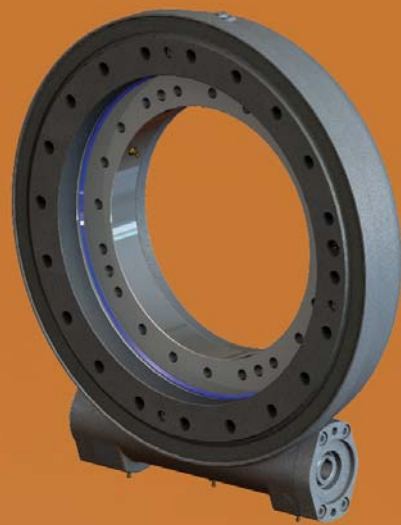
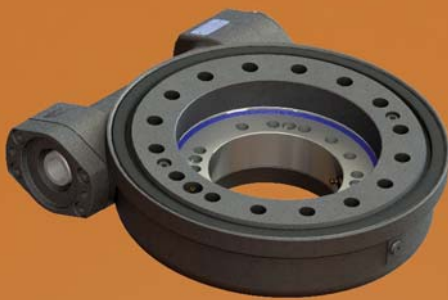




TGBGROUP  
SLEW DRIVES INDUSTRIAL





*we* *move*

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*Your movement solutions*

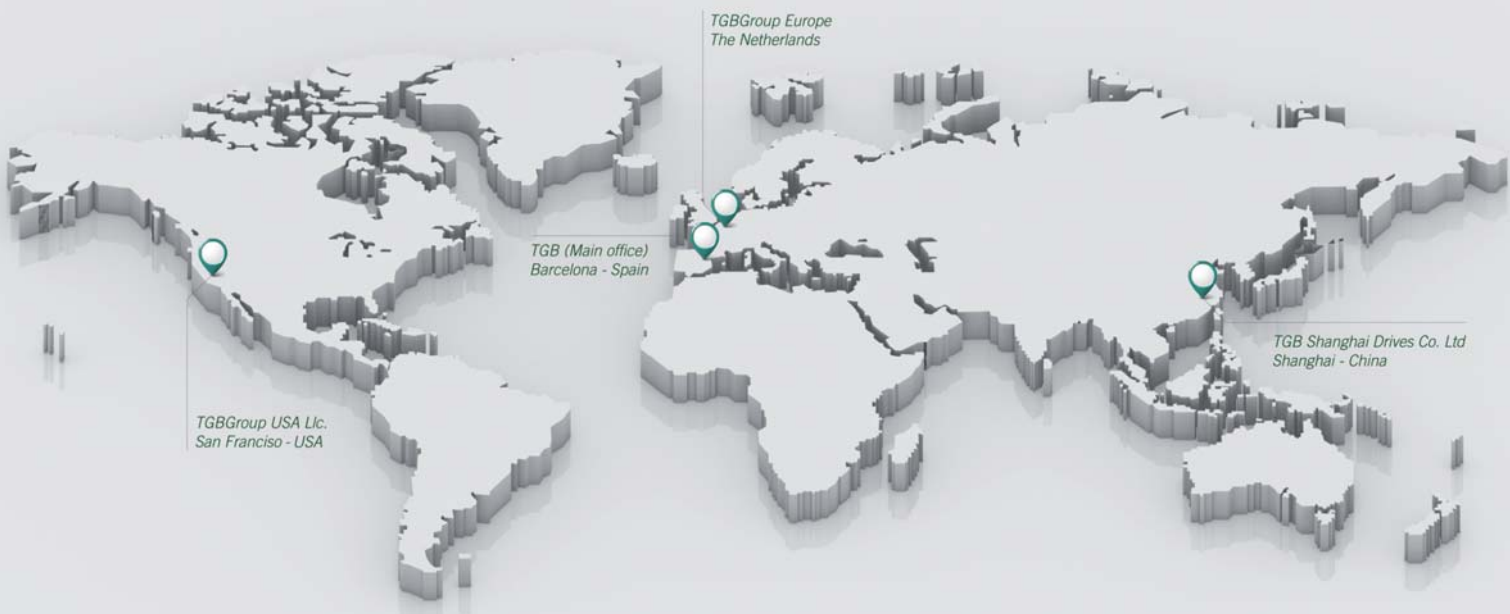
# TGB GROUP

With over 20 years of experience in bearings, gears and power transmission, the TGB Group has become a global leader in the development and production of movement solutions for the industrial and renewable energy markets. The TGB Group has manufacturing facilities on different continents which enables us to provide competitive solutions and customise projects while being able to retain a flexible manufacturing system and offer worldwide deliveries!

Our aim is to forge long lasting relationships with our customers by demonstrating our commitment throughout the engineering process, by exceeding customer expectations, by providing excellent service and by offering the best value for money.

Our knowledge and experience will enable you to make the right choice!

TGB Group S.L.



# INDEX

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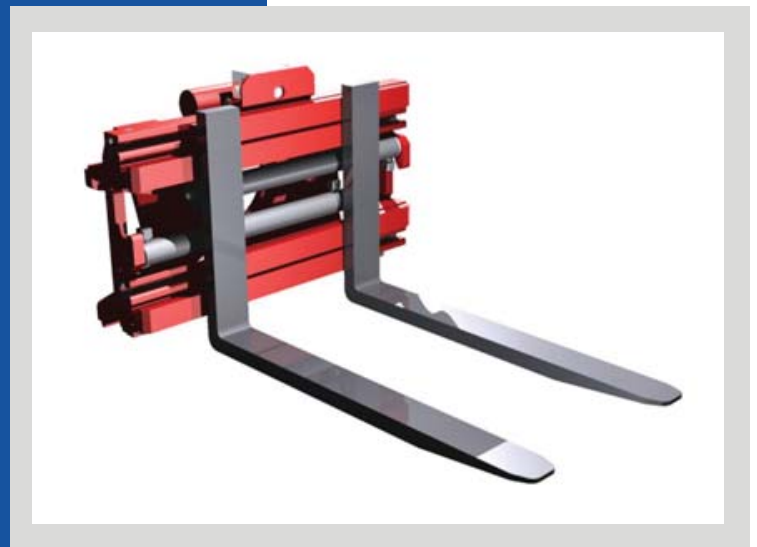
APPLICATION EXAMPLES.....	6
BASIC INSTRUCTIONS .....	8
STANDARD SERIES	
BE236 .....	10
BE314 .....	11
BE314-2B.....	12
BE435 .....	13
BE523 .....	14
BE600 .....	15
BE700 .....	16
LIGHT SERIES	
LBE314.....	17
LBE314-2B.....	18
LBE435.....	19
ACCESSORIES	
PINION DRIVE .....	20
OTHER ACCESSORIES ..	21
INQUIRY FORM .....	22



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Ed. 3 (FEB-16)

# APPLICATION EXAMPLES



# APPLICATION EXAMPLES



# BASIC INSTRUCTIONS

## 1. SLEWING DRIVES CHARACTERISTICS

Slewing drives present some characteristics that should be taken into account to choose the proper series for each application. The main points to consider are the ones following:

- The maximum output speed must be less than 1rpm.
- The standard temperature working range of a slewing drive is established between -20 and 70°C.
- The slewing drives can be used both in horizontal and in vertical position. In case installing it in vertical position please consult the TGBgroup Technical department.
- The load diagrams for each drive show its limit static load with a safety factor of 1. TGBgroup recommends adding an application factor to the loads according to the following table. To assure the drive chosen is the right one, the load case of the application must be below the limit curve.

Application	Application criteria	Application factor
Casting	Extreme application	1.5
Machines for building / cranes	Extreme application	1.25
Vehicles and mounting on vehicles	Extreme application	1.25
Forklifts / Bulldozers	Light shocks	1.1
Treatment plants	Vibrations	1.25
Wind turbines	Danger of streaking	2.0
Robots	Rigidity	1.25
Antennas	Precision	1.5
Machines-tool	Precision	1.5
Measurement technique	Smooth operation	2.0

The load diagrams are also limited by the bolts. They are only valid if all the bolts of the slewing drive are used to fix it to the structure. The quality of the bolts is considered grade 10.9, the threaded length should be at least 1.5 times the bolt diameter and the recommended flange thickness 2 times the bolt diameter. If the bolt curve does not appear in the chart, this means that this curve is above the slewing ring chart.

In case you have questions regarding the application for breach of any point of the ones mentioned above or various load cases are applied, we recommend contacting TGBgroup Technical Department. In case the slewing drive chosen does not adapt to your application we recommend consulting the slewing ring catalogue, as there exist a major variety of products and features.

## 2. TRANSPORT, HANDLING AND STORAGE

Transport only in horizontal position avoiding possible impacts. The vertical series should be transported and stored in vertical position. The slewing drive should be manipulated carefully and wearing working gloves all the time. The threaded holes can be used to fix bolts to handle the slewing drive in a safety way with a hoisting device. Store always in horizontal position and in closed rooms.



### 3. INSTALLATION

Previous to the installation, a cleaning of the slewing drive and the structure where is going to be mounted must be done. It is not allowed the use of steam high pressure systems. It should be checked that the slewing drive is fully supported by the structure. The supporting surface must accomplish some requirements considering a maximum flatness deviation. The slewing drive must be mounted without any external loads. It is convenient to perform working tests in the structure before the loads are applied. The bolts used must be from the dimension, quantity and quality indicated.

### 4. LUBRICATION

For all applications a proper lubrication is necessary for a smooth operation of the slewing drive. There are three parts that need to be lubricated: the slewing ring raceway, the screw worm and the bearings. The quantity of grease required is around 60cc for the screw worm, 10cc for each tapered roller bearing and 10cc each 250mm of diameter for the slewing ring raceway. The procedure to regrease consists in injecting grease into all grease nipples one after the other while rotating the slewing drive. The slewing drives must be regreased after each cleaning and also before and after large periods of inactivity.

Re-lubrication is needed to assure a minimum quality on the grease inside the drive. In case no comparative results are available, the following table can be used as a reference.

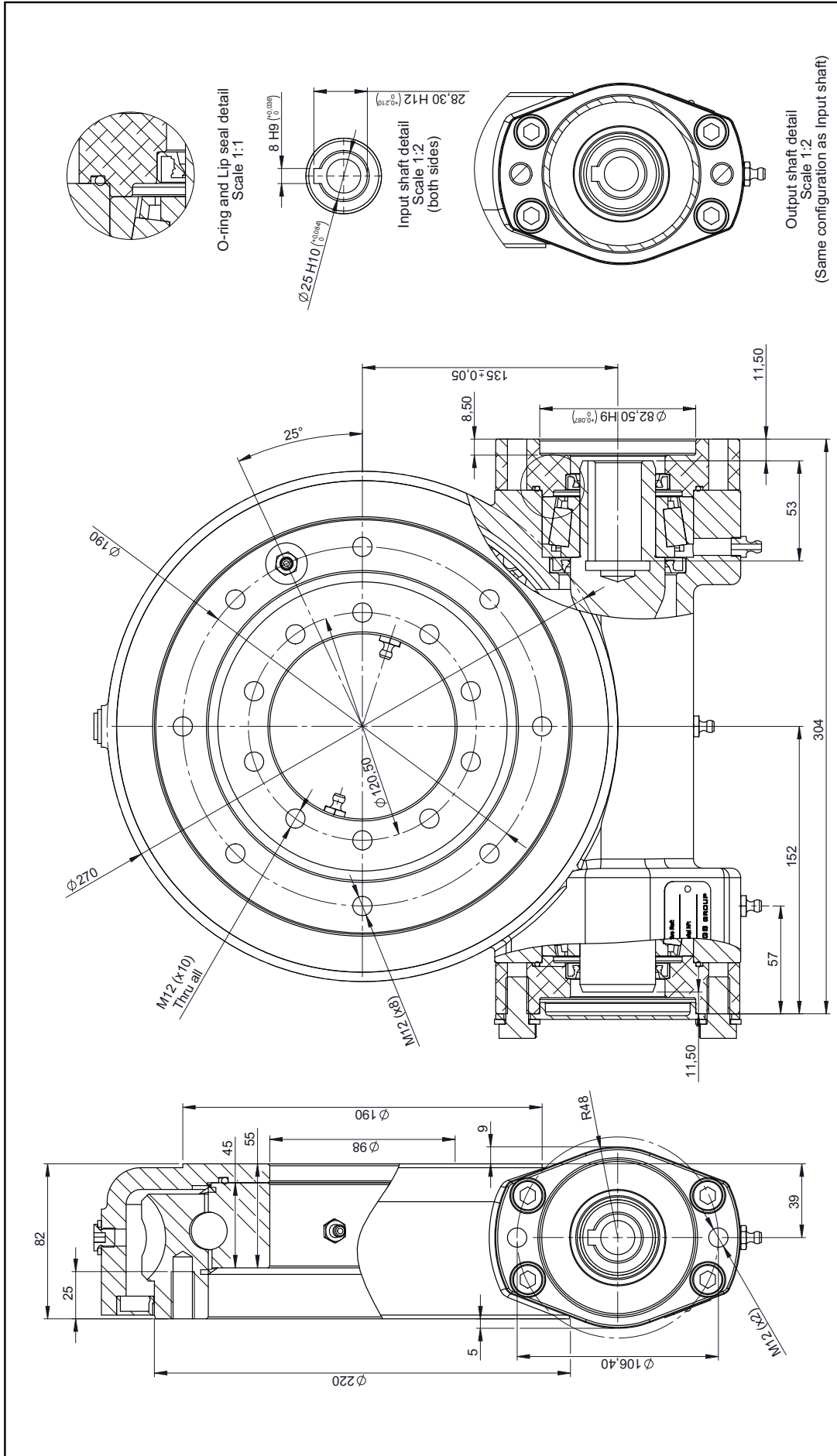
Working conditions	Slewing Ring and Screw Worm Re-lubrication intervals
Rotational speeds <0,5rpm Non extreme environmental conditions (solar trackers)	Every 400 hours of operation or once every 12 months
Rotational speeds >0,5rpm Non extreme environmental conditions (man lift, industrial applications)	Every 200 hours of operation or once every 6 months
Extreme climatic conditions (sea / desert / Arctic climate / very dirty surrounding) (tunnelling machines/steel mills)	Every 100 hours of operation or once every 3 months
Bearing re-lubrication intervals	
All working conditions	Every 400 hours or every 12months

To choose the proper type of grease for each application, please contact TGBgroup technical department.

### 5. MAINTENANCE / SECURITY CONTROLS

TGBgroup recommends retightening the bolts to the prescribed torque after no more than 100 working hours to compensate the possible settling. This should be done without external loads applied on the bolts union. This inspection should be repeated from then on every 3 months of working. The frequency of the inspection must be reduced under special working conditions.

# STANDARD SERIES

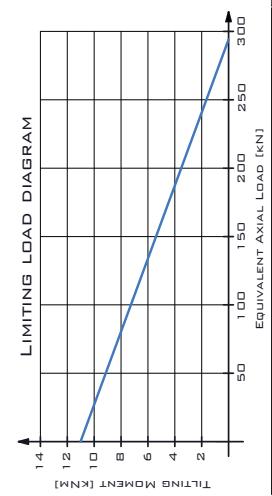


 		Reference: <b>BE236-Z1</b>	Rev: <b>A</b>
>1200 ±1.2 >400.0 - 1200 ±0.8 >120.0 - 400.0 ±0.5 >30.0 - 120.0 ±0.3 >6.0 - 30.0 ±0.2 >1.0 - 6.0 ±0.1 >0.3 - 1.0 ±0.1 Range of sizes Unlabelled tolerance	Sales Drawing		
Denomination:		WEIGHT (kg): 28.94	NUM. PIECES: 1
MATERIAL:		SCALE: 1:2	SIZE: A3
SHEET: 1 of 1			

**SHAFT: Ø25MM KEYS SHAFT**  
**FLANGE: SAE - 2BOLT FLANGE**

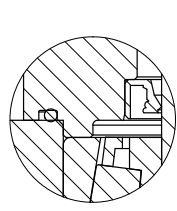
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Units: mm

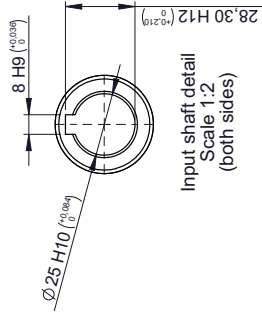


MAIN PERFORMANCE PARAMETERS	
GEAR RATIO	44:1
HOLDING TORQUE	6,8kNm
EFFICIENCY	40%
TILTING MOMENT	11,2kNm
SELF-LOCKING GEAR	YES
RADIAL STATIC LOAD	94kN
AXIAL STATIC LOAD	290kN
BACKLASH CLEARANCE	<0,15°
RADIAL DYNAMIC LOAD	83kN
AXIAL DYNAMIC LOAD	97kN
MAXIMUM TORQUE	3,380Nm
NOMINAL TORQUE	3,380Nm
NOTES: ALL SLEEV DRIVE ARE PRE-LUBRICATED. MAXIMUM OUTPUT SPEED 1800 RPM. STANDARD PAINT: FOR CORROSION CATEGORY C3-M - COLOR RAL 9005	

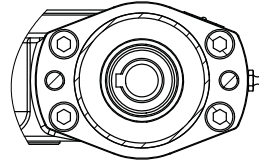
# STANDARD SERIES



O-ring and Lip seal detail  
Scale 1:1

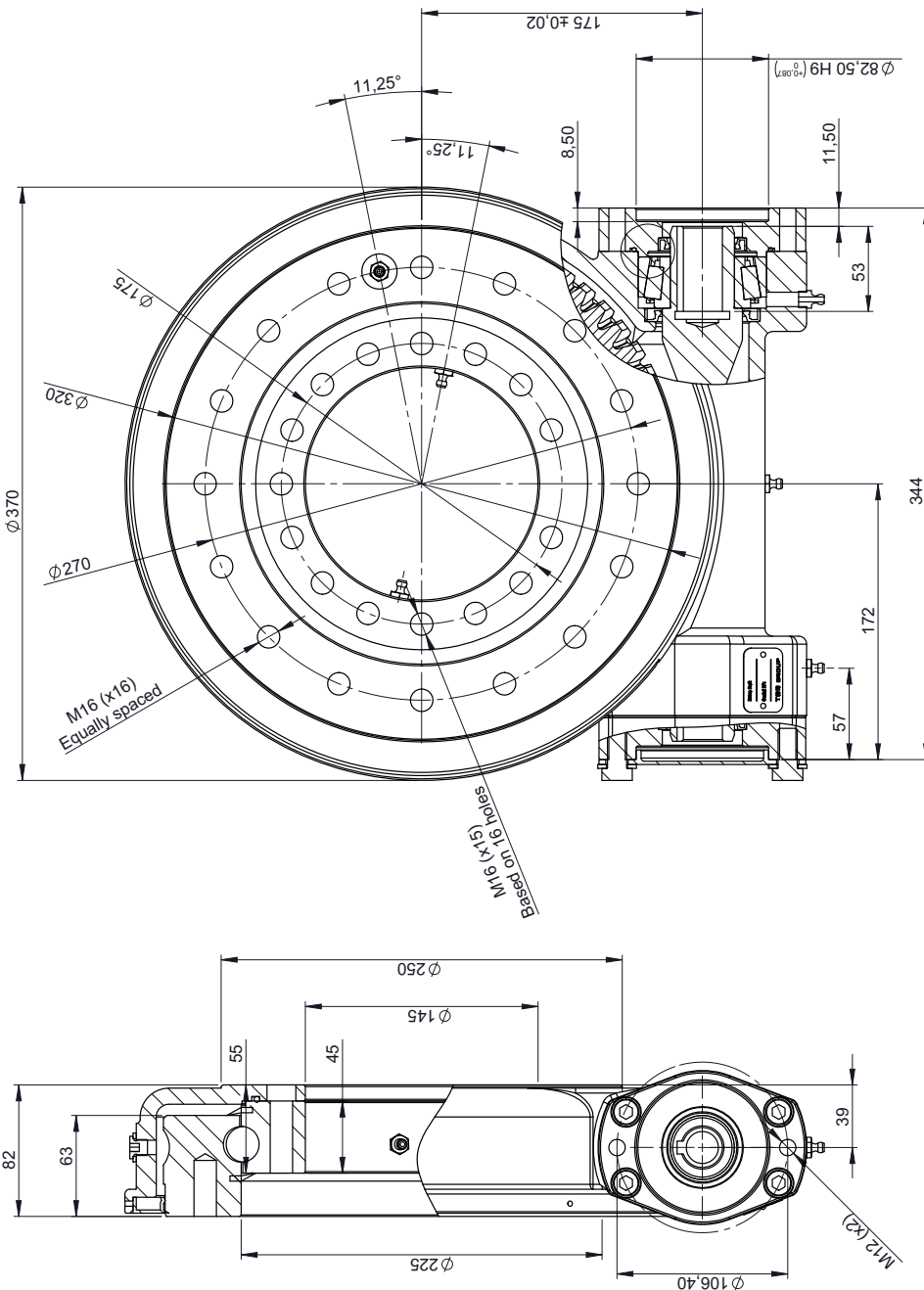


Input shaft detail  
Scale 1:2  
(both sides)



Output shaft detail  
Scale 1:3

(Same configuration as Input shaft)

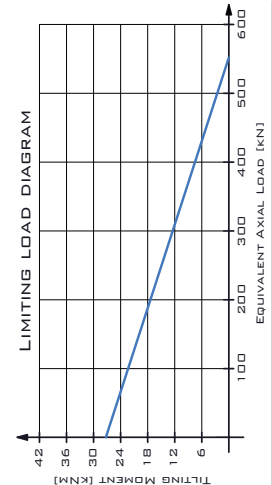


 TGB GROUP 11 rue de Tournai, 25 www.tgbresources.com		 TGB	Rev A
Reference BE314-Z1	Denomination Sales drawing	WEIGHT [kg]: 45.12	NUM. PIECES: 1
SCALE: 1:3	SIZE: A3	SCALE: A3	SHEET: 1 of 1

Units: mm

SHAFT: Ø 25MM KEYS SHAF  
FLANGE: SAE - 2BOLT FLANGE

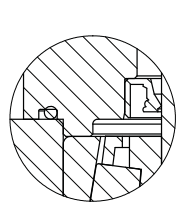
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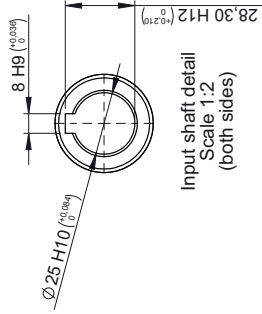
MAIN PERFORMANCE PARAMETERS	
GEAR RATIO	6:1
EFFICIENCY	40%
SELF-LOCKING GEAR	YES
BACKLASH CLEARANCE	< 0.10°
MAXIMUM TORQUE	9.100NM
NOMINAL TORQUE	4.480NM
HOLDING TORQUE	10.8KNM
TILTING MOMENT	27.5KNM
RADIAL STATIC LOAD	20.4KN
AXIAL STATIC LOAD	5.47KN
RADIAL DYNAMIC LOAD	1.32KN
AXIAL DYNAMIC LOAD	1.54KN

NOTES: ALL SLEW DRIVE ARE PRE-LUBRICATED - MAXIMUM OUTPUT SPEED 1 RPM.  
STANDARD PAINT: FOR CORROSION CATEGORY C3-M - COLOR RAL 9005

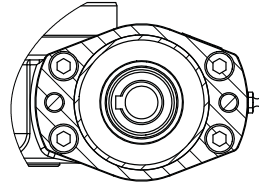
# STANDARD SERIES



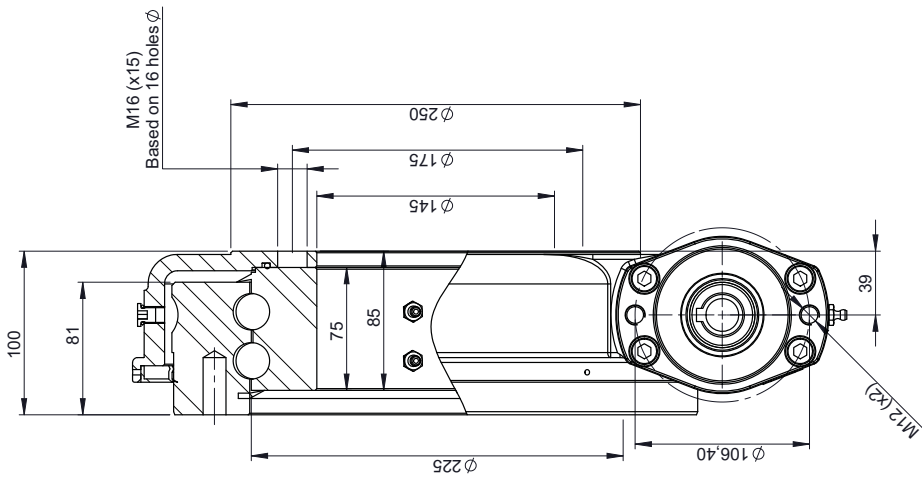
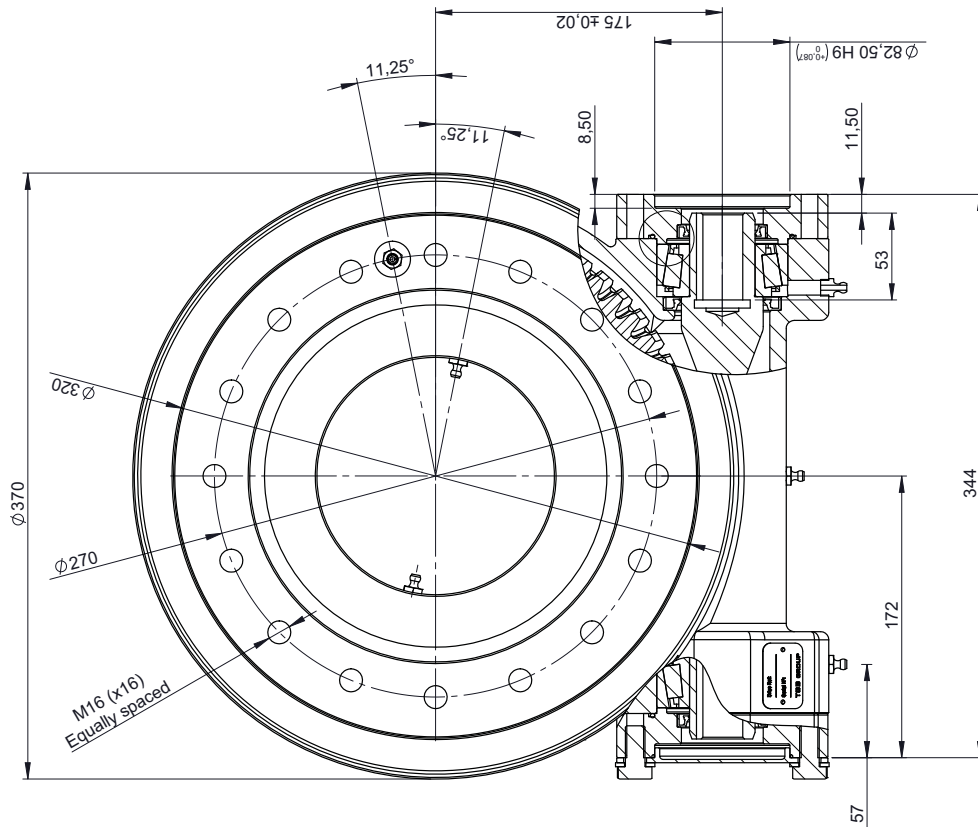
O-ring and Lip seal detail  
Scale 1:1



Input shaft detail  
Scale 1:2  
(both sides)



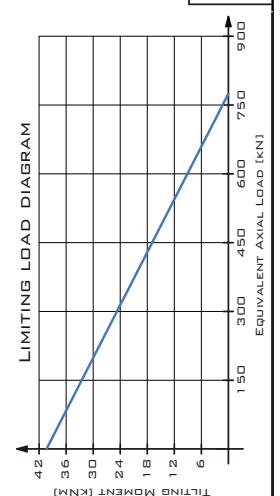
Output shaft detail  
Scale 1:3  
(Same configuration as input shaft)



		<b>BE314-2B-Z1</b>	
Denomination: Sales drawing		NUM. PIECES: 1	
MATERIAL: -		WEIGHT [kg]: 54.89	
SCALE: 1:3		SIZE: A3	
Reference:		Rev: A	

SHAFTS:  $\phi 25$ MM KEYS SHAFT  
FLANGE: SAE - 2BOLT FLANGE

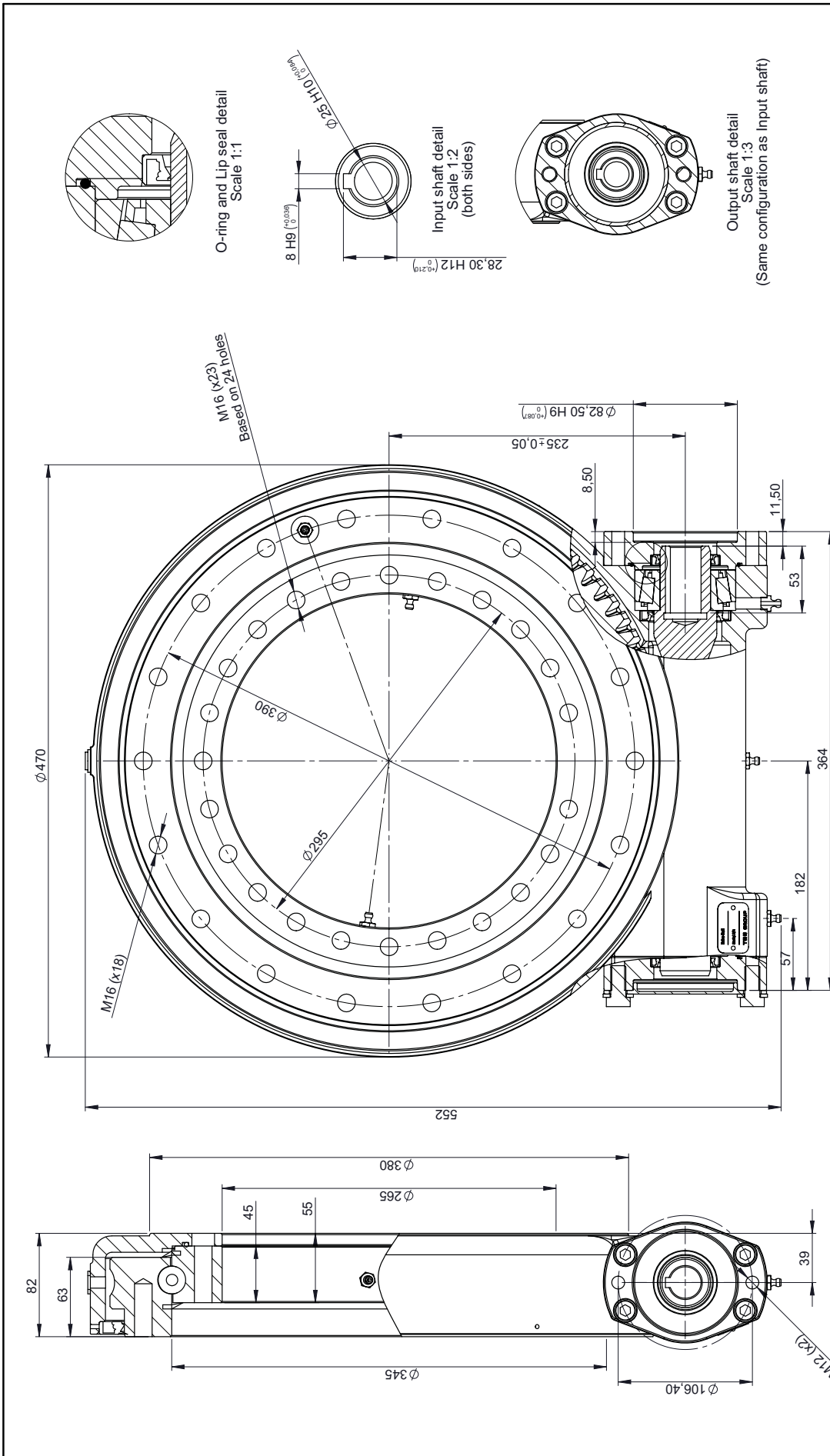
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MAIN PERFORMANCE PARAMETERS	
GEAR RATIO	61:1
EFFICIENCY	40%
SELF-LOCKING GEAR	YES
BACKLASH CLEARANCE	< 0.1°
NOMINAL TORQUE	4.480 NM
HOLDING TORQUE	10.8 KNM
TILTING MOMENT	40 KNM
RADIAL STATIC LOAD	297 KN
AXIAL STATIC LOAD	797 KN
RADIAL DYNAMIC LOAD	215 KN
AXIAL DYNAMIC LOAD	250 KN

NOTES: ALL BLEW DRIVE ARE PRE-LUBRICATED. MAXIMUM OUTPUT SPEED 1 RPM.  
STANDARD PAINT: FOR CORROSION CATEGORY C3-M - COLOR RAL 9005

# STANDARD SERIES





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TGB

Reference: **BE435-Z1**

Denomination: Sales Drawing

MATERIAL: - WEIGHT [kg]: 62.03

SCALE: 1:3 SIZE: A3

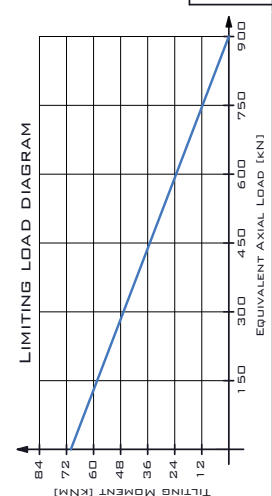
NUM. PIECES: 1

SHEET: 1 of 1

Units: mm

**SHAFT: Ø 25MM KEYS FLANGE**  
**FLANGE: SAE - 2BOLT FLANGE**

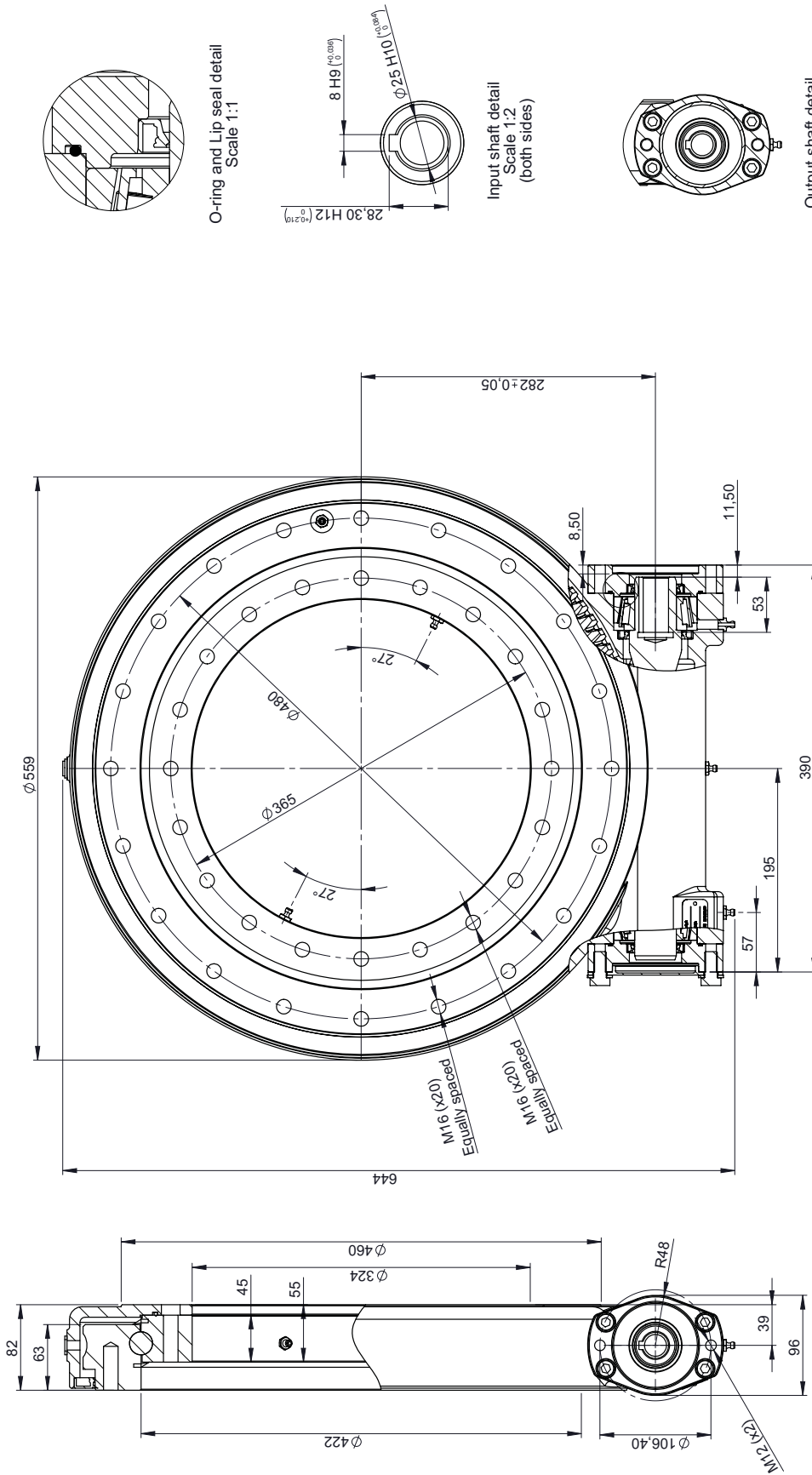
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MAIN PERFORMANCE PARAMETERS	
GEAR RATIO	85:1
EFFICIENCY	40%
SELF-LOCKING GEAR	YES
BACKLASH CLEARANCE	<0,17°
MAXIMUM TORQUE	12.308NM
NOMINAL TORQUE	10.200NM
HOLDING TORQUE	15.2KNM
TILTING MOMENT	71,1 KNM
RADIAL STATIC LOAD	338KN
AXIAL STATIC LOAD	905KN
RADIAL DYNAMIC LOAD	157KN
AXIAL DYNAMIC LOAD	183KN

NOTES: ALL SLEW DRIVE ARE PRE-LUBRICATED. MAXIMUM OUTPUT SPEED 1 RPM.  
STANDARD PAINT: FOR CORROSION CATEGORY C3-M - COLOR RAL 9005

# STANDARD SERIES

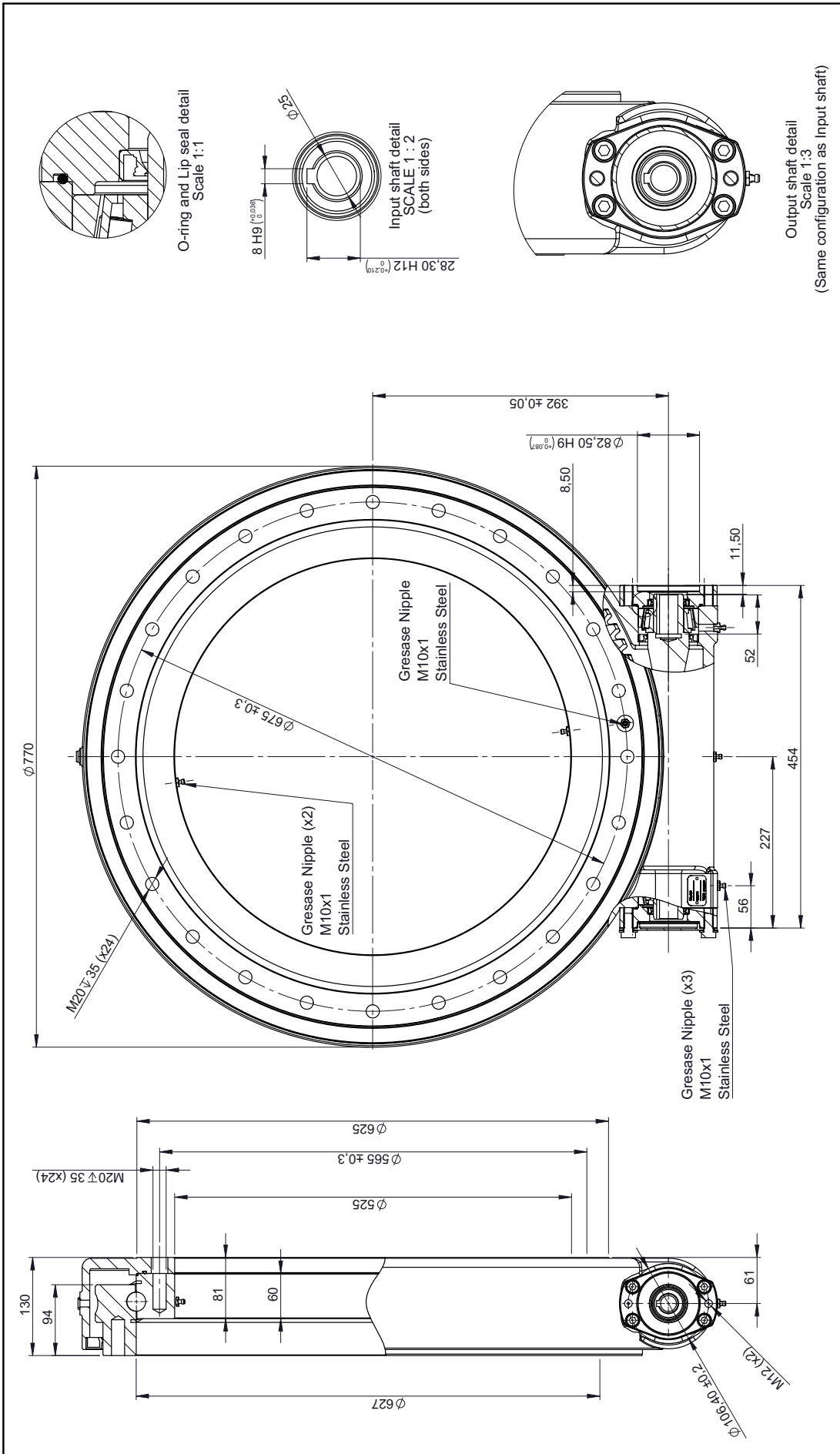


Output shaft detail  
Scale 1:3  
(Same configuration as Input shaft)

MAIN PERFORMANCE PARAMETERS		LIMITING LOAD DIAGRAM		Reference	
GEAR RATIO	103:1	HOLDING TORQUE	18,4kNm	Denomination	BE523-Z1
EFFICIENCY	40%	TILTING MOMENT	111,6kNm	SALES DRAWING	82.62
SELF-LOCKING GEAR	YES	RADIAL STATIC LOAD	41,3kN	MATERIAL	-
BACKLASH CLEARANCE	<0,17°	AXIAL STATIC LOAD	11,07kN	SCALE	1:4
MAXIMUM TORQUE	15,600Nm	RADIAL DYNAMIC LOAD	1,70kN	Units: mm	A3
NOMINAL TORQUE	14,700Nm	AXIAL DYNAMIC LOAD	1,98kN	NUM. PIECES	1
NOTES: ALL SLEW DRIVE ARE PRE-LUBRICATED. MAXIMUM OUTPUT SPEED 1RPM. STANDARD PAINT: FOR CORROSION CATEGORY C3-M - COLOR RAL 9005				Rev A	
TGB GROUP 14723 TGB GROUP - ES WWW.TGBGROUP.COM		TGB GROUP 14723 TGB GROUP - ES WWW.TGBGROUP.COM		SHEET: 1 of 1	



# STANDARD SERIES



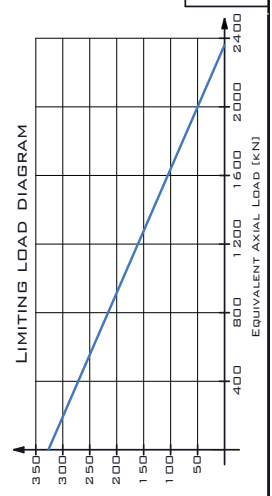
<p>TGB GROUP</p> <p>www.tgbcouplings.es</p> <p>TGB</p>	<p>Reference: BE700-Z1</p> <p>Denomination: Sales Drawing</p> <p>WEIGHT (kg): 170.82</p> <p>NUM. PIECES: 1</p> <p>SCALE: 1:5</p> <p>SIZE: A3</p> <p>SHEET: 1 of 1</p>
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Units: mm

SHAFT: Ø 25MM KEYS SHAFTE

FLANGE: SAE - 2BOLT FLANGE

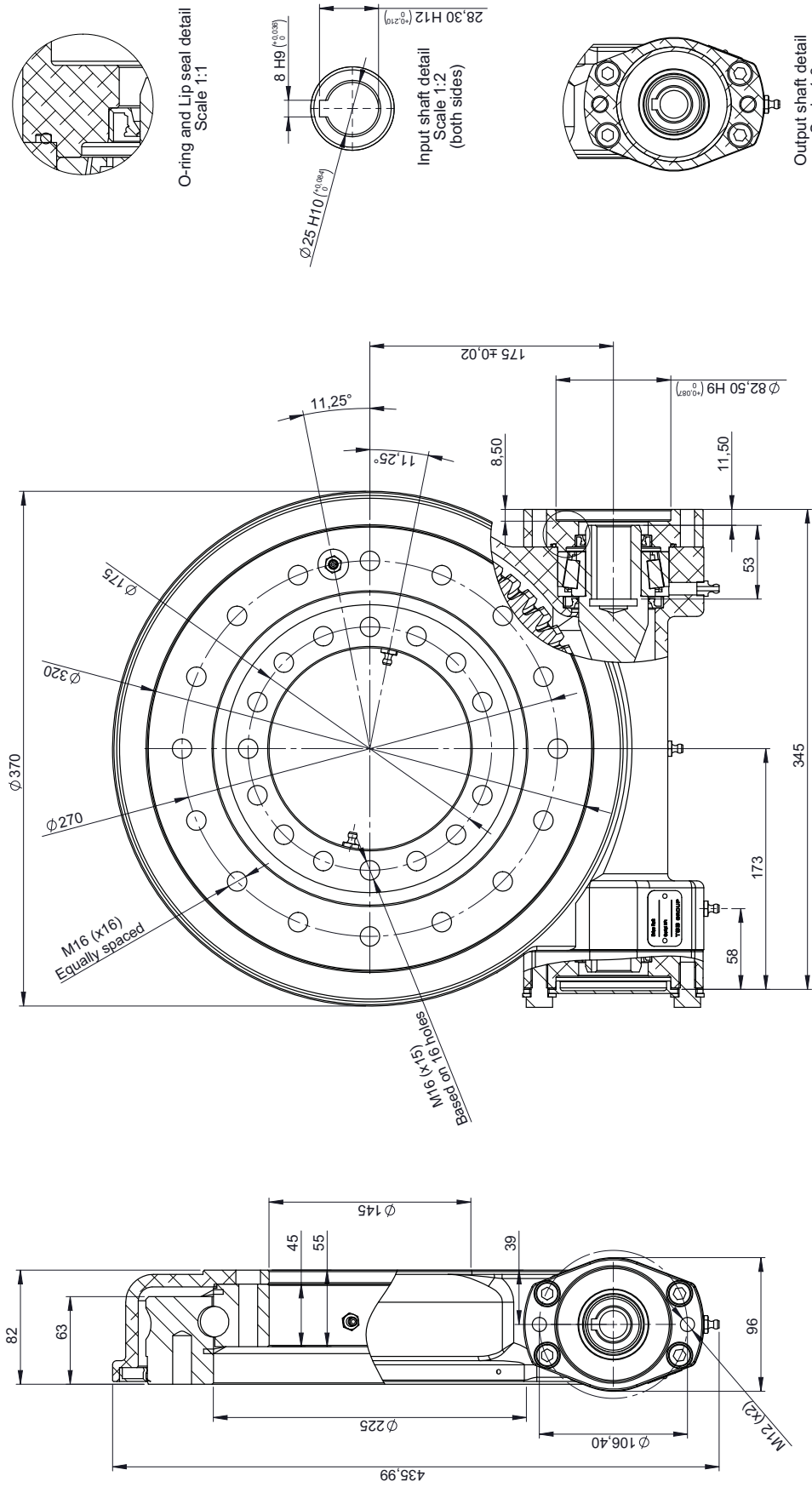
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MAIN PERFORMANCE PARAMETERS	
GEAR RATIO	1.02:1
HOLDING TORQUE	42.8kNm
EFFICIENCY	40%
TILTING MOMENT	325kNm
SELF-LOCKING GEAR	YES
RADIAL STATIC LOAD	883kN
AXIAL STATIC LOAD	236.4kN
BACKLASH CLEARANCE	< 0.17°
RADIAL DYNAMIC LOAD	280kN
AXIAL DYNAMIC LOAD	327kN
NOTES: ALL BEVEL DRIVE ARE PRE-LUBRICATED. MAXIMUM OUTPUT SPEED 1000 RPM. STANDARD PAINT: FOR CORROSION CATEGORY C3-M - COLOR RAL 9003	



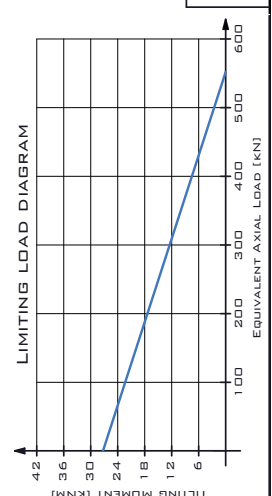
# LIGHT SERIES



 <b>TGB GROUP</b> LBE314-Z1 www.tgbinstruments.com		Reference: <b>LBE314-Z1</b>	Denomination: Sales drawing
Units: mm	MATERIAL: -	WEIGHT (kg): 34.86	NUM. PIECES: 1
SCALE: 1:3	SIZE: A3	Rev: A	SHEET: 1 of 1

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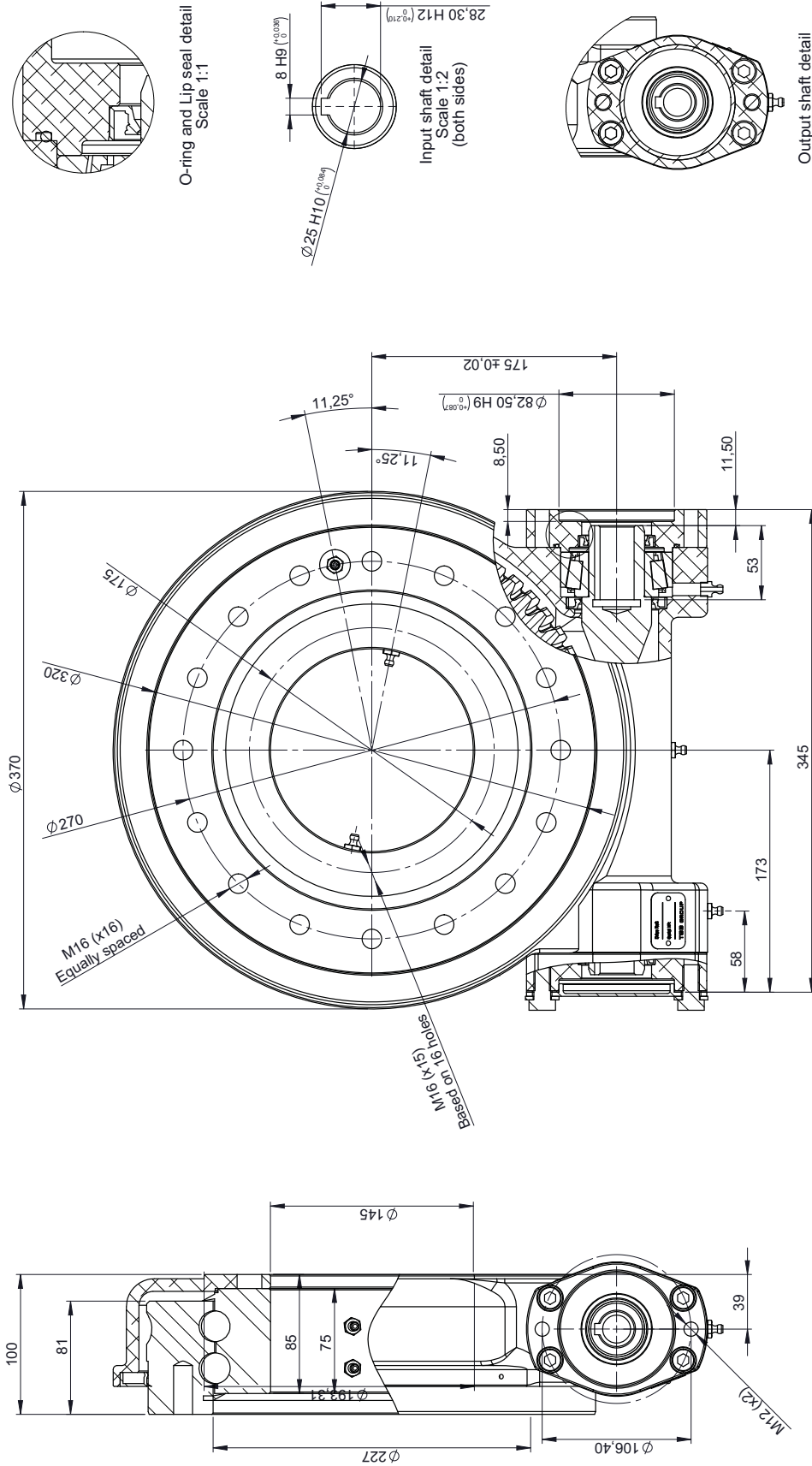
**SHAFT:  $\phi 25\text{MM}$  KEYS SHAF**  
**FLANGE: SAE - 2BOLT FLANGE**



MAIN PERFORMANCE PARAMETERS		
GEAR RATIO	61:1	HOLDING TORQUE 9.1 kNm
EFFICIENCY	40%	TILTING MOMENT 27.5 kNm
SELF-LOCKING GEAR	YES	RADIAL STATIC LOAD 20.4 kN
BACKLASH CLEARANCE	<0.17°	AXIAL STATIC LOAD 54.7 kN
MAXIMUM TORQUE	9.100 Nm	RADIAL DYNAMIC LOAD 132 kN
NOMINAL TORQUE	4.480 Nm	AXIAL DYNAMIC LOAD 15.4 kN

NOTES: ALL BLEW DRIVE ARE PRE-LUBRICATED. MAXIMUM OUTPUT SPEED: 1RPM.  
 STANDARD PAINT: FOR CORROSION CATEGORY C3-M - COLOR RAL 9005

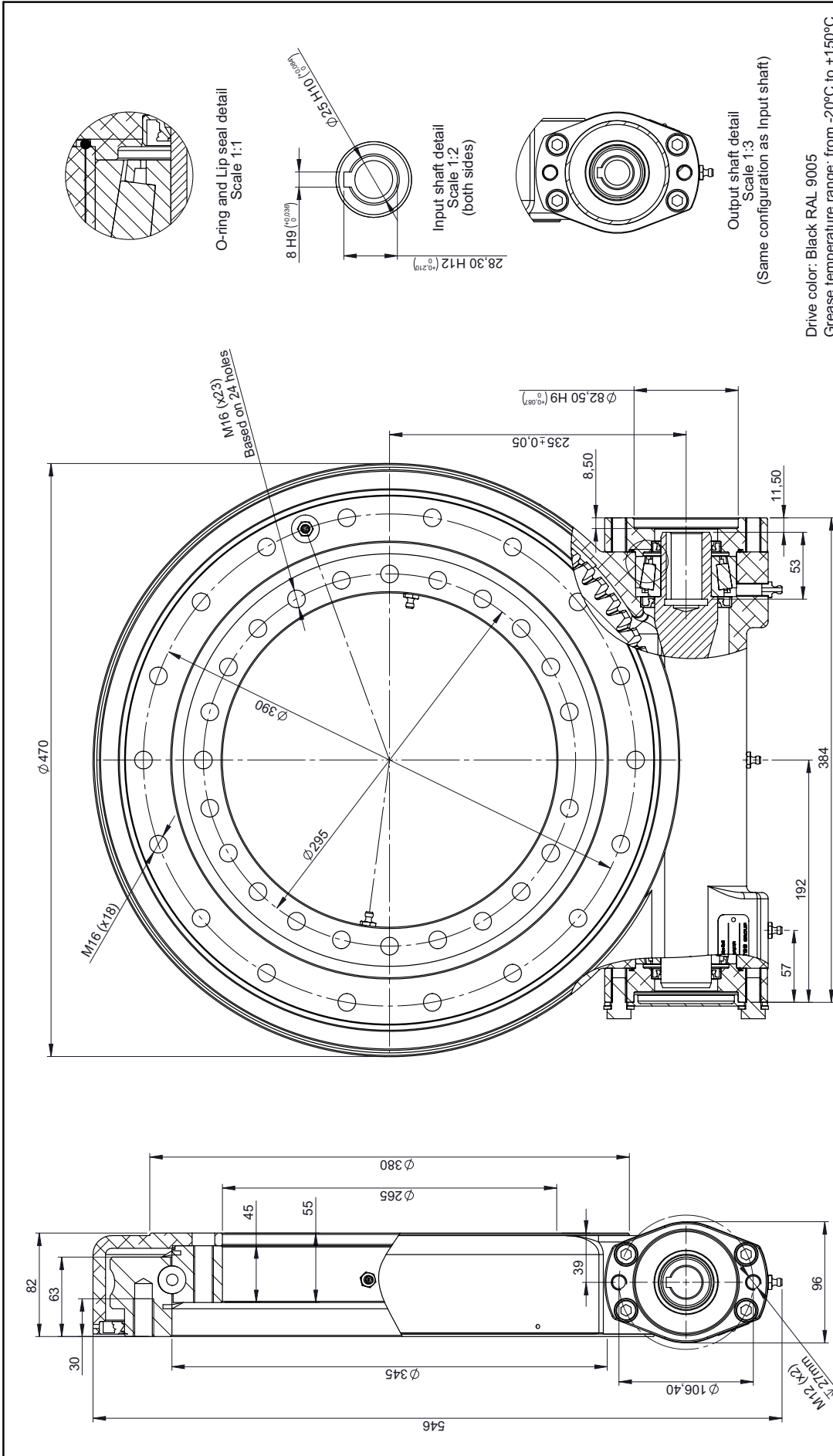
# LIGHT SERIES



Output shaft detail  
Scale 1:3  
(Same configuration as Input shaft)

MAIN PERFORMANCE PARAMETERS		LIMITING LOAD DIAGRAM		SALES DRAWING																	
GEAR RATIO	61:1	HOLDING TORQUE	10.8KNM	Denomination	LBE314-2B-Z1																
EFFICIENCY	40%	TILTING MOMENT	40.5KNM	WEIGHT (kg)	44.75																
SELF-LOCKING GEAR	YES	RADIAL STATIC LOAD	29.7KN	MATERIAL	A3																
BACKLASH CLEARANCE	<0.17°	AXIAL STATIC LOAD	79.7KN	SCALE	1:3																
MAXIMUM TORQUE	9.100NM	RADIAL DYNAMIC LOAD	21.5KN	NUM. PIECES	1																
NOMINAL TORQUE	4.480NM	AXIAL DYNAMIC LOAD	25.0KN	SIZE	A3																
NOTES: ALL SLEW DRIVE ARE PRE-LUBRICATED. MAXIMUM OUTPUT SPEED 1RPM. STANDARD PAINT: FOR CORROSION CATEGORY C3-M - COLOR RAL 9005		<p>The information contained in this document is the property of TGBgroup. It is not allowed any copy or reproduction of this certified TGBgroup reserve the right to change of manufacture without previous notice and duty of communication.</p> <p>Units: mm</p>		<p>Reference</p> <p>Rev A</p>																	
<p>Shaft: Ø25MM KEYED SHAFT Flange: SAE - 2BOLT FLANGE</p> <p>Units: mm</p>		<p>Limiting Load Diagram</p> <p>Tilting Moment (kNm) vs. Equivalent Axial Load (kN)</p> <table border="1"> <tr><th>Equivalent Axial Load (kN)</th><th>Tilting Moment (kNm)</th></tr> <tr><td>0</td><td>0</td></tr> <tr><td>150</td><td>6</td></tr> <tr><td>300</td><td>12</td></tr> <tr><td>450</td><td>18</td></tr> <tr><td>600</td><td>24</td></tr> <tr><td>750</td><td>30</td></tr> <tr><td>900</td><td>36</td></tr> </table>		Equivalent Axial Load (kN)	Tilting Moment (kNm)	0	0	150	6	300	12	450	18	600	24	750	30	900	36	<p>TGBGROUP LBE314-2B-Z1 www.TGBgroup.com</p>	
Equivalent Axial Load (kN)	Tilting Moment (kNm)																				
0	0																				
150	6																				
300	12																				
450	18																				
600	24																				
750	30																				
900	36																				

# LIGHT SERIES



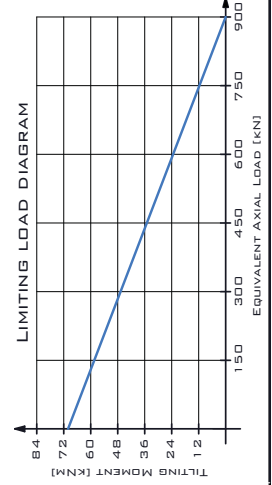
Drive color: Black RAL 9005  
Grease temperature range: from -20°C to +150°C

 TGB GROUP www.tgbcouplings.com		Rev A
Reference	LBE435-Z1-RM	
Denomination	Sales Drawing	
MATERIAL	WEIGHT (kg):	NUM. PIECES: 1
SCALE:	1:3	SIZE: A3
		SHEET: 1 of 1

Units: mm

SHAFT: Ø25MM KEYS SHAF  
FLANGE: SAE - 2BOLT FLANGE

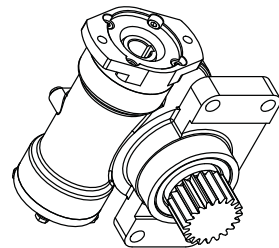
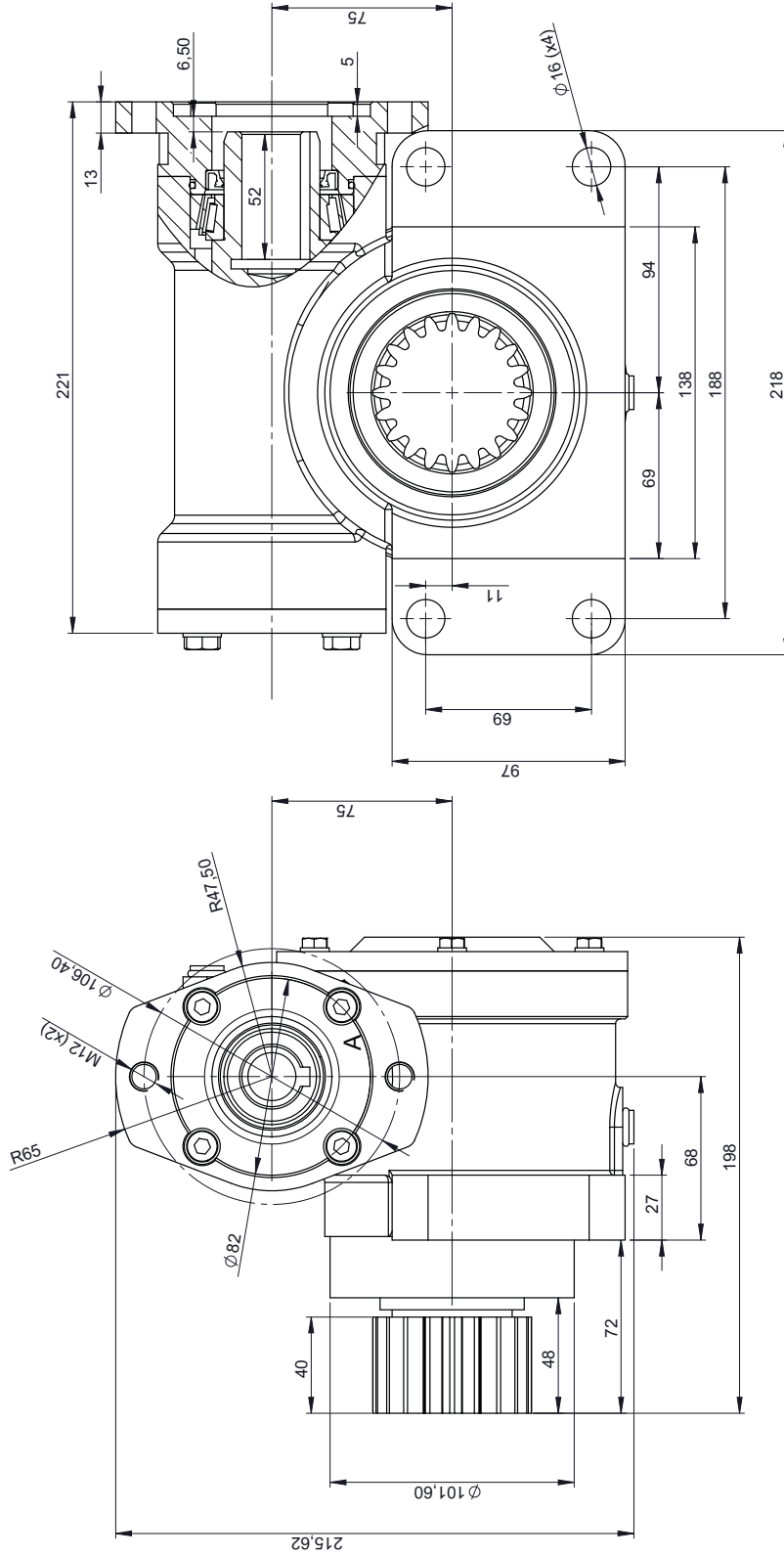
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MAIN PERFORMANCE PARAMETERS	
GEAR RATIO	85:1
EFFICIENCY	40%
SELF-LOCKING GEAR	YES
BACKLASH CLEARANCE	<0,17°
MAXIMUM TORQUE	12.300NM
NOMINAL TORQUE	10.200NM
HOLDING TORQUE	12.3KNNM
TILTING MOMENT	71.1KNNM
RADIAL STATIC LOAD	93BK
AXIAL STATIC LOAD	90SKN
RADIAL DYNAMIC LOAD	157KN
AXIAL DYNAMIC LOAD	183KN

NOTES: ALL SLEW DRIVE ARE PRE-LUBRICATED. MAXIMUM OUTPUT SPEED: 1RPM.  
STANDARD PAINT: FOR CORROSION CATEGORY C3-M - COLOR RAL 9005

# ACCESSORIES - PINION DRIVE



**TGB GROUP**  
 11 rue de Valenciennes, 55  
 www.tgbgroup.com

**TGB**

Reference: **TRP30-Z0**

Denomination: **Sales Drawing**

WEIGHT [kg]: 20.57

NUM. PIECES: 1

SCALE: 1:2

SIZE: A3

Rev: A

Range of sizes	Tolerance
>1200	$\pm 1,2$
>400.0 - 1200	$\pm 0,8$
>120.0 - 400.0	$\pm 0,5$
>30.0 - 120.0	$\pm 0,3$
>6.0 - 30.0	$\pm 0,2$
>3.0 - 6.0	$\pm 0,1$
>0,3 - 3.0	$\pm 0,1$

Unit: mm

INPUT: 25MM KEYED SHAFT

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**DETAIL A**  
**SCALE 1 : 1**

MAIN PERFORMANCE PARAMETERS			
GEAR RATIO	30 : 1	NOMINAL TORQUE	900NM
PINION CUSTOMER REQUIREMENTS		EFFICIENCY	40%

NOTES: ALL BLEW DRIVE ARE PRE-LUBRICATED.

# ACCESSORIES

## AC / DC / HYDRAULIC MOTORS



## WORM GEARBOXES



## BRAKE



TGBgroup is able to provide complete solutions for different applications by supplying the drives with customized motorization or with brake.

# INQUIRY FORM

Comercial	Date	Client			
Target slew ring	Ref.	E <input type="checkbox"/> I <input type="checkbox"/> SD <input type="checkbox"/>			
Target slew drive					
Working position	Horizontal <input type="checkbox"/>	Vertical <input type="checkbox"/>			
Output torque	Nominal		[kNm]		
	Maximum		[kNm]		
	Holding		[kNm]		
Output speed	Nominal (continous)		[rpm]		
	Maximum (intermittent)		[rpm]		
Combined nominal loads	Axial		[kN]		
	Radial		[kN]		
	Tilting moment		[kNm]		
Combined maximum loads	Axial		[kN]		
	Radial		[kN]		
	Tilting moment		[kNm]		
Desired lifetime [hours]					
Working conditions	Minimum temperature		[°C]		
	Maximum temperature		[°C]		
	Site / Location				
Load case 1	Load	[kN o kNm]	Time working or rotated degrees	Standby time between cycles	Number of cycles per hour
	Output torque				
	Axial				
	Radial				
	Tilting moment				
Load case 2 (if necessary)	Load	[kN o kNm]	Time working or rotated degrees	Standby time between cycles	Number of cycles per hour
	Output torque				
	Axial				
	Radial				
	Tilting moment				
Load case 3 (if necessary)	Load	[kN o kNm]	Time working or rotated degrees	Standby time between cycles	Number of cycles per hour
	Output torque				
	Axial				
	Radial				
	Tilting moment				
Motorization	AC <input type="checkbox"/> DC <input type="checkbox"/> Hydraulic <input type="checkbox"/> Comments:				
Pinion					
Limit dimensions	Width	Length	Height		
Comments					

*we* *move*

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*Your movement solutions*



## **TGBGROUP**

**(HEADQUARTERS)**

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