

The logo for TKD, consisting of the letters 'TKD' in a bold, blue, sans-serif font. A horizontal red line is positioned directly beneath the letters.A large, close-up photograph of a metal slewing bearing. The bearing has a circular outer ring with a series of teeth and a central hub. The metal is polished and reflects light. The background is white.

SLEWING BEARINGS, SLEW WORM GEAR AND LINEAR ACTUATOR TECHNOLOGY



// DATA SHEET FOR BEARING SELECTION

Application:	AXIS OF ROTATION: <input type="checkbox"/> HORIZONTAL <input type="checkbox"/> VERTICAL <input type="checkbox"/> MUTUAL	BEARING UNDER: <input type="checkbox"/> COMPRESSION <input type="checkbox"/> TENSION* BOLTS UNDER TENSION BY AXIAL LOADS
GEAR: <input type="checkbox"/> EXTERNAL <input type="checkbox"/> INTERNAL <input type="checkbox"/> WITHOUT	MOVEMENT <input type="checkbox"/> POSITIONING ONLY <input type="checkbox"/> INTERMITTENT ROTATION <input type="checkbox"/> CONTINUOUS ROTATION	NO. OF REVOLUTIONS (rpm): NORMAL: MAXIMUM:

// BEARINGS LOAD

MAGNITUDE AND DIRECTION OF LOADS AND THEIR DISTANCE (RELATED TO AXIS OF ROTATION)	MAX. WORKING LOAD	MAX. TEST LOAD E.G: 25% OVERLOAD CONDITIONS	EXTREME LOAD E.G. SHOCKS OR OUT OF OPERATION
AXIAL LOADS (KN)			
RADIAL LOADS(KN)			
TILTING MOMENT(KNm)			
DRIVEN TORQUE(KNm): normal _____ max _____ number of Pinion: _____			
REMARKS: (E.G. SPECIAL WORKING CONDITIONS/TEMPERATURES, REQUIRED ACCURANCIES, BEARING DIMENSIONS, INSPECTION-OR CERTIFICATION REQUIREMENTS, MATERIAL TESTS, ETC.)			

SPECIFIED LOAD CONDITIONS	AXIAL LOAD (KN)	RADIAL LOAD (KN)	TILTING MOMENT (KNm)	SPEED (rpm)	WORKING TIME (%)
1)					
2)					
3)					
4)					
5)					
...					

CONTINUOUS ROTATION

LIFE CYCLE: NORMAL RATATION SPEED AT _____ rpm, THE REQUIRED ROTATION HOURS SHOULD BE _____

INTERMITTENT ROTATION

REQUIERED LIFE CYCLE: THE ANGLE IS AT +/- _____ DEGREE, THE CYCLES SHOULD BE AT LEAST _____

// COMPANY PROFILE

TECNOMECA-KIDELAN, located in the Basque country of Spain, is a leading company in the field of international distribution of industrial sophisticated products. The company was founded in 2006 and is the result of a strategically merger of two companies, who decided to combine their strenghts:

Tecnomeca S.A.: For more than 30 years Tecnomeca SA with its experience and competence has been one of worldwide ´s leading suppliers of linear technology, precision bearings, machine tools components, slewing bearings, aluminium profiles/systems, precision balls and components for various industrial applications.

Kidelan S.L. Kidelan, S.L. was founded in 1996 and is a specialist in the field of mechanical transmission and components. All items can be offered as standard or after customers drawing and specifications.

The comprehensive product range, the individual service and the consistent quality of our products are the basis for a long-term and trusted relationship between our customers, employees and suppliers.

TECNOMECA-KIDELAN is primarily concerned with achieving the requirements and expectations of its customers. Our corporate goal is to provide our worldwide customers products and services of the highest quality and competitive market conditions.

Customer orientation, individual consultation and common conception are the basis for a successful implementation of our customers' wishes.

In the area of slew rings **TECNOMECA-KIDELAN** is specialized in bearings until 4.500 mm outer diameter. All our bearings can be supplied as follows:

- with external, internal or without gear
- single or double row of balls/rollers
- standard or customer drawing requirement

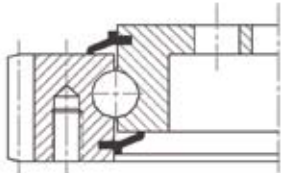
All service and areas of design and manufacturing are based on the international **DIN EN ISO 9001:2000**. The efficiency of our quality assurance is proven by stipulated periodical internal audits.



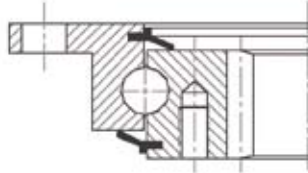
// SLEWING BEARINGS CODE

In order to understand our references, please pay attention to the following description.

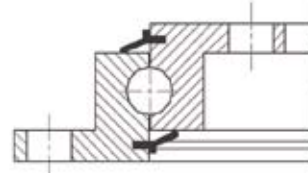
// LIGHT SERIE



161 external gear

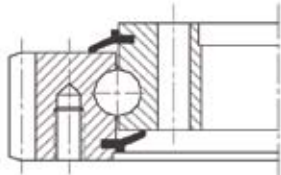


162 internal gear

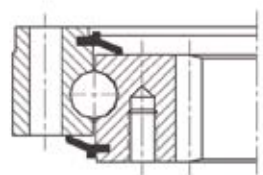


163 without gear

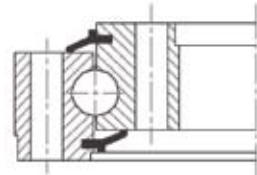
// LIGHT SERIES WITH SOLID RINGS



171 external gear



172 internal gear



173 without gear

161

- 1 single row
- 2 double row
- 3 triple row

- 1 four point contact bearings
- 8 rollers
- 6 light Serie
- 7 solid light serie
- 2 angular contact double row
- 4 ball-roller combination

- 1 external gear
- 2 internal gear
- 3 without gear
- 4 external helical
- 5 external worm gear
- 6 special

161

20

diameter
ball/roller

0505

diameter
external slew ring

3000

3000

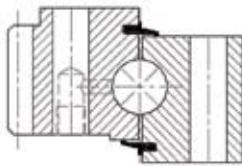
- 1 material C45k
- 2 material 42Cr Mo Q+T
- 3 material 50 Mn

- 0 unhardened teeth
- 1 hardened teeth by induction

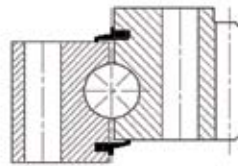
- 0 standard clearance
- 1 preload
- 2 superprecision

- 0 standard
- 1 corrected gear
- 2 not cataloged modul
- 3 others (specify)

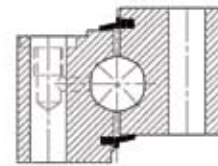
Our large product range of slewing bearings can be equipped with balls or/and rollers.
 Below you will find an overview concerning the most suitable slewing bearings.



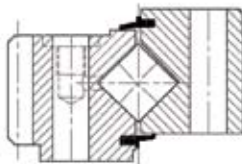
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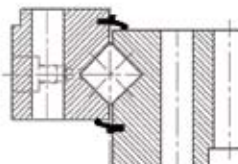
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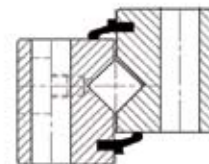
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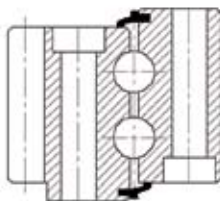
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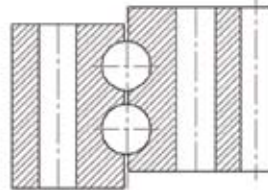
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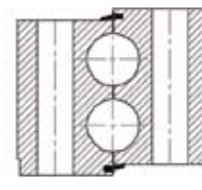
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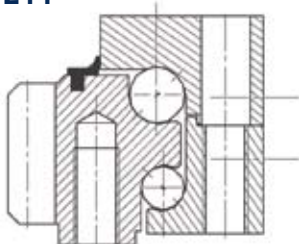
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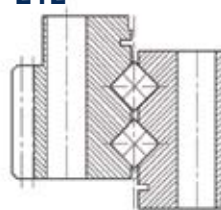
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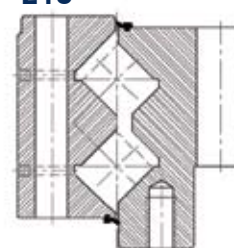
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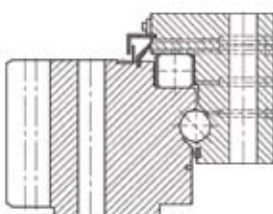
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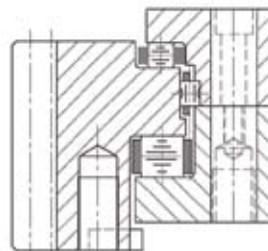
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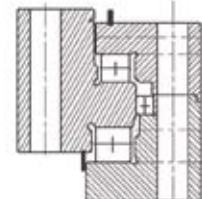
282



241



381

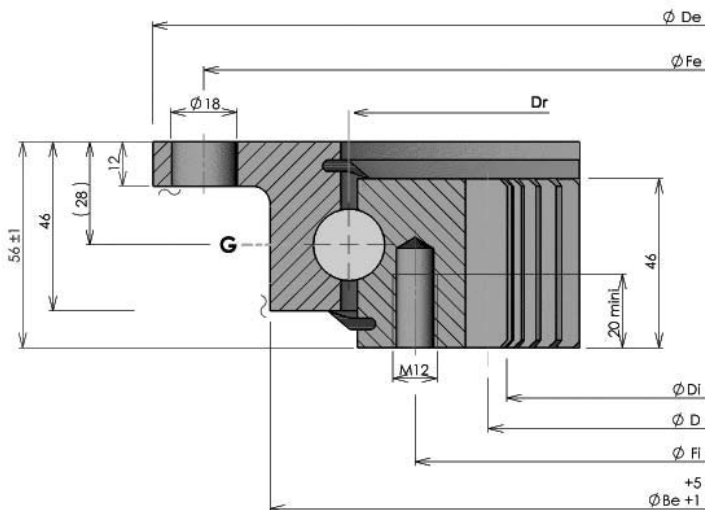


383

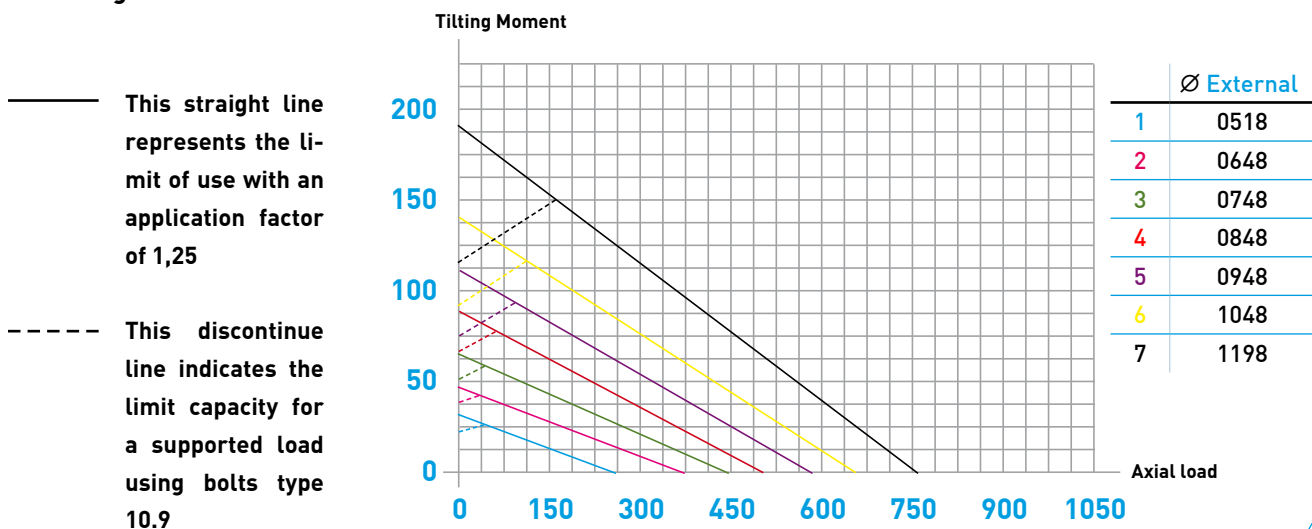
// SLEWING BEARINGS // LIGHT SERIES

// INTERNAL GEAR

Reference	Dr	Weight kg	Dimensions			Fixings				Gear		
			De	Di	Be	Fe	Ne	Fi	Ni	m	z	D
162 20 0518 3000	411	31	518	325	454	490	8	375	12	5	67	335
162 20 0648 3000	541	41	648	445	584	620	10	505	16	6	76	456
162 20 0748 3000	641	48	748	546	684	720	12	605	18	6	93	558
162 20 0848 3000	741	55	848	649	784	820	12	705	20	6	110	660
162 20 0948 3000	841	63	948	736	884	920	14	805	20	8	94	752
162 20 1048 3000	941	71	1048	840	984	1020	16	905	22	8	107	856
162 20 1198 3000	1091	80	1198	986	1134	1170	16	1055	24	8	125	1000



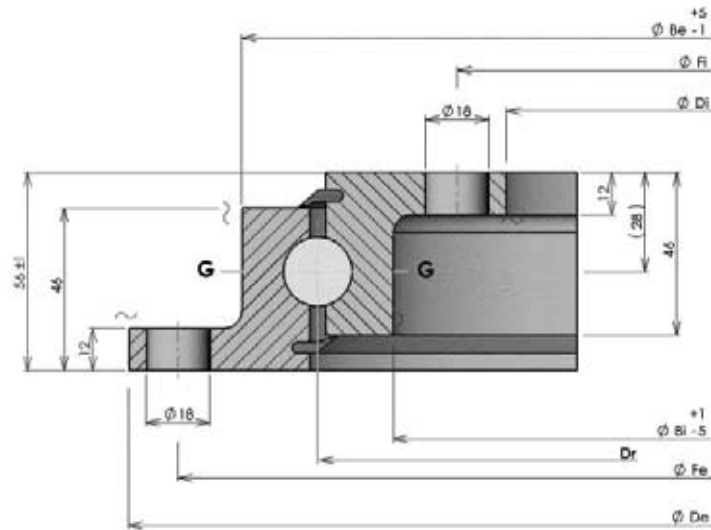
Load Diagram Series 16TKD



// SLEWING BEARINGS // LIGHT SERIES

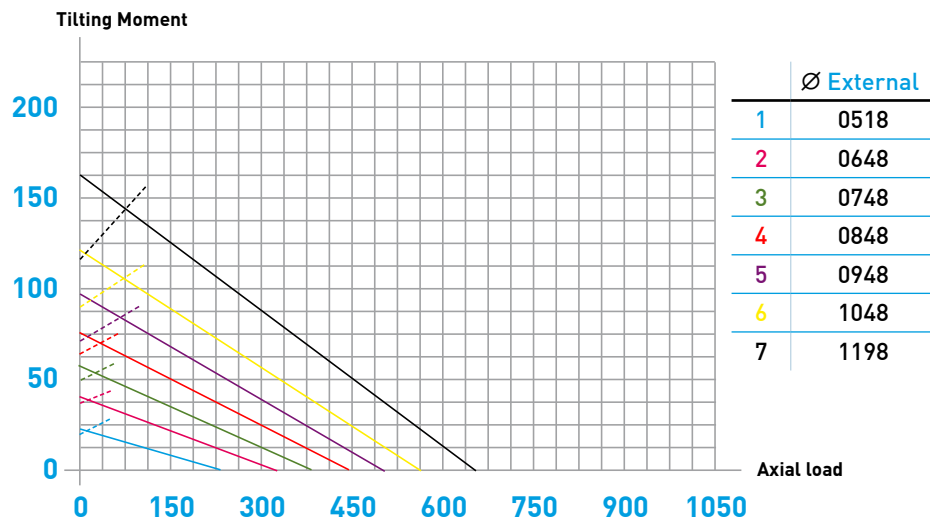
// WITHOUT GEAR

Reference	Dr	Weight kg	Dimensions				Fixings			
			De	Di	Be	Bl	Fe	Ne	Fi	Ni
163 20 0518 3000	411	23	518	304	454	368	490	8	332	12
163 20 0648 3000	541	34	648	434	584	498	620	10	462	14
163 20 0748 3000	641	40	748	534	684	598	720	12	562	16
163 20 0848 3000	741	46	848	634	784	698	820	12	662	16
163 20 0948 3000	841	52	948	734	884	798	920	14	762	18
163 20 1048 3000	941	58	1048	834	984	898	1020	16	862	20
163 20 1198 3000	1091	67	1198	984	1134	1048	1170	16	1012	20



Load Diagram Series 16TKD

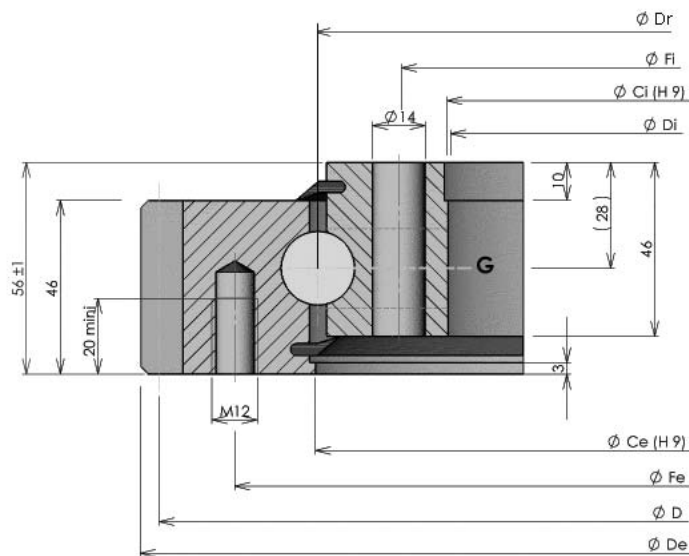
- This straight line represents the limit of use with an application factor of 1,25
- - - This discontinue line indicates the limit capacity for a supported load using bolts type 10.9



// SLEWING BEARINGS // LIGHT SERIES

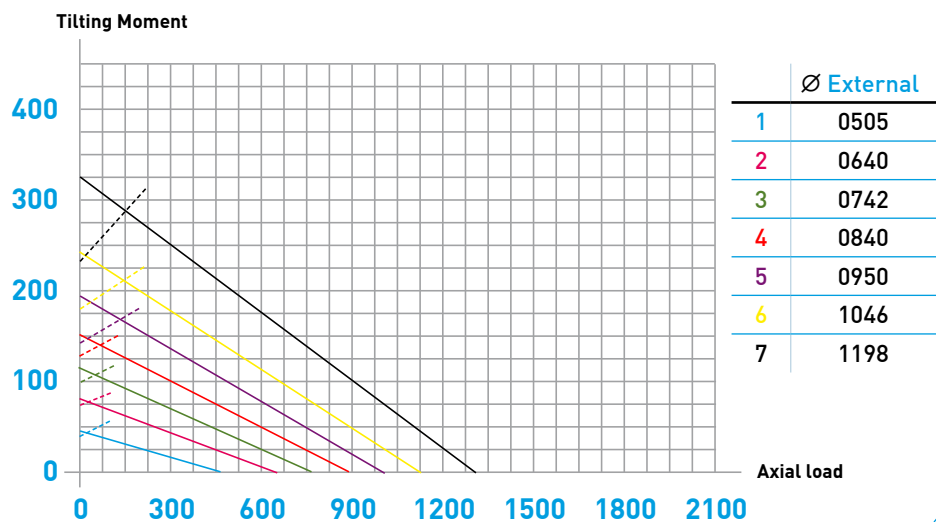
// SOLID RING EXTERNAL GEAR

Reference	Dr	Weight kg	Dimensions				Fixings				Gear		
			De	Di	Ce	Ci	Fe	Ne	Fi	Ni	m	z	D
171 20 0505 3000	411	32	505	342	412,2	344	455	20	368	24	5	99	495
171 20 0640 3000	541	46	640	472	542,5	474	585	28	498	32	6	105	630
171 20 0742 3000	641	55	742	572	642	574	685	32	598	36	6	122	732
171 20 0840 3000	741	62	840	672	743	674	785	36	698	40	6	138	828
171 20 0950 3000	841	71	950	772	842	774	885	36	798	40	8	117	936
171 20 1046 3000	941	78	1046	872	943	874	985	40	898	44	8	129	1032
171 20 1198 3000	1091	91	1198	1022	1094	1024	1135	44	1048	48	8	148	1184



Load Diagram Series 17TKD

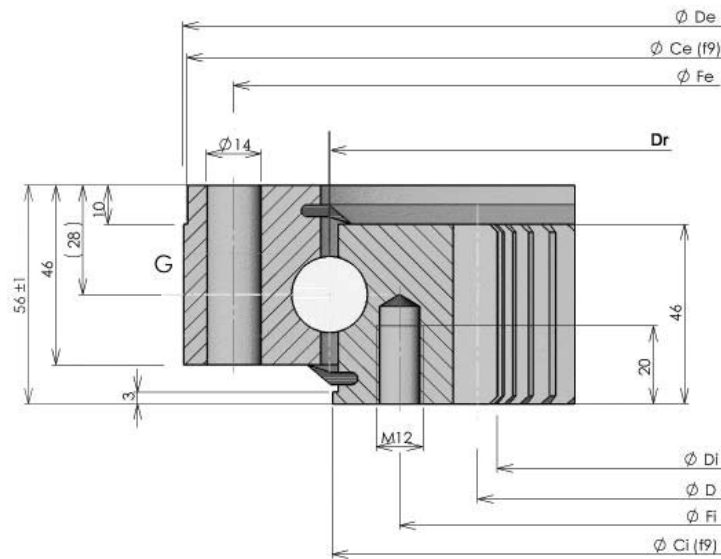
- This straight line represents the limit of use with an application factor of 1,25
- - - This discontinue line indicates the limit capacity for a supported load using bolts type 10.9



// SLEWING BEARINGS // LIGHT SERIES

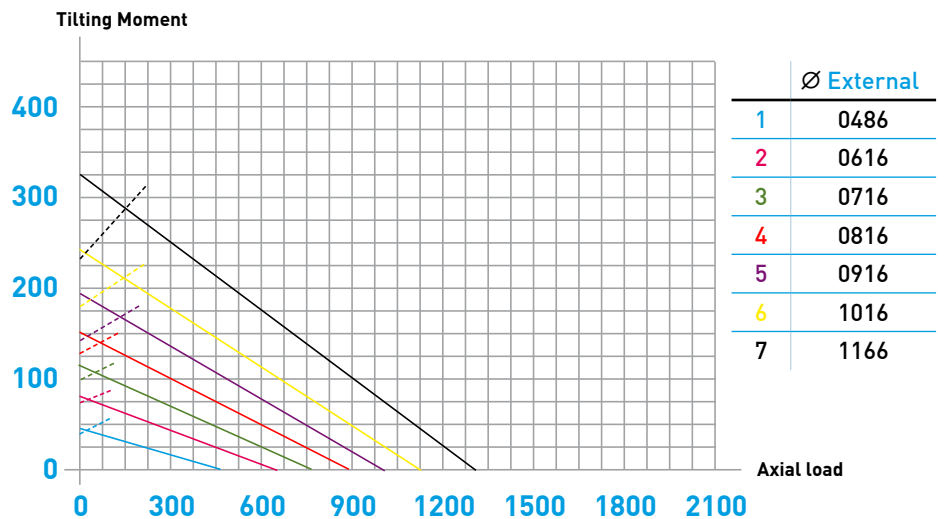
// SOLID RING INTERNAL GEAR

Reference	Dr	Weight kg	Dimensions				Fixings				Gear		
			De	Di	Ce	Ci	Fe	Ne	Fi	Ni	m	z	D
172 20 0486 3000	411	31	486	325	484	409,5	460	24	375	24	5	67	335
172 20 0616 3000	541	43	616	445	614	539,5	590	32	505	32	6	76	456
172 20 0716 3000	641	51	716	546	714	639	690	36	605	36	6	93	558
172 20 0816 3000	741	58	816	649	814	739,7	790	40	705	40	6	110	660
172 20 0916 3000	841	70	916	736	914	840	890	40	805	40	8	94	752
172 20 1016 3000	941	76	1016	840	1014	939	990	44	905	44	8	109	856
172 20 1166 3000	1091	92	1166	986	1164	1089	1140	48	1055	48	8	125	1000



Load Diagram Series 17TKD

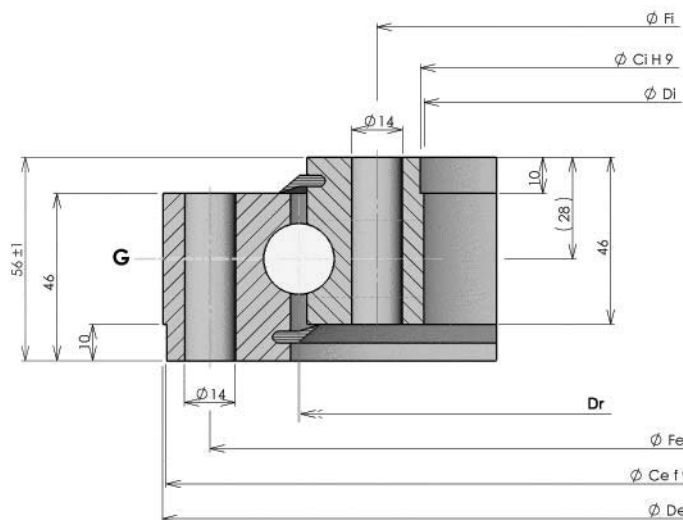
- This straight line represents the limit of use with an application factor of 1,25
- - - This discontinue line indicates the limit capacity for a supported load using bolts type 10.9



// SLEWING BEARINGS // LIGHT SERIES

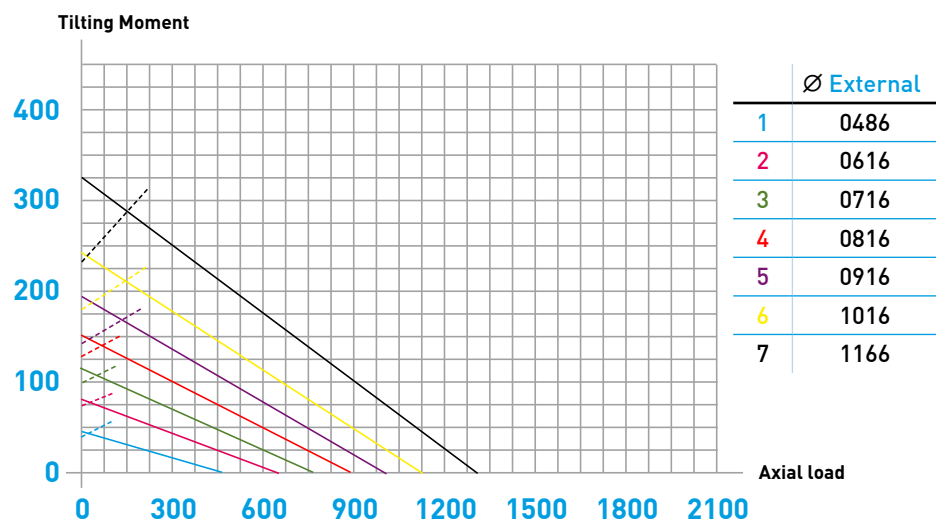
// SOLID RING WITHOUT GEAR

Reference	Dr	Weight	Dimensions				Fixings			
			kg	De	Di	Ce	Ci	Fe	Ne	Fi
173 20 0486 3000	411	29	486	342	484	344	460	24	368	24
173 20 0616 3000	541	38	616	472	614	474	590	32	498	32
173 20 0716 3000	641	45	716	572	714	574	690	36	598	36
173 20 0816 3000	741	52	816	672	814	674	790	40	698	40
173 20 0916 3000	841	60	916	772	914	774	890	40	798	40
173 20 1016 3000	941	67	1016	872	1014	874	990	44	898	44
173 20 1166 3000	1091	78	1166	1022	1164	1024	1140	48	1048	48



Load Diagram Series 17TKD

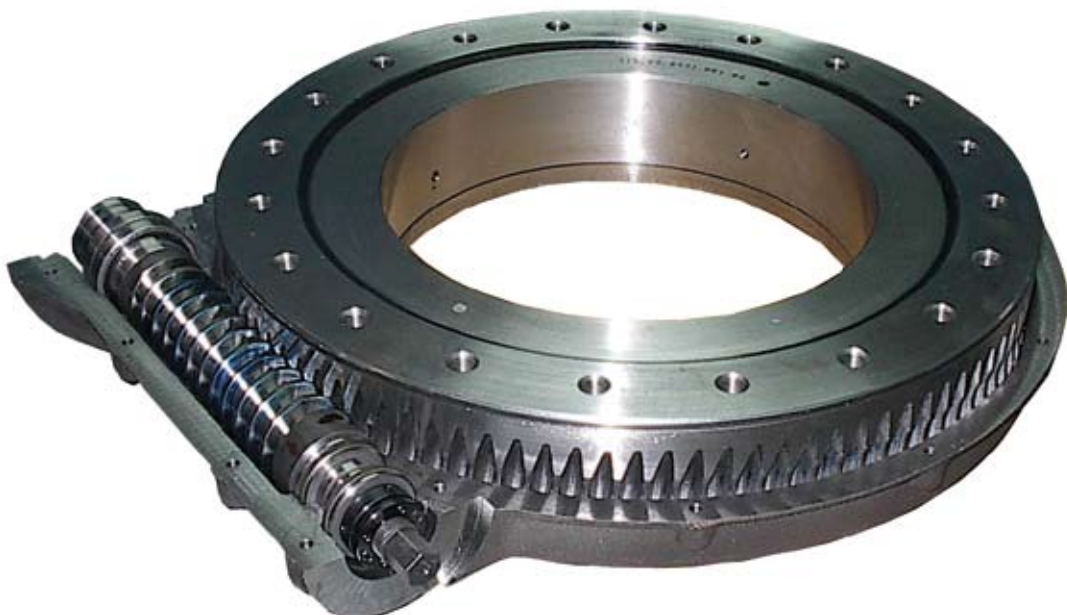
- This straight line represents the limit of use with an application factor of 1,25
- - - This discontinue line indicates the limit capacity for a supported load using bolts type 10.9



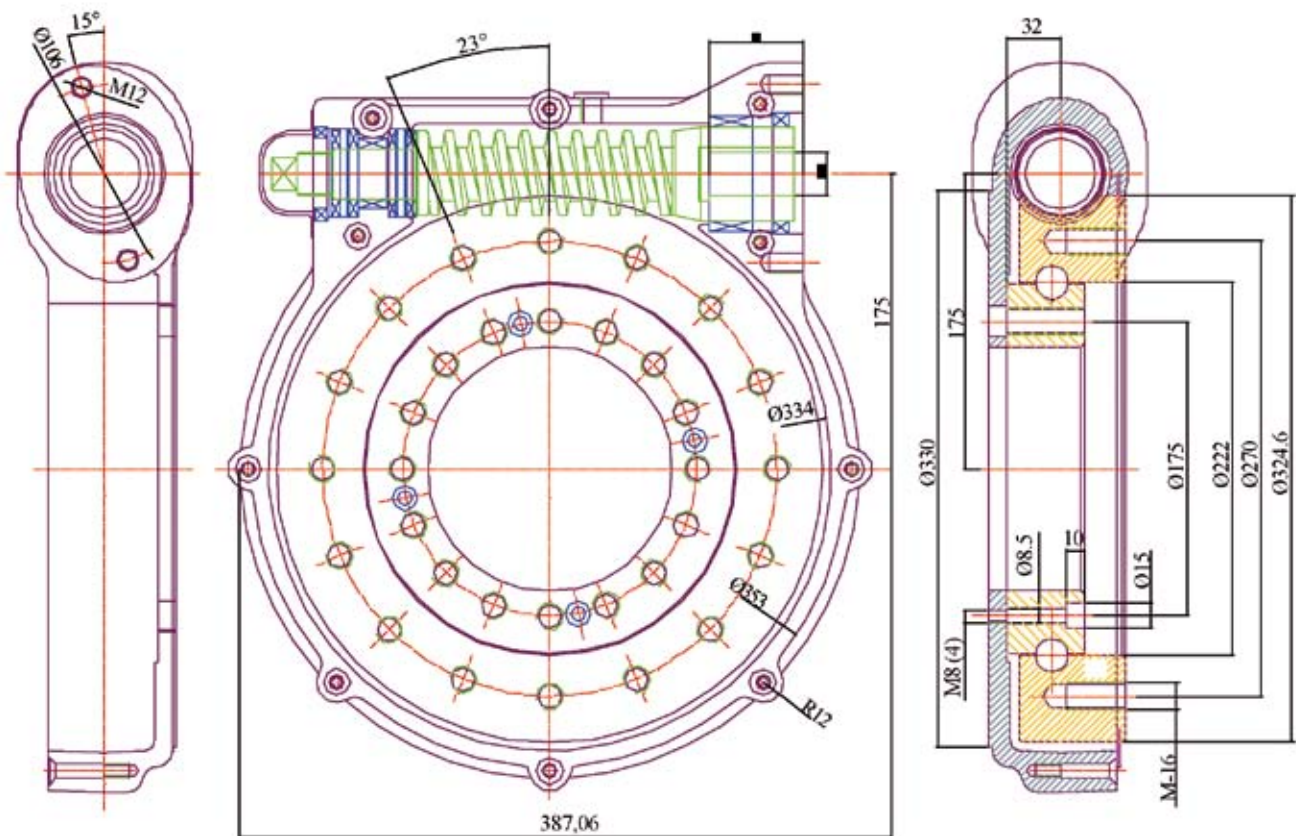
// SLEW DRIVES // WORM GEAR SHAFT

- Compact and sealed units
- Maximum load capacity and compact design
- Single or double row of balls
- Hardened and ground worm gear
- High torque and elevated ratio
- Extended life/reduced maintenance cost
- Economical solution and easy assembling

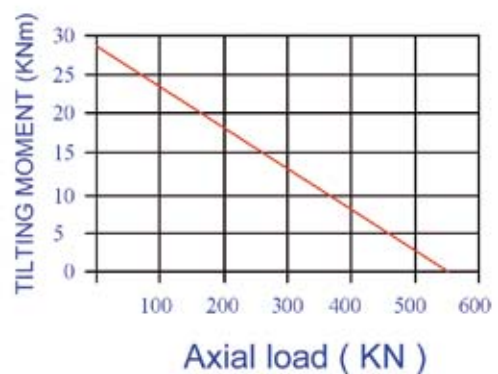
Tecnomeca-Kidelan supplies as an option the electronic components of the slew drive.



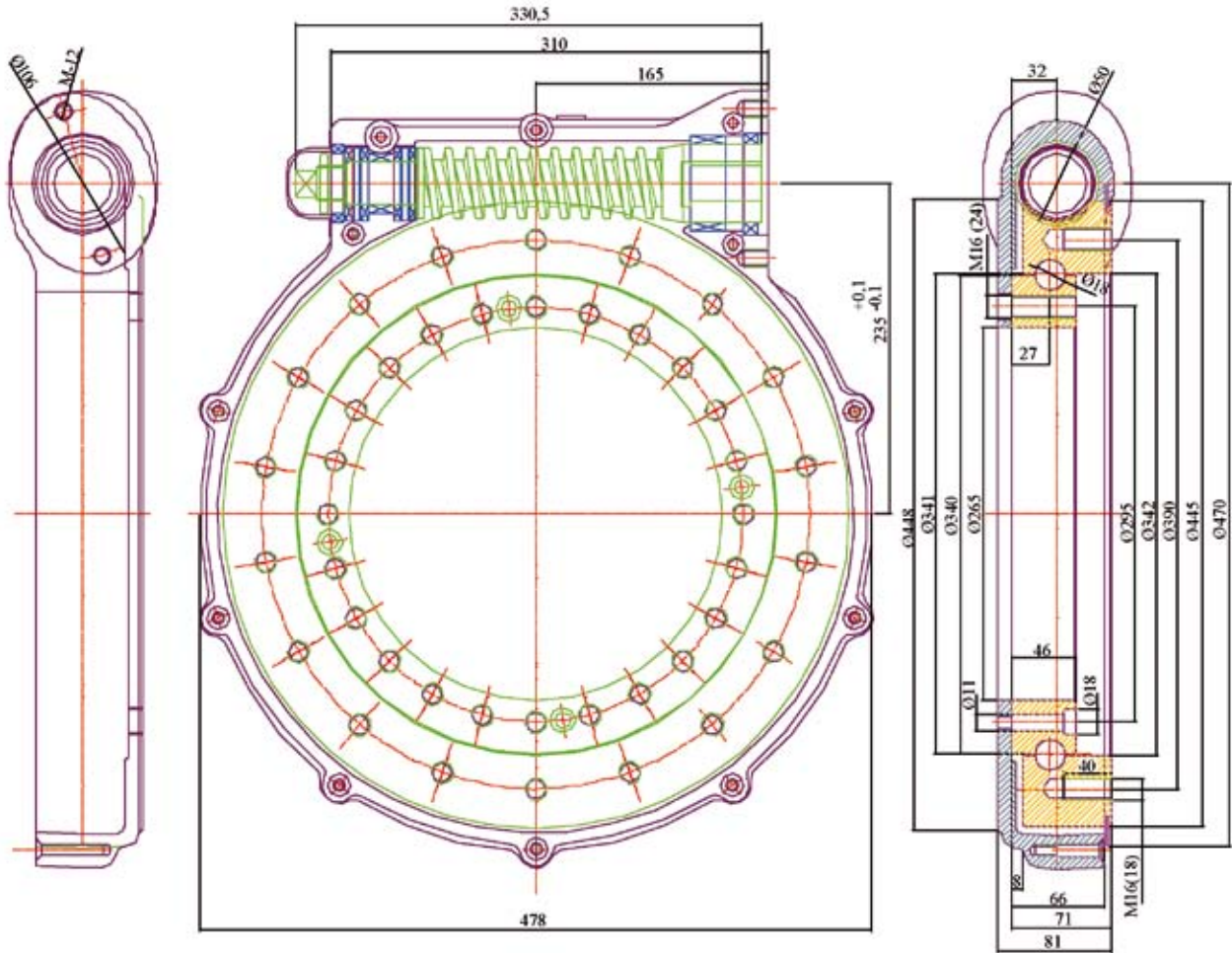
// SLEW DRIVES // WORM GEAR SHAFTS // TKGI 223-1



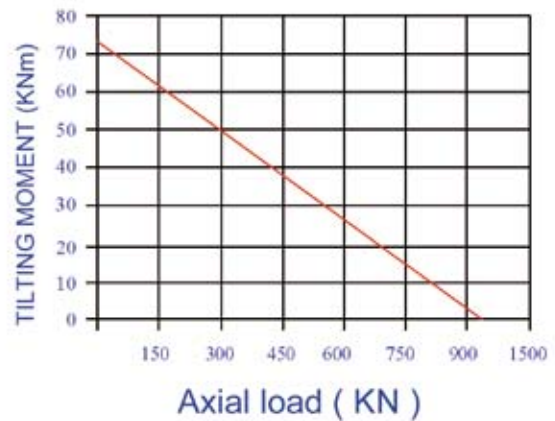
TECHNICAL FEATURES	
Modul	
No. of entrances of worm shaft	
Ratio	
Static load capacity	RADIAL CO rad AXIAL CO ax
Dynamic load capacity	RADIAL Crad AXIAL Cax
Maximum torque	Md max.
Maximum torque	Md nom.



// SLEW DRIVES // WORM GEAR SHAFTS // TKGI 343-1



TECHNICAL FEATURES		
Modul		5
No. of entrances of worm shaft		1
Ratio		86
Static load capacity	RADIAL CO rad	340 KN
	AXIAL CO ax	900 KN
Dynamic load capacity	RADIAL Crad	160 KN
	AXIAL Cax	180 KN
Maximum torque	Md max.	12900 N.m
Maximum torque	Md nom.	10100 N.m



// MECHANICAL LINEAR ACTUATOR TECHNOLOGY



Tecnomeca-Kidelan develops his linear actuator on basis of his more than 30 years of experience in the field of linear technology. We offer a competent customer advisory service, short delivery times and comprehensive customer support. This complete service explains our high number of satisfied regular customers. In our development department, custom-made products are developed to fulfill the most individual of requirements to state-of-the-art technological standards. By means of our modern mechanical equipment, we can quickly and efficiently turn ideas into products. This efficiency keeps machining time to a minimum - for the benefit of our customers. Our linear actuators can be assembled in a wide range of applications, i.e. solar photovoltaic systems, facade construction and industrial use.

// ELECTROMECHANICAL LINEAR ACTUATORS TKD // GENERAL FACTS

- Our product range includes four models with a maximum dynamic capacity of 100 KN:

TKD 25 = 25 KN **TKD 75 = 75 KN**
TKD 50 = 50 KN **TKD 100 = 100 KN**

- Stroke speed from 0,5 m/min up to 10 m/min.
 - Stroke length:

TKD 25 : 100/200/300/400/500 mm **TKD 75 :** 250/500/750/1000/1250 mm
TKD 50 : 200/400/600/800/1000 mm **TKD 100:** 300/600/900/1200/1500 mm

- Electronic synchronization.
- Ball screws or trapezoidal thread.
- Easy assembly in any position : horizontal, vertical or inclined.
- Constant push strength.
- Precise positioning.
- Very high reliability.
- Modular system, flexible integration into existing and new systems.
- Integrated overload protection
- Drive through :

Geared motor worm shaft
Planetary gearboxes
Pulleys and belts

// SELECTION TABLE

	Trapezoidal screw				Ball screw			
Model	TKD 25-TR	TKD 50-TR	TKD 75-TR	TKD 100-TR	TKD 25-BL	TKD 50-BL	TKD 75-BL	TKD 100-BL
Strength (KN)	25	50	75	100	25	50	75	100
Screw	TR 30x6	TR 50x8	TR 70x12	TR 80x14	BL 32x10	BL 40x10	BL 50x10	BL 63x10
Static load (KN)	98	173	250	300	99	170	250	300
Dynamic load (KN)	46,5	88	105	137	44	79	123	163
Stroke x rpm	6	8	12	14	10	10	10	10
Efficiency %	33,9	31,3	30,6	30,4	75	75	75	75

// OPERATION DATA SHEAT

Our data sheet are based on dynamic load capacities and with a factor of 20% of cycles/hour.

It is not recommended to apply the linear actuators which are in the shady boxes of the table because in this case they would reduce considerably the life cycle of the linear actuator.

Requirements for TKD 25-BL : Ball screw 32 pitch 10

Speed (rpm)	Stroke length (m/min)	25 KN		20 KN		15 KN		10 KN		5 KN	
		Nm	KW	Nm	KW	Nm	KW	Nm	KW	Nm	KW
700	7	53	3,9	42	3,1	32	2,3	21	1,6	11	0,8
500	5	53	2,8	42	2,2	32	1,7	21	1,1	11	0,6
300	3	53	1,7	42	1,3	32	1,0	21	0,7	11	0,3
100	1	53	0,6	42	0,4	32	0,3	21	0,2	11	0,1
50	0,5	53	0,3	42	0,2	32	0,2	21	0,1	19	0,1

Requirements for TKD 50-BL : Ball screw 40 pitch 10

Speed (rpm)	Stroke length (m/min)	50 KN		40 KN		30KN		25 KN		20 KN		10 KN	
		Nm	KW	Nm	KW	Nm	KW	Nm	KW	Nm	KW	Nm	KW
450	4,5	106	5,0	85	4,0	64	3,0	53	2,5	42	2,0	21	1,0
350	3,5	106	3,9	85	3,1	64	2,3	53	1,9	42	1,6	21	0,8
200	2	106	2,2	85	1,8	64	1,3	53	1,1	42	0,9	21	0,4
100	1	106	1,1	85	0,9	64	0,7	53	0,6	42	0,4	21	0,2
50	0,5	106	0,6	85	0,4	64	0,3	53	0,3	42	0,2	21	0,1

Requirements for TKD 75-BL : Ball screw 50 pitch 10

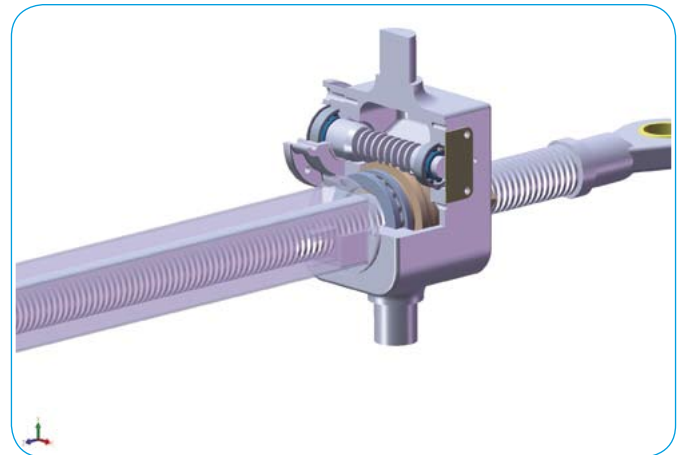
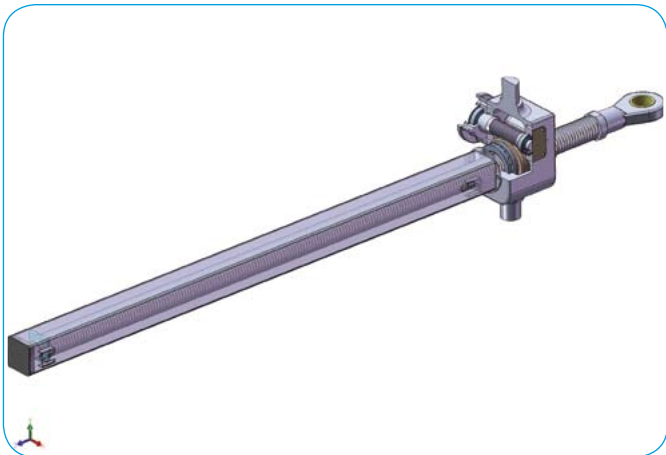
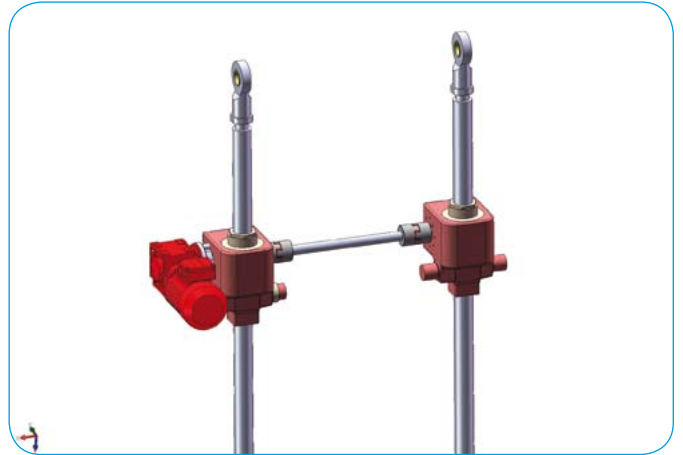
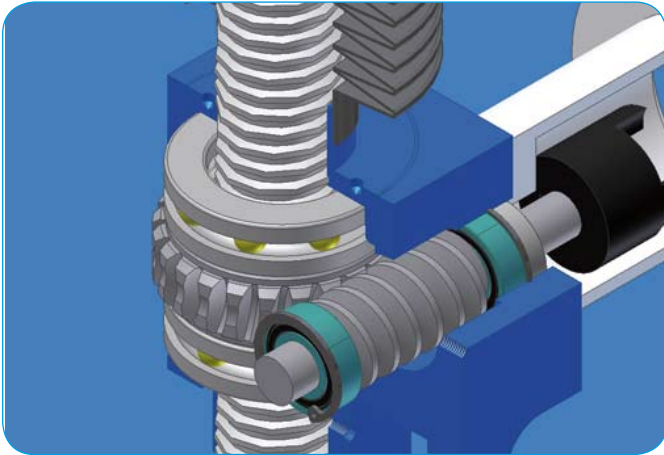
Speed (rpm)	Stroke length (m/min)	75 KN		60 KN		45 KN		35 KN		20 KN		10 KN	
		Nm	KW	Nm	KW	Nm	KW	Nm	KW	Nm	KW	Nm	KW
350	3,5	136	5,0	109	4,0	82	3,0	64	2,3	42	1,5	21	0,75
275	2,75	136	3,9	109	3,0	82	2,4	64	1,8	42	1,2	21	0,6
180	1,8	136	2,6	109	2,1	82	1,6	64	1,2	42	0,8	21	0,4
90	0,9	136	1,3	109	1,1	82	0,8	64	0,6	42	0,4	21	0,2
45	0,45	136	0,65	109	0,50	82	0,4	64	0,3	42	0,2	21	0,1

Requirements for TKD 100-BL : Ball screw 63 pitch 10

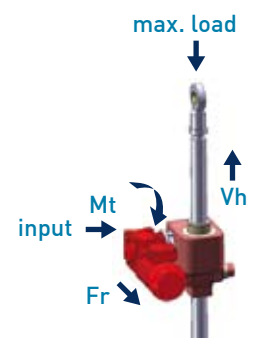
Speed (rpm)	Stroke length (m/min)	100 KN		80 KN		60 KN		50 KN		40 KN		20 KN		10 KN	
		Nm	KW	Nm	KW	Nm	KW	Nm	KW	Nm	KW	Nm	KW	Nm	KW
225	2,25	212	5,0	170	4,0	127	3,0	106	2,5	85	2,0	42	1,0	21	0,5
200	2	212	4,4	170	3,6	127	2,7	106	2,2	85	1,8	42	0,9	21	0,4
160	1,6	212	3,6	170	2,8	127	2,1	106	1,8	85	1,4	42	0,7	21	0,4
80	0,8	212	1,8	170	1,4	127	1,1	106	0,9	85	0,7	42	0,4	21	0,2
40	0,4	212	0,9	170	0,7	127	0,5	106	0,4	85	0,4	42	0,2	24	0,1

// LINEAR ACTUATOR TECHNOLOGY

// MECHANICAL LINEAR ACTUATOR // LINEAR JACK SCREW



Dimensions	Ratio	VH (mm/1')	NT (Tr/min)	Load Mx. daN	Pn Kw	Mt daNm	Fr daN
TKGI 184	1:4÷1:16	1500÷375	1500	500	0.3÷0.19	0.12	10
TKGI 204	1:4÷1:16	1500÷375	1500	1000	0.5÷0.35	0.21	20
TKGI 306	1:30	300	1500	2500	0.68	0.44	45
TKGI 407	1:30	350	1500	5000	1.69	1.10	60
TKGI 609	1:30	450	1500	10000	4.30	2.80	60
TKGI 7010	1:30	500	1500	20000	11.70	7.60	90
TKGI 8010	1:30	500	1500	25000	14.50	9.40	90



- ∞ NT = r.p.m. in the entrance.
 - ∞ MT = torsion moment.
 - ∞ VH = stroke mm/1'.
- Trapezoidal thread screws or ball screws.
Possibility of tandem assembly.

- ∞ maximum load applicable.
 - ∞ Pn= necessary power for the maximum load.
 - ∞ Fr= maximum radial load over the entrance axis.
- Interchangeable flanges adaptable to each engine.
Modular assembly.

// APPLICATIONS

Our products are used in sectors as:

- Vehicle and crane systems
- Rotation of attachments such as excavators, grabs and fork lifts
- Wind energy
- Solar tracking systems
- Water treatment
- Transport systems
- Light crane systems
- Etc.

// SOLAR SECTOR // Tracking Systems

The rotation of the solar panels is an effective solution to improve your performance. **Tecnomeca-Kidelan** provides slewing bearings, worm gear shafts and linear actuators to worldwide leading companies.



// WIND ENERGY

We produce slewing bearings which achieve the strictest requirements, such as tightness, lifecycle and rigidity.



// CONSTRUCTION // Cranes

The range of **TKD** slewing bearings is perfectly suitable for the different structures of crane market. The precision of our products offer you a perfect performance, even after several assemblies.



// TOOL MACHINE AND ROBOTIC

These are the **TKD** slew rings precision applications. We manufacture grounded and preload slew rings suitable for the highest requirements.

// WATER TREATMENT

The use of the **TKD** slew rings in the sector is a simple and effective solution to reduce the structure and assembling times as well as to increase the plant capacity. We supply slew rings with induction hardened, teeth, increasing its capacity and reducing the breakage risk.

// TRANSPORT

They are used for bogie rotation and the railway wagon orientation. It is applied in the trains, trucks, buses, etc.

The slewing bearings are used in the most diverse sectors, being thousands their applications.

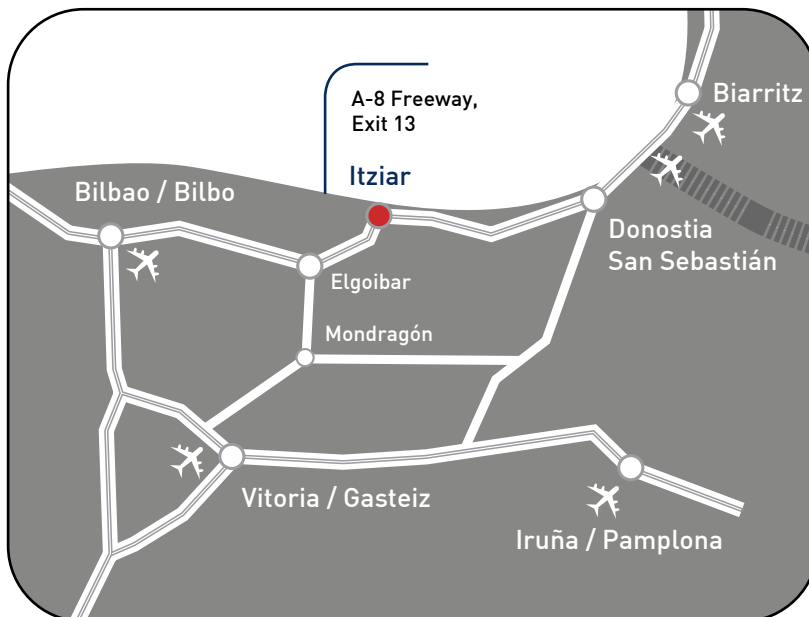
Our technical department is always at your disposal in order to advise you the most suitable slewing bearing for your application.

We reserve the right to modify without previous advice, the whole or a part of the products and specifications mentioned in this catalogue.

Any mistake or omission that could be found in the catalogue, although the meticulous care used in this realization, do not compromise the responsibility of TECNOMECA-KIDELAN.







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