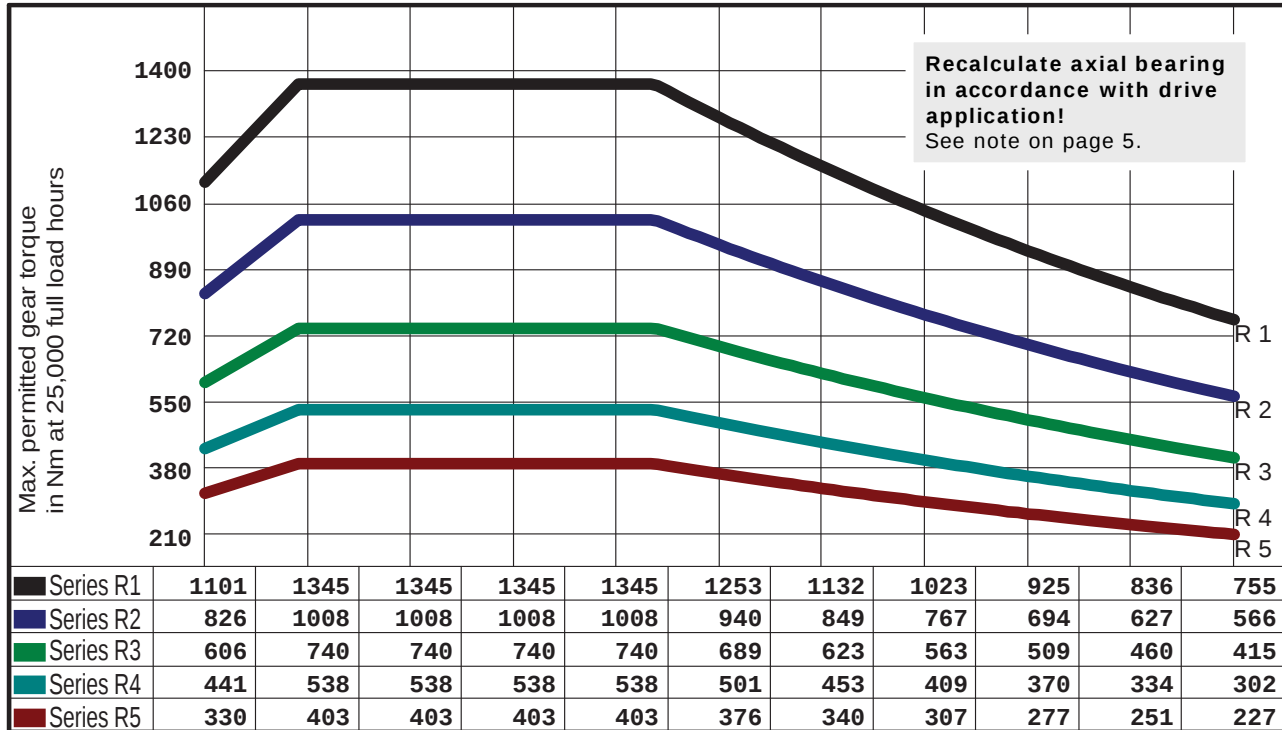


Centre distance	125.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4804 SSR
Outer Ø worm	53.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	214.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	46.95 mm	
No. teeth, gear	70	Lead angle at Bks	3.4559 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de		

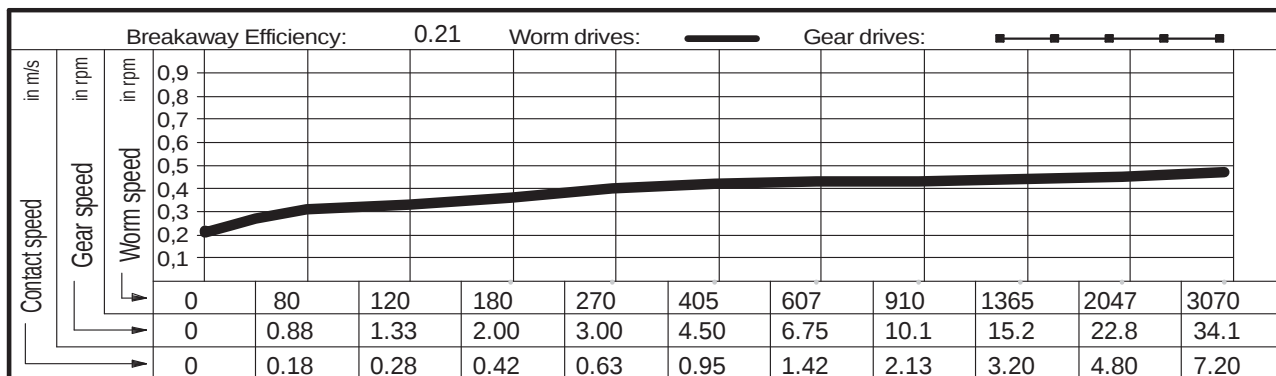
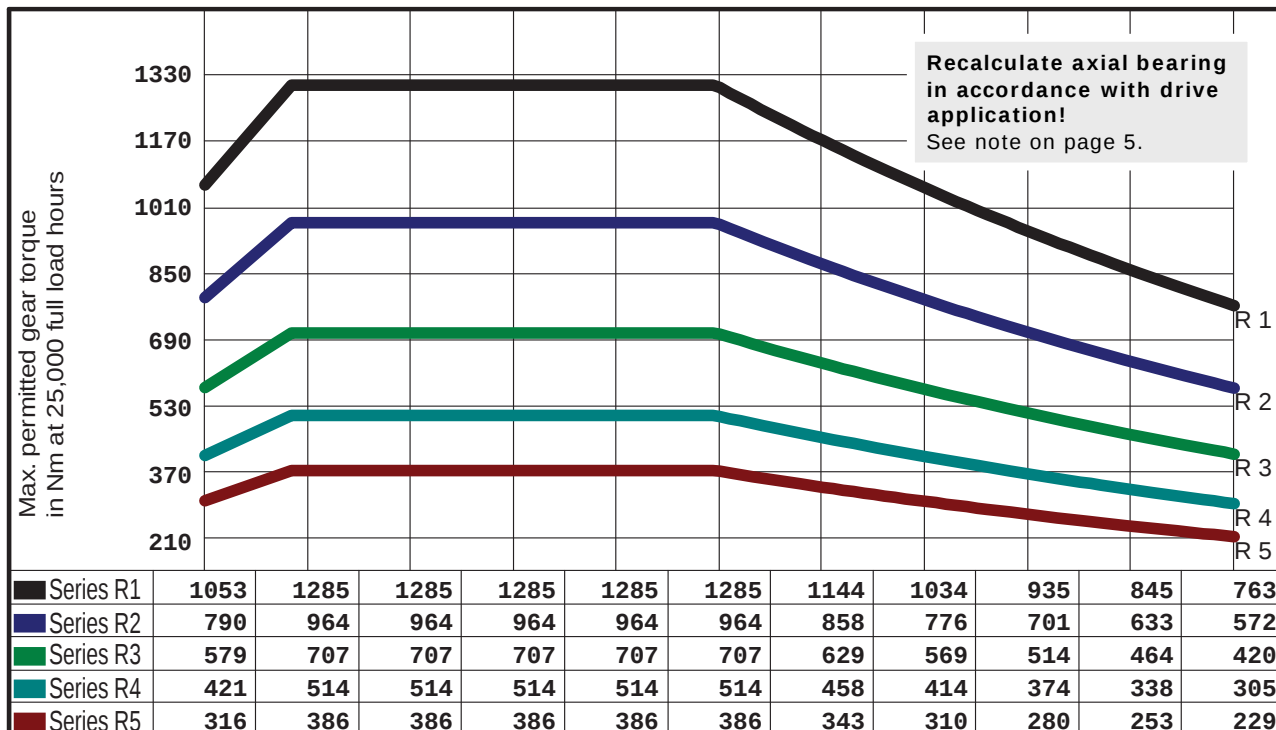
Centre distance	125.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 5741 SSR
Outer Ø worm	53.20 mm	Material, worm	31CrMoV9	
Outer Ø gear	214.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	46.67 mm	
No. teeth, gear	72	Lead angle at Bks	3.3859 °	

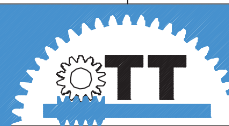


Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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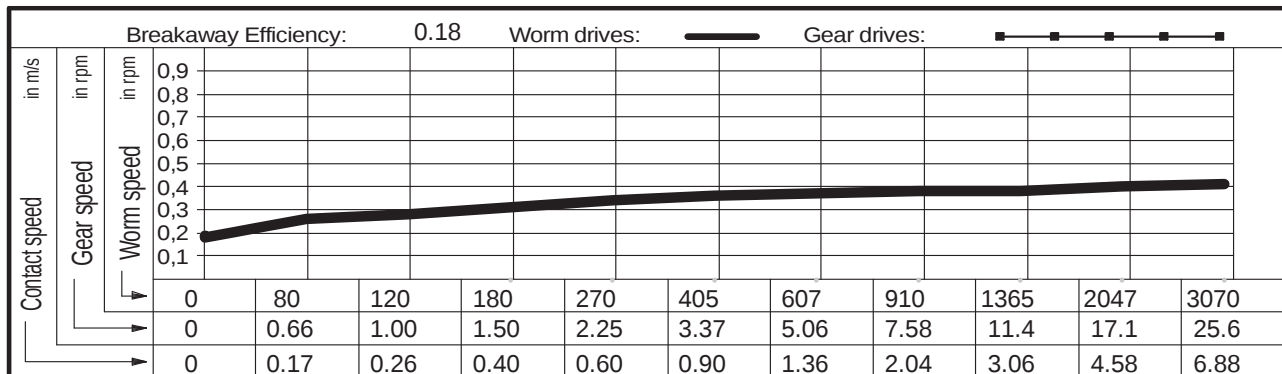


Centre distance	125.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4853 SSR
Outer Ø worm	50.40 mm	Material, worm	31CrMoV9	
Outer Ø gear	214.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	44.78 mm	
No. teeth, gear	90	Lead angle at Bks	2.8585 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions. CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de 		

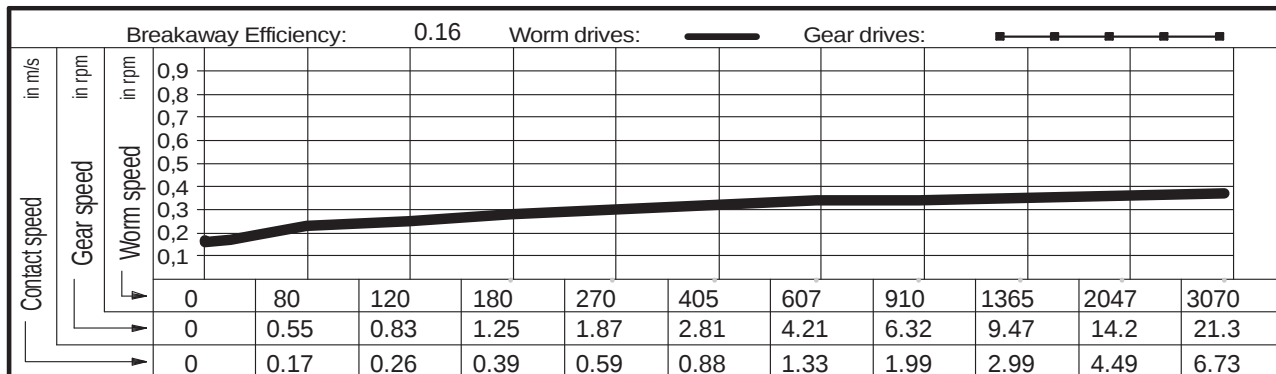
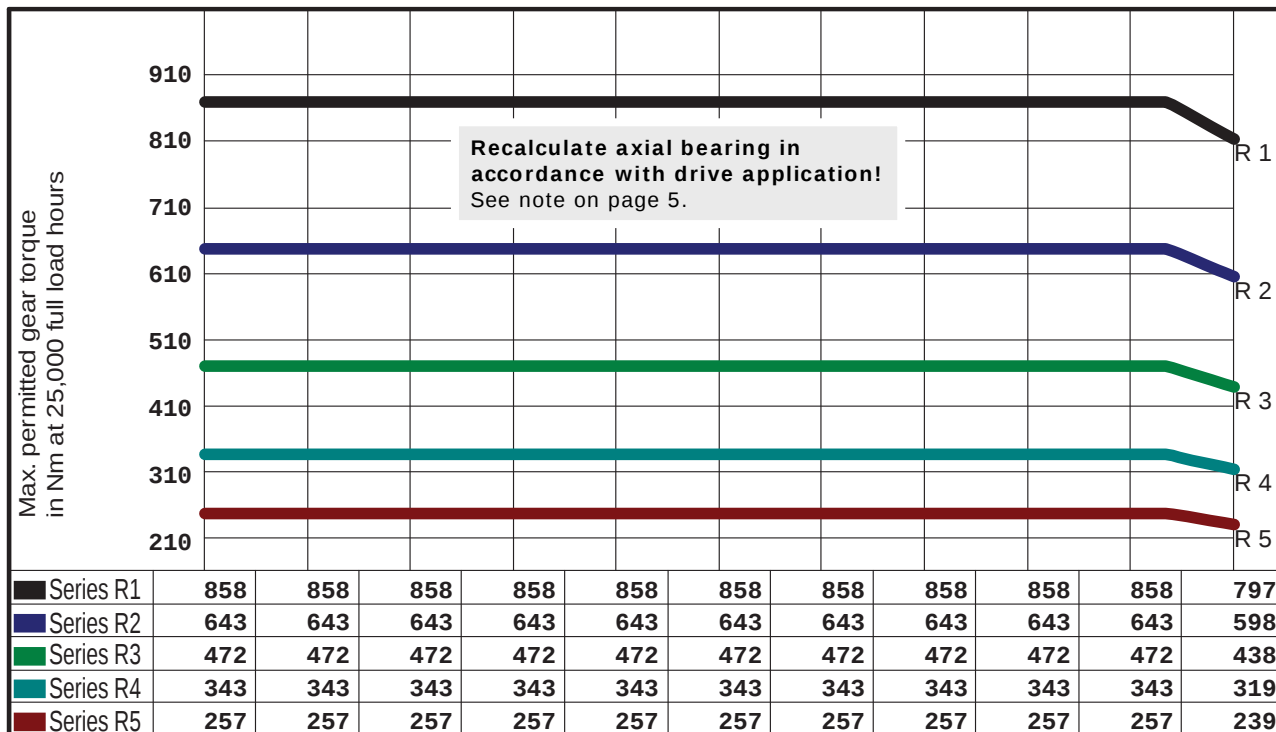
Centre distance	125.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4861 SSR
Outer Ø worm	47.40 mm	Material, worm	31CrMoV9	
Outer Ø gear	214.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	42.79 mm	
No. teeth, gear	120	Lead angle at Bks	2.2733 °	



Gear selection by load type and application			Lubricant: Synthetic oil
Series R1	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4	
Series R2	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5	
Series R3	a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de	



Centre distance	125.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4846 SSR
Outer Ø worm	46.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	214.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	16 °	
Worm direction	right	Calculated circle Ø	41.90 mm	
No. teeth, gear	144	Lead angle at Bks	1.9465 °	

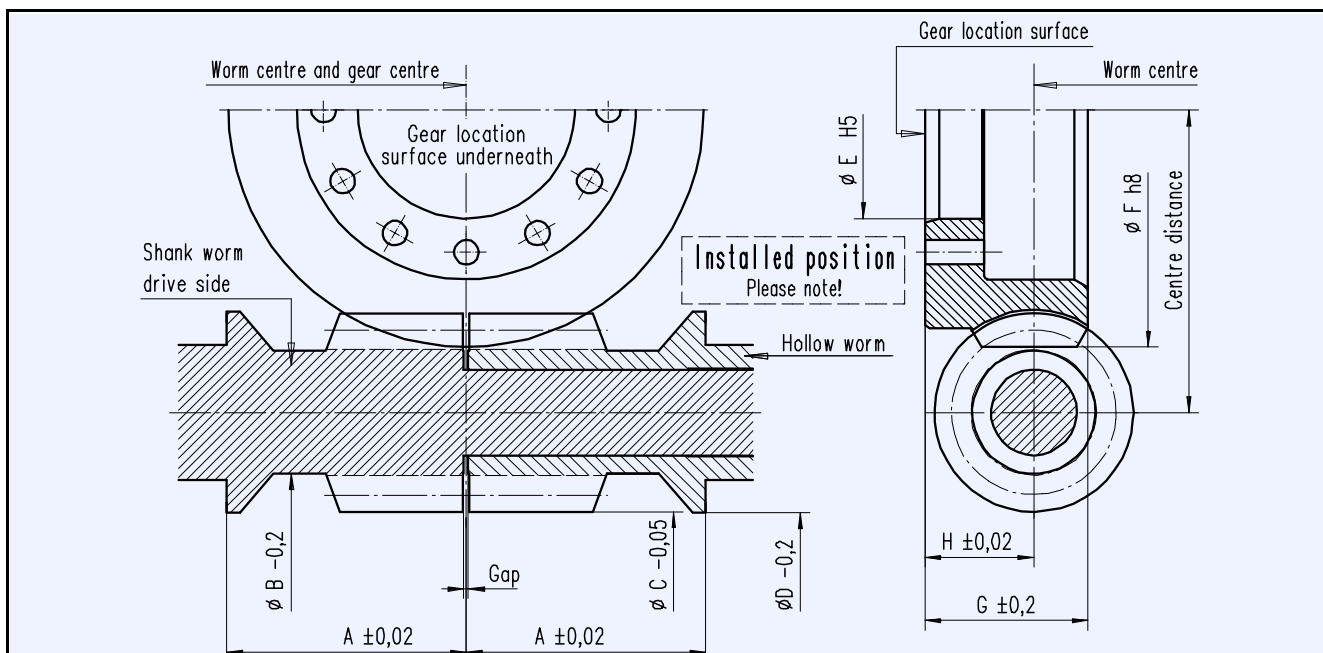


Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de 		

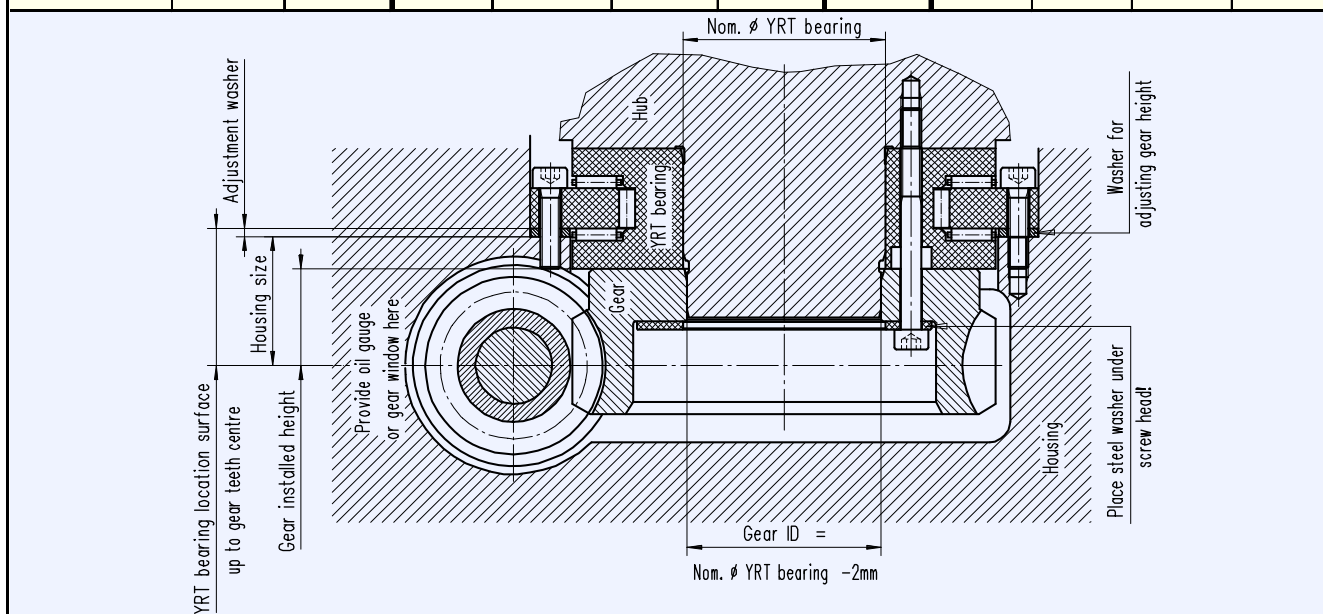


OTT worm gears - centre distance 145 mm

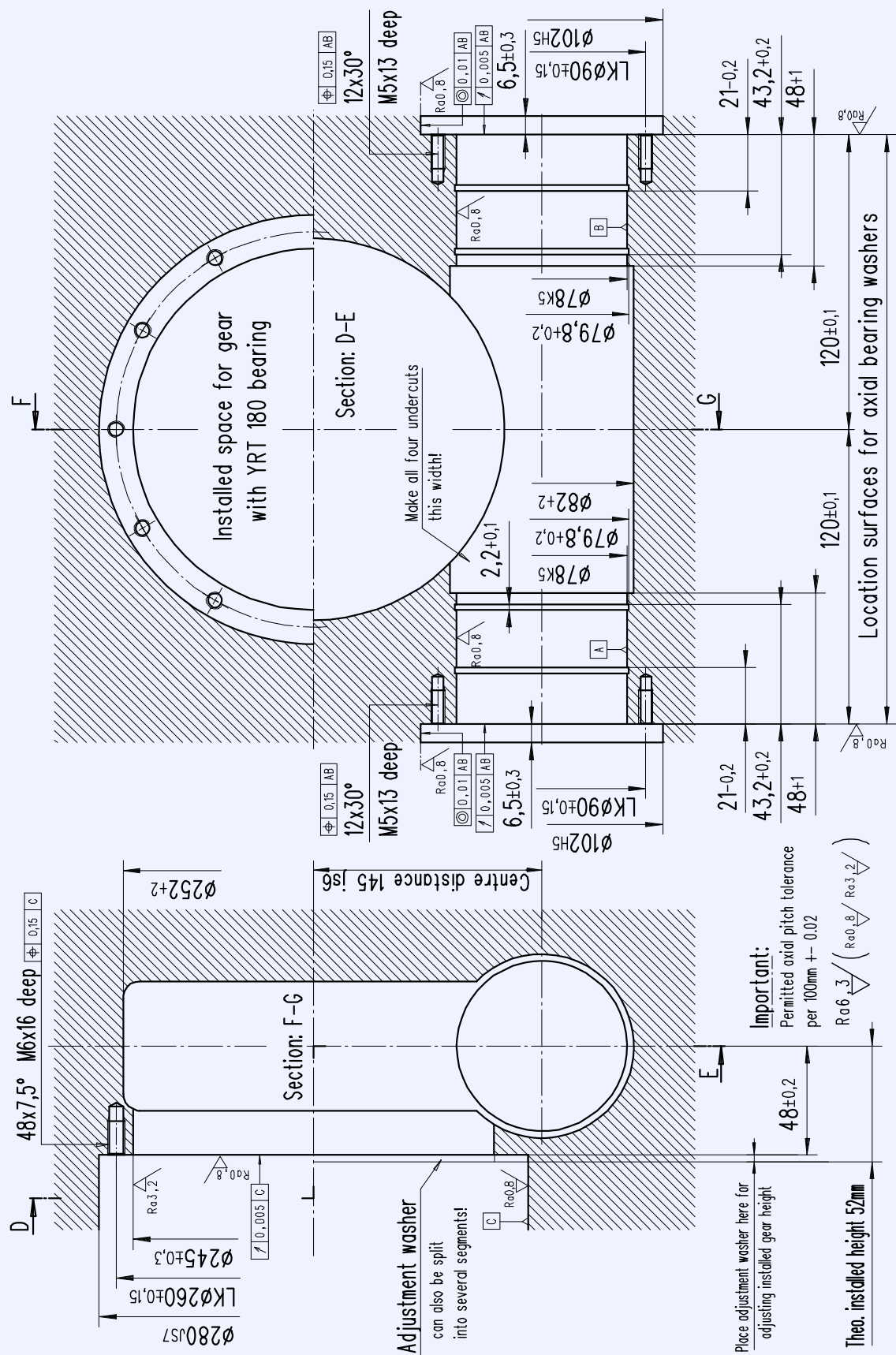
Main dimensions



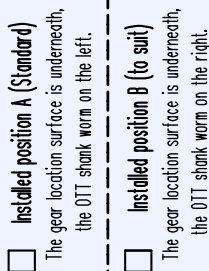
OTT gear no.	Ratio		Worm				YRT gear bearing	Gear			
	No. starts Z1	No. teeth Z2	Distance A	Undercut ϕ B	Head ϕ C	Collar ϕ D		Internal ϕ E	Head ϕ F	Width G	Height H
5834 SSR	2	89	79	44,1	62,0	67,6	180 See comments page 5!	178	244	58	38
5722 SSR	2	91		44,2	62,0						
4875 SSR	2	120		44,6	59,0						
2788 SSR	1	72		43,7	65,6						
5721 SSR	1	90		44,2	62,0						
4815 SSR	1	120		44,6	59,0						
4821 SSR	1	144		44,8	57,6						
4842 SSR	1	180		45	55,8						



Required internal contour of gear housing for centre distance 145 mm



Worm bearing for centre distance 145 mm



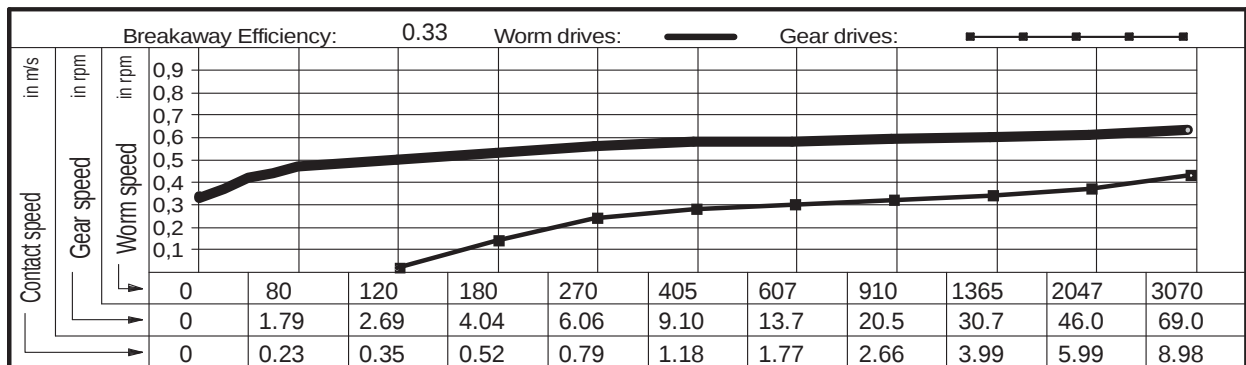
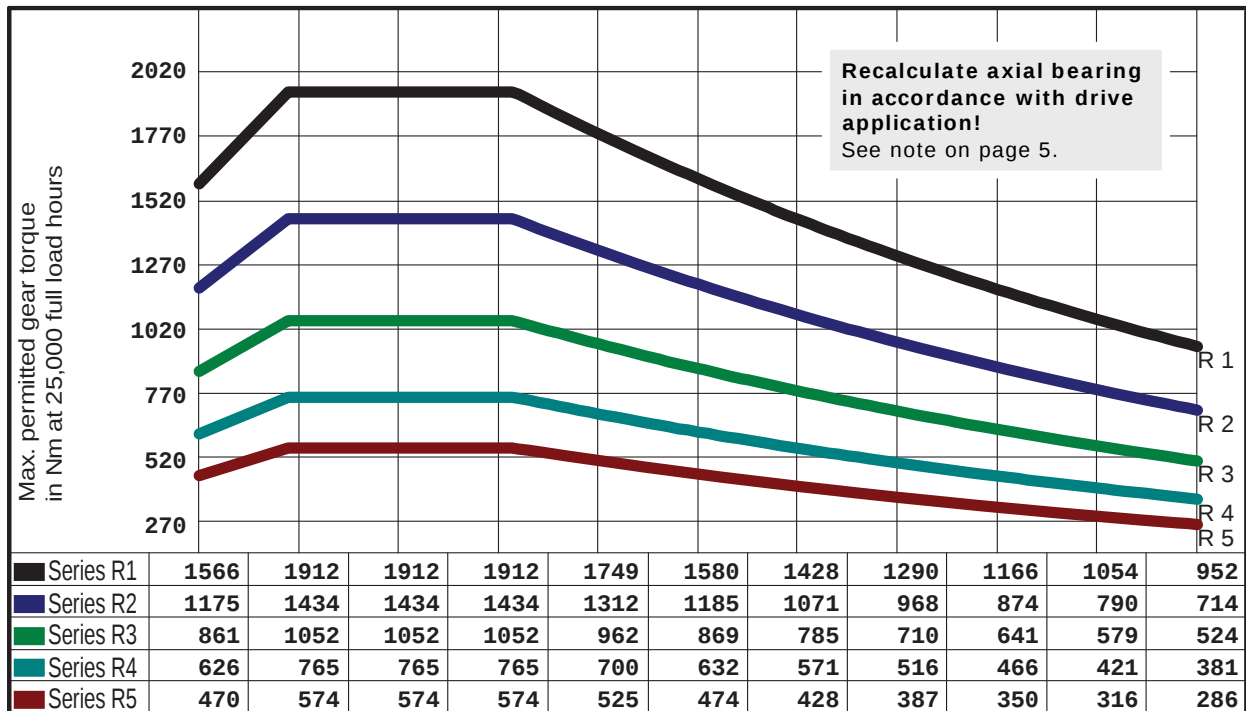
Order using set of OTT worm gears

☐ Gearset incl. thrust piece without bearing parts

☐ Gearset incl. all bearing parts

Operational characteristics

Centre distance	145.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 5834 SSR
Outer Ø worm	62.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	244.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	55.67 mm	
No. teeth, gear	89	Lead angle at Bks	5.3020 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions. CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de		
			

Zahnradfertigung OTT

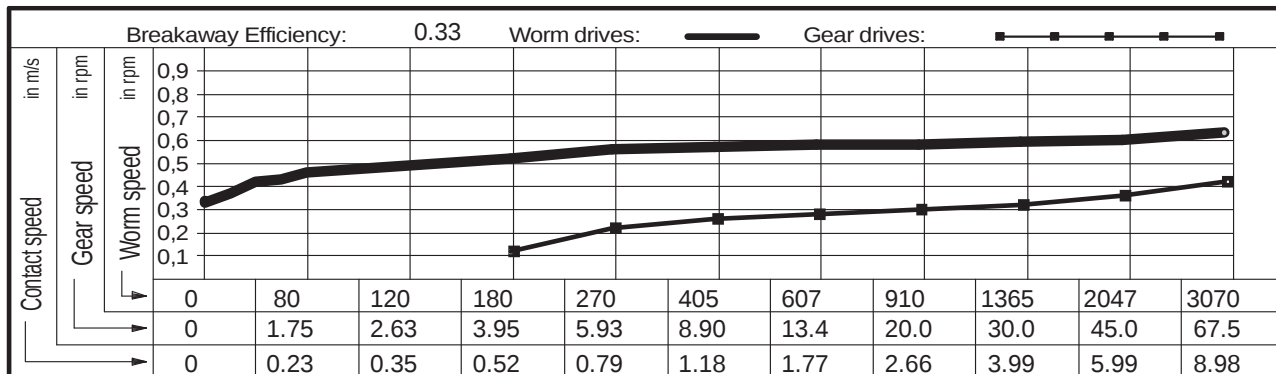
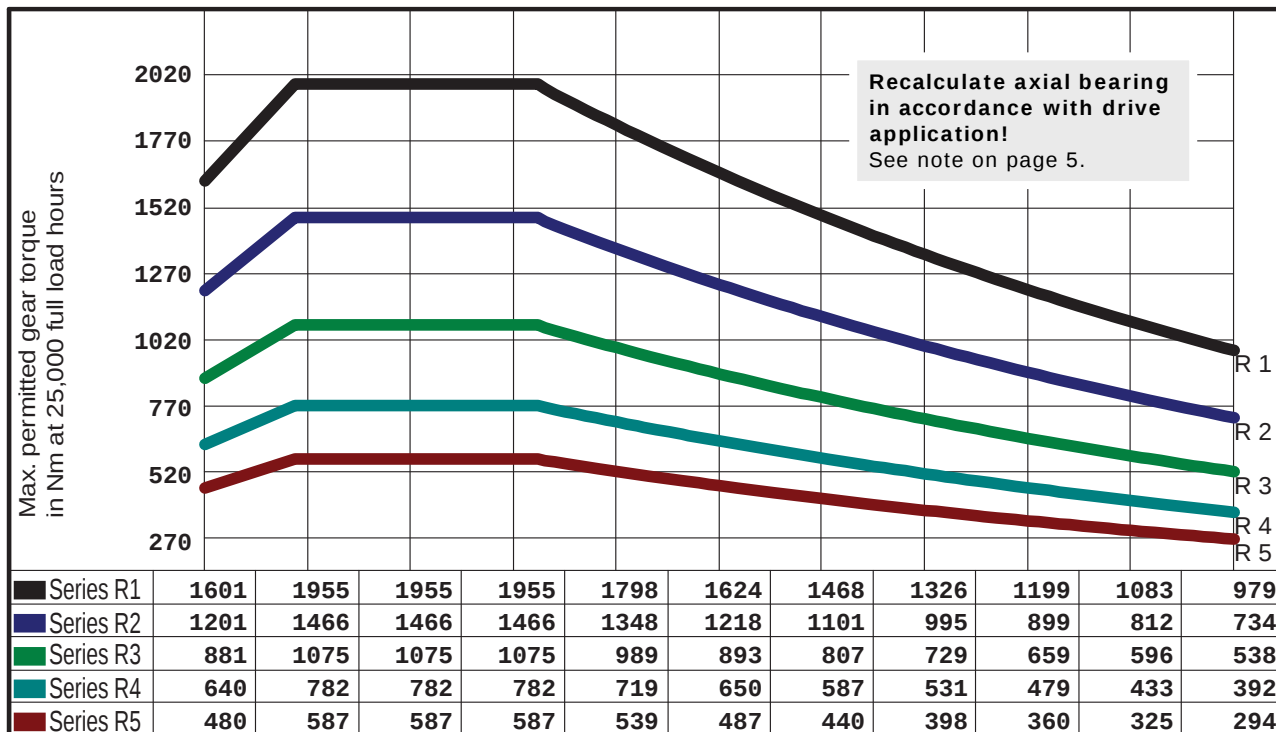
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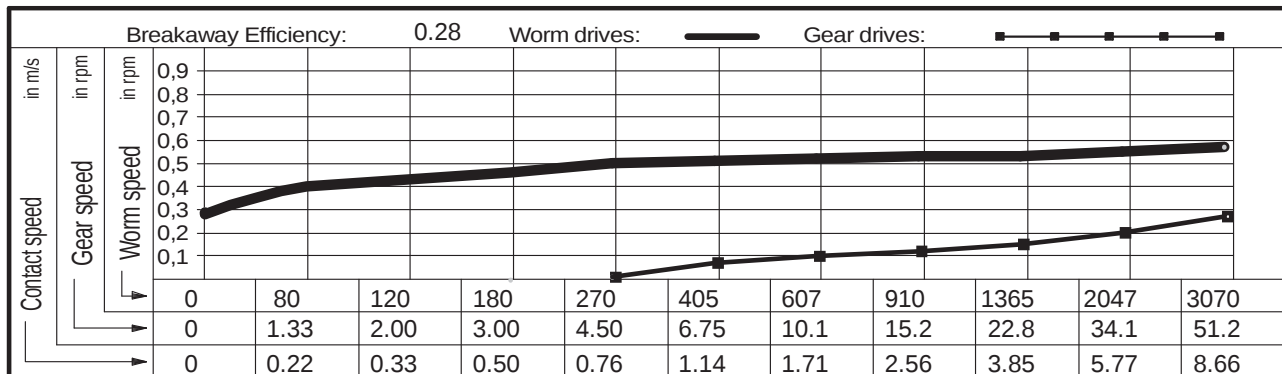
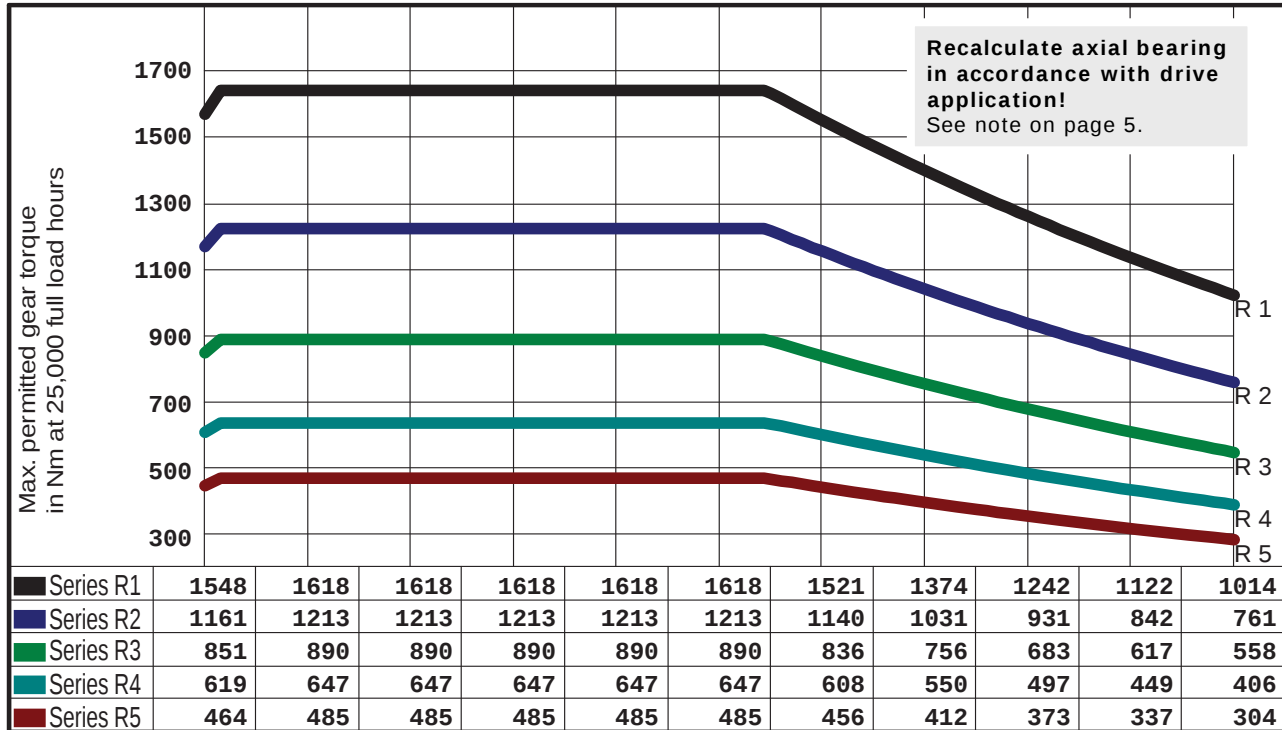


Centre distance	145.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 5722 SSR
Outer Ø worm	62.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	244.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	55.70 mm	
No. teeth, gear	91	Lead angle at Bks	5.1824 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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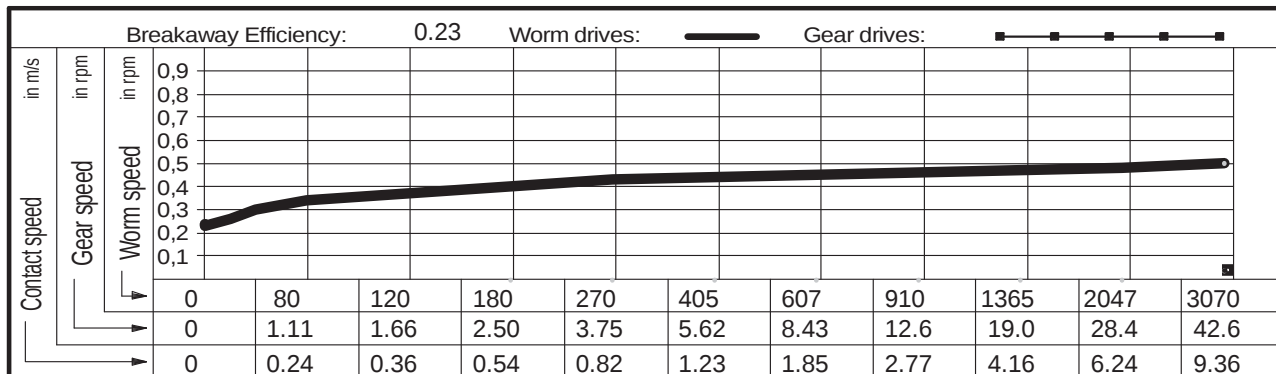
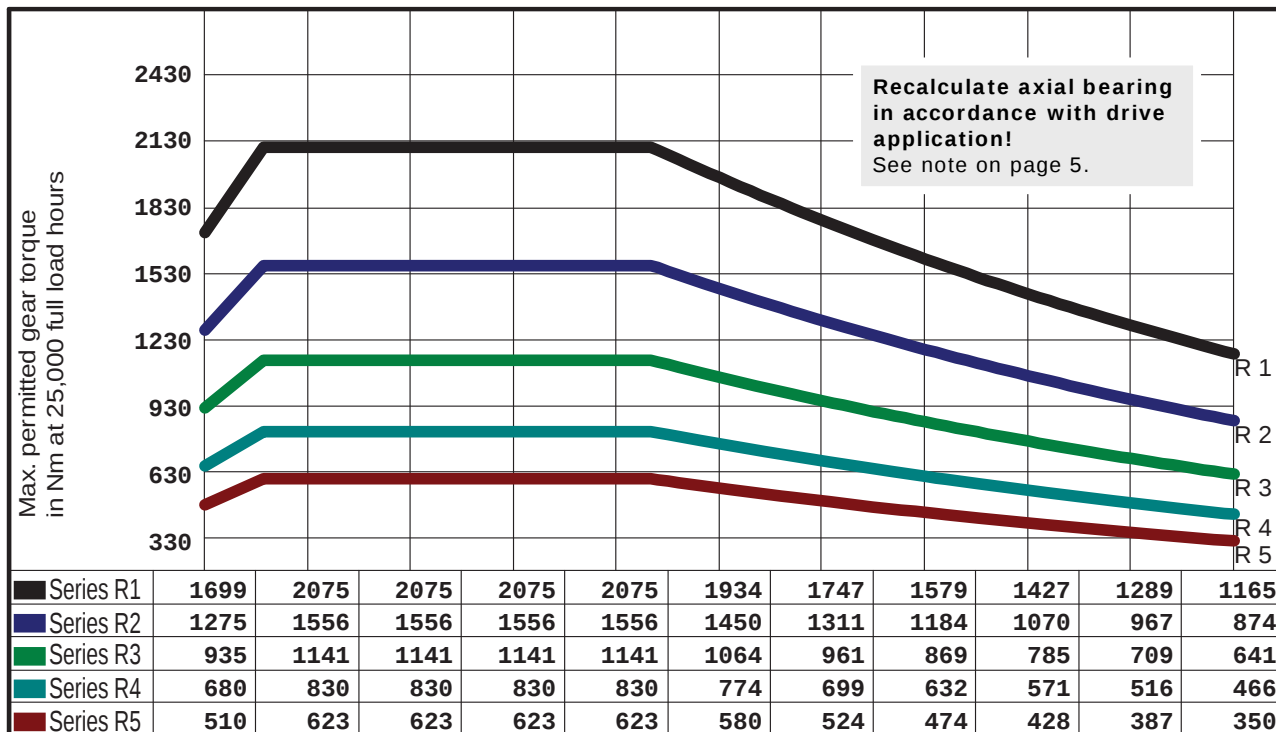
Centre distance	145.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4875 SSR
Outer Ø worm	59.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	244.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	53.74 mm	
No. teeth, gear	120	Lead angle at Bks	4.1226 °	



Gear selection by load type and application				Lubricant: Synthetic oil
Series R1 	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 	a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	
Series R2 	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 	a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions	
Series R3 	a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions. CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de 		

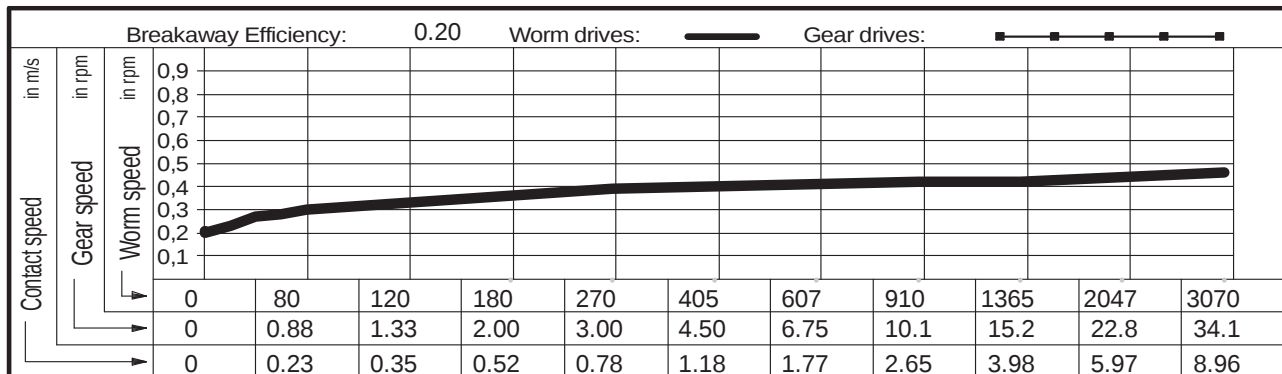
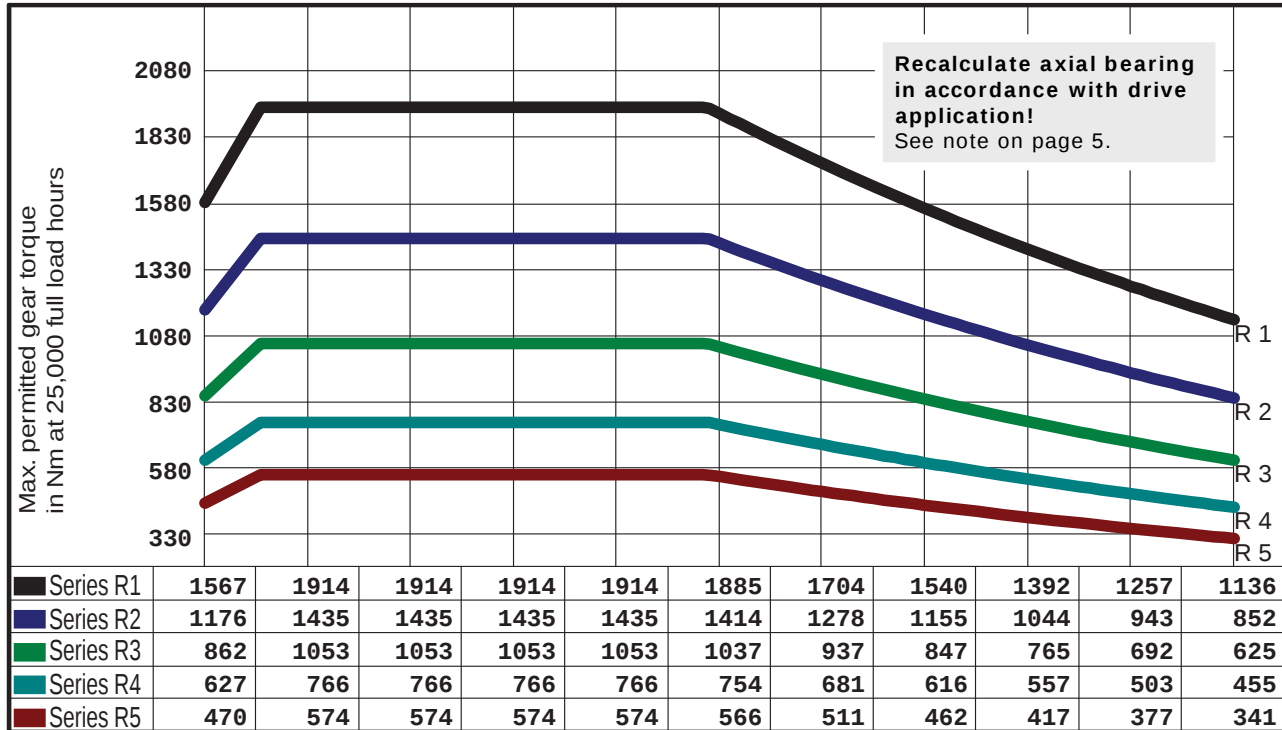


Centre distance	145.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 2788 SSR
Outer Ø worm	65.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	244.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	58.17 mm	
No. teeth, gear	72	Lead angle at Bks	3.0985 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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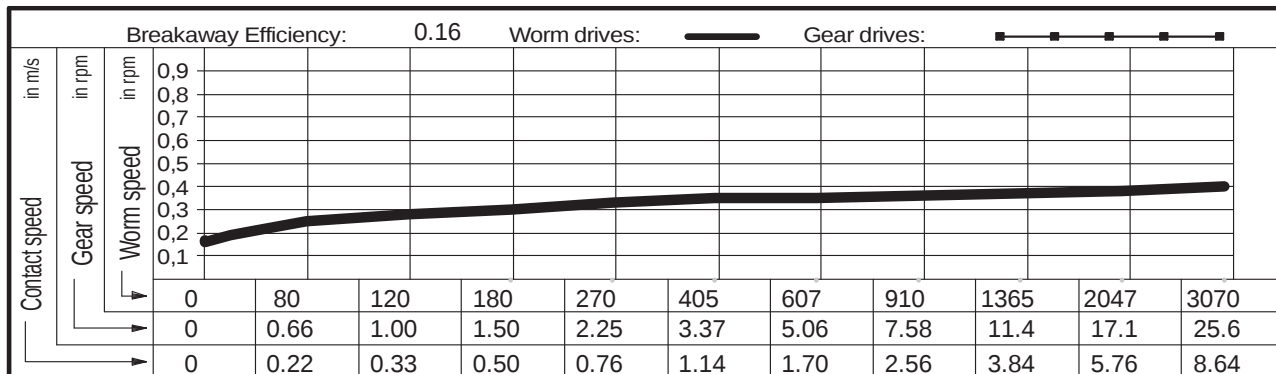
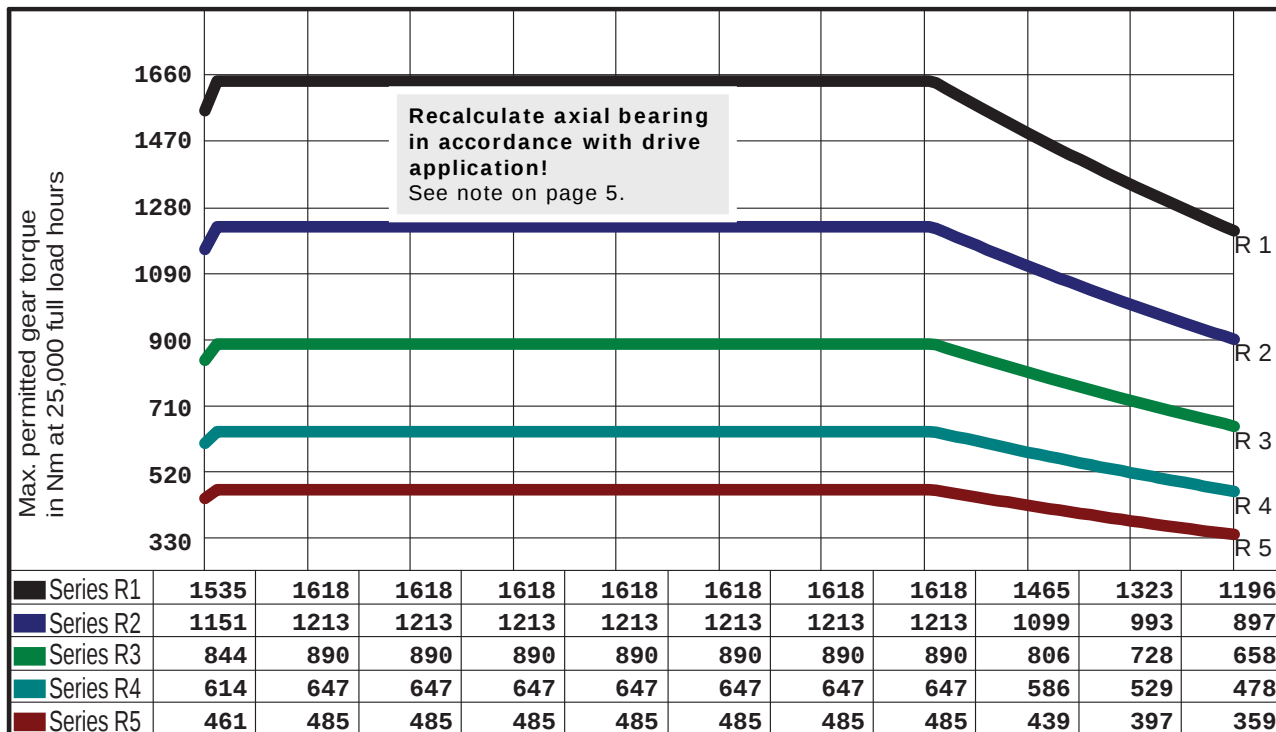
Centre distance	145.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 5721 SSR
Outer Ø worm	62.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	244.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	55.69 mm	
No. teeth, gear	90	Lead angle at Bks	2.6260 °	



Gear selection by load type and application				Lubricant: Synthetic oil
Series R1 	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes)	Series R4 	a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes)	
Application:	Measurement and test machinery drives, CNC axes	Application:	Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	
Series R2 	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes)	Series R5 	a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes)	
Application:	Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Application:	Heavy milling and trunion drives, CNC axes with unfavourable conditions	
Series R3 	a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes)	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de		
Application:	Index tables, rotary tables for circular milling with relatively favourable cutting conditions. CNC axes			

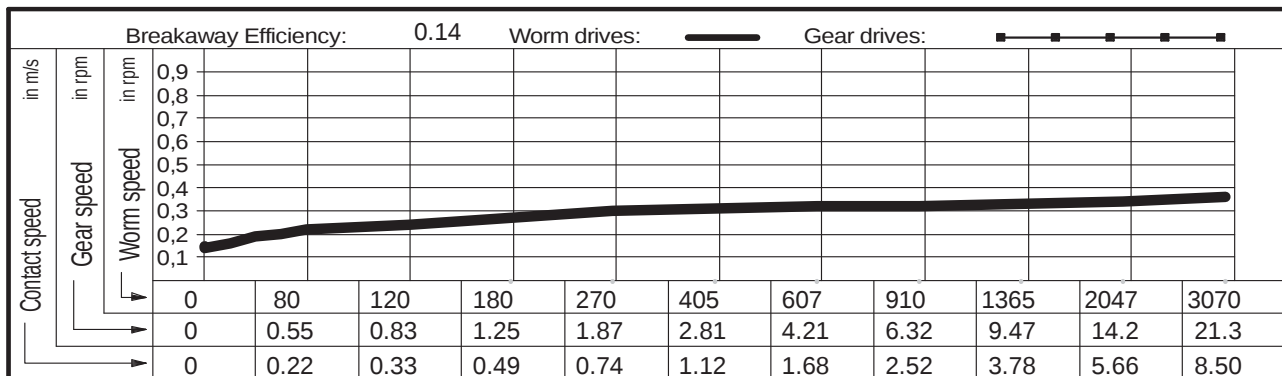
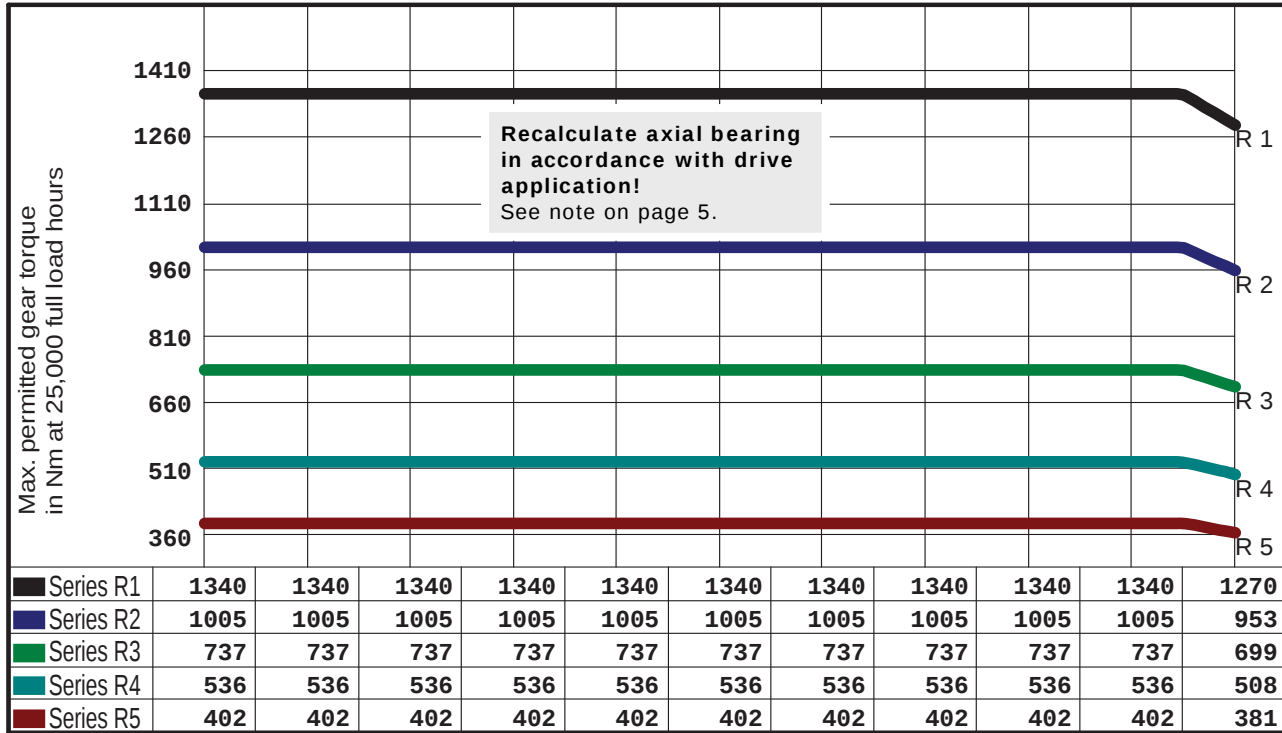


Centre distance	145.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4815 SSR
Outer Ø worm	59.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	244.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	53.75 mm	
No. teeth, gear	120	Lead angle at Bks	2.0638 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de		

Centre distance	145.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4821 SSR
Outer Ø worm	57.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	244.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	52.87 mm	
No. teeth, gear	144	Lead angle at Bks	1.7572 °	

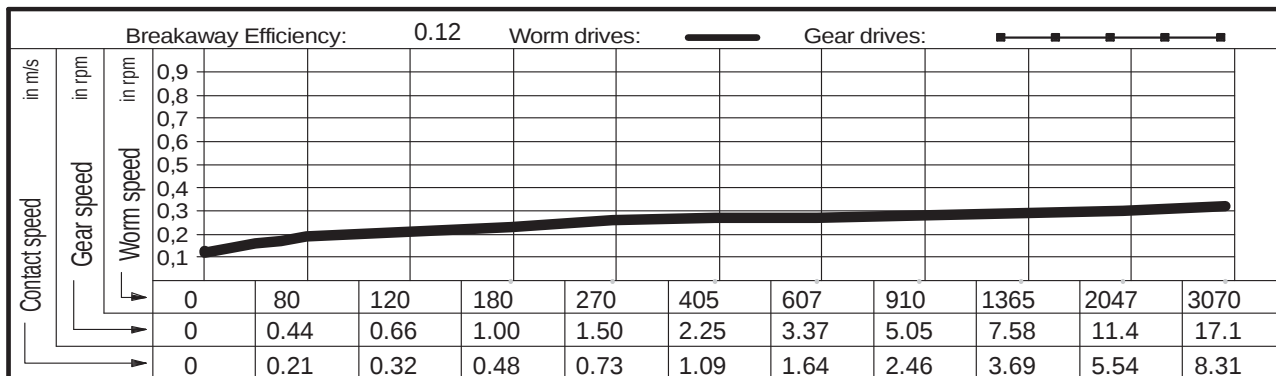
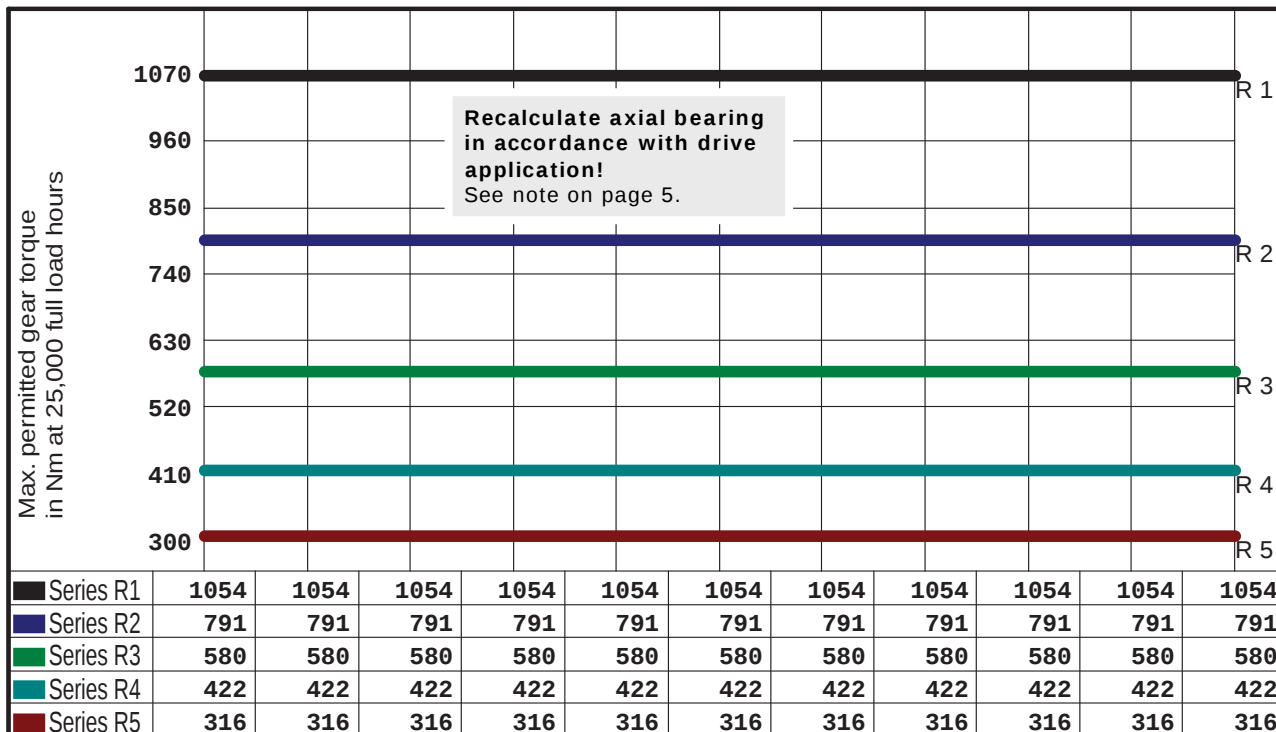


Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions. CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de		





Centre distance	145.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4842 SSR
Outer Ø worm	55.80 mm	Material, worm	31CrMoV9	
Outer Ø gear	244.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	51.72 mm	
No. teeth, gear	180	Lead angle at Bks	1.4469 °	

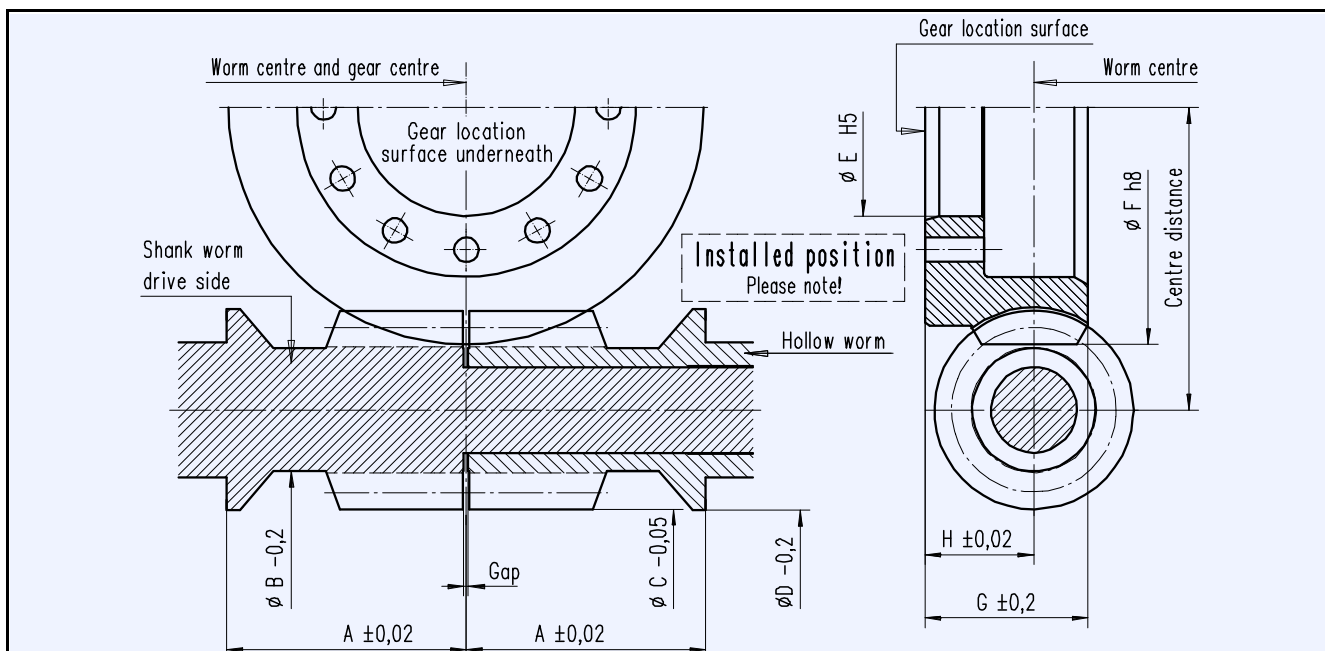


Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de 		

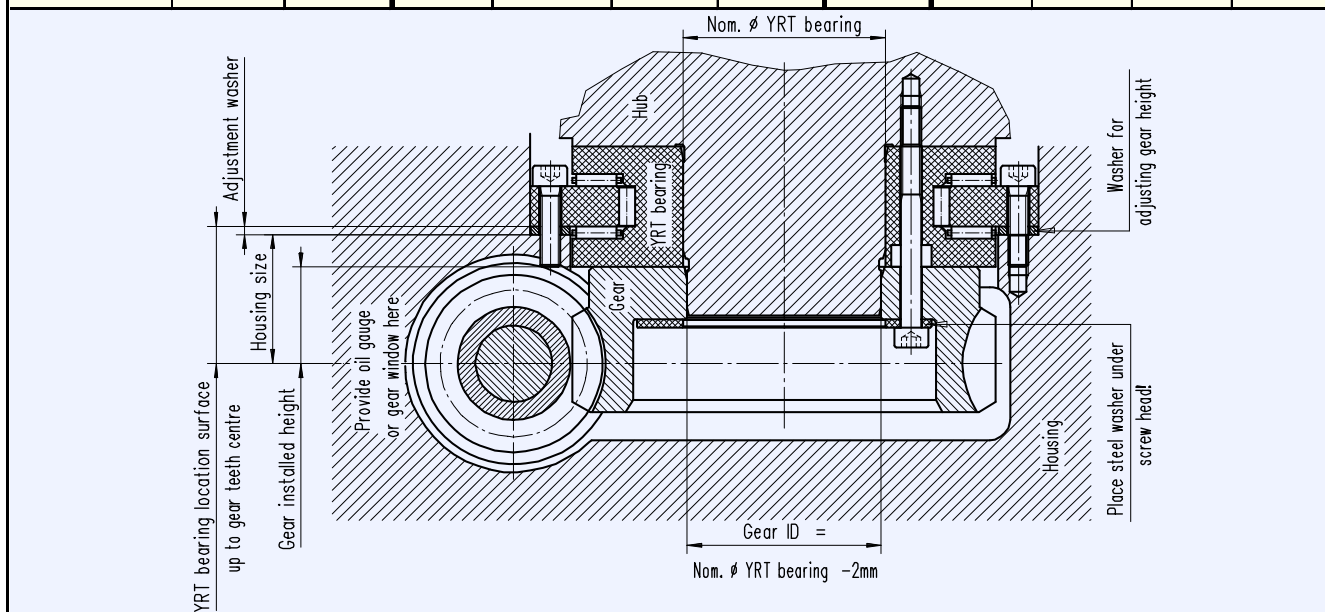


OTT worm gears - centre distance 165 mm

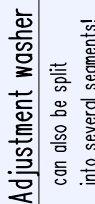
Main dimensions



OTT gear no.	Ratio		Worm				YRT gear bearing	Gear			
	No. starts Z1	No. teeth Z2	Distance A	Undercut ϕ B	Head ϕ C	Collar ϕ D		Internal ϕ E	Head ϕ F	Width G	Height H
4860 SSR	2	120	85	44,4	62,0	67,6	220 See comments page 5!	218	284	57	36
4876 SSR	1	90		43,9	65,0						
4854 SSR	1	120		44,4	62,0						
4827 SSR	1	144		44,6	59,2						
4819 SSR	1	180		44,9	57,2						

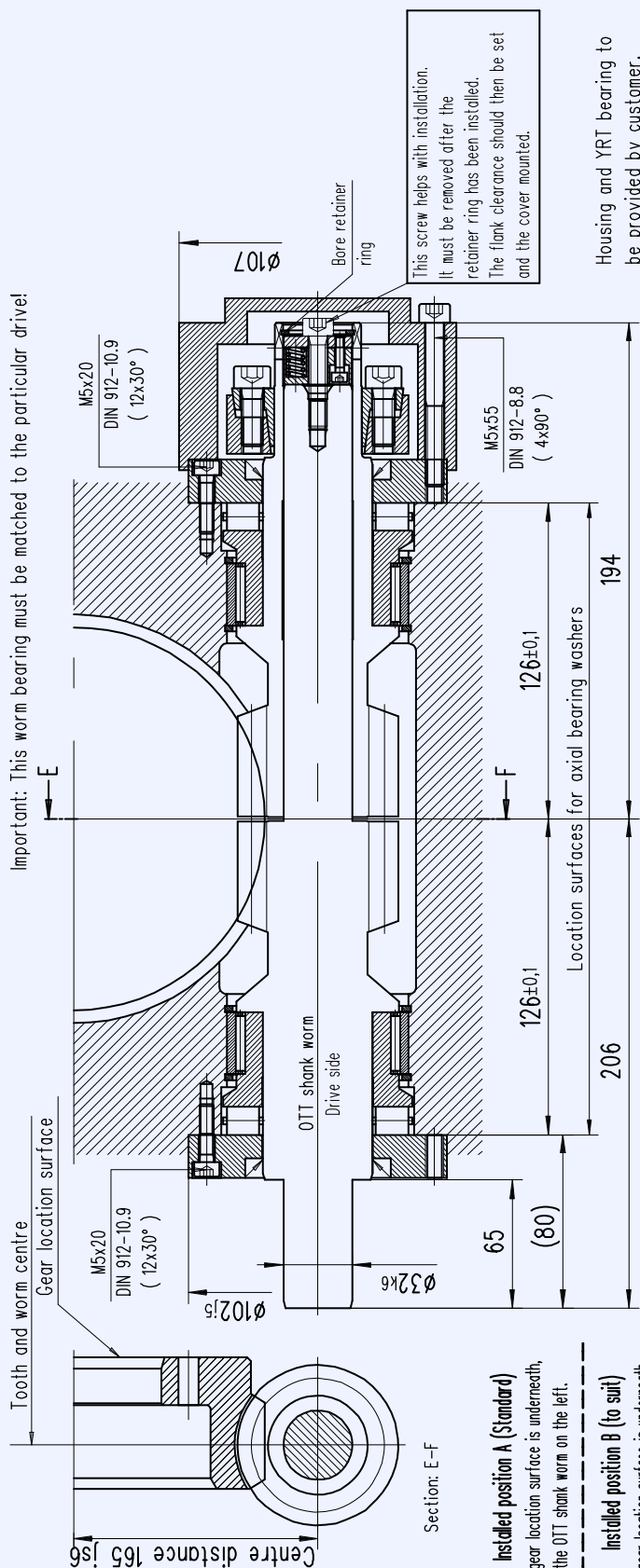


Required internal contour of gear housing for centre distance 165 mm



Worm bearings

Worm bearing for centre distance 165 mm

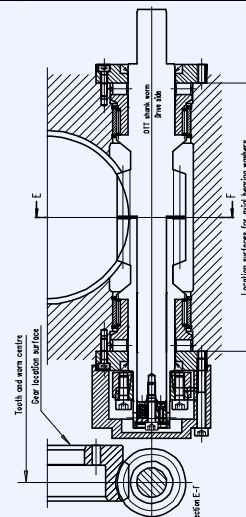
☐ Installed position A (Standard)

The gear location surface is underneath, the OTT shank worm on the left.

☐ Installed position B (to suit)

The gear location surface is underneath, the OTT shank worm on the right.

OTT worm gear				Bearing parts per gear		
OTT no.	Worm gear	Shank worm	Hollow worm	Q'ty	Name	Typ/Dwg no.
☐ 4860 SSR	T00457 -G-RAO	T00337-G-SSC	T00338-G-HSC	2	Axial cylinder roller bearing	K812 09 TV
☐ 4876 SSR	T00458 -G-RAO	T00339-G-SSC	T00340-G-HSC	2	Radial needle bearing	RNAO 60x78x20
☐ 4854 SSR	T00459-G-RAO	T00341-G-SSC	T00342-G-HSC	2	Shaft seal	45x60x7
☐ 4827 SSR	T00460-G-RAO	T00343-G-SSC	T00344-G-HSC	1	Shrink disc	HSD 44-22
☐ 4819 SSR	T00461-G-RAO	T00345-G-SSC	T00346-G-HSC	4	Circlip	SB 78
				24	Cylinder bolt DIN 912	M5x20 - 10.9
				4	Cylinder bolt DIN 912	M5x55 - 8.8
				1	Cylinder bolt DIN 912	M6x30 - 8.8
				1	Retainer ring DIN 472	34
				2	Bearing sleeve	T00222-G-LHÜ
☐ REQUEST	Date:	Name :		2	Axial bearing washer	T00234-G-LDX
☐ Cover				1	Cover	T00217-G-ADH
				1	Thrust piece	B00010-G-DST



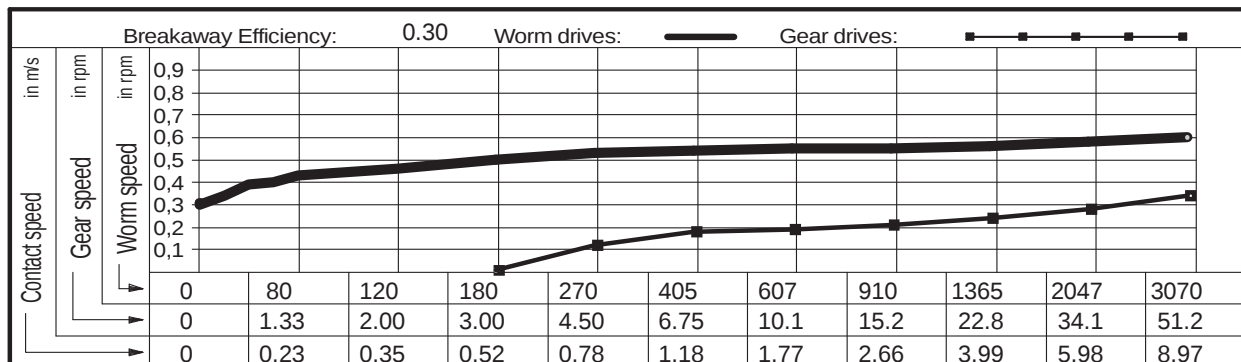
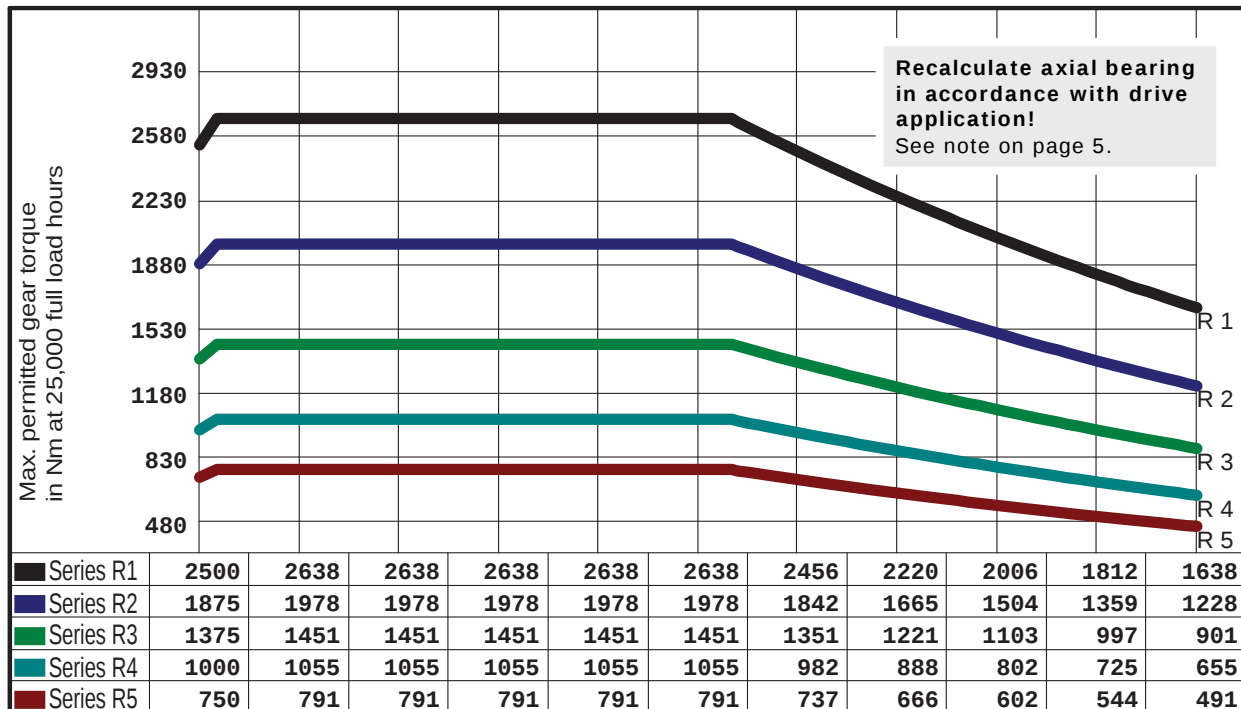
Order using set of OTT worm gears

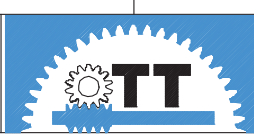
☐ Gearset incl. thrust piece without bearing parts

☐ Gearset incl. all bearing parts

Operational characteristics

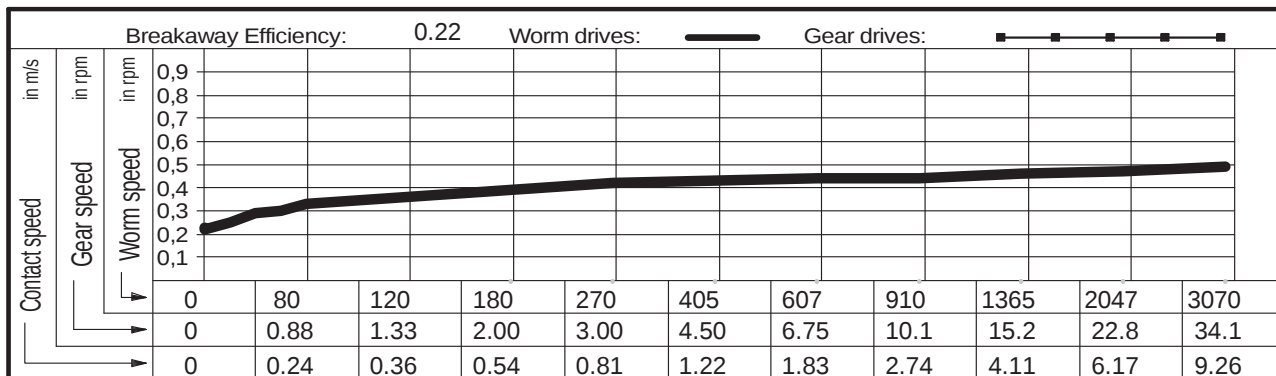
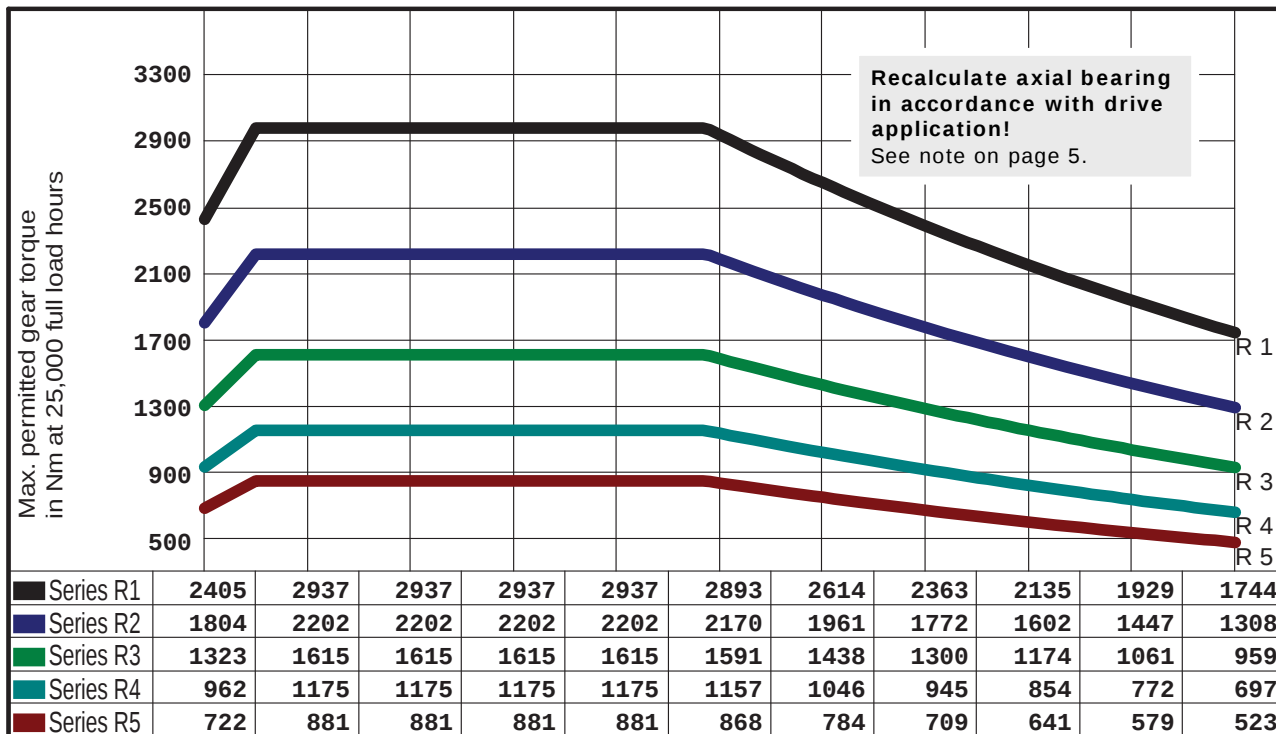
Centre distance	165.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4860 SSR
Outer Ø worm	62.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	284.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	55.66 mm	
No. teeth, gear	120	Lead angle at Bks	4.6160 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de		

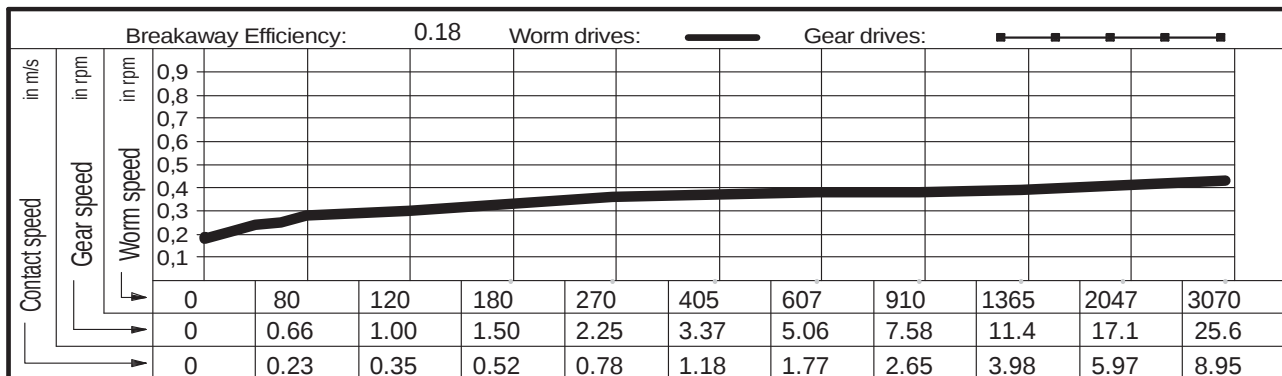
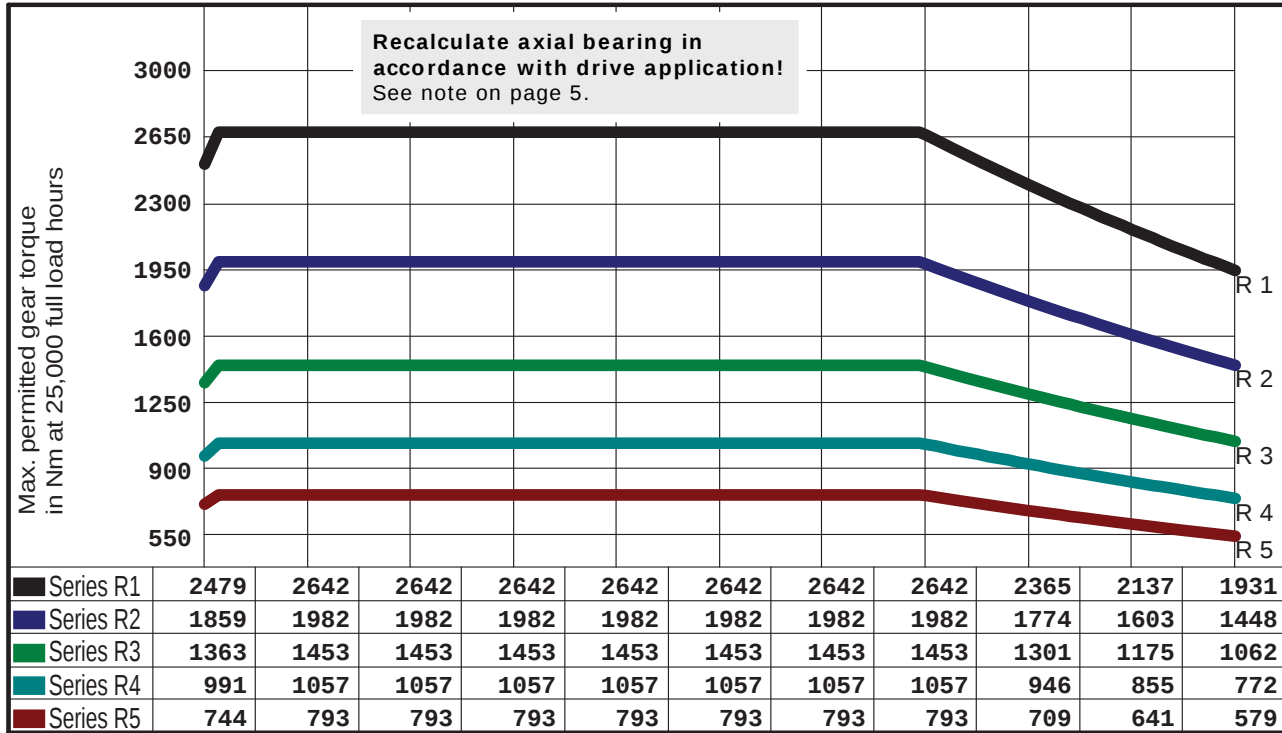


Centre distance	165.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4876 SSR
Outer Ø worm	65.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	284.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	20 °	
Worm direction	right	Calculated circle Ø	57.57 mm	
No. teeth, gear	90	Lead angle at Bks	2.9519 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de 		

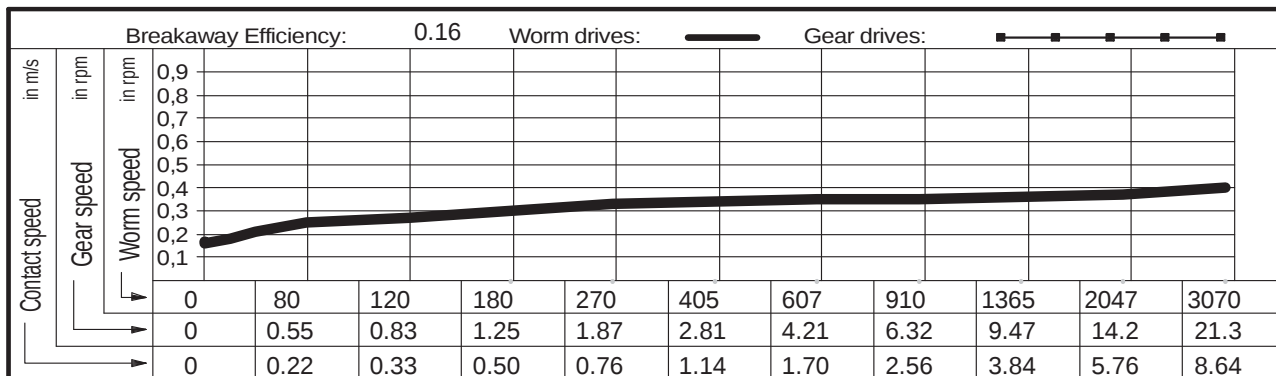
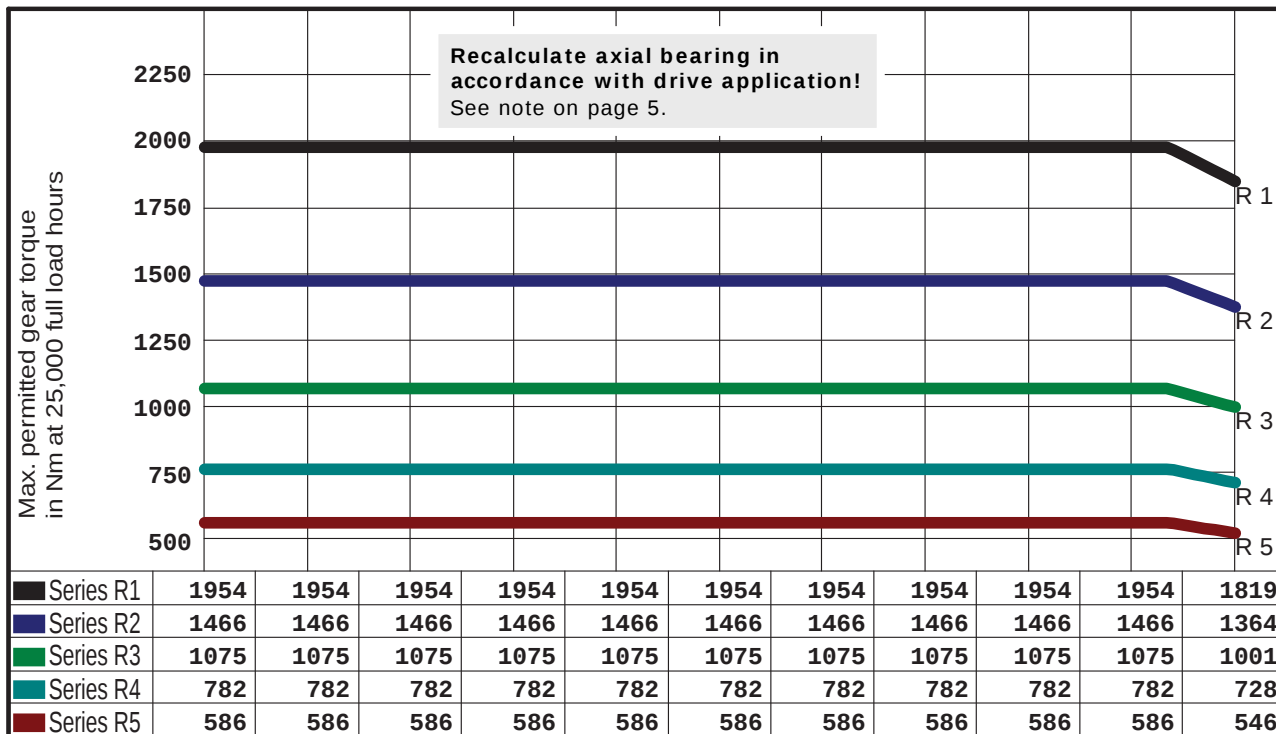
Centre distance	165.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4854 SSR
Outer Ø worm	62.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	284.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	55.67 mm	
No. teeth, gear	120	Lead angle at Bks	2.3115 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de		

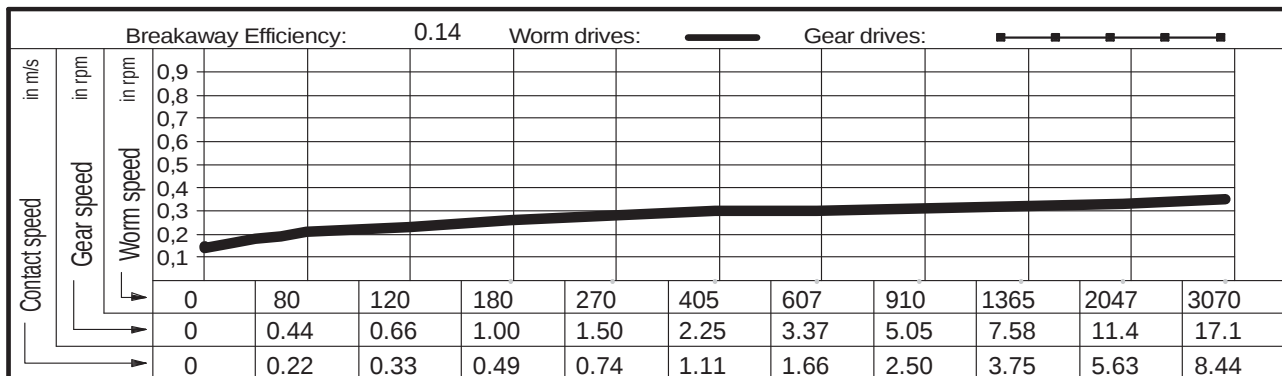


Centre distance	165.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4827 SSR
Outer Ø worm	59.20 mm	Material, worm	31CrMoV9	
Outer Ø gear	284.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	53.77 mm	
No. teeth, gear	144	Lead angle at Bks	2.0134 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de 		

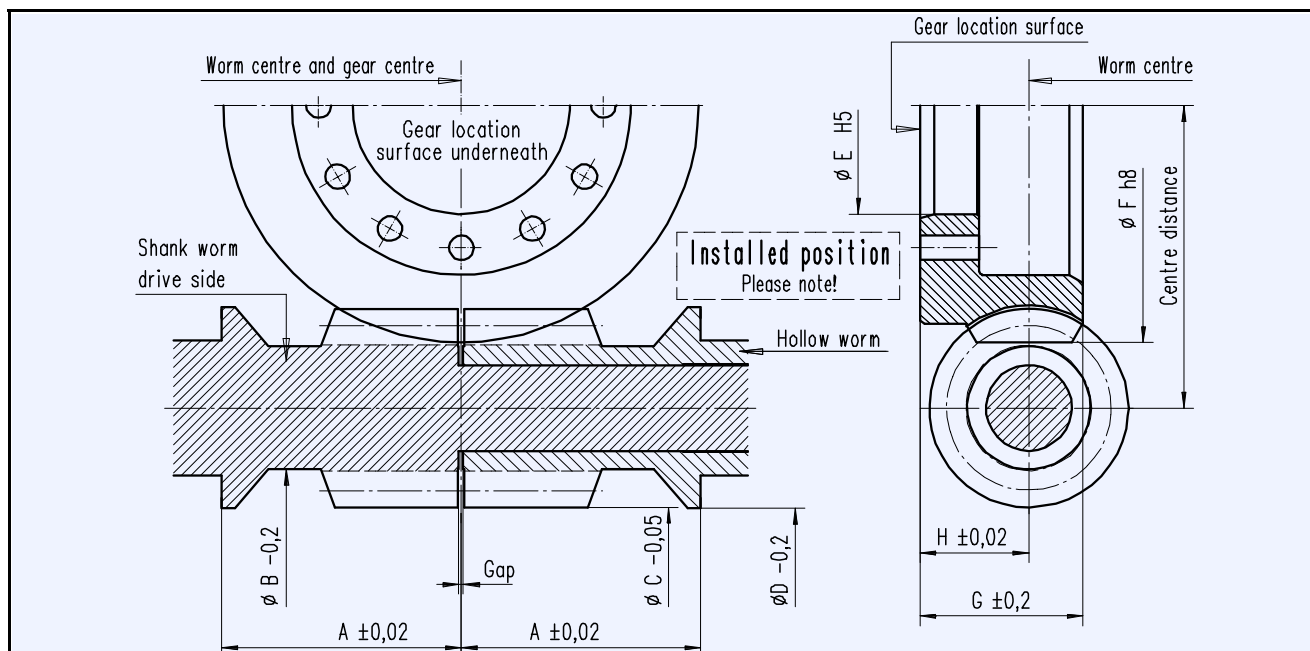
Centre distance	165.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4819 SSR
Outer Ø worm	57.20 mm	Material, worm	31CrMoV9	
Outer Ø gear	284.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	52.51 mm	
No. teeth, gear	180	Lead angle at Bks	1.6600 °	



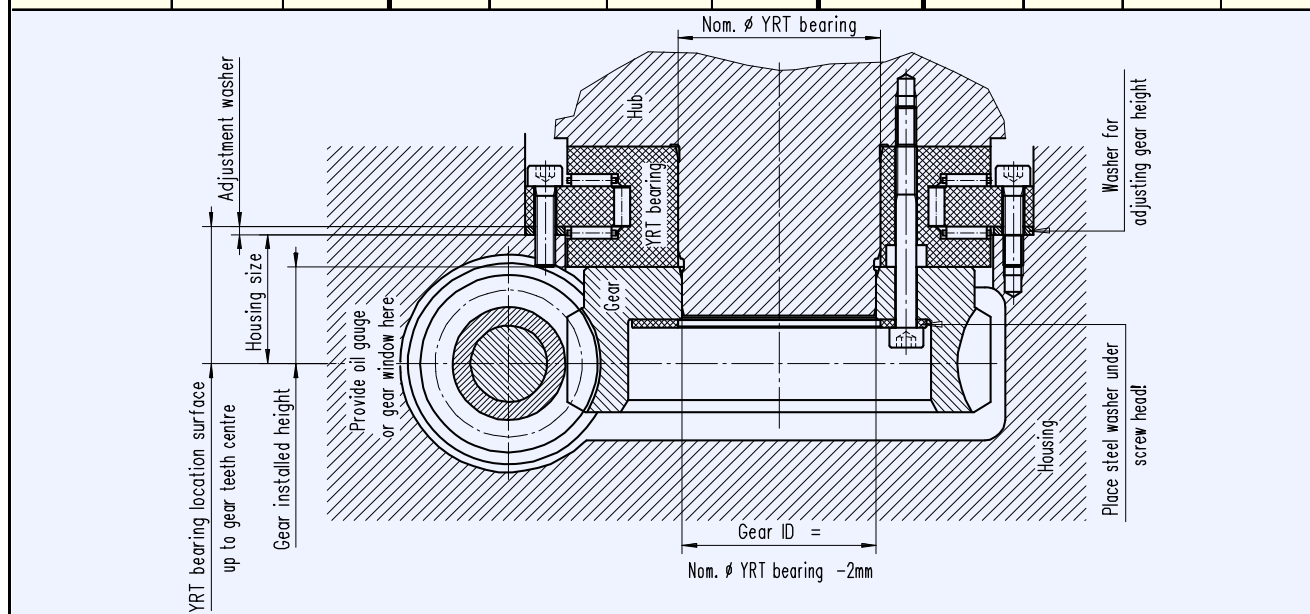
Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions. CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de		

OTT worm gears - centre distance 195 mm

Main dimensions

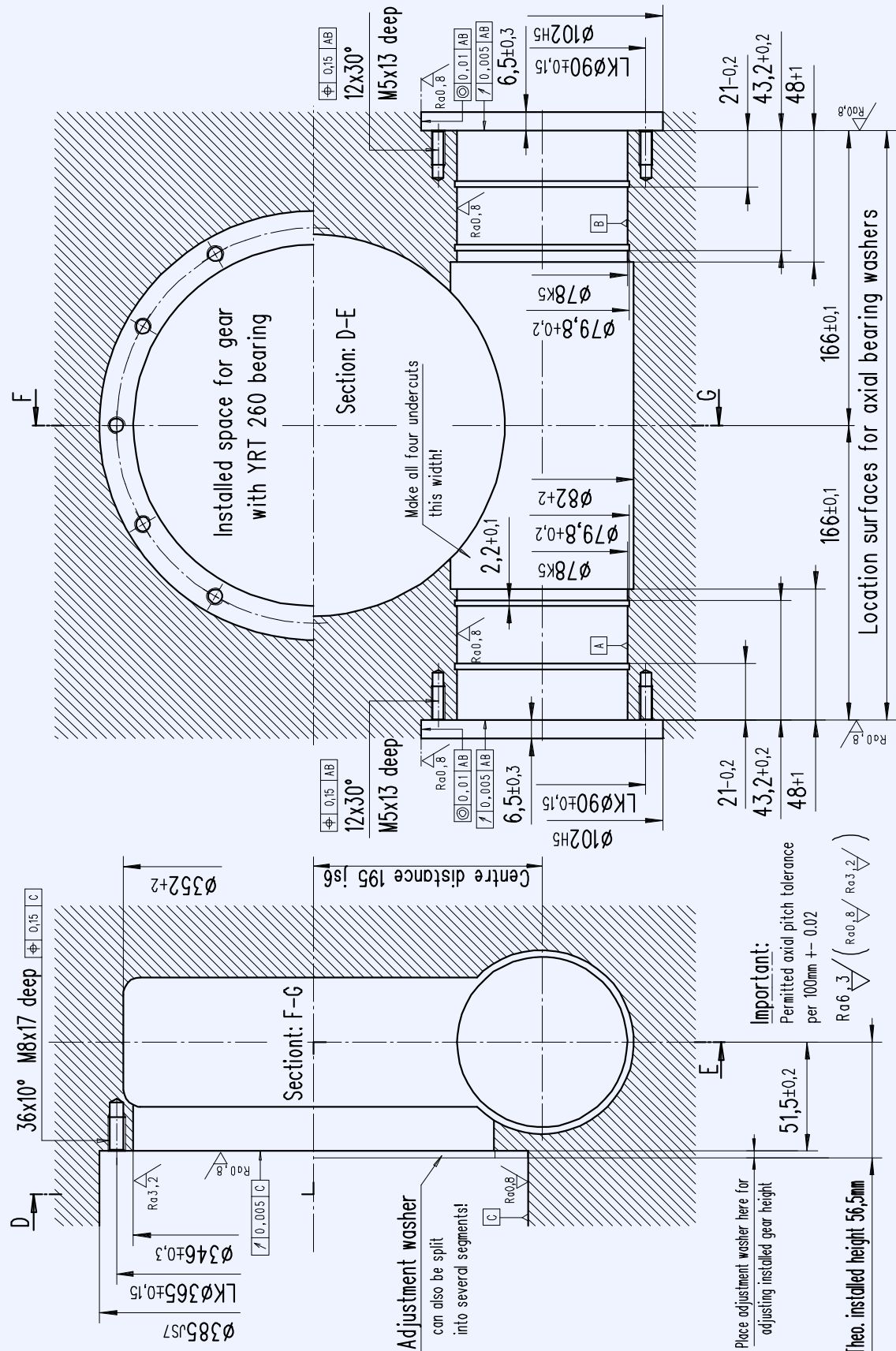


OTT gear no.	Ratio		Worm				YRT gear bearing	Gear			
	No. starts Z1	No. teeth Z2	Distance A	Undercut Ø B	Head Ø C	Collar Ø D		Internal Ø E	Head Ø F	Width G	Height H
4864 SSR	2	120	93	43,0	63,4	67,6	260	258	345	61	38
5362 SSR	2	165		43,5	59,5						
4845 SSR	1	120		43,0	63,4						
4805 SSR	1	144		43,3	61,0						
4822 SSR	1	180		43,7	58,6						
4865 SSR	1	200		43,8	57,6						
							See comments page 5!				



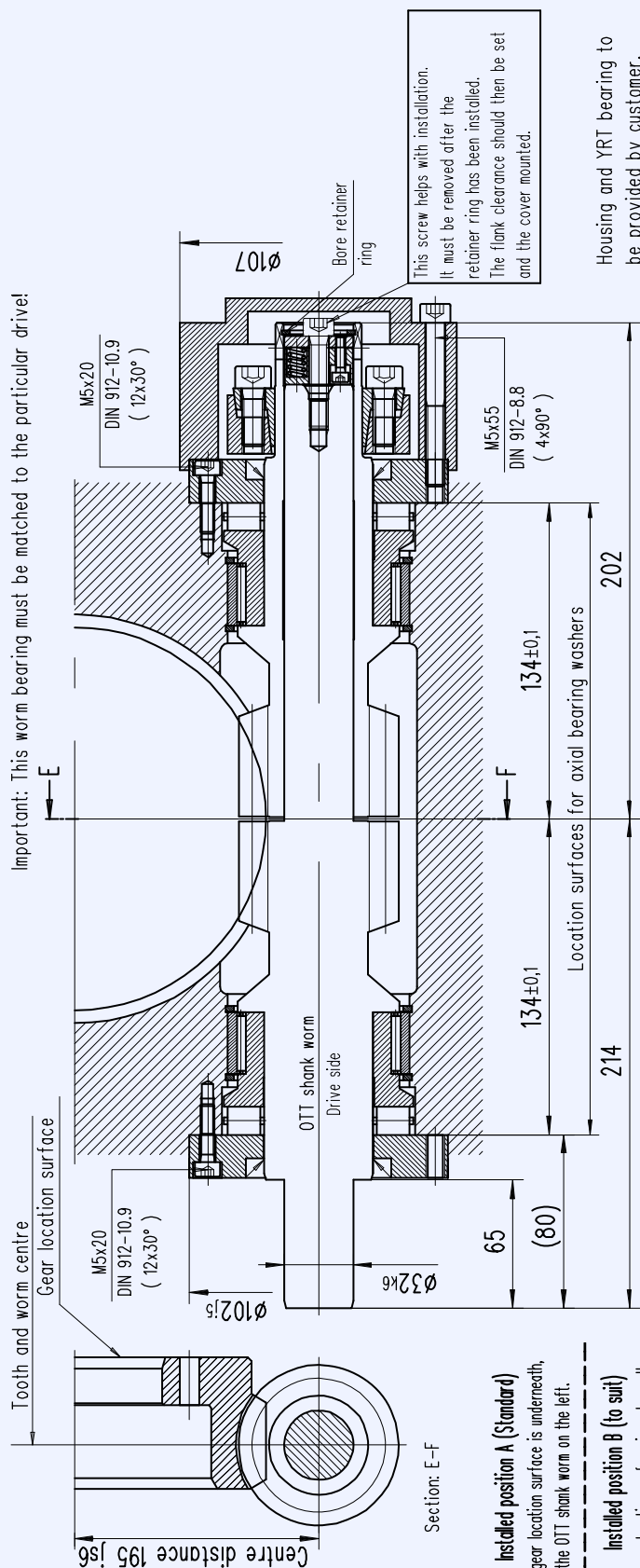
Gear housing - required internal contour

Required internal contour of gear housing for centre distance 195 mm



Worm bearings

Worm bearing for centre distance 195 mm

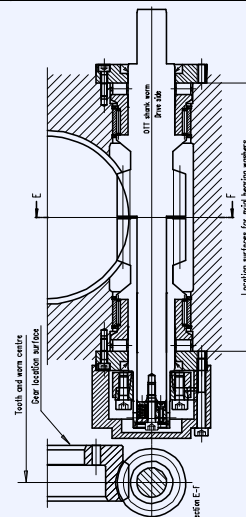
☐ Installed position A (Standard)

The gear location surface is underneath, the OTT shank worm on the left.

☐ Installed position B (to suit)

The gear location surface is underneath, the OTT shank worm on the right.

OTT worm gear				Bearing parts per gear		
OTT no.	Worm gear	Shank worm	Hollow worm	Q'ty	Name	Typ/Dwg no.
☐ 4864 <i>SSR</i>	T00462-G-RAO	T00347-G-SSC	T00348-G-HSC	2	AXIAL CYLINDER ROLLER BEARING	K812 09 TV
☐ 5362 <i>SSR</i>	T00463-G-RAO	T00349-G-SSC	T00350-G-HSC	2	RADIAL NEEDLE BEARING	RNAO 60x78x20
☐ 4845 <i>SSR</i>	T00464-G-RAO	T00351-G-SSC	T00352-G-HSC	2	SHAFT SEAL	45x60x7
☐ 4805 <i>SSR</i>	T00465-G-RAO	T00353-G-SSC	T00354-G-HSC	1	SHRINK DISC	HSD 44-22
☐ 4822 <i>SSR</i>	T00466-G-RAO	T00355-G-SSC	T00356-G-HSC	4	CIRCLIP	SB 78
☐ 4865 <i>SSR</i>	T00467-G-RAO	T00357-G-SSC	T00358-G-HSC	24	CYLINDER BOLT DIN 912	M5x20 - 10.9
☐				4	CYLINDER BOLT DIN 912	M5x55 - 8.8
☐				1	CYLINDER BOLT DIN 912	M6x30 - 8.8
☐				1	RETAINER RING DIN 472	34
☐				2	BEARING SLEEVE	T00222-G-LHÜ
☐ REQUEST	Date:	Name:				
☐ ORDER						
				1	COVER	T00217-G-ADH
				1	THRUST PLECE	B00010-G-DST



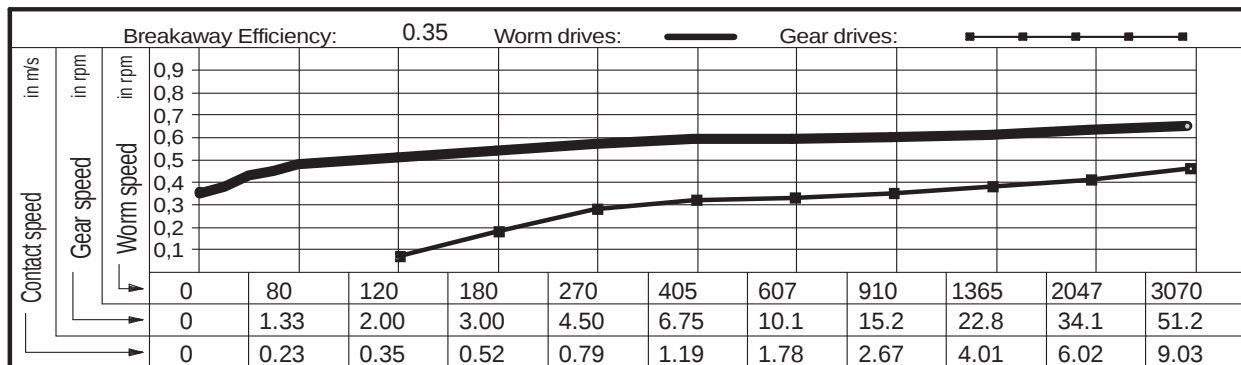
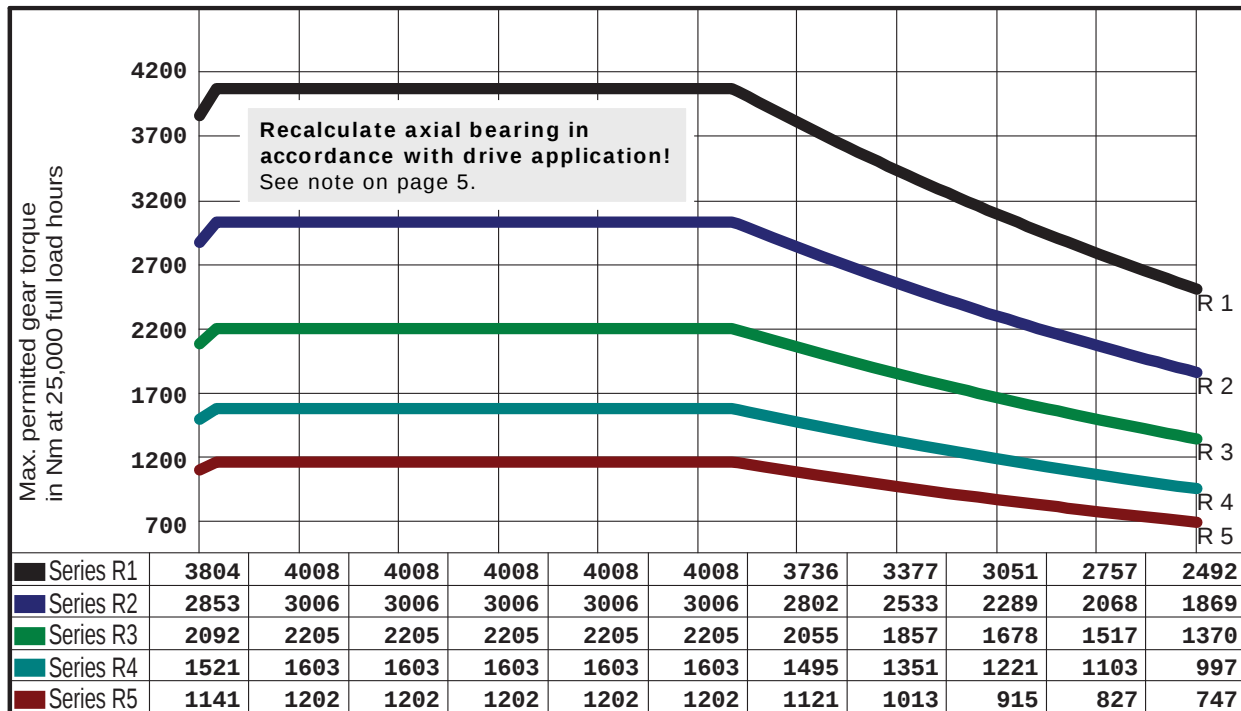
Order using set of OTT worm gears

☐ Gearset incl. thrust piece without bearing parts

☐ Gearset incl. all bearing parts

Operational characteristics

Centre distance	195.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4864 SSR
Outer Ø worm	63.40 mm	Material, worm	31CrMoV9	
Outer Ø gear	345.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	55.95 mm	
No. teeth, gear	120	Lead angle at Bks	5.5907 °	



Gear selection by load type and application		
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil
Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions	
Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de	

Zahnradfertigung OTT

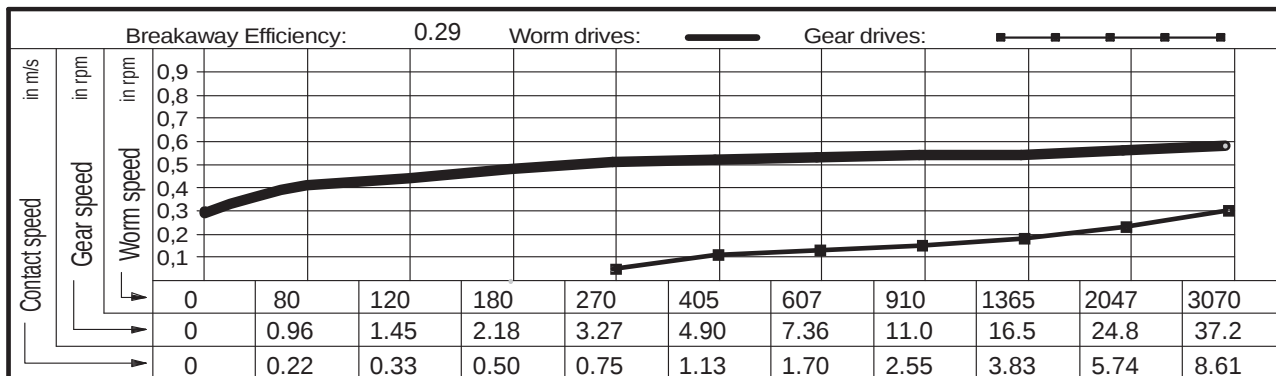
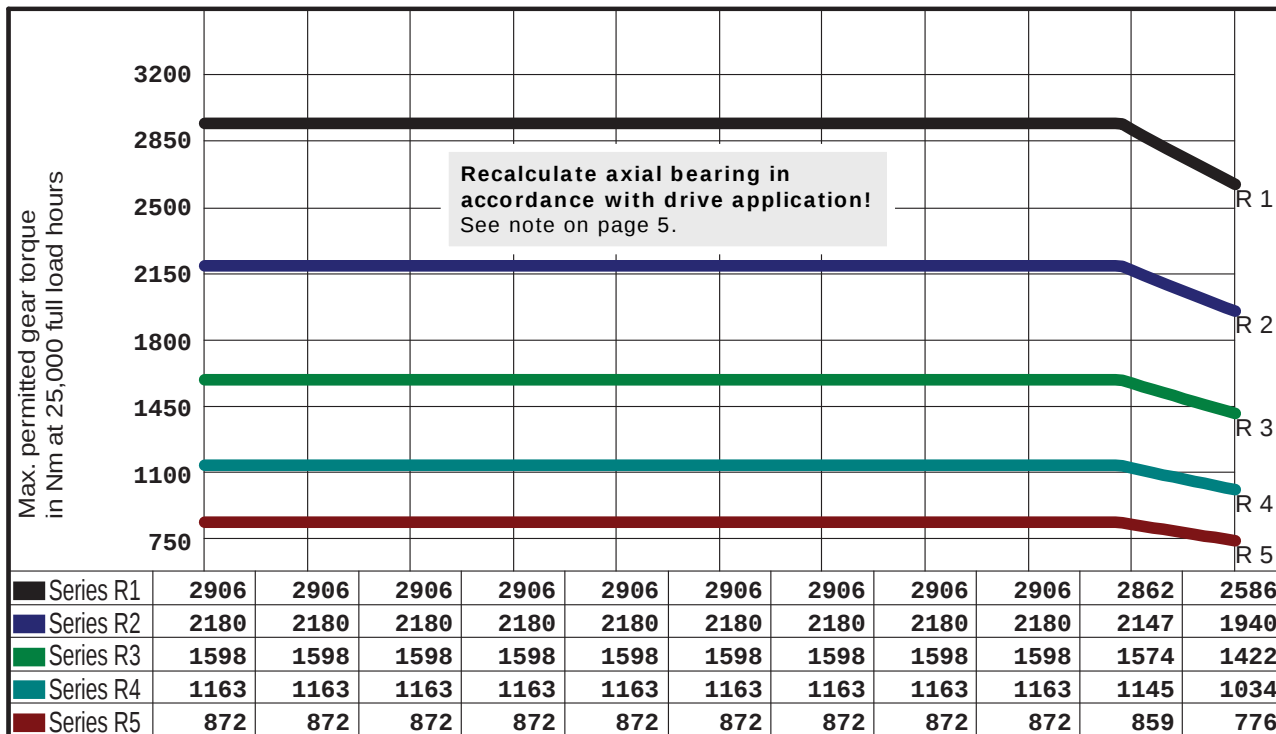
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Fax. 07471 - 705 39
Email. Info@zahnrad-ott.de



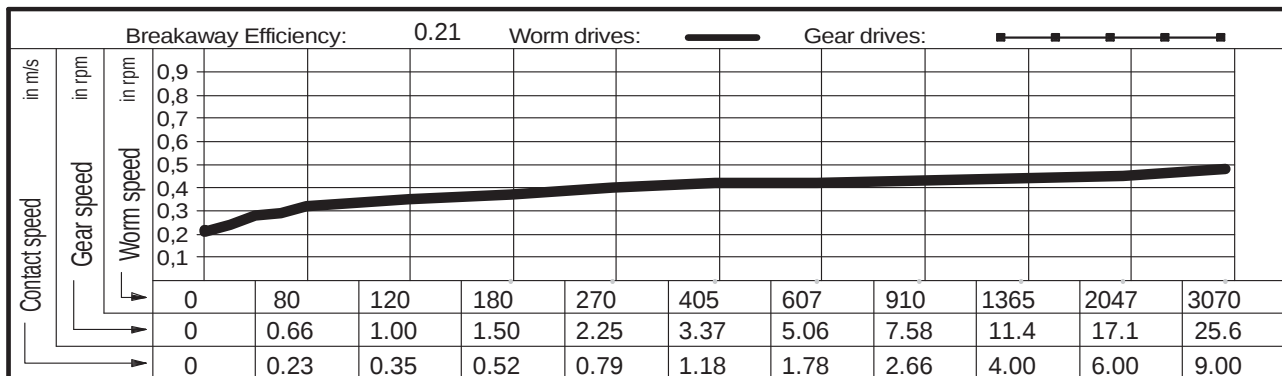
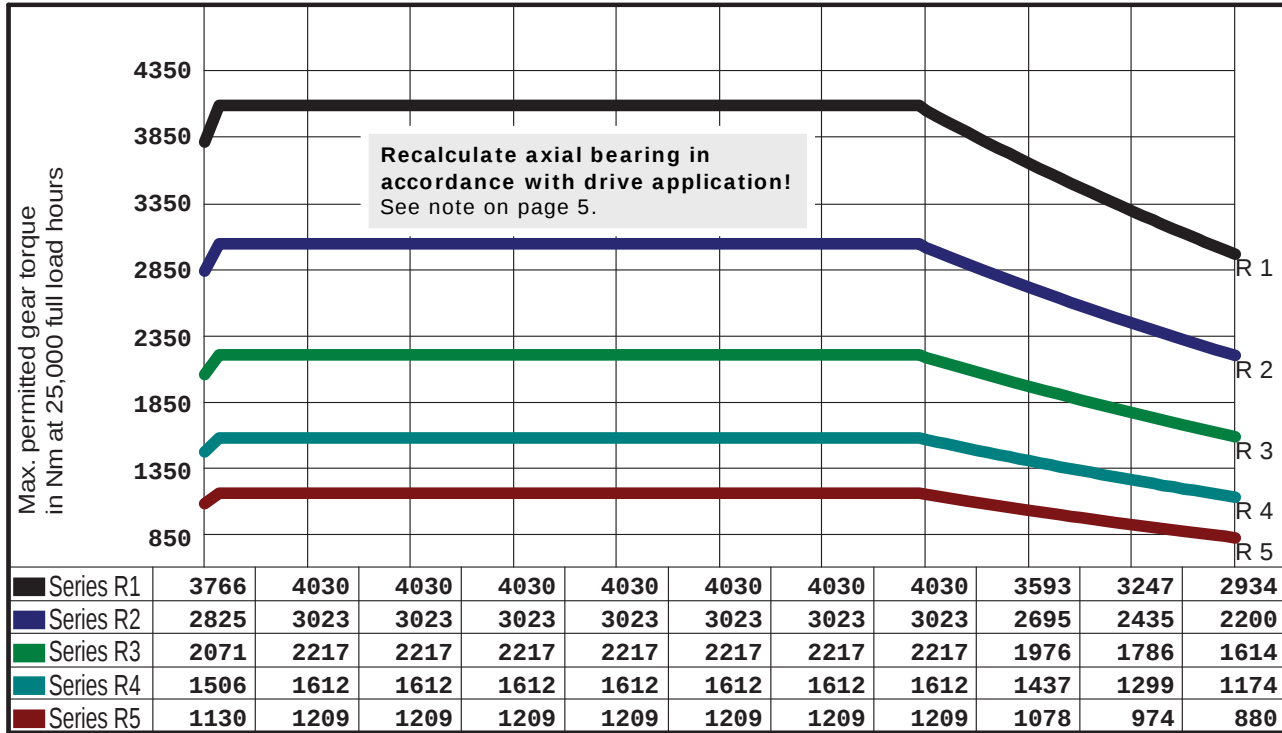


Centre distance	195.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 5362 SSR
Outer Ø worm	59.50 mm	Material, worm	31CrMoV9	
Outer Ø gear	345.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	53.45 mm	
No. teeth, gear	165	Lead angle at Bks	4.3051 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de 		

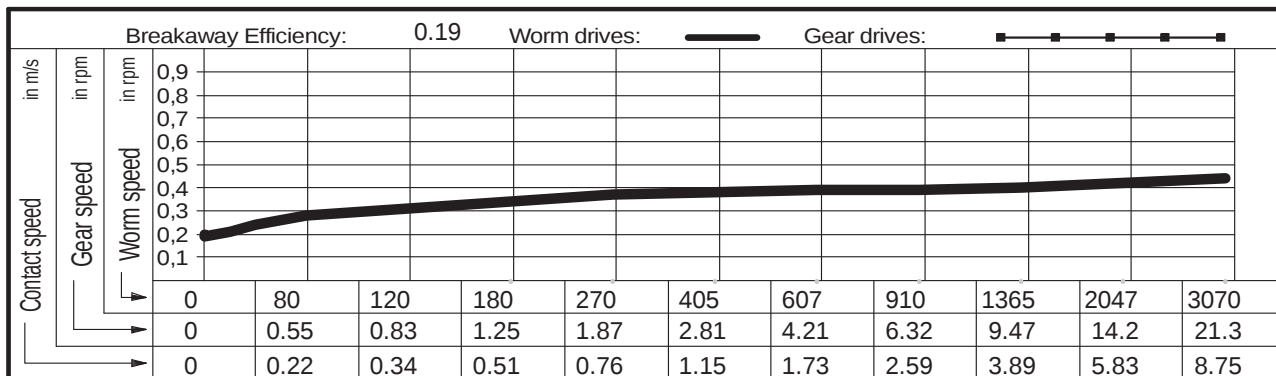
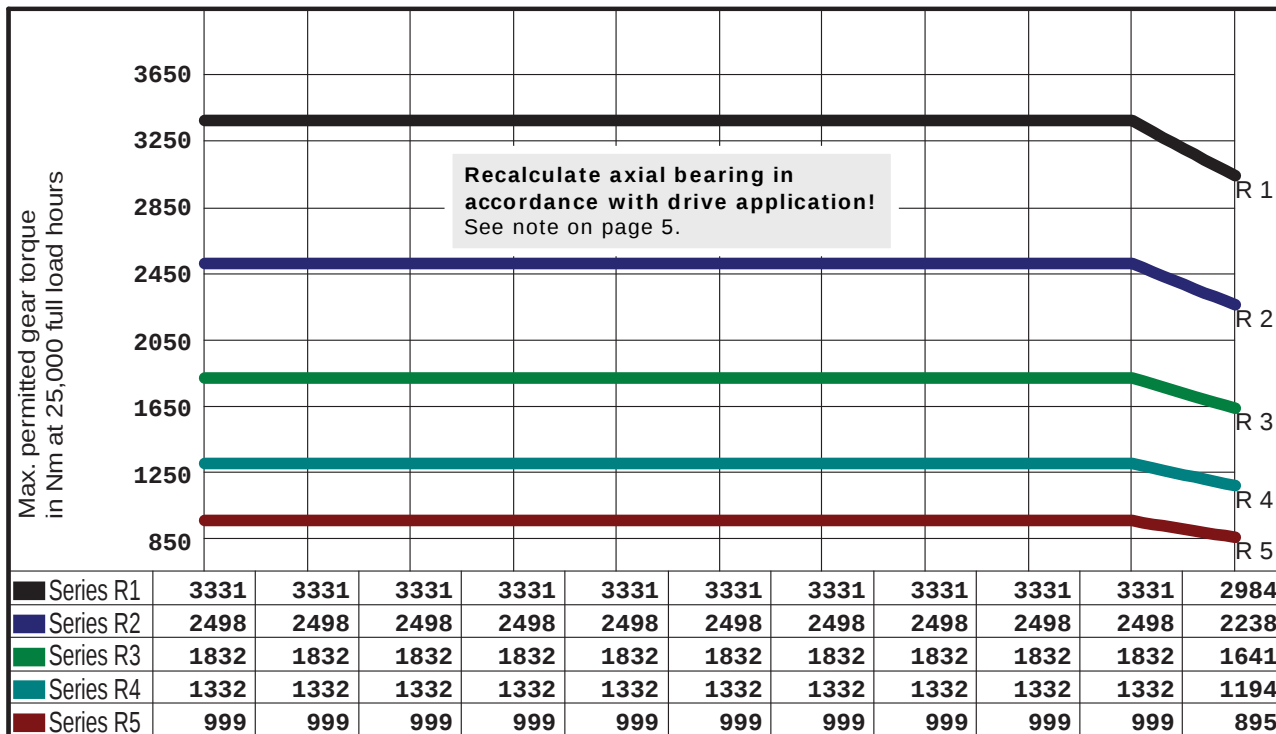
Centre distance	195.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4845 SSR
Outer Ø worm	63.40 mm	Material, worm	31CrMoV9	
Outer Ø gear	345.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	55.96 mm	
No. teeth, gear	120	Lead angle at Bks	2.8015 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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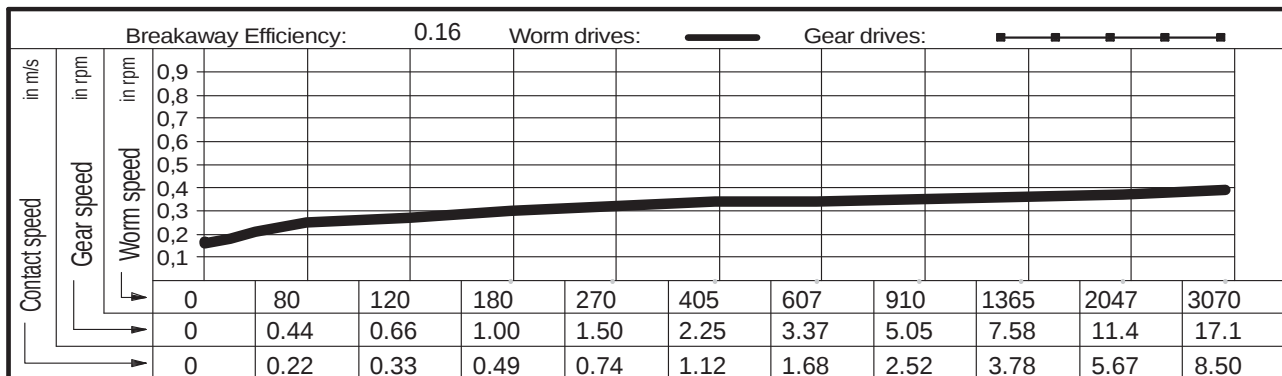
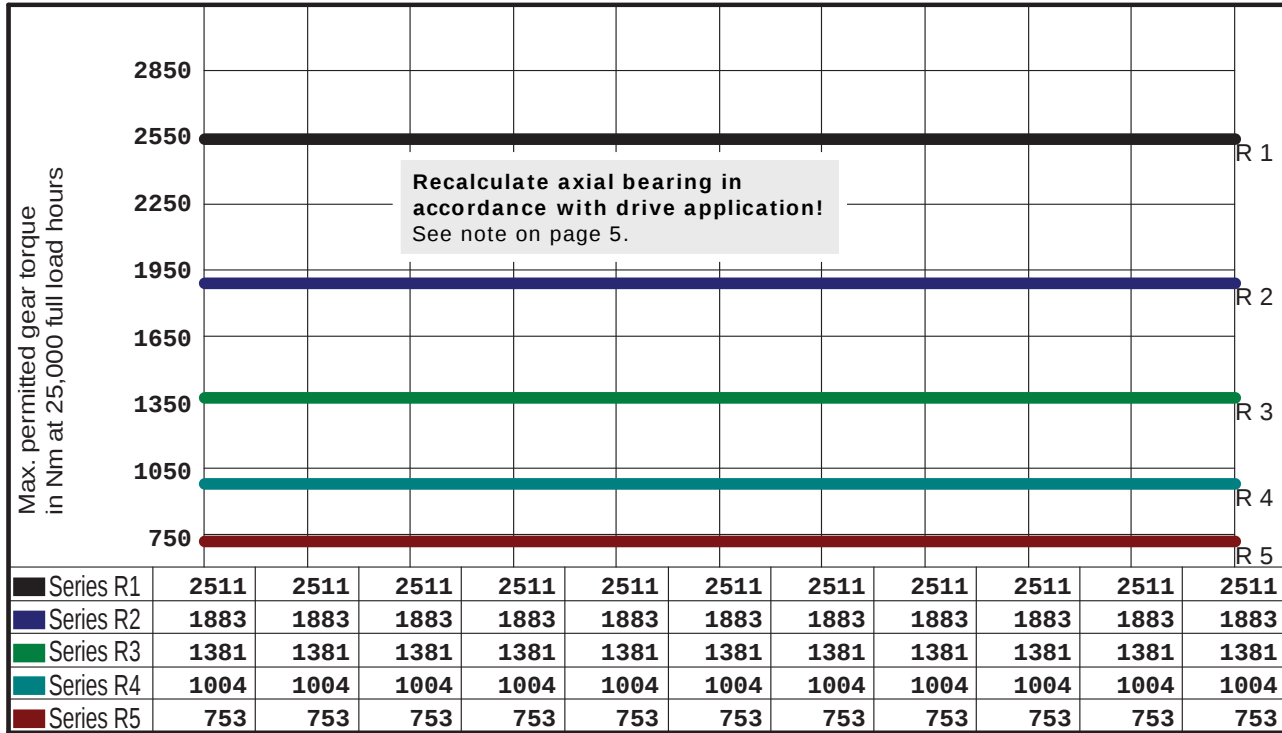


Centre distance	195.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4805 SSR
Outer Ø worm	61.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	345.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	54.41 mm	
No. teeth, gear	144	Lead angle at Bks	2.4166 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de 		

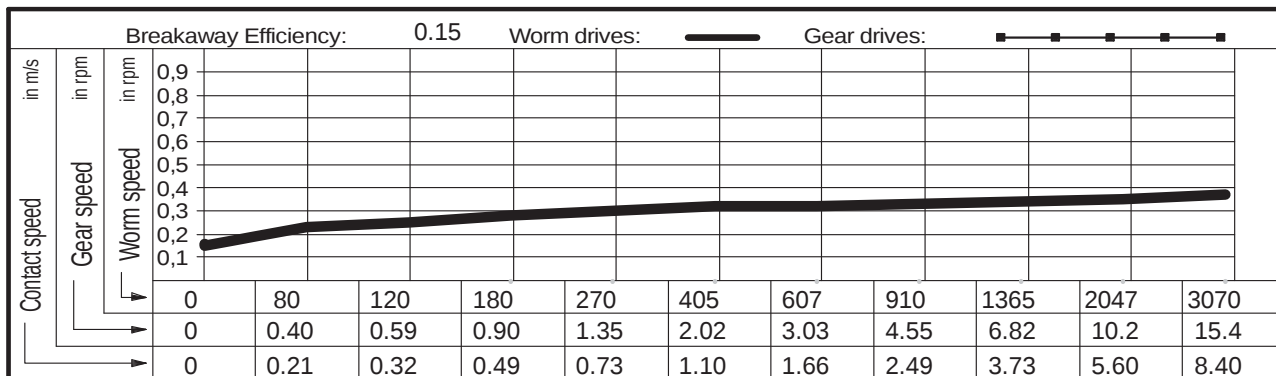
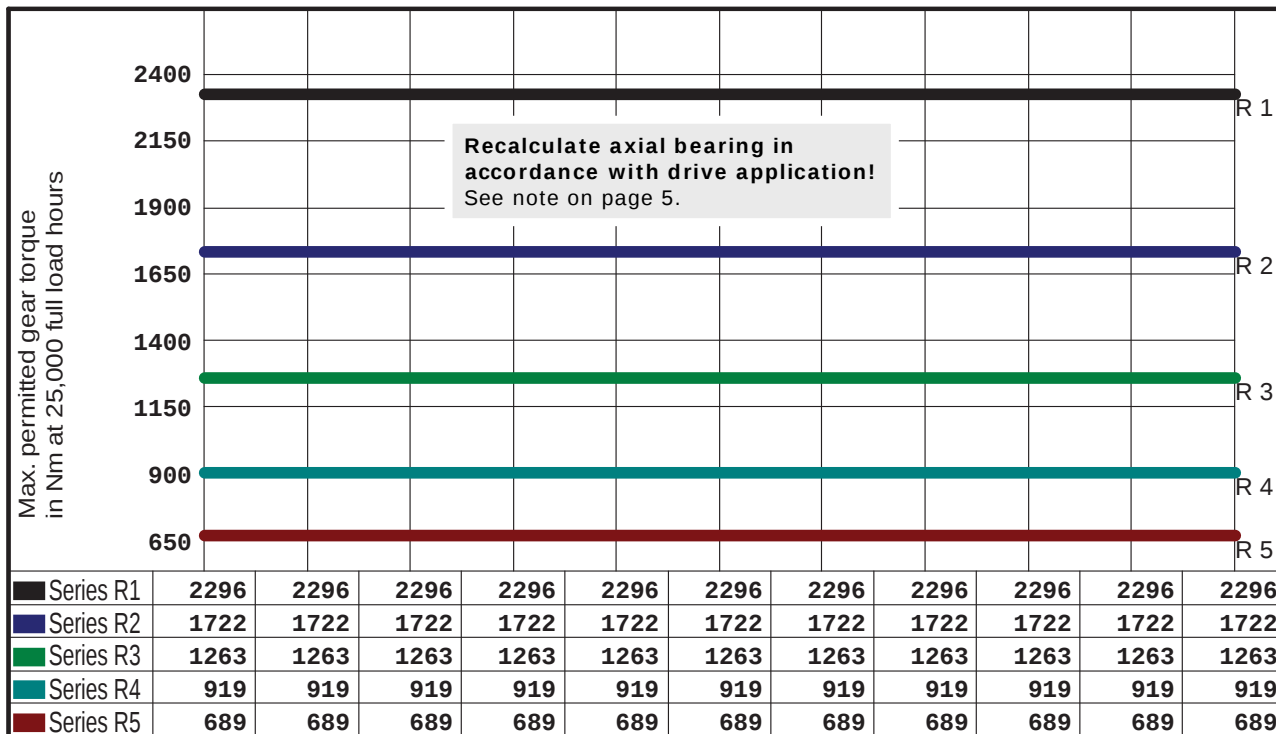
Centre distance	195.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4822 SSR
Outer Ø worm	58.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	345.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	52.90 mm	
No. teeth, gear	180	Lead angle at Bks	2.0014 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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Centre distance	195.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4865 SSR
Outer Ø worm	57.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	345.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	52.27 mm	
No. teeth, gear	200	Lead angle at Bks	1.8279 °	

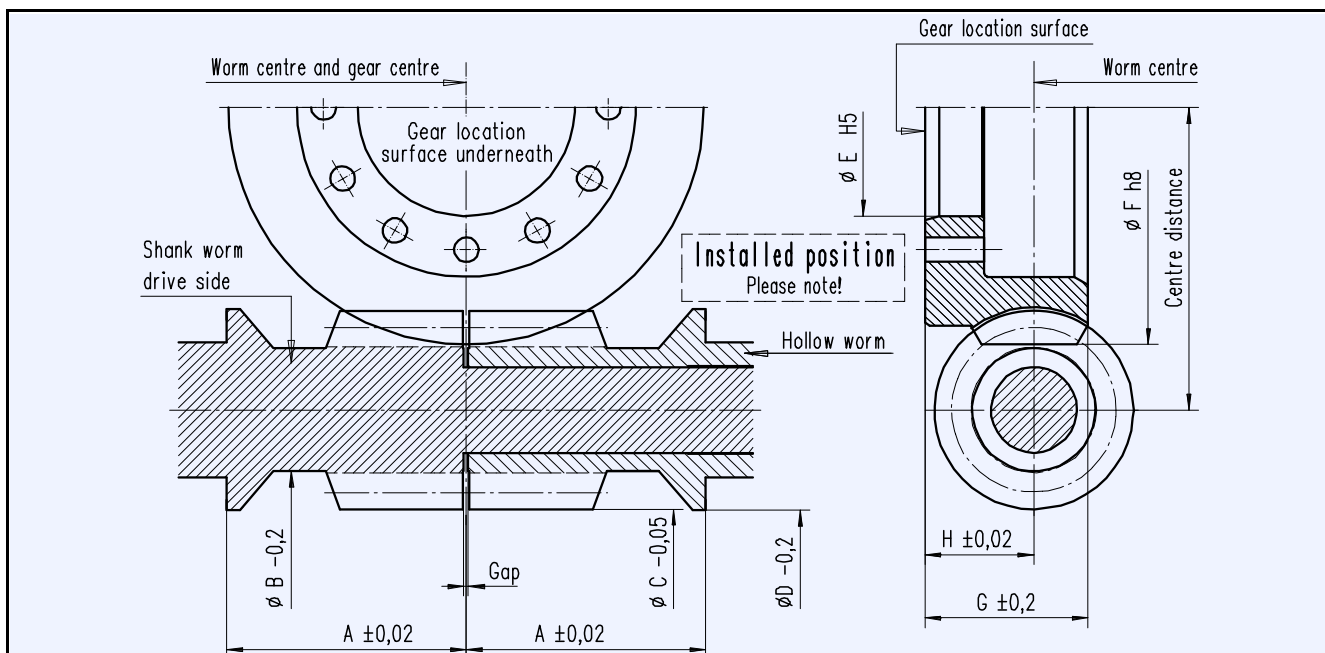


Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions, Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
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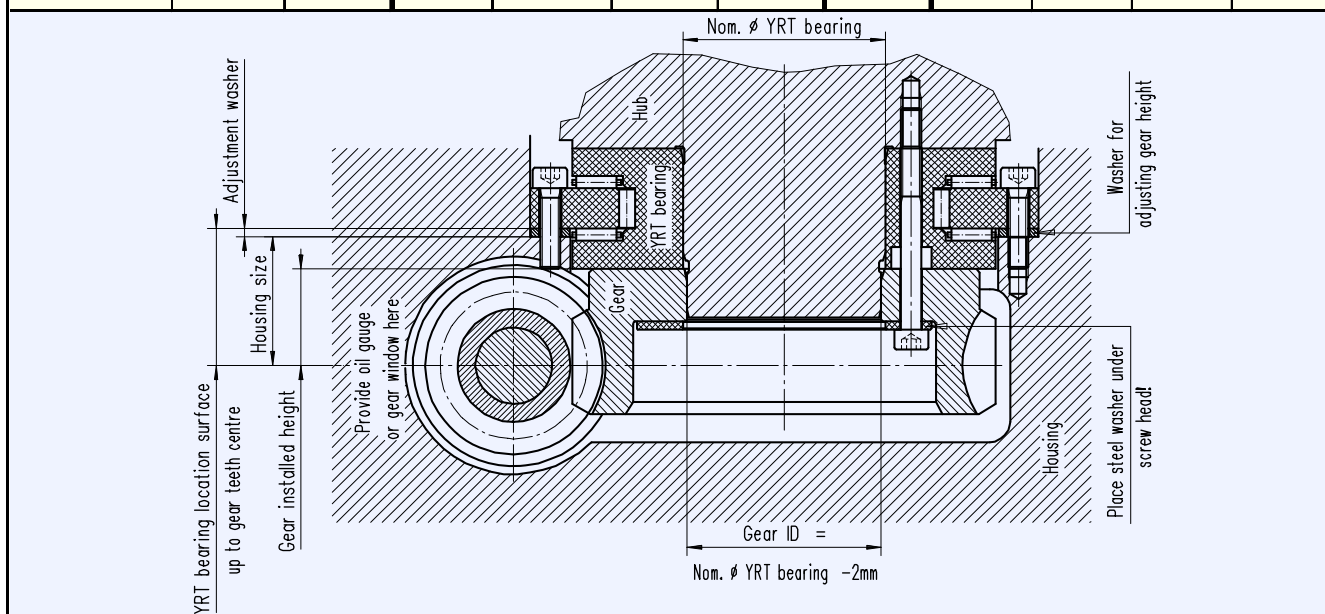


OTT worm gears - centre distance 235 mm

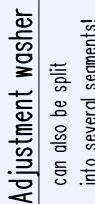
Main dimensions



OTT gear no.	Ratio		Worm				YRT gear bearing	Gear			
	No. starts Z1	No. teeth Z2	Distance A	Undercut ϕ B	Head ϕ C	Collar ϕ D		Internal ϕ E	Head ϕ F	Width G	Height H
4870 SSR	2	120	111	52,6	77,2	77,6	325	323	415	66	40
4806 SSR	1	90		51,9	77,6						
4808 SSR	1	120		52,6	77,2						
4843 SSR	1	144		53,0	74,4						
5655 SSR	1	150		53,1	73,8						
4807 SSR	1	180		53,4	71,4						
							See comments page 5!				

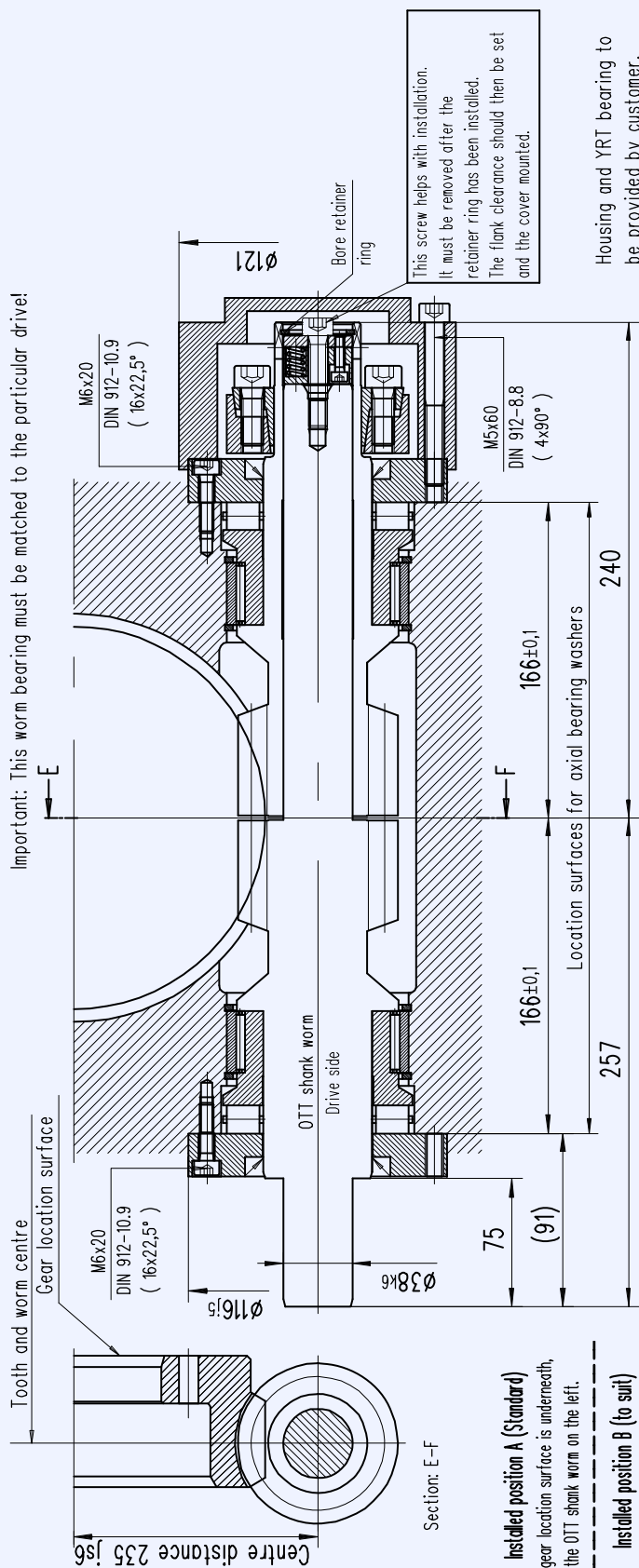


Required internal contour of gear housing for centre distance 235 mm



Worm bearings

Worm bearing for centre distance 235 mm

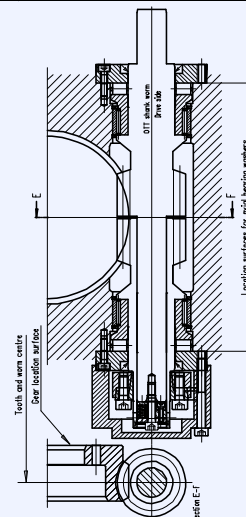
☐ Installed position A (Standard)

The gear location surface is underneath, the OTT shank worm on the left.

☐ Installed position B (to suit)

The gear location surface is underneath, the OTT shank worm on the right.

OTT worm gear					Bearing parts per gear		
OTT no.	Worm gear	Shank worm	Hollow worm	Q'ty	Name	Typ/Dwg no.	
☐ 4870 SSR	T00468-G-RAO	T00359-G-SSC	T00360-G-HSC	2	Axial cylinder roller bearing	K812 11 TV	
☐ 4806 SSR	T00469-G-RAO	T00361-G-SSC	T00362-G-HSC	2	Radial needle bearing	RNAO 70x90x30	
☐ 4808 SSR	T00470-G-RAO	T00363-G-SSC	T00364-G-HSC	2	Shaft seal	55x70x8	
☐ 4843 SSR	T00471-G-RAO	T00365-G-SSC	T00366-G-HSC	1	Shrink disc	HSD 50-22	
☐ 5655 SSR	T00472-G-RAO	T00367-G-SSC	T00368-G-HSC	4	Circlip	SB 90	
☐ 4807 SSR	T00473-G-RAO	T00369-G-SSC	T00370-G-HSC	32	Cylinder bolt DIN 912	M6x20 - 10.9	
☐				4	Cylinder bolt DIN 912	M5x60 - 8.8	
☐				1	Cylinder bolt DIN 912	M6x30 - 8.8	
☐				1	Retainer ring DIN 472	38	
☐				2	Bearing sleeve	T00223-G-LHÜ	
☐ REQUEST	Date:	Name:					
☐				2	Axial bearing washer	T00235-G-LDX	
☐ ORDER				1	Cover	T00218-G-ADH	
				1	Thrust piece	B00011-G-DST	



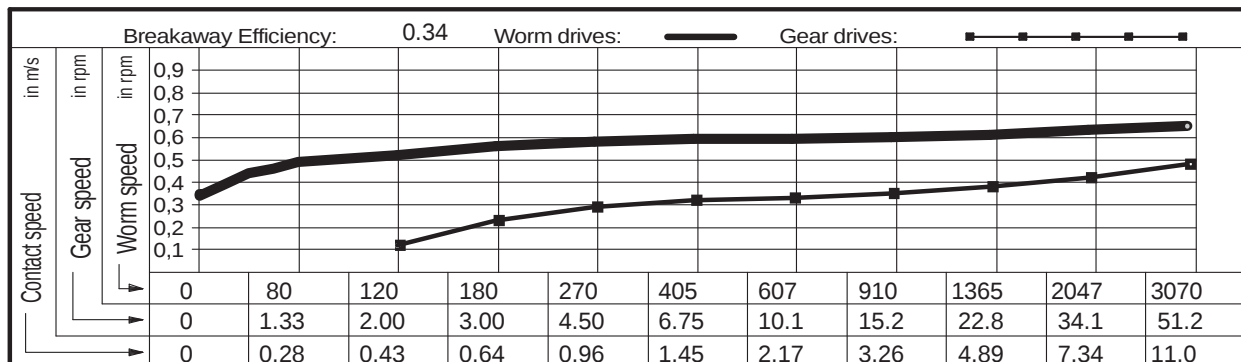
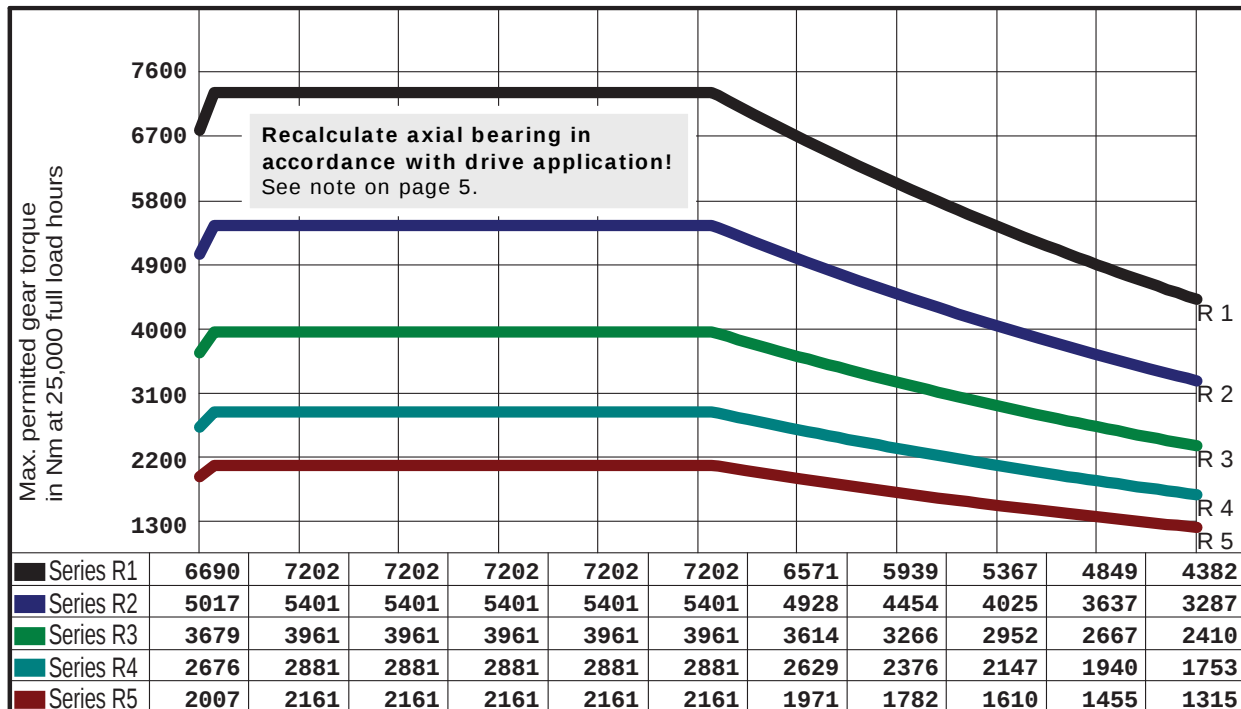
Order using set of OTT worm gears

☐ Gearset incl. thrust piece without bearing parts

☐ Gearset incl. all bearing parts

Operational characteristics

Centre distance	235.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4870 SSR
Outer Ø worm	77.20 mm	Material, worm	31CrMoV9	
Outer Ø gear	415.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	68.22 mm	
No. teeth, gear	120	Lead angle at Bks	5.5151 °	



Gear selection by load type and application		
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil
Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions	
Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de	

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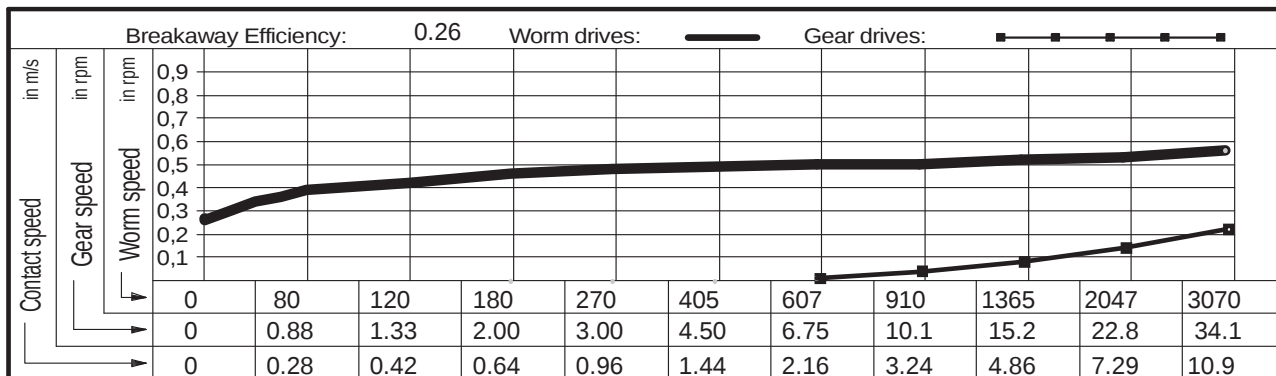
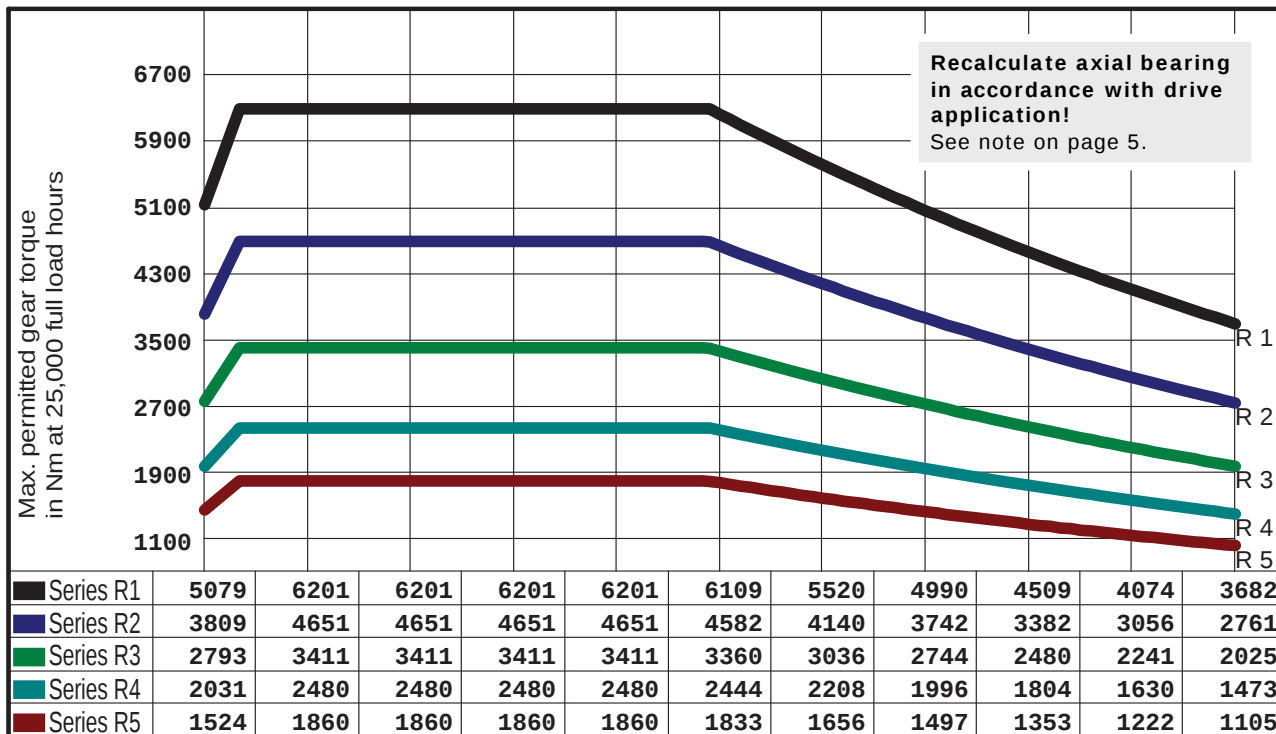
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Centre distance	235.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4806 SSR
Outer Ø worm	77.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	415.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	67.93 mm	
No. teeth, gear	90	Lead angle at Bks	3.7027 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de 		

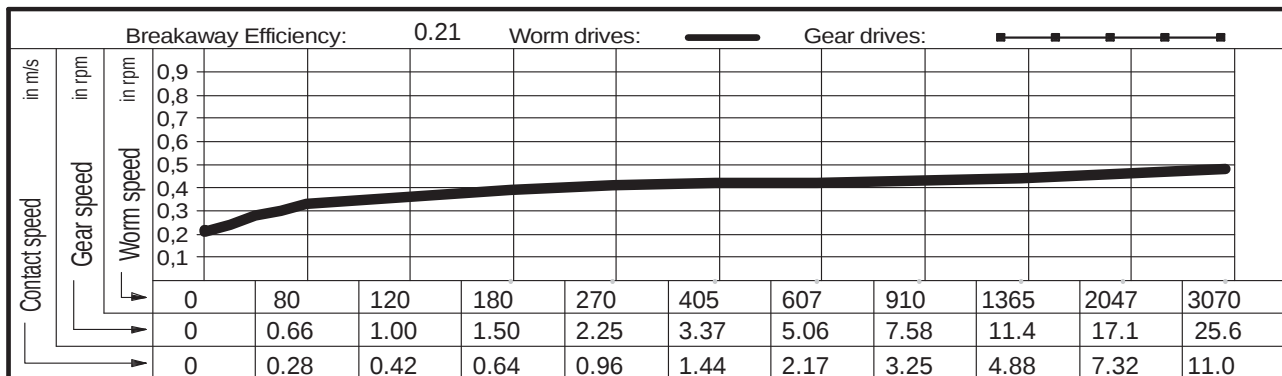
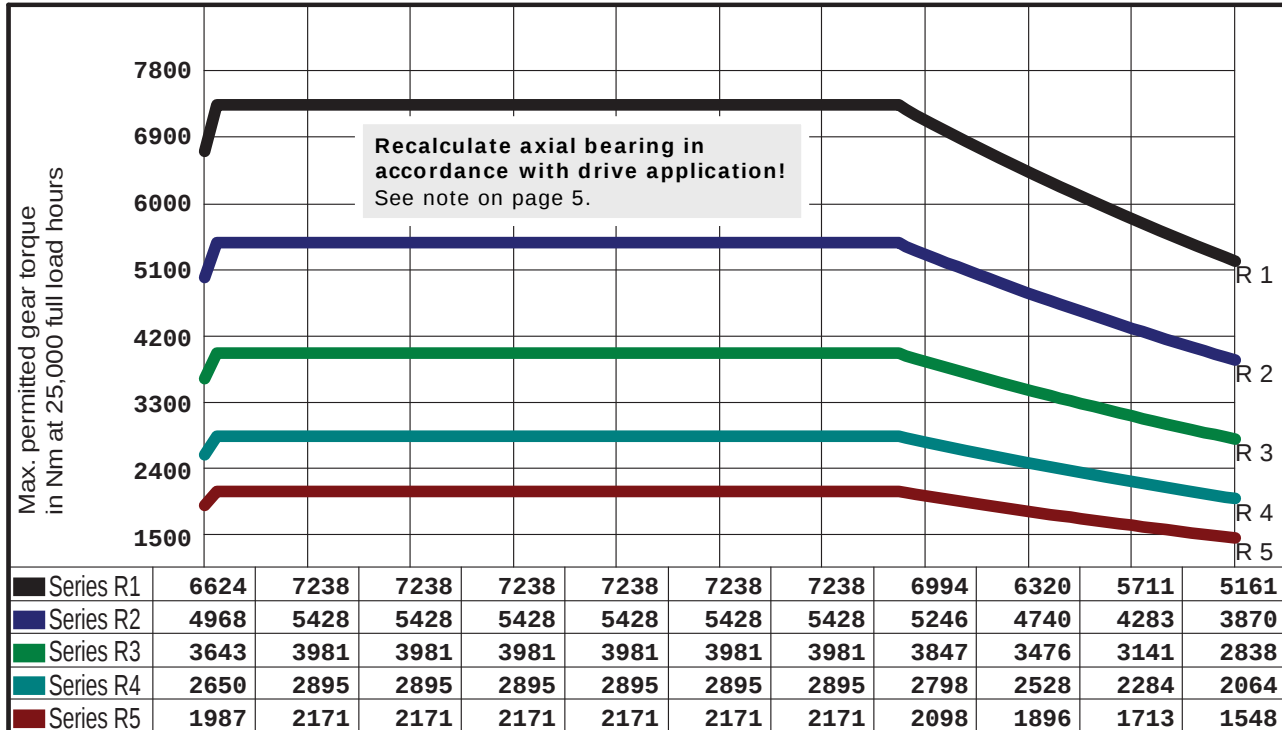
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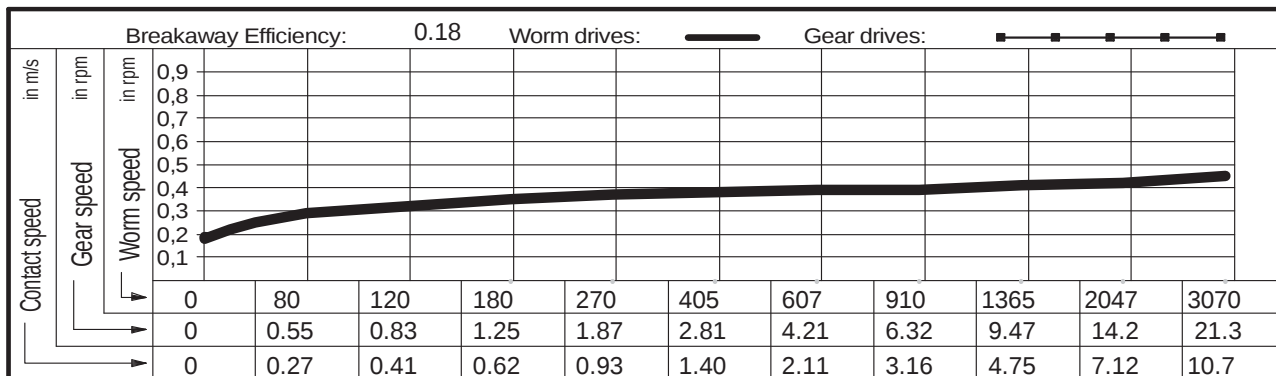
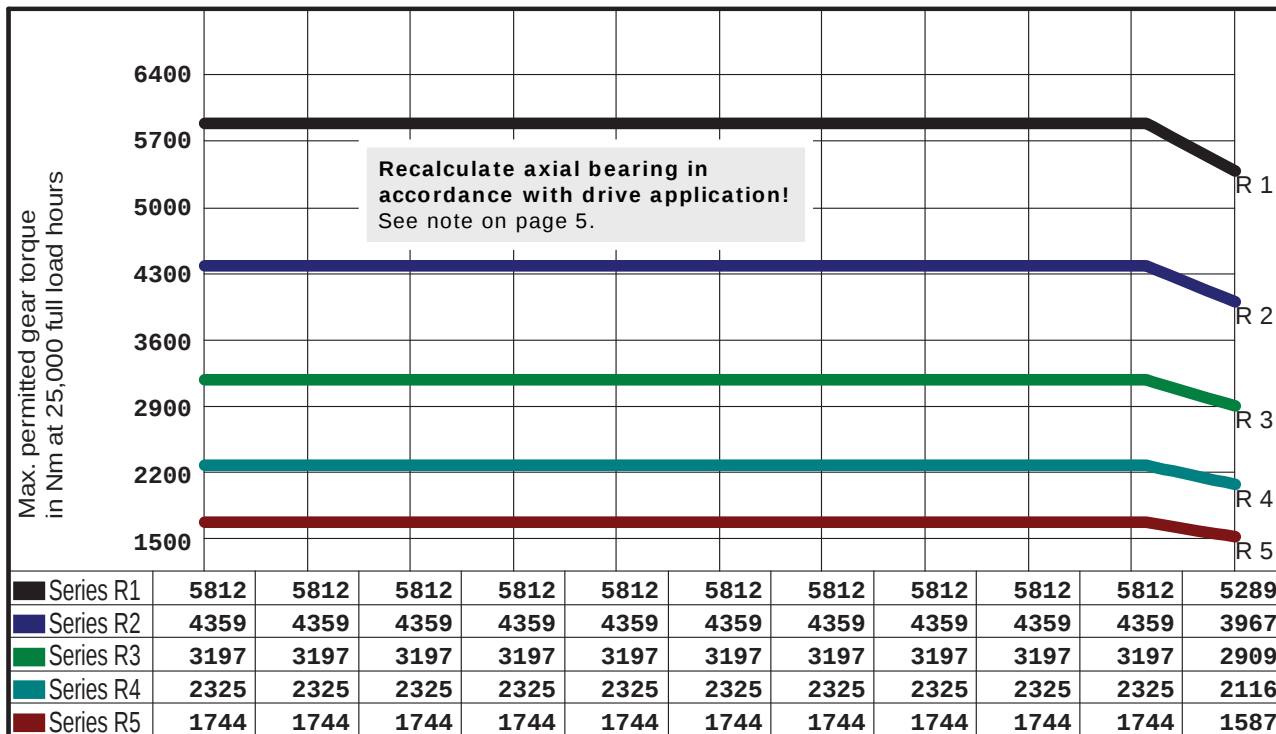
Centre distance	235.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4808 SSR
Outer Ø worm	77.20 mm	Material, worm	31CrMoV9	
Outer Ø gear	415.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	68.23 mm	
No. teeth, gear	120	Lead angle at Bks	2.7635 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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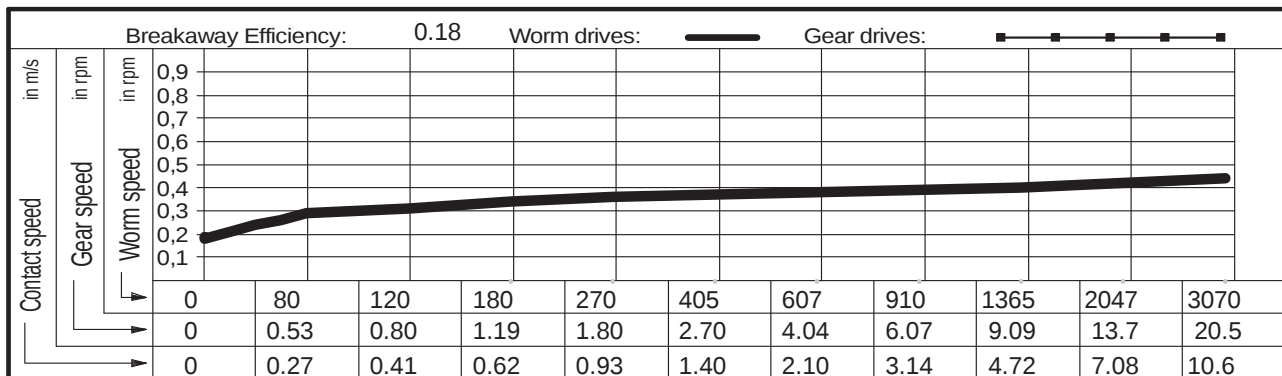
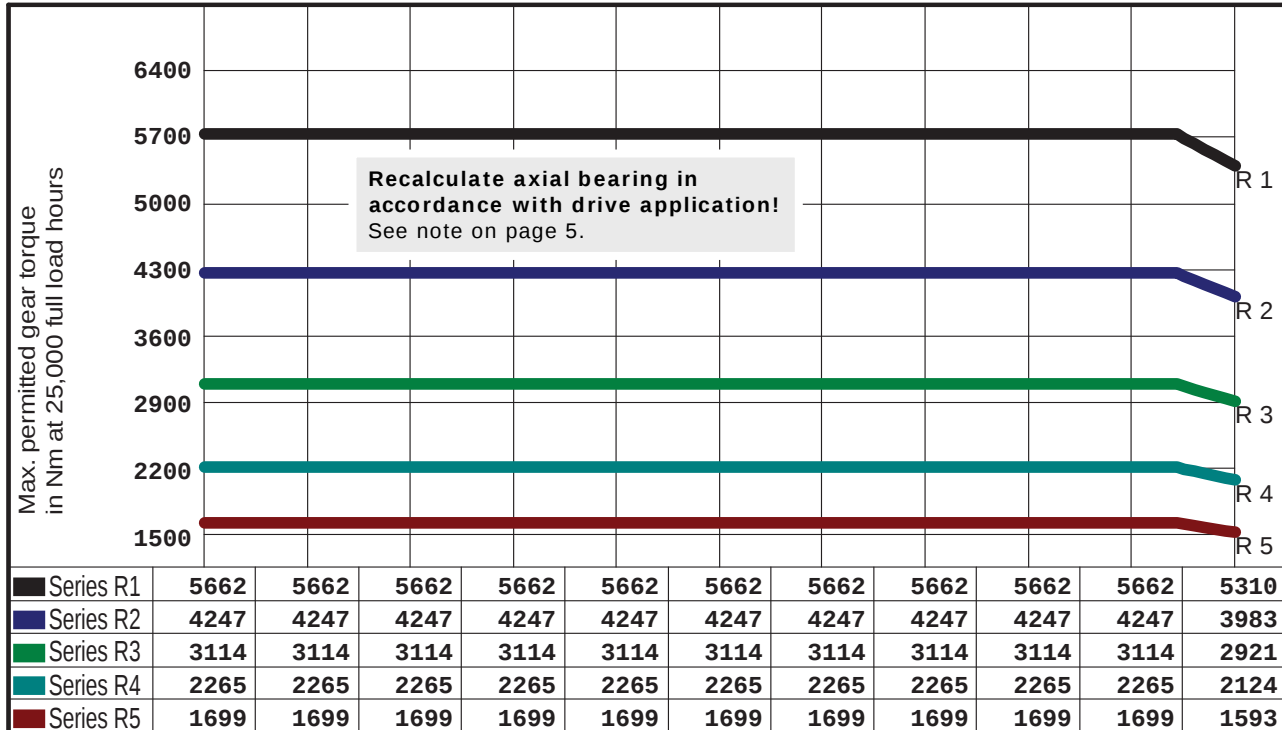


Centre distance	235.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4843 SSR
Outer Ø worm	74.40 mm	Material, worm	31CrMoV9	
Outer Ø gear	415.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	66.43 mm	
No. teeth, gear	144	Lead angle at Bks	2.3801 °	



Gear selection by load type and application			Lubricant: Synthetic oil	
Series R1 	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 		a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles
Series R2 	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 		a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
Series R3 	a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de 		

Centre distance	235.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 5655 SSR
Outer Ø worm	73.80 mm	Material, worm	31CrMoV9	
Outer Ø gear	415.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	66.05 mm	
No. teeth, gear	150	Lead angle at Bks	2.3012 °	



Gear selection by load type and application		
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil
Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions	
Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de	

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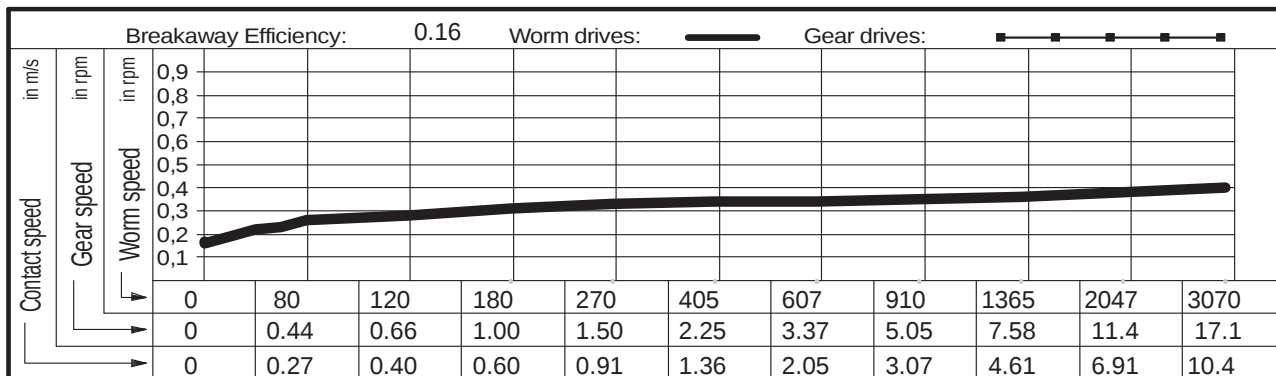
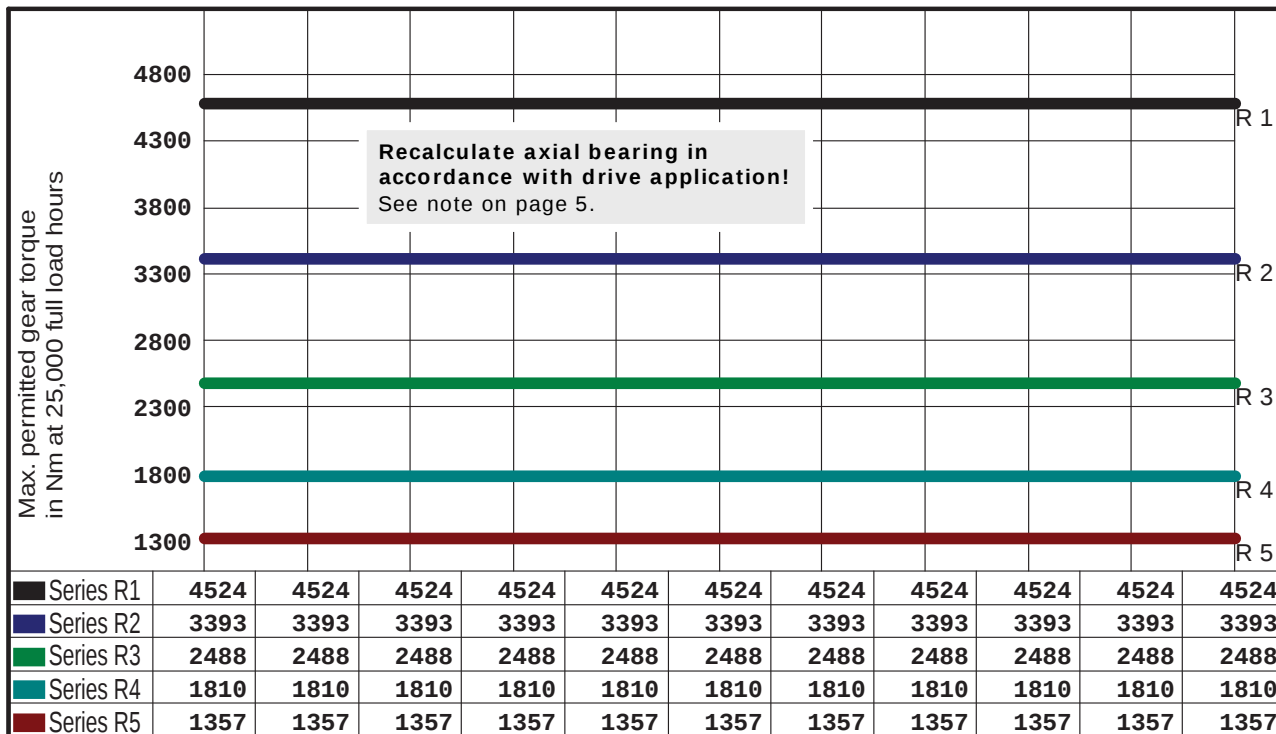
Blöhsteinstraße 20
D-72411 Bodelshausen
www.zahnrad-ott.de

Tel. 07471 - 705 0
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Centre distance	235.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4807 SSR
Outer Ø worm	71.40 mm	Material, worm	31CrMoV9	
Outer Ø gear	415.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	64.53 mm	
No. teeth, gear	180	Lead angle at Bks	1.9736 °	

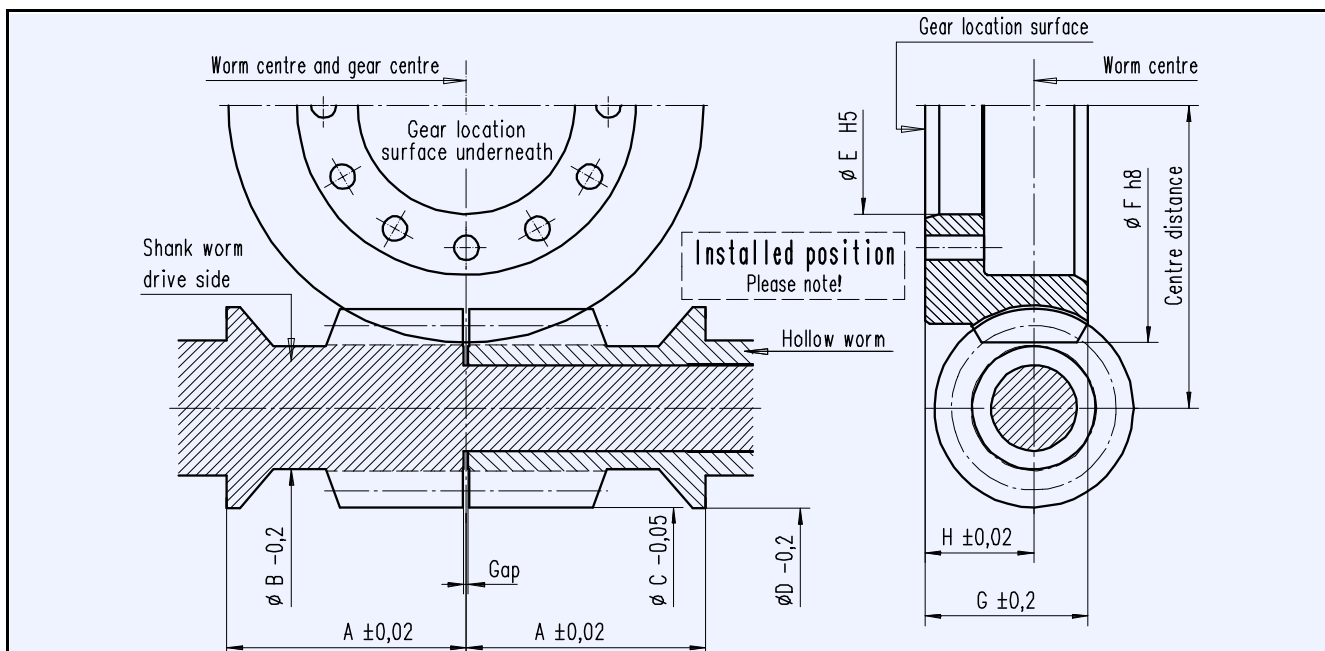


Gear selection by load type and application			Lubricant: Synthetic oil	
Series R1 	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 		a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles
Series R2 	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 		a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
Series R3 	a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de 		

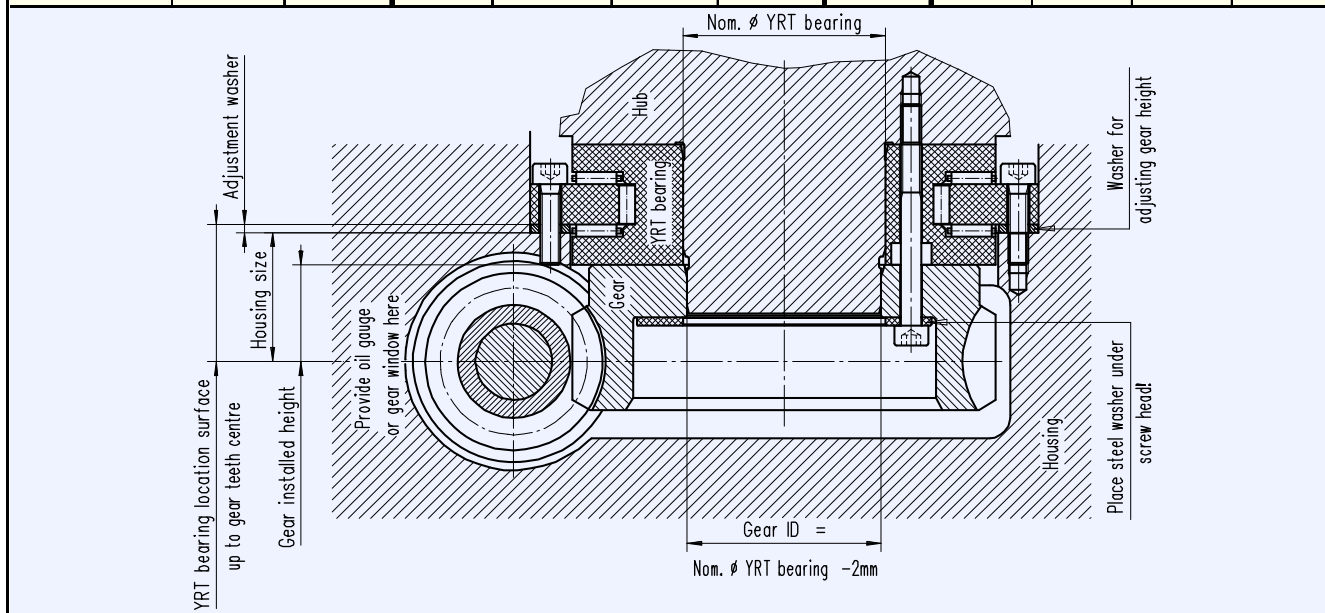


OTT worm gears - centre distance 270 mm

Main dimensions



Ott gear no.	Ratio		Worm				YRT gear bearing	Gear			
	No. starts Z1	No. teeth Z2	Distance A	Undercut ϕ B	Head ϕ C	Collar ϕ D		Internal ϕ E	Head ϕ F	Width G	Height H
4883 SSR	2	120	118	51,2	77,6	77,6	395	393	486	65	39
4882 SSR	1	120		51,2	77,6						
4880 SSR	1	144		51,7	76,6						
4809 SSR	1	180		52,1	73,2						
							See comments page 5!				

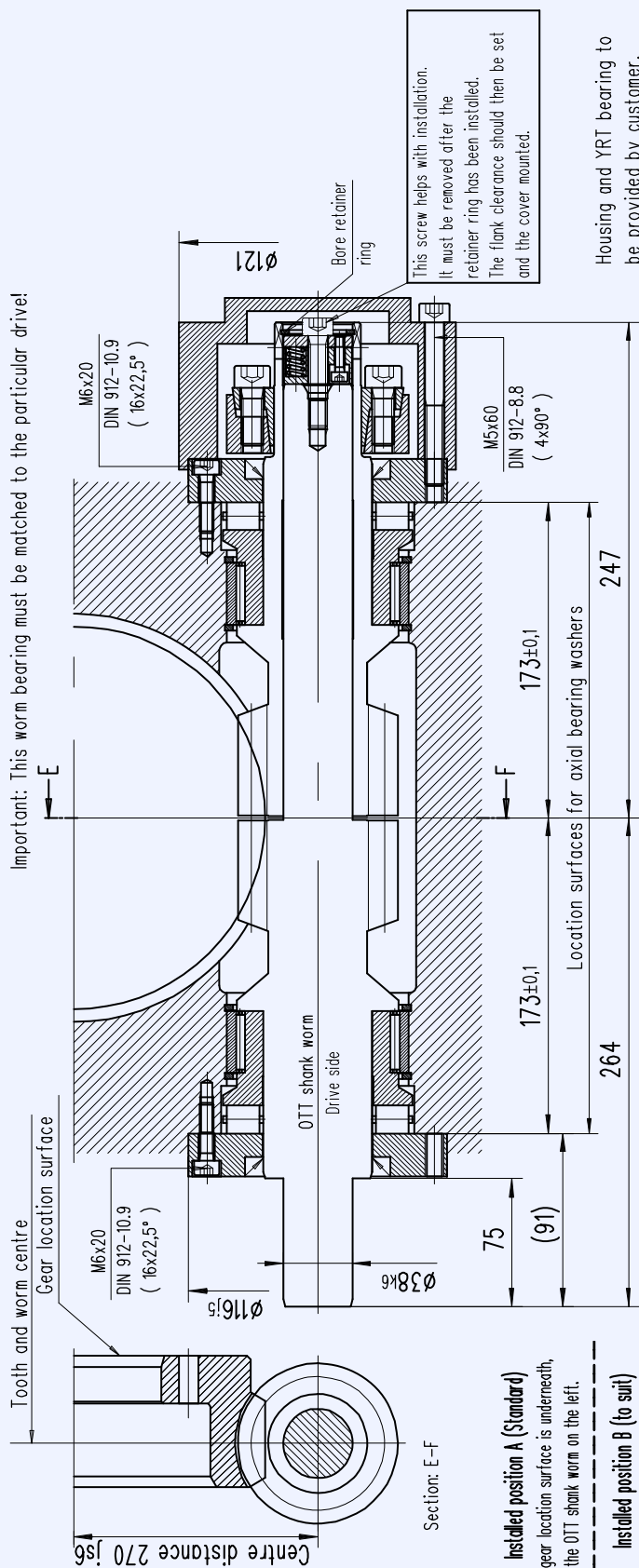


Required internal contour of gear housing for centre distance 270 mm



Worm bearings

Worm bearing for centre distance 270 mm

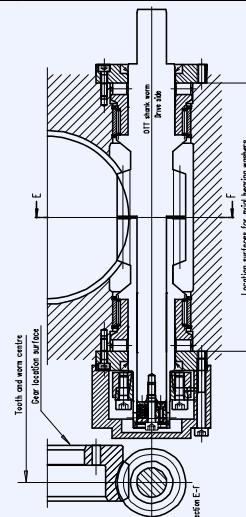
☐ Installed position A (Standard)

The gear location surface is underneath, the OTT shank worm on the left.

☐ Installed position B (to suit)

The gear location surface is underneath, the OTT shank worm on the right.

OTT worm gear					Bearing parts per gear		
	OTT no.	Worm gear	Shank worm	Hollow worm	Q'ty	Name	Typ/Dwg no.
☐	4883 SSR	T00474-G-RAO	T00371-G-SSC	T00372-G-HSC	2	Axial cylinder roller bearing	K812 11 TV
☐	4882 SSR	T00475-G-RAO	T00373-G-SSC	T00374-G-HSC	2	Radial needle bearing	RNAO 70x90x30
☐	4880 SSR	T00476-G-RAO	T00375-G-SSC	T00376-G-HSC	2	Shaft seal	55x70x8
☐	4809 SSR	T00477-G-RAO	T00377-G-SSC	T00378-G-HSC	1	Shrink disc	HSD 50-22
☐					4	Circlip	SB 90
☐					32	Cylinder bolt DIN 912	M6x20 - 10.9
☐					4	Cylinder bolt DIN 912	M5x60 - 8.8
☐					1	Cylinder bolt DIN 912	M6x30 - 8.8
☐					1	Retainer ring DIN 472	38
☐					2	Bearing sleeve	T00223-G-LHÜ
☐	REQUEST	Date:	Name:		2	Axial bearing washer	T00235-G-LDX
☐	ORDER				1	Cover	T00218-G-ADH
☐					1	Thrust piece	B00011-G-DST



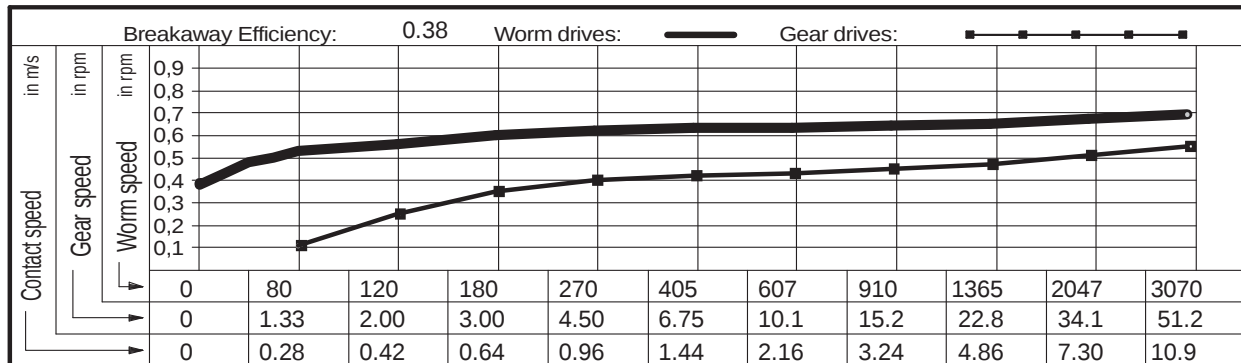
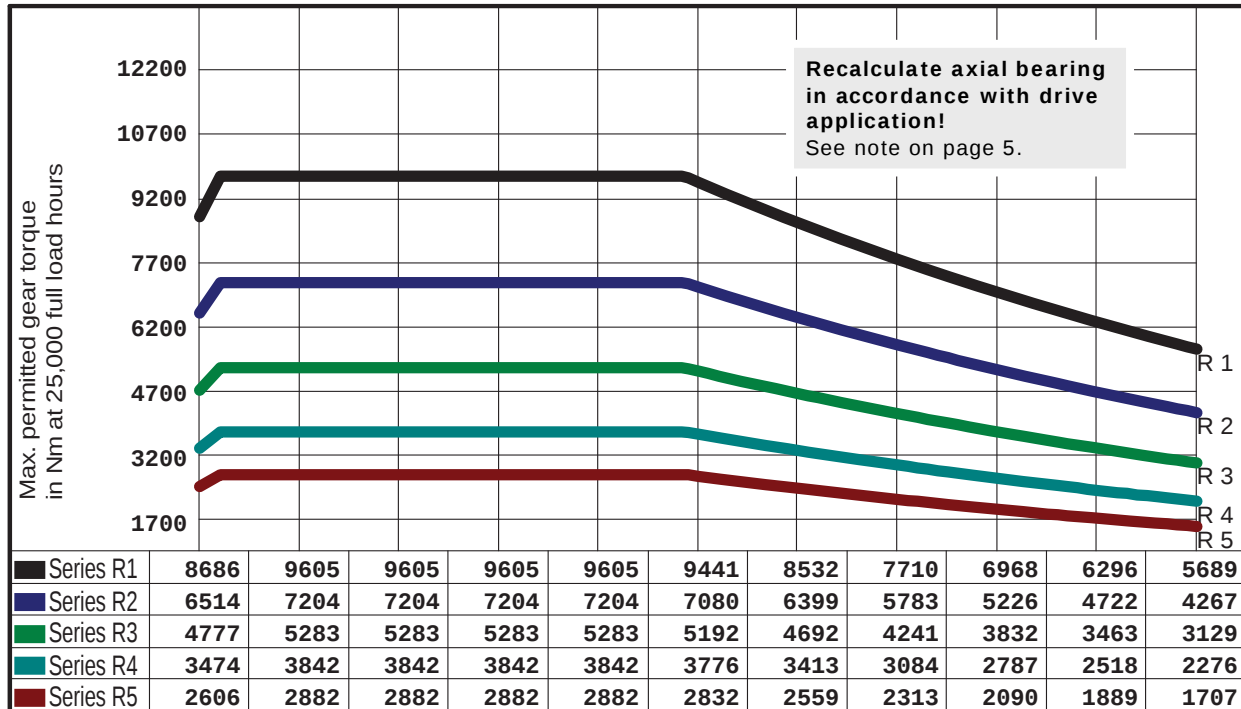
Order using set of OTT worm gears

☐ Gearset incl. thrust piece without bearing parts

☐ Gearset incl. all bearing parts

Operational characteristics

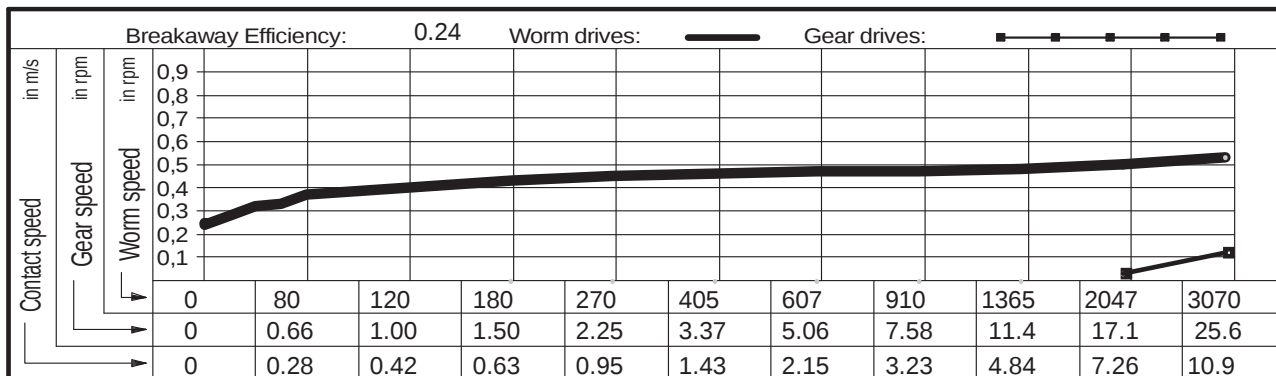
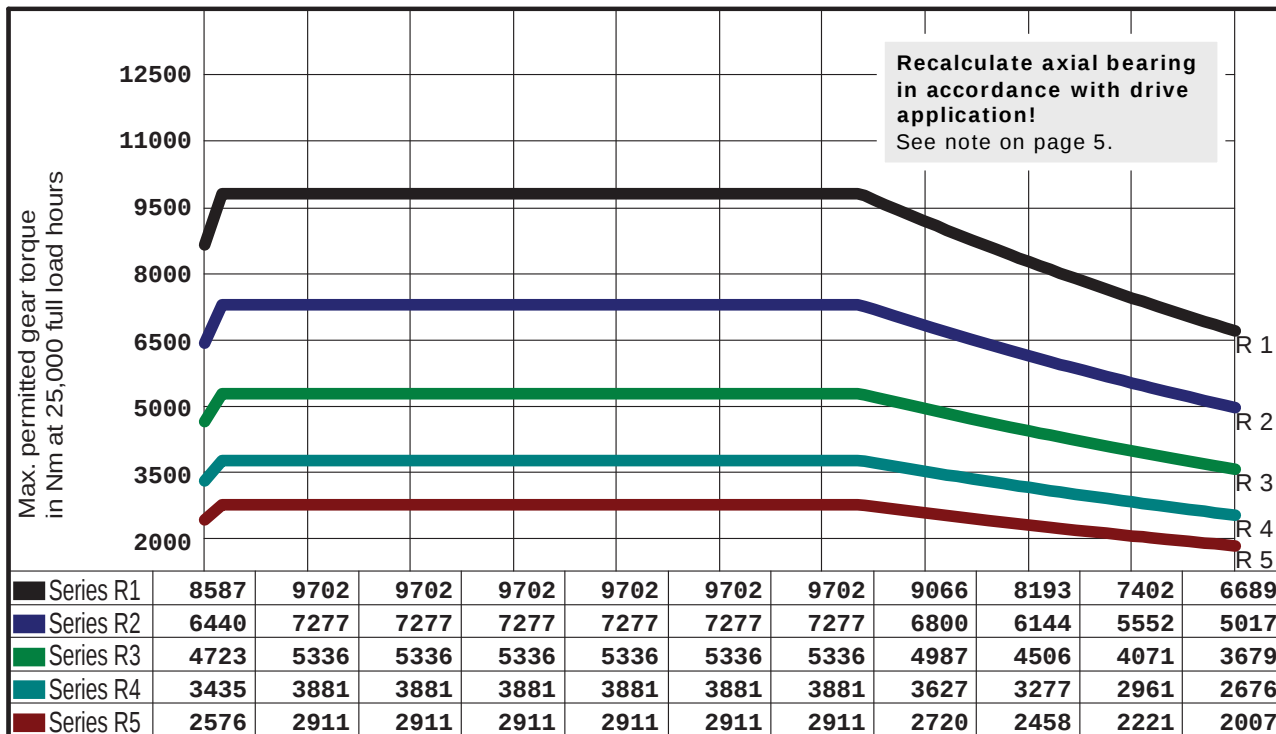
Centre distance	270.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4883 SSR
Outer Ø worm	77.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	486.00 mm	Pressure angle in NS	10 °	
No. starts, worm	2	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	67.68 mm	
No. teeth, gear	120	Lead angle at Bks	6.5361 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de 		

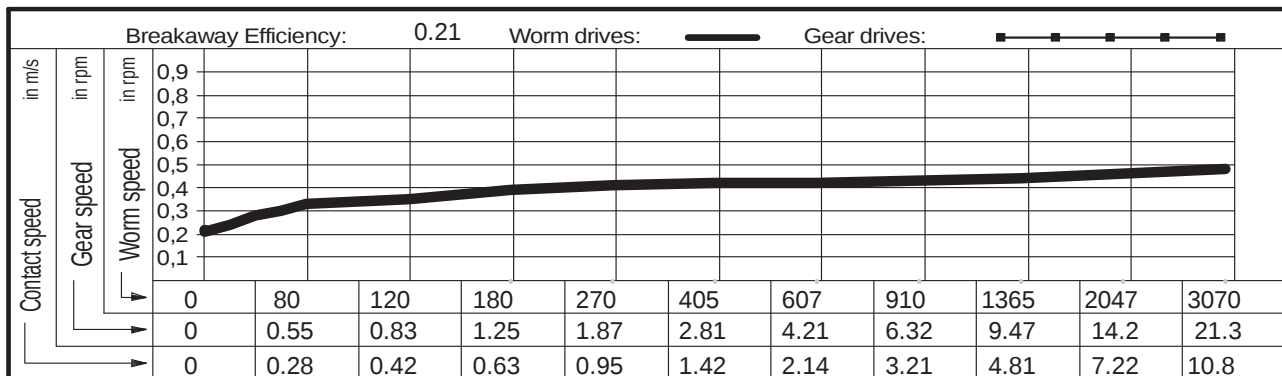
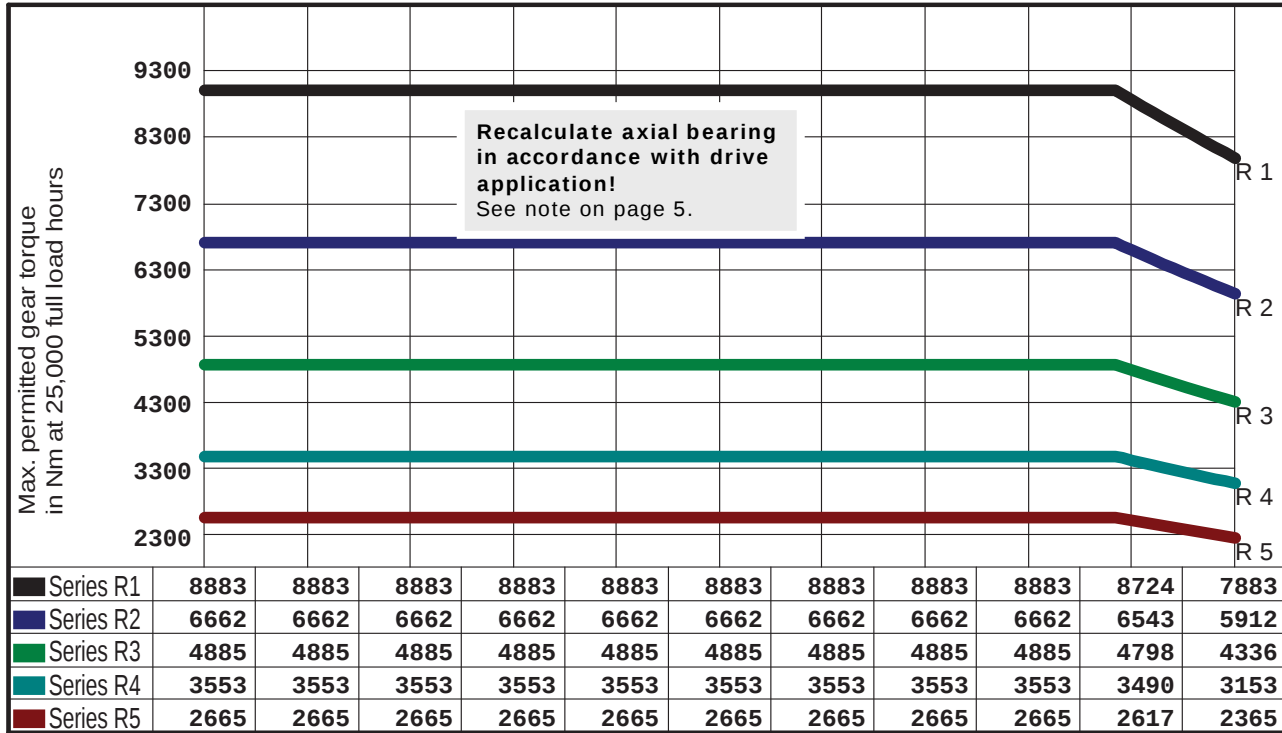


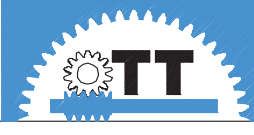
Centre distance	270.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4882 SSR
Outer Ø worm	77.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	486.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	67.69 mm	
No. teeth, gear	120	Lead angle at Bks	3.2779 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de		

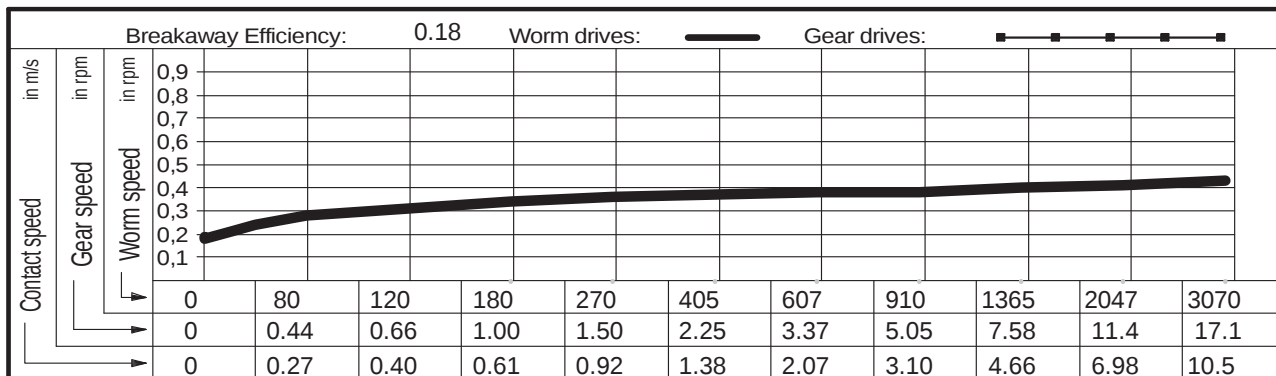
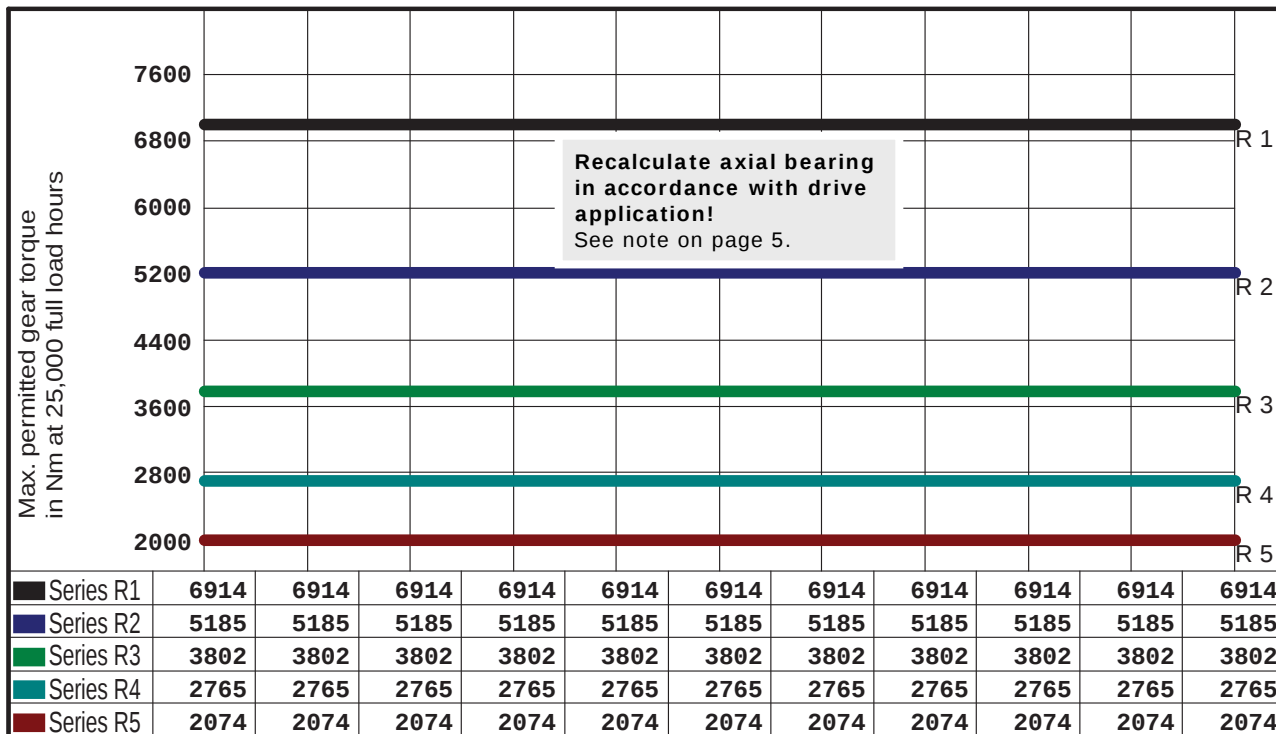
Centre distance	270.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4880 SSR
Outer Ø worm	76.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	486.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	67.30 mm	
No. teeth, gear	144	Lead angle at Bks	2.7514 °	



Gear selection by load type and application			Lubricant: Synthetic oil
Series R1	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes)	Series R4	
Application: Measurement and test machinery drives, CNC axes		Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	
Series R2	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes)	Series R5	
Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications		Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions	
Series R3	a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes)	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de	
Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes			



Centre distance	270.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4809 SSR
Outer Ø worm	73.20 mm	Material, worm	31CrMoV9	
Outer Ø gear	486.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	65.16 mm	
No. teeth, gear	180	Lead angle at Bks	2.2886 °	

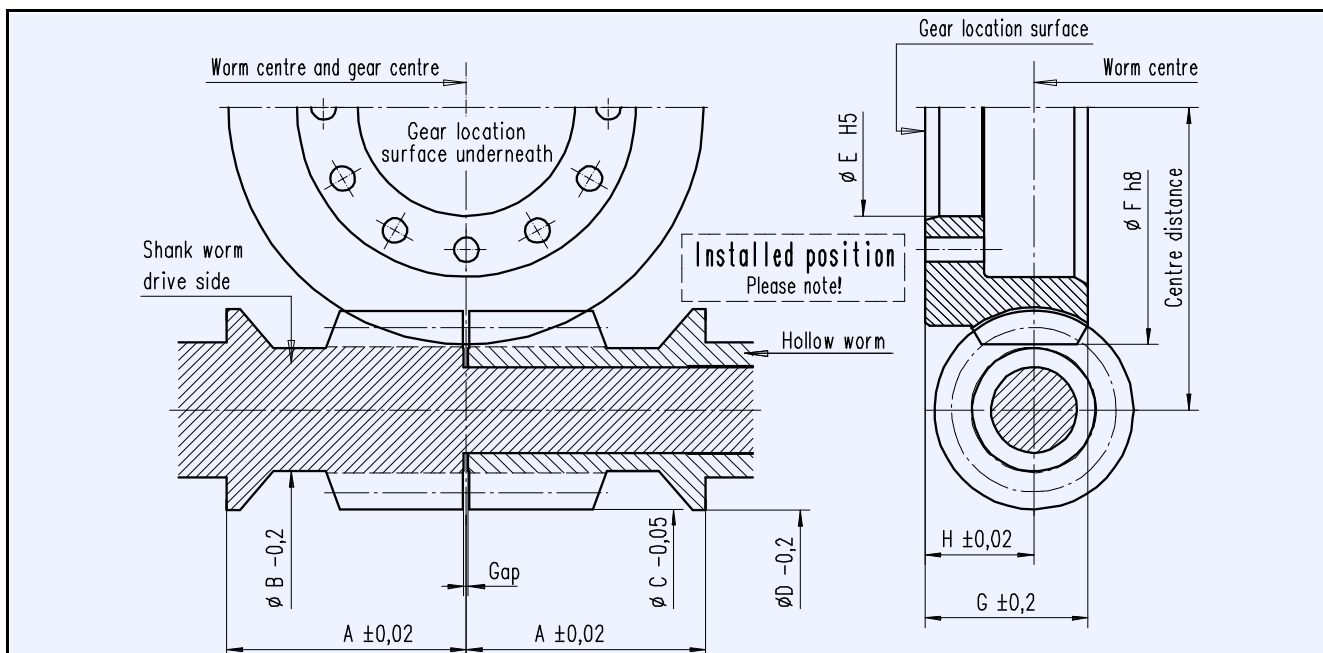


Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de			

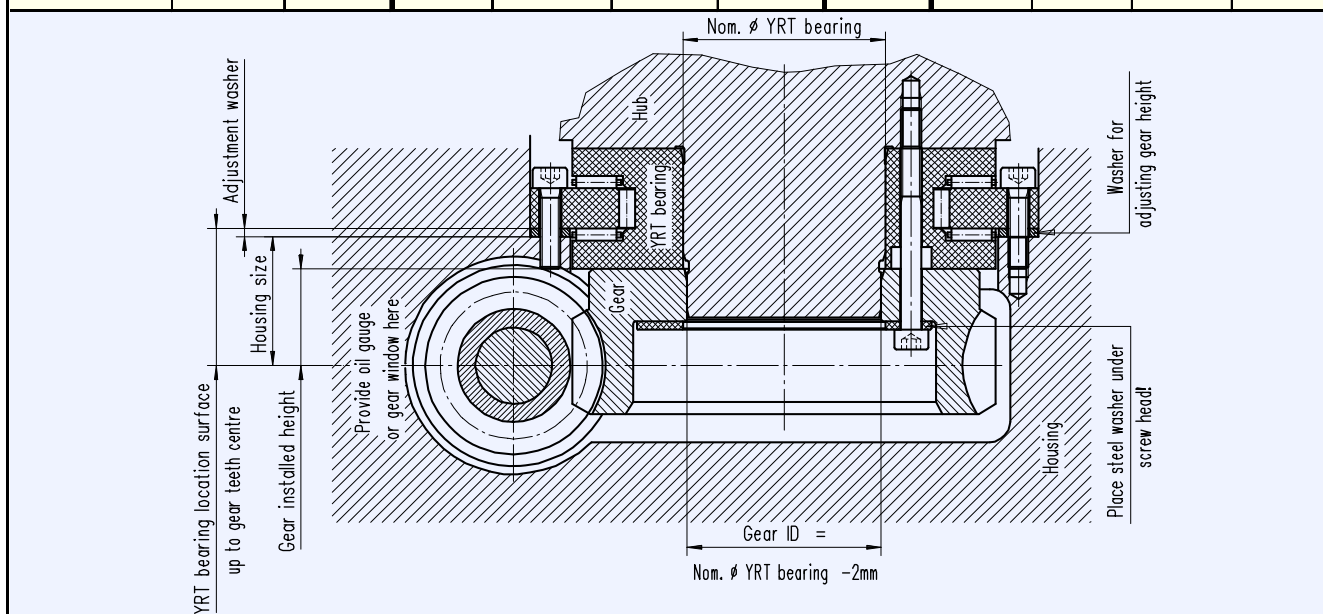


OTT worm gears - centre distance 305 mm

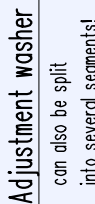
Main dimensions



OTT gear no.	Ratio		Worm				YRT gear bearing	Gear			
	No. starts Z1	No. teeth Z2	Distance A	Undercut ϕ B	Head ϕ C	Collar ϕ D		Internal ϕ E	Head ϕ F	Width G	Height H
4829 SSR	1	120	130	46,8	77,5	77,6	460	458	560	69	42
4851 SSR	1	144		47,3	76,0						
4816 SSR	1	180		47,9	72,2						
4828 SSR	1	240		48,4	67,8						
							See comments page 5!				

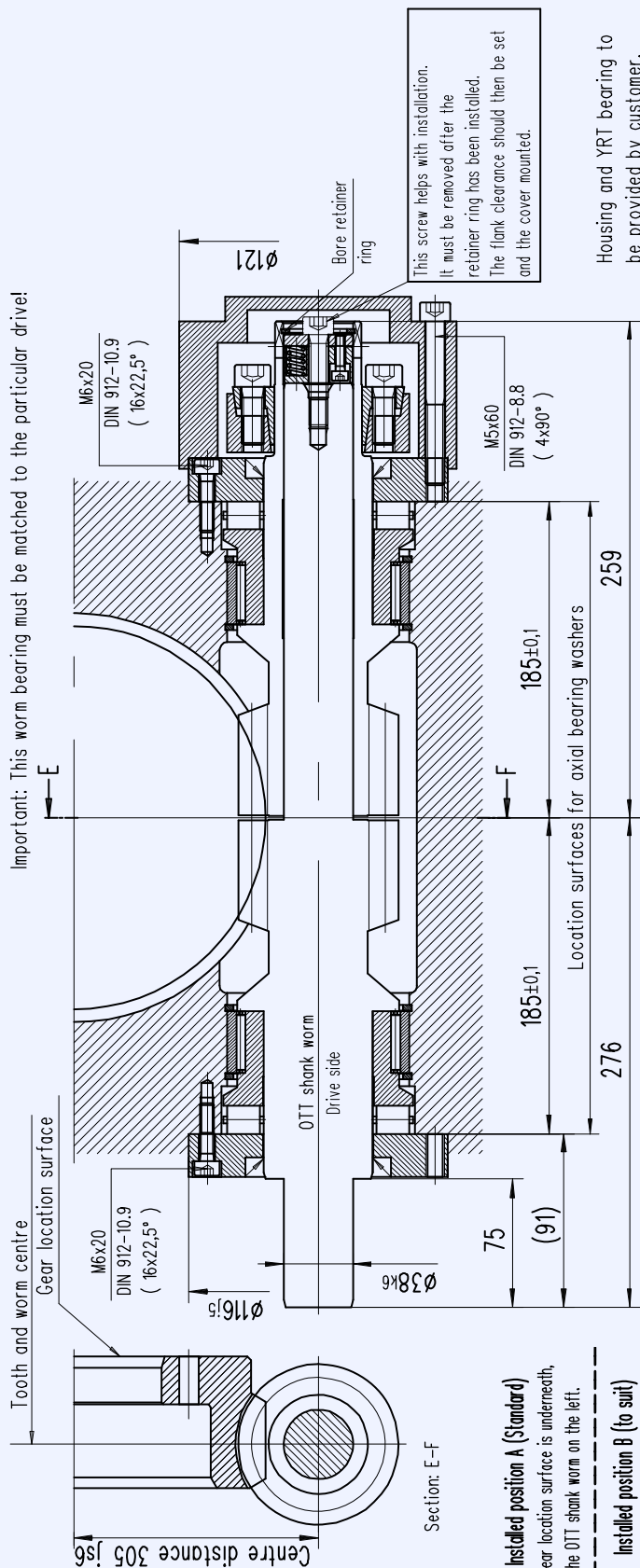


Required internal contour of gear housing for centre distance 305 mm



Worm bearings

Worm bearing for centre distance 305 mm

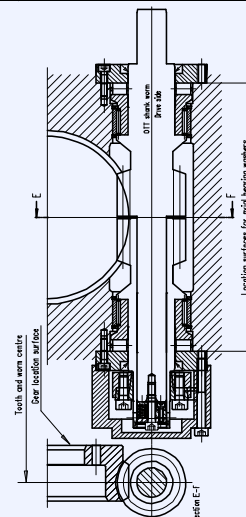
☐ Installed position A (Standard)

The gear location surface is underneath, the OTT shank worm on the left.

☐ Installed position B (to suit)

The gear location surface is underneath, the OTT shank worm on the right.

OTT worm gear					Bearing parts per gear		
OTT no.	Worm gear	Shank worm	Hollow worm	Q'ty	Name	Typ/Dwg no.	
☐ 4829 SSR	T00478-G-RAO	T00379-G-SSC	T00380-G-HSC	2	Axial cylinder roller bearing	K812 11 TV	
☐ 4851 SSR	T00479-G-RAO	T00381-G-SSC	T00382-G-HSC	2	Radial needle bearing	RNAO 70x90x30	
☐ 4816 SSR	T00480-G-RAO	T00383-G-SSC	T00384-G-HSC	2	Shaft seal	55x70x8	
☐ 4828 SSR	T00481-G-RAO	T00385-G-SSC	T00386-G-HSC	1	Shrink disc	HSD 50-22	
☐				4	Circlip	SB 90	
☐				32	Cylinder bolt DIN 912	M6x20 - 10.9	
☐				4	Cylinder bolt DIN 912	M5x60 - 8.8	
☐				1	Cylinder bolt DIN 912	M6x30 - 8.8	
☐				1	Retainer ring DIN 472	38	
☐				2	Bearing sleeve	T00223-G-LHÜ	
☐ REQUEST	Date:	Name:					
☐ ORDER							
		1 Thrust piece					
		B00011-G-DST					



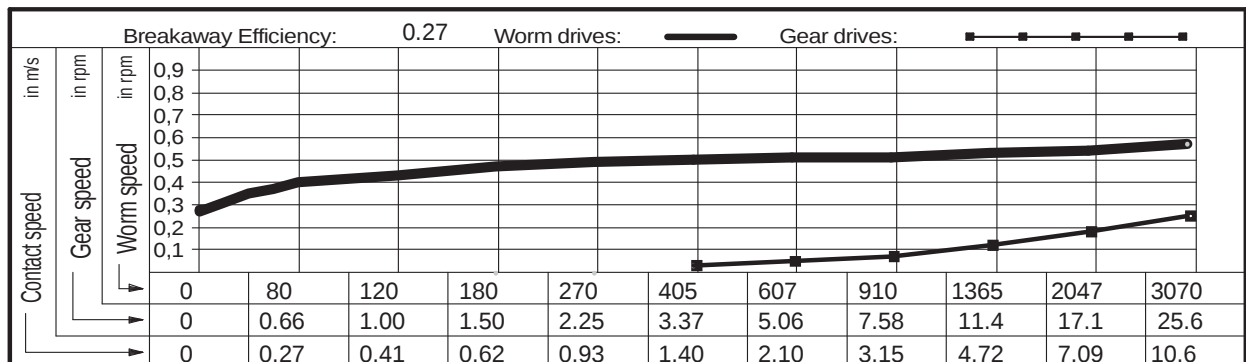
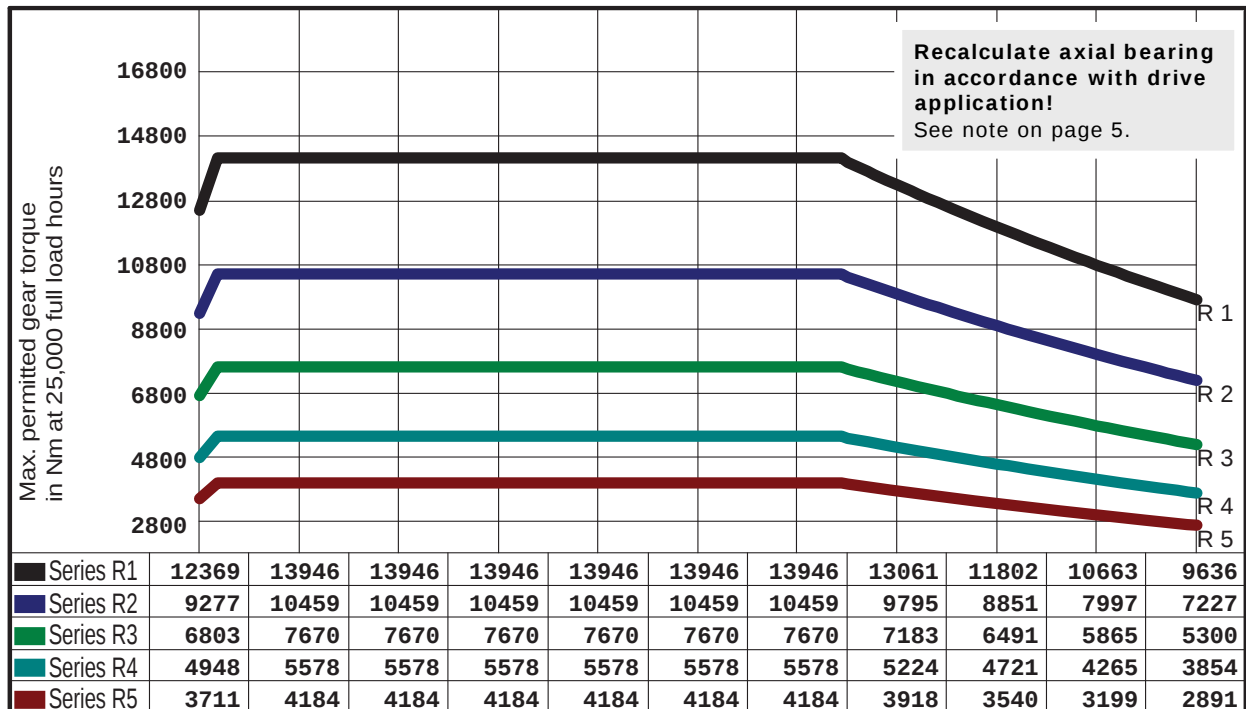
Order using set of OTT worm gears

☐ Gearset incl. thrust piece without bearing parts

☐ Gearset incl. all bearing parts

Operational characteristics

Centre distance	305.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4829 SSR
Outer Ø worm	77.50 mm	Material, worm	31CrMoV9	
Outer Ø gear	560.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	66.00 mm	
No. teeth, gear	120	Lead angle at Bks	3.8699 °	



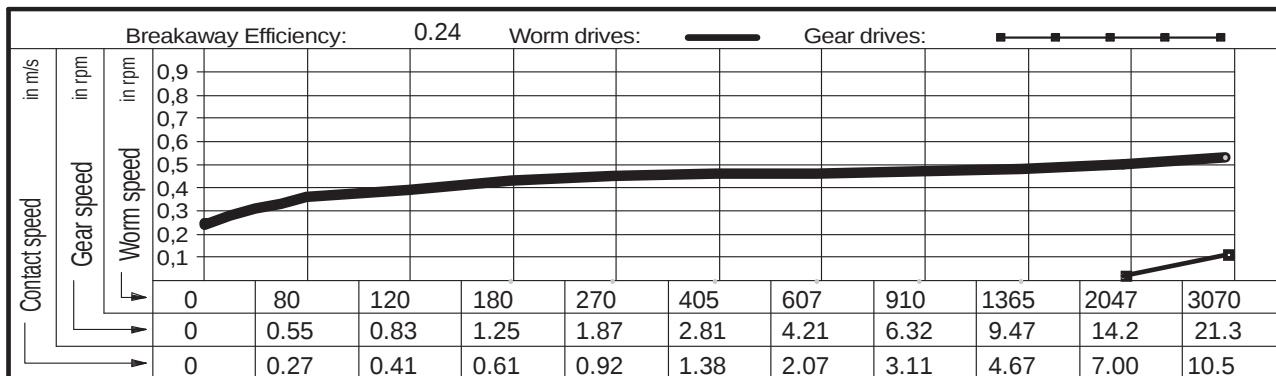
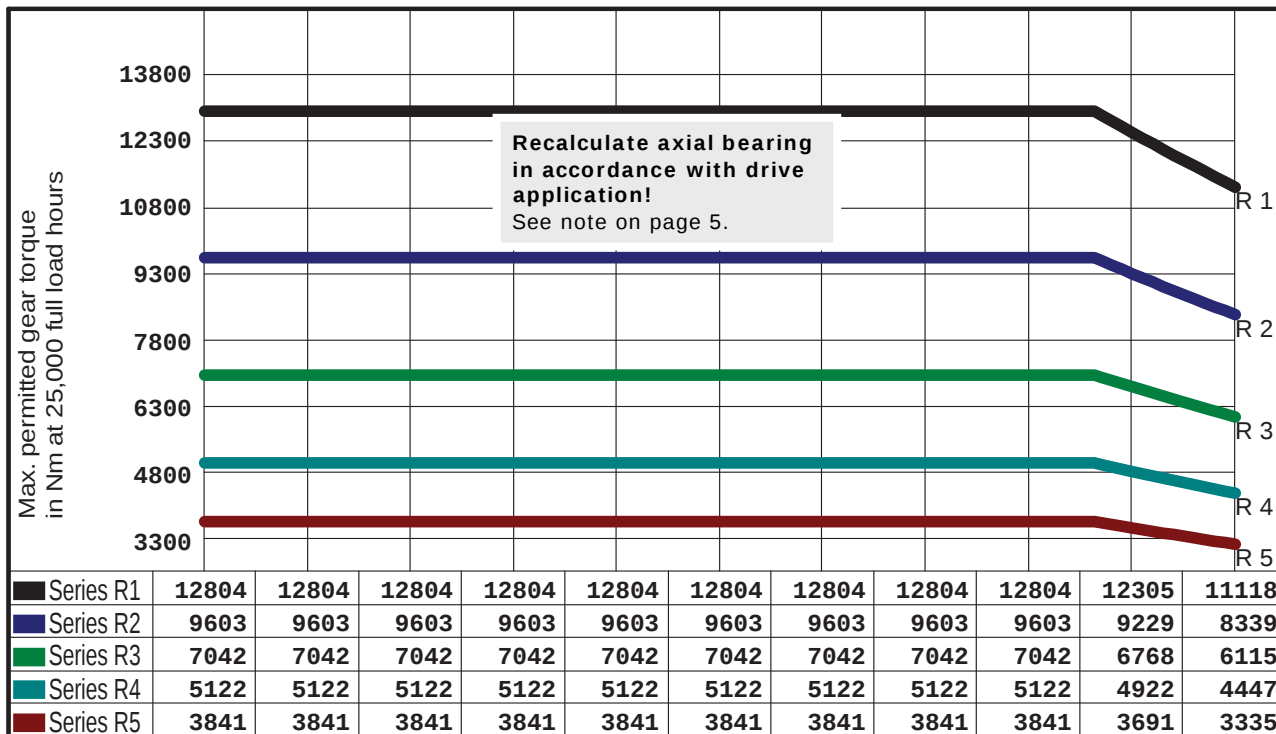
Gear selection by load type and application		
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil
Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions	
Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de	

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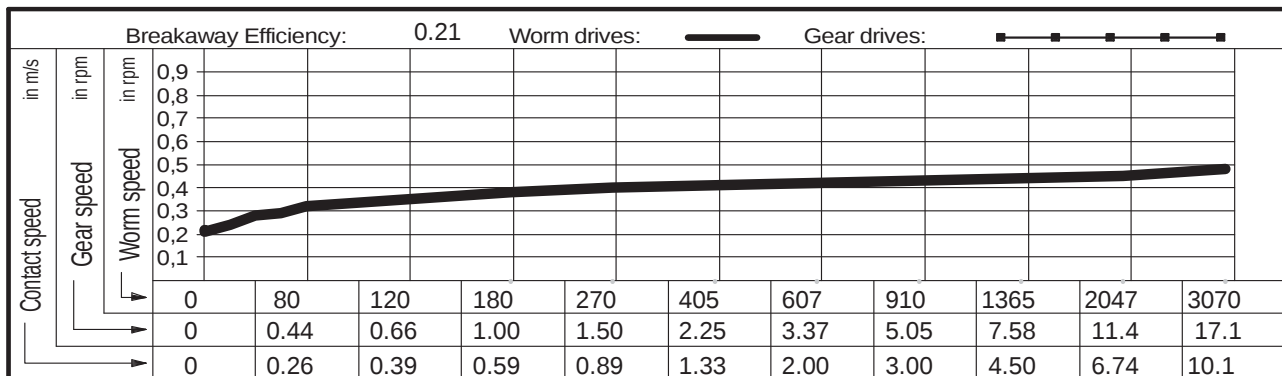
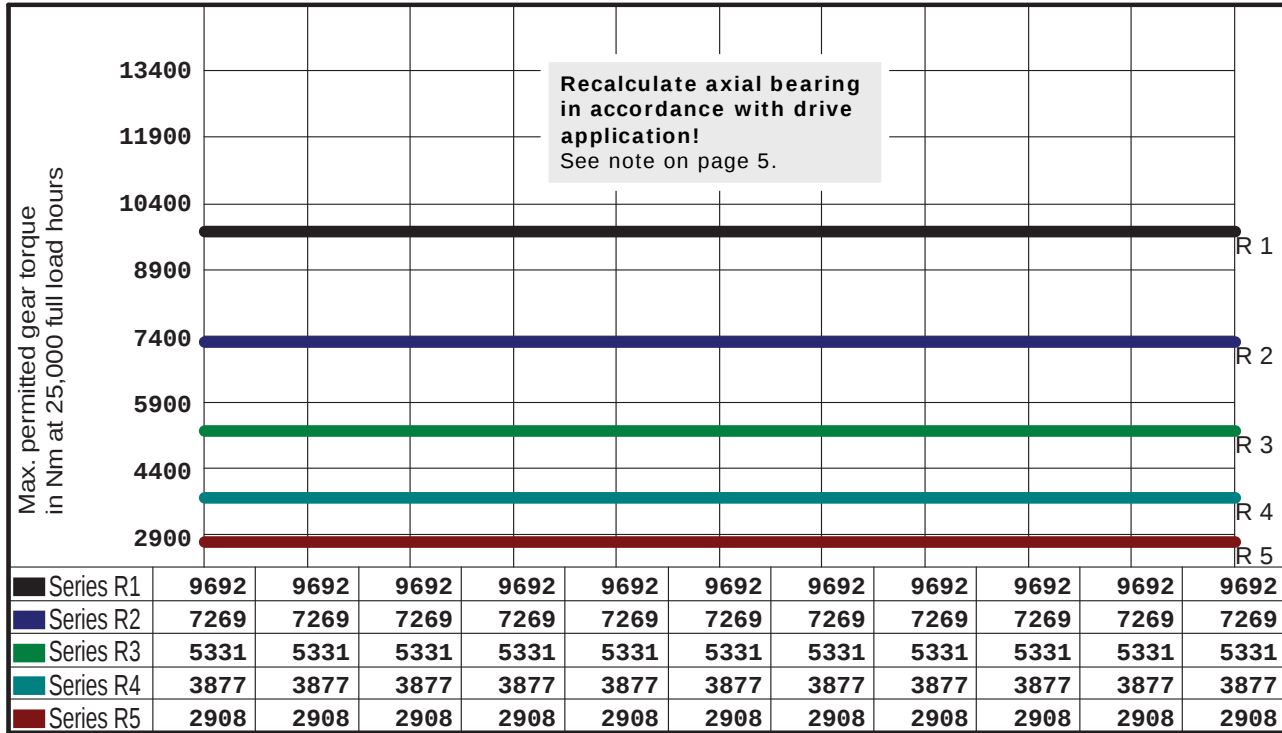


Centre distance	305.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4851 SSR
Outer Ø worm	76.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	560.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	65.30 mm	
No. teeth, gear	144	Lead angle at Bks	3.2671 °	



Gear selection by load type and application			Lubricant: Synthetic oil
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles		
Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de		

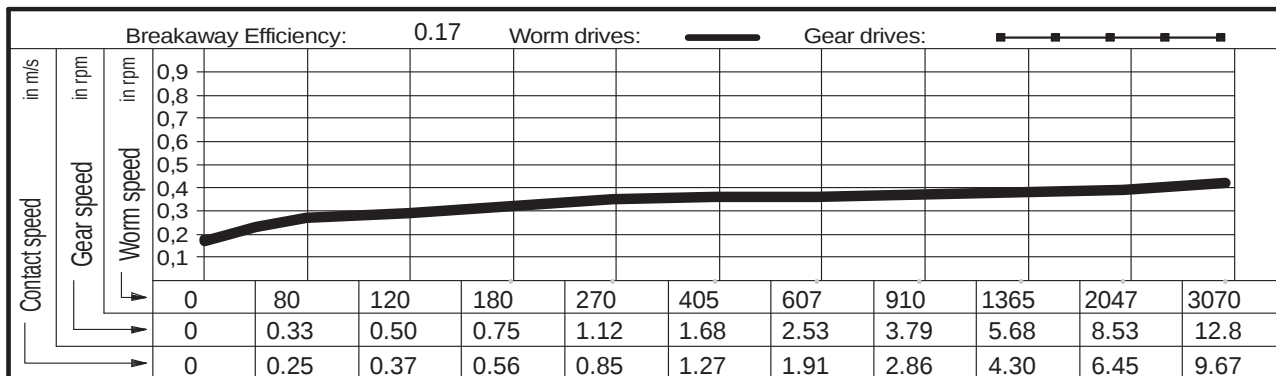
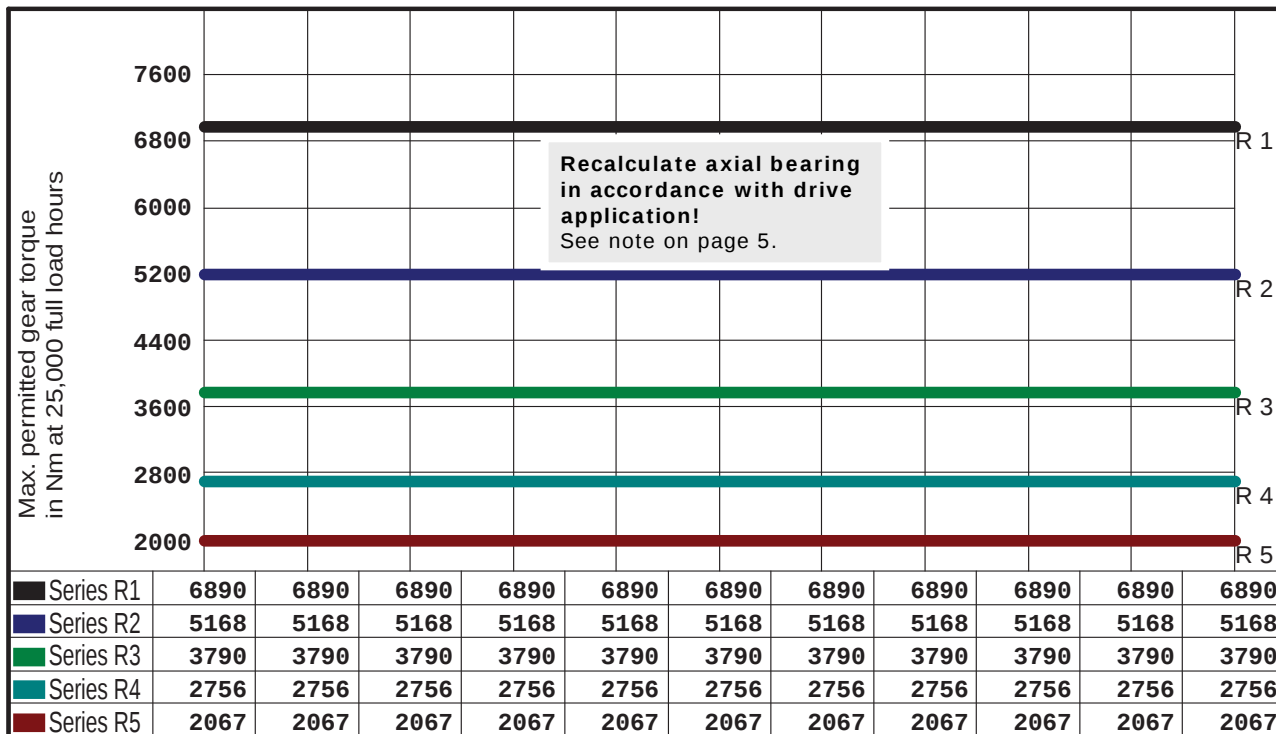
Centre distance	305.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4816 SSR
Outer Ø worm	72.20 mm	Material, worm	31CrMoV9	
Outer Ø gear	560.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	62.90 mm	
No. teeth, gear	180	Lead angle at Bks	2.7306 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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Centre distance	305.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4828 SSR
Outer Ø worm	67.80 mm	Material, worm	31CrMoV9	
Outer Ø gear	560.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	60.14 mm	
No. teeth, gear	240	Lead angle at Bks	2.1580 °	

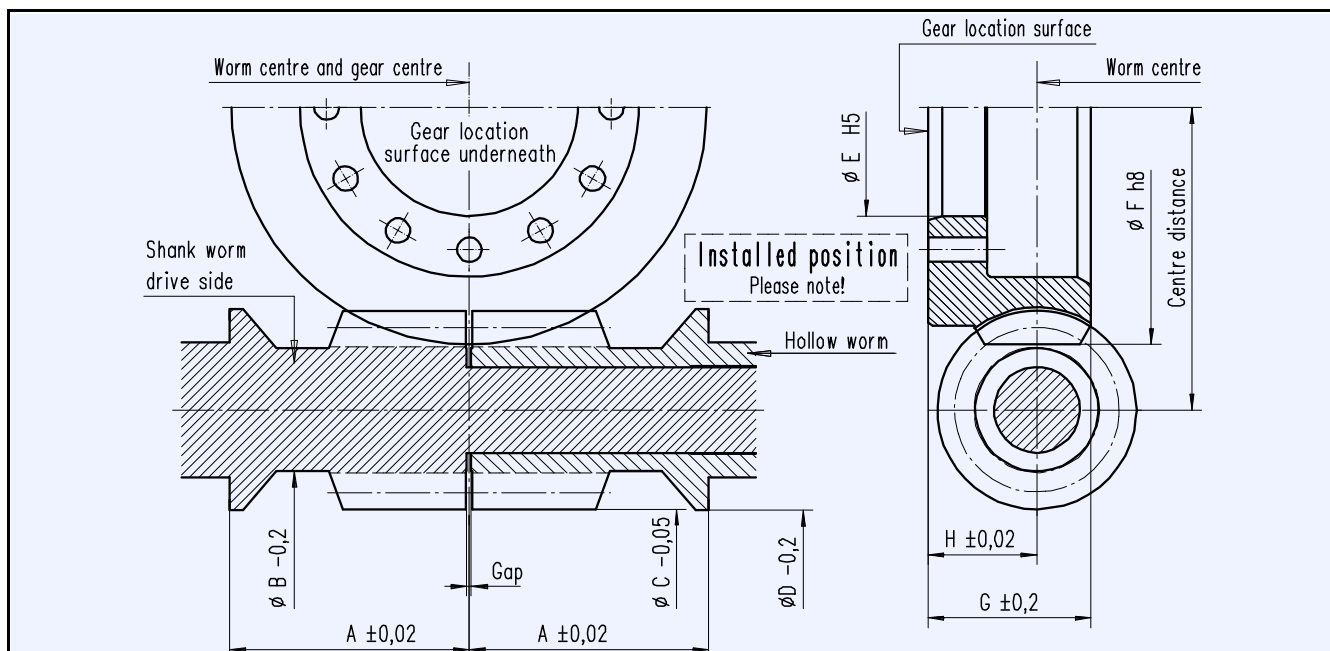


Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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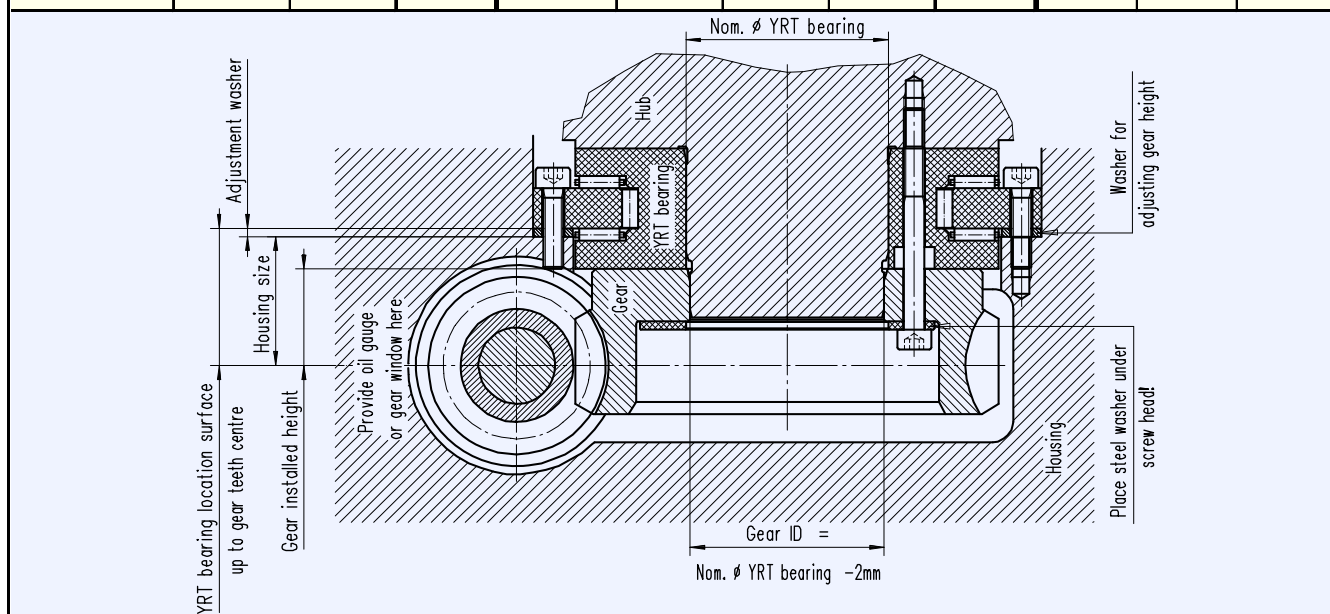


OTT worm gears - centre distance 340 mm

Main dimensions



OTT gear no.	Ratio		Worm				YRT gear bearing	Gear			
	No. starts Z1	No. teeth Z2	Distance A	Undercut ϕ B	Head ϕ C	Collar ϕ D		Internal ϕ E	Head ϕ F	Width G	Height H
4818 SSR	1	180	141	57,6	86,0	97,0	520	518	620	78	48
4810 SSR	1	240		58,2	80,4						
5489 SSR	1	360		58,8	72,0						
							See comments page 5!				

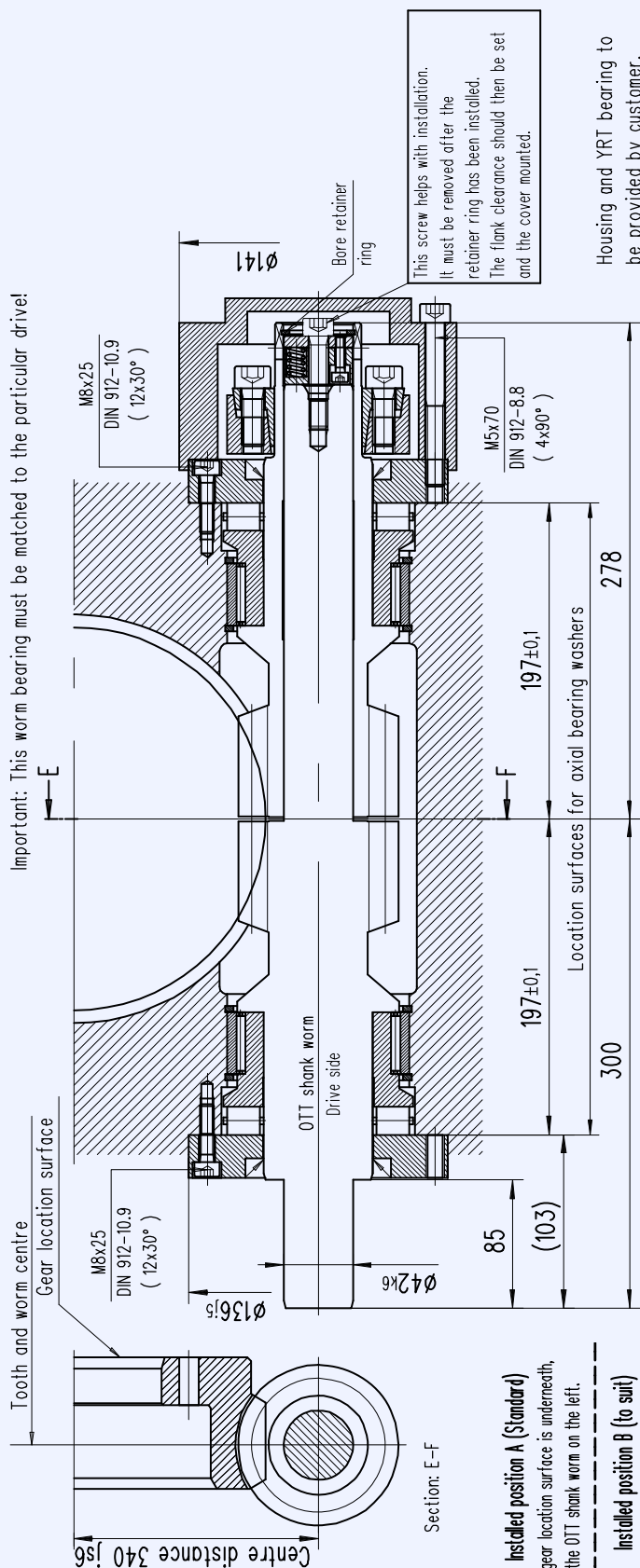


Required internal contour of gear housing for centre distance 340 mm



Worm bearings

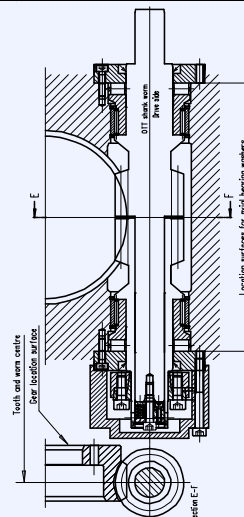
Worm bearing for centre distance 340 mm

☐ Installed position A (Standard)

The gear location surface is underneath, the OTT shank worm on the left.

Installed position B (to suit)

The gear location surface is underneath, the OTT shank worm on the right.



Order using set of OTT worm gears

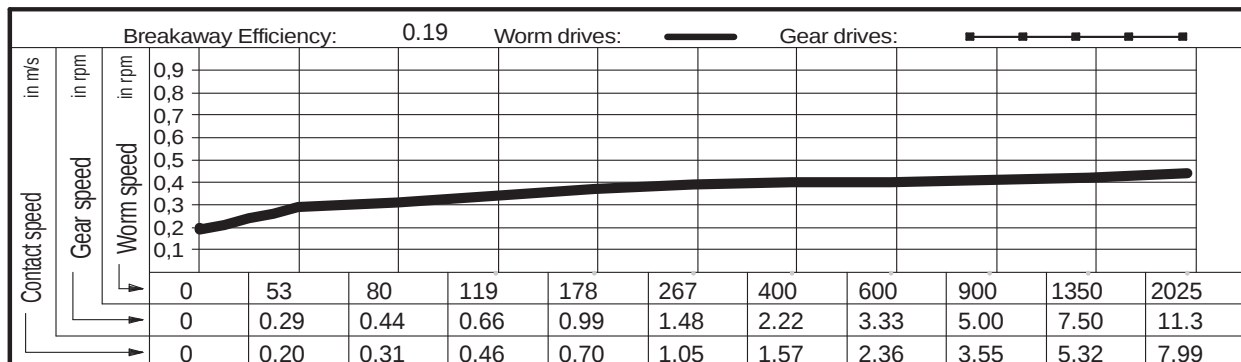
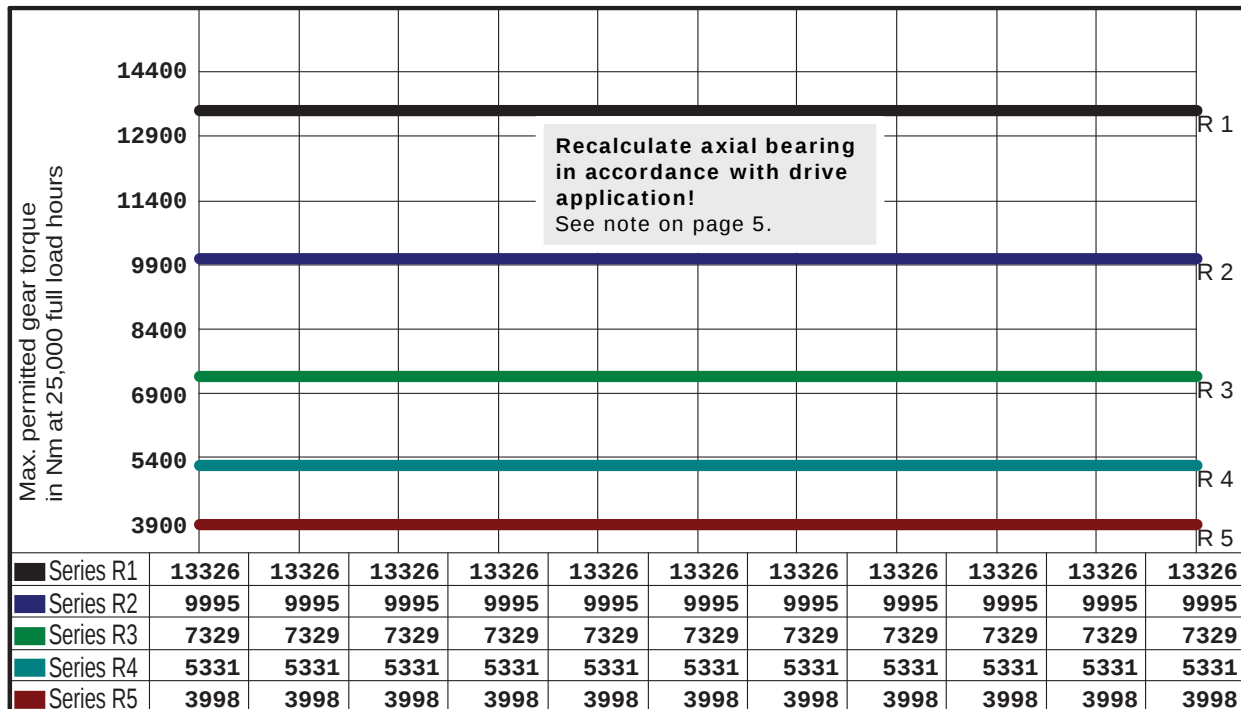
☐ Gearset incl. thrust piece without bearing parts

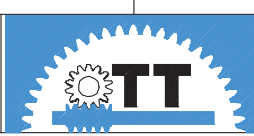
☐ Gearset incl. all bearing parts

OTT worm gear					Bearing parts per gear		
OTT no.	Worm gear	Shank worm	Hollow worm	Q'ty	Name	Typ/Dwg no.	
☐ 4818 SSR	T00482-G-RAO	T00387-G-SSC	T00388-G-HSC	2	Axial cylinder roller bearing	K812 14 TV	
☐ 4810 SSR	T00483-G-RAO	T00389-G-SSC	T00390-G-HSC	2	Radial needle bearing	RNAO 90x105x26	
☐ 5489 SSR	T00484-G-RAO	T00391-G-SSC	T00392-G-HSC	2	Shaft seal	70x85x8	
☐				1	Shrink disc	HSD 55-22	
☐				4	Circlip	SB 105	
☐				24	Cylinder bolt DIN 912	M8x25 - 10.9	
☐				4	Cylinder bolt DIN 912	M5x70 - 8.8	
☐				1	Cylinder bolt DIN 912	M6x30 - 8.8	
☐				1	Retainer ring DIN 472	42	
☐				2	Bearing sleeve	T00224-G-LHÜ	
☐ REQUEST	Date.	Name:					
☐ ORDER							
		1 Thrust piece					
		B00012-G-DST					

Operational characteristics

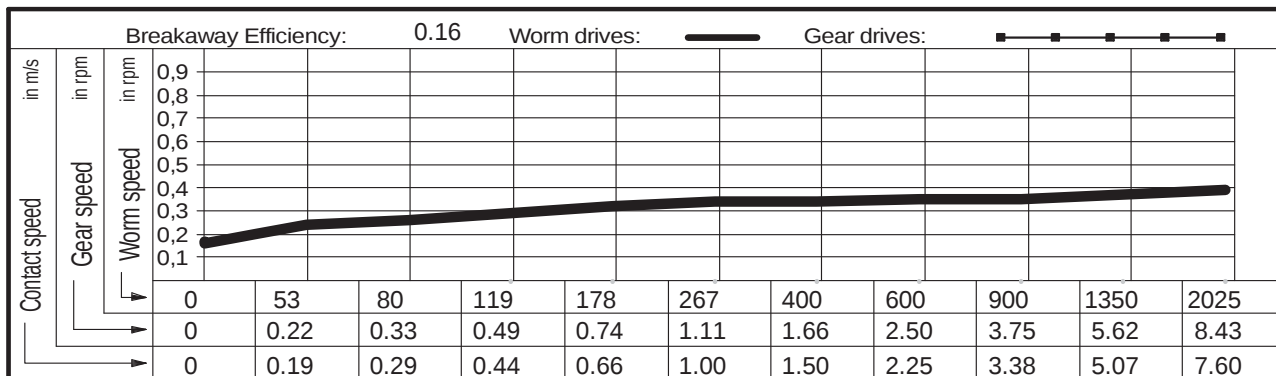
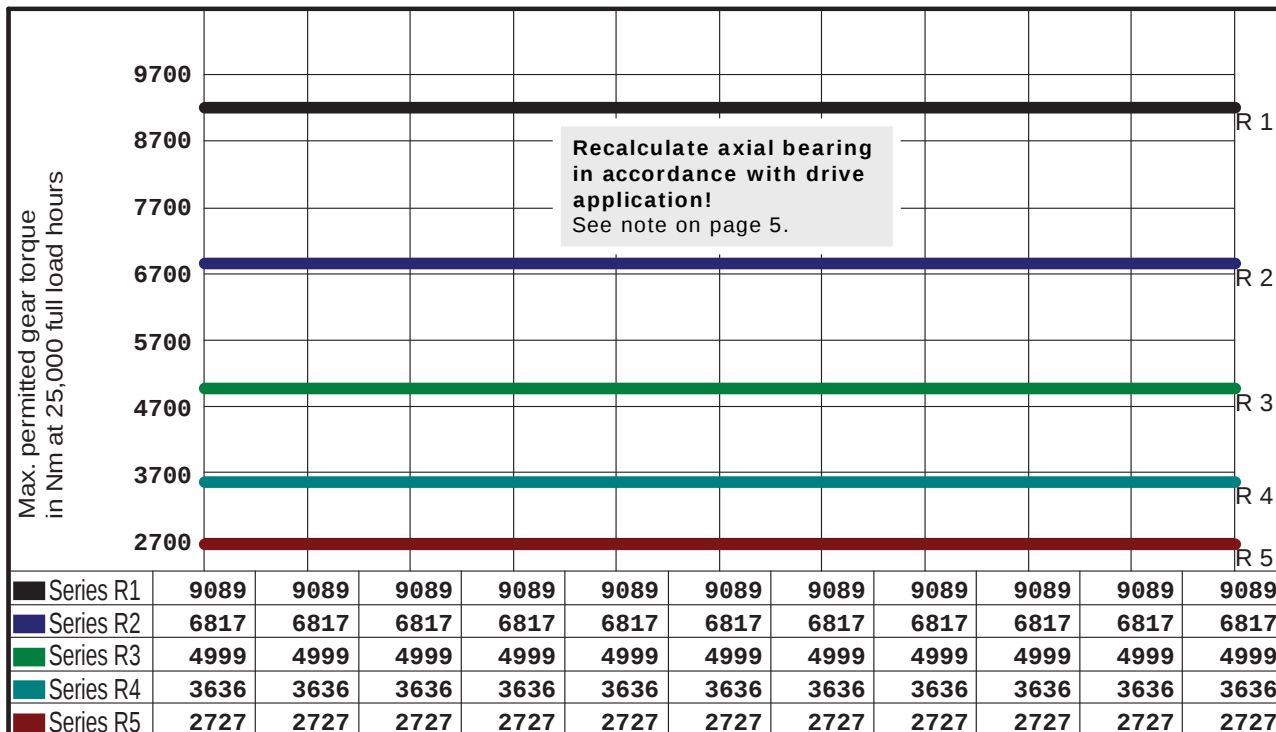
Centre distance	340.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4818 SSR
Outer Ø worm	86.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	620.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	75.32 mm	
No. teeth, gear	180	Lead angle at Bks	2.5188 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de		

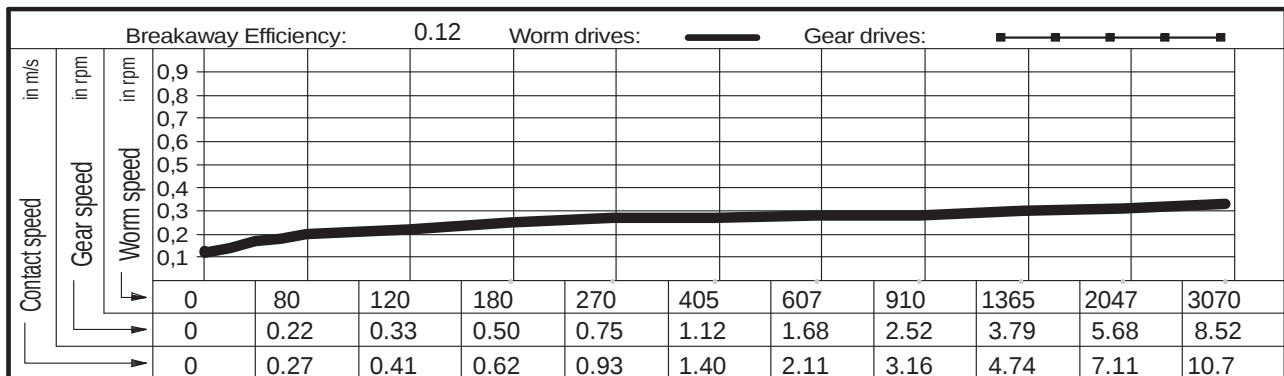
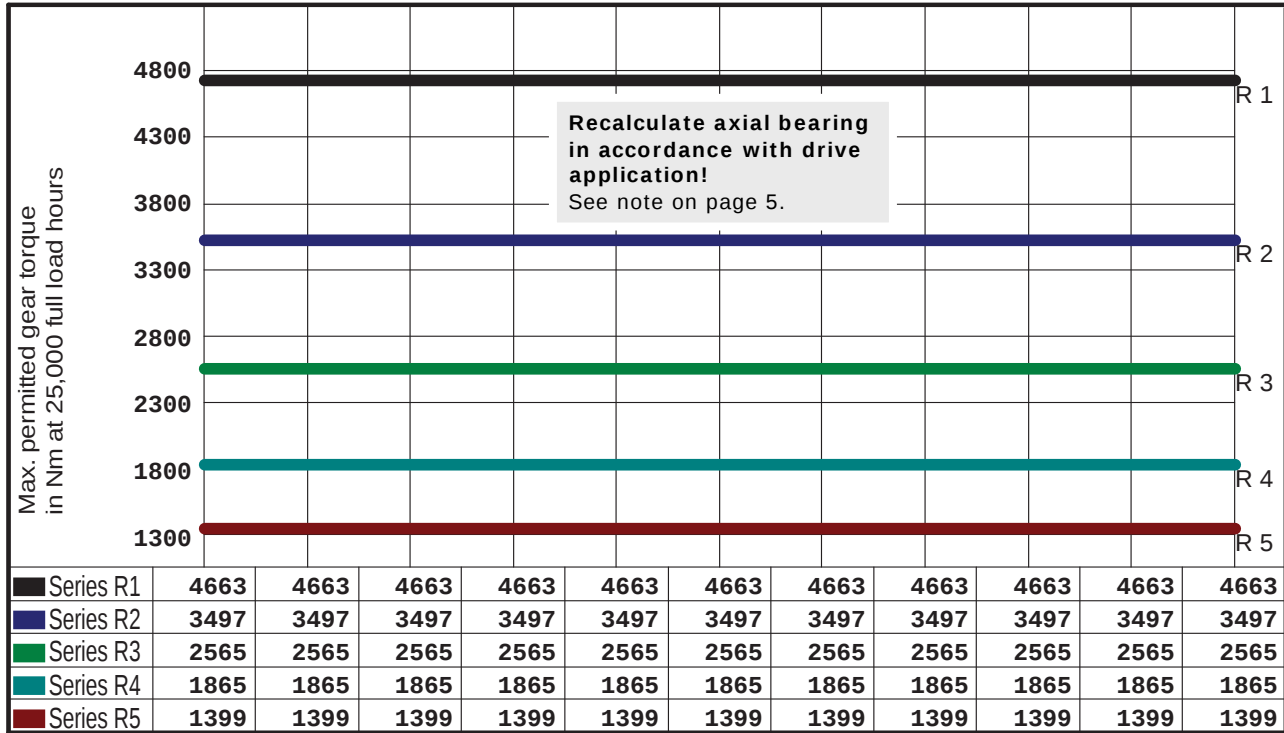


Centre distance	340.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4810 SSR
Outer Ø worm	80.40 mm	Material, worm	31CrMoV9	
Outer Ø gear	620.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	71.72 mm	
No. teeth, gear	240	Lead angle at Bks	2.0013 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de		

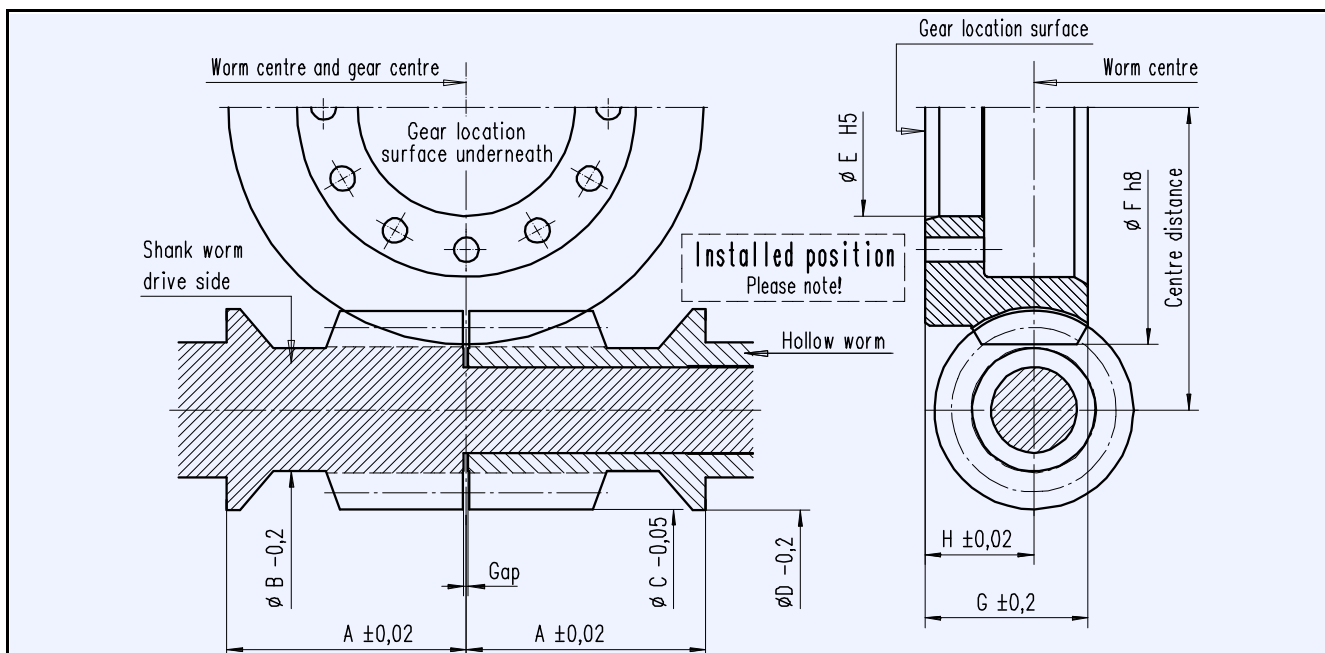
Centre distance	340.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 5489 SSR
Outer Ø worm	72.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	620.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	66.39 mm	
No. teeth, gear	360	Lead angle at Bks	1.4603 °	



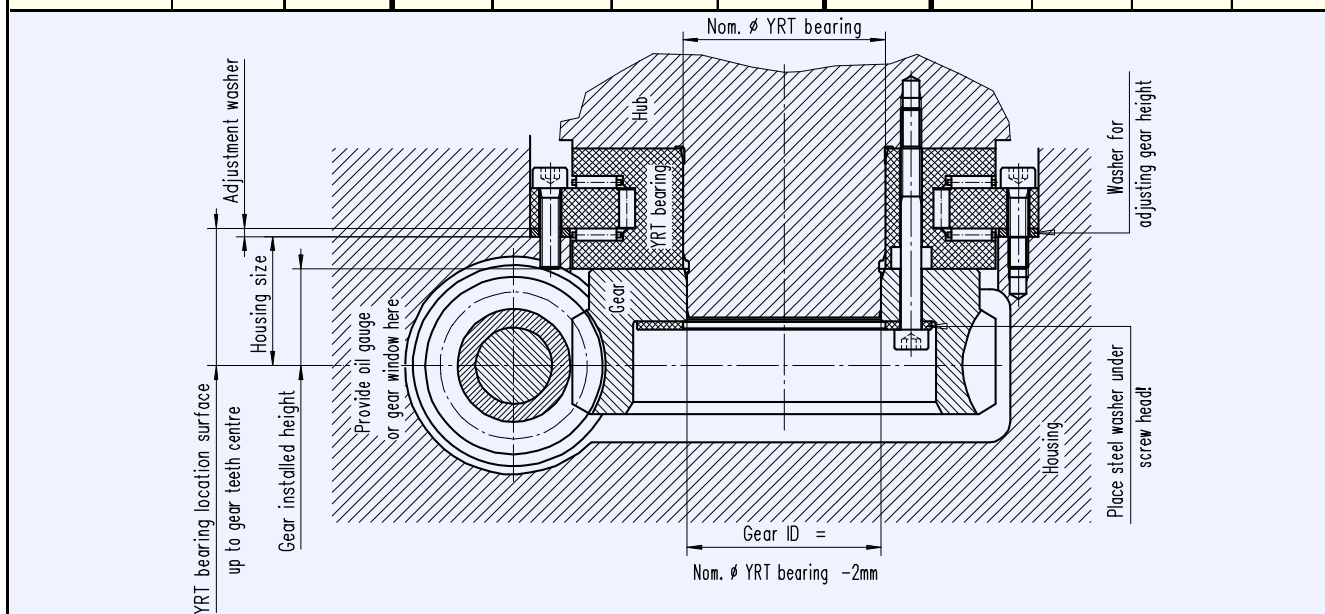
Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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OTT worm gears - centre distance 380 mm

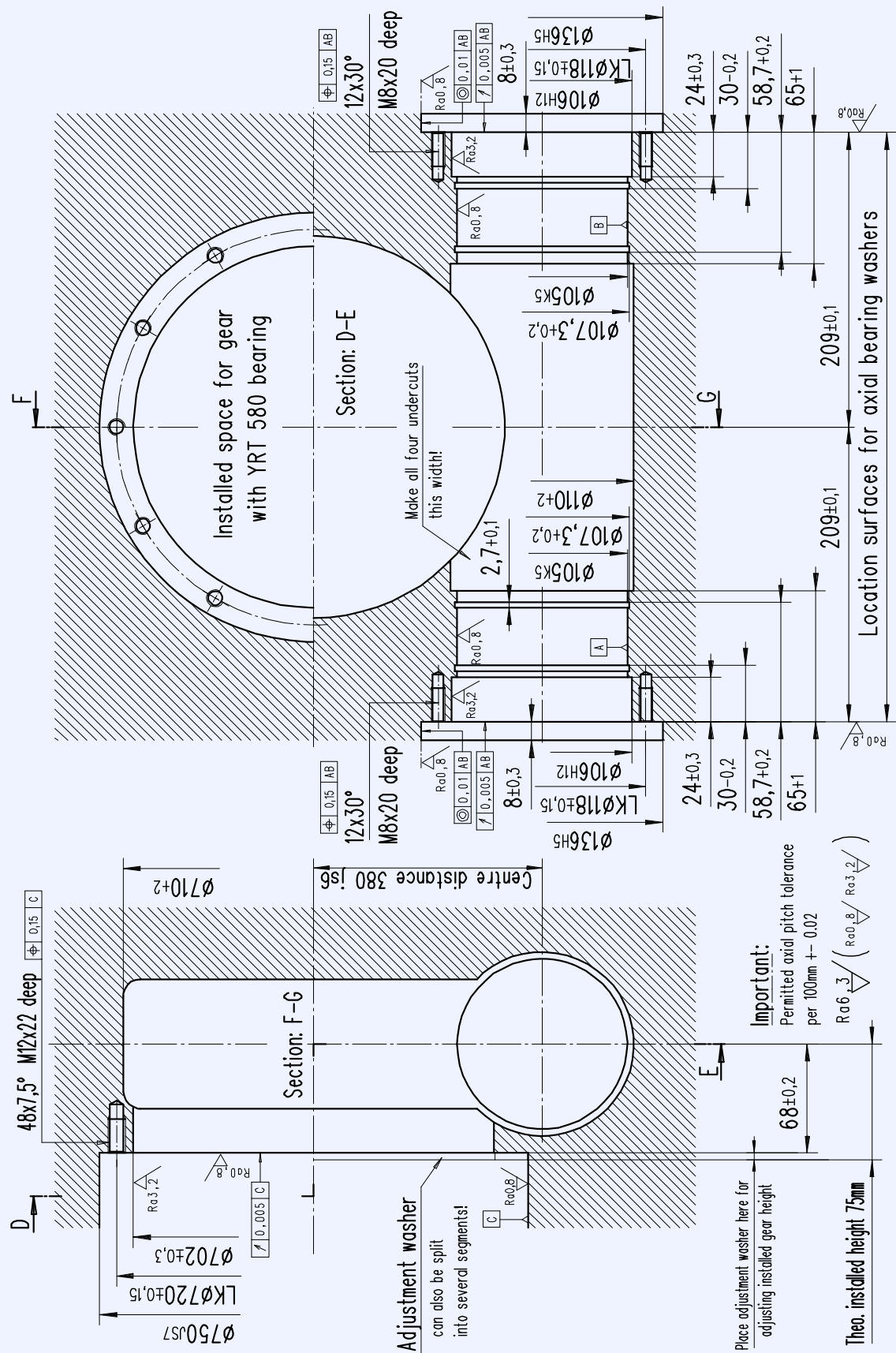
Main dimensions



OTT gear no.	Ratio		Worm				YRT gear bearing	Gear			
	No. starts Z1	No. teeth Z2	Distance A	Undercut ϕ B	Head ϕ C	Collar ϕ D		Internal ϕ E	Head ϕ F	Width G	Height H
4811 SSR	1	180	153	57,3	87,6	97,0	580 See comments page 5!	578	700	73	45
4855 SSR	1	240		58,0	82,8						
4825 SSR	1	288		58,3	79,0						
4869 SSR	1	360		58,6	74,4						

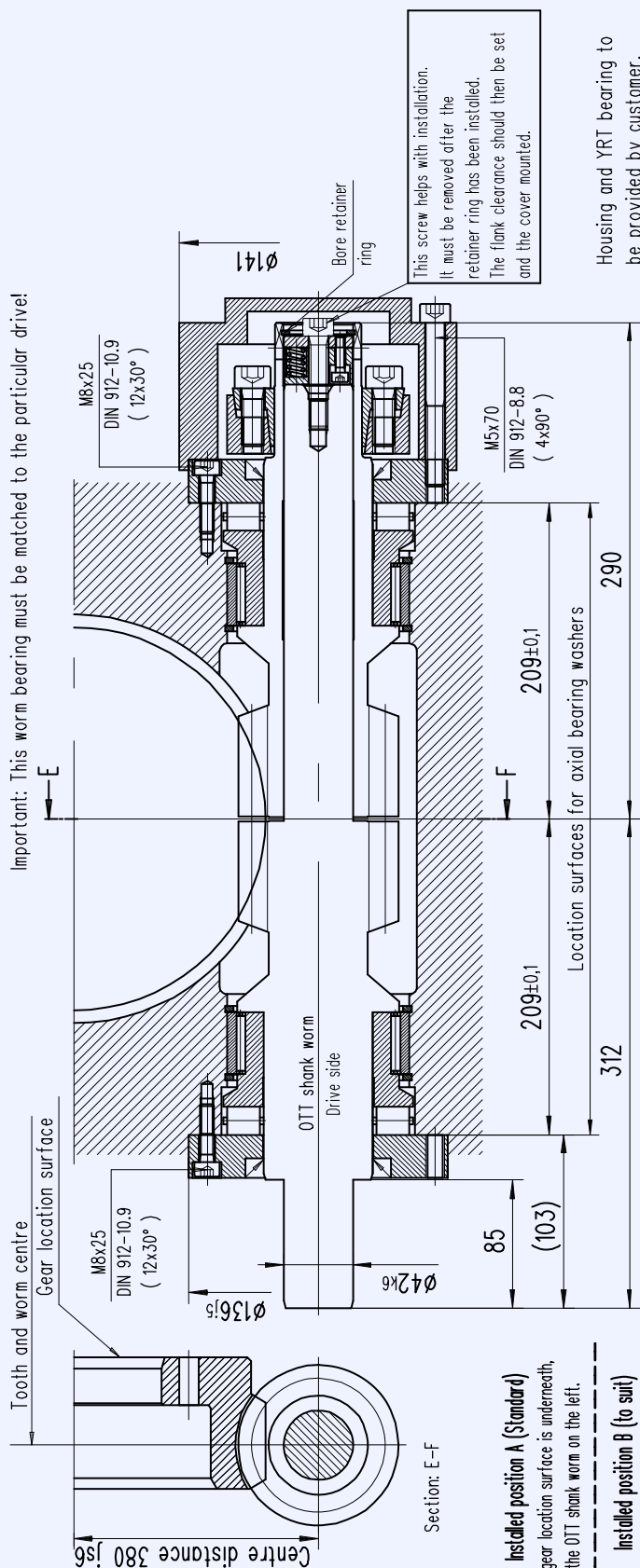


Required internal contour of gear housing for centre distance 380 mm



Worm bearings

Worm bearing for centre distance 380 mm

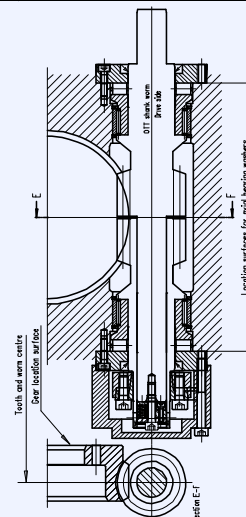
☐ Installed position A (Standard)

The gear location surface is underneath, the OTT shank worm on the left.

☐ Installed position B (to suit)

The gear location surface is underneath, the OTT shank worm on the right.

OTT worm gear					Bearing parts per gear		
OTT no.	Worm gear	Shank worm	Hollow worm	Q'ty	Name	Typ/Dwg no.	
☐ 4811 SSR	T00485-G-RAO	T00393-G-SSC	T00394-G-HSC	2	Axial cylinder roller bearing	K812 14 TV	
☐ 4855 SSR	T00486-G-RAO	T00395-G-SSC	T00396-G-HSC	2	Radial needle bearing	RNAO 90x105x26	
☐ 4825 SSR	T00487-G-RAO	T00397-G-SSC	T00398-G-HSC	2	Shaft seal	70x85x8	
☐ 4869 SSR	T00488-G-RAO	T00399-G-SSC	T00400-G-HSC	1	Shrink disc	HSD 55-22	
☐				4	Circlip	SB 105	
☐				24	Cylinder bolt DIN 912	M8x25 - 10.9	
☐				4	Cylinder bolt DIN 912	M5x70 - 8.8	
☐				1	Cylinder bolt DIN 912	M6x30 - 8.8	
☐				1	Retainer ring DIN 472	42	
☐				2	Bearing sleeve	T00224-G-LHÜ	
☐ REQUEST	Date:	Name:					
☐ ORDER							
		1 Thrust piece					
		B00012-G-DST					



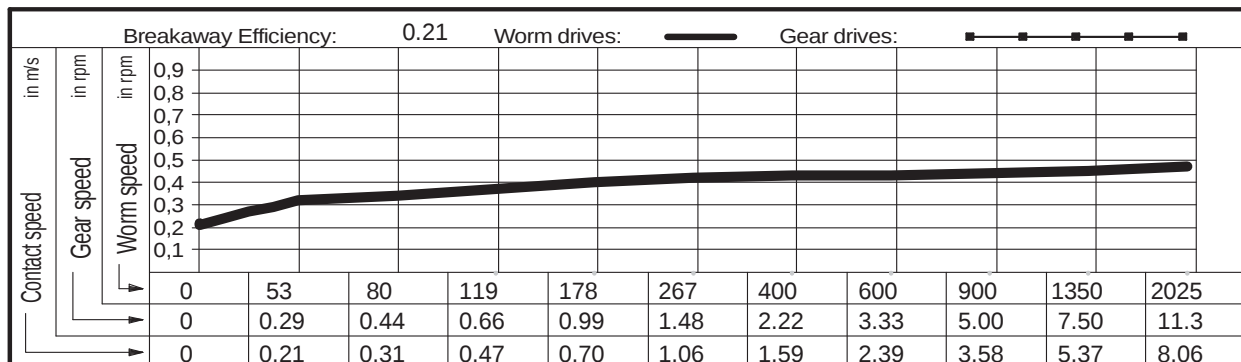
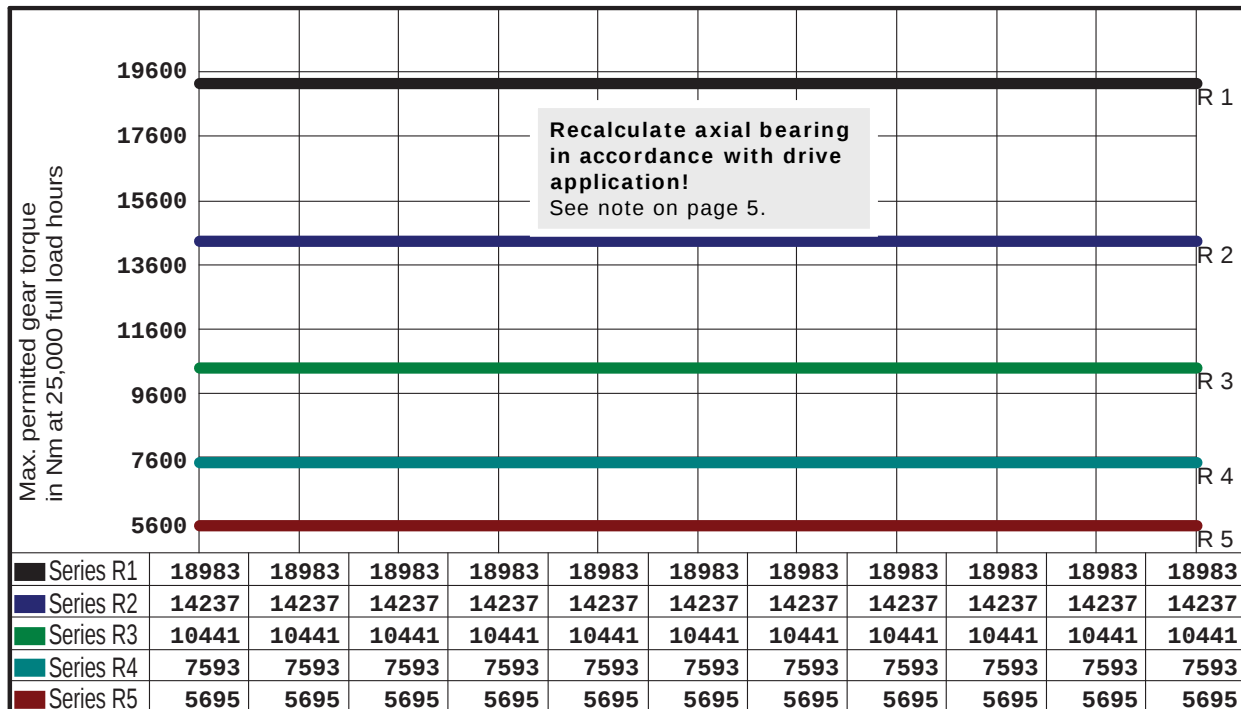
Order using set of OTT worm gears

☐ Gearset incl. thrust piece without bearing parts

☐ Gearset incl. all bearing parts

Operational characteristics

Centre distance	380.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4811 SSR
Outer Ø worm	87.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	700.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	76.01 mm	
No. teeth, gear	180	Lead angle at Bks	2.8251 °	



Gear selection by load type and application		
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil
Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions	
Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de	

Zahnradfertigung OTT

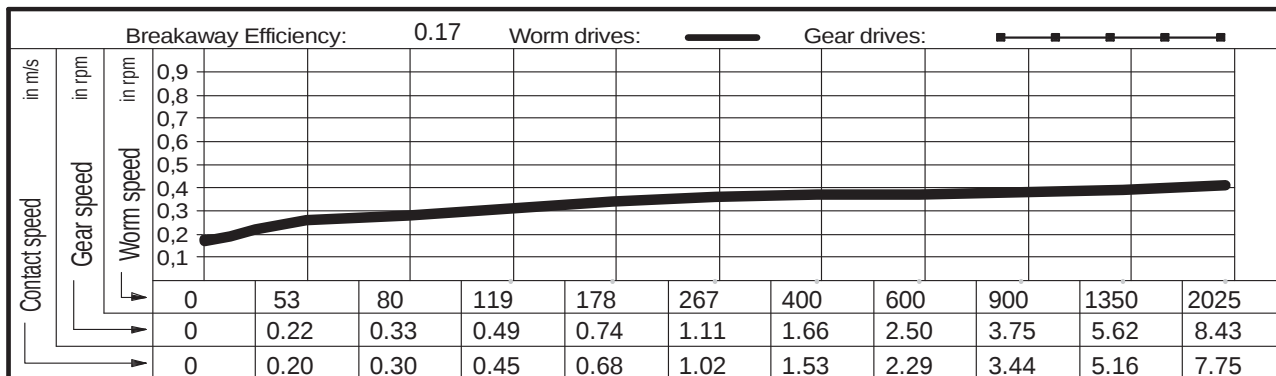
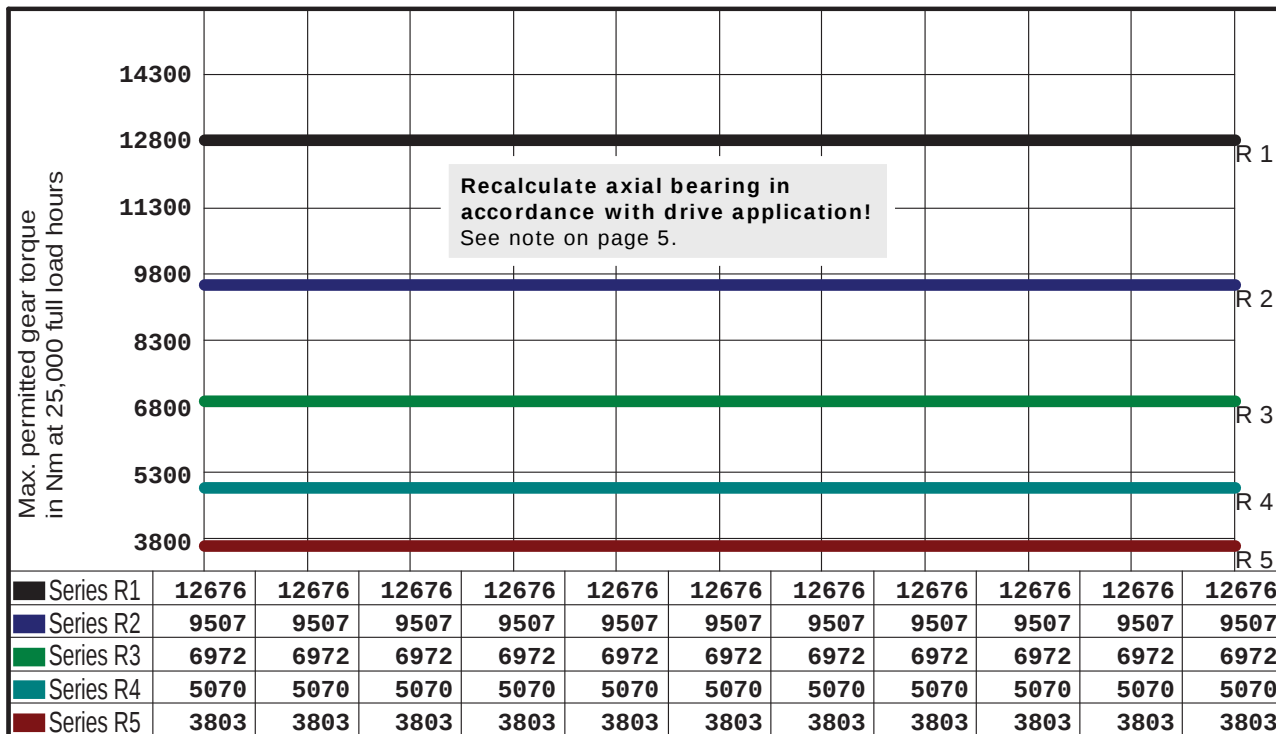
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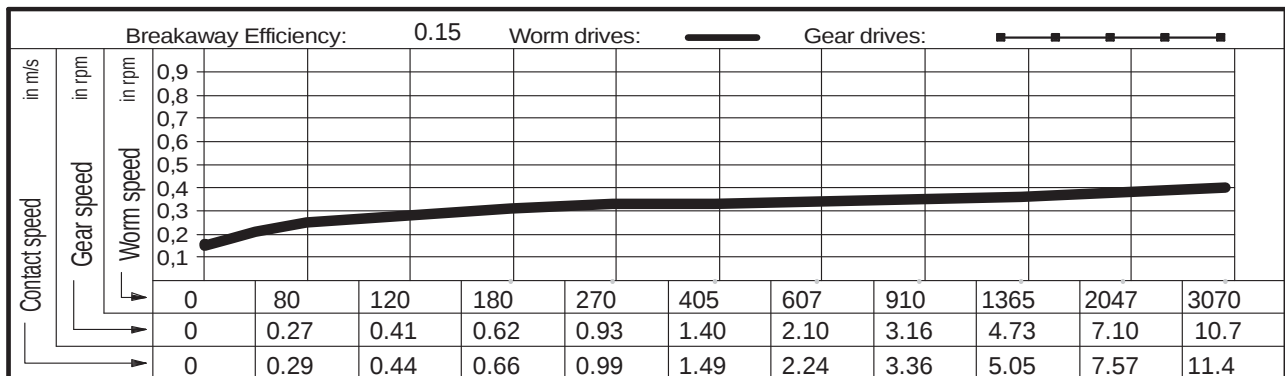
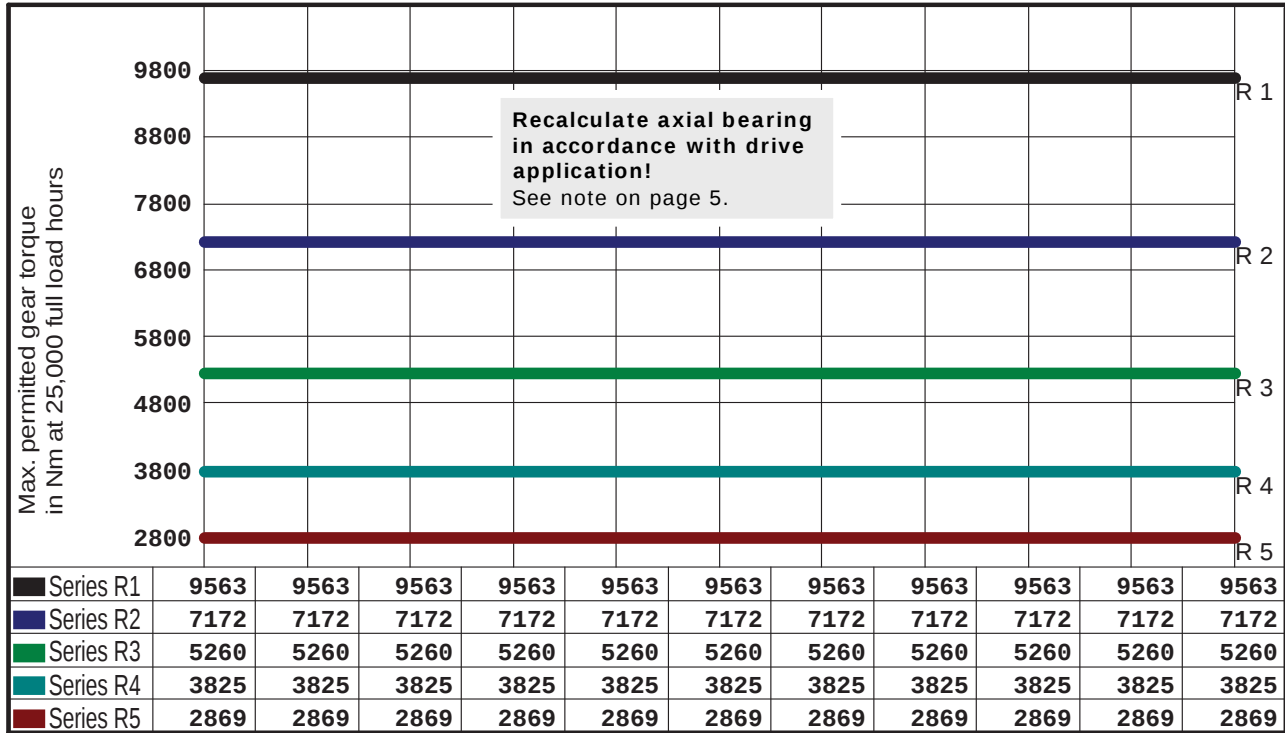


Centre distance	380.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4855 SSR
Outer Ø worm	82.80 mm	Material, worm	31CrMoV9	
Outer Ø gear	700.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	73.07 mm	
No. teeth, gear	240	Lead angle at Bks	2.2183 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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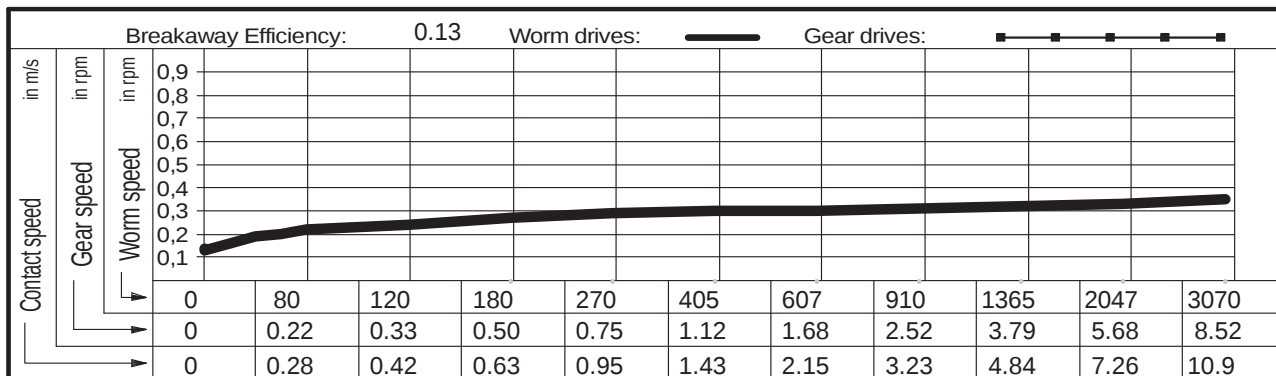
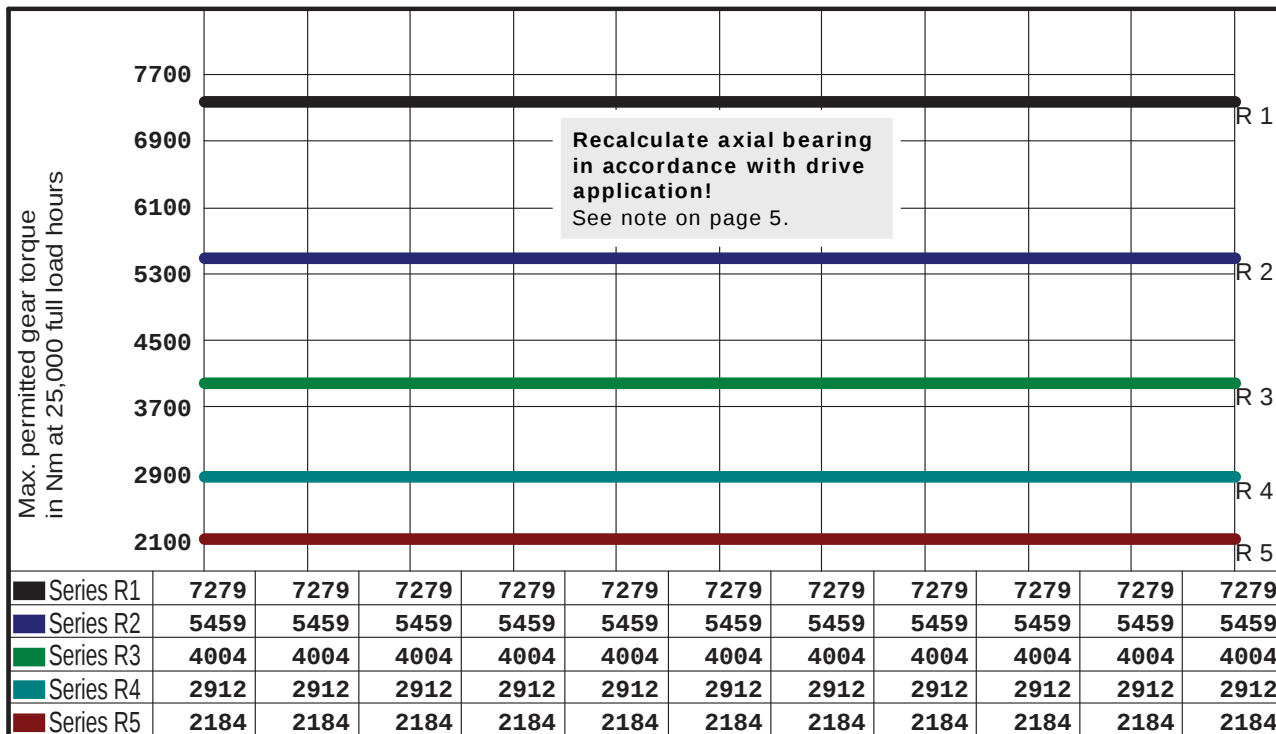
Centre distance	380.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4825 SSR
Outer Ø worm	79.00 mm	Material, worm	31CrMoV9	
Outer Ø gear	700.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	70.65 mm	
No. teeth, gear	288	Lead angle at Bks	1.9218 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions, Trunion axes, CNC axes, milling spindles Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions
			Lubricant: Synthetic oil
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Centre distance	380.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4869 SSR
Outer Ø worm	74.40 mm	Material, worm	31CrMoV9	
Outer Ø gear	700.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	67.77 mm	
No. teeth, gear	360	Lead angle at Bks	1.6129 °	



Gear selection by load type and application			Lubricant: Synthetic oil
Series R1	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4	
Series R2	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5	
Series R3	a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions	

Zahnradfertigung OTT

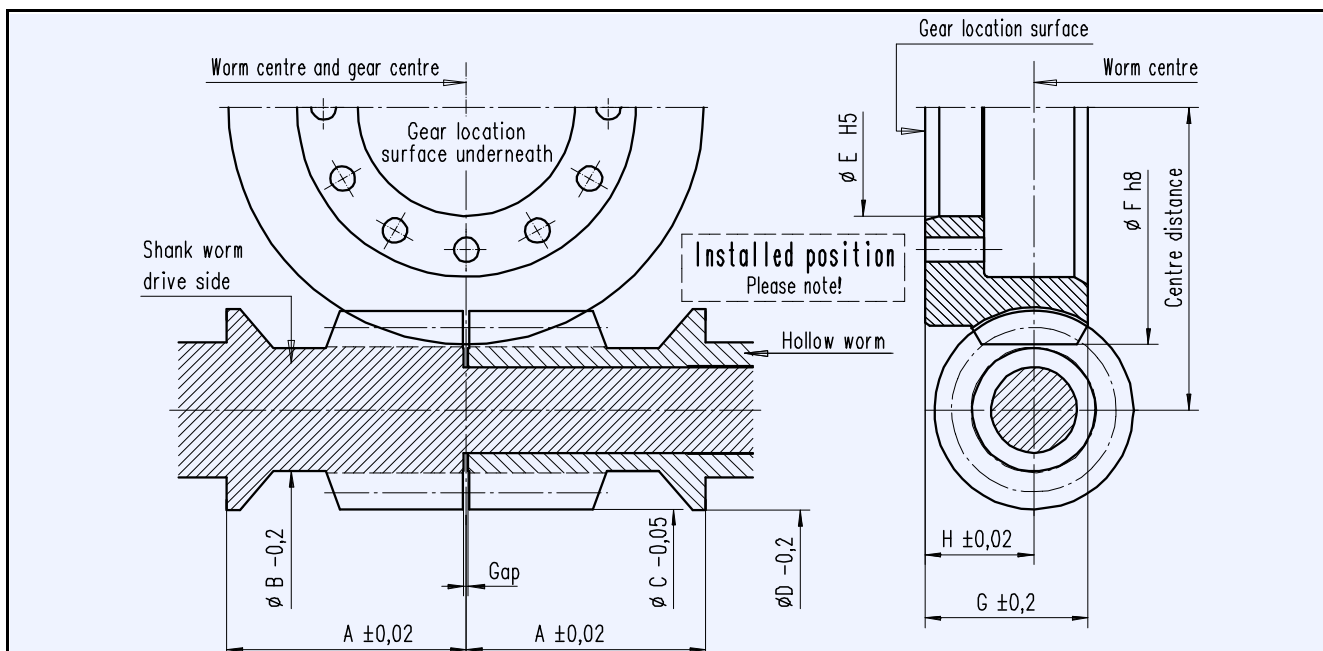
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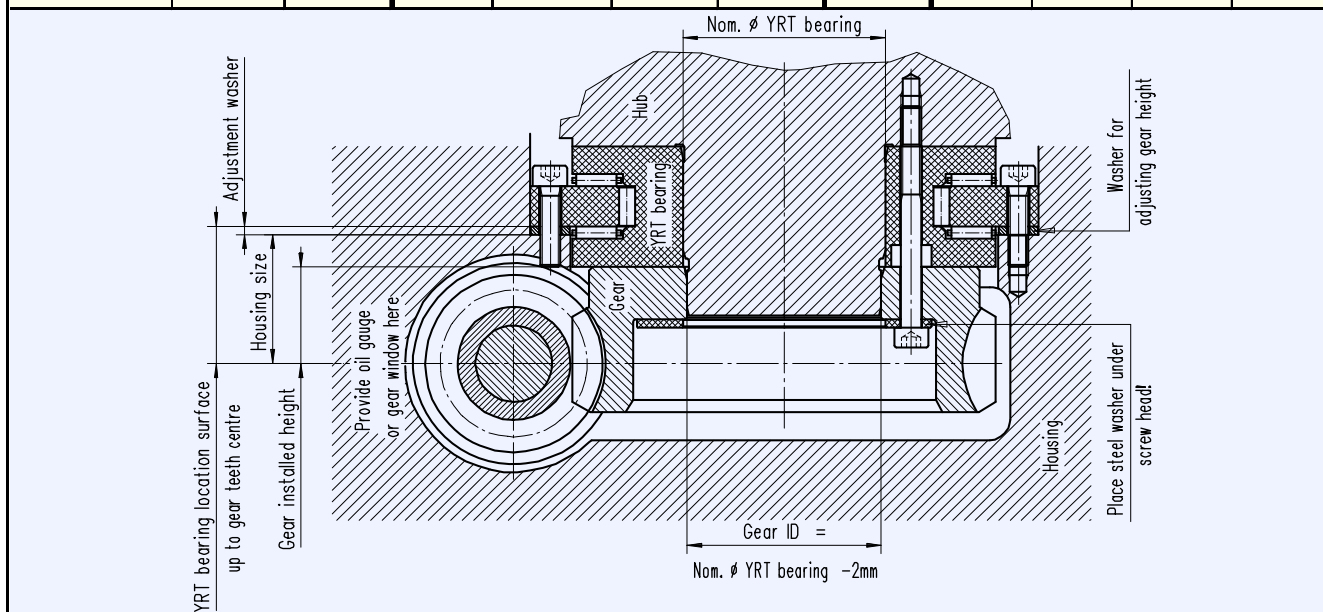


OTT worm gears - centre distance 430 mm

Main dimensions



OTT gear no.	Ratio		Worm				YRT gear bearing	Gear			
	No. starts Z1	No. teeth Z2	Distance A	Undercut ϕ B	Head ϕ C	Collar ϕ D		Internal ϕ E	Head ϕ F	Width G	Height H
4850 SSR	1	180	163	56,9	91,6	97,0	650	648	800	75	45
4820 SSR	1	240		57,7	85,8						
4862 SSR	1	288		58,1	81,8						
							See comments page 5!				

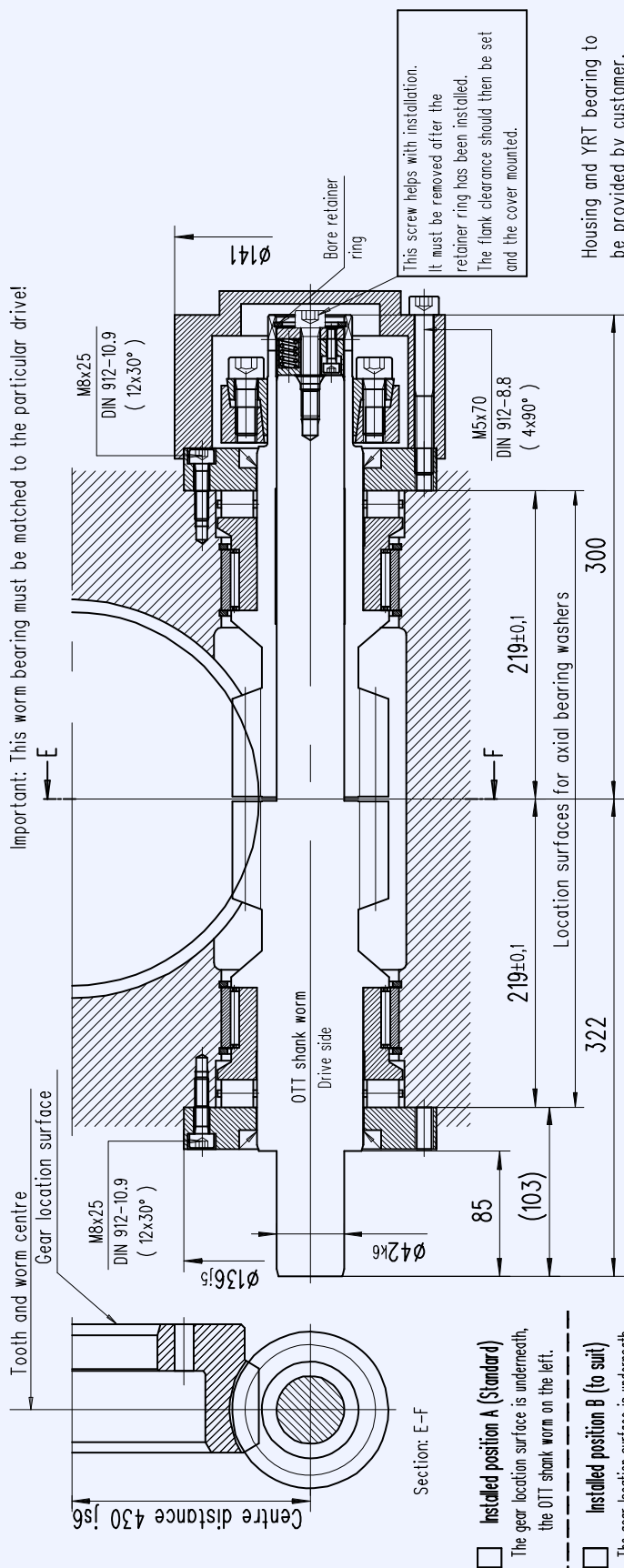


Required internal contour of gear housing for centre distance 430 mm



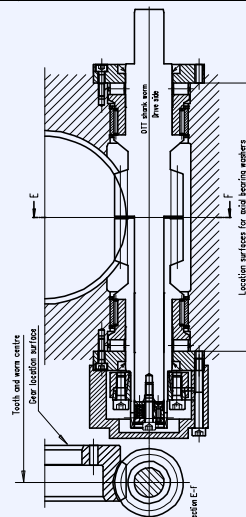
Worm bearings

Worm bearing for centre distance 430 mm



- ☐ **Installed position A (Standard)**
The gear location surface is underneath, the OTT shank worm on the left.
 - ☐ **Installed position B (to suit)**
The gear location surface is underneath, the OTT shank worm on the right.

OTT worm gear					Bearing parts per gear		
	OTT no.	Worm gear	Shank worm	Hollow worm	Q'ty	Name	Typ/Dwg no.
☐	4850 SSR	T00489-G-RAO	T00401-G-SSC	T00402-G-HSC	2	Axial cylinder roller bearing	K812 14 TV
☐	4820 SSR	T00490-G-RAO	T00403-G-SSC	T00404-G-HSC	2	Radial needle bearing	RNAO 90x105x26
☐	4862 SSR	T00491-G-RAO	T00405-G-SSC	T00406-G-HSC	2	Shaft seal	70x85x8
☐					1	Shrink disc	HSD 55-22
☐					4	Circlip	SB 105
☐					24	Cylinder bolt DIN 912	M8x25 - 10.9
☐					4	Cylinder bolt DIN 912	M5x70 - 8.8
☐					1	Cylinder bolt DIN 912	M6x30 - 8.8
☐					1	Retainer ring DIN 472	42
☐					2	Bearing sleeve	T00224-G-LHÜ
☐	REQUEST	Date:	Name:		2	Axial bearing washer	T00236-G-LDX
☐	ORDER				1	Cover	T00219-G-ADH
☐					1	Thrust piece	B00012-G-DST

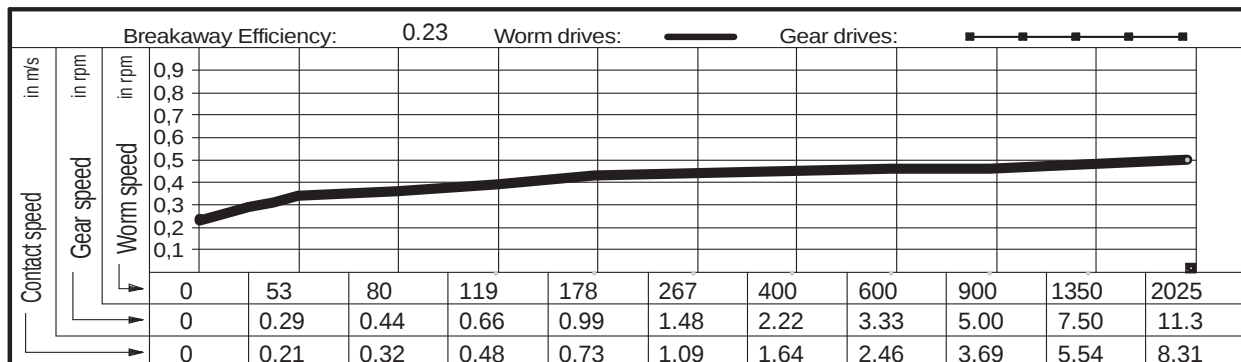
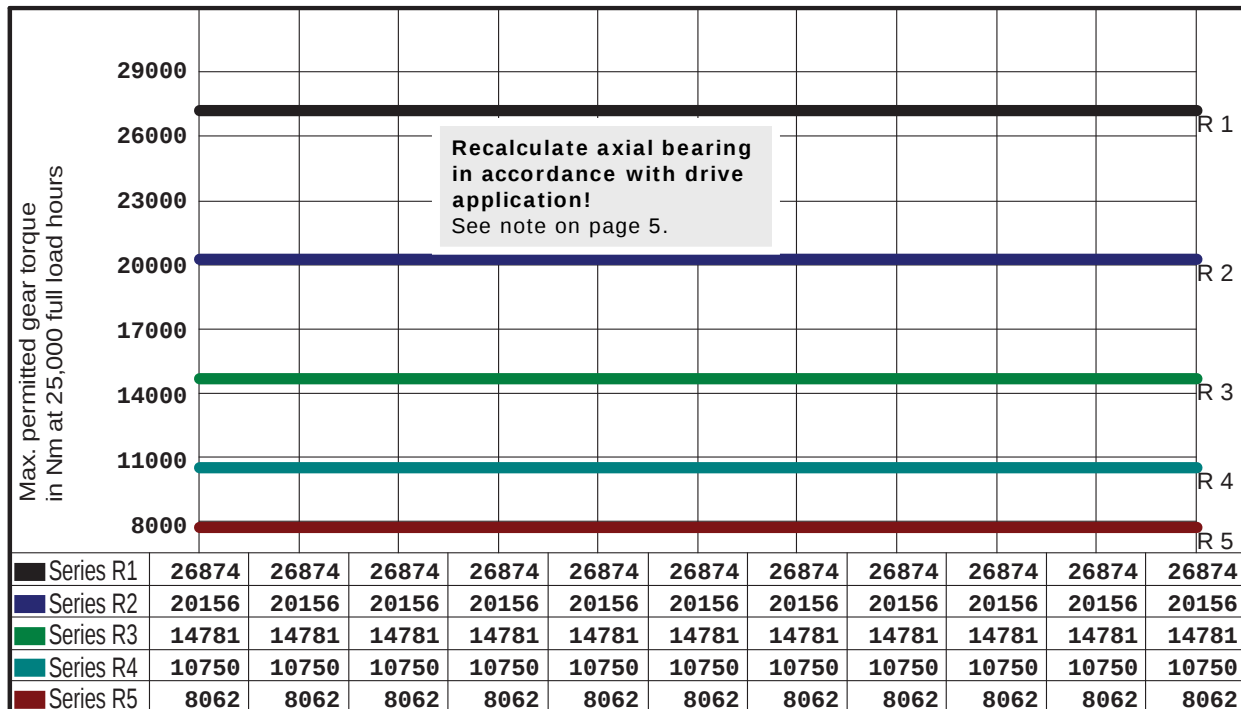


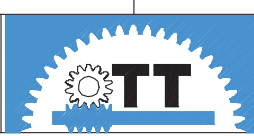
Order using set of OTT worm gears

- ☐ Gearset incl. thrust piece without bearing parts
- ☐ Gearset incl. all bearing parts

Operational characteristics

Centre distance	430.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4850 SSR
Outer Ø worm	91.60 mm	Material, worm	31CrMoV9	
Outer Ø gear	800.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	78.34 mm	
No. teeth, gear	180	Lead angle at Bks	3.1318 °	



Gear selection by load type and application			
Series R1 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2 a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3 a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de		

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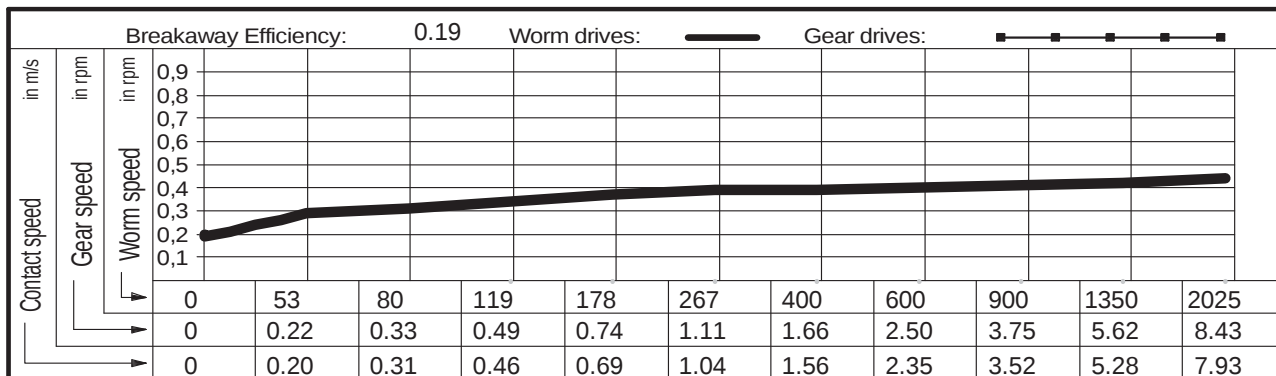
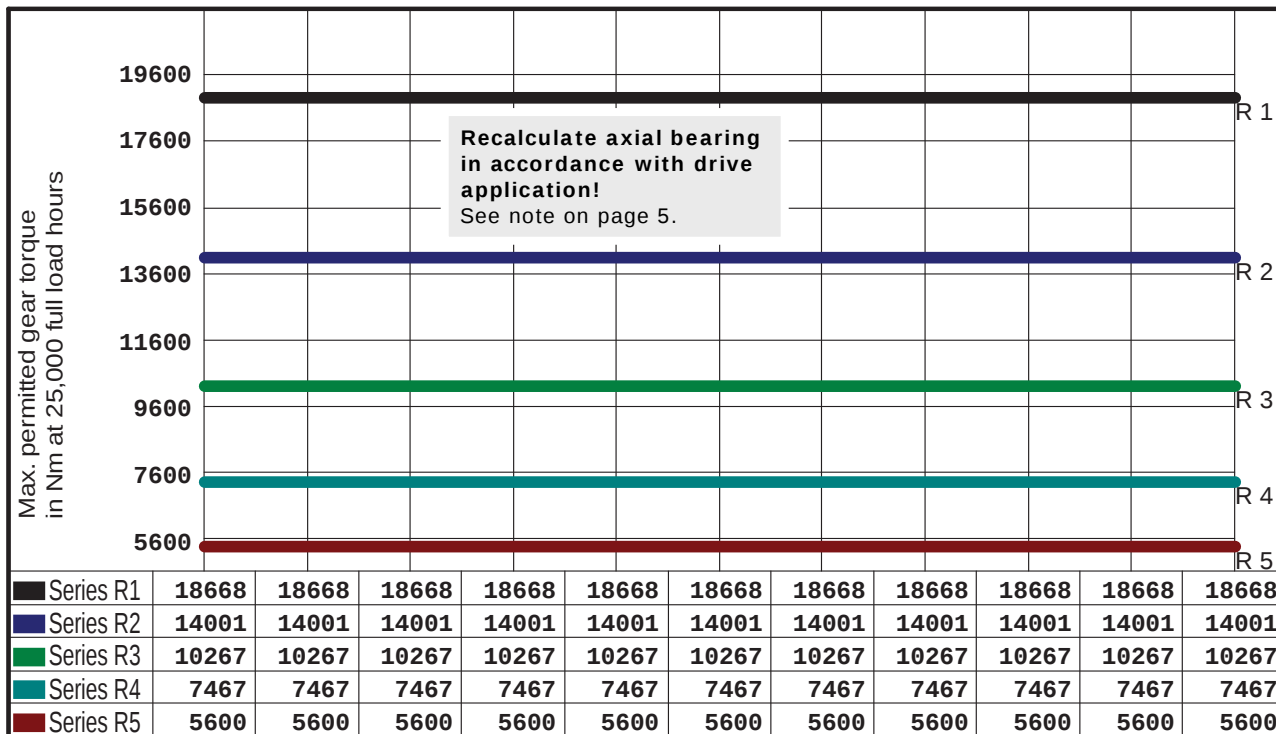
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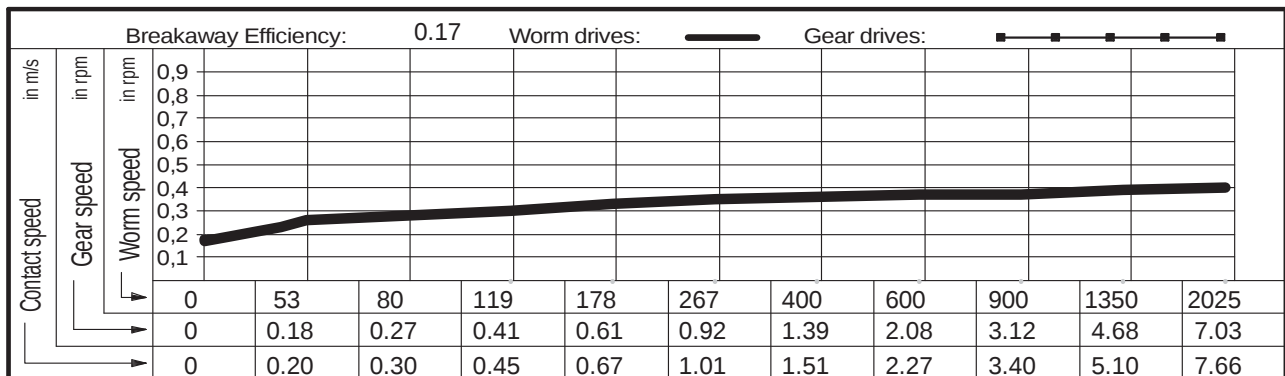
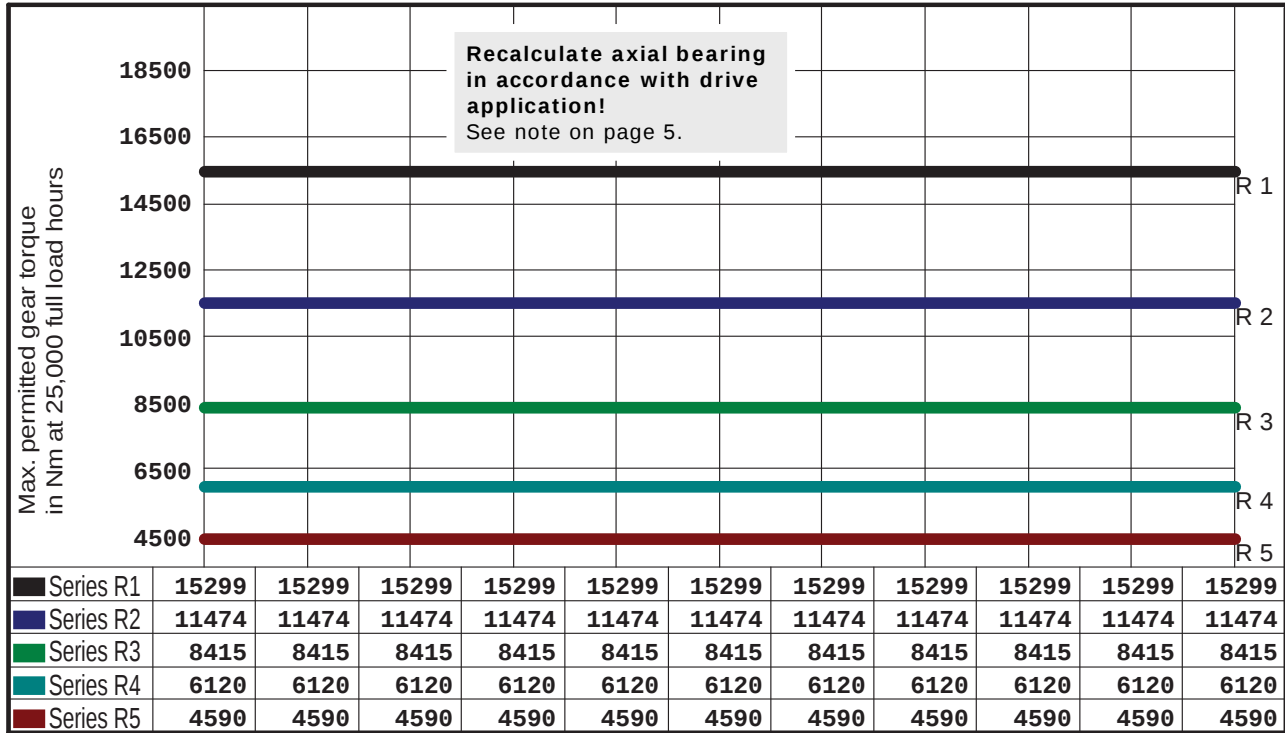


Centre distance	430.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4820 SSR
Outer Ø worm	85.80 mm	Material, worm	31CrMoV9	
Outer Ø gear	800.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	74.75 mm	
No. teeth, gear	240	Lead angle at Bks	2.4786 °	



Gear selection by load type and application			
Series R1  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4  a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	Lubricant: Synthetic oil	
Series R2  a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5  a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions		
Series R3  a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 Tel. 07471 - 705 0 D-72411 Bodelshausen Fax. 07471 - 705 39 www.zahnrad-ott.de Email. Info@zahnrad-ott.de 		

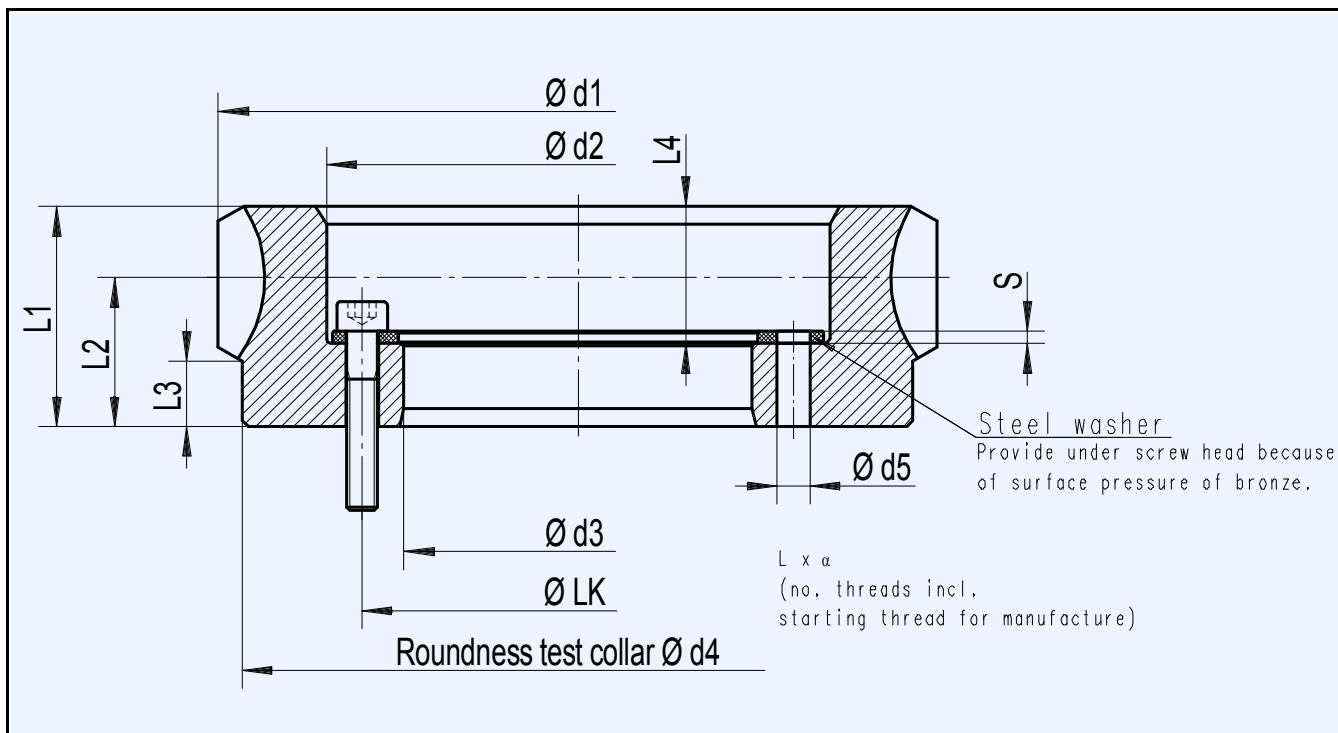
Centre distance	430.00 mm	Material, gear	GZ-CuSn12Ni	Operating characteristics Ott worm gear OTT no: 4862 SSR
Outer Ø worm	81.80 mm	Material, worm	31CrMoV9	
Outer Ø gear	800.00 mm	Pressure angle in NS	10 °	
No. starts, worm	1	Back angle in NS	15 °	
Worm direction	right	Calculated circle Ø	72.22 mm	
No. teeth, gear	288	Lead angle at Bks	2.1481 °	



Gear selection by load type and application				Lubricant: Synthetic oil
Series R1 	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 1 start per minute (60 per hour) e) up to 10% operating time per hour (6 minutes) Application: Measurement and test machinery drives, CNC axes	Series R4 	a) segmental varying load on gear b) with uneven shock loads c) large acceleration and deceleration moments d) maximum 60 starts per minute (3600 per hour) e) up to 75% operating time per hour (45 minutes) Application: Rotary tables with unfavourable cutting conditions. Trunion axes, CNC axes, milling spindles	
Series R2 	a) random even load around gear b) absolutely smooth operation c) minimal acceleration and deceleration moments d) maximum 6 starts per minute (360 per hour) e) up to 25% operating time per hour (15 minutes) Application: Index tables, circular feed drives and CNC axes for mainly smooth, controlled applications	Series R5 	a) loads limited only to eccentric gear segment b) heavy, uneven shock loads c) largest acceleration and deceleration moments d) maximum 180 starts per minute (10,800 per hour) e) up to 100% operating time per hour (60 minutes) Application: Heavy milling and trunion drives, CNC axes with unfavourable conditions	
Series R3 	a) random changing load on gear b) small shock loads c) large acceleration and deceleration moments d) maximum 20 starts per minute (1200 per hour) e) up to 50% operating time per hour (30 minutes) Application: Index tables, rotary tables for circular milling with relatively favourable cutting conditions, CNC axes	Zahnradfertigung OTT Blöhsteinstraße 20 D-72411 Bodelshausen www.zahnrad-ott.de Tel. 07471 - 705 0 Fax. 07471 - 705 39 Email. Info@zahnrad-ott.de 		

Info on OTT worm gears

OTT worm gear



Centre distance	L1	L2	L3	L4	d1	d2	d3	d4	d5	Lxα	LK	S
67	36	24	10	23	105	75	48	97	5,5	12x30°	63	2
75	37	25	11	23	120	84	58	112	5,5	12x30°	72	2
82	35	22	9	24	130	104	78	125	5,5	12x30°	92	2
96	37	22	6	27	160	124	98	156	5,5	18x20°	112	2
110	45	29	12	30	184	148	118	174	6,6	24x15°	135	2
125	48	30	11	32	214	178	148	206	6,6	36x10°	165	2
145	58	38	16	36	244	207	178	234	6,6	48x7,5°	194	3
165	57	36	13	37	284	245	218	274	6,6	48x7,5°	232	3
195	61	38	14	31	345	297	258	335	9	36x10°	280	3
235	66	40	13	35	415	359	323	405	9	36x10°	342	3
270	65	39	12	35	486	432	393	476	9	48x7,5°	415	3
305	69	42	14	36	560	499	458	550	9	48x7,5°	482	3
340	78	48	15	40	620	564	518	602	11	48x7,5°	544	3
380	73	45	14	37	700	630	578	680	11	48x7,5°	610	3
430	75	45	13	40	800	704	648	782	13,5	48x7,5°	680	3

Single flank tangential composite error testing of OTT worm gears as per DIN 3974

Our OTT worm gears are subjected to extensive testing. In the single flank test, the worm drives the worm gear below the recommended centre distance. A small tooth flank clearance is set. Here, either the right or left flanks are in constant contact, brought about by slight braking of the worm gear.

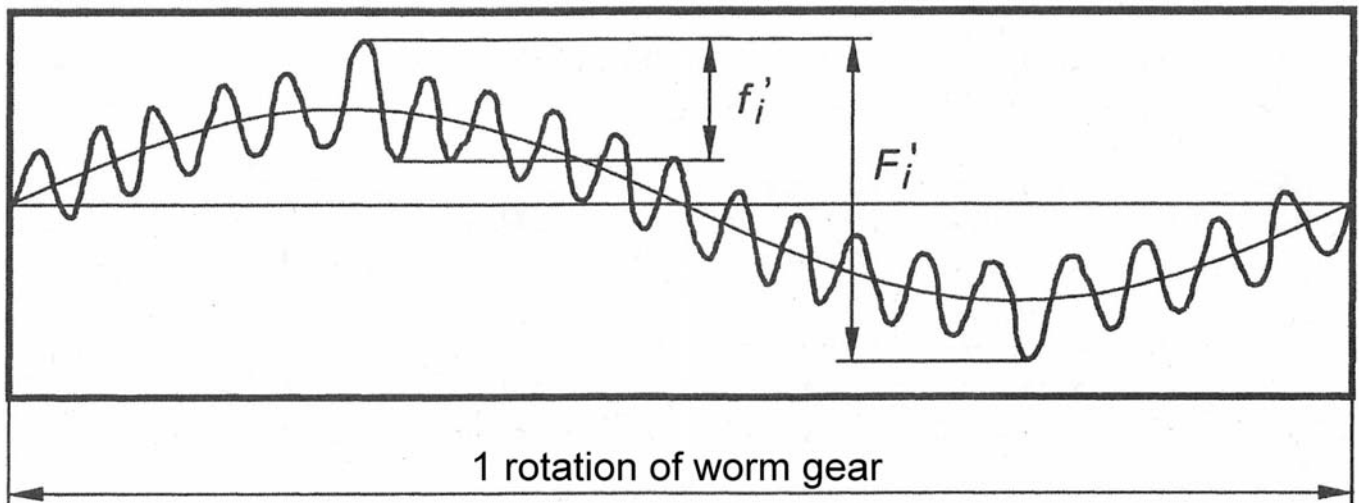
Measurements are taken of the deviations from constant motion transfer caused by the teeth ratios of the driving worm and the driven worm gear. The rotational error, so to speak, between worm and worm gear is measured.

The diagram of the flank test shows by how many angular seconds or μm the worm gear advances or decreases in relation to the nominal rotation.

To convert μm to angular seconds or vice versa:

In the case of a worm gear working circle of 412 mm 1 μm equals 1 angular second. The conversion of angular seconds into μm or vice versa can easily be done using the rule of three. In the case of a worm gear working circle of, for example, 206 mm 1 μm equals 2 angular seconds.

The permissible error for the gears given in this catalogue can be found on the following page, in both angular seconds and μm .



F_i' = Tangential composite error (largest rotation error within one worm gear revolution)

f_i' = Tangential tooth-to-tooth composite error (largest rotation error within the duration on one tooth meshing)



The **OTT worm gear** is made in its standard form in **Quality 3** as per **DIN 3974** Tangential composite error test carried out. Better qualities are possible upon request.

OTT-Nr.	Fi'	fi'm	Fi'	fi'm	OTT-Nr.	Fi'	fi'm	Fi'	fi'm
[wsec]	[wsec]	[μm]	[μm]	[wsec]	[wsec]	[μm]	[μm]	[wsec]	[μm]
4849 SSR	59,0	28,0	14,0	6,5	5834 SSR	30,0	11,0	17,0	6,5
4866 SSR	58,0	27,0	14,0	6,5	5722 SSR	30,0	11,0	17,0	6,5
4859 SSR	50,0	23,0	12,0	5,5	4875 SSR	24,0	9,5	14,0	5,5
4830 SSR	49,0	22,0	12,0	5,5	2788 SSR	30,0	11,0	17,0	6,5
4812 SSR	49,0	22,0	12,0	5,5	5721 SSR	30,0	11,0	17,0	6,5
4831 SSR	48,0	22,0	12,0	5,5	4815 SSR	24,0	9,5	14,0	5,5
4863 SSR	43,0	20,0	12,0	5,5	4821 SSR	24,0	9,5	14,0	5,5
5422 SSR	43,0	20,0	12,0	5,5	4842 SSR	24,0	9,5	14,0	5,5
4885 SSR	43,0	20,0	12,0	5,5	4860 SSR	25,0	9,5	17,0	6,5
4871 SSR	43,0	20,0	12,0	5,5	4876 SSR	26,0	10,0	17,0	6,5
4872 SSR	43,0	20,0	12,0	5,5	4854 SSR	25,0	9,5	17,0	6,5
4873 SSR	43,0	20,0	12,0	5,5	4827 SSR	21,0	8,0	14,0	5,5
4813 SSR	42,0	19,0	12,0	5,5	4819 SSR	21,0	8,0	14,0	5,5
4801 SSR	40,0	18,0	12,0	5,5	4864 SSR	22,0	8,0	18,0	6,5
2833 SSR	40,0	18,0	12,0	5,5	5362 SSR	22,0	8,0	18,0	6,5
4835 SSR	43,0	18,0	13,0	5,5	4845 SSR	22,0	8,0	18,0	6,5
5266 SSR	40,0	18,0	12,0	5,5	4805 SSR	22,0	8,0	18,0	6,5
4884 SSR	43,0	18,0	13,0	5,5	4822 SSR	18,0	6,5	15,0	5,5
4824 SSR	40,0	18,0	12,0	5,5	4865 SSR	18,0	6,5	15,0	5,5
2735 SSR	43,0	18,0	13,0	5,5	4870 SSR	18,0	6,5	18,0	6,5
4833 SSR	42,0	18,0	13,0	5,5	4806 SSR	22,0	8,0	21,0	8,0
4837 SSR	35,0	15,0	13,0	5,5	4808 SSR	18,0	6,5	18,0	6,5
4856 SSR	43,0	17,0	16,0	6,5	4843 SSR	18,0	6,5	18,0	6,5
4803 SSR	35,0	15,0	13,0	5,5	5655 SSR	18,0	6,5	18,0	6,5
4848 SSR	43,0	17,0	16,0	6,5	4807 SSR	18,0	6,5	18,0	6,5
4802 SSR	35,0	15,0	13,0	5,5	4883 SSR	18,0	7,0	21,0	8,0
4823 SSR	34,0	15,0	13,0	5,5	4882 SSR	18,0	7,0	21,0	8,0
5448 SSR	37,0	15,0	16,0	6,5	4880 SSR	16,0	5,5	18,0	6,5
4867 SSR	30,0	13,0	13,0	5,5	4809 SSR	16,0	5,5	18,0	6,5
4847 SSR	37,0	15,0	16,0	6,5	4829 SSR	16,0	6,0	21,0	8,0
4817 SSR	30,0	13,0	13,0	5,5	4851 SSR	16,0	6,0	21,0	8,0
4800 SSR	30,0	13,0	13,0	5,5	4816 SSR	14,0	5,0	18,0	6,5
4814 SSR	30,0	13,0	13,0	5,5	4828 SSR	14,0	5,0	18,0	6,5
1664 SSR	30,0	12,0	13,0	5,5	4818 SSR	13,0	4,5	19,0	6,5
5549 SSR	32,0	13,0	16,0	6,5	4810 SSR	13,0	4,5	19,0	6,5
4879 SSR	32,0	13,0	16,0	6,5	5489 SSR	11,0	4,0	16,0	6,0
4877 SSR	26,0	11,0	13,0	5,5	4811 SSR	13,0	5,0	22,0	8,0
4804 SSR	32,0	13,0	16,0	6,5	4855 SSR	11,0	4,0	19,0	6,5
5741 SSR	32,0	13,0	16,0	6,5	4825 SSR	11,0	4,0	19,0	6,5
4853 SSR	32,0	13,0	16,0	6,5	4869 SSR	9,5	3,5	16,0	6,0
4861 SSR	26,0	11,0	13,0	5,5	4850 SSR	12,0	4,0	22,0	8,0
4846 SSR	26,0	11,0	13,0	5,5	4820 SSR	10,0	3,5	19,0	6,5
					4862 SSR	10,0	3,5	19,0	6,5

Selecting a lubricant

**The more pressure-resistant the oil in each application,
the less metal contact and wear.**

- The goal is hydrodynamic lubrication -

However, the choice of a suitable lubricant viscosity depends on many factors and differs from application to application.

Greater operational loading	-	Greater lubricant viscosity
Lower operational loading	-	Lower lubricant viscosity
Greater contact velocity	-	Lower lubricant viscosity
Lower contact velocity	-	Greater lubricant viscosity

Acceleration, bearing type and design, switch-on duration, oil quantity, installation location, operating temperature, housing design, application, etc. also play a major role in the selection of a lubricant and its viscosity.

**This applies not only to OTT worm gears,
but also to worm gears in general.**

We assume that the system supplier will know the application and usage and take this into account when choosing the lubricant and/or its viscosity.

Advantages of grease over oil lubrication

- less structural outlay
- simple gasket design and less risk of leaks
- effective support for seals through grease escape or "grease rim formation"
- life-long lubrication possible, so less frequent servicing is needed
- with high-speed greases, dispensed quantities of grease and running-in, lower bearing temperatures can be achieved at higher revolutions

Disadvantages of grease over oil lubrication

- no removal of impurities possible, especially with minimal grease lubrication
- lower threshold speeds and/or permissible speed values
- no heat dispersal possible



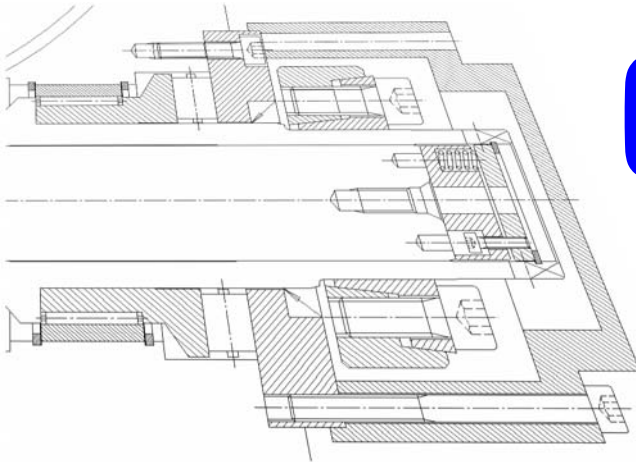
Recommended lubrication

Oil viscosity and lubrication type for Ott worm gears, as a factor of the contact velocity and the expected operating temperature										
Contact velocity [m/s]	possible lubrication type			Lubricating oil as per ISO VG DIN 51 519						
> 18 -				68	80	100	150	220		
> 9 - 18				80	100	150	220	320		
> 3 - 9				100	150	220	320	460		
0 - 3				150	220	320	460	680		
Oil spray lubrication — Oil immersion lubrication — Liquid grease —				23°	30°	40°	50°	60°		
				expected operating temperature in °C						
DIN 51561	Kinemat. viscosity in mm²/s in			e.g. <u>Synthetic lubricants</u>		GH 6 oils are high-temperature gear oils offering high scuffing load capacity and wear resistance. They are especially resistant to ageing and oxidation. They were developed for lubricating worm gears in steel/bronze. Not for aluminium/bronze! GH 6 oils do <u>not</u> mix with mineral oil! Their compatibility with colour coatings and seals should be checked.				
				Klüber gear lubricants						
	20°C	40°C	100°C	Gear oils	Liquid grease					
	CLP PG 80	205	80	16	Klübersynth GH 6-80					Klübersynth GE 46-1200
	CLP PG 100	270	100	20	Klübersynth GH 6-100					
	CLP PG 150	400	150	28	Klübersynth GH 6-150					
	CLP PG 220	630	220	41	Klübersynth GH 6-220					Structovis P LIQUID
	CLP PG 320	880	320	58	Klübersynth GH 6-320					
CLP PG 460	1240	460	79	Klübersynth GH 6-460						
DIN 51561	Kinemat. viscosity in mm²/s in			e.g. <u>Synthetic lubricants</u>		EG - 4 oils are high-performance gear oils which are <u>also</u> suitable for worm gear lubrication with <u>aluminium/bronze worm gears</u> . EG - 4 oils are miscible with mineral oil and react neutrally with seal materials and colour coatings. They have excellent wear anti-wear and corrosion properties.				
				Klüber gear lubricants						
	20°C	40°C	100°C	Gear oils	Liquid grease					
	CLP HC 150		150	18	Klübersynth EG 4-150					KLÜBERPLEX GE 11 - 680 (this grease is a mineral lubricant)
	CLP HC 220		220	24	Klübersynth EG 4-220					
	CLP HC 320		320	30	Klübersynth EG 4-320					
	CLP HC 460		460	38	Klübersynth EG 4-460					
	CLP HC 680		680	50	Klübersynth EG 4-680					
CLP HC 1000		1000	65	Klübersynth EG 4-1000						
DIN 51561	Kinemat. viscosity in mm²/s in			e.g. <u>Mineral lubricants</u>		GEM 1 oils are mineral high-performance gear and multipurpose oils. They meet the criteria for CLP gear oils as per DIN 51 517 T3				
				Klüber gear lubricants						
	20°C	40°C	100°C	Gear oils	Liquid grease					
	CLP 68	200	68	8	Klüberoil GEM 1-68 N					KLÜBERPLEX GE 11-680
	CLP 100	330	100	11	Klüberoil GEM 1-100 N					
	CLP 150	570	150	15	Klüberoil GEM 1-150 N					
	CLP 220	820	220	18	Klüberoil GEM 1-220 N					
	CLP 320	1350	320	24	Klüberoil GEM 1-320 N					
CLP 460	1970	460	29	Klüberoil GEM 1-460 N						



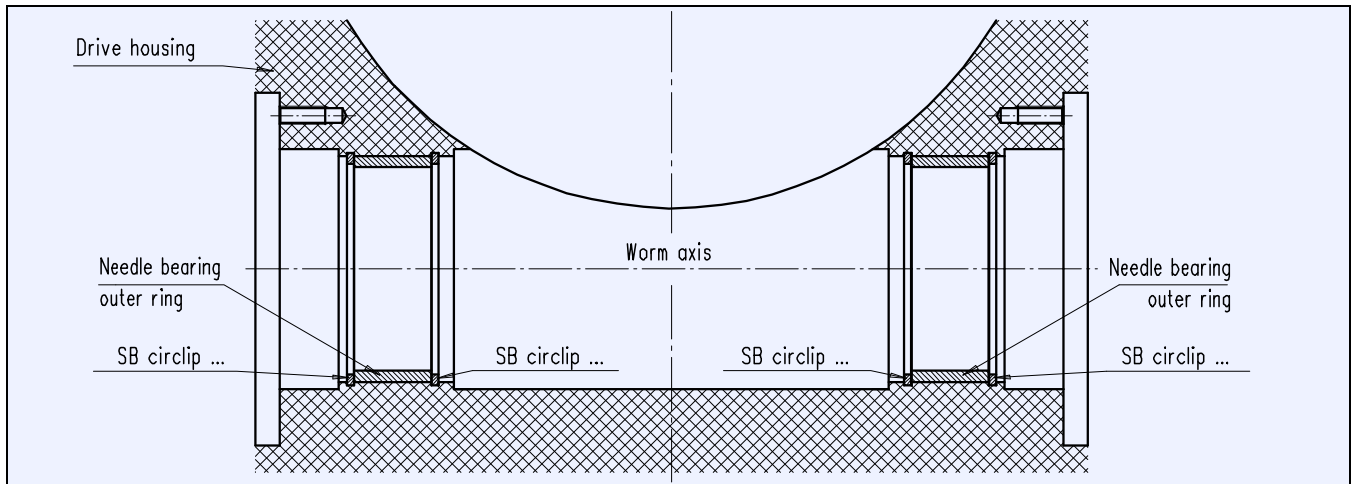
Installation Instructions

Installation Instructions

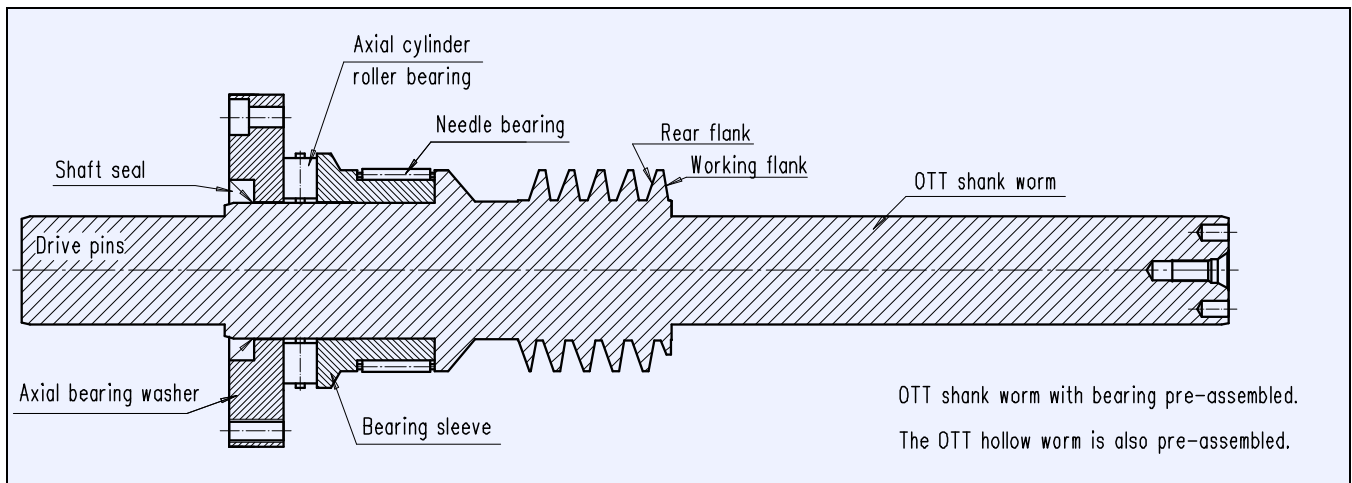


OTT Worm Gears Type G1

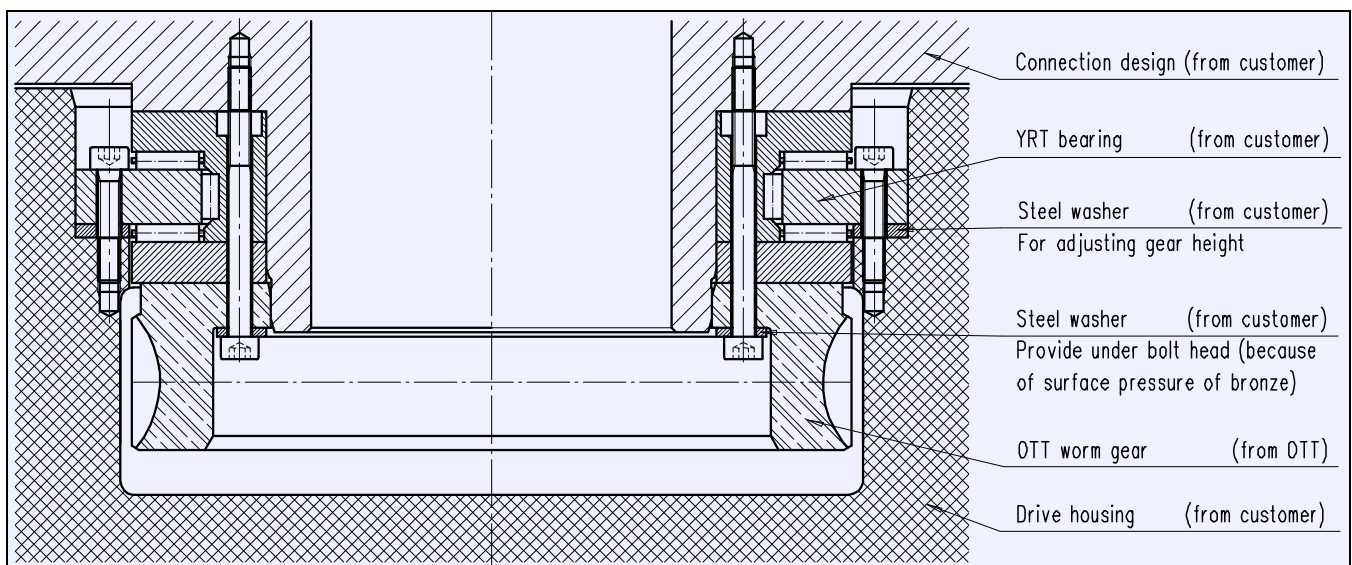




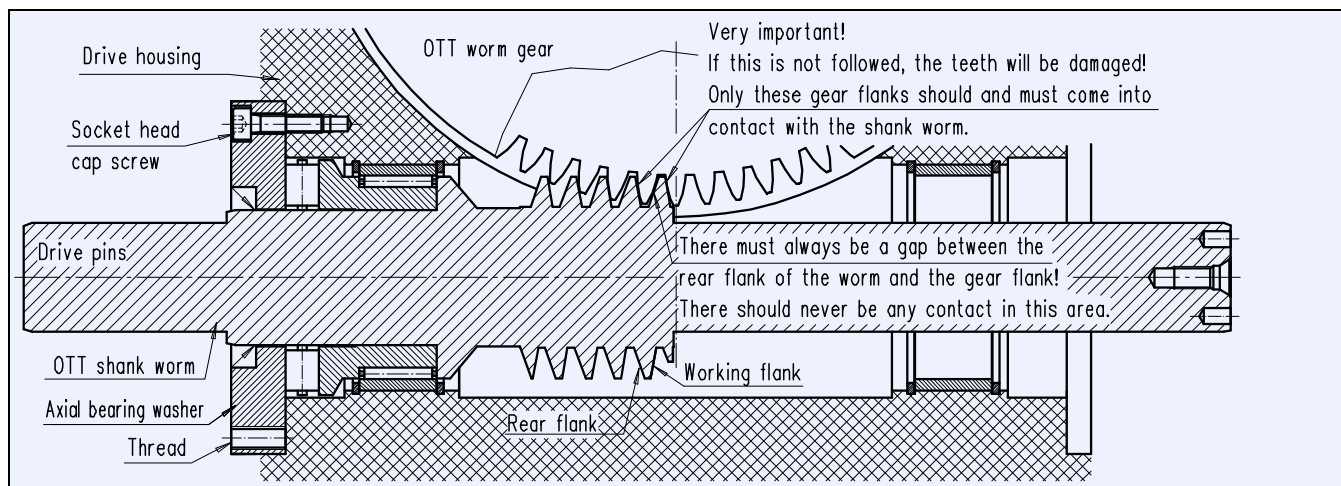
- 1.) Install rear SB circlip in gear housing.
- 2.) Insert needle bearing outer ring and secure with front SB circlip.



- 3.) Pre-assemble shank worm and hollow worm with bearing sleeve and radial needle bearing.



- 4.) Install worm gear - at suitable installed height of gear - in the gear housing.



5.) Lubricate working flank of shank worm.

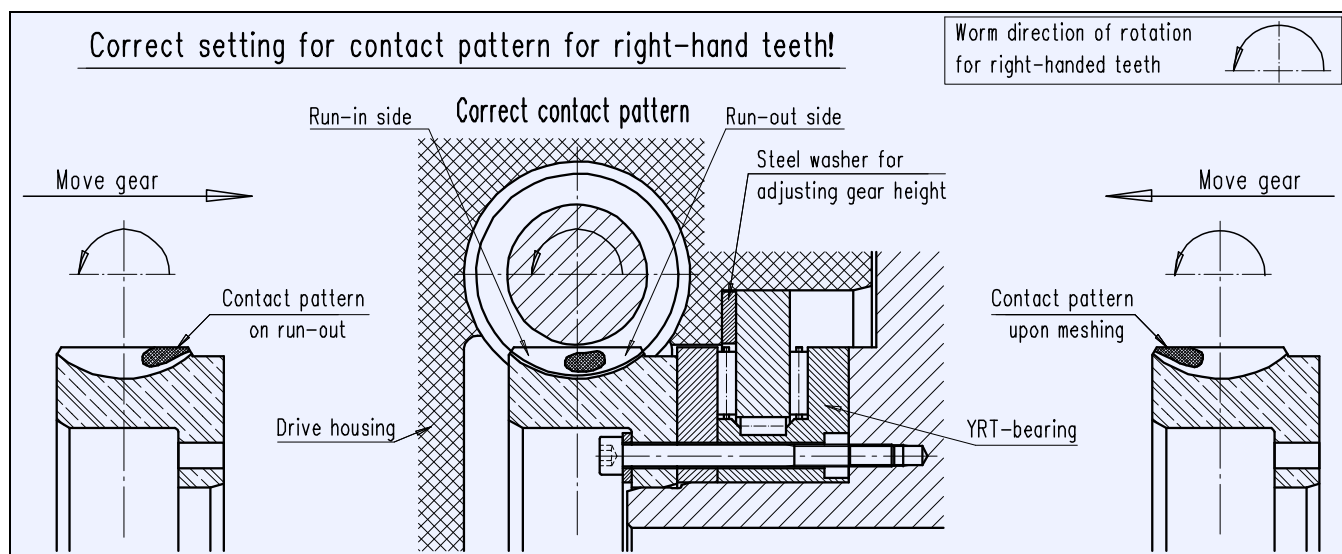
Important: Right-turning worms are attached to gear by turning clockwise!

Left-turning worms are attached to gear by turning anticlockwise!

6.) Press shank worm against gear face. **Do not draw in!**

7.) **Important:** Screw in shank worm up to the centre of the gear, **not beyond it.**

8.) Mount axial bearing on shank worm and screw to axial bearing end cover, using a torque wrench to tighten the screws.

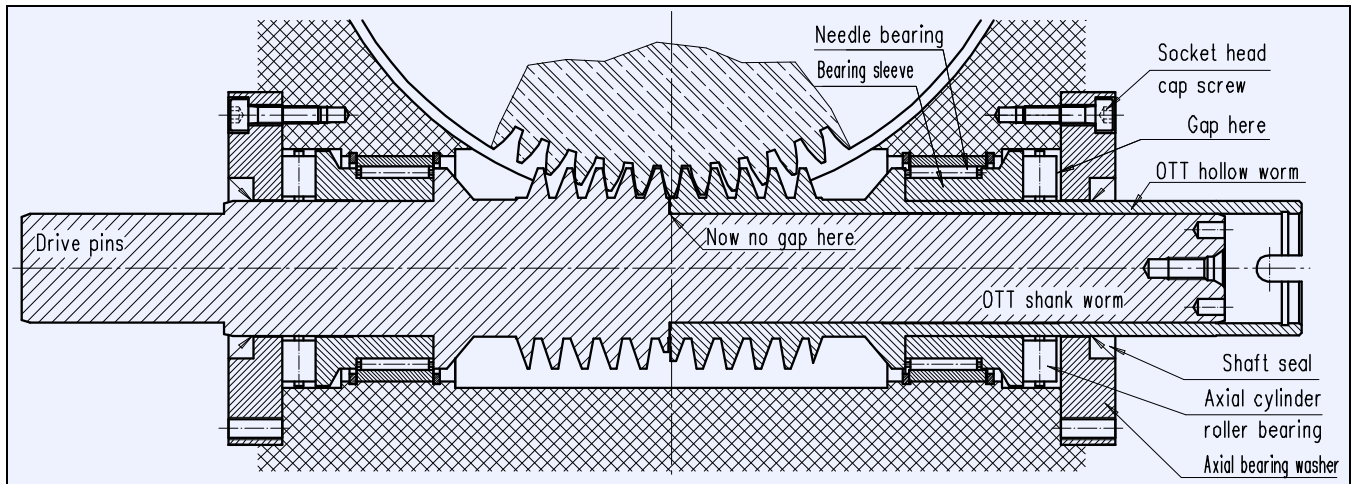


9.) Press worm gear against the shank worm and thus against its axial bearing.

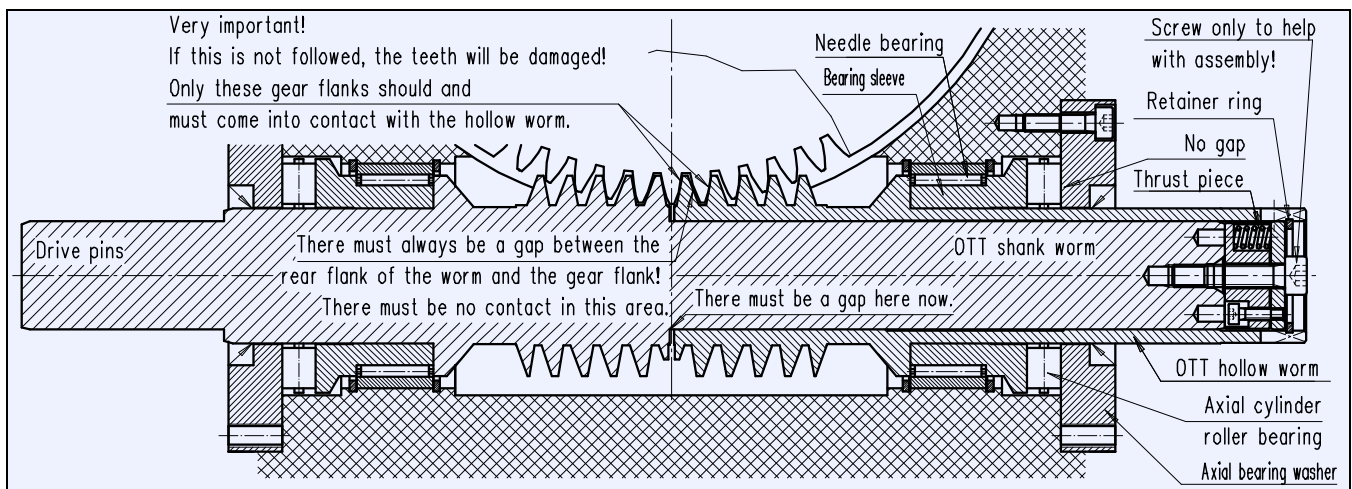
10.) When the shank worm is drawn slowly back and there is a simultaneous torsional load by the gear on the shank worm, the gear flank contacts the working flank of the shank worm and is spot-lubricated by it.

11.) Check contact pattern on the gear flank (see Fig.).

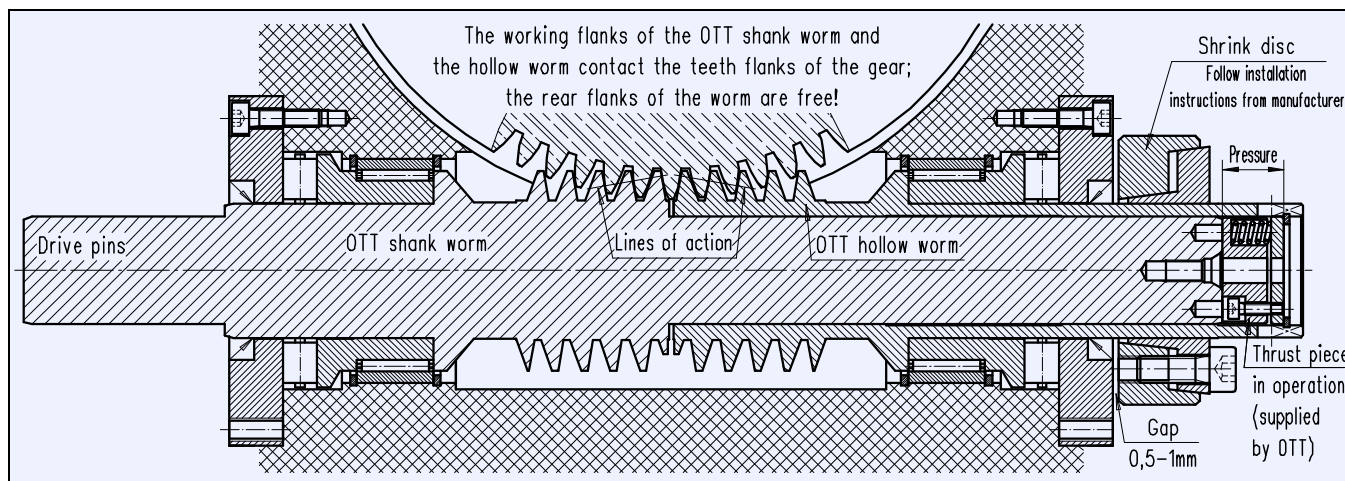
12.) If necessary, correct the contact pattern by adjusting the height of the gear, then check again. The amount of steel washer depth adjustment to change the height depends on the pitch of the individual gear!



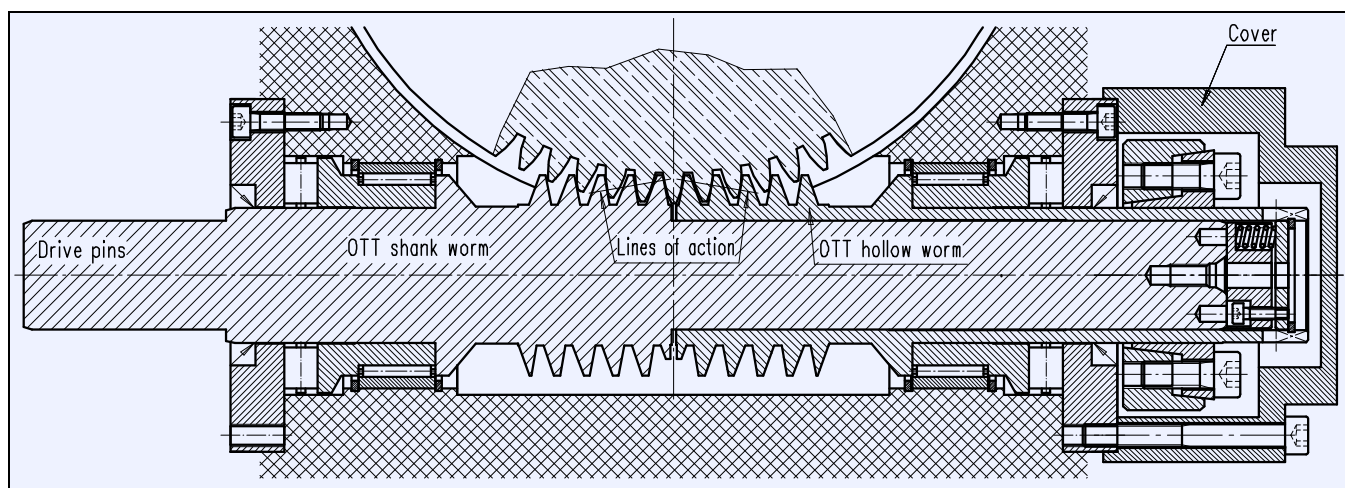
- 13.) Place hollow worm on shank worm, and press shank worm on to gear flank. **Do not draw in!**
- 14.) The shank worm should not rotate, and the gear must be pressed against the working flank.
Important: The rear flank of the worm should not touch the gear flank.
- 15.) Mount axial bearing on hollow worm and screw on to axial bearing end cover, using a torque wrench to tighten the screws.



- 16.) Hold the shank worm firmly and turn the hollow worm in the opposite direction to slide the worm halves against the working flank. There will be an even clearance of the flanks and axial bearing. There will now be a gap between the shank worm and the hollow worm.
Important: The flank clearance is reduced by turning right-turning worms to the left. It is reduced in the case of left-turning worms by turning them to the right.
- 17.) Screw the thrust piece to the shank worm.
- 18.) Insert SB spring ring in the hollow worm bore.
- 19.) The mounting screw must now be removed from the thrust piece.



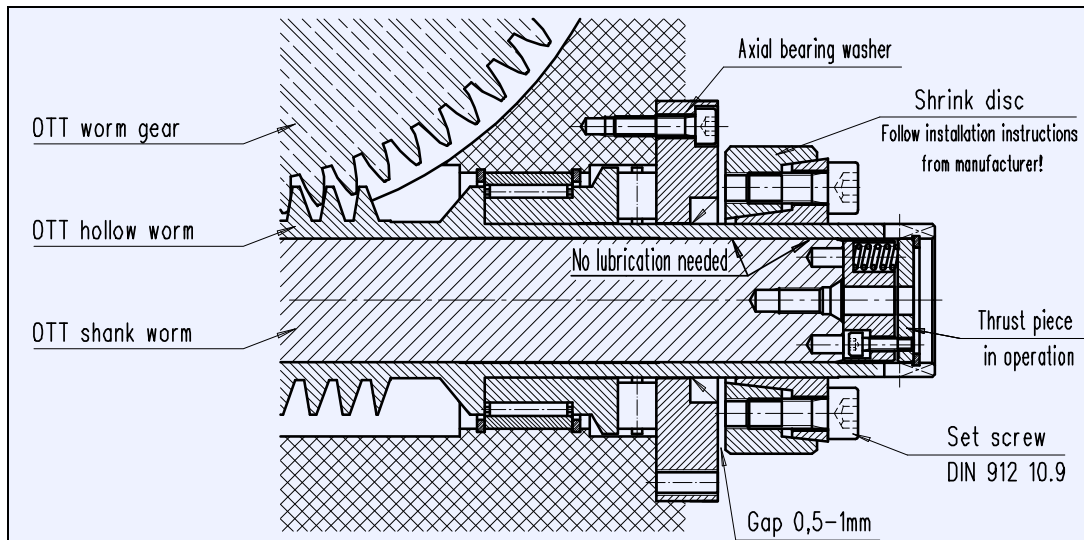
- 20.) Place shrink disc on the hollow worm. There must be a gap between the shrink disc and the axial bearing end cover.
- 21.) A larger flank clearance must be set because the clearance is reduced by heating.
- 22.) Install shrink disc according to manufacturer's instructions.
- 23.) Check axial bearing **and set flank clearances** after tightening the shrink disc.
- 24.) Fill with suitable gear oil.
- 25.) Test-run gear, monitoring temperature and flank clearance changes.
- 26.) Once the maximum operating temperature has been reached, the residual flank clearance can be set to 0.00 while the gear is warm.



- 27.) The cover can be put in place after the final flank clearance adjustment.

Your OTT worm gear is now ready for use!

Mounting and demounting the shrink disc



Mounting

The shrink discs are supplied ready-to-install. They should not be removed before the initial tightening.

- 1 **Degrease the hub bore and the shaft!**
- 2 Slip the shrink disc onto the hub. The outer surface of the hub can be greased near the shrink disc seat.

WARNING!

Never torque the bolts before the shaft has been inserted.

- 3 Insertion of shaft and sliding hub onto shaft
- 4 **Torque all bolts slowly until the front-side faces of the outer and inner rings align.**
- 5 The correct tightness can then be checked visually.

Demounting

The loosening process is similar to the tightening process.

- 1 The bolts should be undone evenly and in sequence in order to release the stored energy in the outer ring slowly during demounting. Start with just a quarter turn.

WARNING!

Under no circumstances should the bolts be withdrawn one after the other.

If the outer ring does not come away by itself after approx. one turn of all bolts, it can be detensioned using a kickback thread by screwing some of the adjacent bolts into the thread.

The outer ring will be supported by the remaining bolts while it is being released.

This procedure must be repeated until the outer ring comes off.

- 2 Removal of shaft and hub from shaft

Any rust which may have formed on the shaft in front of the hub must be removed first.

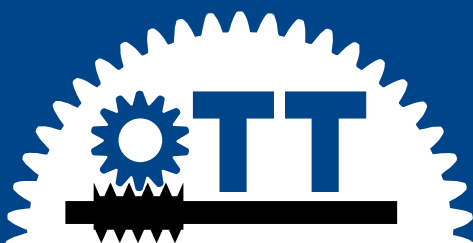
- 3 Remove the shrink disc from the hub.

Tightening bolts

DIN 912 inner-hex head bolts are normally used, quality 10.9!



Notes



...toothed
innovations!

Zahnradfertigung OTT

How to find us!



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