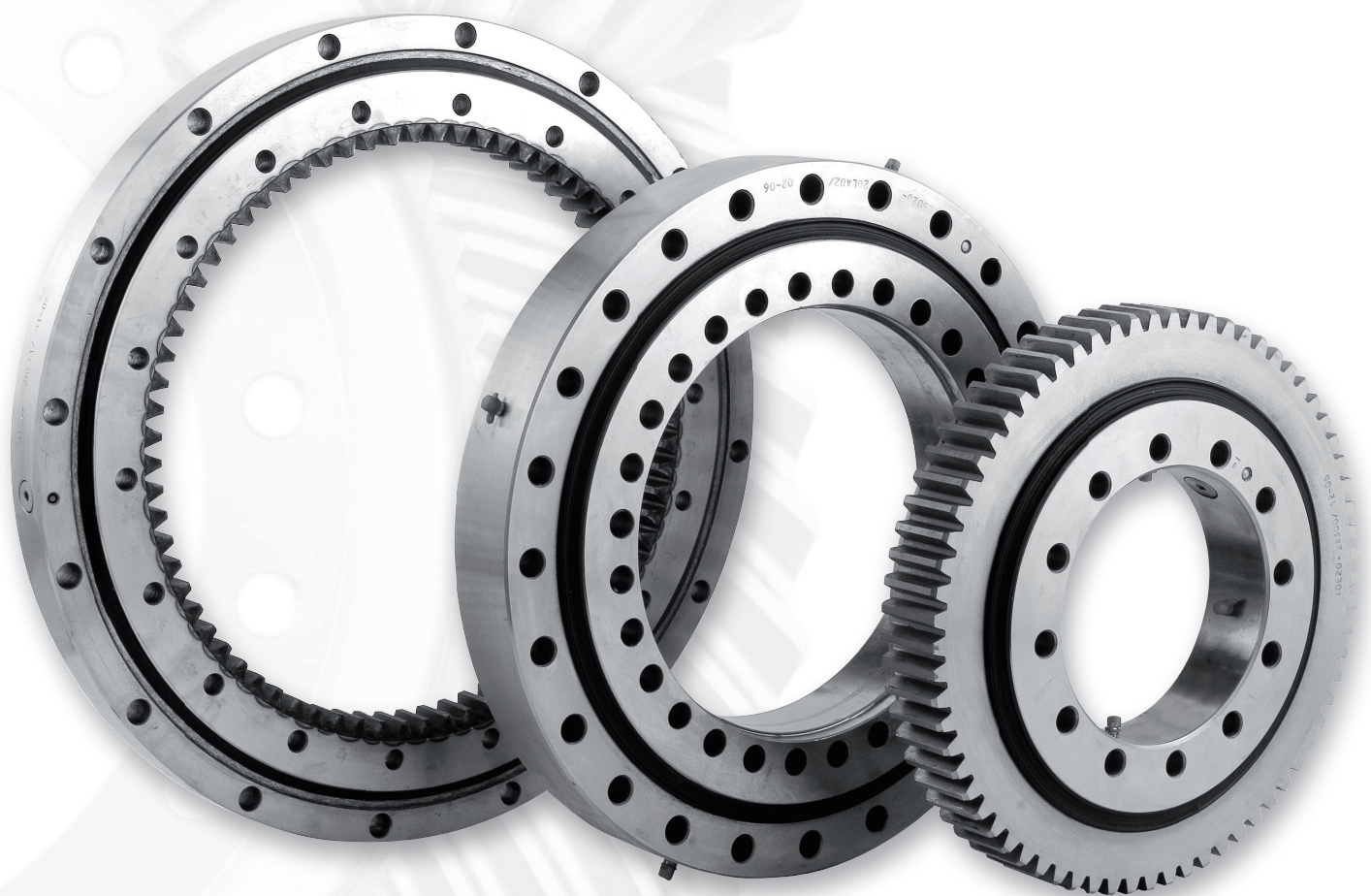


EURONORM

DRIVE SYSTEMS



DRAAIKRANSLAGERS

Introductie

Euronorm

Als internationaal opererende toeleveringspartner voorziet Euronorm de markt van aandrijfcomponenten, -systemen en -oplossingen. Euronorm onderscheidt zich door een breed productenpakket aan te bieden op het gebied van mechanische en elektrische aandrijftechniek dat gemakkelijk uitwisselbaar, kwalitatief hoogwaardig en concurrerend geprijsd is.

Direct contact, goed advies en afspraak is afspraak zijn belangrijk speerpunten van Euronorm. Door haar compacte organisatie is zij in staat haar relaties de aandacht te geven die zij nodig hebben en om in hun (lever)wensen te voorzien. Verder kunnen relaties rekenen op hoogwaardig technisch advies, professioneel testen van prototypes, uitgebreide documentatie en 3D tekeningen.

Euronorm is een betrouwbare toeleveringspartner en heeft veel reductoren, motoren en componenten op voorraad. De meeste aandrijvingen worden in haar assemblagecentrum samengesteld. Hierdoor kan zij een zeer uitgebreid assortiment (klantspecifieke) aandrijvingen met snelle levertijden aanbieden. Verder kan Euronorm in haar werkplaatsen aanpassingen doen zoals het spuiten in alle gewenste kleuren en coatingsystemen, het verlengen aanpassen van assen en het assembleren van samenstellingen.

De Euronorm draaikranslagers staan bekend om hun kwaliteit en lange levensduur. Het leveringsprogramma bestaat uit een uitgebreide serie industriële lagers en een serie lichte lagers.

De lagers zijn in veel uitvoeringen leverbaar, waaronder;

- Met binnen- of buitenvertanding
- Zonder vertanding
- Enkelrijig en dubbelrijig

De draaikranslagers worden onder meer toegepast in:

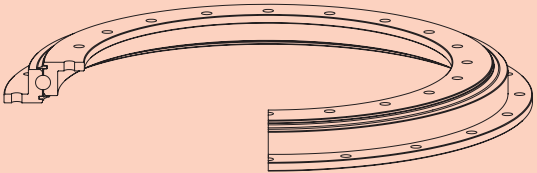
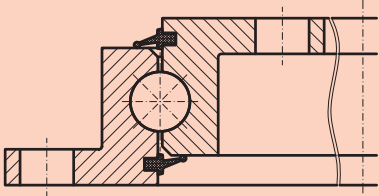
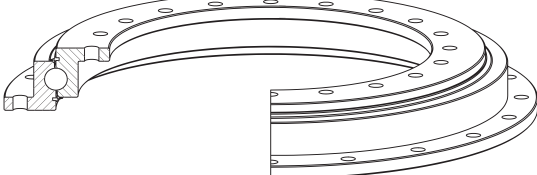
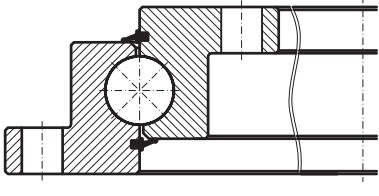
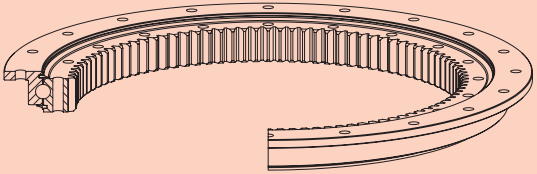
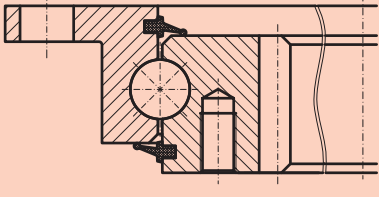
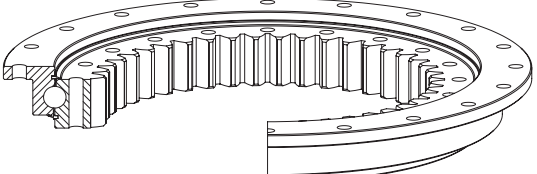
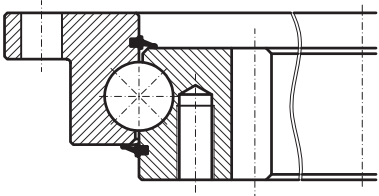
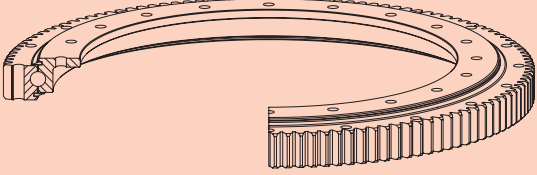
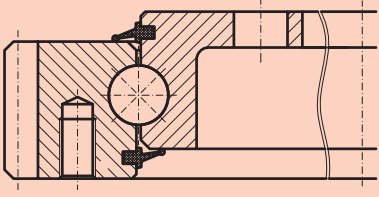
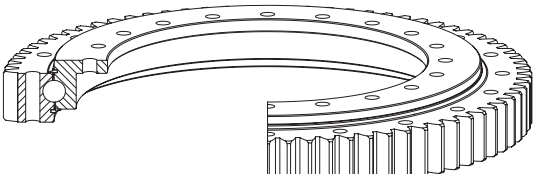
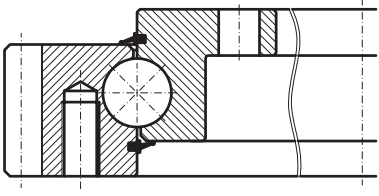
- Radar en antennesystemen
- Mobiele, scheep- en havenkranen
- Waterbehandeling systemen
- Industriële draaitafels
- Lasmanipulatoren
- Telescopen
- Windmolens
- Solarsystemen
- Graafmachines
- Stapelaars
- Kantelsystemen
- Zwenksystemen
- Buigmachines
- Stuursystemen
- Simulators
- Kermisattracties

Modellenoverzicht

3

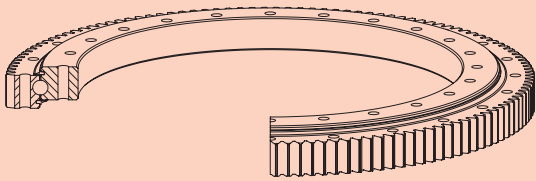
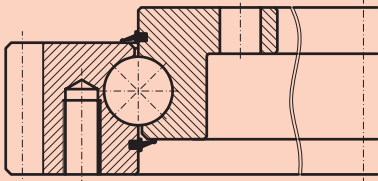
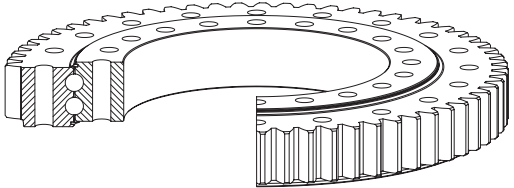
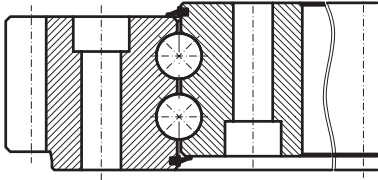
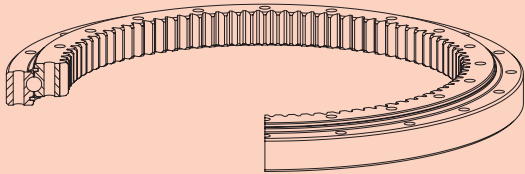
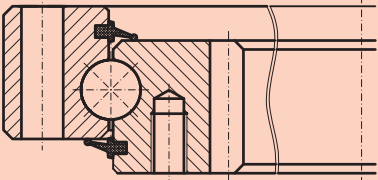
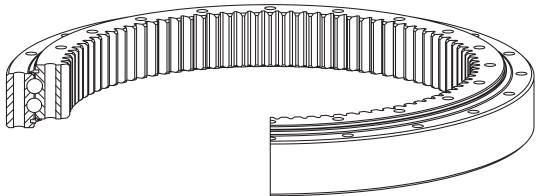
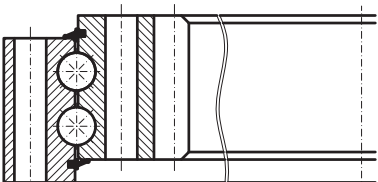
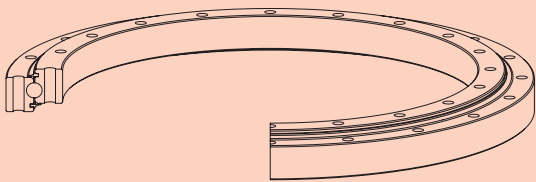
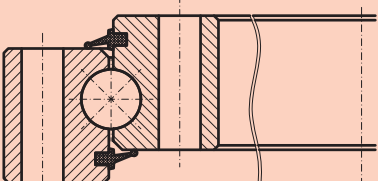
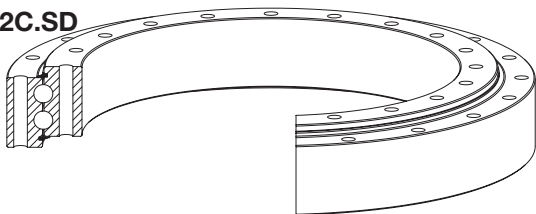
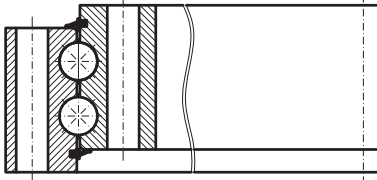
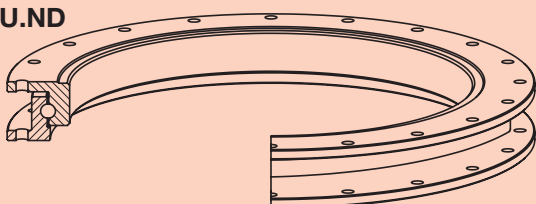
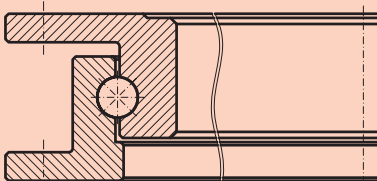
Algemene informatie

6

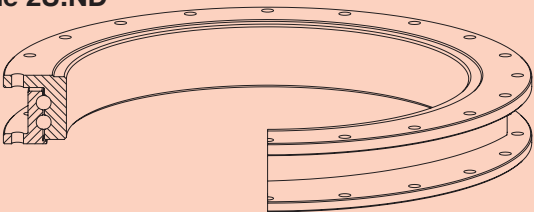
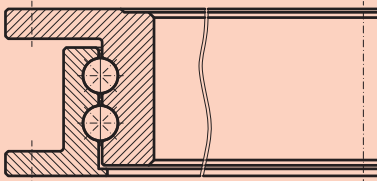
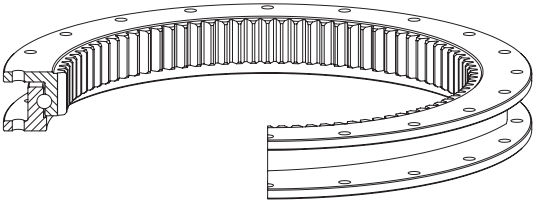
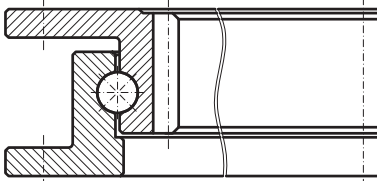
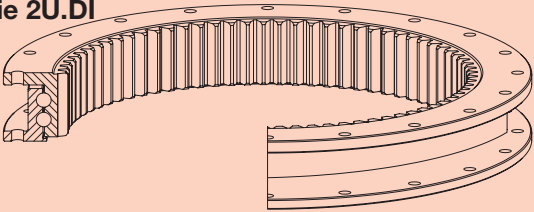
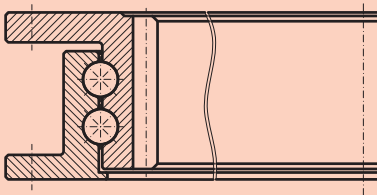
Draaikranslagers		Diameter	pag.
<p>Serie C.ZT</p> 		<p>418 ÷ 1198</p>	<p>17</p>
<p>Serie C.ZP</p> 		<p>1100 ÷ 1600</p>	<p>21</p>
<p>Serie C.DI</p> 		<p>518 ÷ 1198</p>	<p>25</p>
<p>Serie C.PI</p> 		<p>1100 ÷ 1600</p>	<p>29</p>
<p>Serie C.DE</p> 		<p>503 ÷ 1198</p>	<p>33</p>
<p>Serie C.PE</p> 		<p>1098 ÷ 1600</p>	<p>37</p>


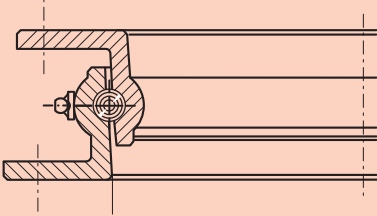

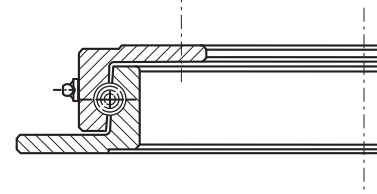

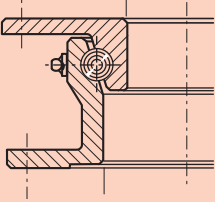
NEURN020000_001

Inhoudsopgave

Draaikranslagers		Diameter	pag.
<p>Serie I.DE</p> 		244 ÷ 1432	41
<p>Serie 2I.DE</p> 		420 ÷ 1476	53
<p>Serie I.DI</p> 		320 ÷ 1455	61
<p>Serie 2I.DI</p> 		360 ÷ 1530	77
<p>Serie C.SD</p> 		300 ÷ 1130	81
<p>Serie 2C.SD</p> 		504 ÷ 979	93
<p>Serie U.ND</p> 		500 ÷ 1095	95

Inhoudsopgave

Draaikranslagers		Diameter	pag.
Serie 2U.ND 		800 ÷ 1000	99
Serie U.DI 		500 ÷ 1085	101
Serie 2U.DI 		800 ÷ 1000	105

Lichte uitvoering draaikranslagers		Diameter	pag.
Serie L - M - P 		300 ÷ 1100	109
Serie ZN - ZD 		400 ÷ 1100	111
Serie I90 		1000 ÷ 1200	112

Algemene informatie

Introductie

De fabricage van de RIMA draaikranslagers wordt volgens de ISO9001:2000 standaard uitgevoerd en deze norm is ook van toepassing op de informatie in deze catalogus. De wijze van productie van draaikranslagers is niet gestandaardiseerd omdat deze onder meer bepaald worden door de toepassing, belastingen en de geometrische constructie. De draaikranslagers vermeld in deze catalogus worden vervaardigd uit staal C45N.

Specifieke bedrijfsomstandigheden zijn;

- Hoge axiale belasting
- Kipmomenten
- Radiale belasting
- Langzame en onregelmatige rotatie
- Horizontale werkpositie

Materialen

Samenstelling van de ring:

C45 (genormaliseerd, verbeterd staal)

Overzicht van Italiaanse, Europese en niet Europese normeringen

UNI 7845/78 7874/79	Euronorm 83/70	Din		AFNOR A 35 551 A	BS 970-1/72 970-2/70	AISI - SEA
		NORMATIVE 17200/69	W Nr			
C 45	2C45	Ck45	1191	XC48	080M46	1045

CrMo4 (genormaliseerd, verbeterd staal)

Overzicht van Italiaanse, Europese en niet Europese normeringen

UNI 7845/78 7874/79	Euronorm 83/70	Din		AFNOR A 35 551 A	BS 970-1/72 970-2/70	AISI - SEA
		NORMATIVE 17200/69	W Nr			
42 CrMo4	42 CrMo4	42 CrMo4	7225	42CD4	78A42 En 19c	4140

Materiaal van de kogel: 100Cr6 HRC 63 ±3

Behandelingen

- Kogelbaan: inductief gehard HRC 56 ±3
- Vertanding: inductief gehard HRC 56 ±3 (optioneel)

Vertanding

Cilindrische rechte vertanding (schuine vertanding optioneel)

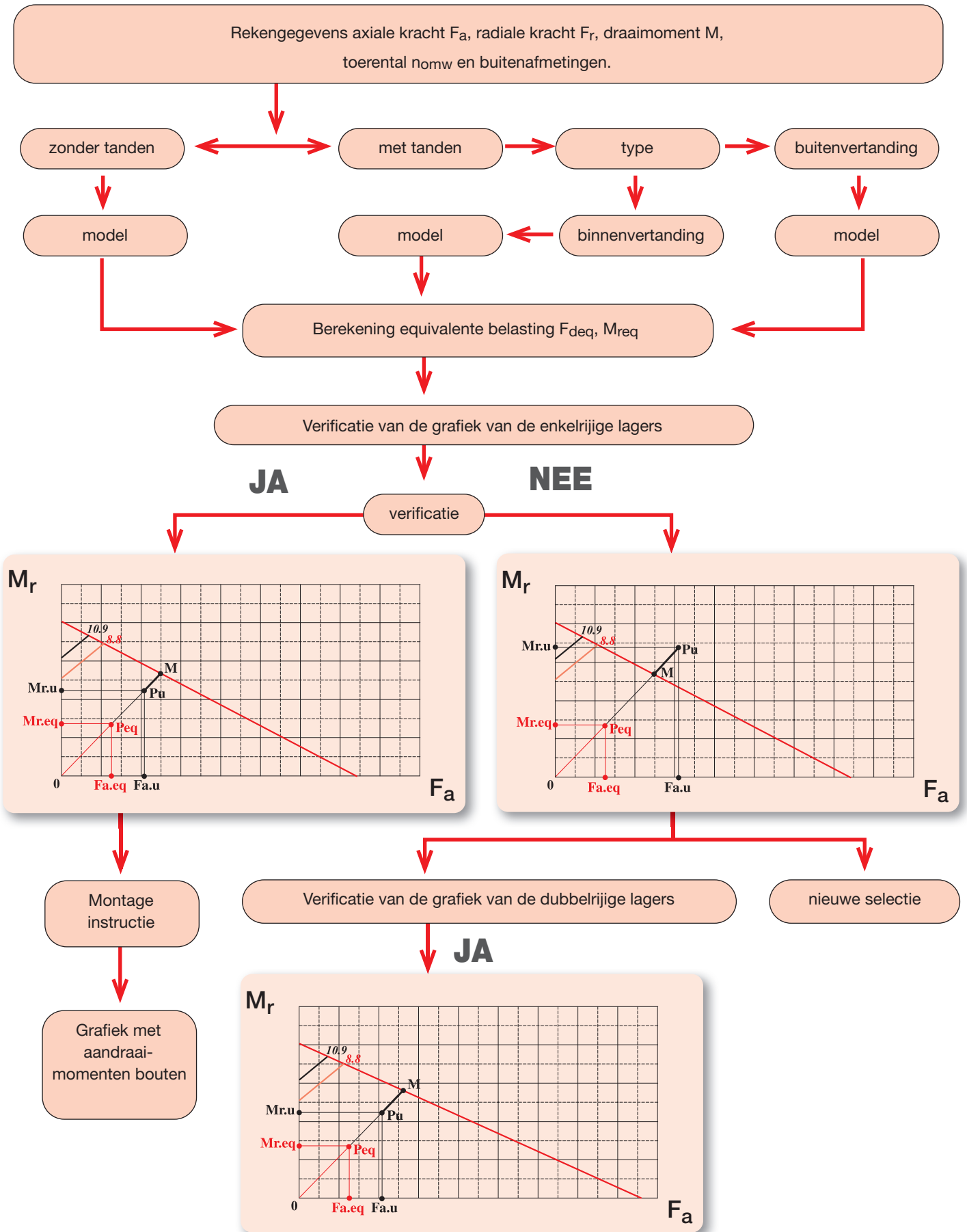
Moduul: 2 t/m 12

Drukhoek: α 20° - 14,5° - 25°

De tanden kunnen inductief gehard worden.

Indicatieve selectie van de draaikranslagers

Het onderstaande stroomdiagram kan gebruikt worden voor de indicatieve selectie



Bepaling van de equivalente belastingen ($F_{a.eq}$ en $M_{r.eq}$)

• P_{eq} = equivalent belastingspunt

$$\left\{ \begin{array}{l} F_{a.eq} = F_a + 5,05 \cdot F_r \\ M_{r.eq} = M_r \end{array} \right.$$

Betekenis eenheden:

F_a	= Nominale axiale belasting	[kN]
F_r	= Nominale radiale belasting	[kN]
$F_{a.eq}$	= Equivalente axiale belasting	[kN]
M_r	= Nominaal kipmoment	[kNm]
$M_{r.eq}$	= Equivalent kipmoment	[kNm]
K_{stat}	= Veiligheidsfactor	
$F_{a.u}$	= Werkelijke axiale belasting	[kN]
$M_{r.u}$	= Werkelijke kipmoment	[kNm]

• P_u = gebruikspunt

$$\left\{ \begin{array}{l} F_{a.u} = F_{a.eq} \cdot K_{stat} \\ M_{r.u} = M_{r.eq} \cdot K_{stat} \end{array} \right.$$

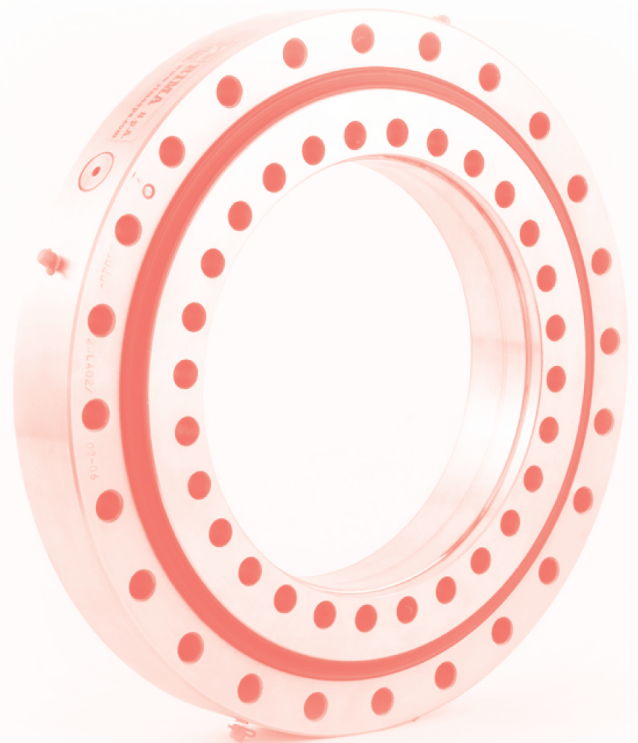
Opmerking: de waarde P_u moet onder de toelaatbare waarde in de grafiek blijven.

De formules die gebruikt worden voor de indicatieve selectie zijn gebaseerd op de volgende aannames;

- Verticale verdraaiing
- Minimaal toerental 1 rpm
- Gelijmatige, niet schokkende belasting
- De tandbelasting is buiten beschouwing gelaten
- Neem voor afwijkende toepassingen contact op met één van onze technische adviseurs

Opmerking:

Te allen tijde dient de berekening door één van onze technische adviseurs geverifieerd te worden.



Indicatieve gegevens van het toerental van de draaikranslagers

Het toerental van de draaikranslagers is gelimiteerd volgens onderstaande tabel:

D _{wp} [mm]	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600
n _{max} [omw/min]	60	50	40	30	28	25	22	20	18	16	15	14	13	12

Betekenis eenheden:

- D_{wp} = steekcirkeldiameter kogelbaan [mm]
- n_{max} = maximaal aantal omwentelingen per minuut [rpm]

Opmerking: de hierboven vermelde gegevens gaan uit van een horizontale opstelling van de draaikranslager en intermitterend bedrijf. Neem contact op met één van onze technische adviseurs als er sprake is van continu bedrijf.

Veiligheidsfactor K_{stat}

Toepassing	K _{stat}
Kraanwagen Loskraan Autokraan Verpakkingssystemen Lastafels Waterbehandelingssysteem Draaitafels	1,10
Torenkraan Zwenkkraan Kadekraan Antenne platform	1,25
Bovenloopkraan Verrijdbare bovenloopkraan Bosmachine	1,45
Hydraulische kraan Draaimolen Offshore kraan	Bel 0252 - 219123

Opmerking: de ingebouwde veiligheidsmarges zijn gebaseerd op statistische informatie en ervaringen met bovengenoemde toepassingen. Neem contact op met één van onze technische adviseurs als uw specifieke toepassing niet is vermeld.

Om zoveel mogelijk informatie te hebben verzoeken wij u om het aanvraagformulier op de volgende bladzijde in te vullen.

Aanvraagformulier

Bedrijf	
Contactpersoon	Tel.
Adres	Fax
E-mail	

Soort applicatie

Toepassing

- Opstelling draaikranslager Horizontaal Verticaal Anders
- Inschakelduur Continu Intermitterend Anders %
- Draaiende ring Buitenring Binnenring Toerental [rpm]

Belasting

	Axiaal (kN)	Radiaal (kN)	Kipmoment (kNm)
Nominaal			
Maximaal			
Test			

Vertanding	<input type="radio"/> buitenzijde	<input type="radio"/> binnenzijde	<input type="radio"/> zonder vertanding
Moduul [m]			Tangentiale kracht F_t [kN]
Aantal tanden [z]			Draaimoment [kNm]
Aantal tanden rondsel [z]			
Bedrijfsomstandigheden			
Omgevingsomstandigheden			Omgevingstemperatuur

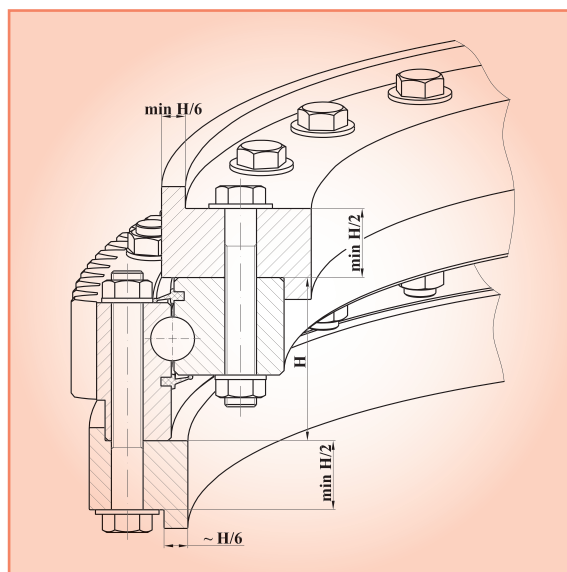
Overige specificaties

Montage en onderhoud

Bevestigingsconstructie

Voor het bewerkstelligen van een gelijkmatige verdeling van de kracht adviseren wij een stijve stalen constructie met een minimale treksterkte van $\sigma = 500 \text{ N/mm}^2$.

In bijgaande schets staat de minimale dikte aangegeven van de constructie waarbij de waarde H de hoogte is van de draaikrans.



Tolerantie van de bevestigingsconstructie

De oppervlakte waarop de draaikrans bevestigd wordt dient zo vlak mogelijk te zijn. In de onderstaande tabel staan de maximaal toelaatbare toleranties aangegeven.

D_{wp} [mm]	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500
T_p μ	8	9	10	11	12	13	14	15	16	17	18	19	20

D_{wp} = steekcirkeldiameter kogelbaan [mm]

T_p = tolerantie van de constructie [μ]

Als een tolerantie gecorrigeerd moet worden, adviseren wij een kunstharz te gebruiken.

Axiale afwijking

Na de montage van de draaikrans dient de toelaatbare afwijking onder maximale belasting geverifieerd te worden, welke zijn aangegeven in onderstaande tabel.

D_{wp} [mm]	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500
R_a [mm]	0,2	0,22	0,25	0,28	0,31	0,34	0,37	0,40	0,43	0,40	0,50	0,53	0,56

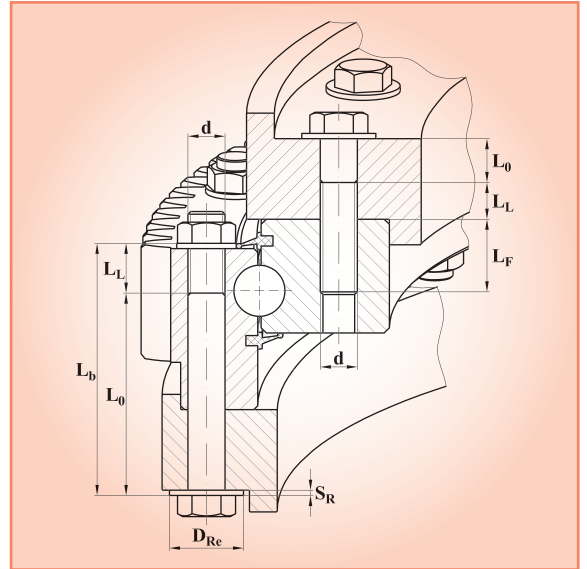
R_a = tolerantie van de stijfheid van de constructie [mm]

Bevestigingsbouten

Gebruik voor de montage van de draaikrans bevestigingsbouten van de klasse 8.8, 10.9 of 12.9 en gebruik een momentsleutel voor het aandraaien met een ingestelde waarde volgens onderstaande tabel.

Verificatie van de bout en ring.

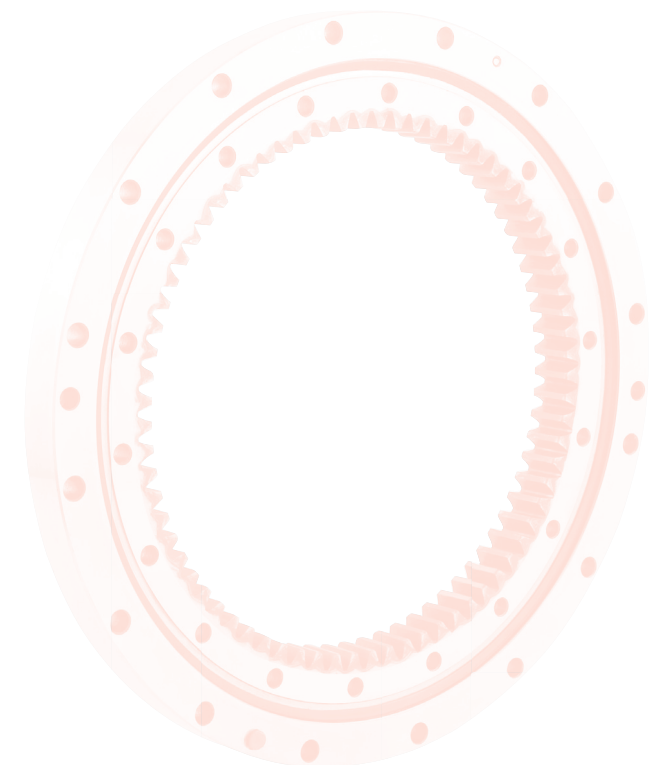
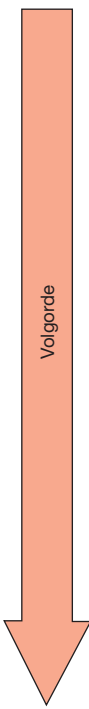
Bout	ongeharte ring
$L_b \begin{cases} > 5 \cdot d \\ < 10 \cdot d \end{cases}$	$D_{Re} = 2 \cdot d$
$L_o > d$	$S_r \geq 0,3 \cdot d$
$L_L > 6 \cdot \text{spoed}$	
$L_F > 1,5 \cdot d$	



Aandraaimoment bevestigingsbout

Boutmaat	8.8		10.9		12.9	
	Spankracht N	Aandraaimoment Nm	Spankracht N	Aandraaimoment Nm	Spankracht N	Aandraaimoment Nm
M12	38500	78	56000	117	66000	150
M14	53000	126	77000	184	90000	240
M16	72000	193	106000	249	124000	370
M18	91000	270	129000	387	151000	510
M20	117000	387	166000	558	194000	720
M22	146000	522	208000	747	243000	970
M24	168000	666	239000	954	280000	1240
M27	221000	990	315000	1395	370000	1850

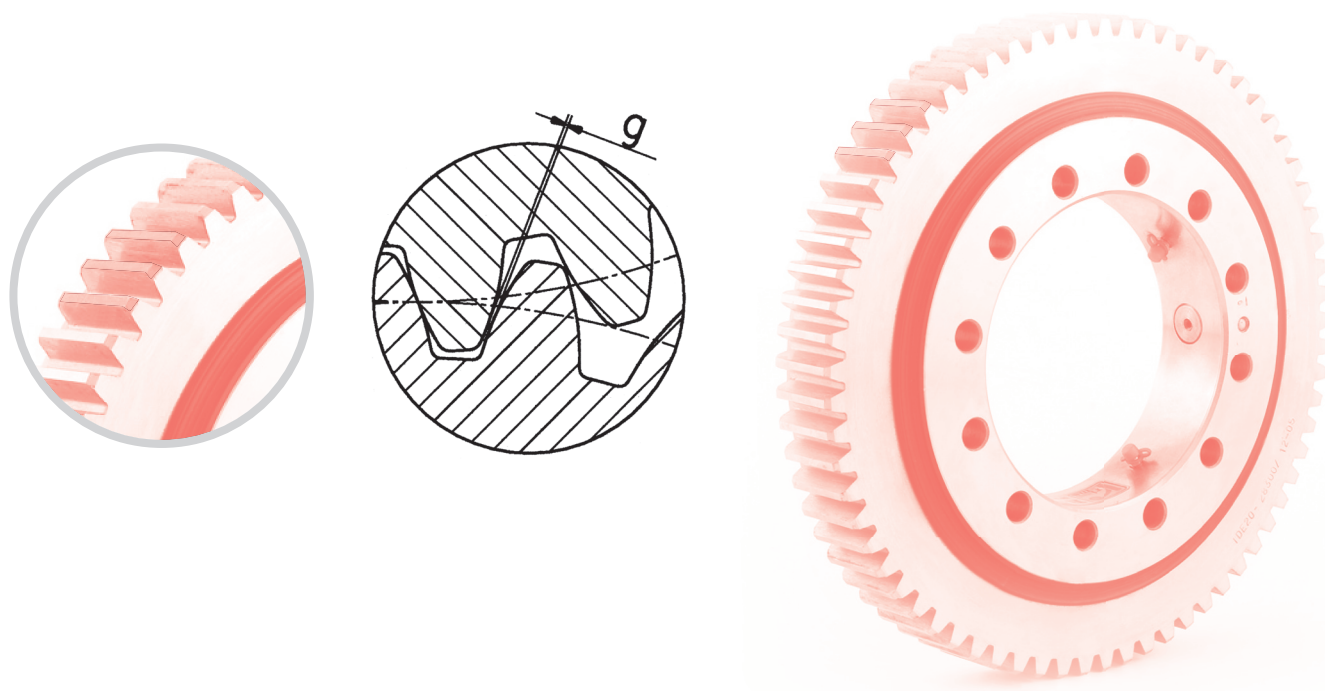
N	Volgorde waarin de bouten aangedraaid worden														
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	2	2	4	3	5	4	7	5	8	6	10	7	11	8	13
3	3	4	6	6	7	8	10	10	12	12	15	14	16	13	19
4	4	1	2	1	2	2	3	2	4	3	5	3	5	4	6
5	3	5	4	4	6	6	7	6	9	7	10	10	12	12	13
6	5	1	7	9	10	13	12	14	15	17	17	21	20	25	22
7	3	2	1	5	2	4	2	7	2	6	4	9	5	8	8
8	7	5	6	9	9	9	10	13	12	13	15	17	18	17	22
9	8	8	1	12	14	13	1	14	20	20	1	24	26	2	1
10	3	7	5	6	5	10	4	9	9	13	11	12	16	16	18
11	11	8	11	9	16	9	16	14	31	17	21	23	26	26	23
12	3	1	1	1	4	19	2	3	5	4	3	9	6	10	4
13	4	8	3	14	1	12	8	18	10	16	17	22	19	20	14
14	11	13	11	2	11	19	19	2	23	25	3	2	3	31	31
15	3	15	8	16	5	2	10	3	7	10	12	11	9	5	14
16	7	17	6	15	13	22	16	20	24	27	27	25	22	32	25
17	5	8	1	18	6	22	2	4	7	4	3	30	8	34	22
18	11	18	8	7	14	9	11	18	17	20	14	13	20	15	2
19	3	18	12	3	15	24	25	3	28	30	21	3	24	12	
20	13	4	1	11	2	6	11	13	12	8	4	15	5	32	
21	11	6	19	8	15	19	23	21	19	12	27	14	37		
22	17	7	21	1	5	8	5	2	29	9	33	17			
23	15	1	10	12	18	13	13	3	21	4	27				
24	23	14	19	26	28	29	24	20	33	23	7				
25	20	5	6	14	6	7	28	16	32	13					
26	7	14	20	24	22	18	11	28	13	33					
27	23	27	4	30	29	19	4	22	3						
28	13	19	14	12	2	22	3	23							
29	29	23	23	10	34	12	28								
30	9	7	1	27	10	31	8								
31	15	17	1	29	2	18									
32	31	28	18	5	21	38									
33	32	26	17	30	4										
34	9	35	11	24											
35	11	20	34												
36	23	1	14												
37	10	19													
38	29	39													
39	9														



N = aantal gaten Start bij 0

Tandkransen

De positionering van het rondsel dient zo dicht mogelijk bij het rood gemarkeerde vlak te zijn teneinde een zo gering mogelijke speling te kunnen garanderen. De afstand (g) tussen de tanden mag de waarde $g = 0,04$ moduul niet overschrijden.



Opmerking: om druktechnische redenen staat het rode vlak op de foto in blauw aangegeven.

Smering

Normaal wordt voor de smering een op lithium (EP) gebaseerd vet gebruikt welke dient te voldoen aan de DIN 51825 K2K – 20 en ISO L-X-BCHA2 standaard. Ook kunnen vergelijkbare smeermiddelen gebruikt worden, geschikt voor omgevingstemperaturen van -20°C tot $+120^{\circ}\text{C}$.

Hieronder staat een overzicht van de vetten die onder meer voldoen aan deze eisen.

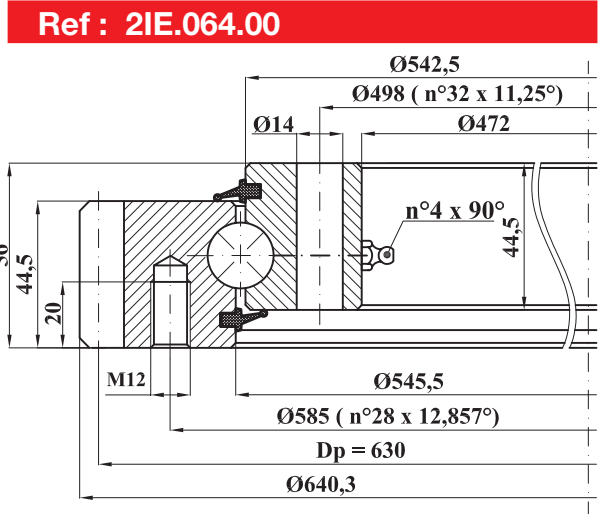
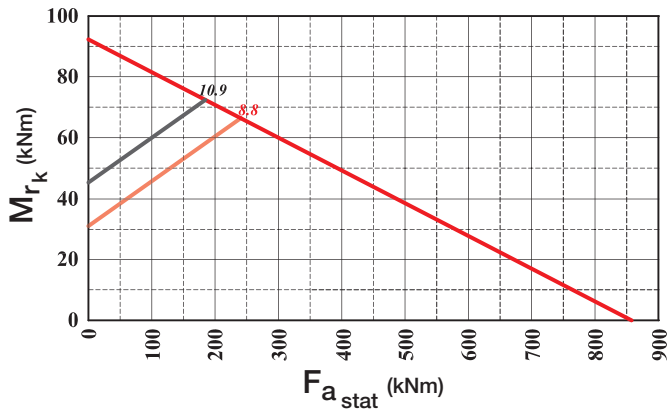
ESSO	Beacon EP2
MOBIL	Mobilux EP2
AGIP	GRMU / EP2
SHELL	Calithia EP2

Opmerking: smering van de draaikranslager dient periodiek te gebeuren en is afhankelijk van het gebruik van de machine. Bij lage omgevingstemperaturen dient een speciaal hiervoor ontwikkeld smeermiddel gebruikt te worden.

Bedrijfsomstandigheden

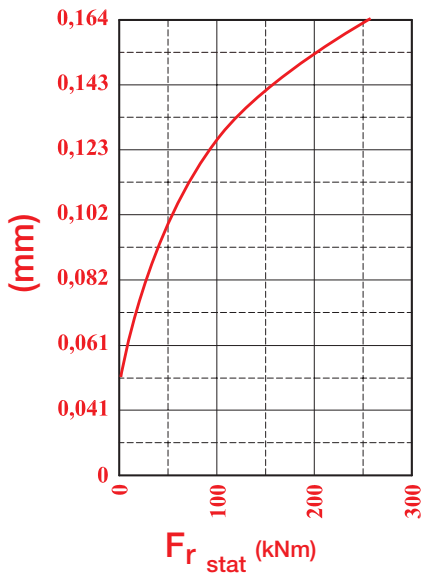
De optimale omgevingstemperatuur voor industriële draaikranslagers ligt tussen de -20°C en $+60^{\circ}\text{C}$. Neem contact op met één van onze technische adviseurs als de omgevingstemperatuur afwijkend is.

Specificaties

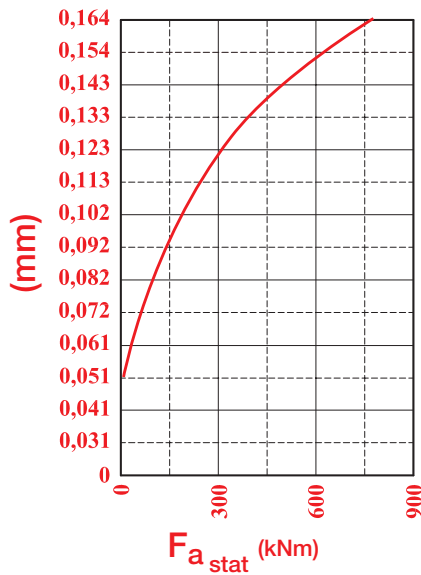


Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
858	324	225	133	94,8	42	6	105	14,3	-	0,85	27,7

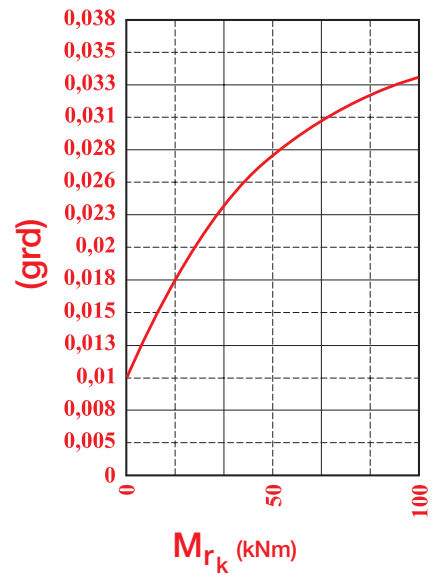
Radiale stijfheid



Axiale stijfheid



Kipstijfheid



Gebruikte eenheden

Symbol	Eenheid	Beschrijving
F_{a stat}	kN	statische axiale belasting
F_{r stat}	kN	statische radiale belasting
F_{a dyn}	kN	dynamische axiale belasting
F_{r dyn}	kN	dynamische radiale belasting
M_r	kNm	radiaal kipmoment
m		moduul
Z		aantal tanden
α	°	Drukhoek
K_m	mm	inkorting tand
X_m		profielverschuiving
F_t	kN	maximale tandbelasting

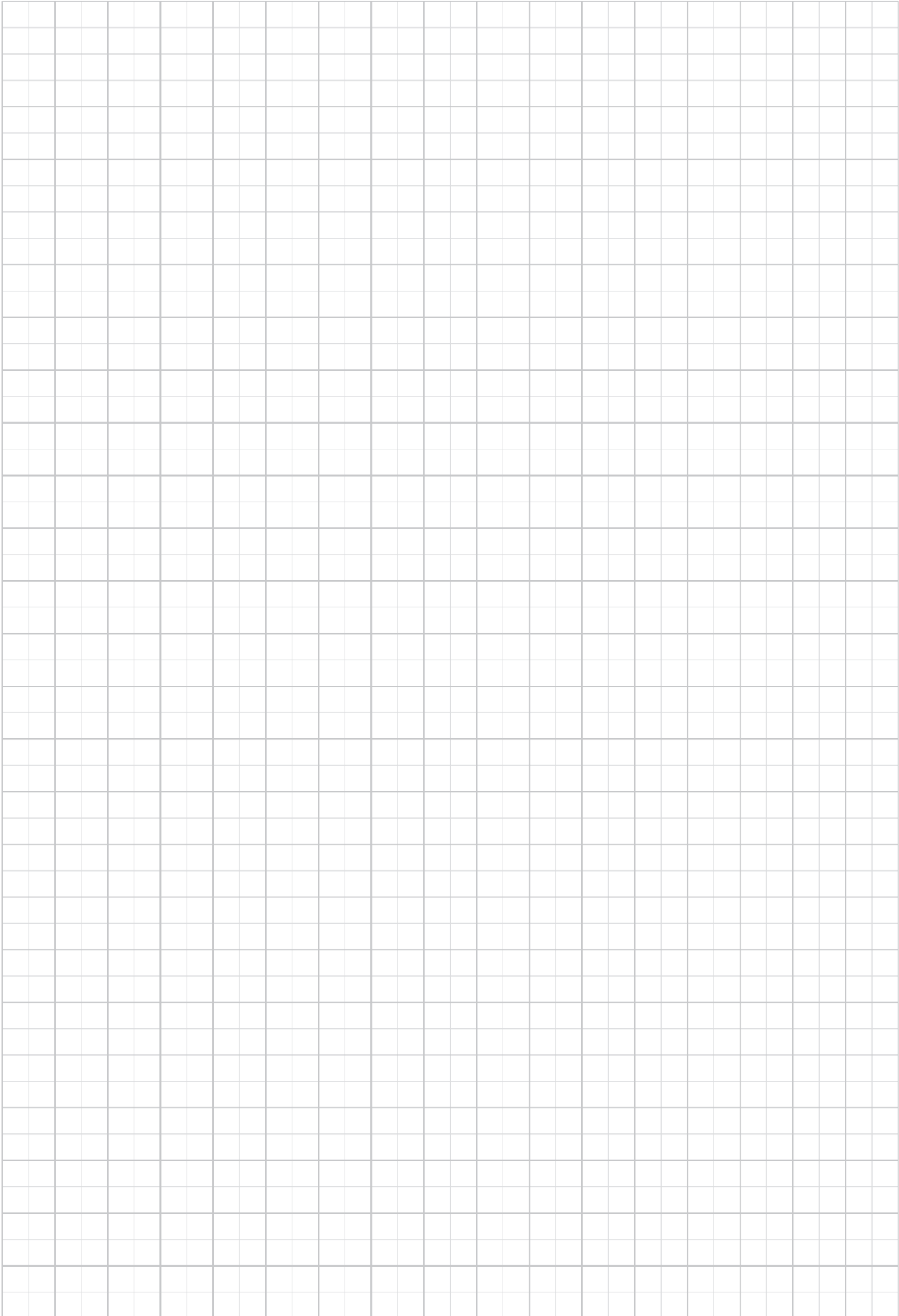


Omreken tabel kilogram / pounds

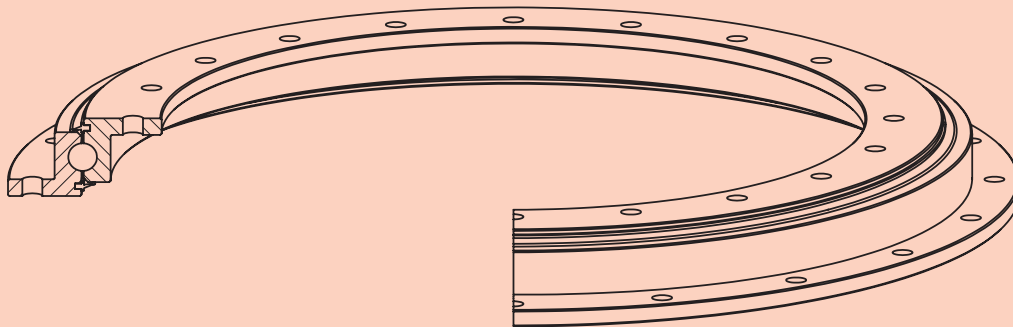
pounds	0	1	2	3	4	5	6	7	8	9
0	0,0000	0,4536	0,9072	1,3608	1,8144	2,2680	2,7216	3,1751	3,6287	4,0823
10	4,5359	4,9895	5,4431	5,8967	6,3503	6,8039	7,2575	7,7111	8,1647	8,6183
20	9,0719	9,5254	9,9790	10,433	10,886	11,340	11,793	12,247	12,701	13,154
30	13,608	14,061	14,515	14,969	15,422	15,876	16,329	16,783	17,237	17,690
40	18,144	18,597	19,051	19,504	19,958	20,412	20,865	21,319	21,772	22,226
50	22,680	23,133	23,587	24,040	24,494	24,948	25,401	25,855	26,308	26,761
60	27,216	27,669	28,123	28,576	29,030	29,484	29,937	30,391	30,844	31,257
70	31,751	32,205	32,659	33,112	33,566	34,019	34,473	34,927	35,380	35,833
80	36,287	36,741	37,195	37,648	38,102	38,555	39,009	39,463	39,916	40,369
90	40,823	41,277	41,731	42,184	42,630	43,091	43,545	43,998	44,452	44,905

Omreken tabel millimeter / inches

inches	0	1	2	3	4	5	6	7	8	9	10	11
0	0,00	25,40	50,80	76,20	101,6	127,0	152,4	177,8	203,2	228,6	254,0	279,4
1/16	1,59	26,99	52,39	77,79	103,1	128,6	154,0	179,4	204,8	230,2	255,6	281,0
1/8	3,18	28,57	53,97	79,37	104,8	130,2	155,6	181,0	206,4	231,8	257,2	282,6
3/16	4,76	30,16	55,56	80,96	106,4	131,8	157,2	182,6	208,0	233,4	258,8	284,2
1/4	6,35	31,75	57,15	82,55	108,0	133,4	158,8	184,2	209,6	235,0	260,4	285,7
5/16	7,94	33,34	58,74	81,14	109,5	134,9	160,3	185,7	211,1	236,5	261,9	287,3
3/8	9,53	34,92	60,32	85,72	111,1	136,5	161,9	187,3	212,7	238,1	263,5	288,9
7/16	11,11	36,51	60,91	87,31	112,7	138,1	163,5	188,9	214,3	239,7	265,1	290,5
1/2	12,70	38,10	63,50	88,90	114,3	139,7	165,1	190,5	215,9	241,3	266,7	292,1
9/16	14,29	39,69	65,09	90,49	115,9	141,3	166,7	192,1	217,5	242,9	268,3	293,7
5/8	15,88	41,27	66,67	92,07	117,5	142,9	168,3	193,7	219,1	244,5	269,9	295,3
11/16	17,46	42,86	68,26	93,66	119,1	144,5	169,9	195,3	220,7	246,1	271,5	296,9
3/4	19,05	44,45	69,85	95,25	120,7	146,1	171,5	196,9	222,3	247,7	273,1	298,6
13/16	20,64	46,04	71,44	96,84	122,2	147,6	173	198,0	223,8	249,2	274,6	300,0
7/8	22,23	47,62	73,02	98,42	123,8	149,2	174,6	200,1	225,4	250,8	276,2	301,6
15/16	23,81	49,21	74,61	100,0	125,4	150,8	176,2	201,6	227,0	252,4	277,8	303,1

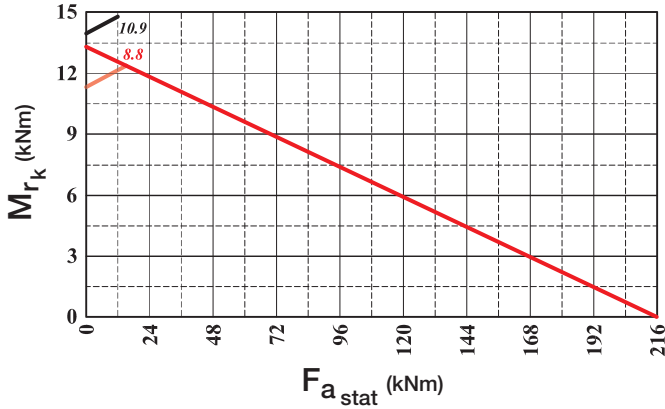


Serie C.ZT

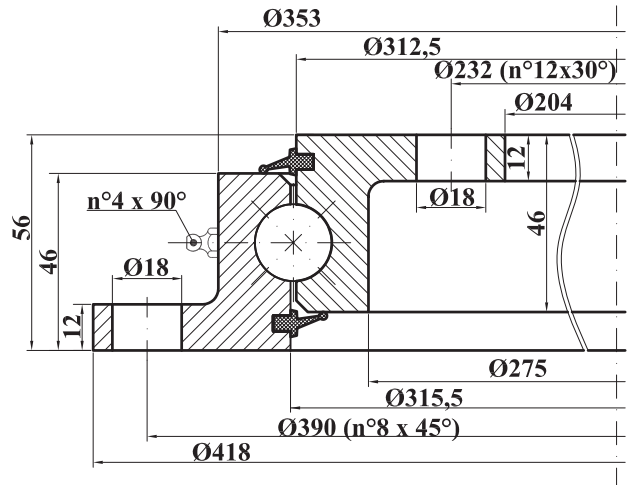


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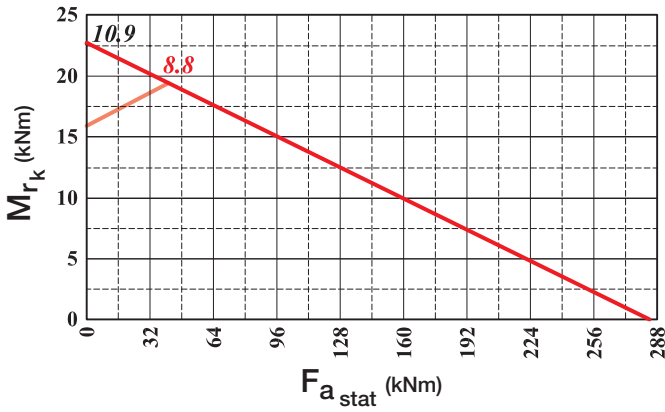
Serie C.ZT



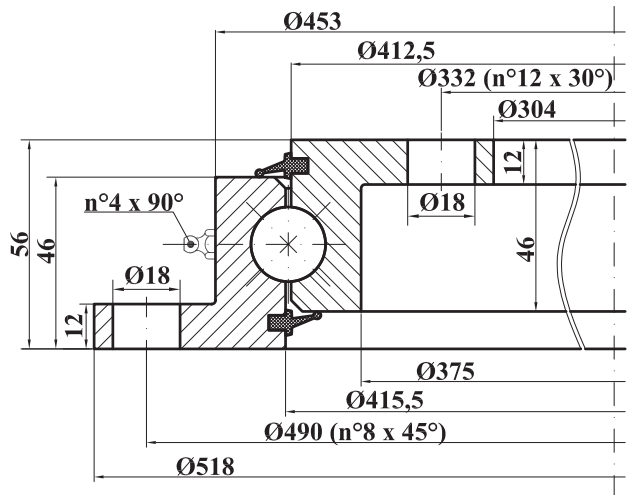
Ref : 2C.0418.00



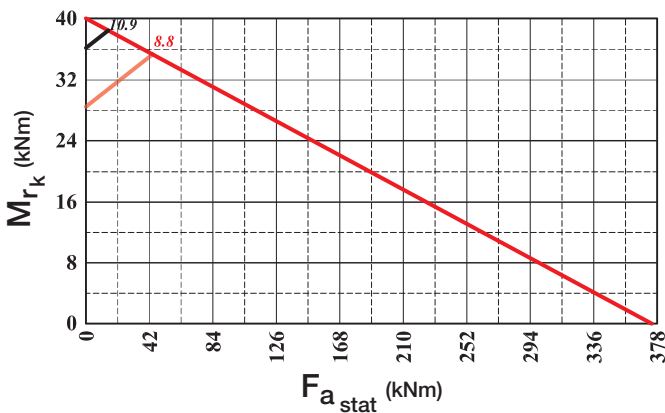
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
215	77,8	155	94,7	13,1	17



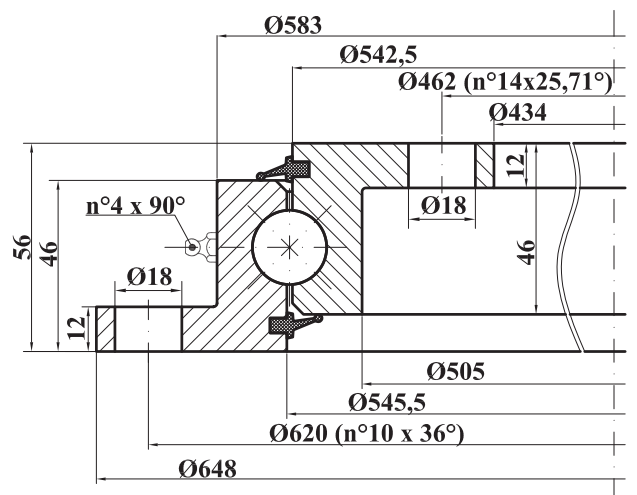
Ref : 2C.0518.00



Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
284	103	172	105	22,9	24

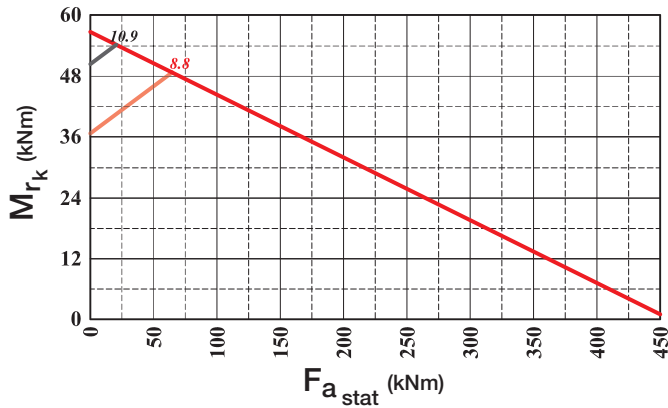


Ref : 2C.0648.00

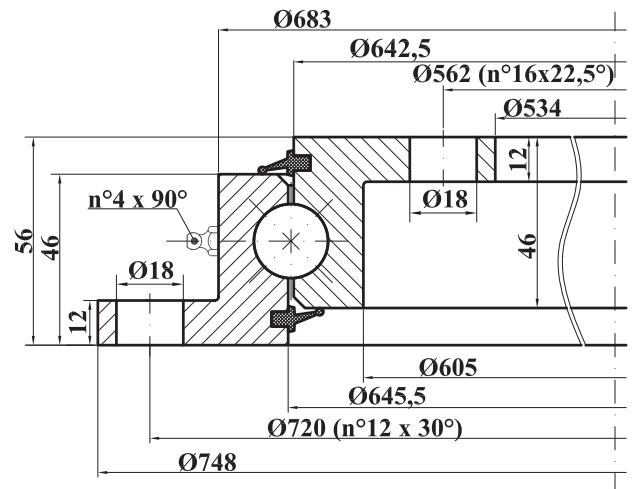


Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
372	134	190	116	40,1	31

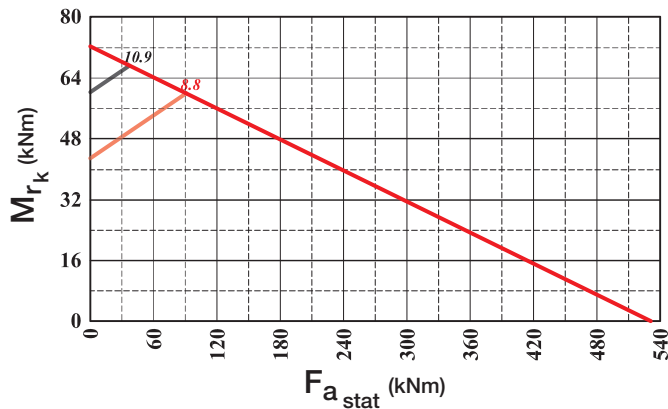
Serie C.ZT



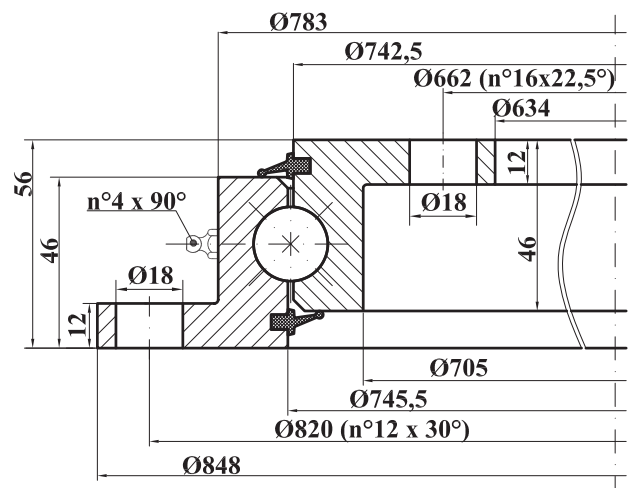
Ref : 2C.0748.00



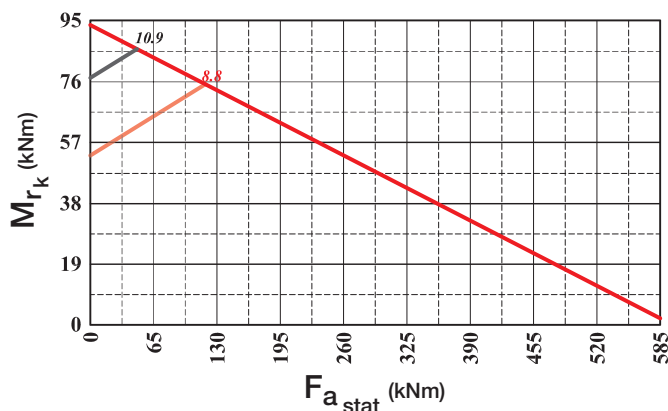
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
455	166	203	124	56,8	37



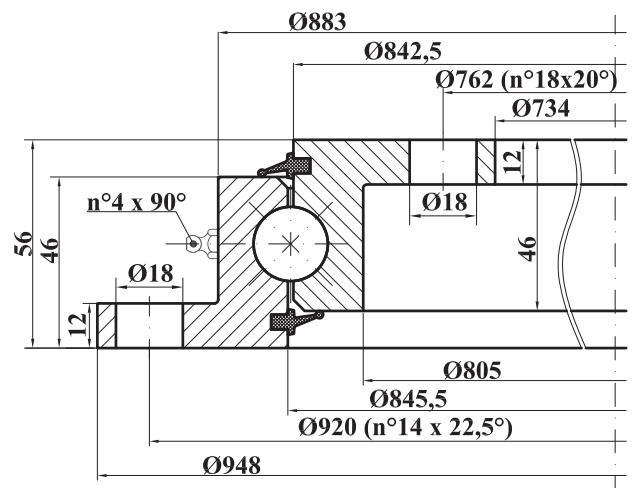
Ref : 2C.0848.00



Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
531	179	216	128	72,5	43



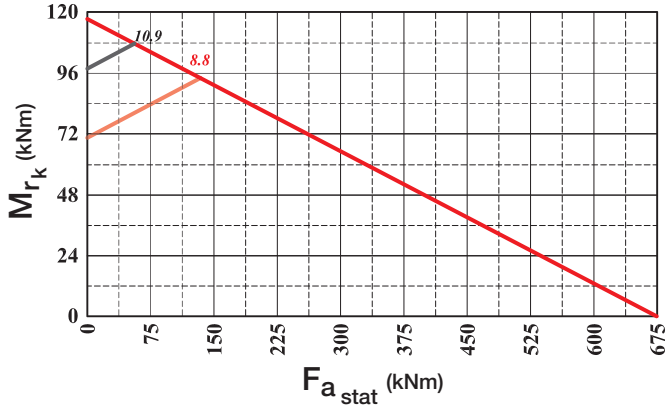
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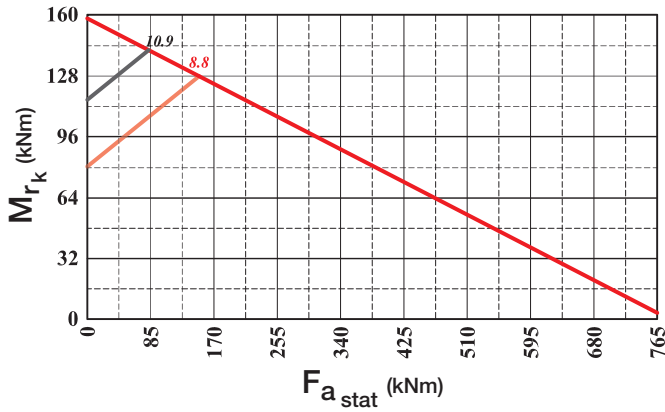
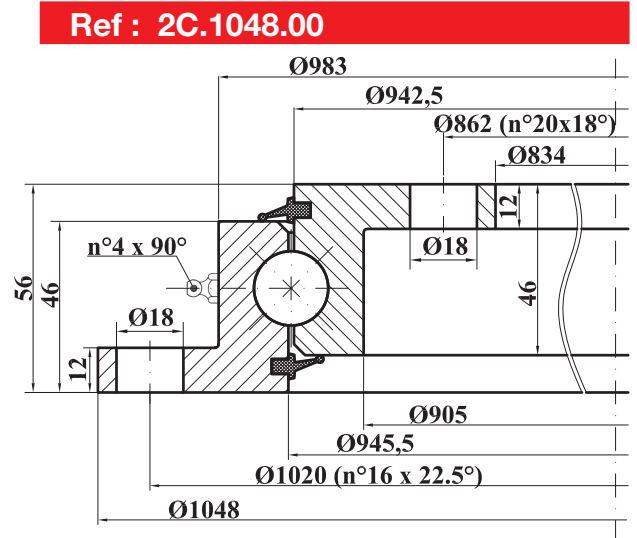
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
603	203	227	134	93,1	48

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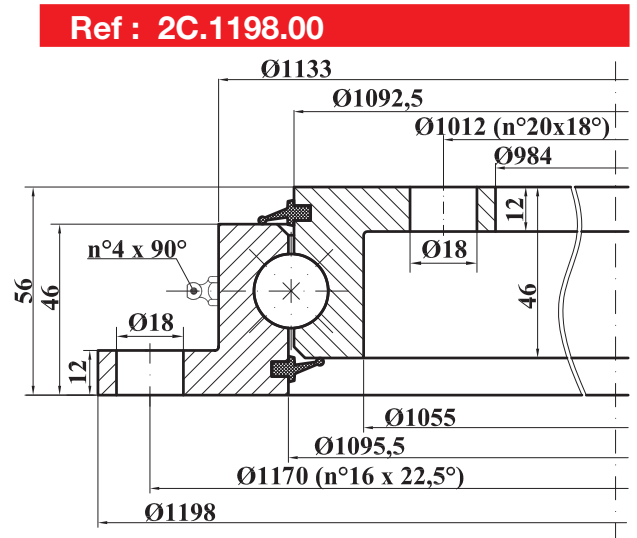
Serie C.ZT



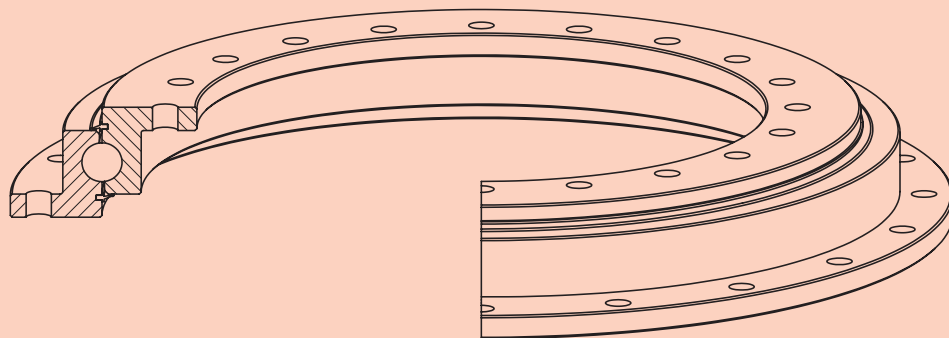
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
674	227	236	140	118	53



Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
782	257	250	148	157	62

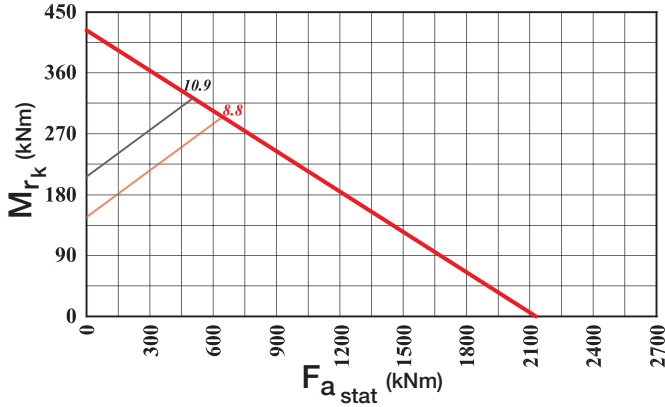


Serie C.ZP

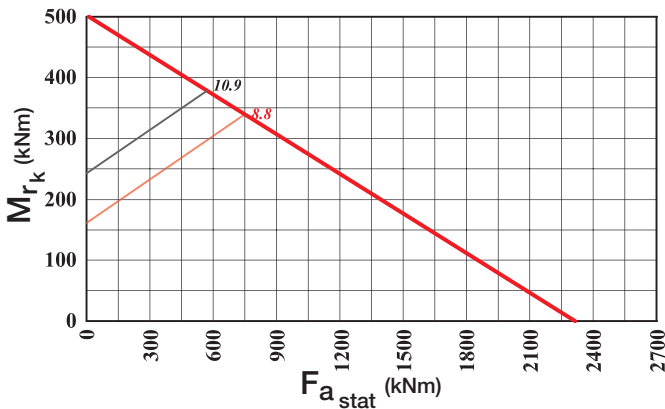
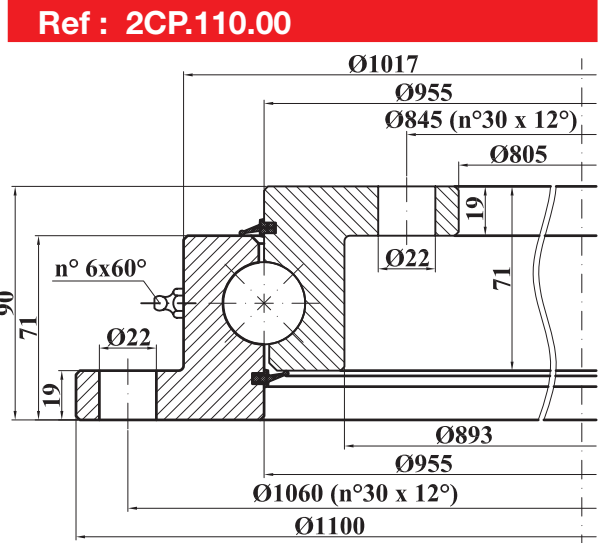


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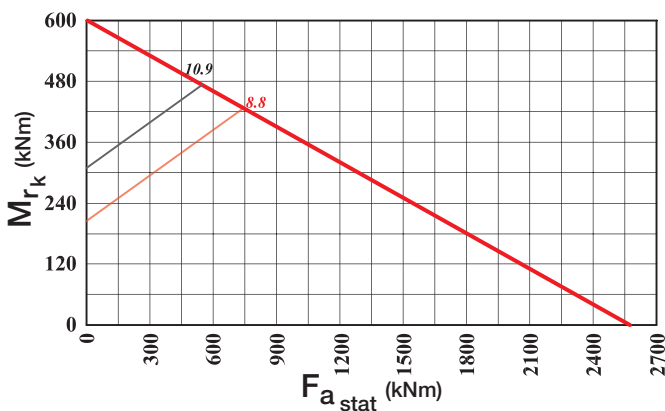
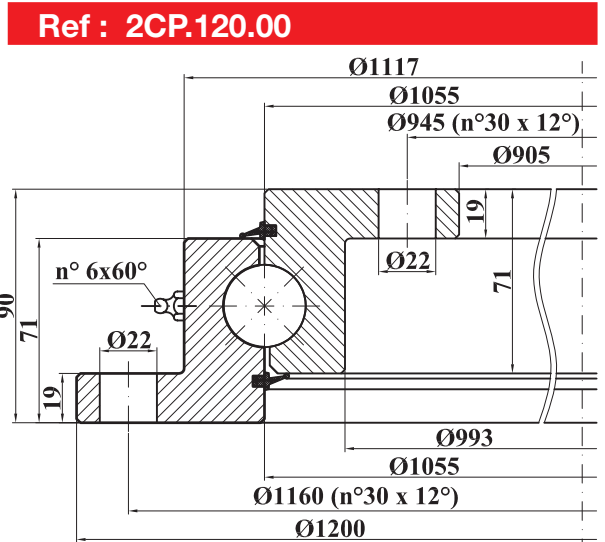
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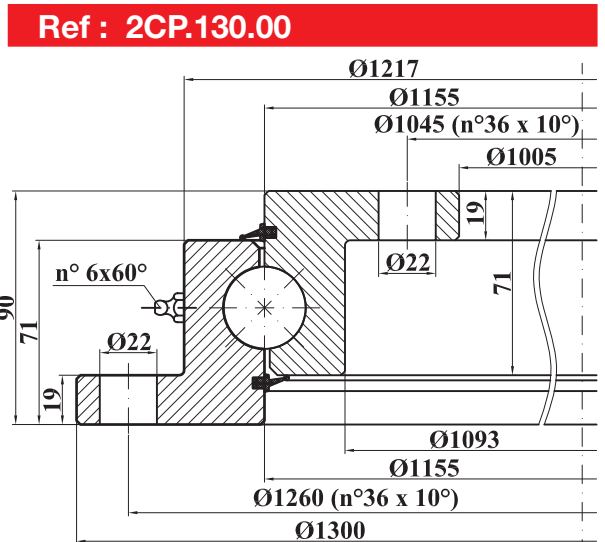
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
2127	811	504	306	421	127



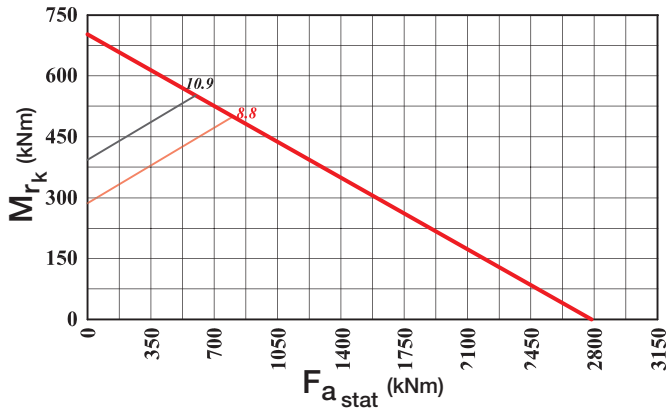
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
2340	894	523	317	506	140



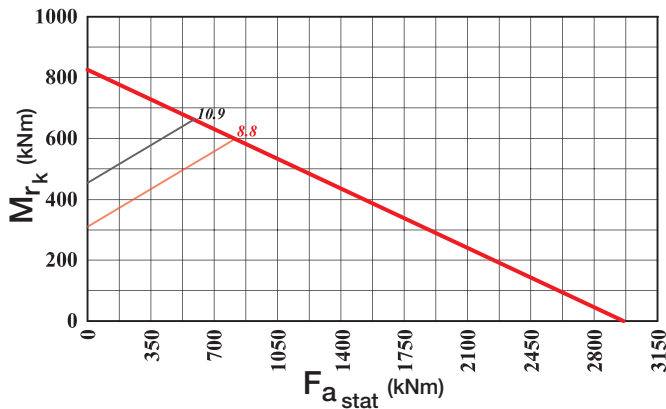
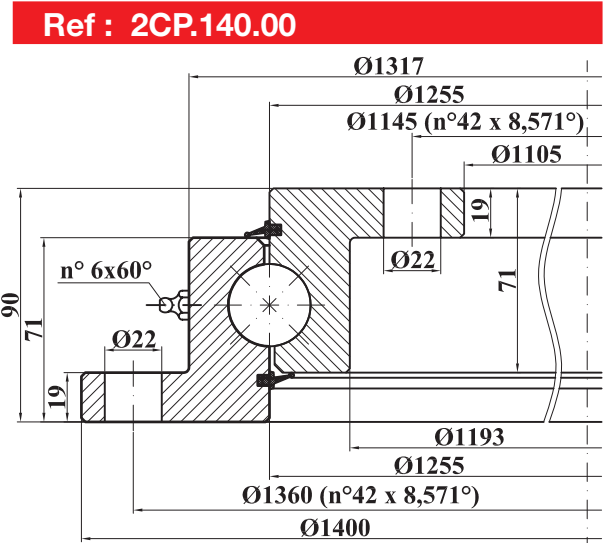
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
2563	977	540	327	605	153



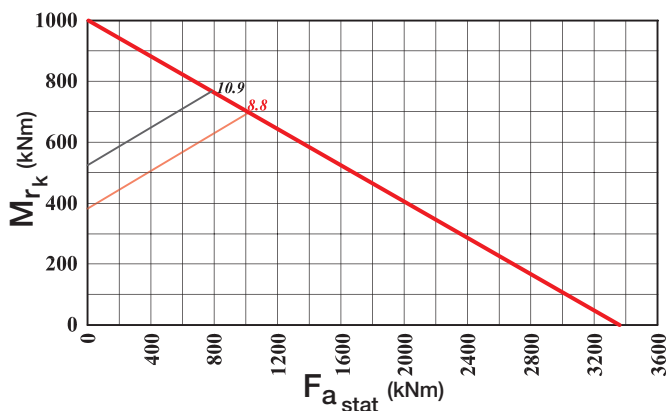
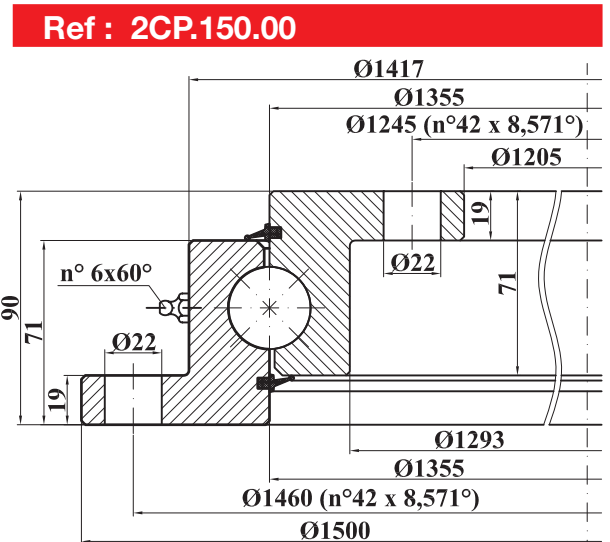
Serie C.ZP



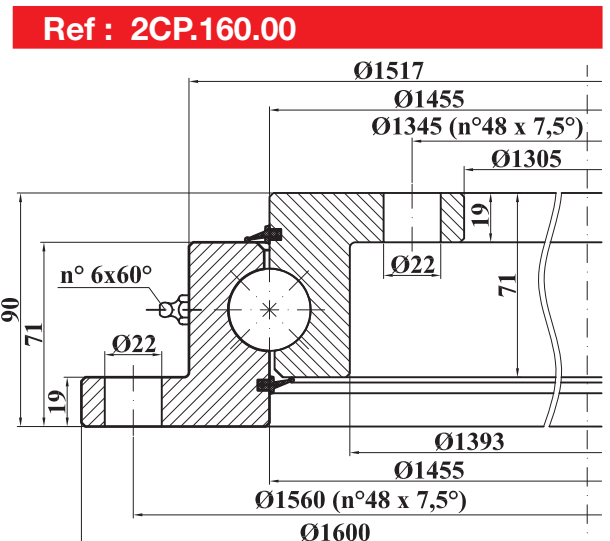
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
2779	1060	556	337	710	165

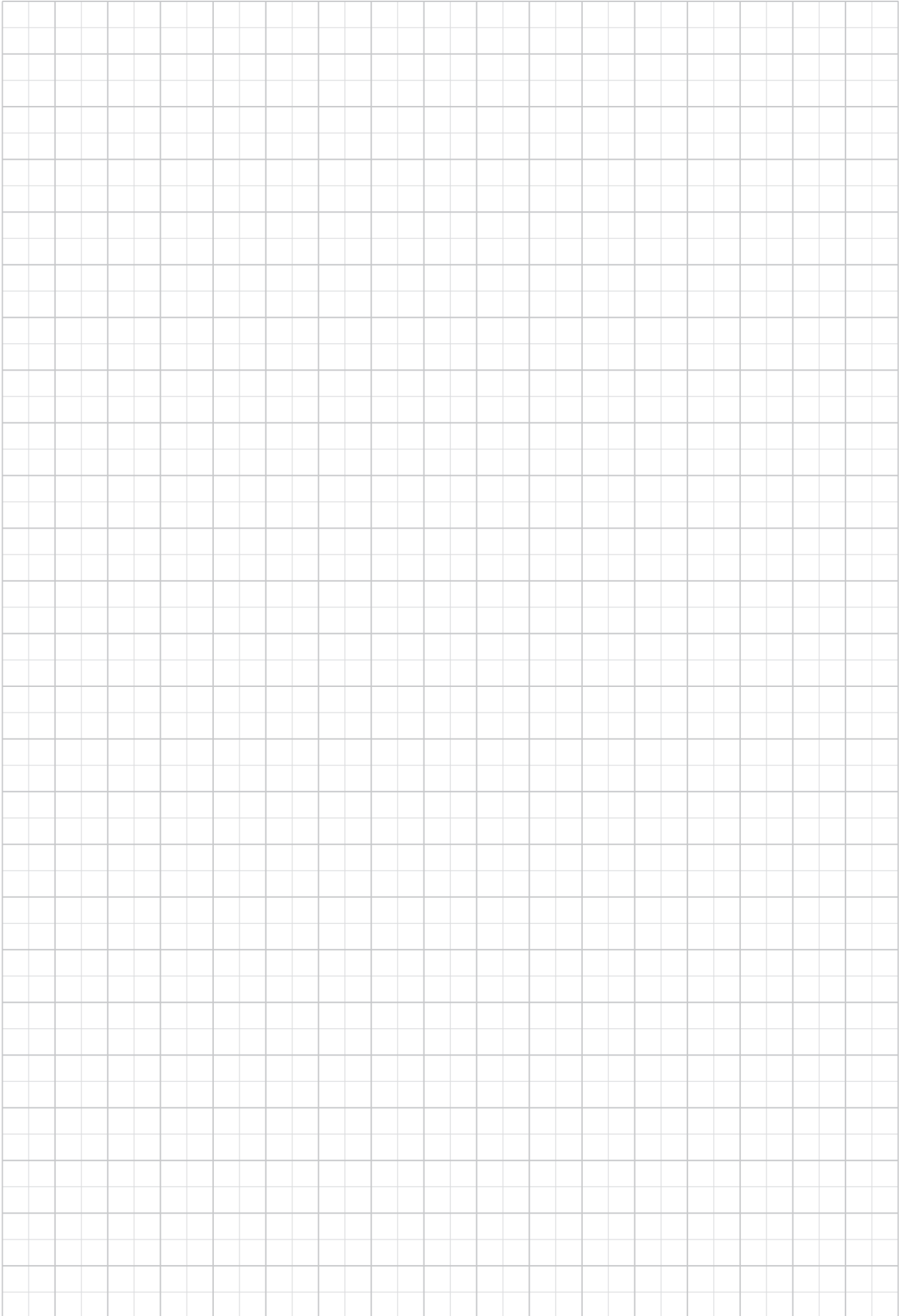


Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
2997	1166	572	346	828	178



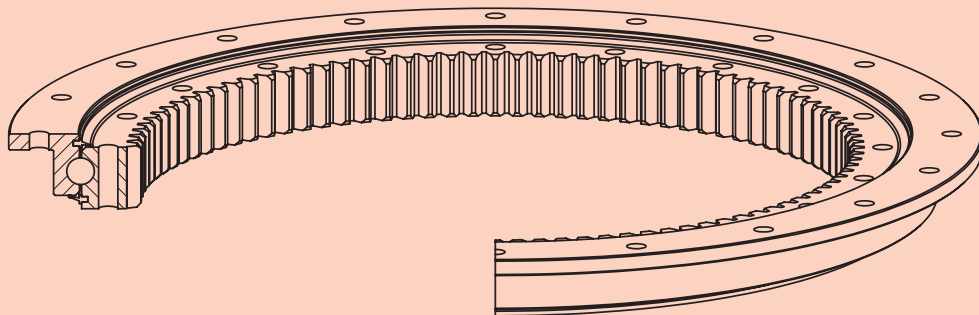
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
3312	1251	587	355	966	191





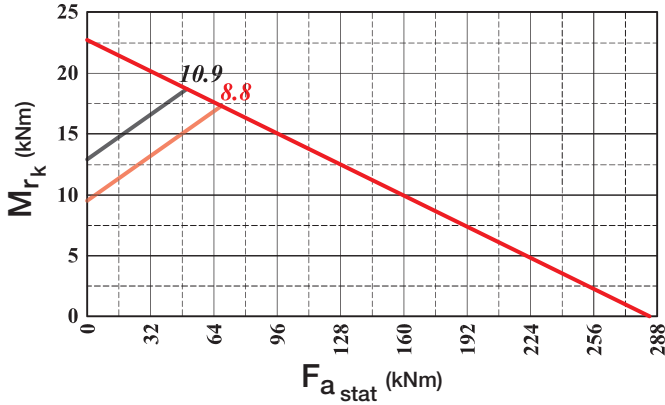
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Serie C.DI

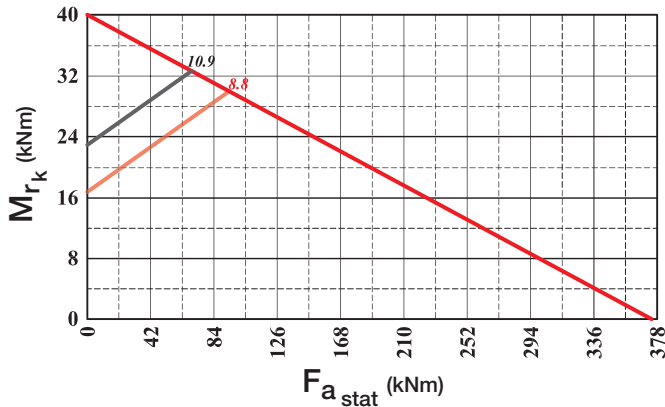
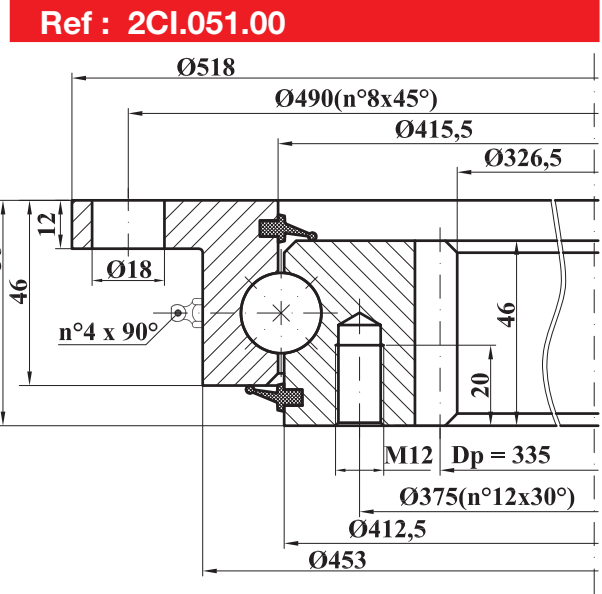


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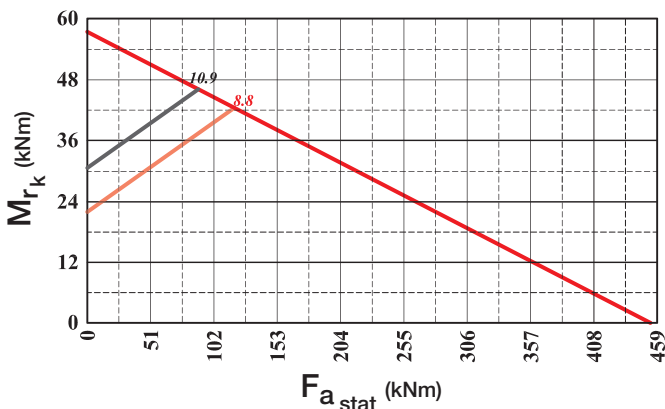
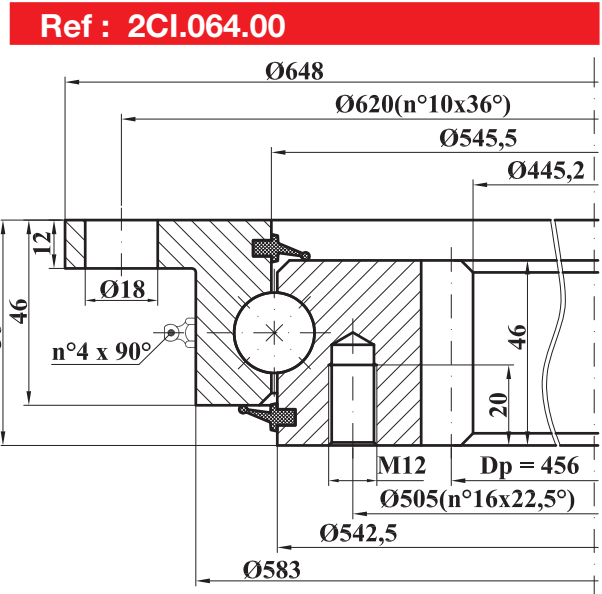
Serie C.DI



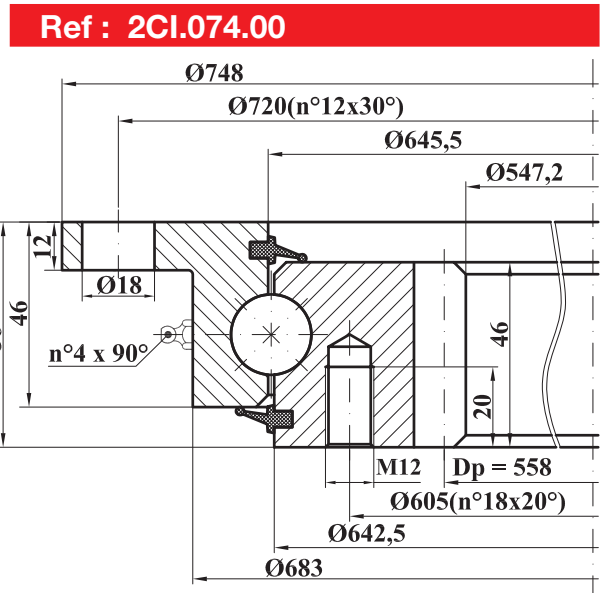
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
284	103	172	105	22,9	28	5	67	20	-	0,75	23,9



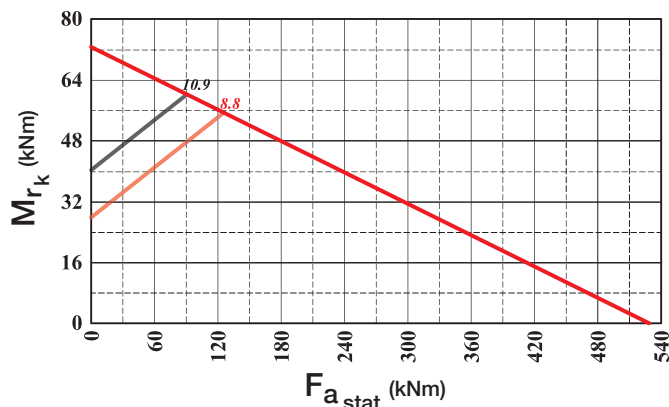
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
372	134	190	116	40,1	38	6	76	20	-	0,60	28,7



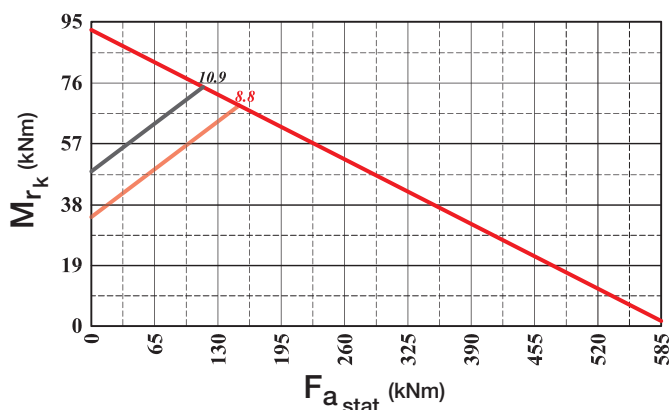
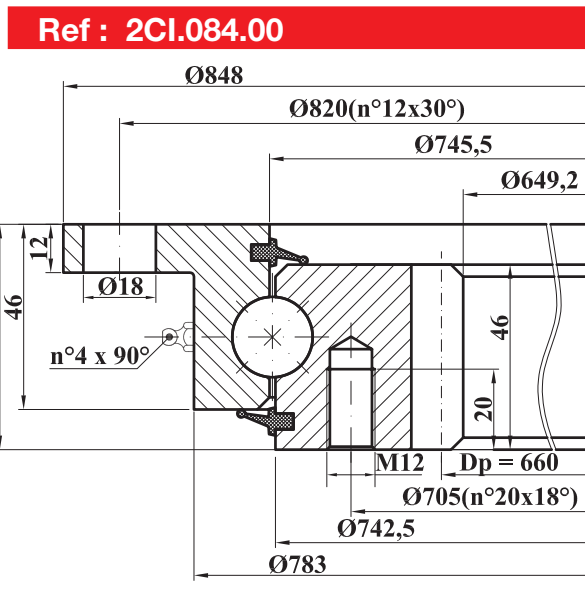
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
455	166	203	124	56,8	44	6	93	20	-	0,60	28,7



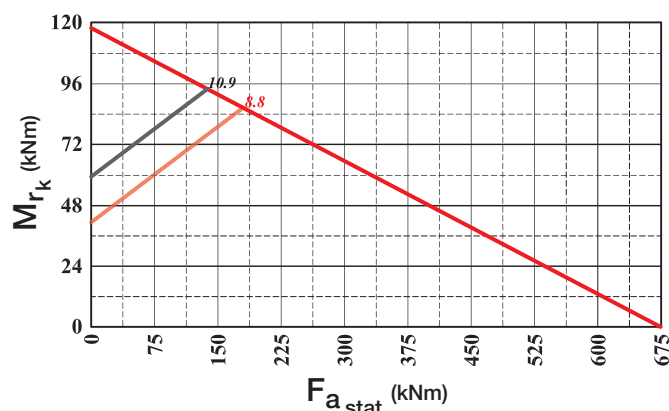
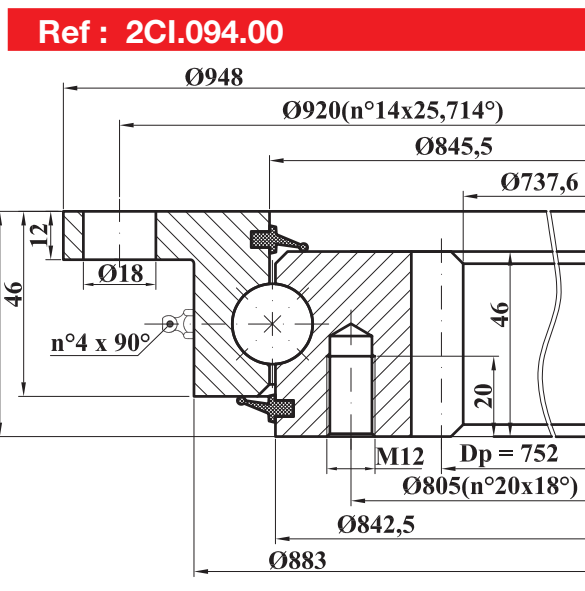
Serie C.DI



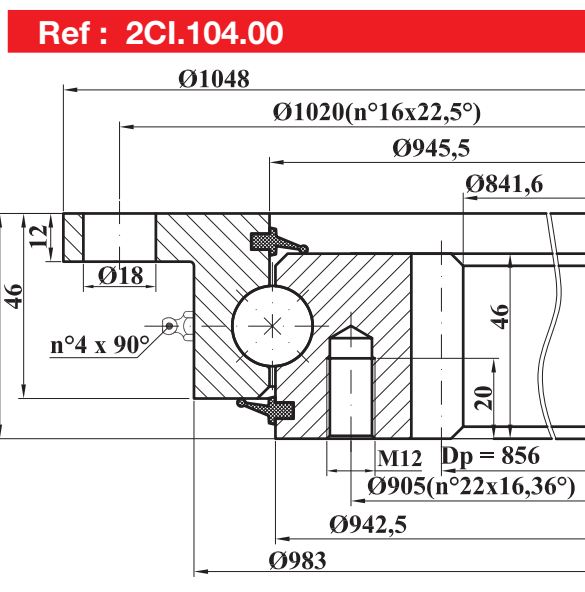
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
531	179	216	128	72,5	52	6	110	20	-	0,65	28,7



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
603	203	227	134	93,1	62	8	94	20	-	0,80	38,3

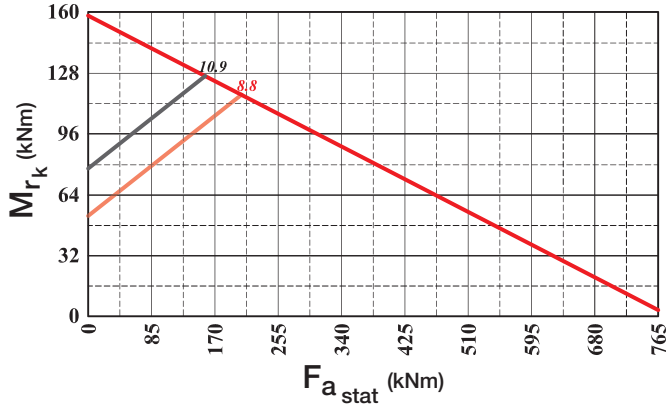


Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
674	227	236	140	118	66	8	107	20	-	0,80	38,3

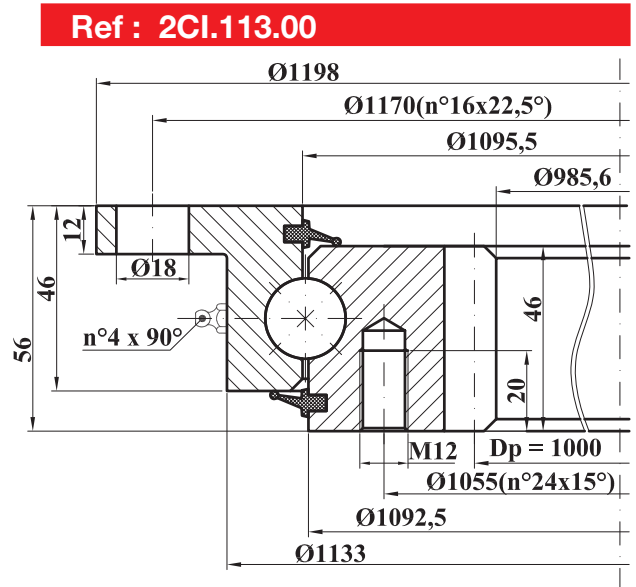


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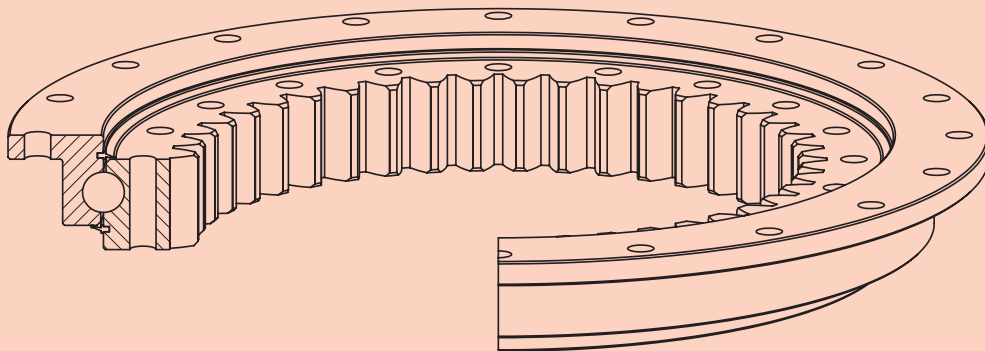
Serie C.DI



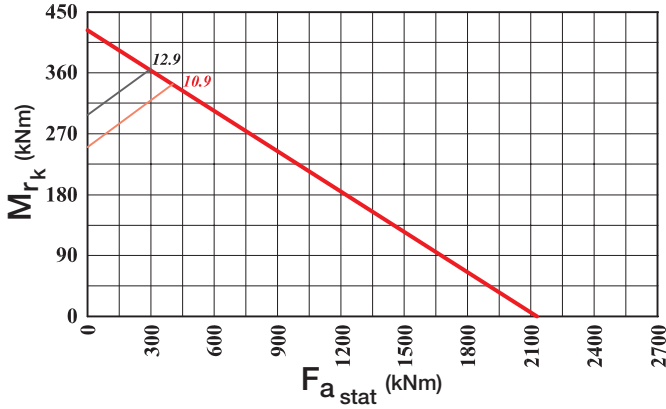
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
782	257	250	148	157	81	8	125	20	-	0,80	38,3



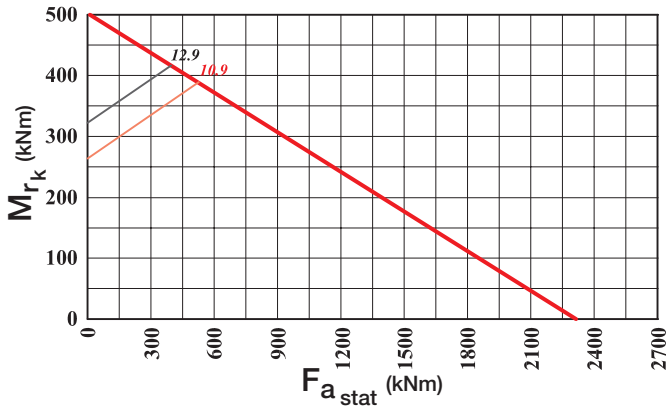
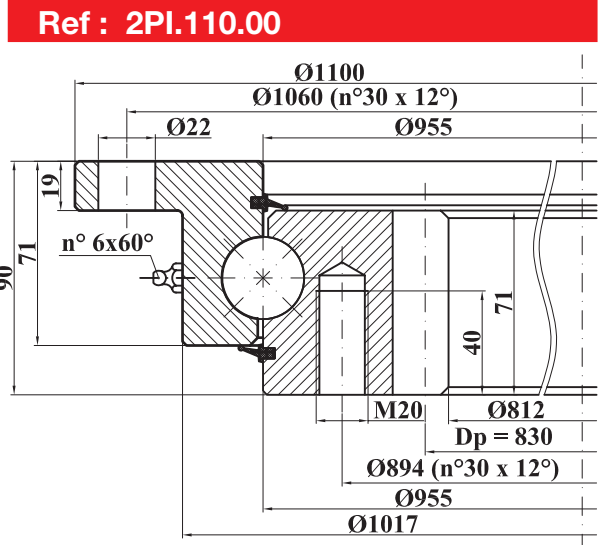
Serie C.PI



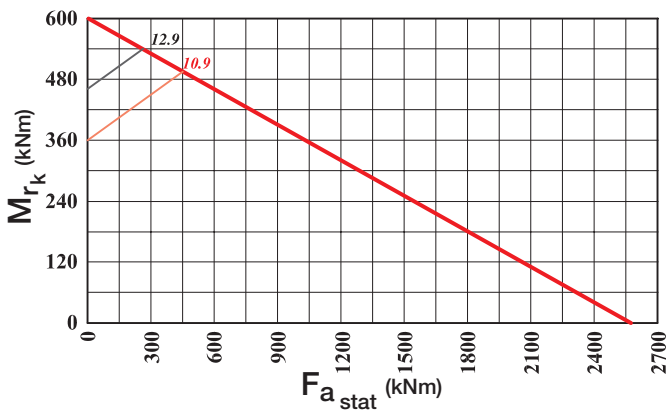
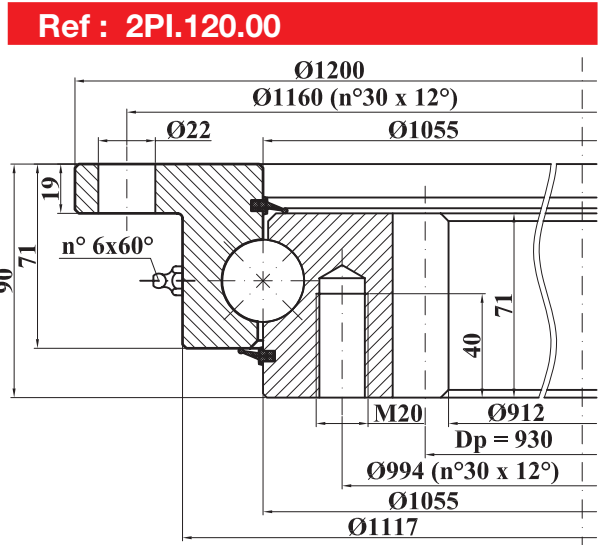
Serie C.PI



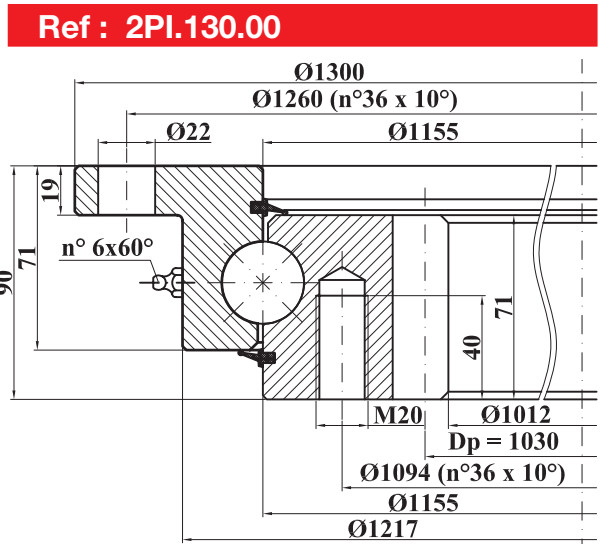
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			$^{\circ}$		mm	kN
2127	811	504	306	421	155	10	83	20	-	1	73,8



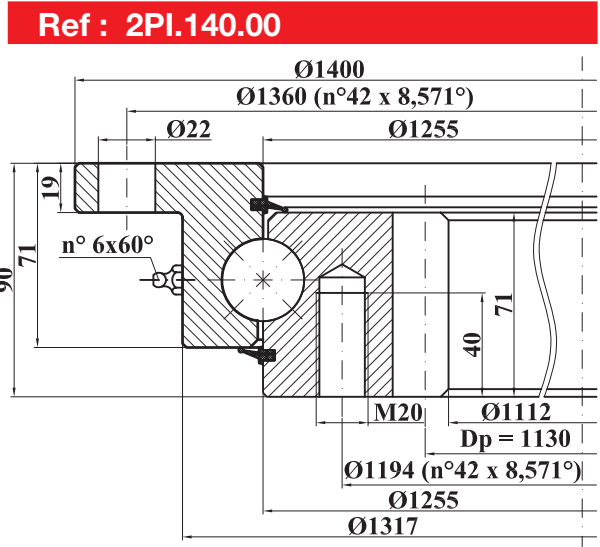
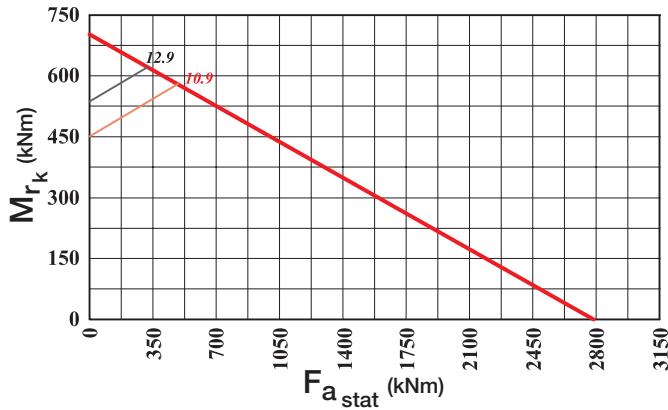
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			$^{\circ}$		mm	kN
2340	894	523	317	506	172	10	93	20	-	1	73,8



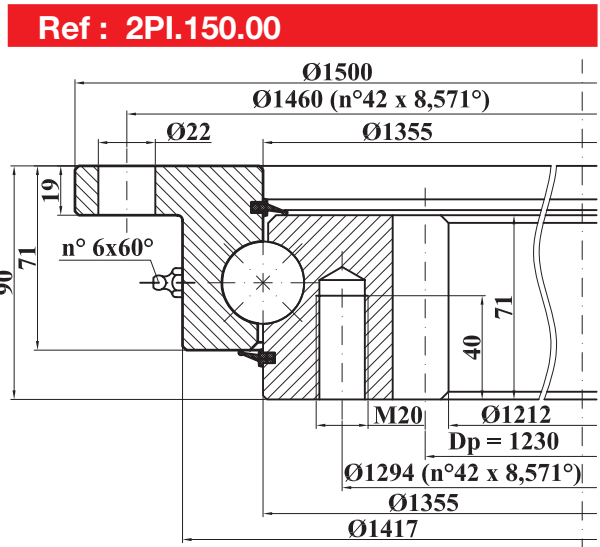
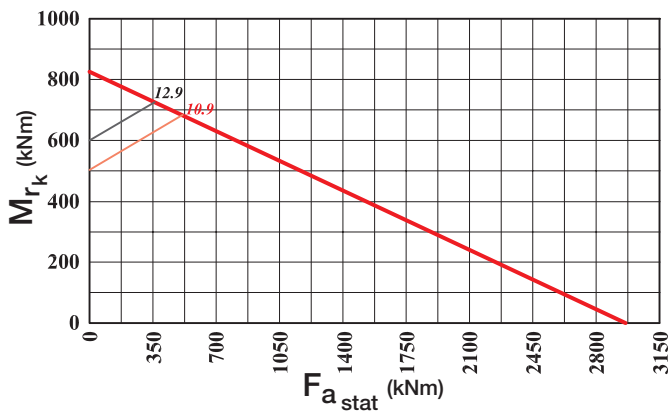
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			$^{\circ}$		mm	kN
2563	977	540	327	605	188	10	103	20	-	1	73,8



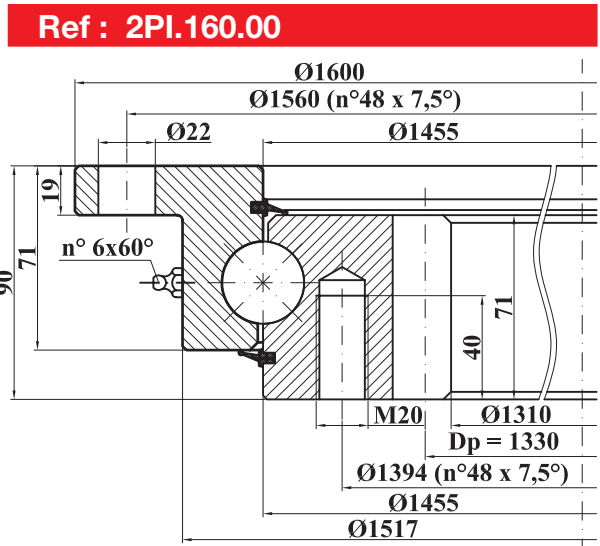
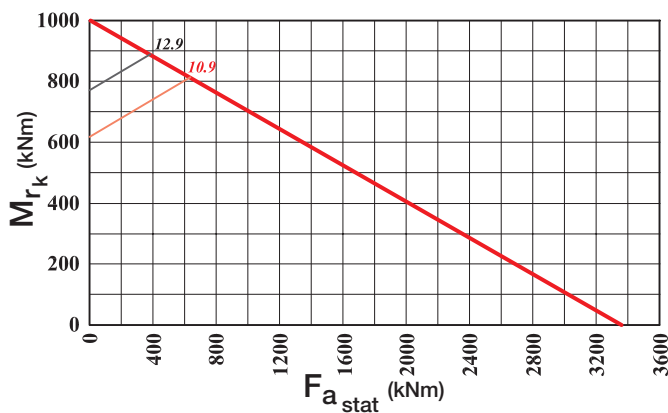
Serie C.PI



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2779	1060	556	337	710	204	10	118	20	-	1	73,8

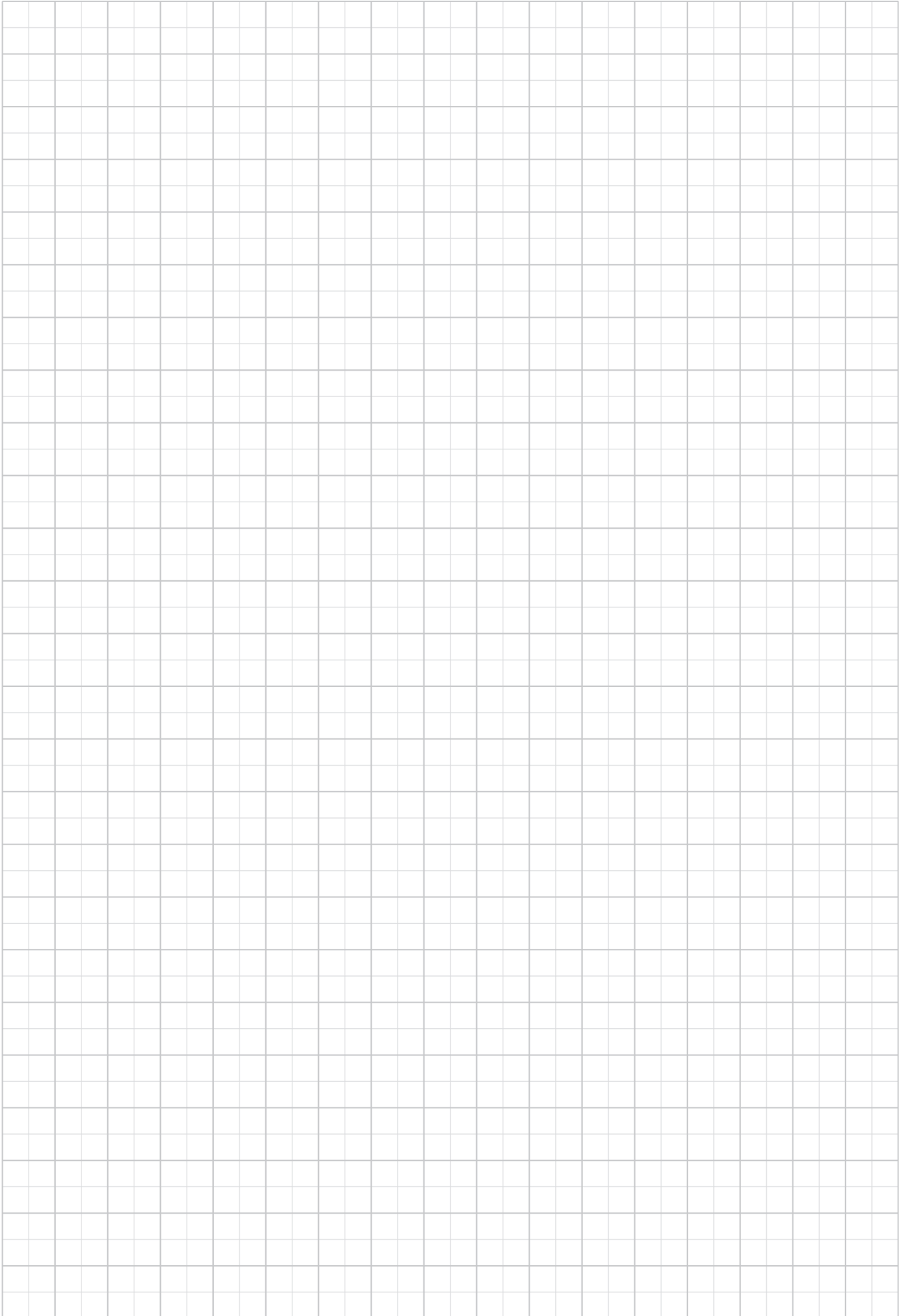


Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2997	1166	572	346	828	222	10	123	20	-	1	73,8

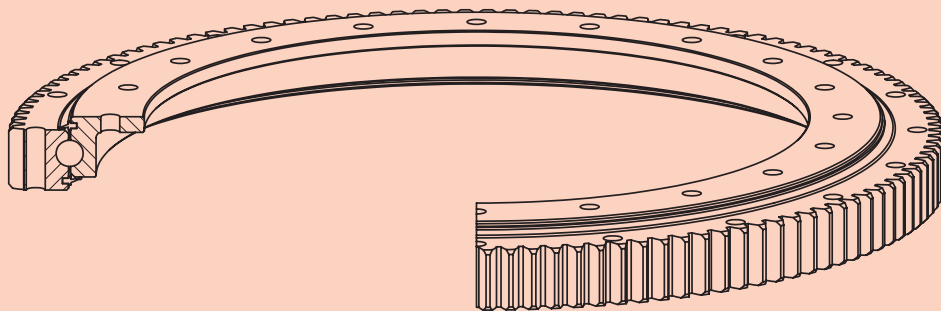


Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
3312	1251	587	355	966	239	10	133	20	-	-	73,8

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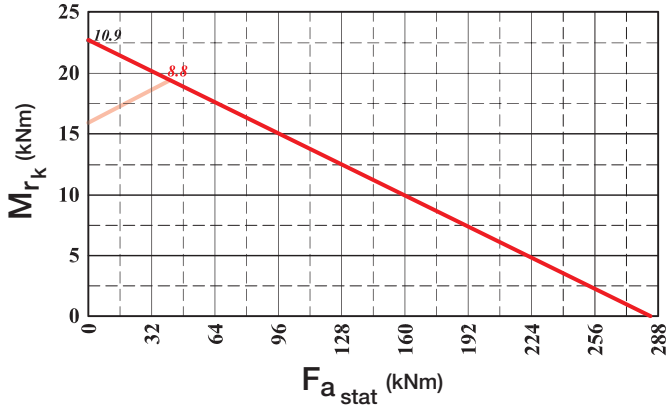


Serie C.DE

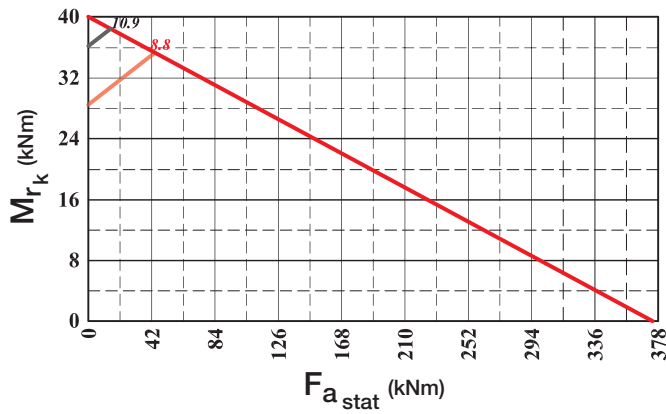
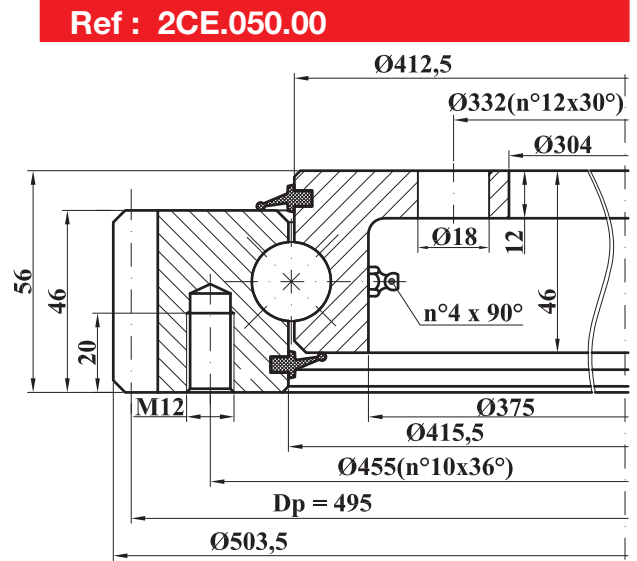


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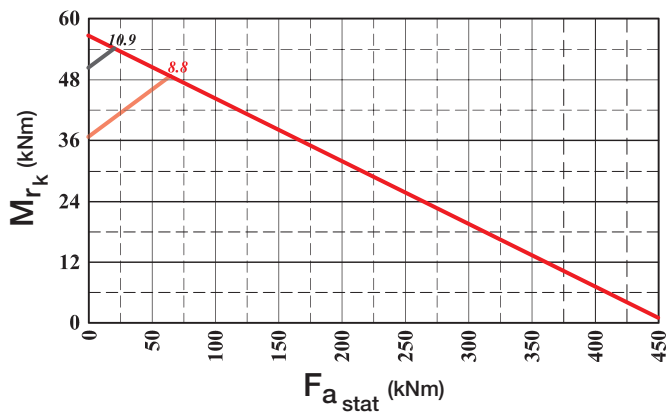
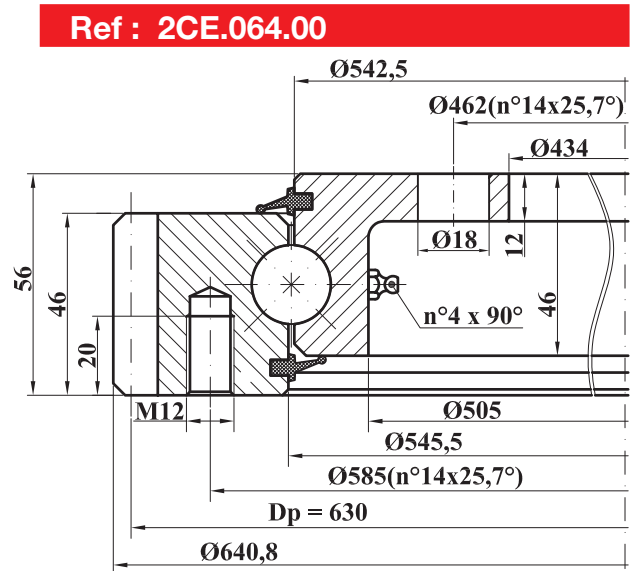
Serie C.DE



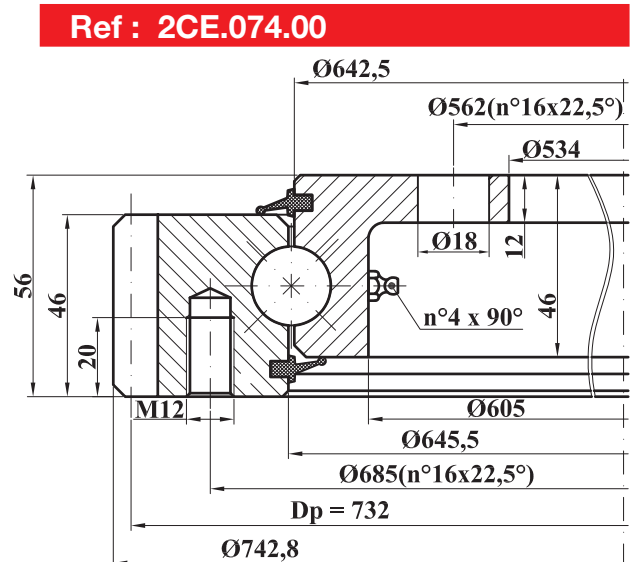
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
284	103	172	105	22,9	30	5	99	20	-	0,75	23,9



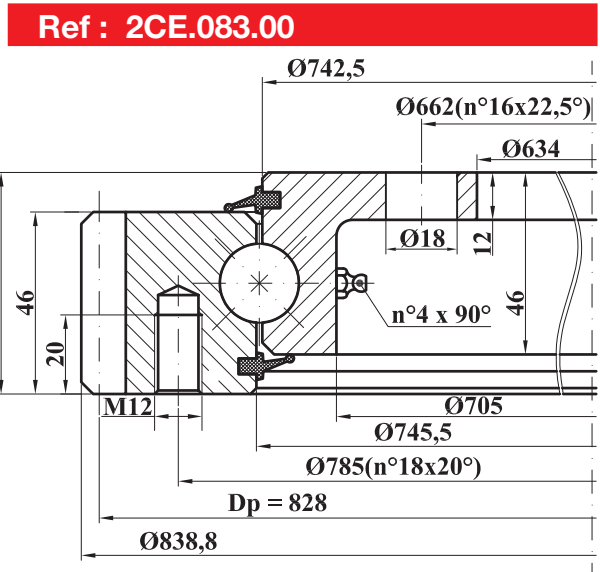
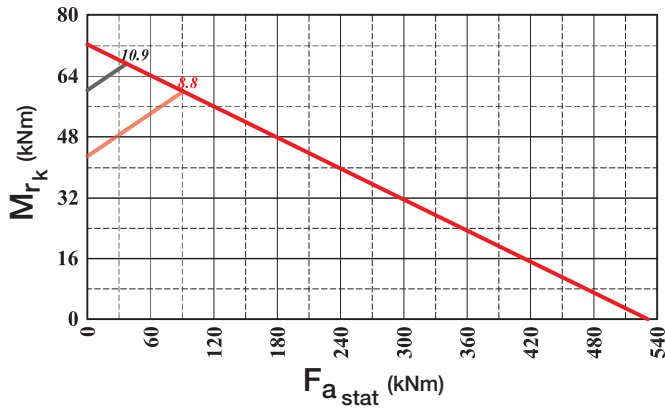
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
372	134	190	116	40,1	41	6	105	20	-	0,60	28,7



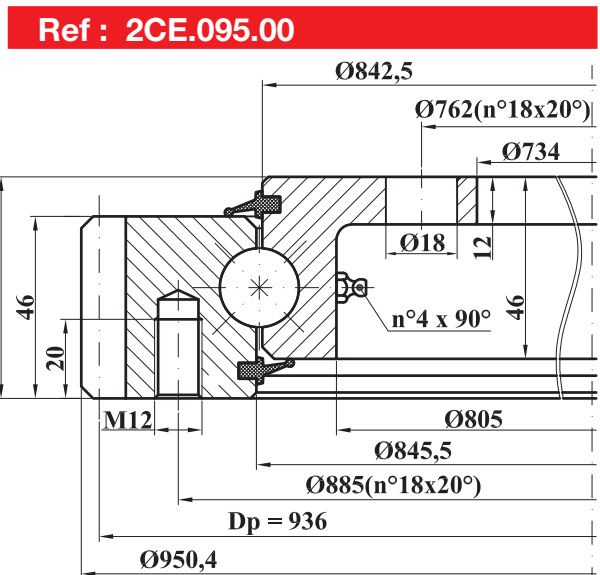
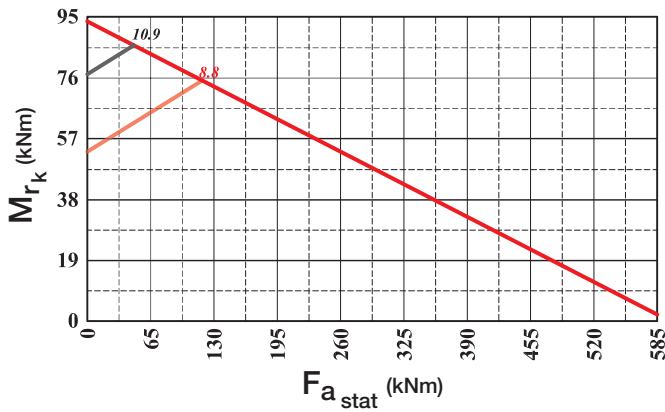
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
455	166	203	124	56,8	49	6	122	20	-	0,60	28,7



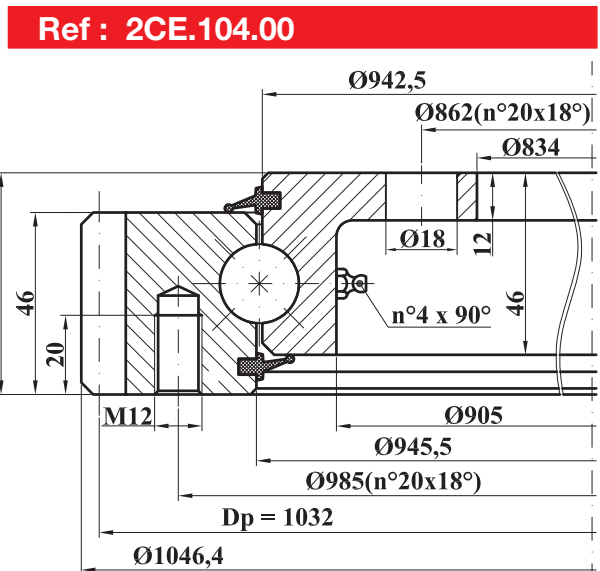
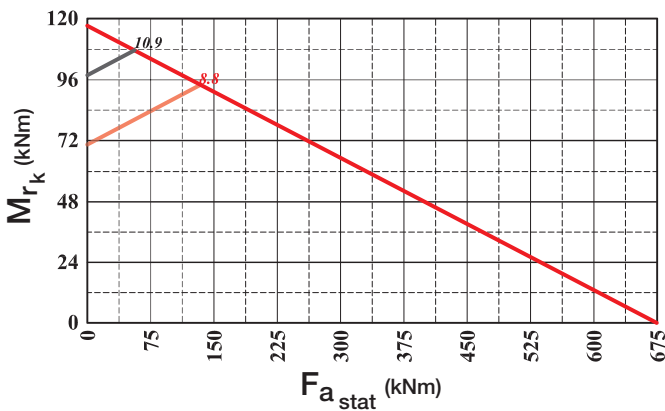
Serie C.DE



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
531	179	216	128	72,5	55	6	138	20	-	0,60	28,7



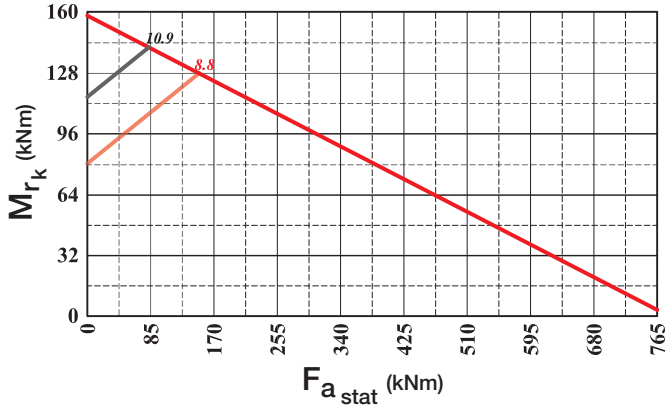
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
603	203	227	134	93,1	68	8	117	20	-	0,80	38,3



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
674	227	236	140	118	71	8	129	20	-	0,80	38,3

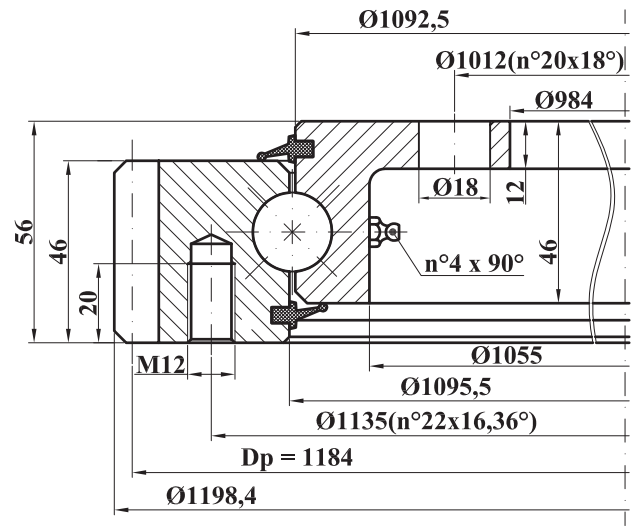
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Serie C.DE

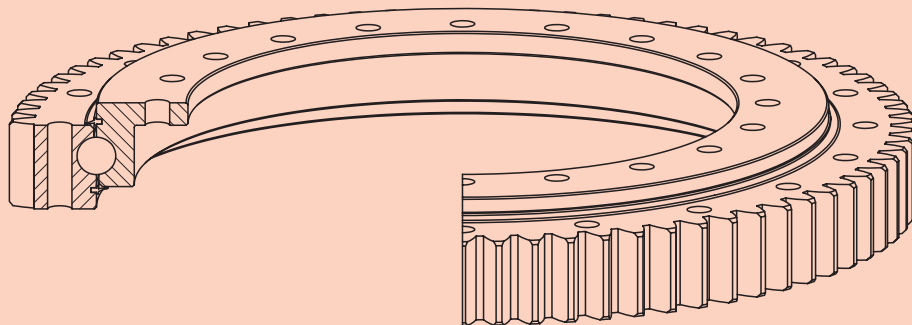


Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
782	257	250	148	157	84	8	148	20	-	0,80	38,3

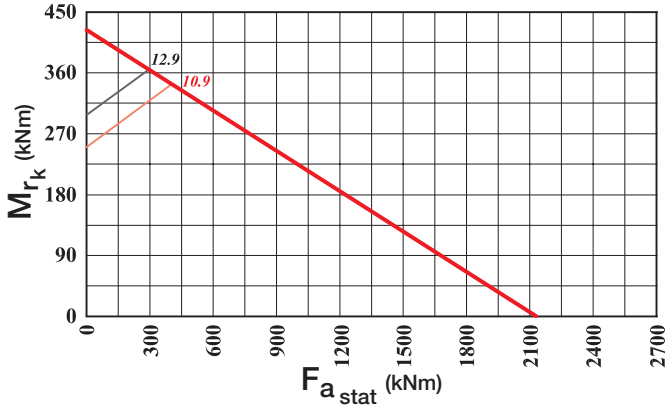
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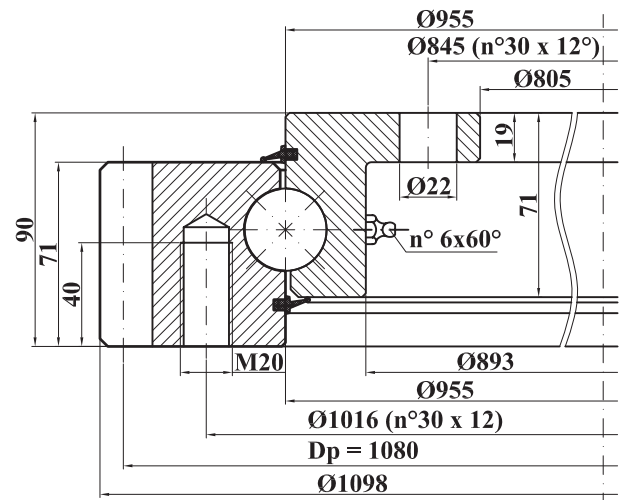
Serie C.PE



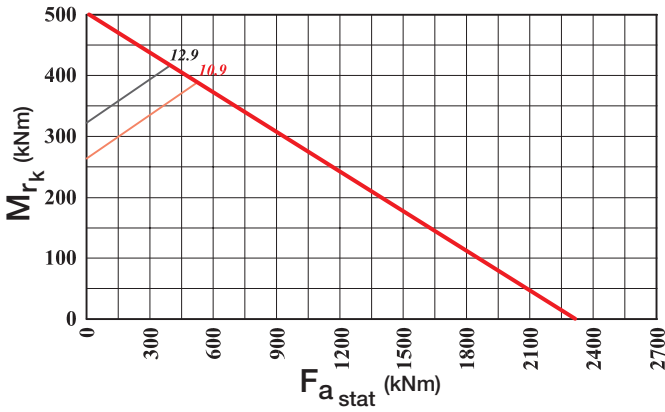
Serie C.PE



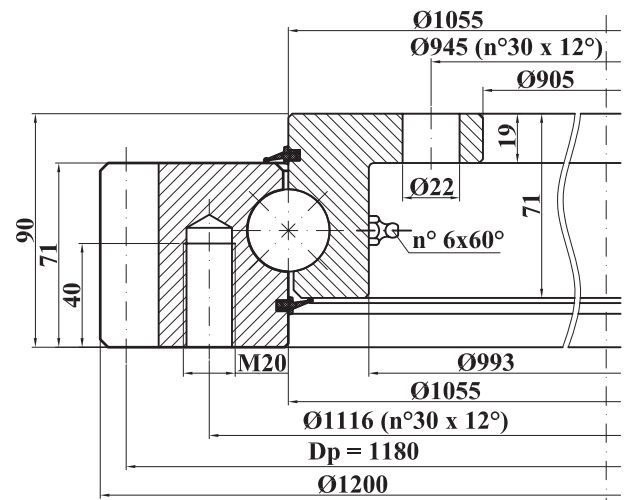
Ref : 2PE.110.00



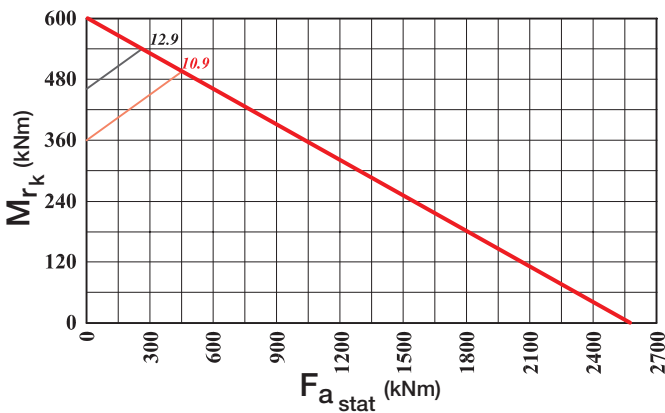
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2127	811	504	306	421	161	9	120	20	-	-	66,5



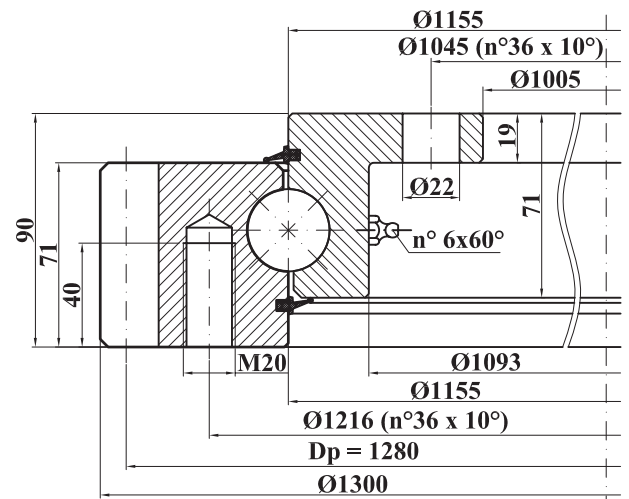
Ref : 2PE.120.00



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2340	894	523	317	506	179	10	118	20	-	-	73,8

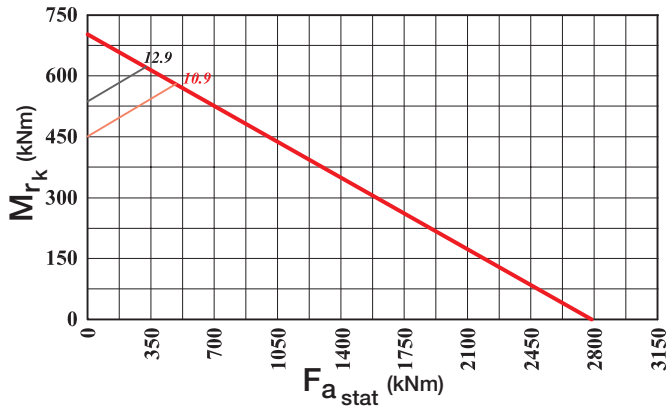


Ref : 2PE.130.00

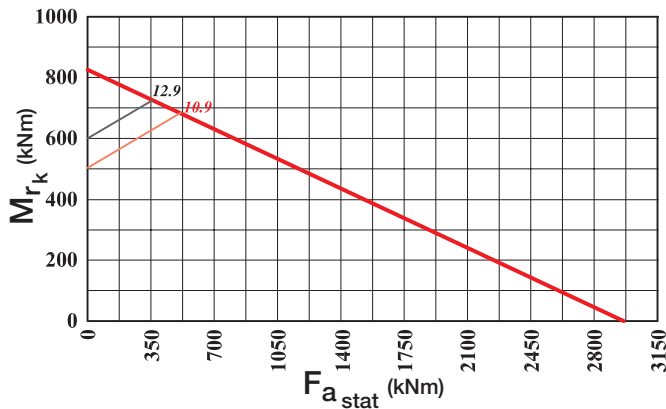
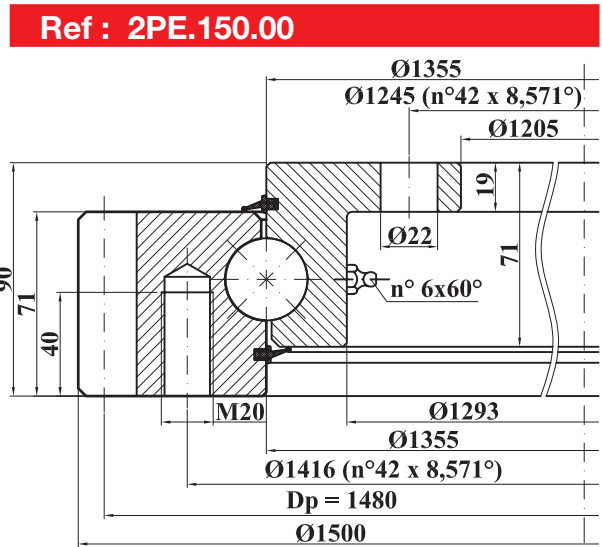
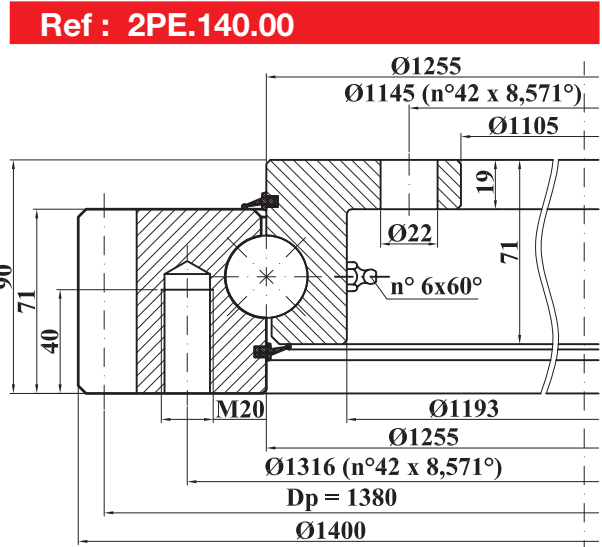


Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2563	977	540	327	605	196	10	128	20	-	-	73,8

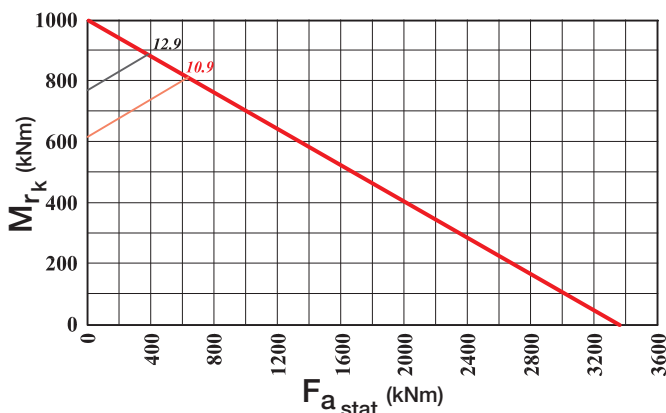
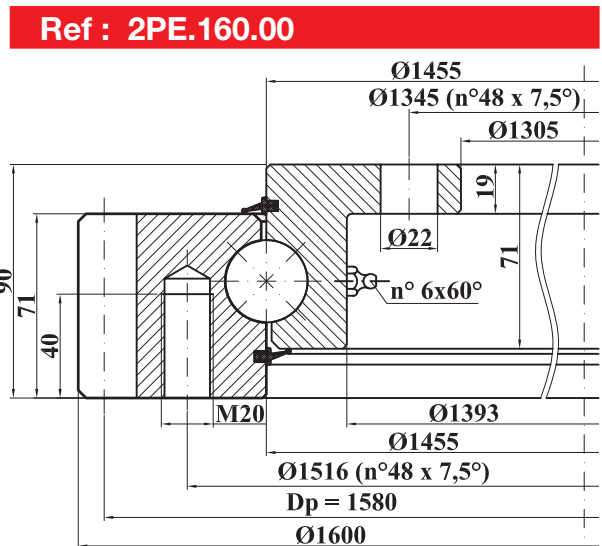
Serie C.PE



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2779	1060	556	337	710	212	10	138	20	-	-	73,8

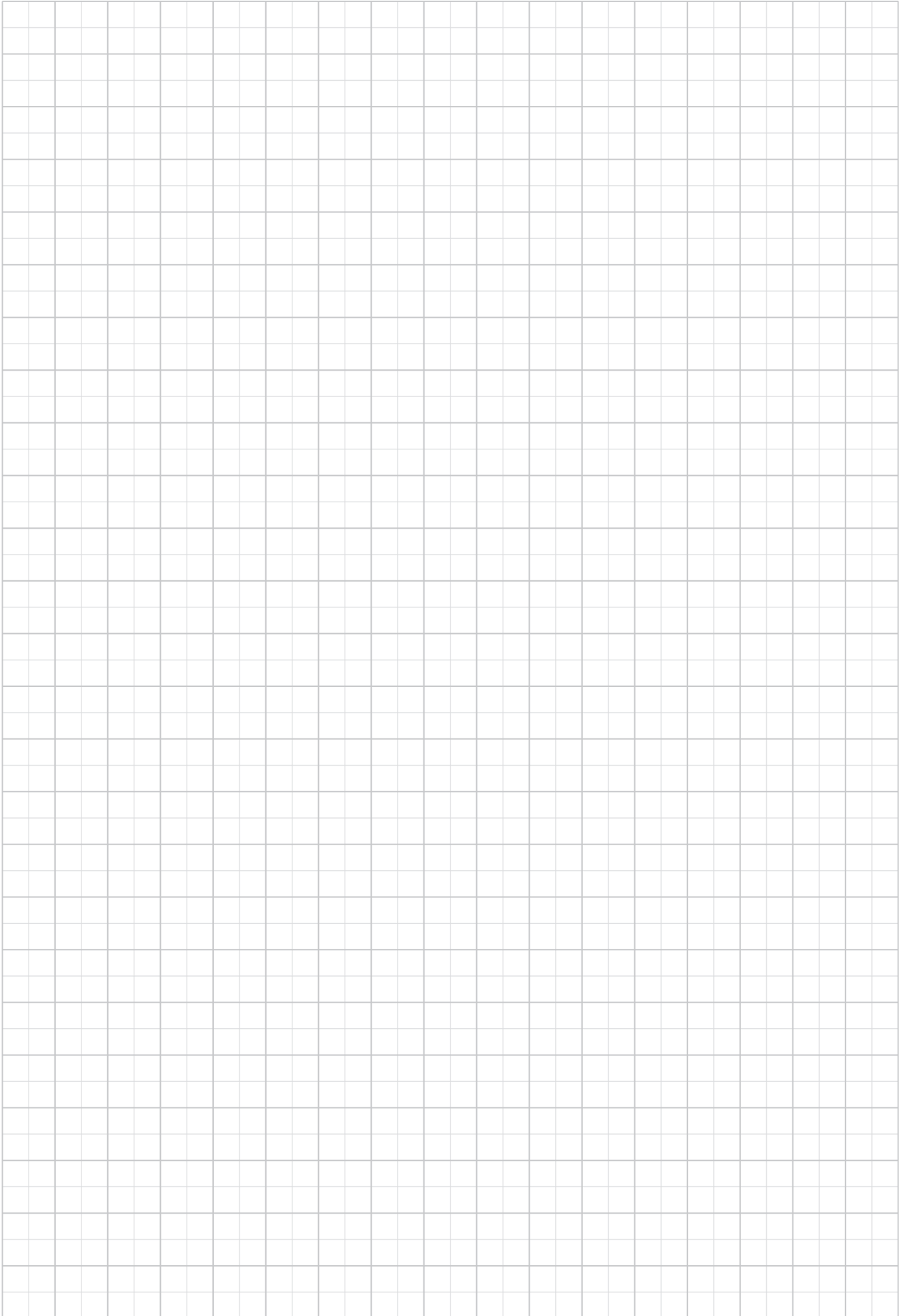


Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2997	1166	572	346	828	230	10	148	20	-	-	73,8

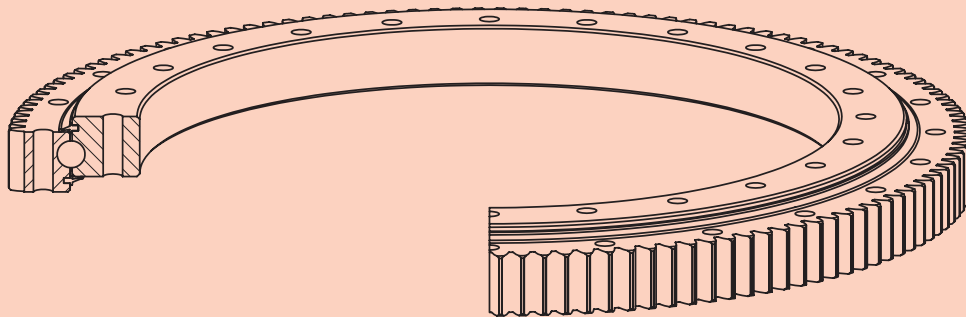


Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
3312	1251	587	355	966	246	10	158	20	-	-	73,8

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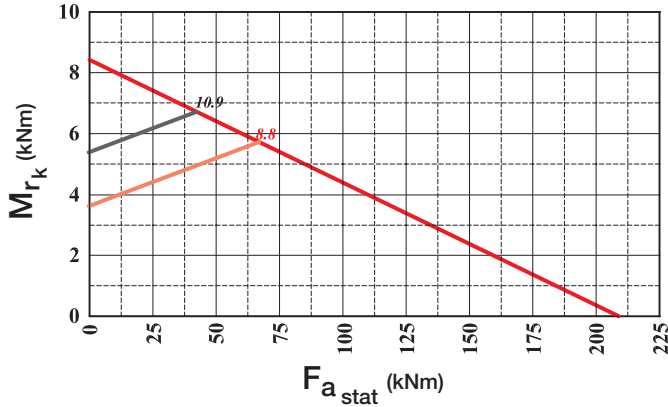


Serie I.DE

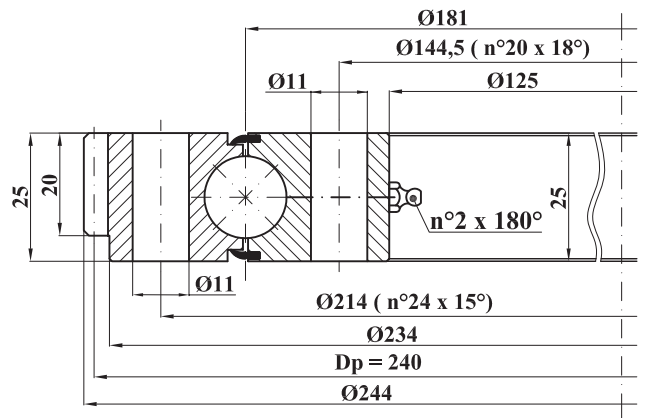


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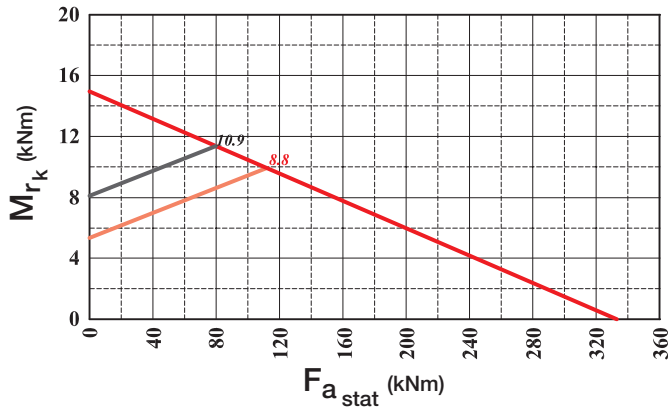
Serie I.DE



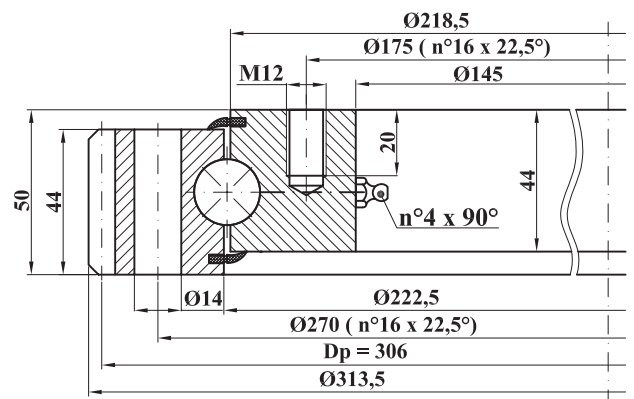
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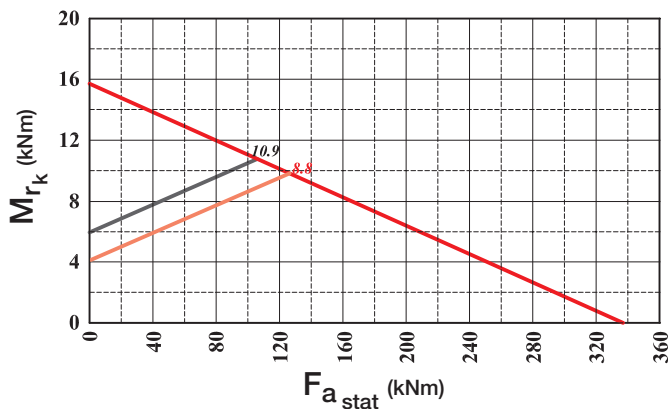
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
207	82,7	105	64,5	8,3	5,5	2	120	20	-	-	4,16



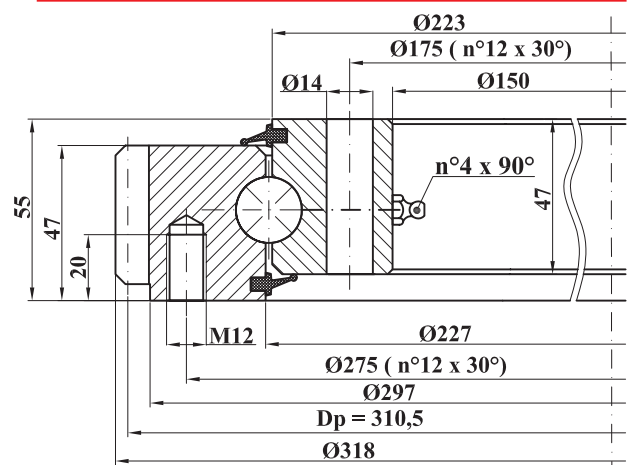
Ref : 2IE.031.00



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
333	128	159	94,7	15,1	23	4,5	68	20	-	0,75	20,6

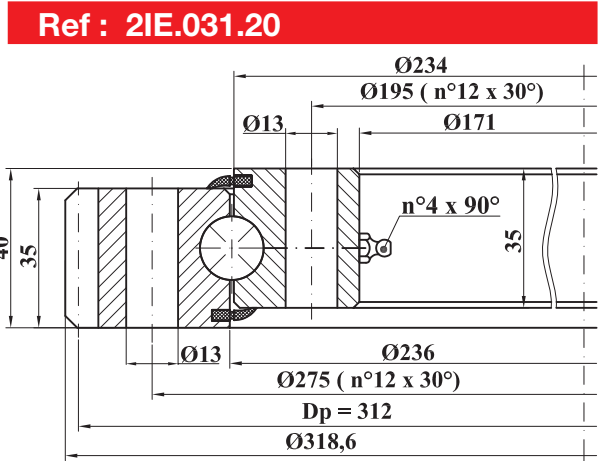
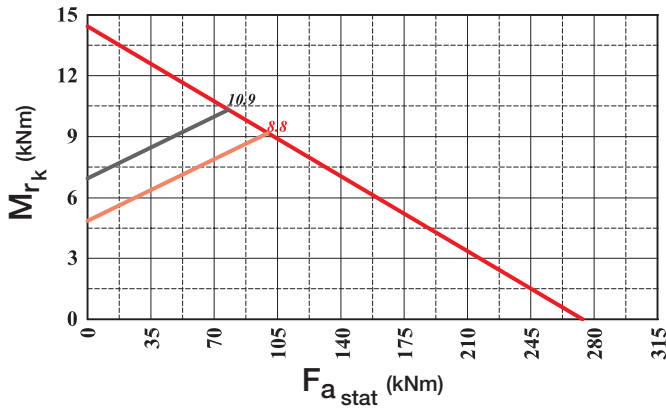


Ref : 2IE.031.10

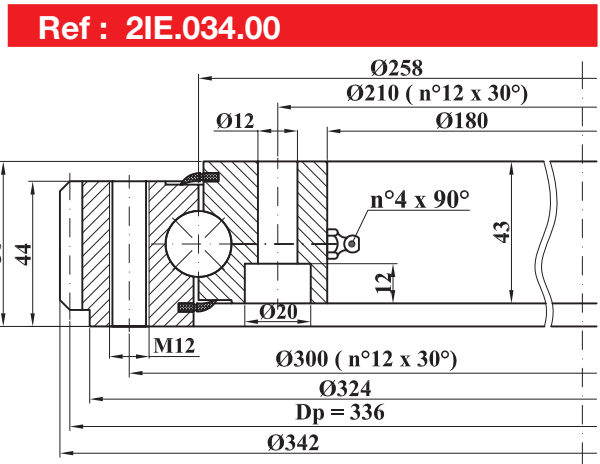
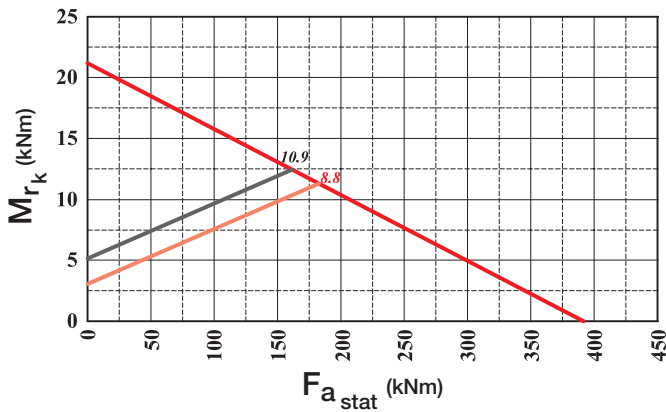


Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
333	124	158	94,2	15,9	18	4,5	69	20	-	0,75	19,6

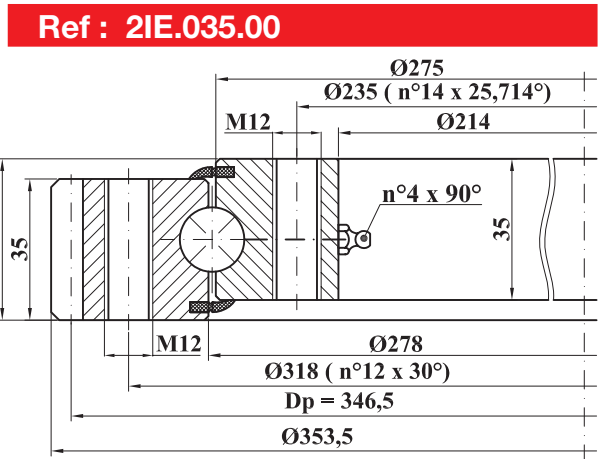
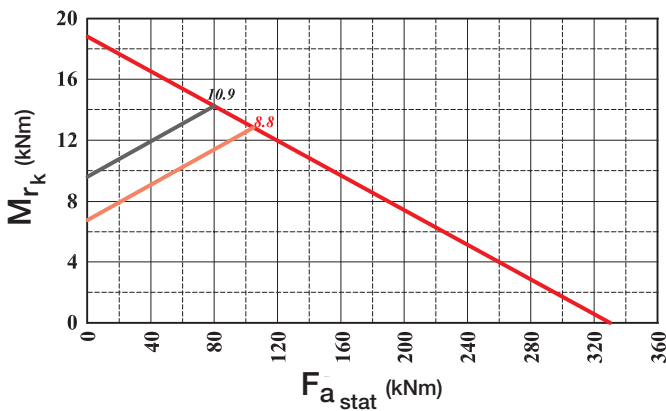
Serie I.DE



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
275	111	116	71,2	14,2	18	4	78	20	-	0,7	14,5



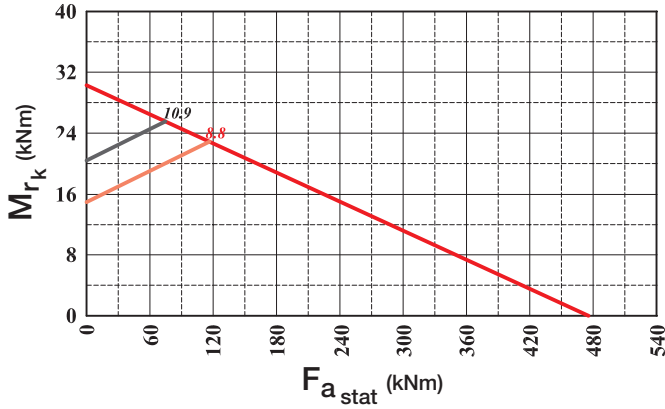
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
387	149	169	100	21,2	21	3	112	20	-	-	12,2



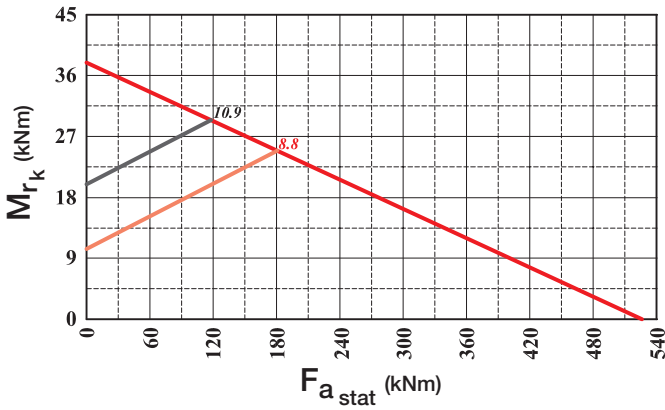
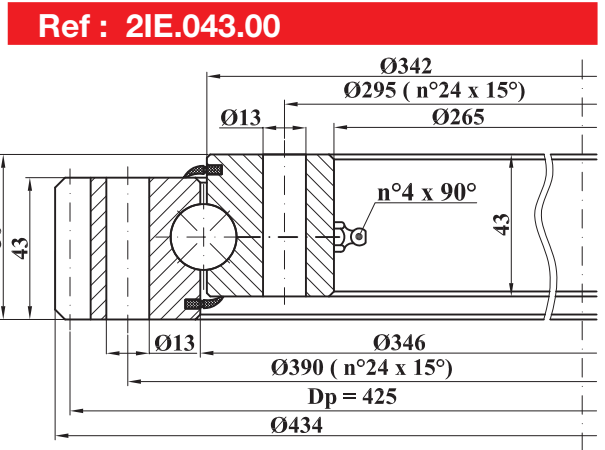
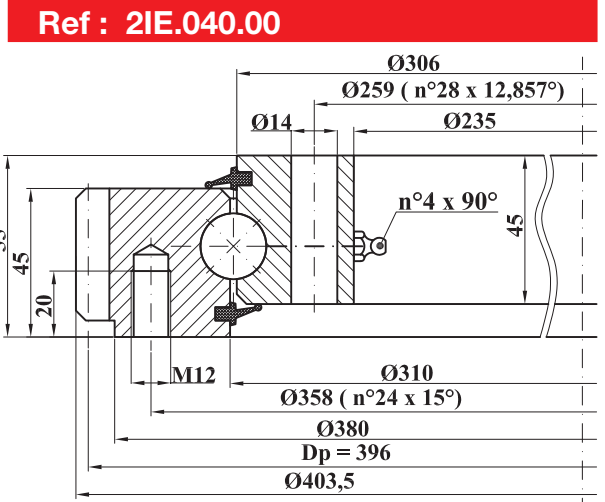
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
332	122	126	72,6	18,9	21	3,5	99	20	-	-	12,7

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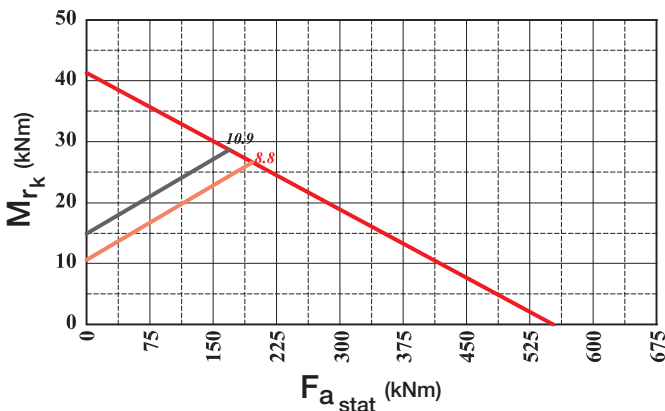
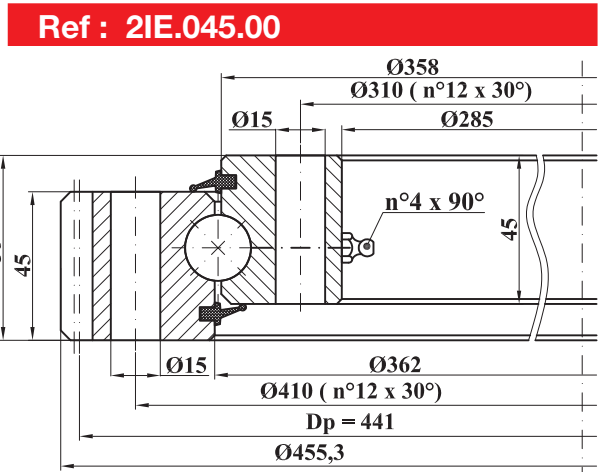
Serie I.DE



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
474	178	181	108	30,2	23	4,5	88	20	-	0,75	18,7

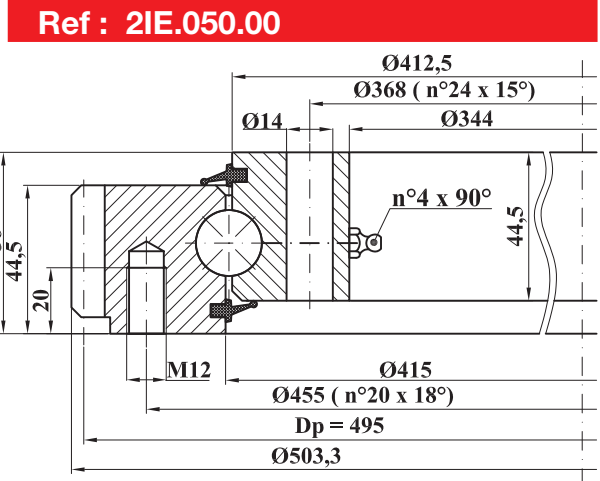
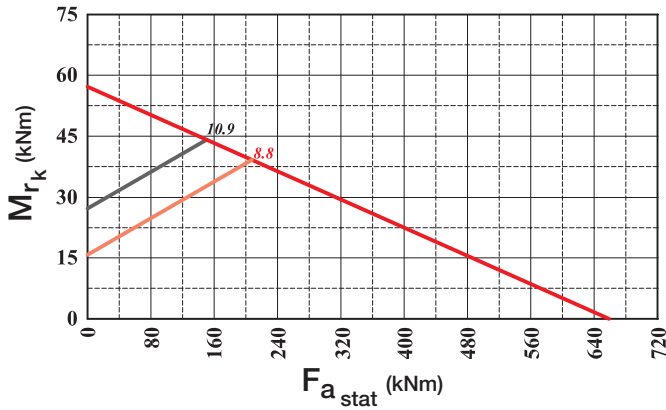


Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
529	199	189	112	37,8	30	5	85	20	-	0,5	22,4

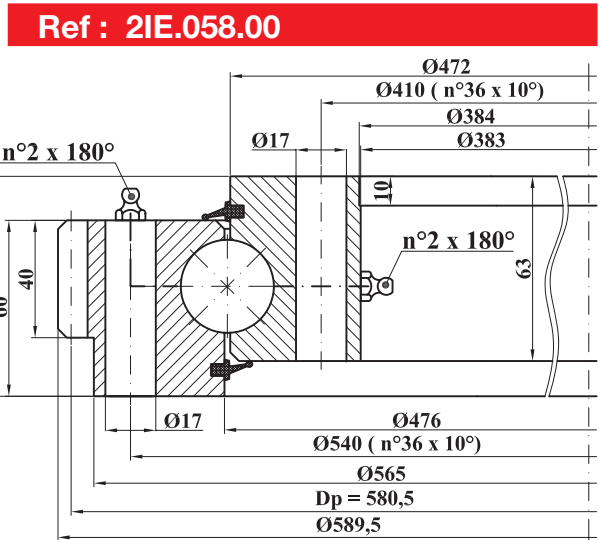
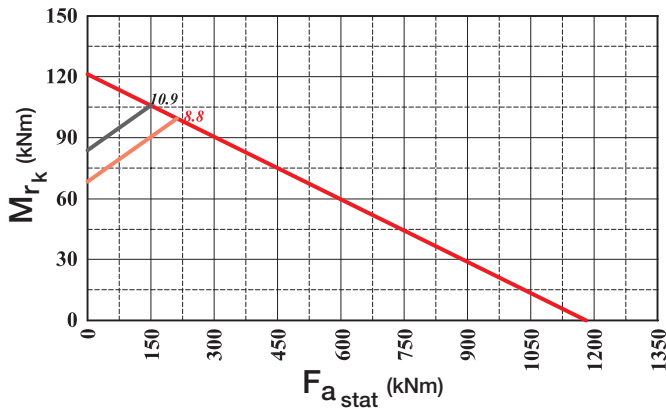


Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
538	207	192	114	41,8	35	4,5	98	20	3,15	0,5	21

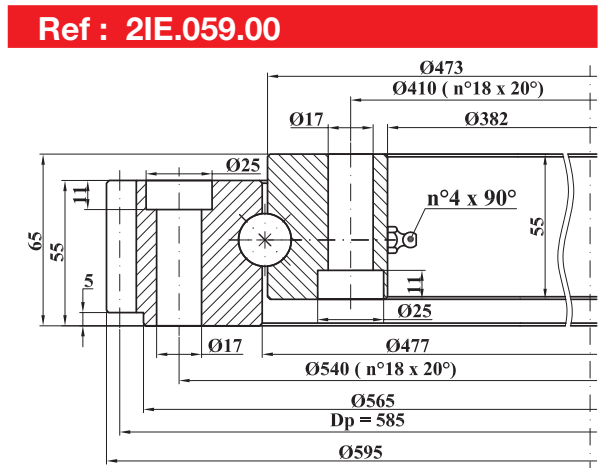
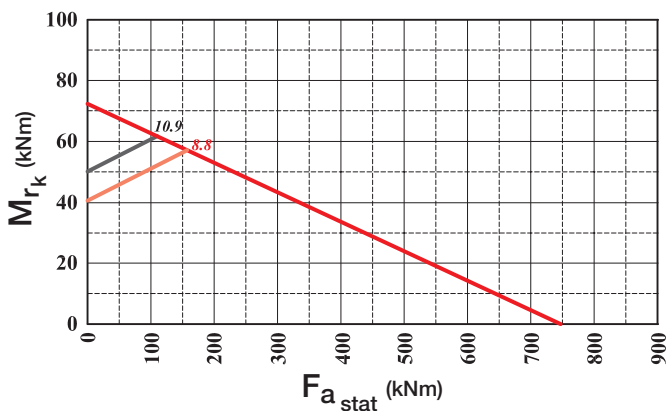
Serie I.DE



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
654	248	204	121	55,4	30	5	99	20	-	0,85	20,5



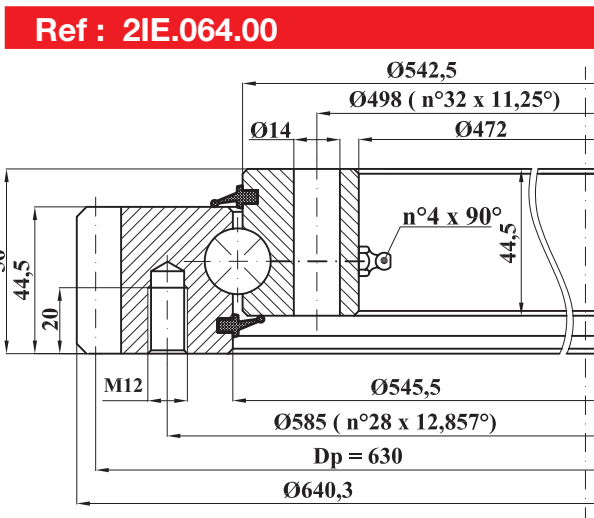
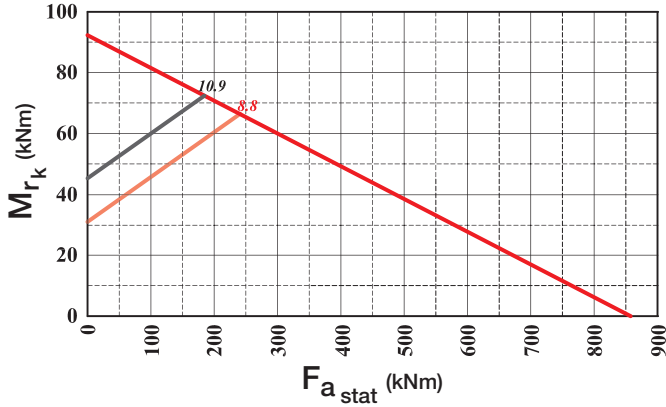
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1185	463	422	259	122	62	4,5	129	20	-	-	18,7



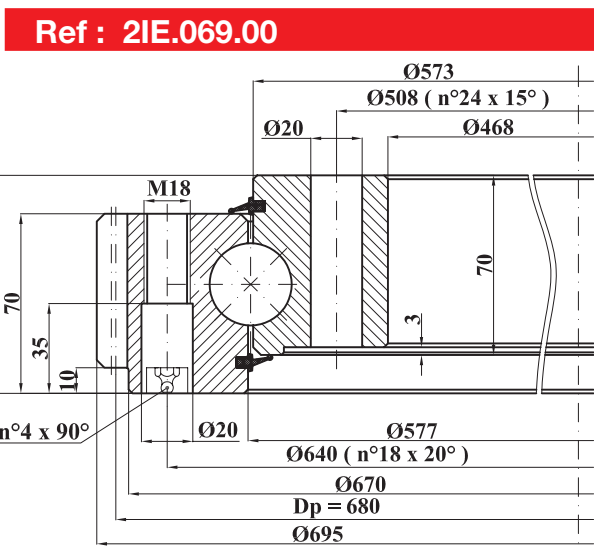
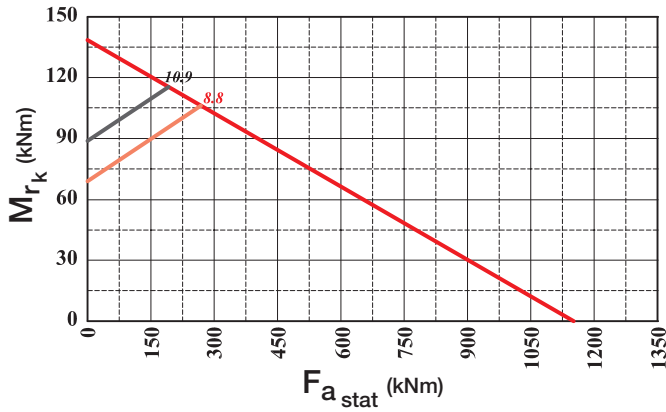
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
745	282	213	126	72,5	58	5	117	20	-	-	26

NEURN020000_001

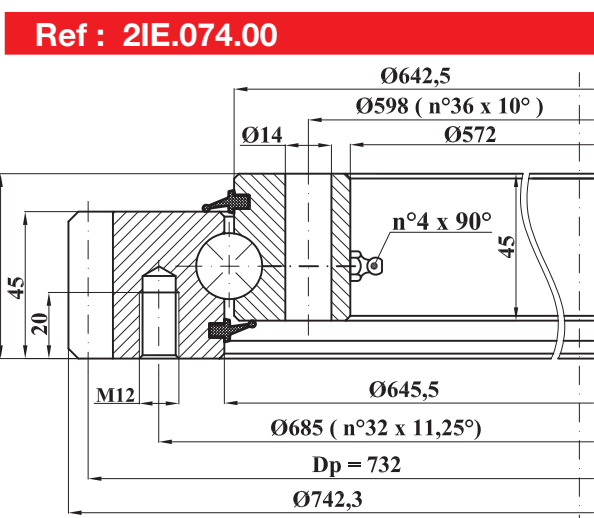
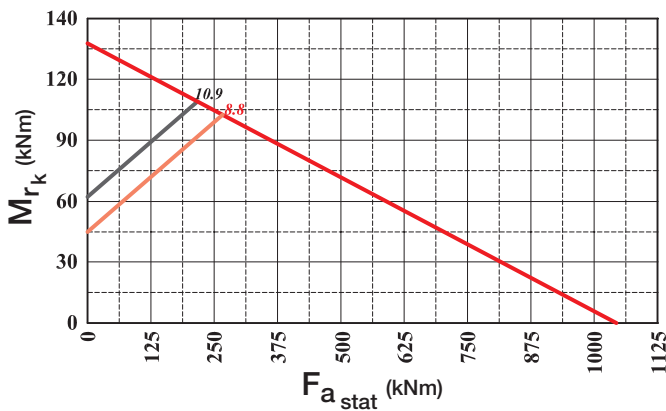
Serie I.DE



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
858	324	225	133	94,8	42	6	105	20	-	0,85	27,7

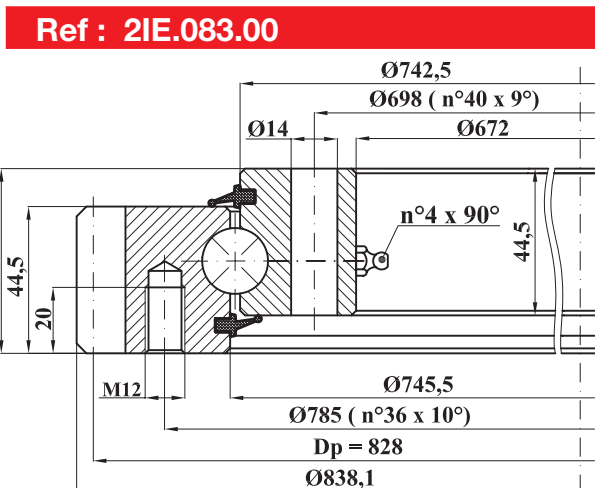
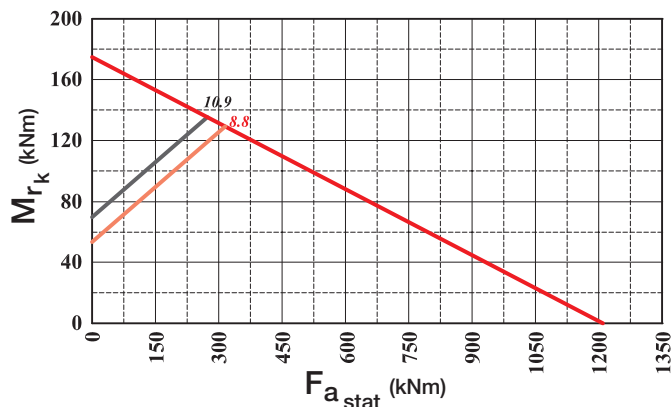


Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1142	448	320	193	140	91	5	136	20	2,5	-	31,2

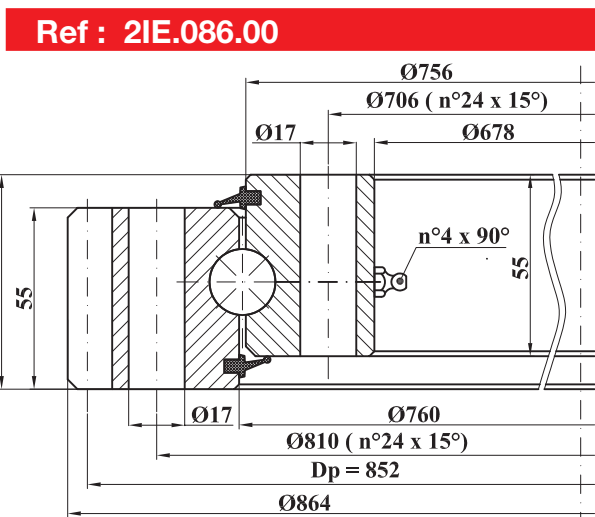
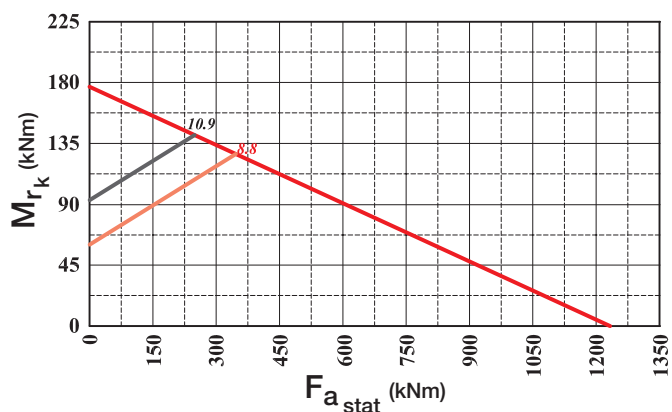


Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1050	362	244	137	132	52	6	122	20	-	0,85	28,1

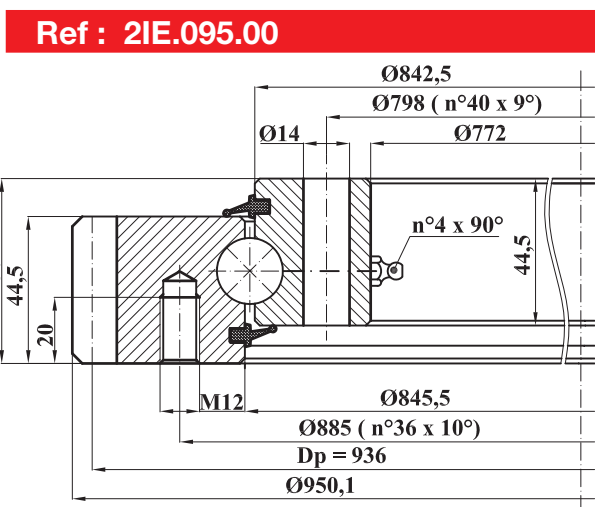
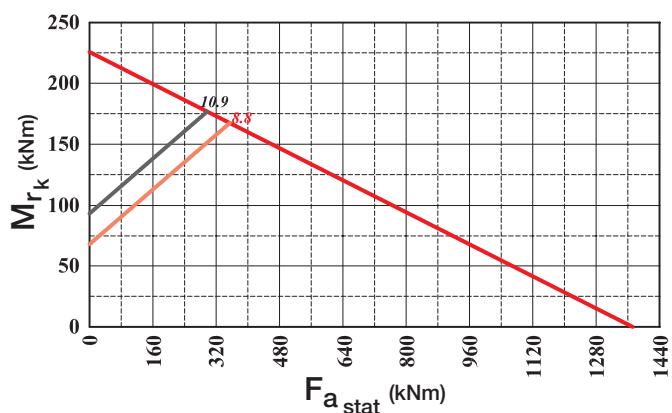
Serie I.DE



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1210	418	257	145	175	60	6	138	20	-	0,95	27,7



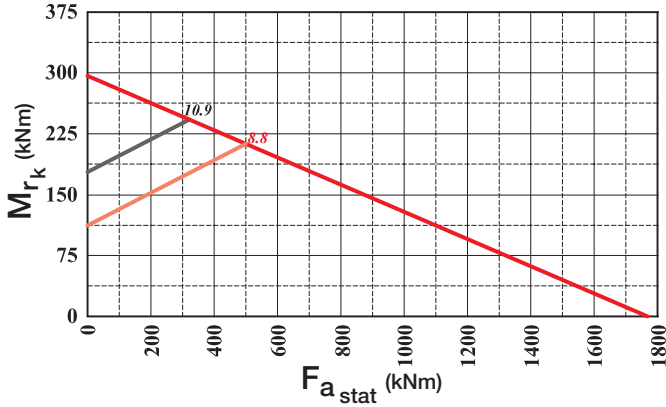
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1232	426	259	146	179	72	6	142	20	-	-	34,3



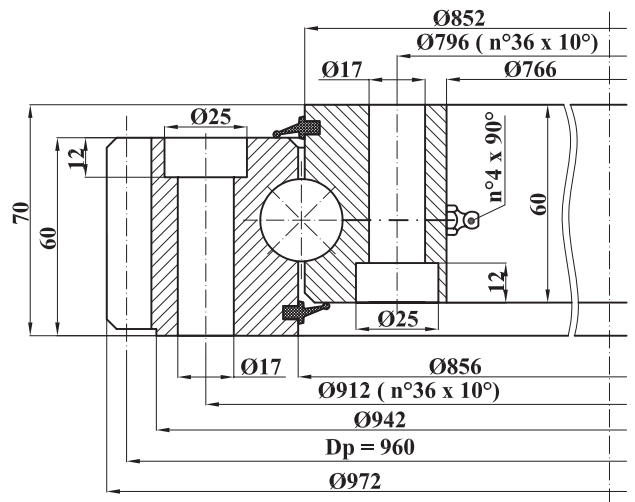
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1370	490	270	152	227	72	8	117	20	-	0,95	37

NEURN02000_001

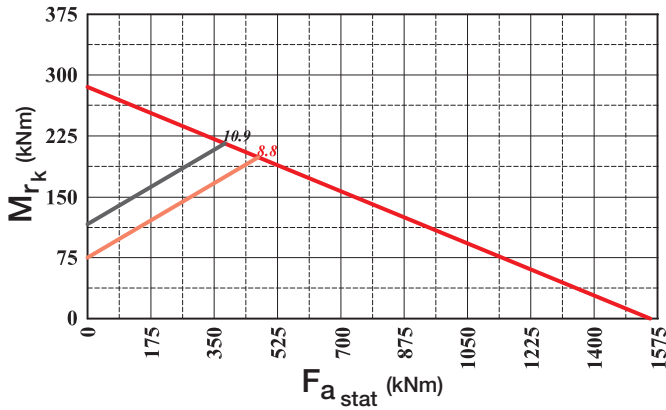
Serie I.DE



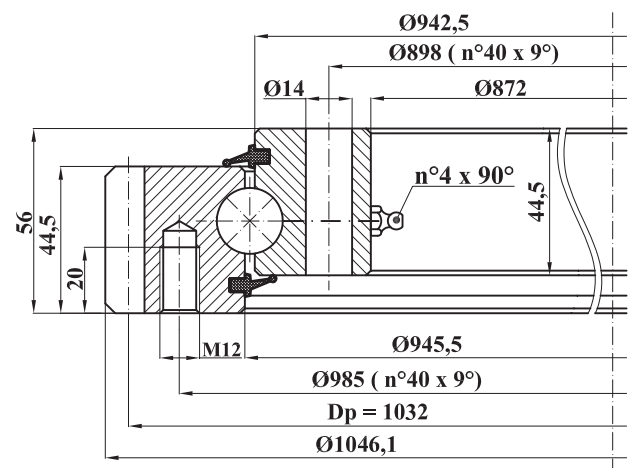
Ref : 2IE.097.00



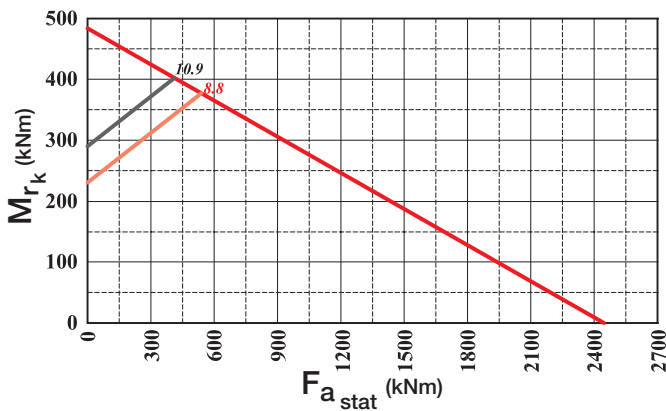
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1760	638	375	218	297	106	6	160	20	-	-	36,2



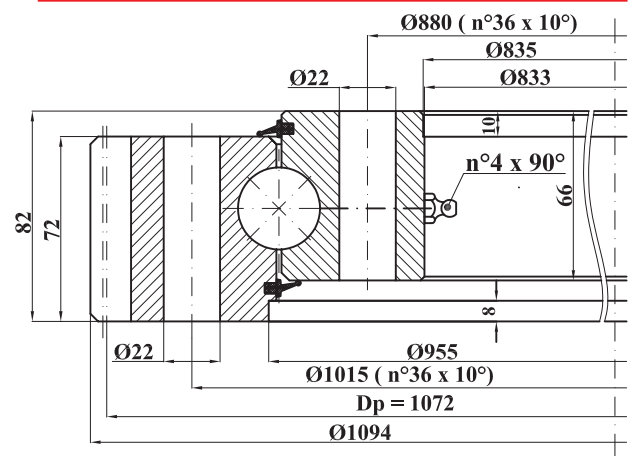
Ref : 2IE.104.00



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1540	548	281	158	287	78	8	127	20	-	0,95	37

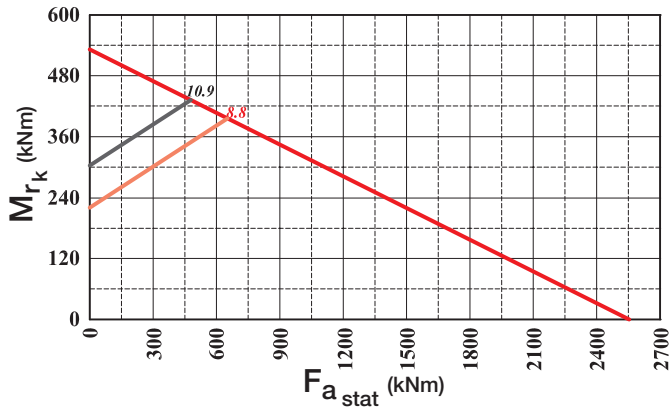


Ref : 2IE.109.00

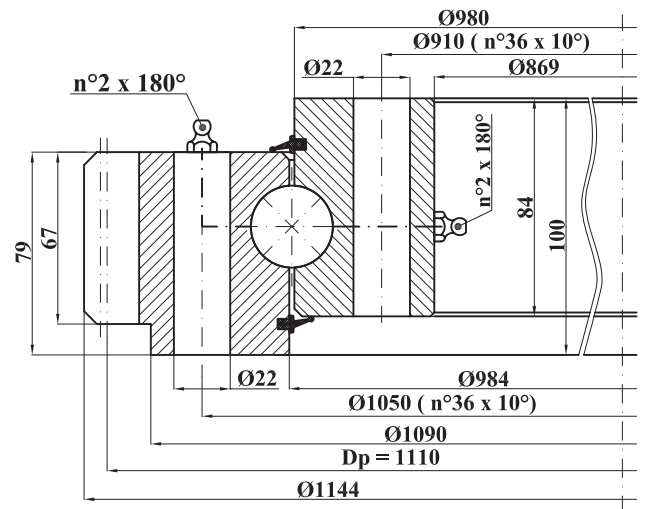


Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2462	955	555	331	484	179	8	134	20	3	-	59,9

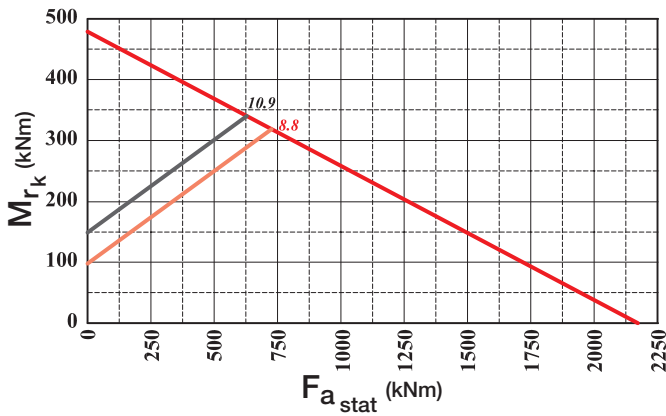
Serie I.DE



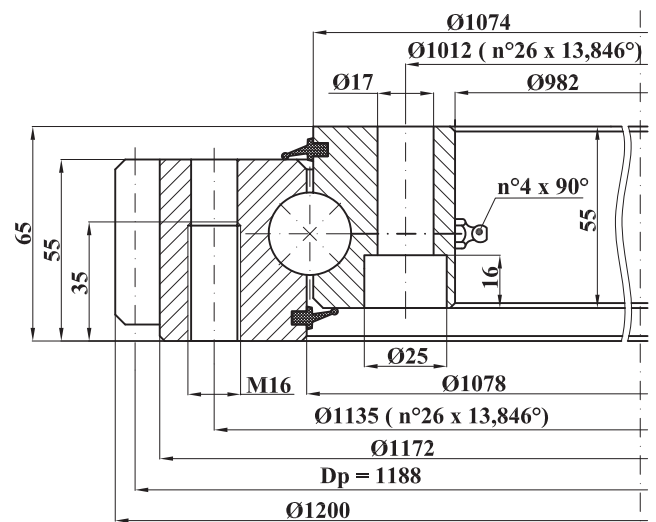
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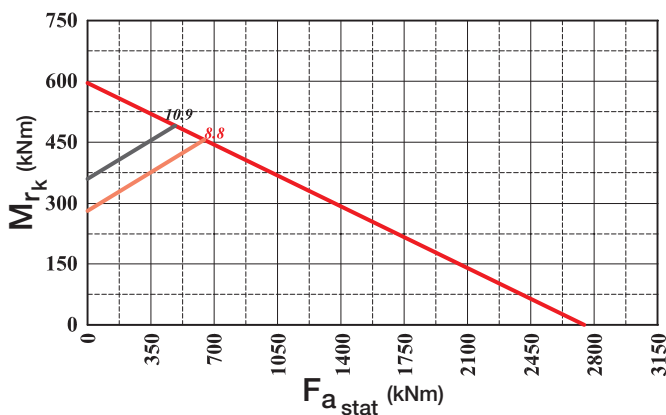
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2557	988	562	335	523	214	10	111	20	8	1	69,7



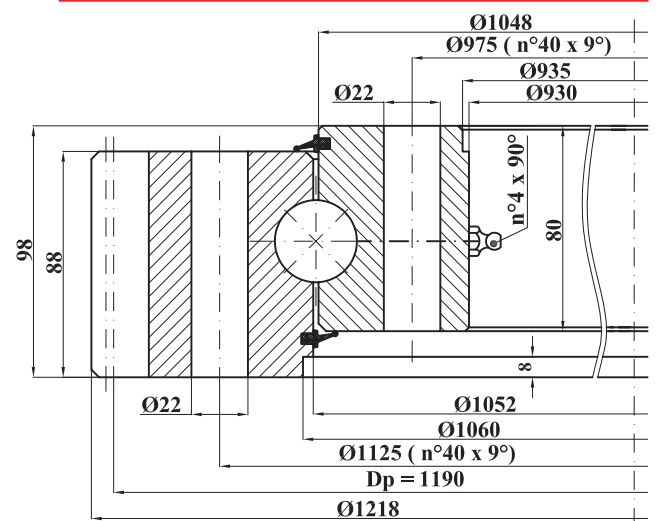
Ref : 2IE.120.00



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2175	821	408	237	476	176	6	198	20	-	-	31,2



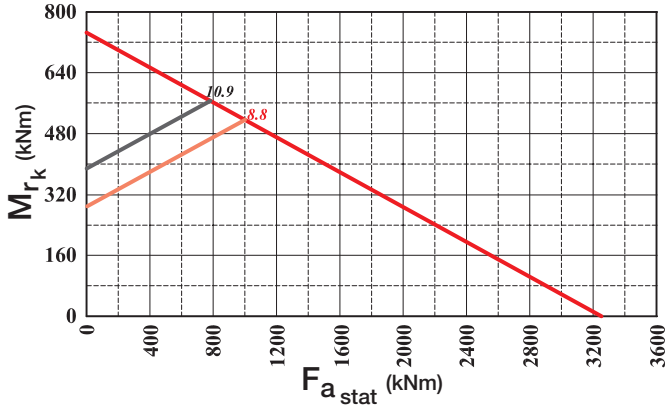
Ref : 2IE.121.00



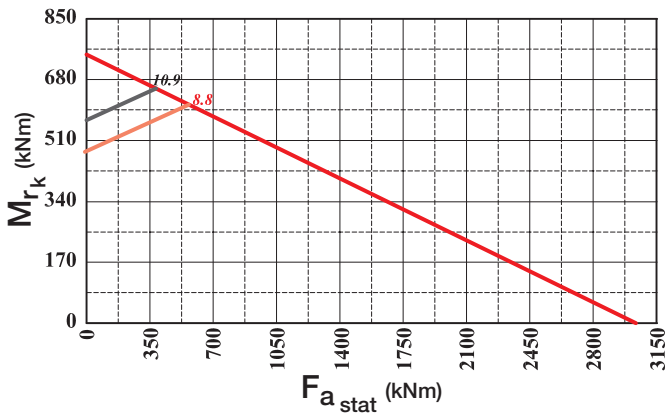
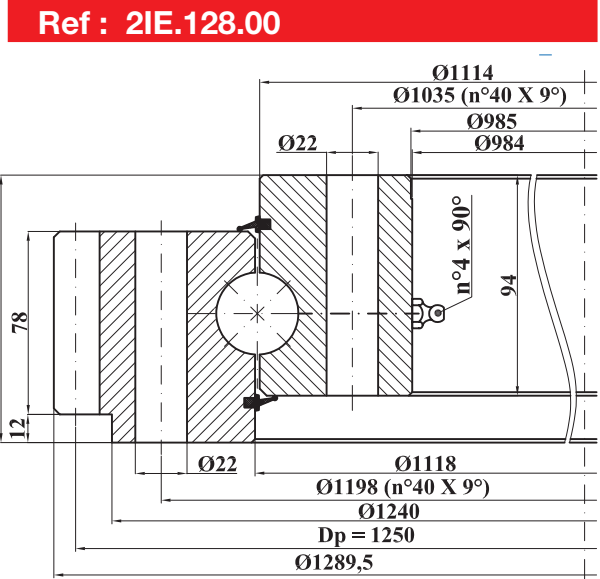
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2755	1072	580	345	599	266	10	119	20	5	1	91,5

NEURN02000_001

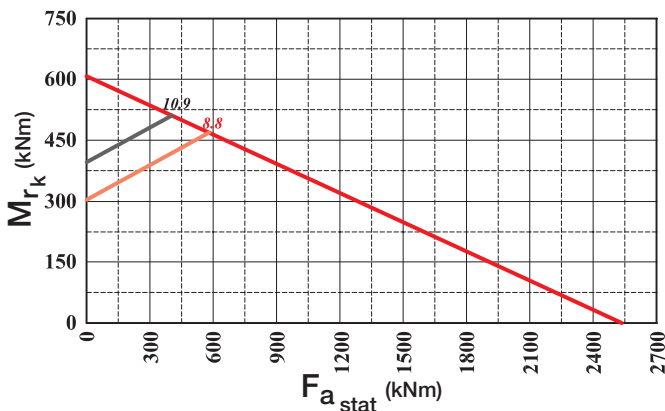
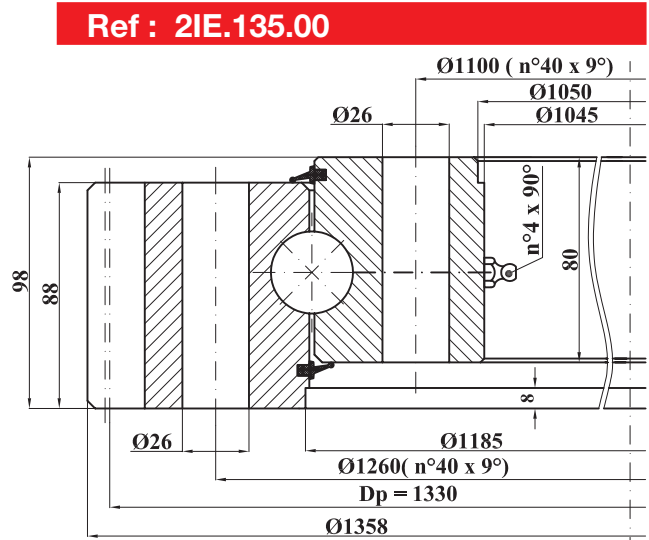
Serie I.DE



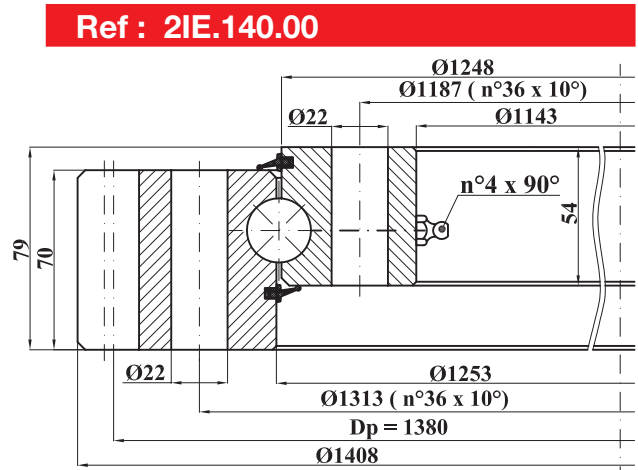
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
3225	1242	671	403	744	225	10	125	20	10,5	0,75	81,1



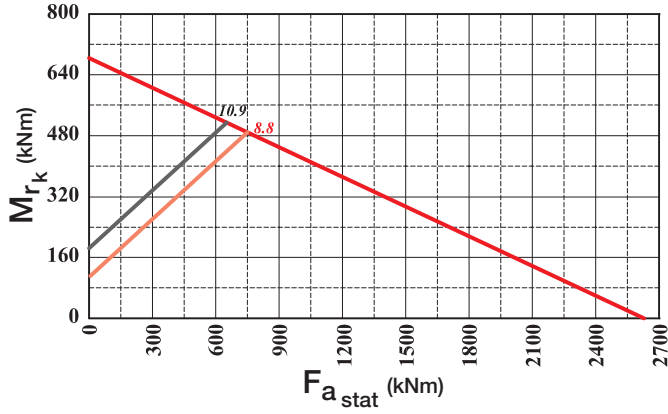
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
3065	1198	602	359	754	327	10	133	20	5	1	91,5



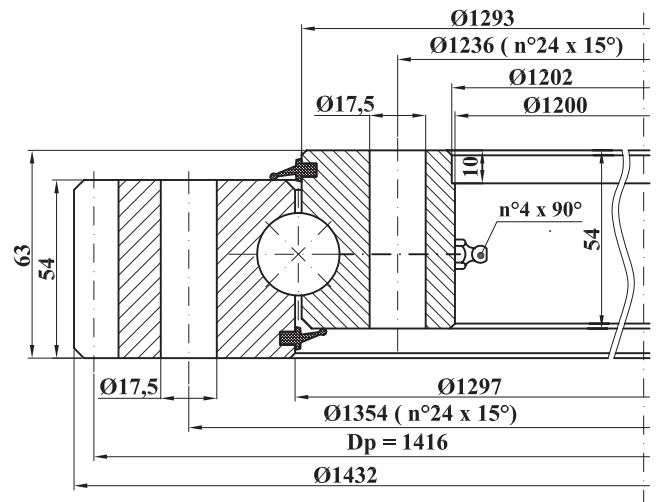
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2522	955	432	251	626	225	10	138	20	5	1	72,8



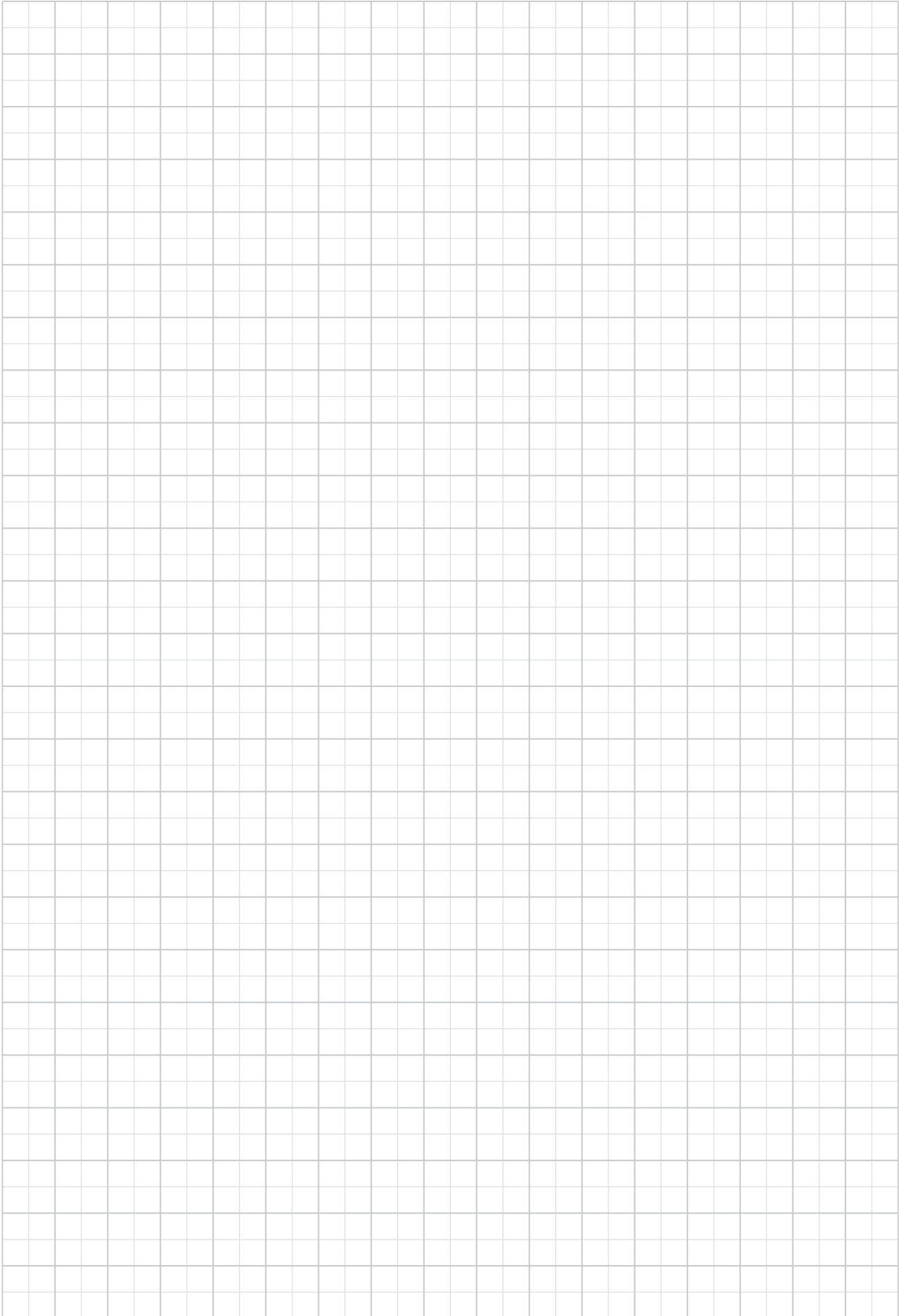
Serie I.DE



Ref : 2IE.143.00

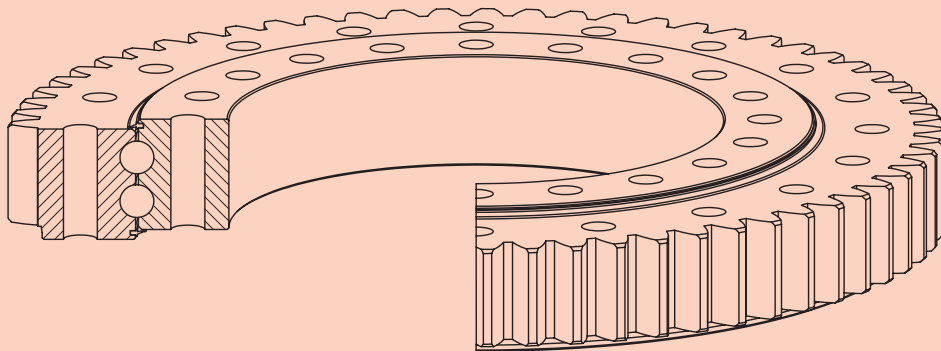


Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2614	988	437	254	670	175	8	177	20	-	-	44,9



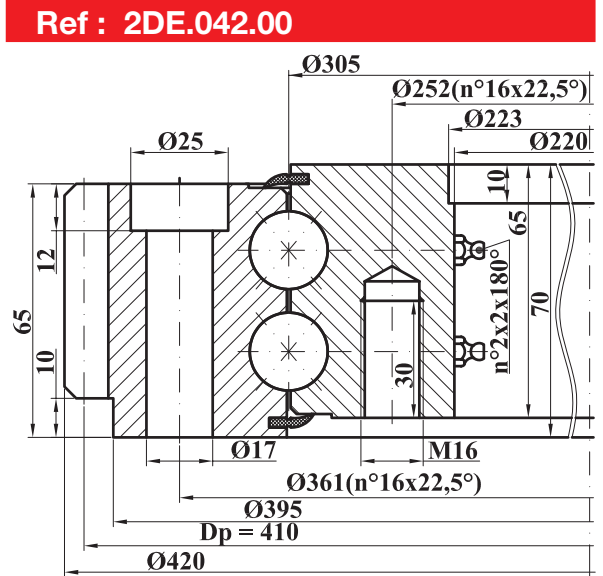
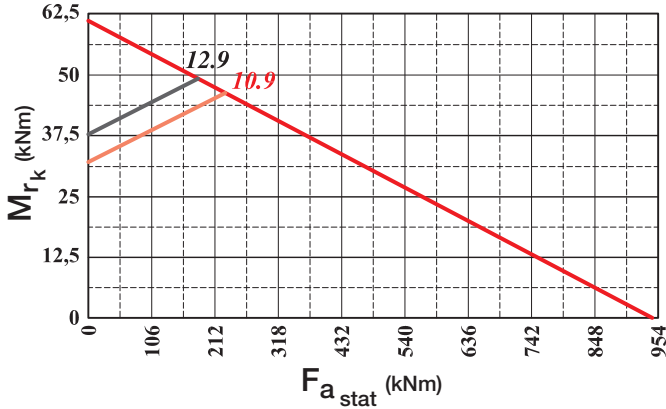
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Serie 2I.DE



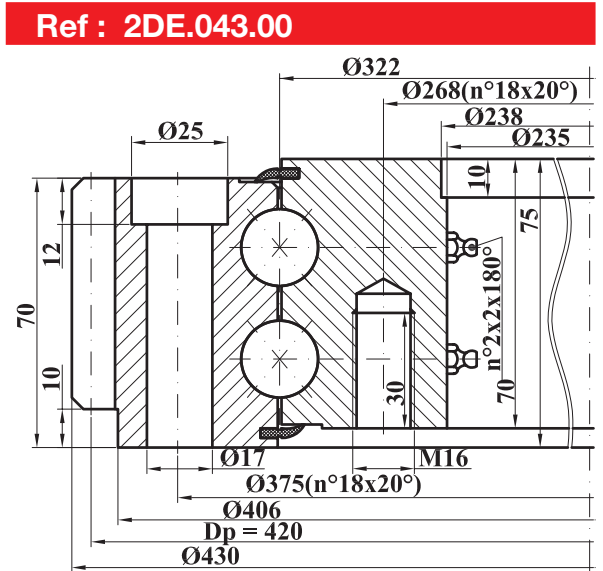
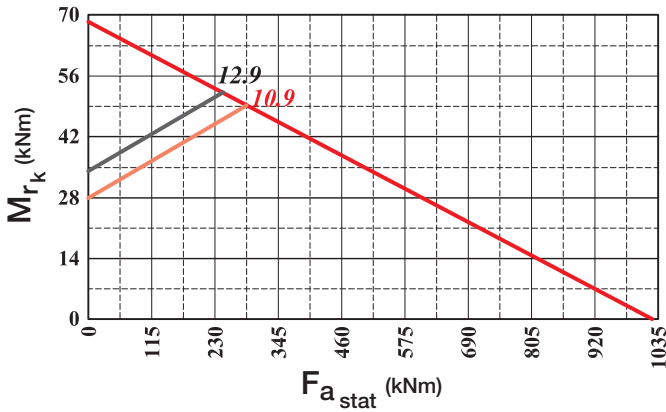
NEURN02000_001

Serie 2I.DE



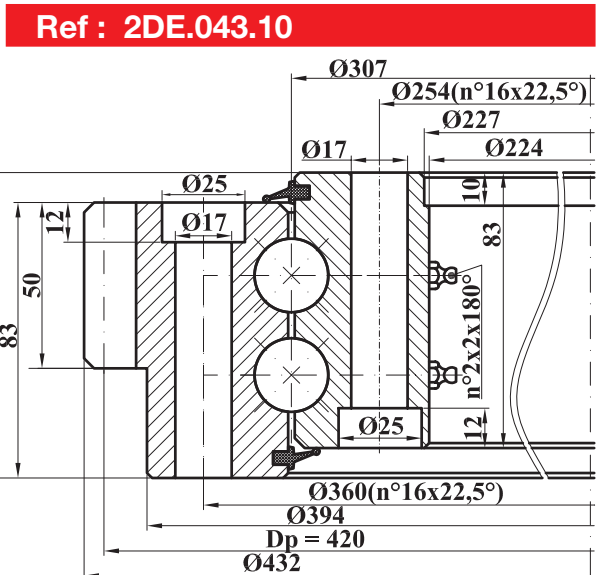
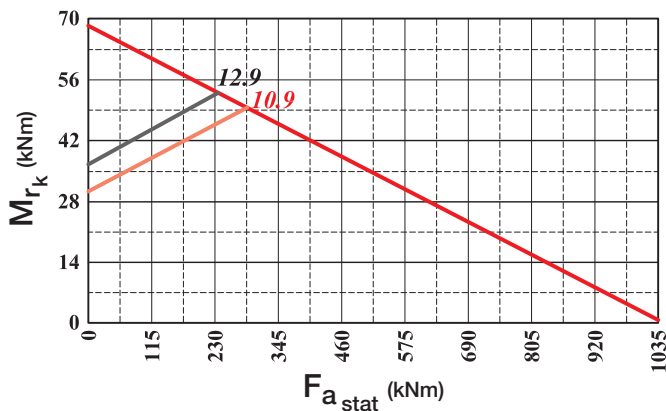
Ref : 2DE.042.00

Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
948	356	294	175	61,2	48	5	82	20	-	-	28,6



Ref : 2DE.043.00

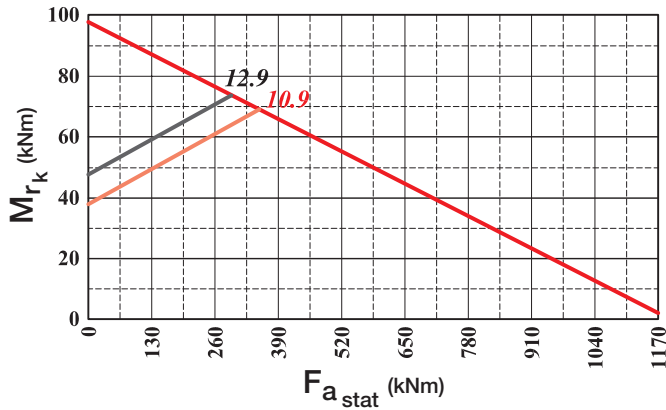
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
992	372	300	178	66,3	49	5	84	20	-	-	31,2



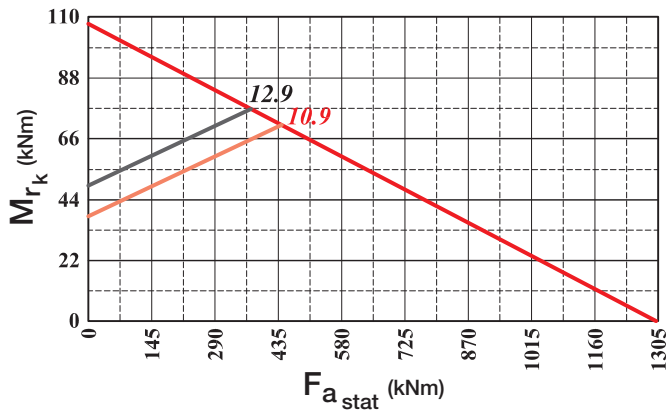
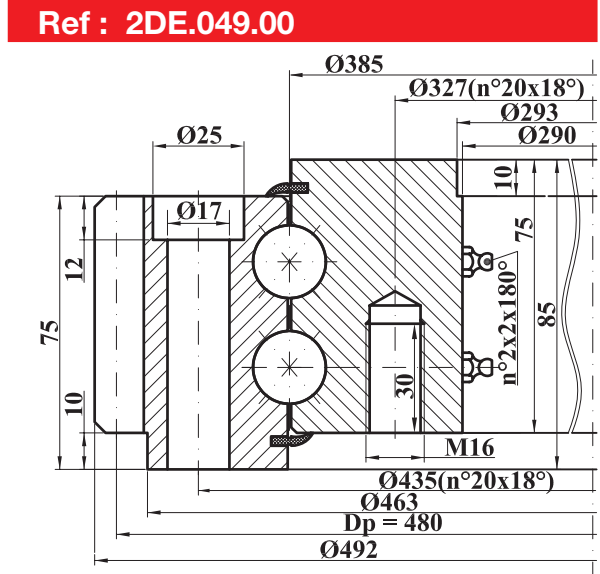
Ref : 2DE.043.10

Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1050	401	342	205	68,6	51	6	70	20	-	-	31,2

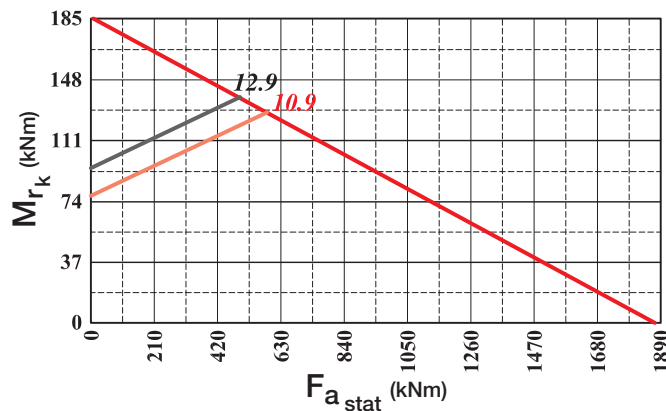
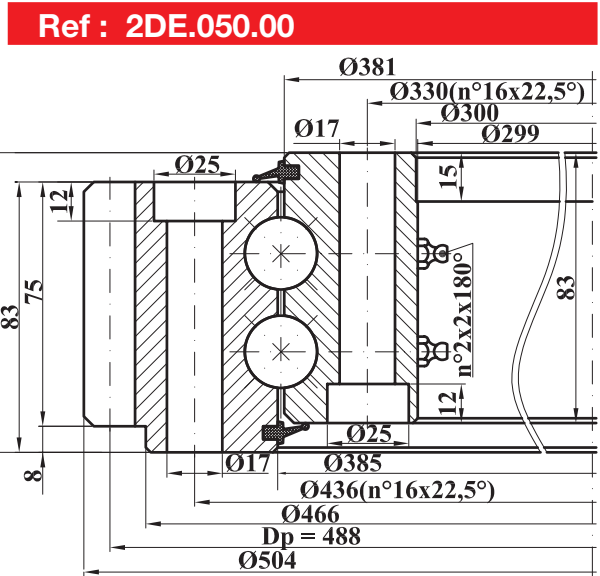
Serie 2I.DE



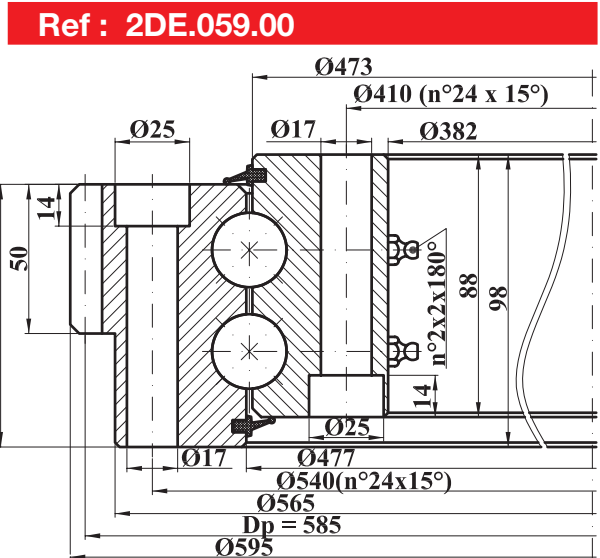
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1190	447	322	191	95,6	48	6	80	20	-	-	40,6



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1300	504	375	225	108	64	8	61	20	-	-	62,4

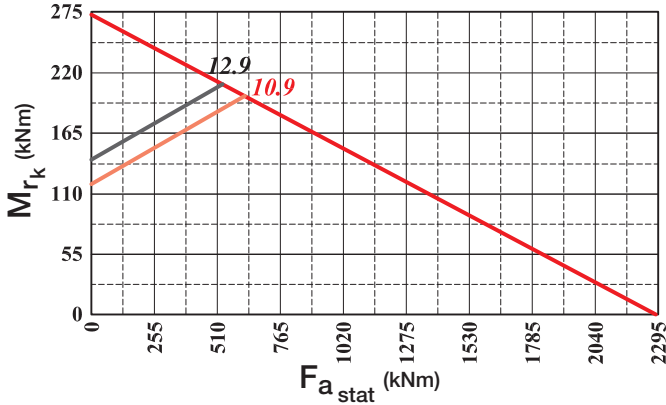


Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1870	716	480	290	186	85	5	117	20	-	-	26

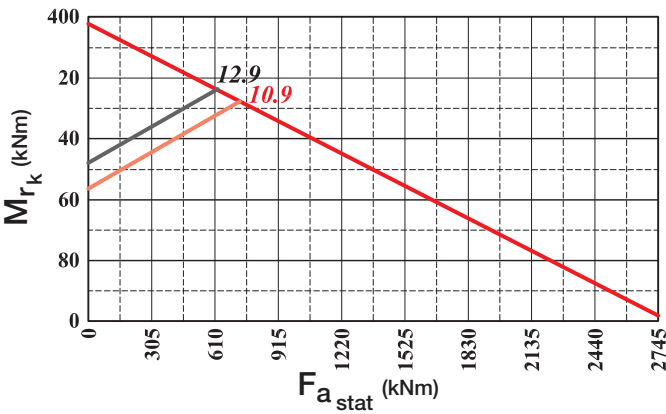
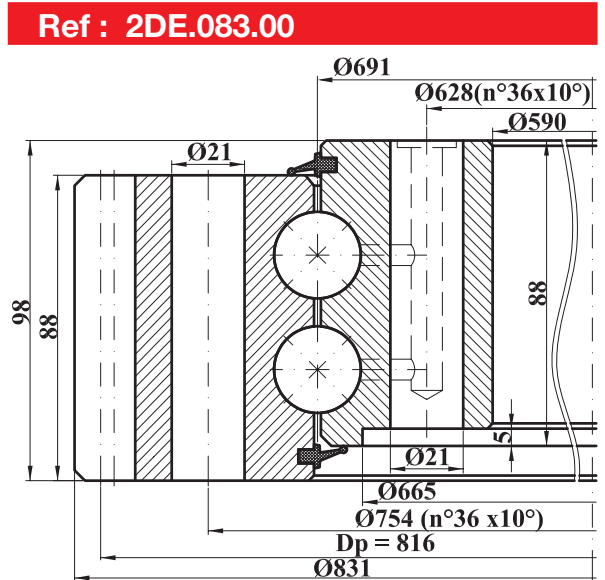
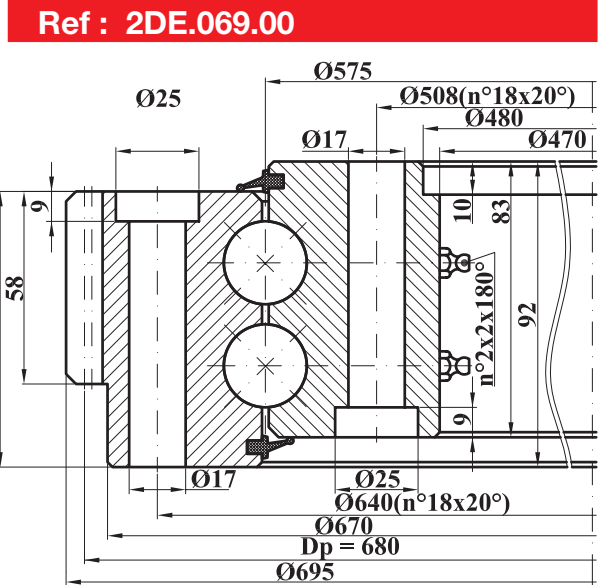


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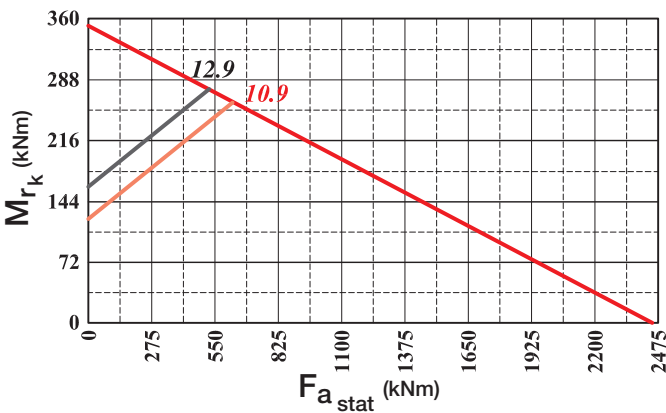
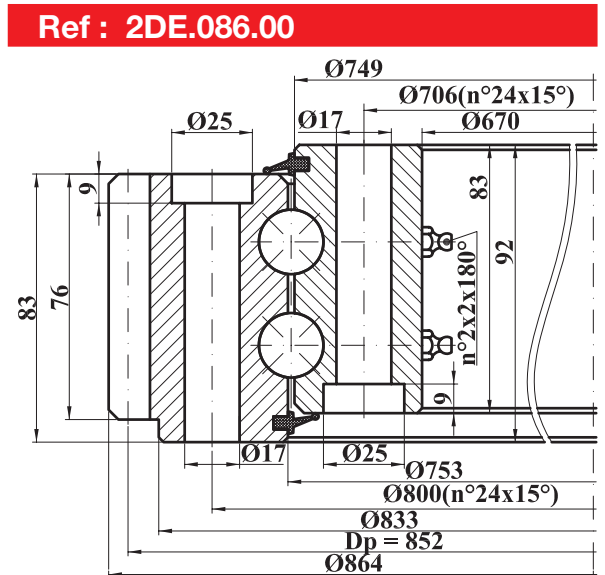
Serie 2I.DE



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2290	896	519	314	272	110	5	136	20	2,5	-	30,2

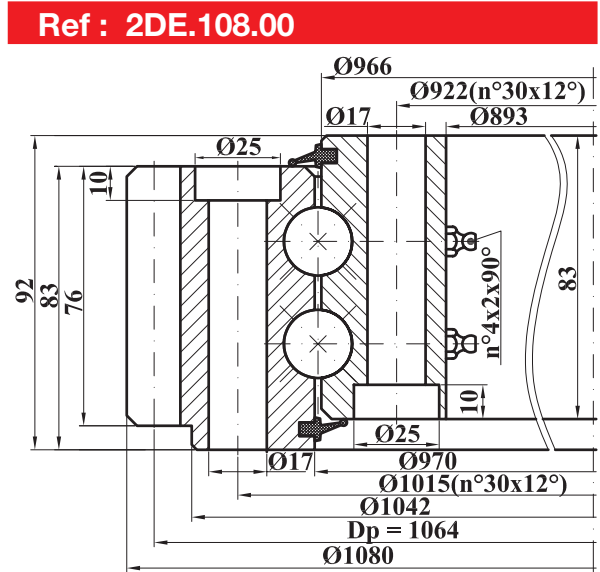
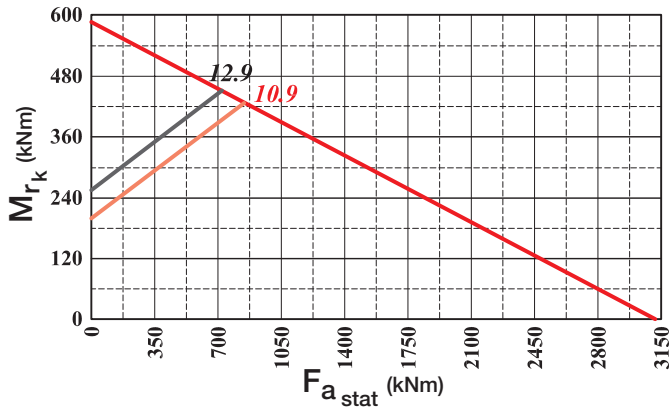


Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2790	1030	562	326	395	124	8	102	20	-	0,5	73,2

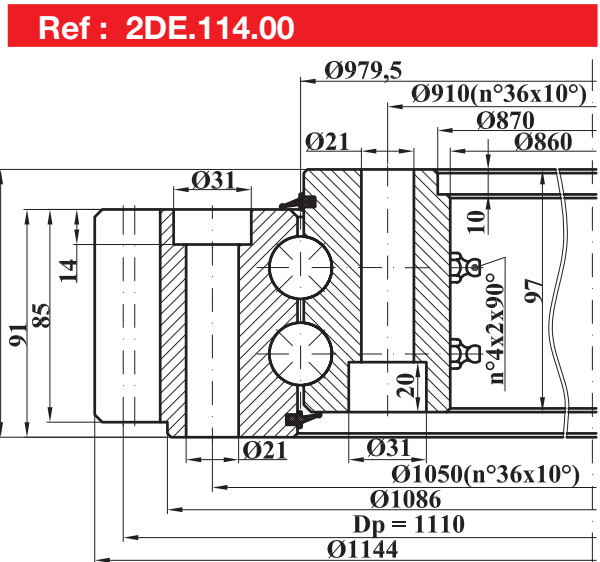
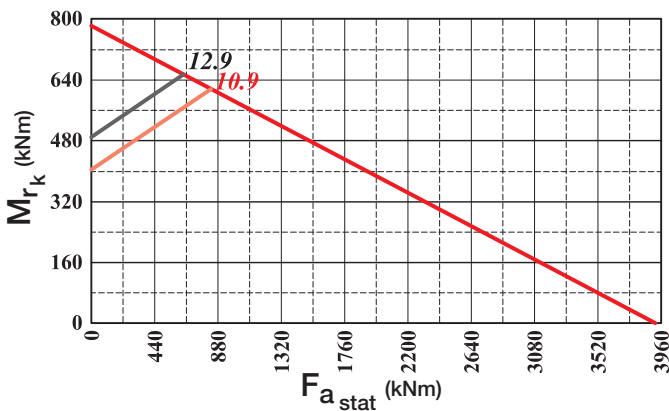


Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2440	845	419	236	358	110	6	142	20	-	-	47,4

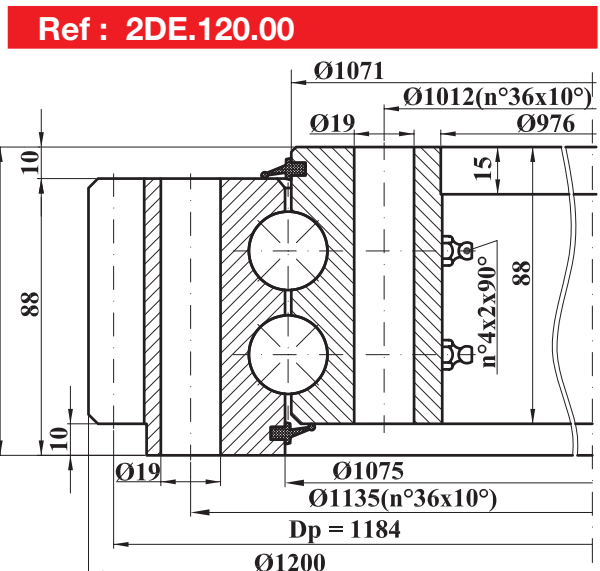
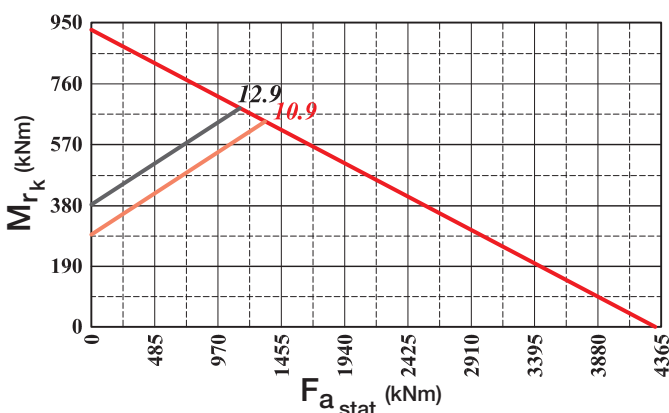
Serie 2I.DE



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
3140	1120	460	259	591	157	8	133	20	-	-	39,5



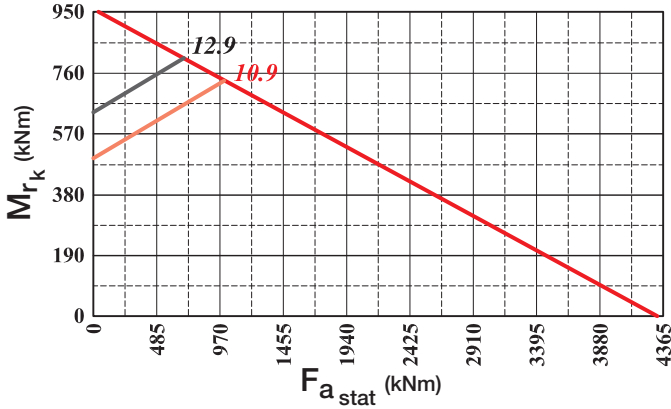
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
3950	1500	640	372	793	266	10	111	20	8	1	88,4



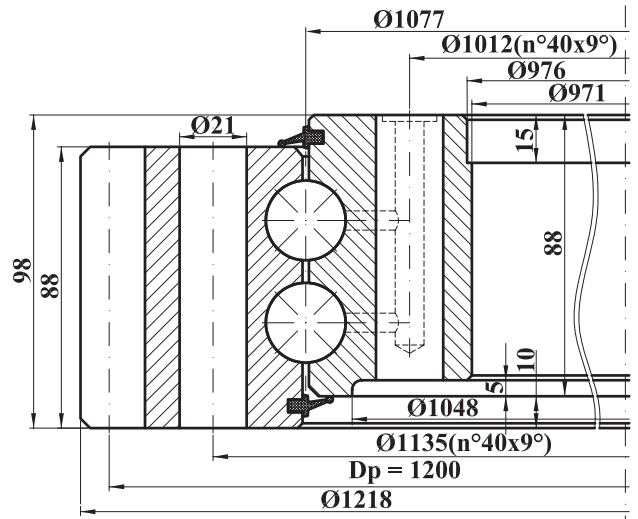
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
4340	1640	664	385	945	210	8	148	20	-	-	64,9

NEURN020000_001

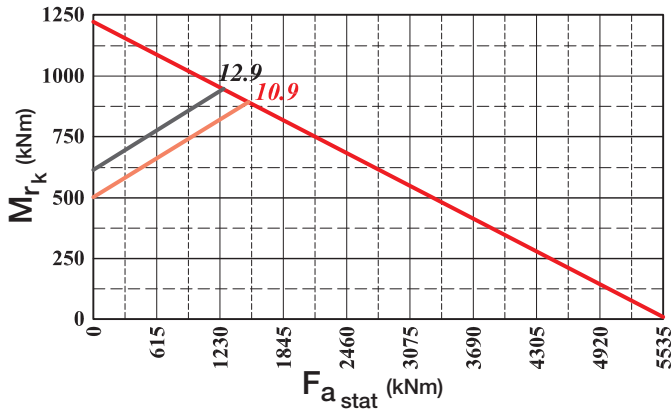
Serie 2I.DE



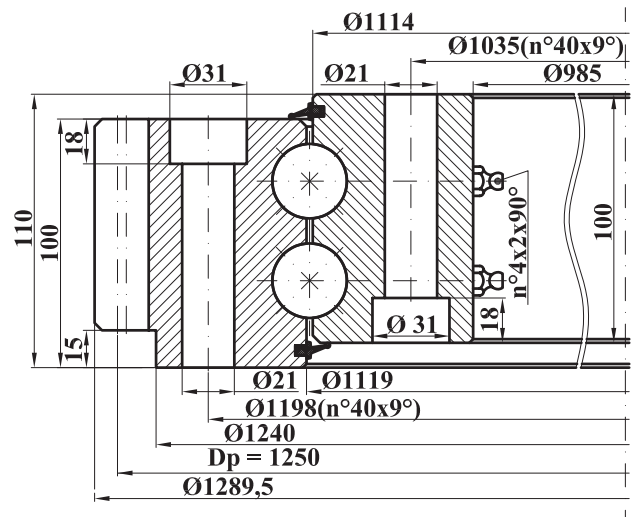
Ref : 2DE.121.00



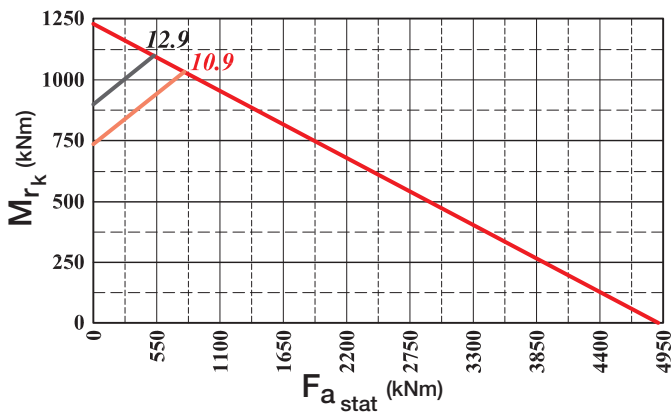
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
4340	1640	663	385	954	211	10	120	20	-	1	91,5



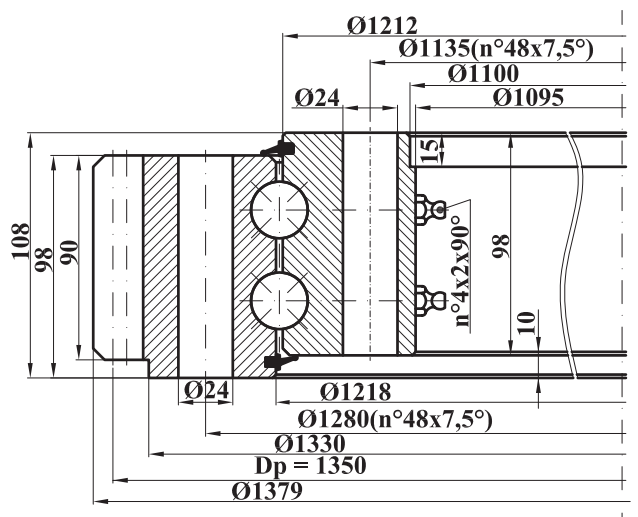
Ref : 2DE.128.00



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
5570	2080	876	518	1240	340	10	125	20	10,5	0,75	88,4

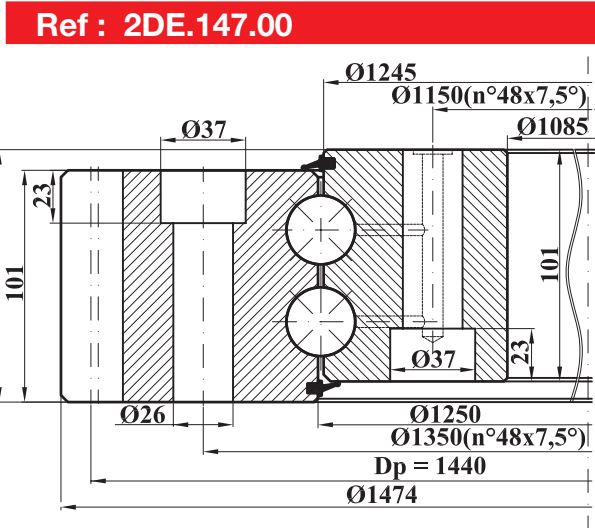
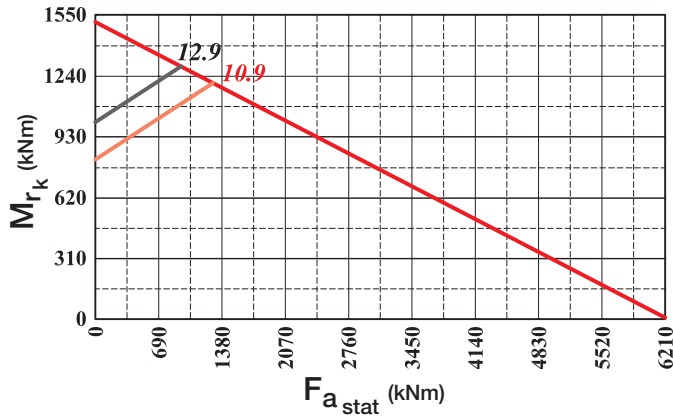


Ref : 2DE.138.00

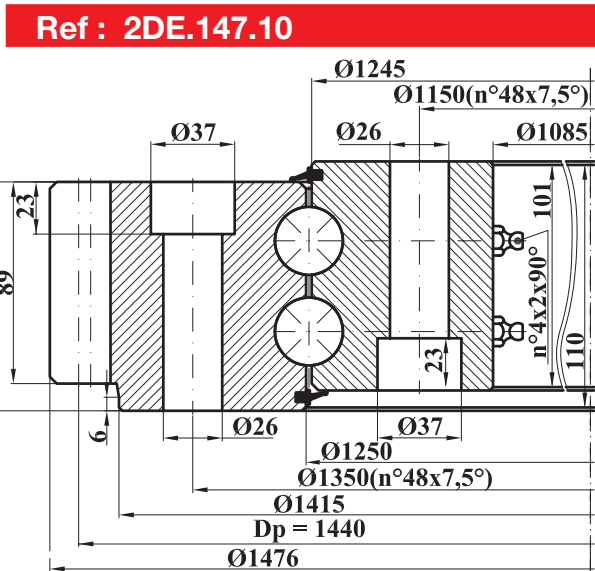
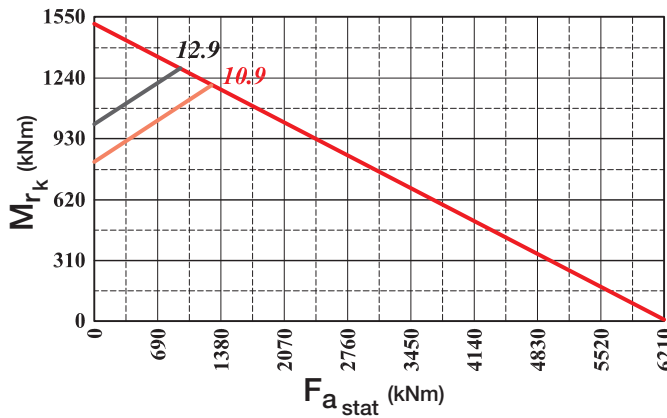


Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
4910	1860	694	403	1210	335	10	135	20	5	0,5	93,6

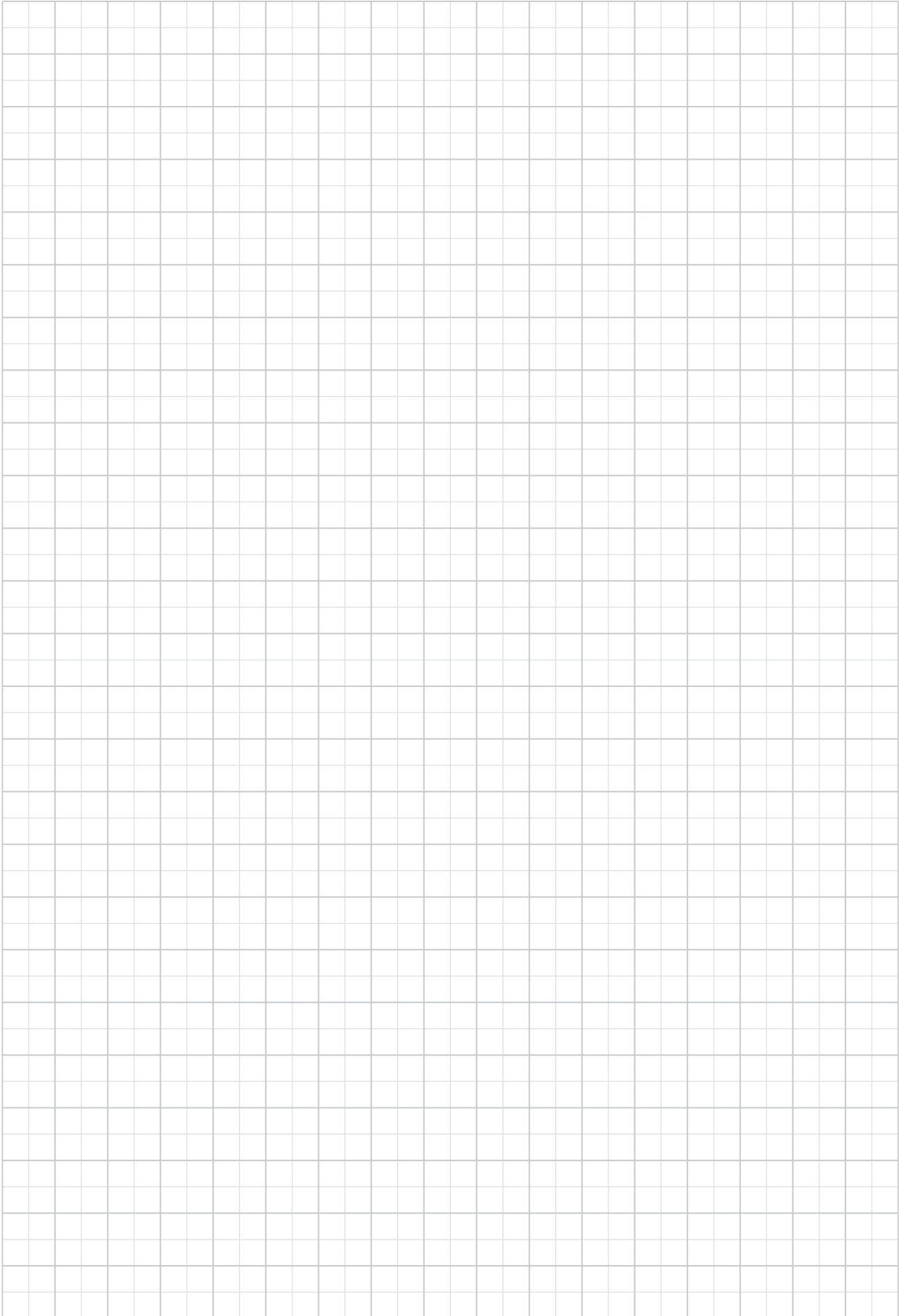
Serie 2I.DE



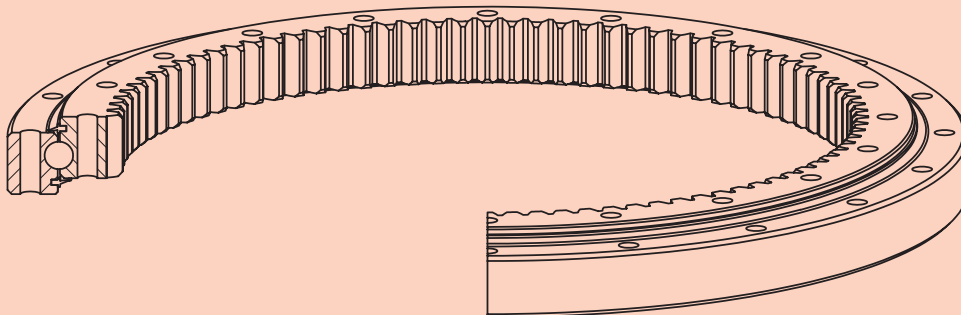
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
6240	2330	915	541	1550	501	12	120	20	6	1	126,1



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
6240	2330	915	541	1550	502	10	144	20	8,6	0,6	92,6

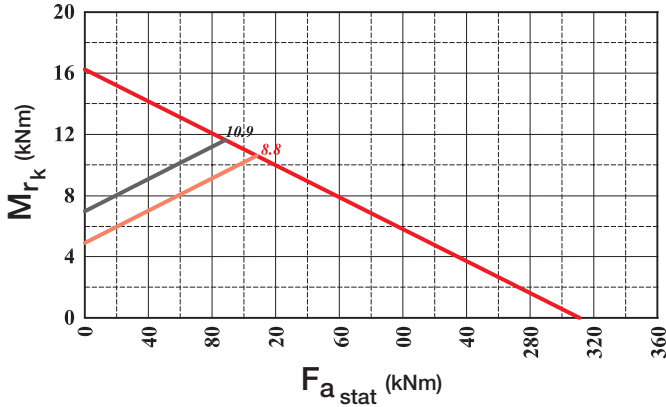


Serie I.DI

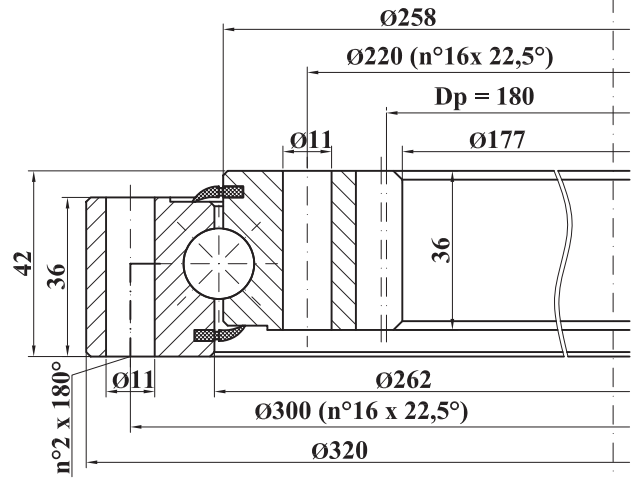


NEURN02000_001

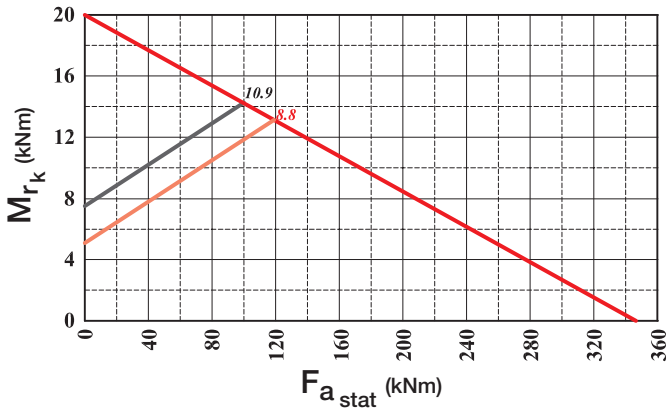
Serie I.DI



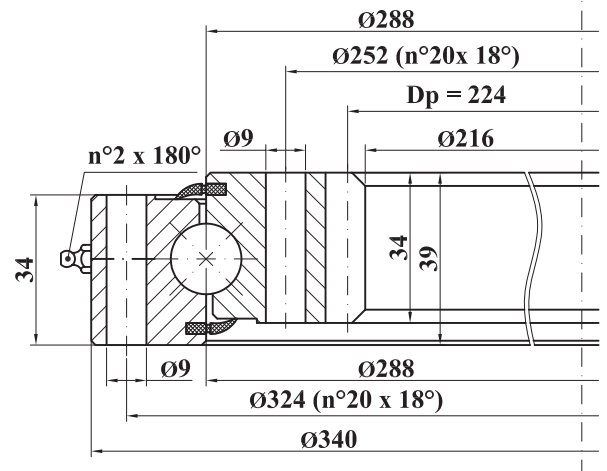
Ref : 2DI.032.00



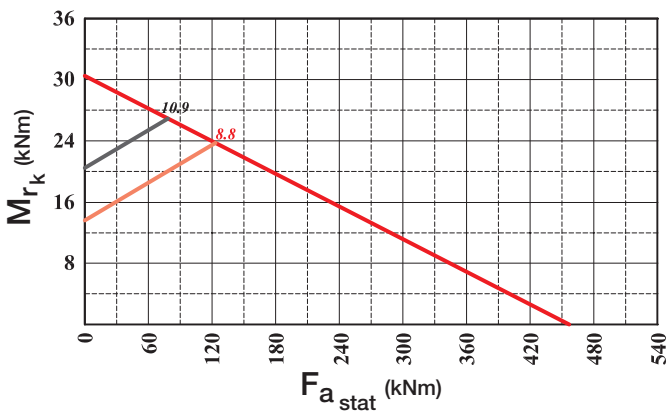
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
310	65,5	120	69,6	16,5	13	4	45	20	2	0,5	15



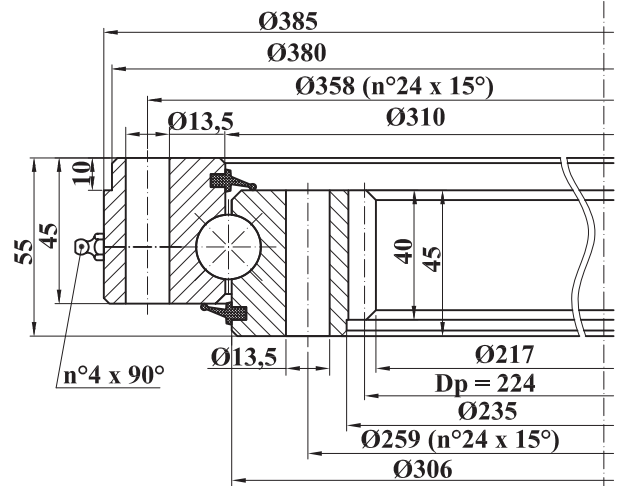
Ref : 2DI.034.00



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
346	127	126	72,6	20	12	4	56	20	-	-	14,1

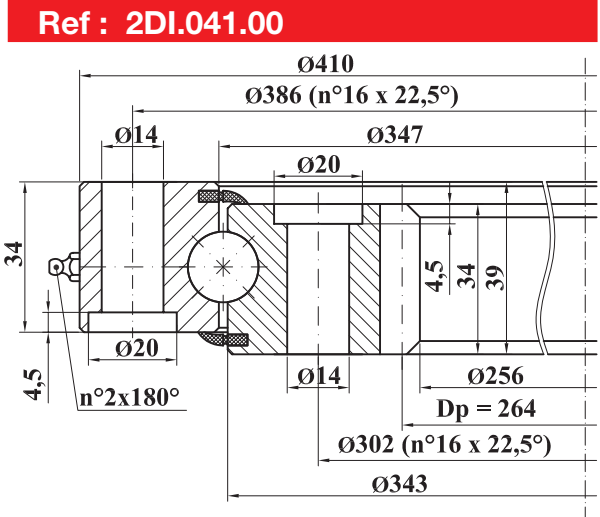
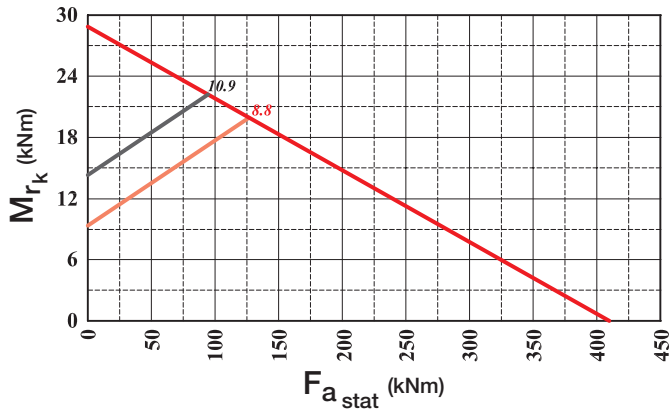


Ref : 2DI.038.00

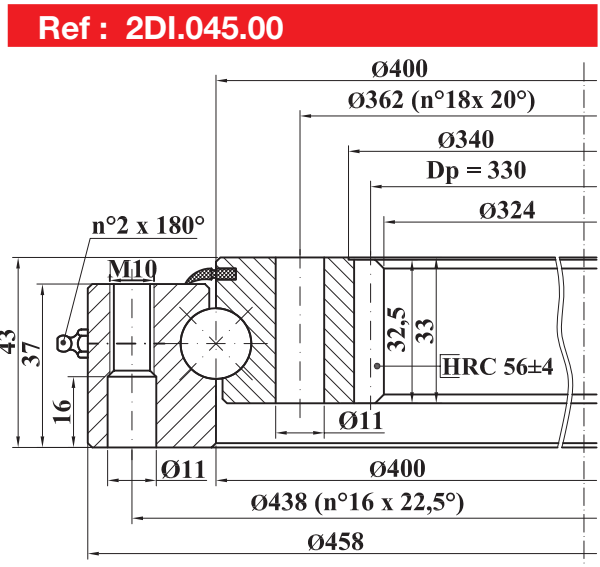
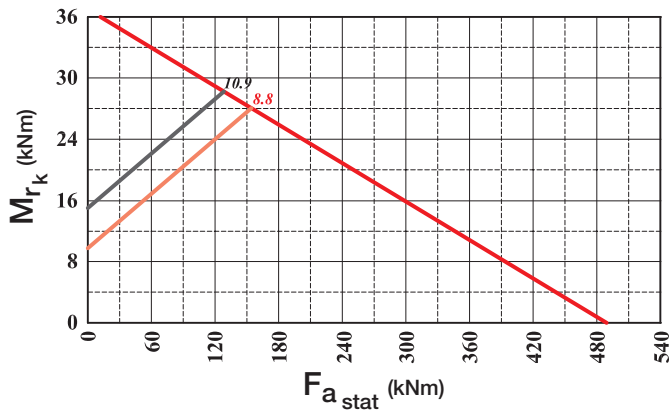


Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
456	111	178	111	31,1	24	4	56	20	-	0,5	16,6

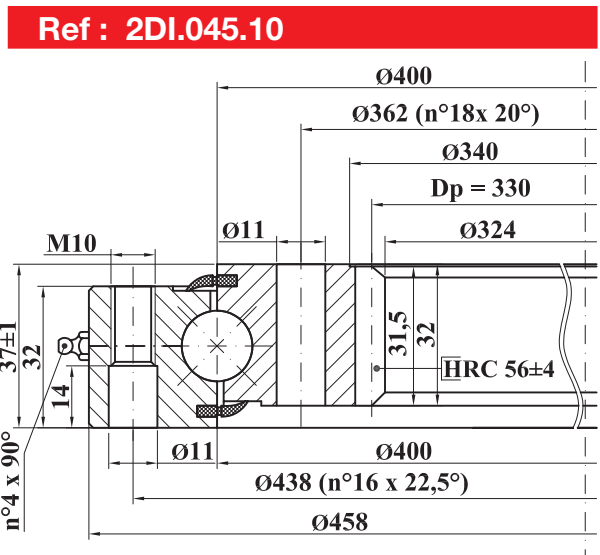
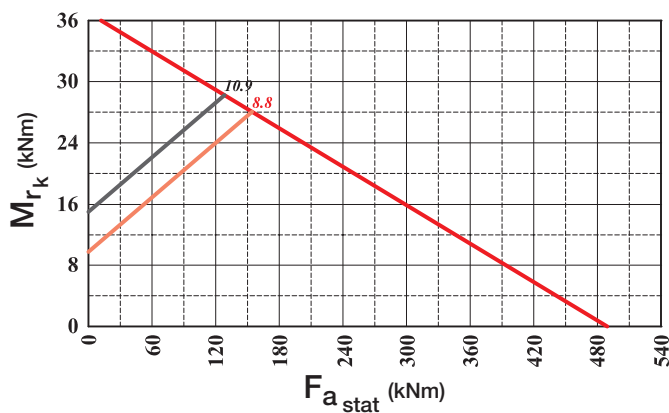
Serie I.DI



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
416	153	135	78	28,9	24	4	66	20	-	-	11,7



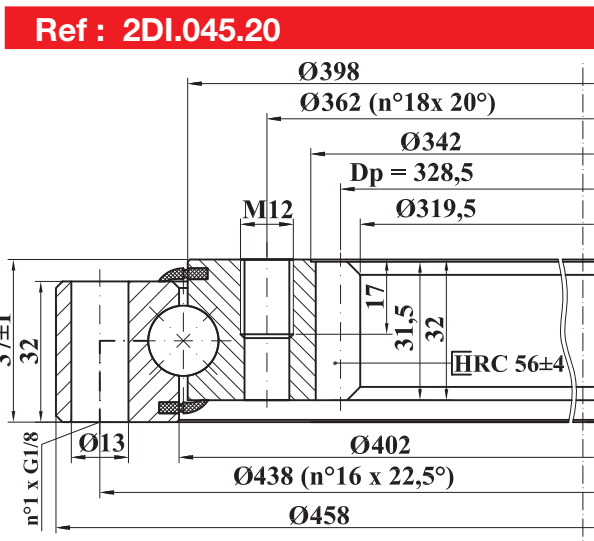
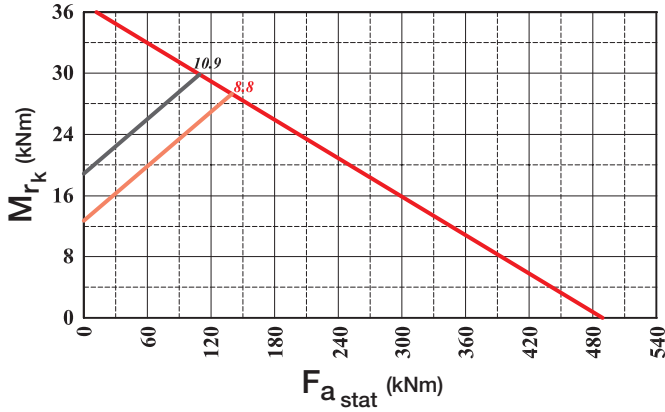
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
494	176	142	82,1	38,8	19	3	110	20	-	-	14,1



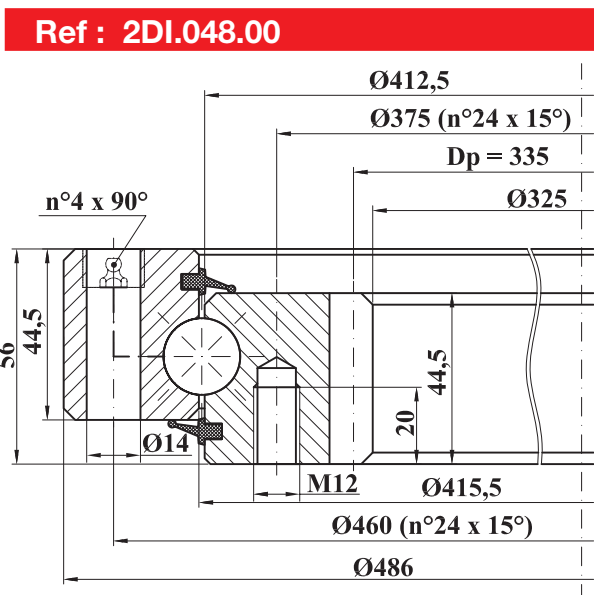
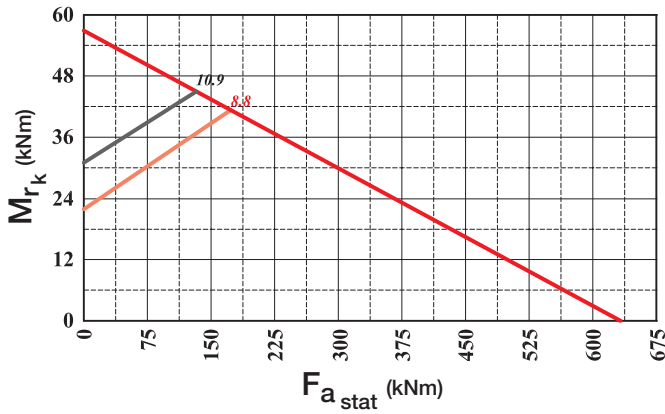
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
494	176	142	82,1	38,8	18	3	110	20	-	-	14,1

NEURN020000_001

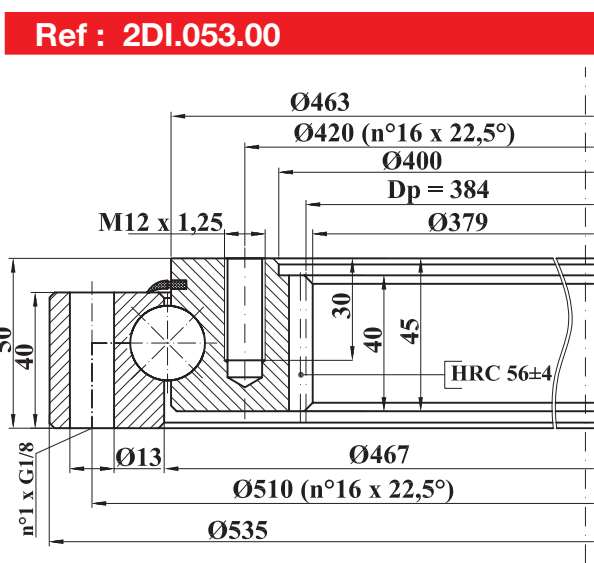
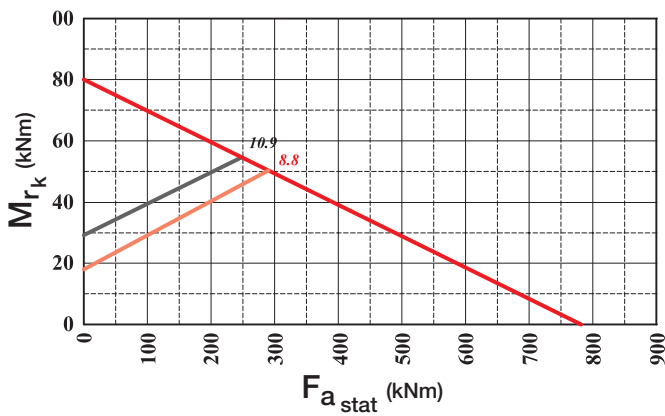
Serie I.DI



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
494	176	142	82,1	38,8	17	4,5	73	20	-	-	21,1

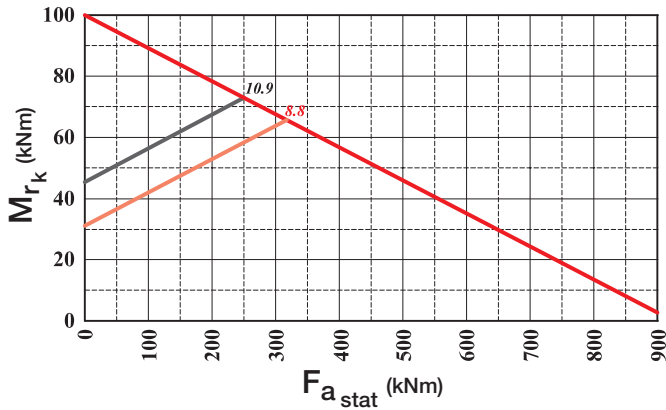


Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
629	259	200	125	56,1	31	5	67	20	-	-	23,1

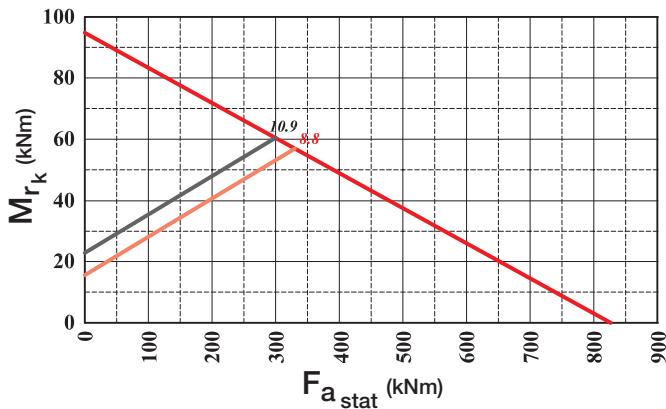
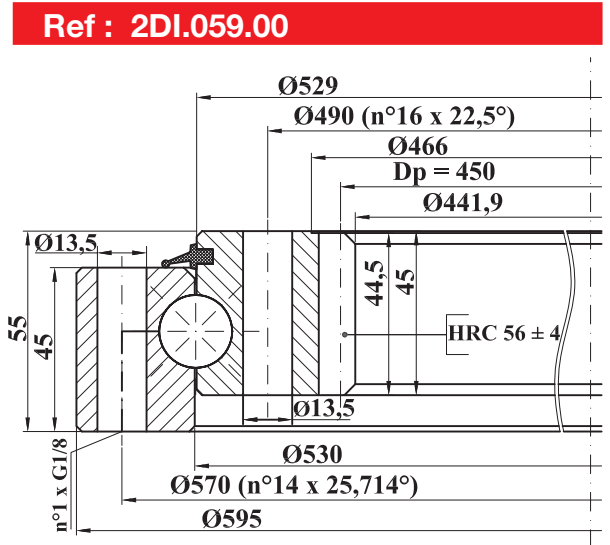
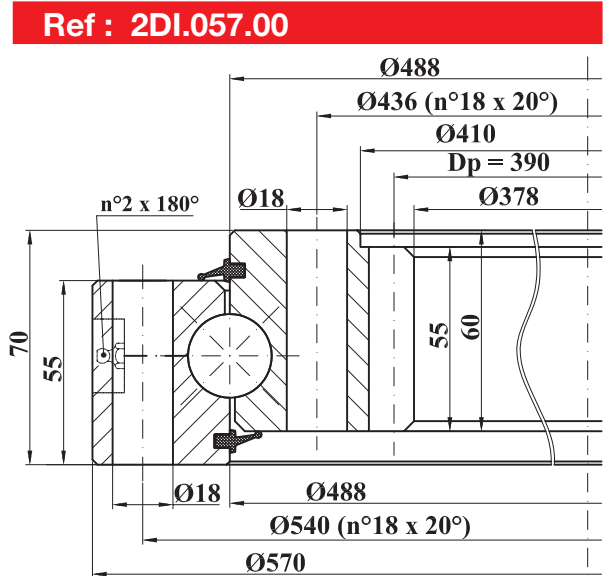


Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
772	324	244	152	80,4	31	4	96	20	1,5	-	23

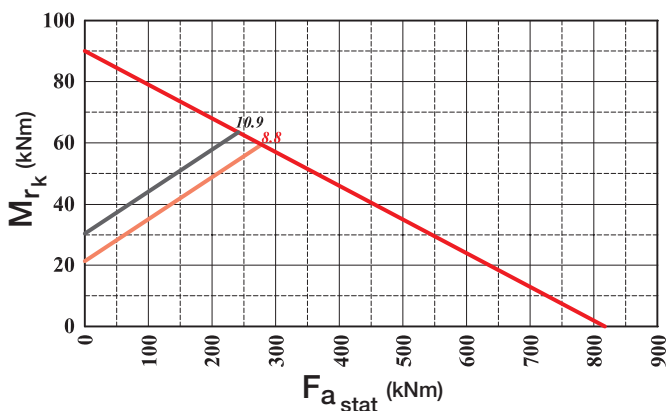
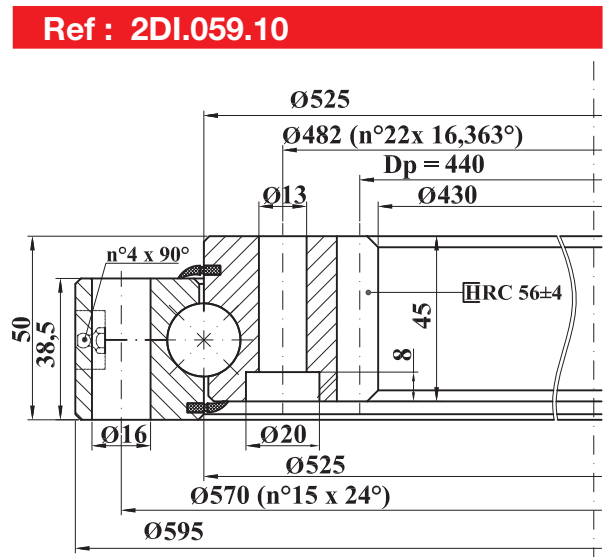
Serie I.DI



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
926	392	297	186	101	54	6	65	20	-	-	34,3



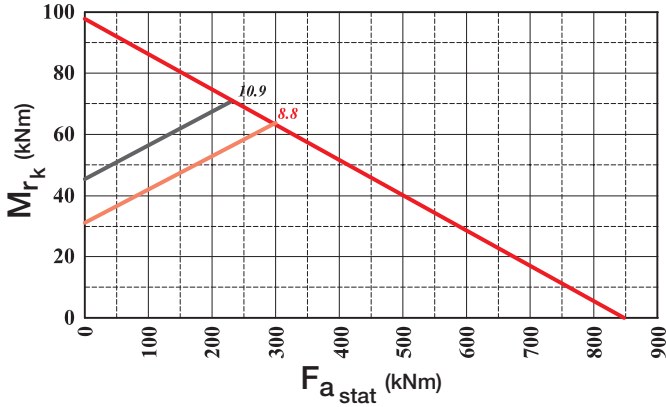
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
822	331	220	136	94,2	38	4,5	100	20	-	0,45	28,8



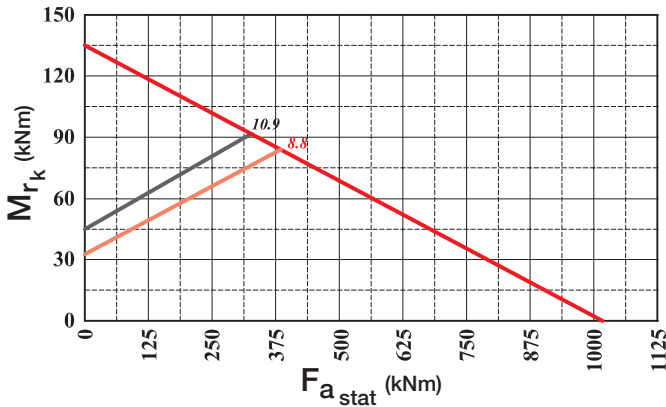
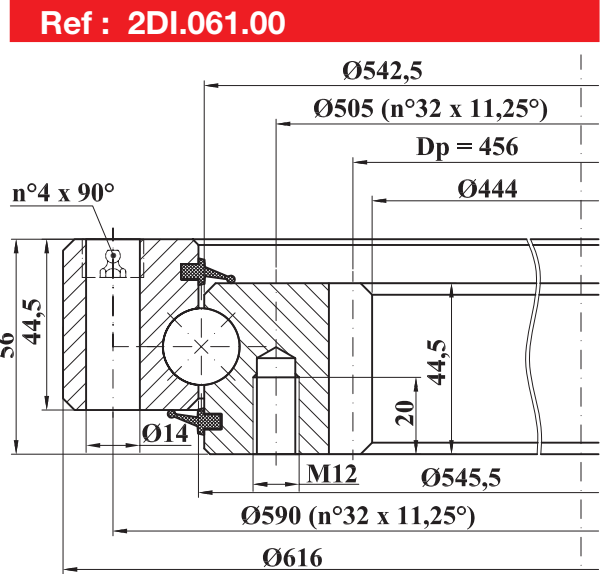
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
811	327	218	136	90,6	39	5	88	20	-	-	28,8

NEURN020000_001

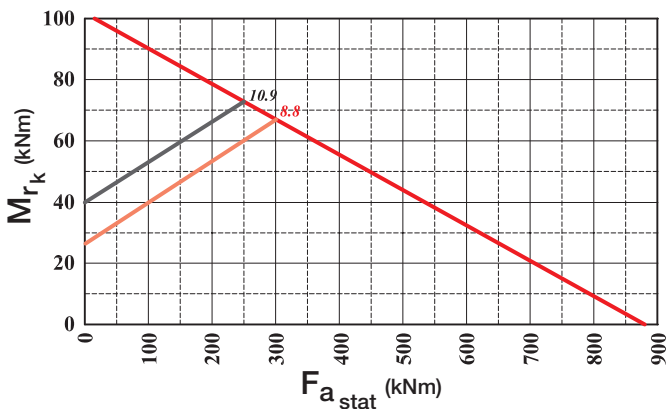
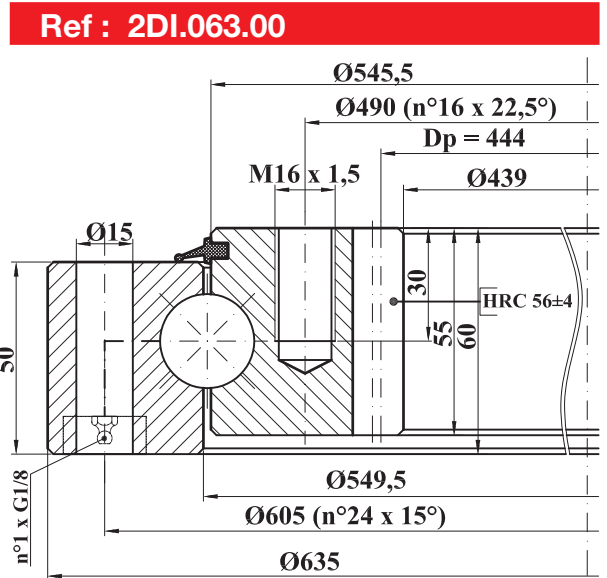
Serie I.DI



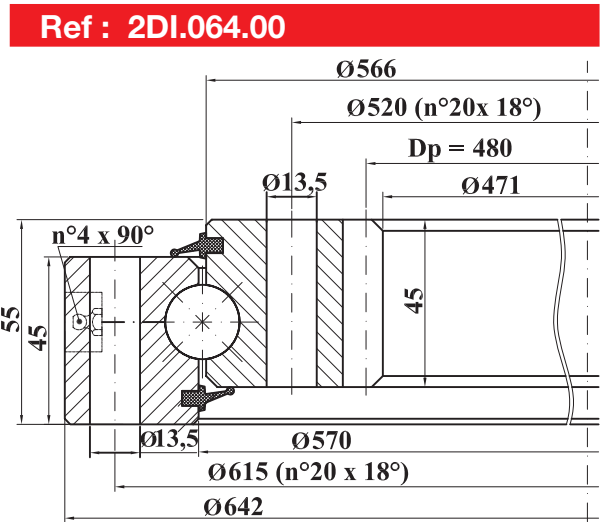
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
844	340	222	138	96	43	6	76	20	-	-	27,7



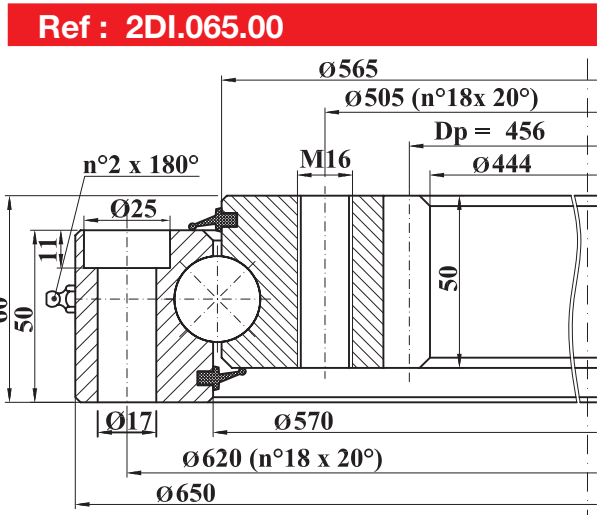
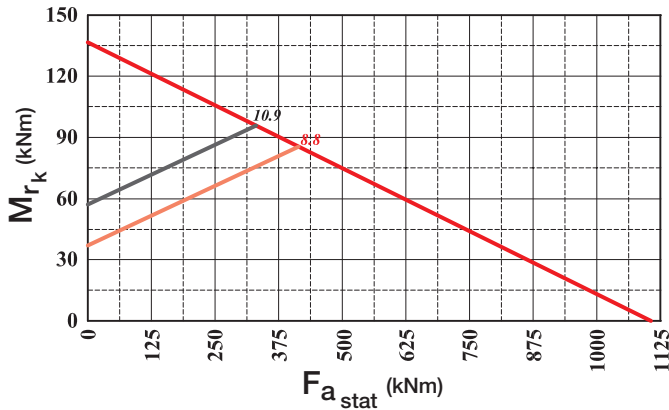
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1026	424	308	193	127	58	6	74	20	3	0,5	47,5



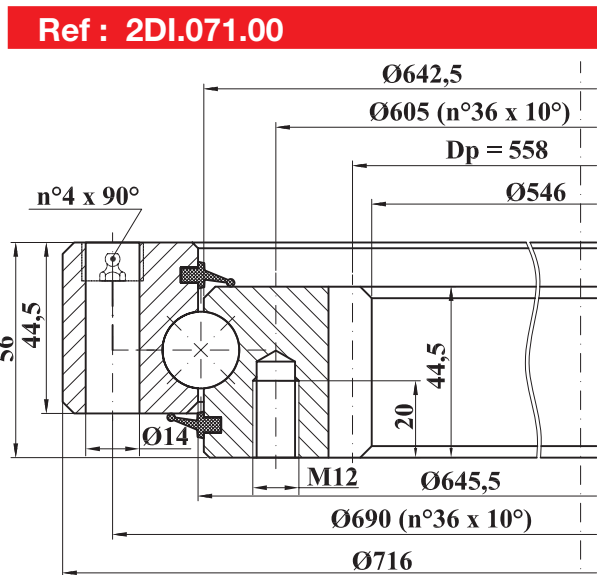
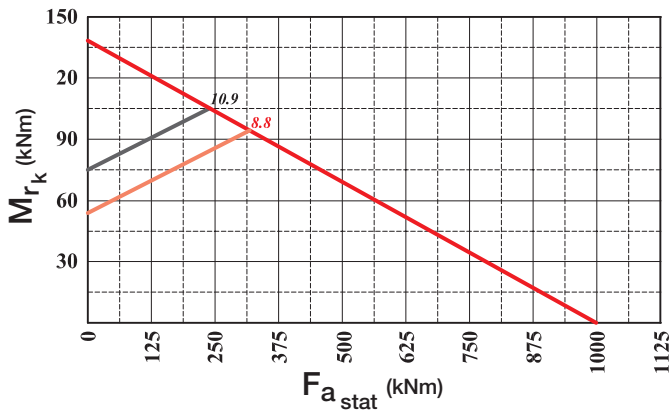
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
877	353	225	140	104	47	5	96	20	-	0,5	23,4



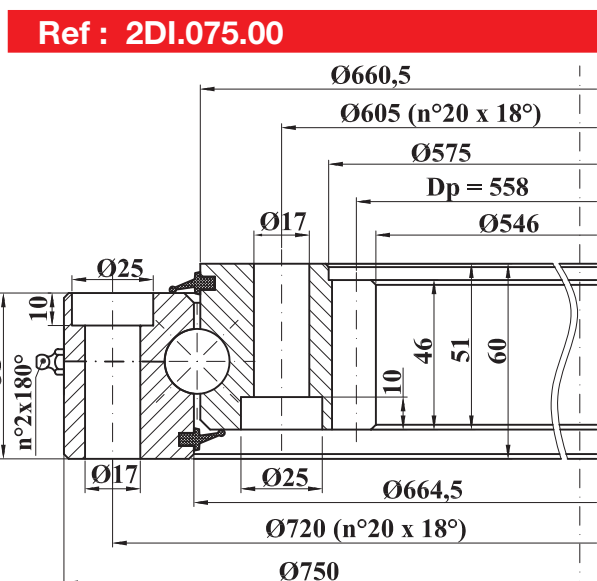
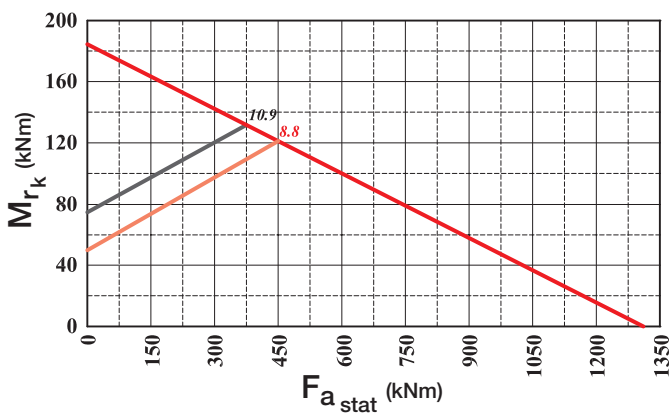
Serie I.DI



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1116	456	314	197	138	51	6	76	20	-	-	31,2

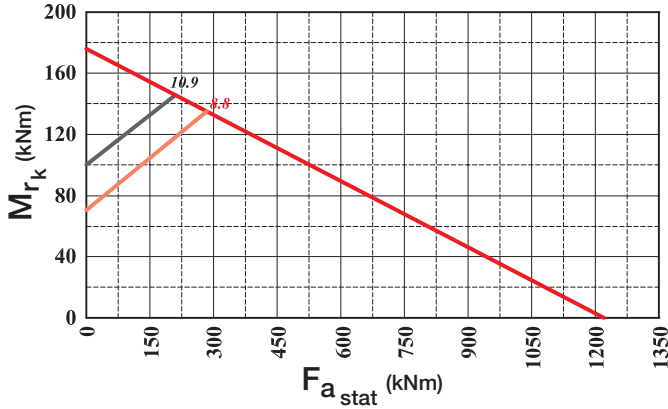


Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
999	403	236	147	137	50	6	93	20	-	-	27,7

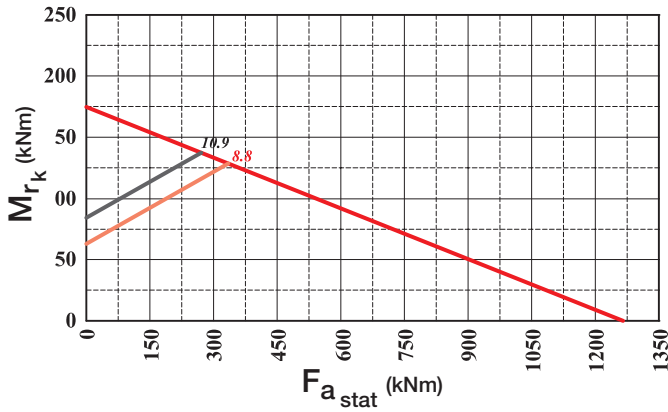
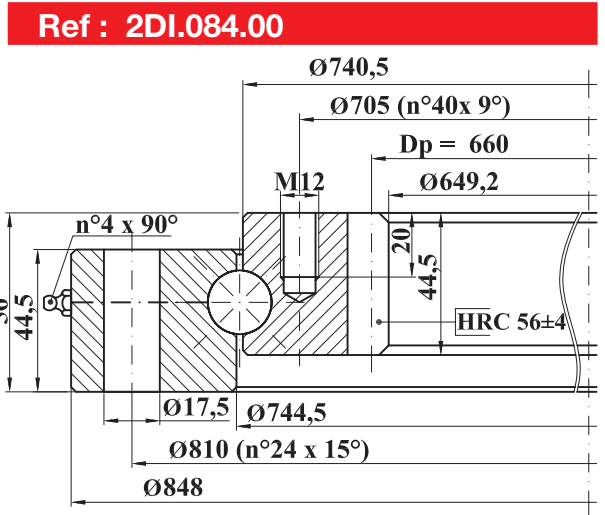
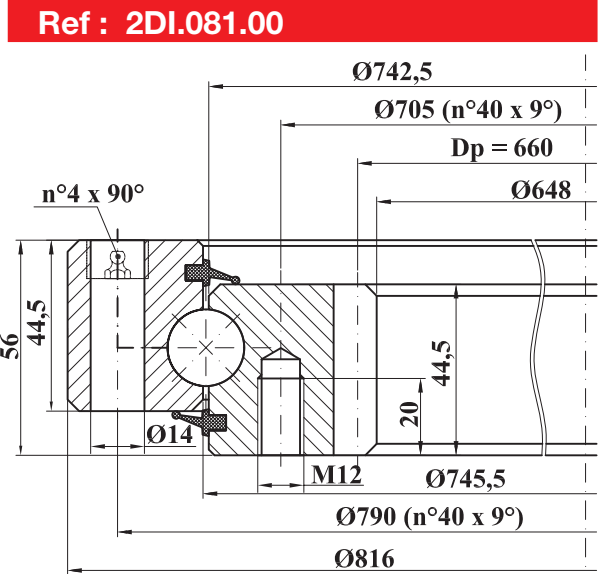


Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1305	545	333	209	188	68	6	93	20	-	-	28,7

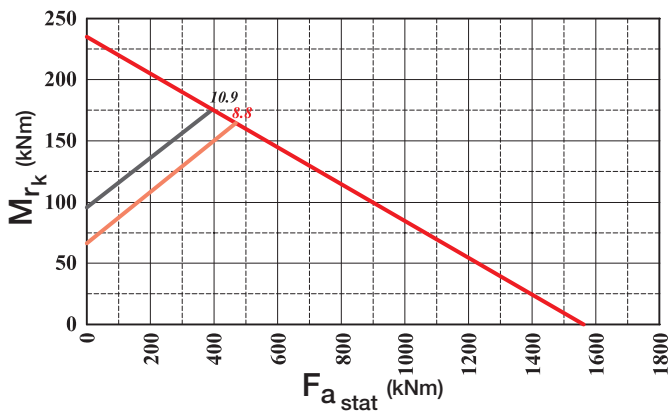
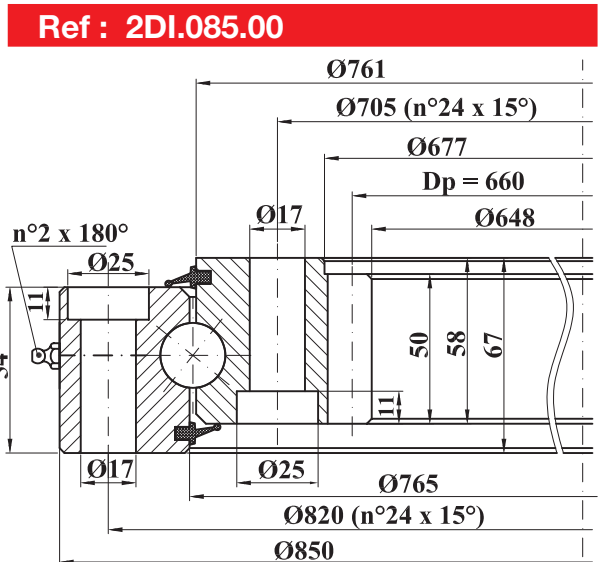
Serie I.DI



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1210	418	257	145	175	59	6	110	20	-	-	27,7

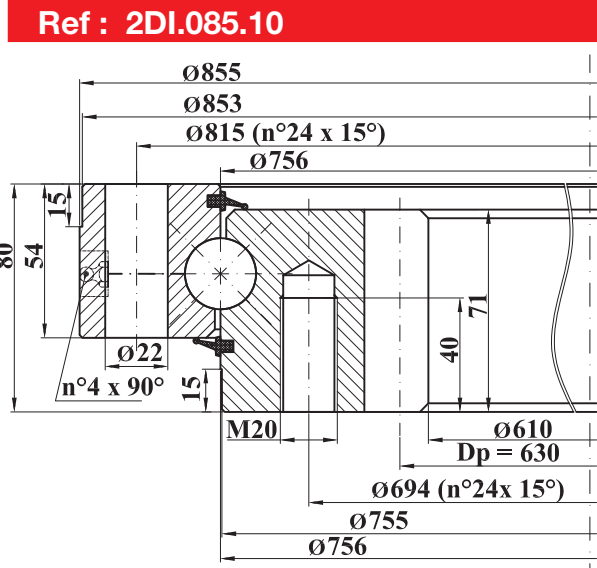
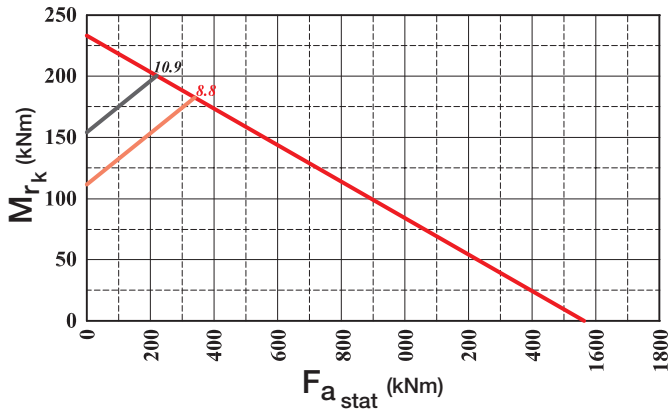


Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1210	418	257	145	174	72	6	110	20	-	0,6	38,4

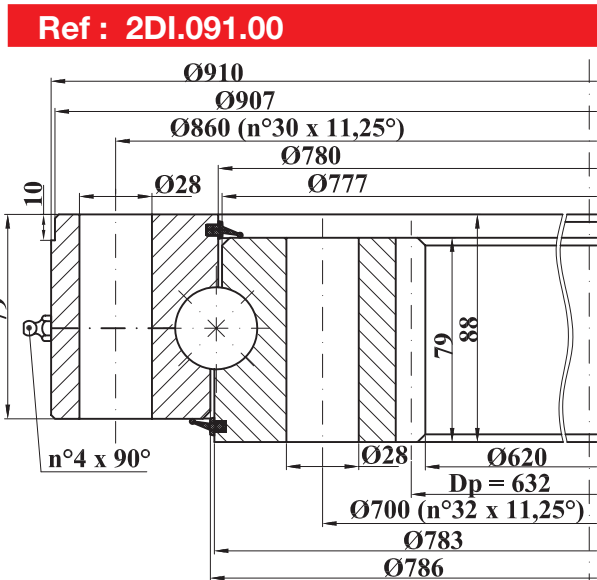
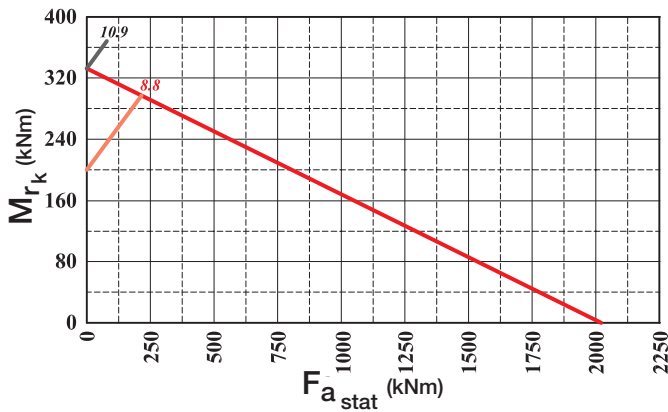


Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1565	567	358	208	236	85	6	110	20	-	-	31,2

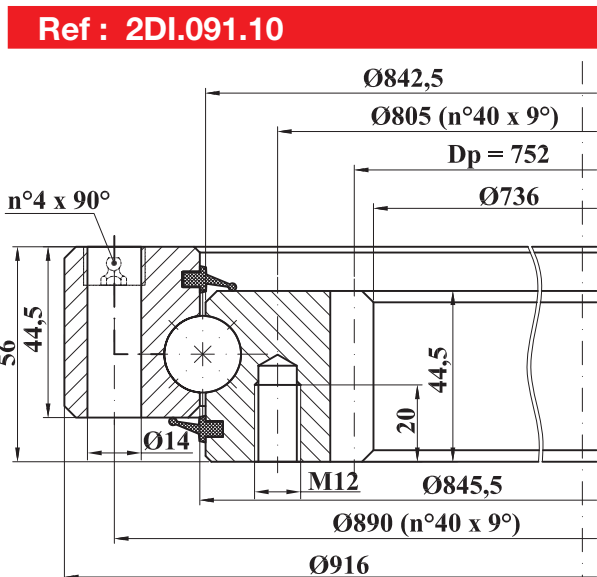
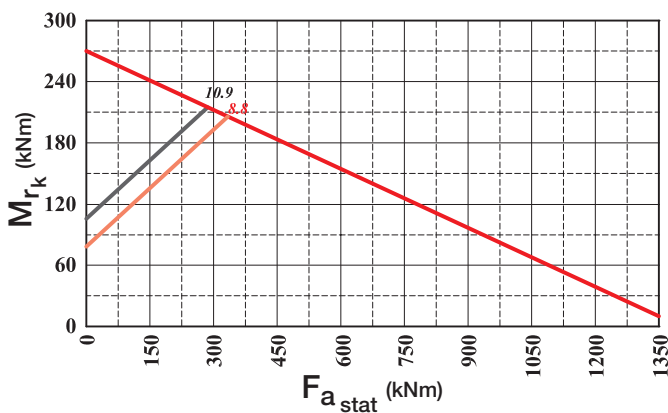
Serie I.DI



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1547	560	357	207	232	119	10	63	20	-	-	84



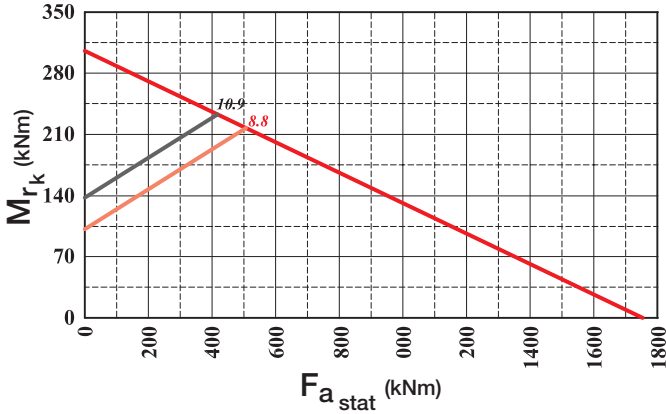
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2058	767	513	306	331	177	8	79	20	-	2	65



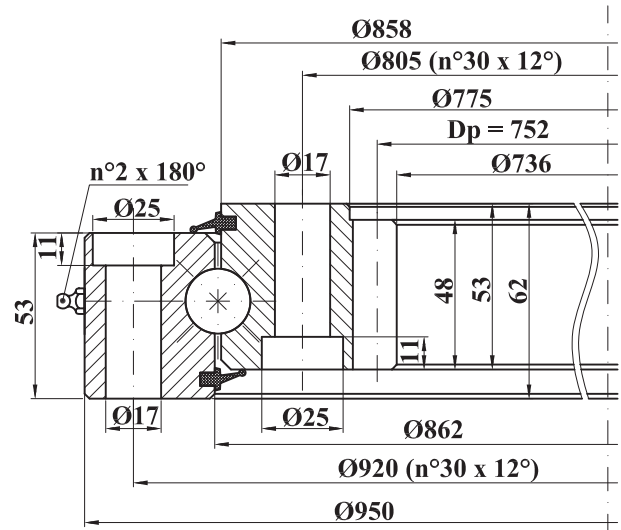
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1373	490	270	152	227	69	8	94	20	-	-	37

NEURN020000_001

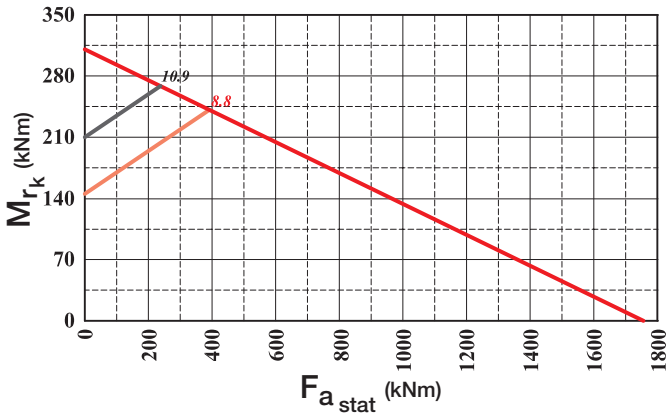
Serie I.DI



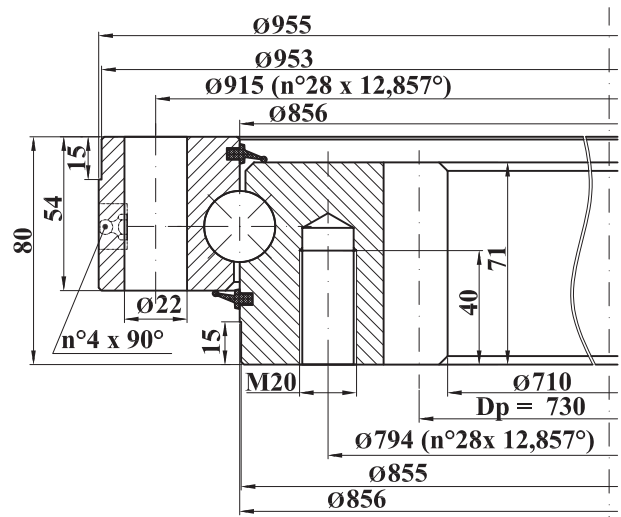
Ref : 2DI.095.00



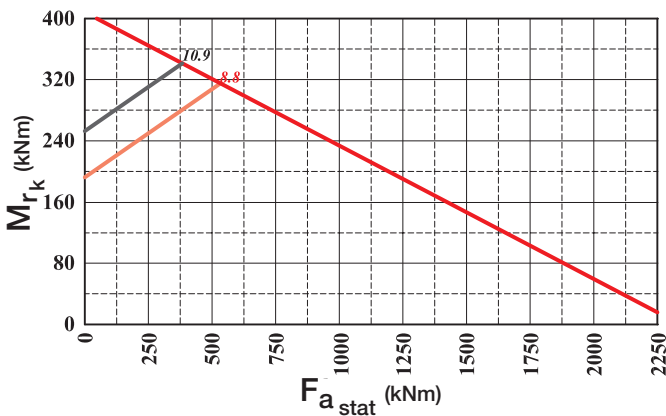
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1763	638	375	217	305	95	8	94	20	-	-	40



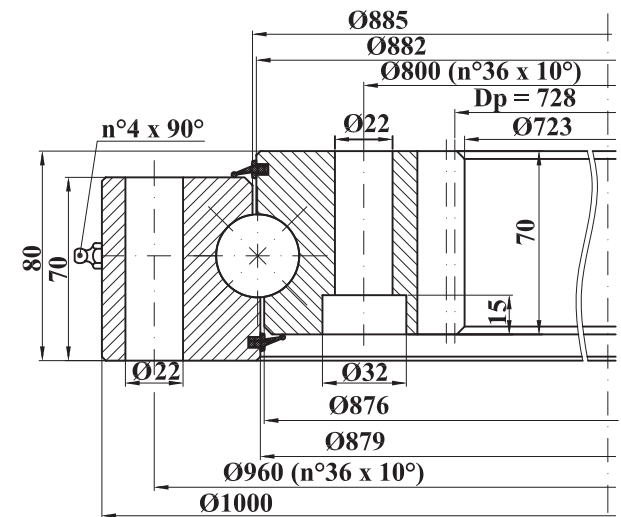
Ref : 2DI.095.10



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1763	638	375	218	300	137	10	73	20	-	-	84

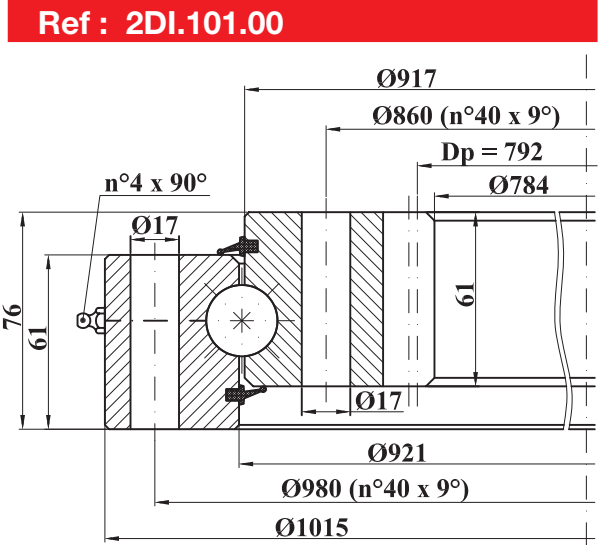
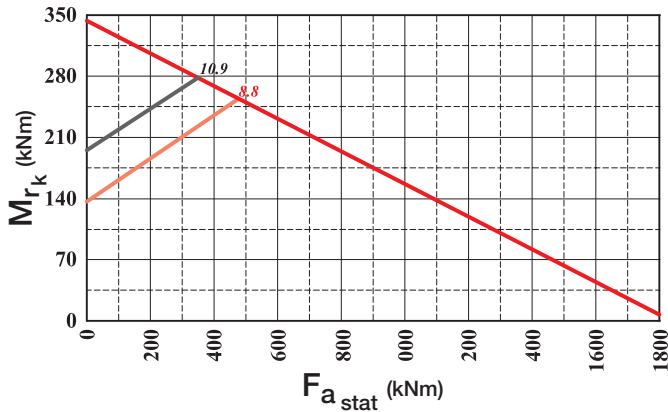


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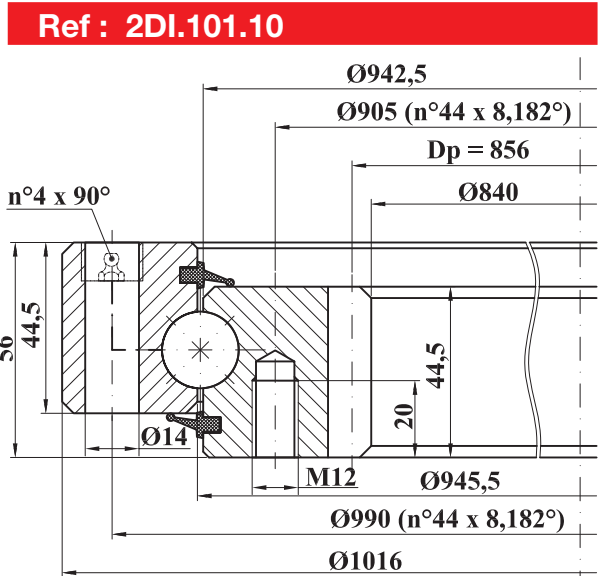
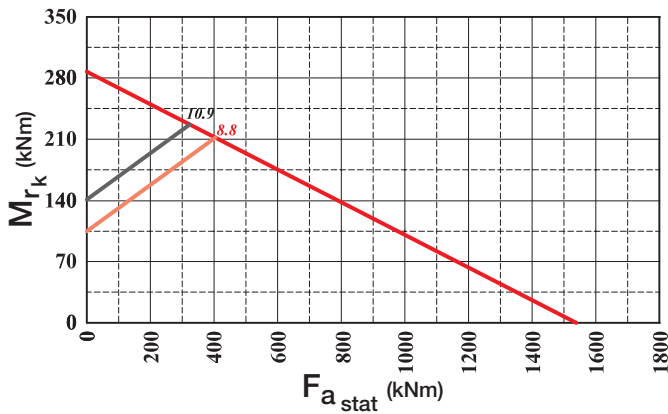


Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2316	880	536	319	405	98	8	91	20	4	1,5	64

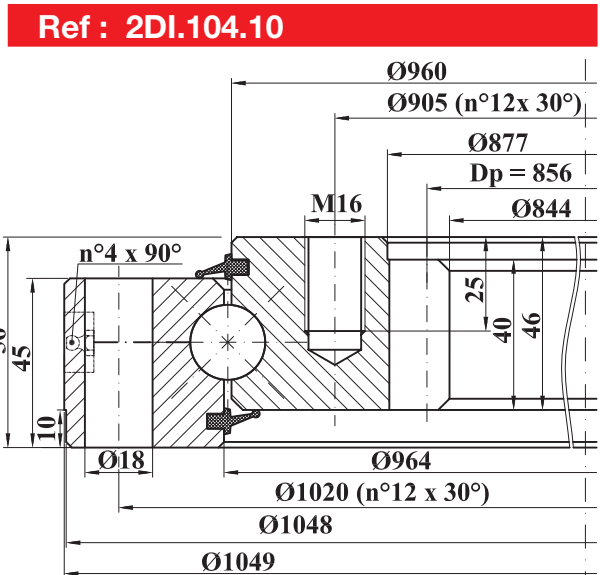
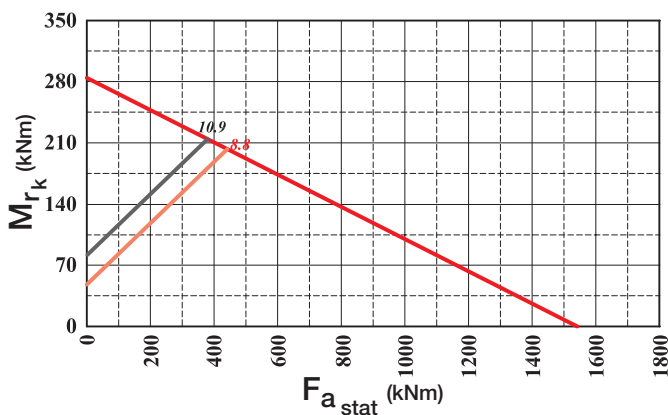
Serie I.DI



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1853	684	385	223	342	130	8	99	20	4	-	51



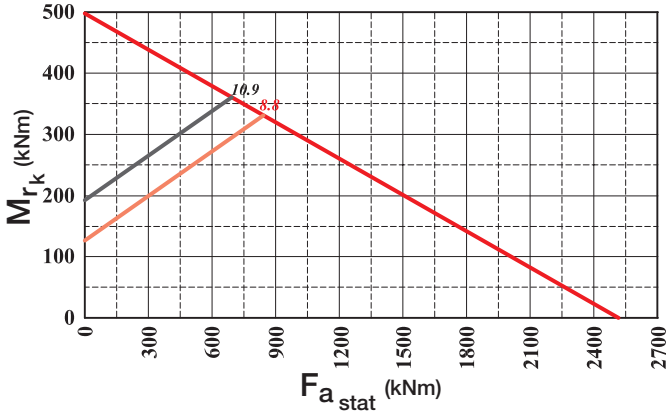
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1536	548	281	158	287	77	8	107	20	-	-	37



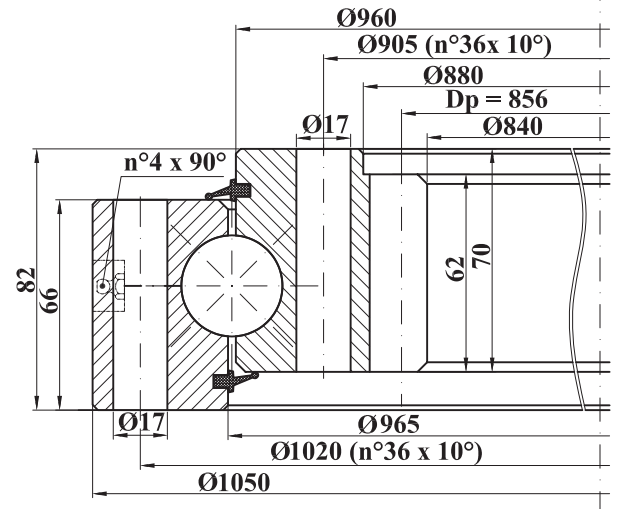
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1560	556	282	159	287	89	8	107	20	-	2	33

NEURN020000_001

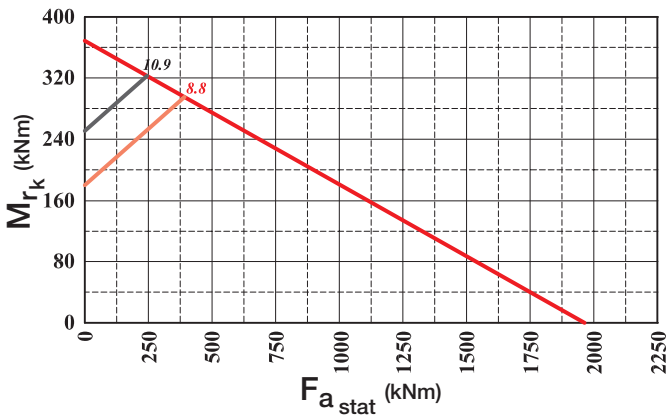
Serie I.DI



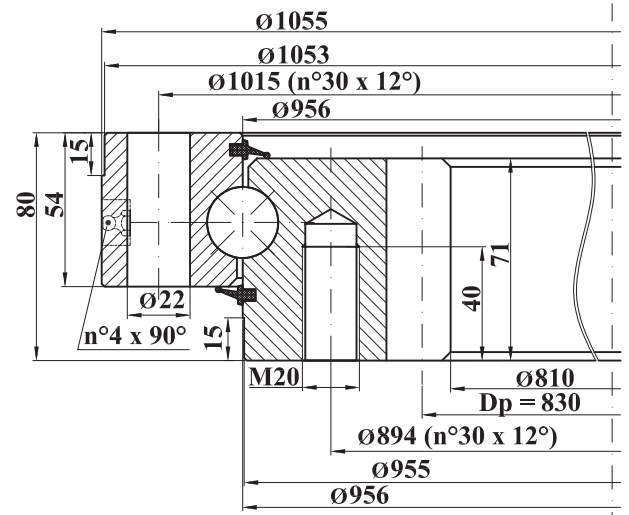
Ref : 2DI.105.00



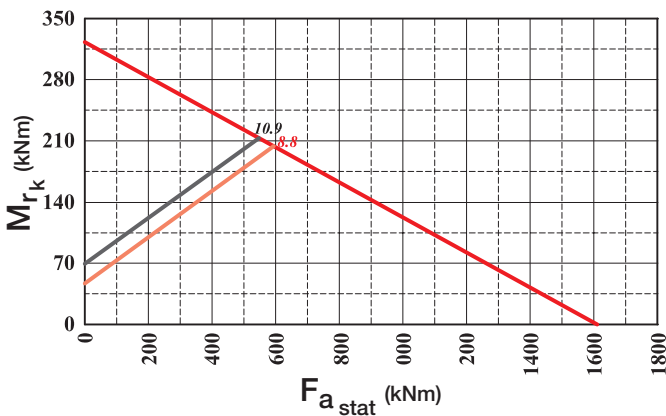
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2516	937	552	329	496	142	8	107	20	-	-	51,5



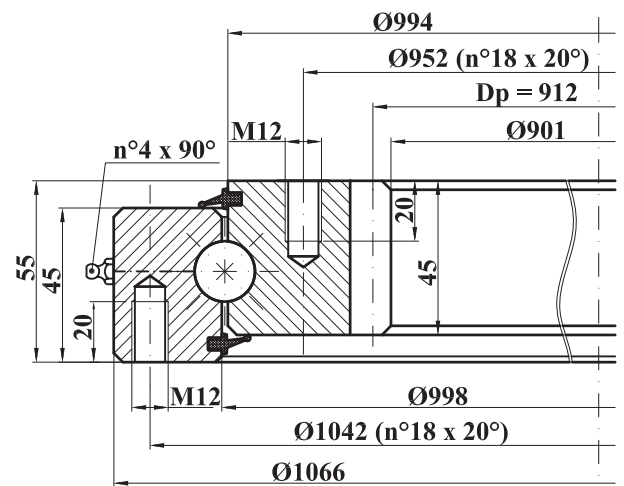
Ref : 2DI.105.10



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1924	710	390	226	370	149	10	83	20	-	-	84

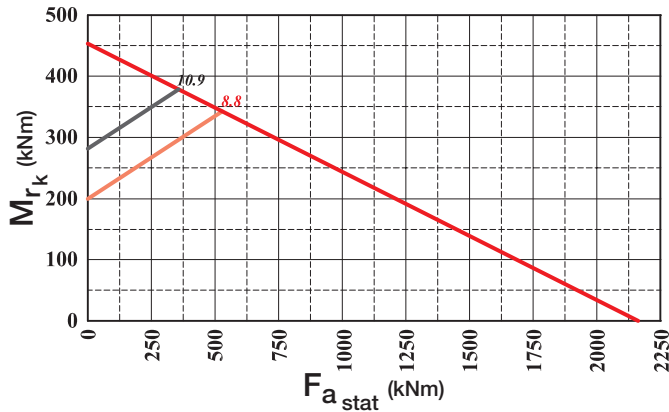


Ref : 2DI.106.00

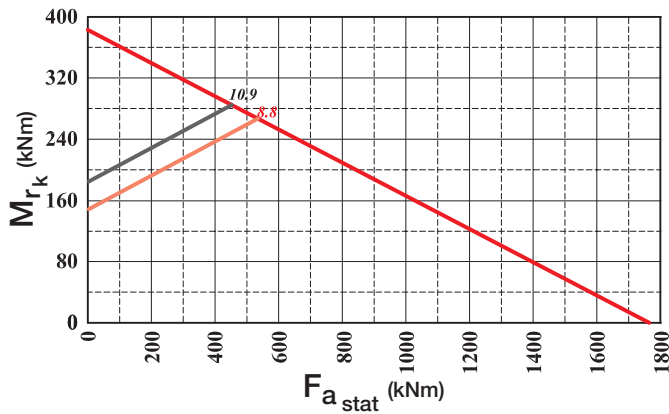
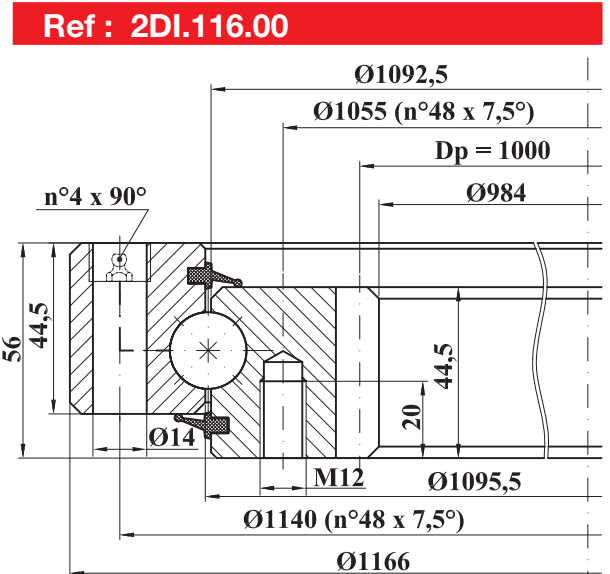
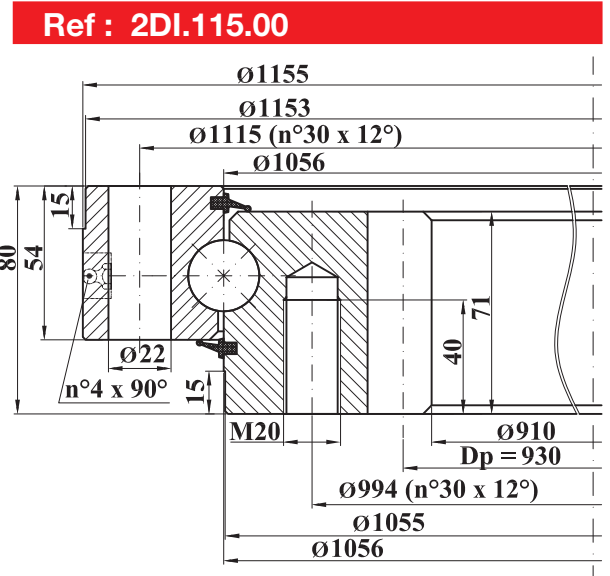


Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1617	577	286	161	317	90	6	152	20	-	0,5	28

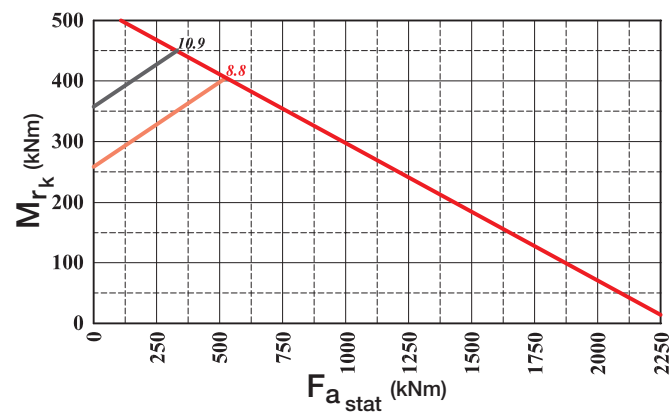
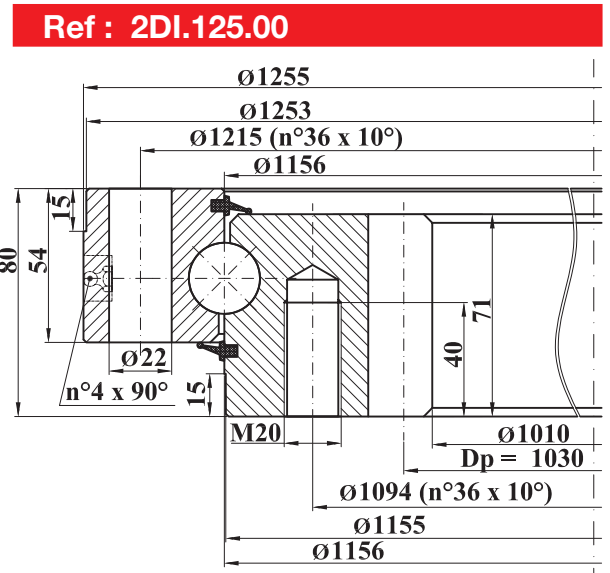
Serie I.DI



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2135	808	406	236	455	165	10	93	20	-	-	84



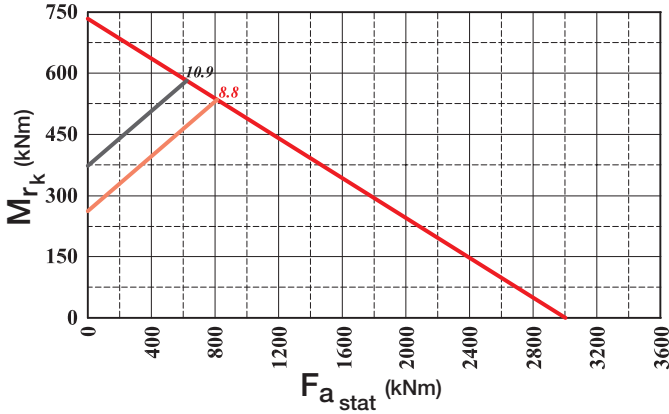
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1780	635	297	167	384	91	8	125	20	-	-	37



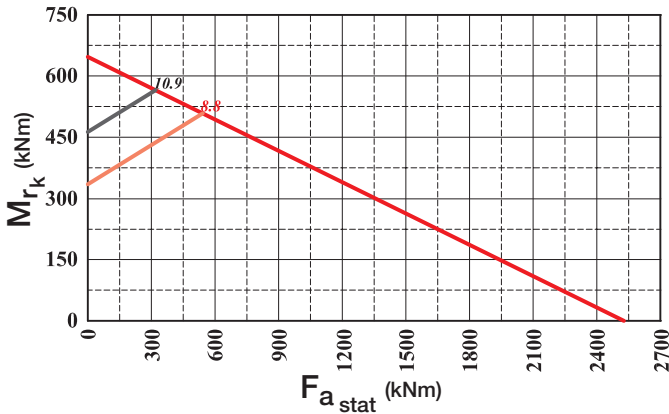
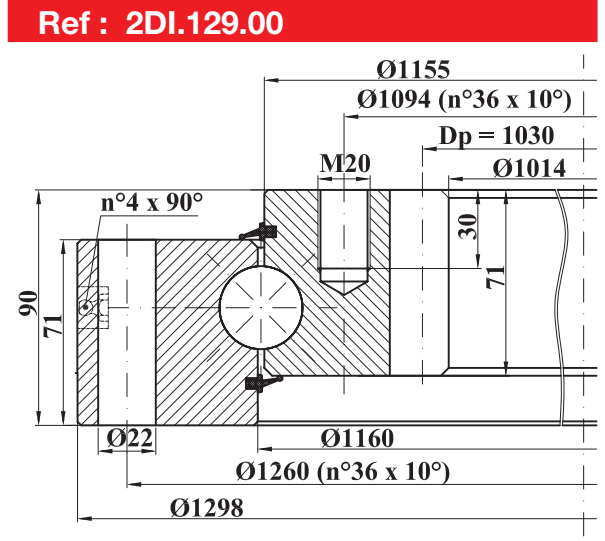
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2330	881	419	243	552	180	10	103	20	-	-	84

NEURN020000_001

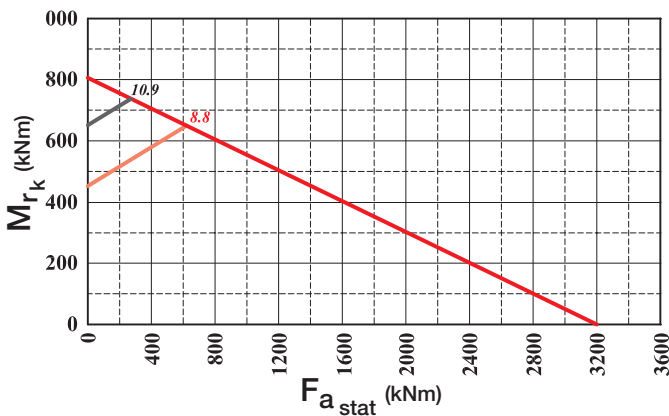
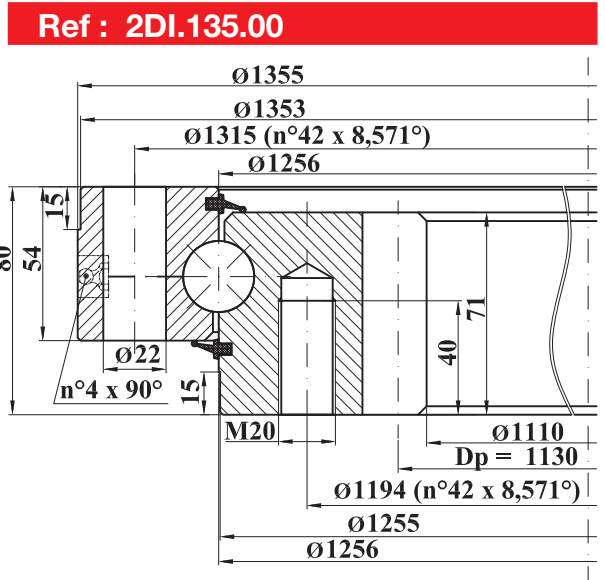
Serie I.DI



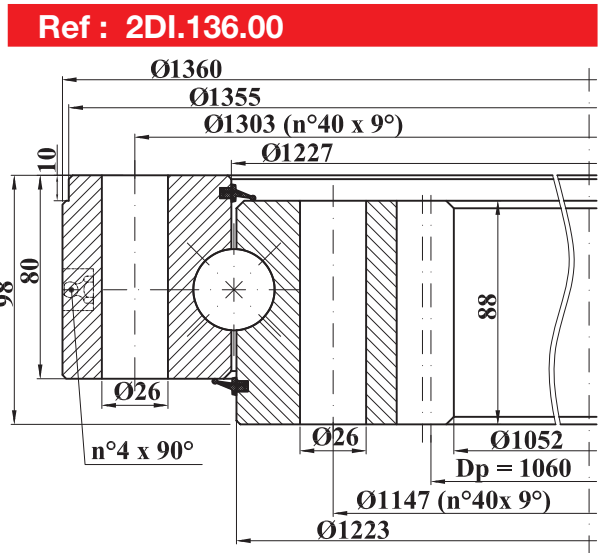
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
3030	1129	592	352	721	256	10	103	20	-	2	84



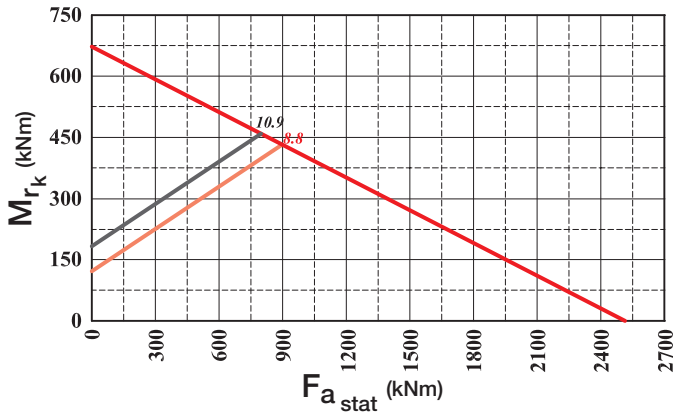
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2524	955	431	250	649	195	10	113	20	-	-	84



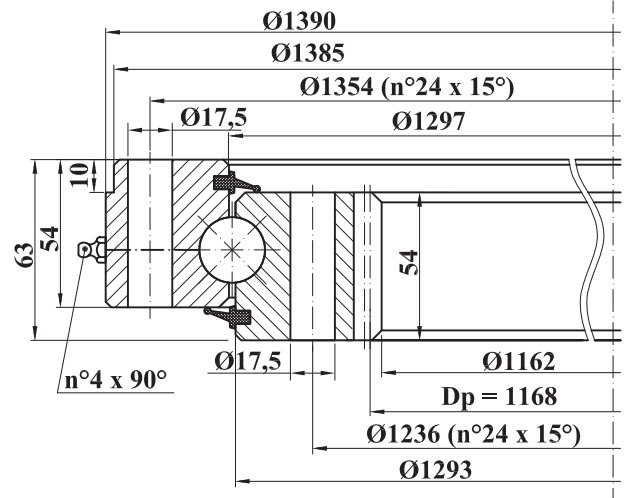
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
3202	1192	604	360	810	321	10	106	20	5	1	100



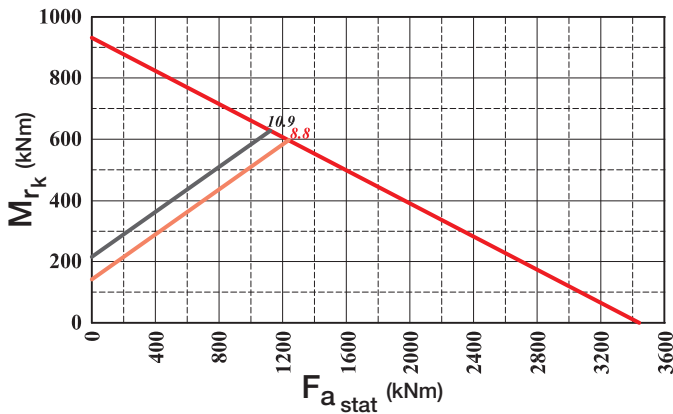
Serie I.DI



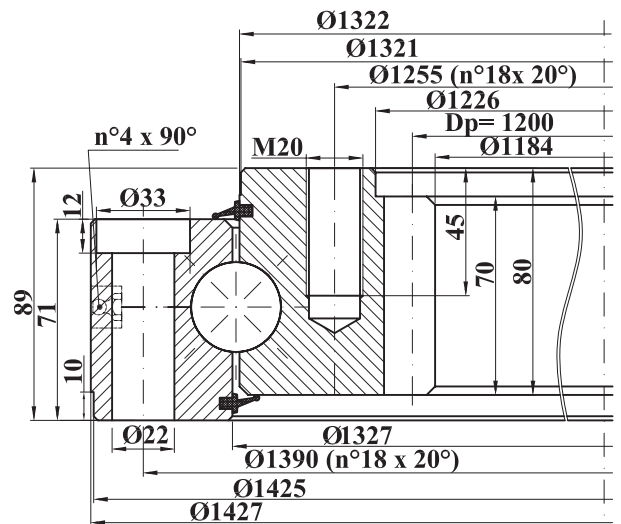
Ref : 2DI.139.00



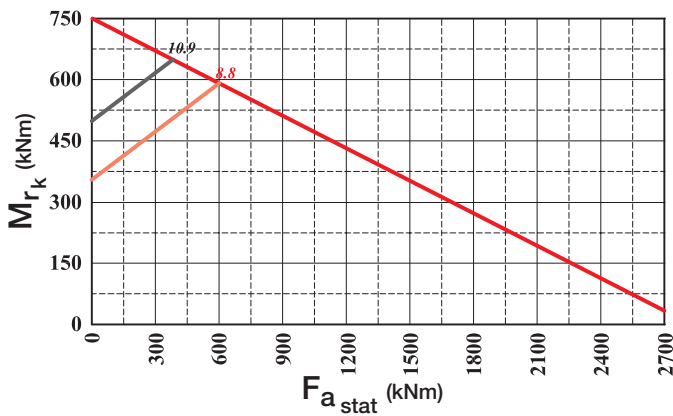
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2612	988	437	254	670	171	8	146	20	4	1	82



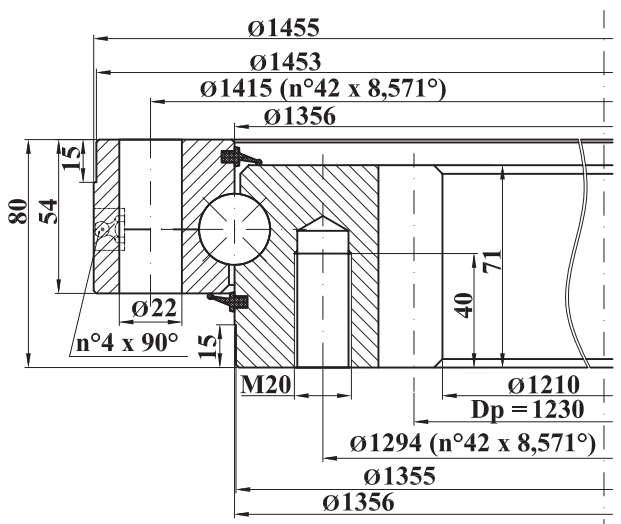
Ref : 2DI.142.00



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
3459	1340	622	370	924	260	8	150	20	-	-	64

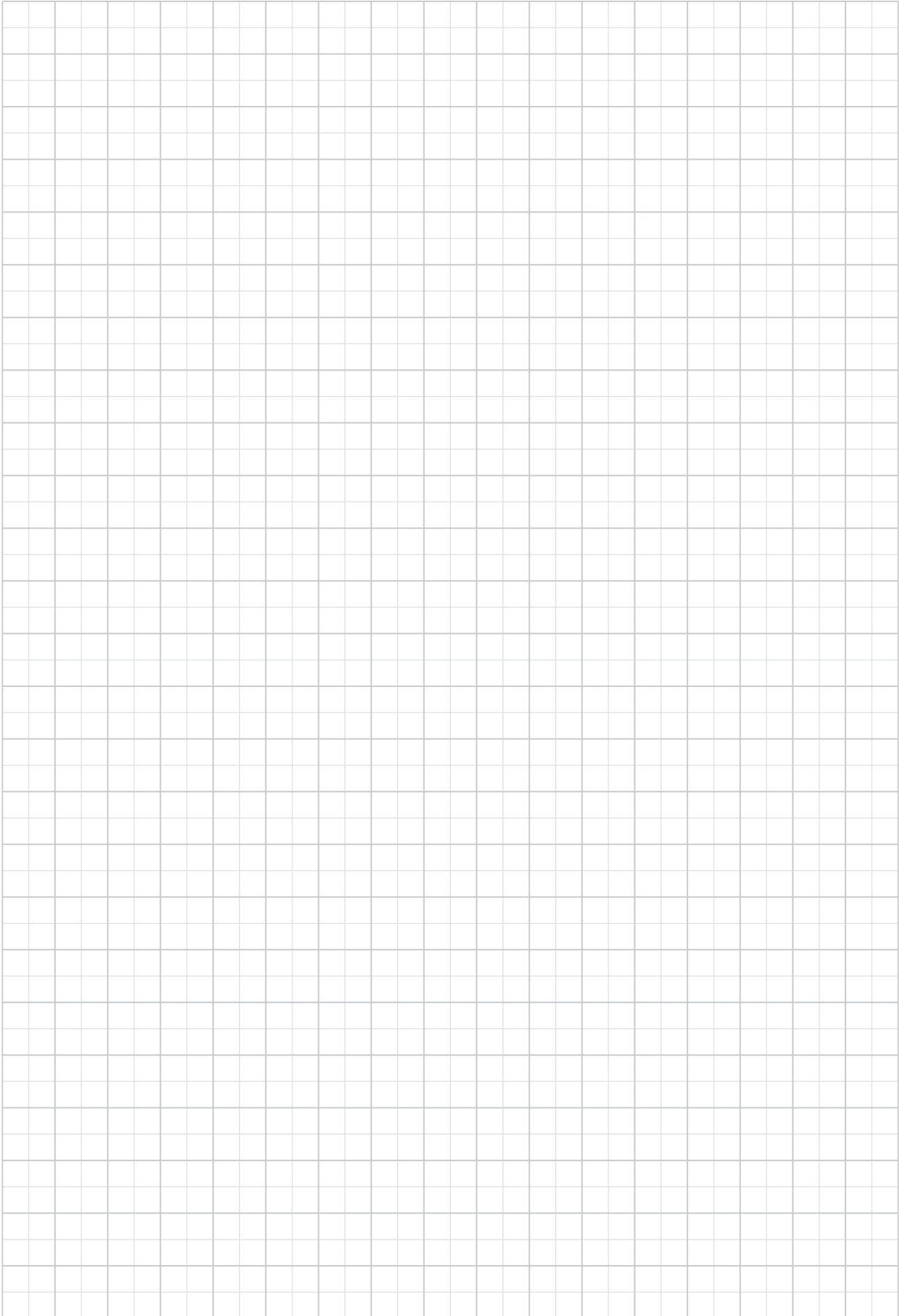


Ref : 2DI.145.00



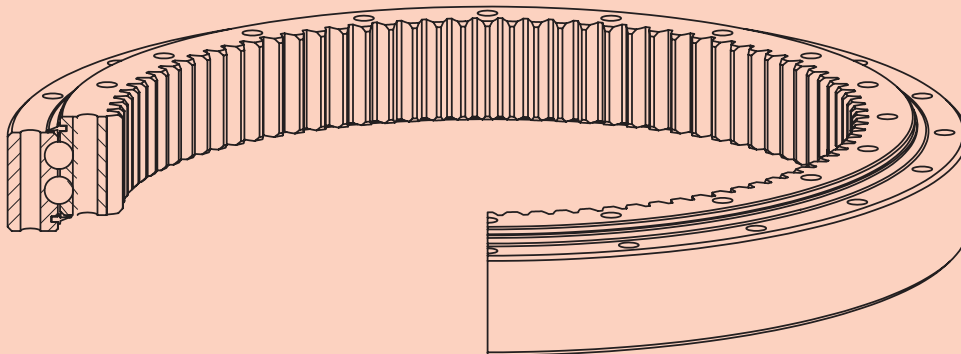
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2841	1035	445	258	751	212	10	123	20	-	-	84

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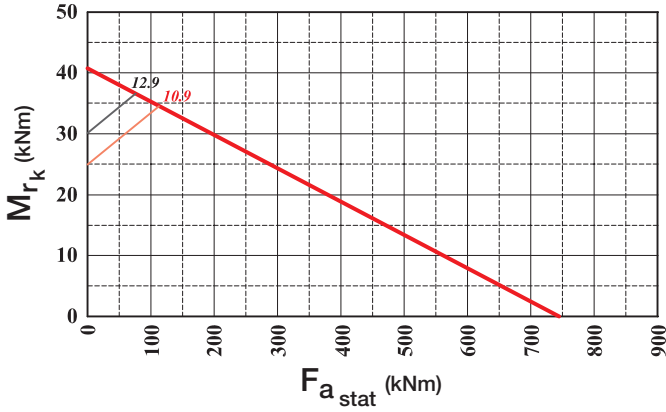
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Serie 2I.DI

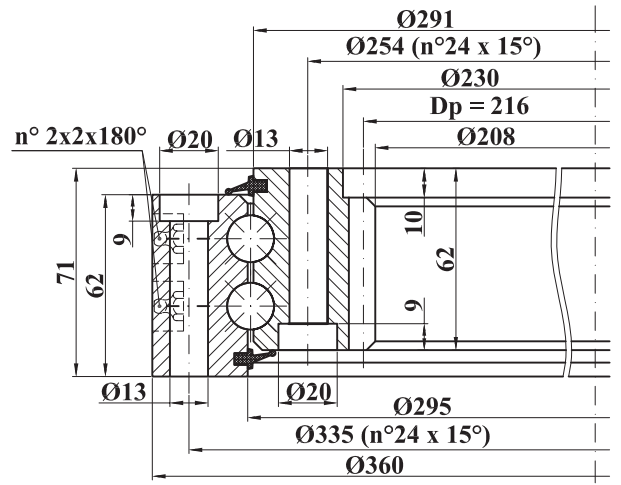


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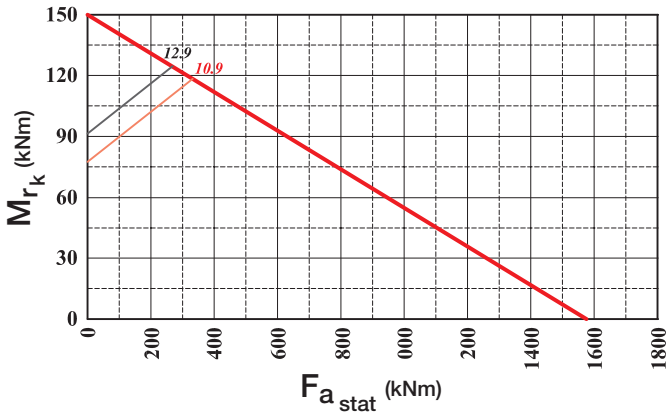
Serie 2I.DI



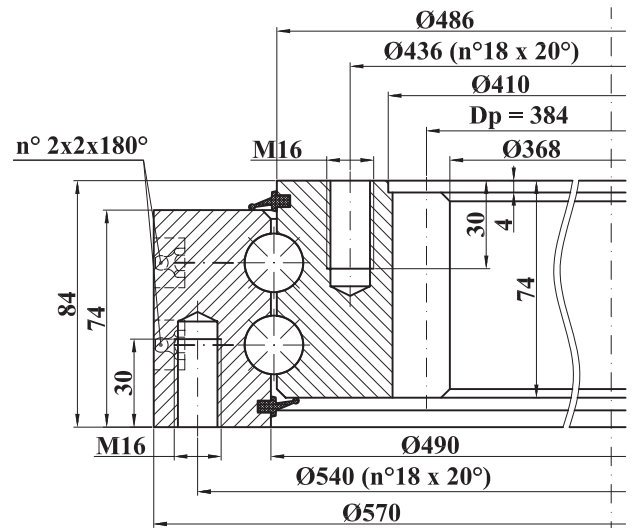
Ref : 2ID.036.00



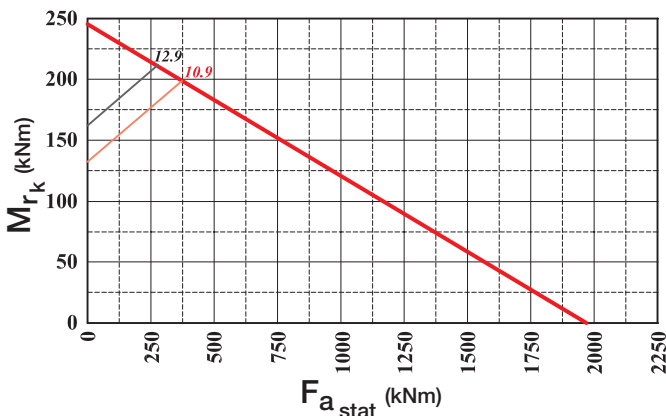
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
742	249	213	116	40,8	43	4	54	20	-	-	21,6



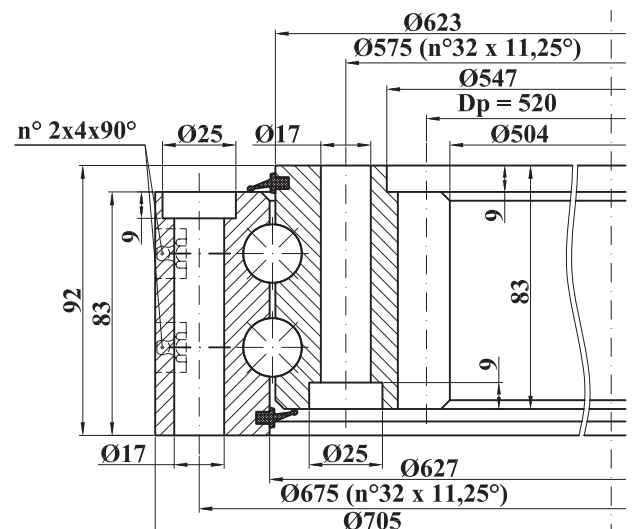
Ref : 2ID.057.00



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1582	547	356	201	150	77	8	48	20	-	-	58,2

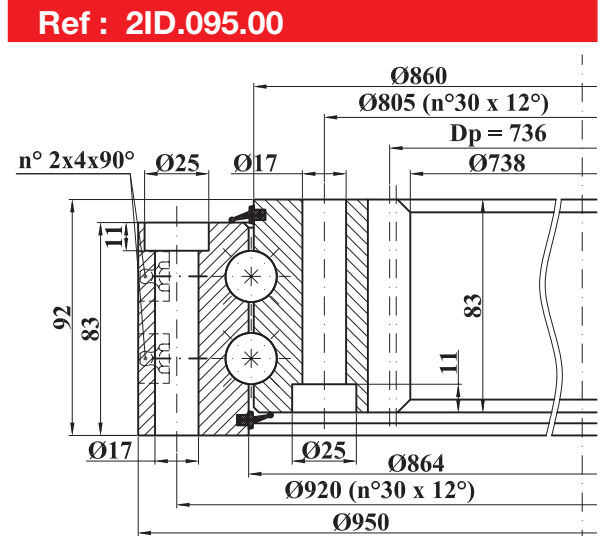
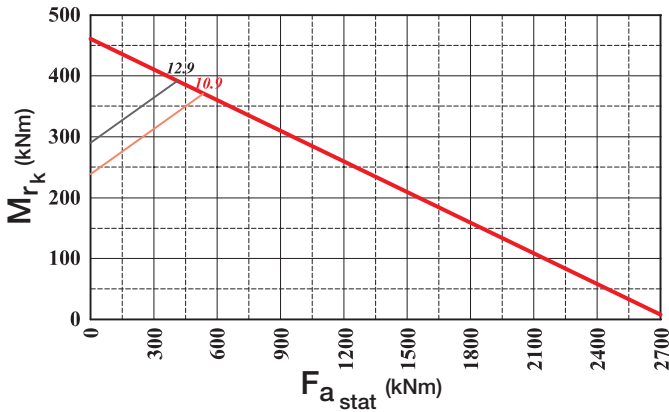


Ref : 2ID.070.00

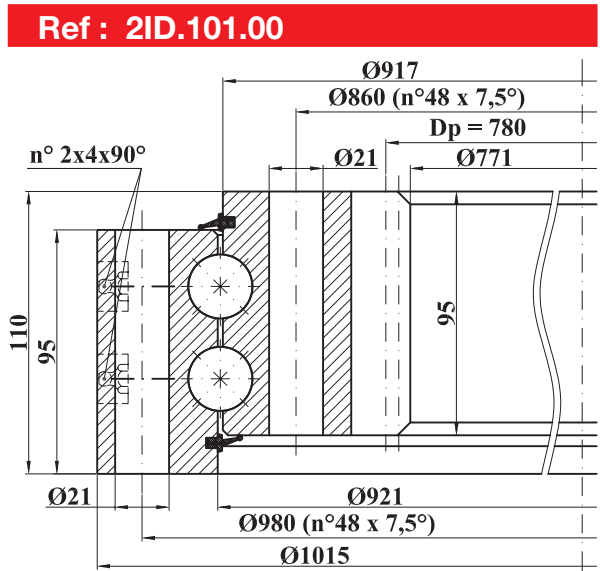
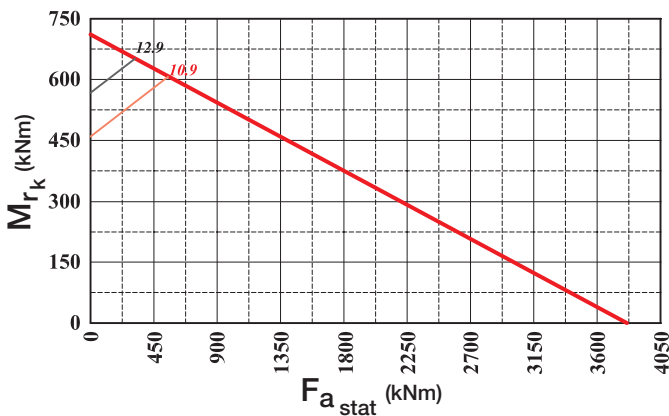


Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2025	700	390	220	246	96	8	65	20	-	-	61,5

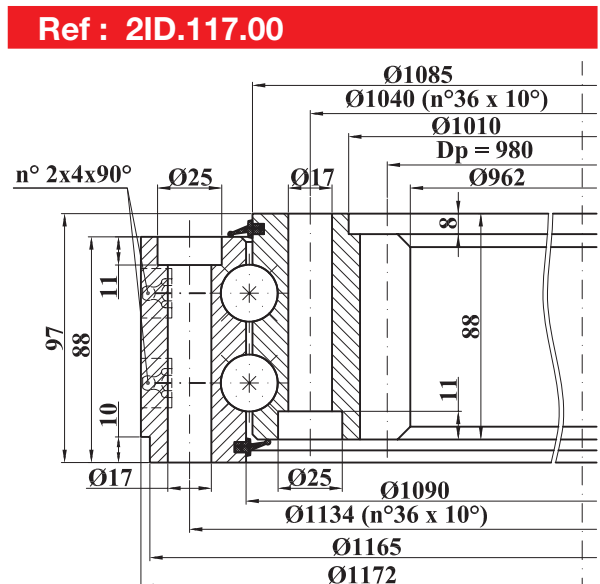
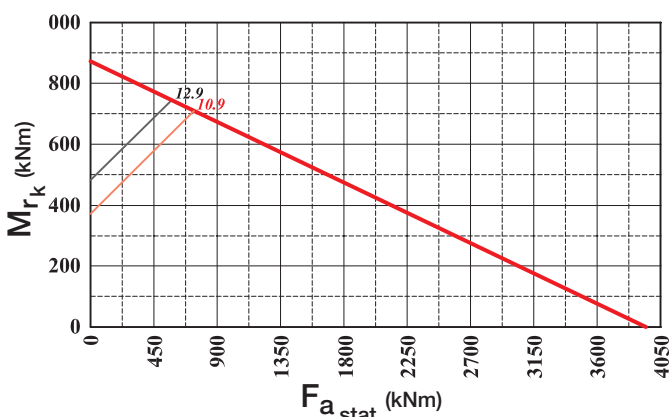
Serie 2I.DI



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
2793	997	440	248	467	158	8	92	20	8	1	69



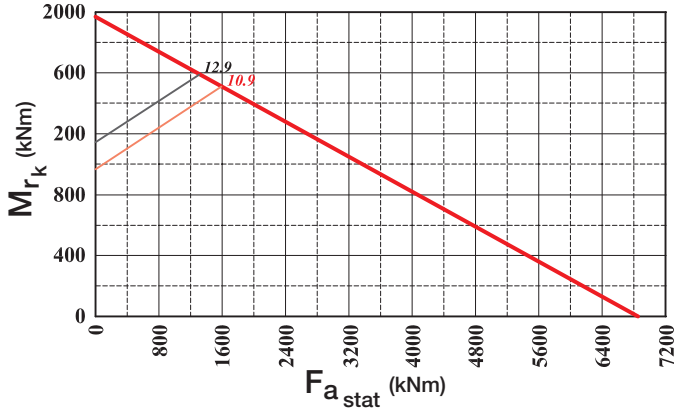
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
3706	1367	625	363	697	207	10	78	20	5	0,5	98,8



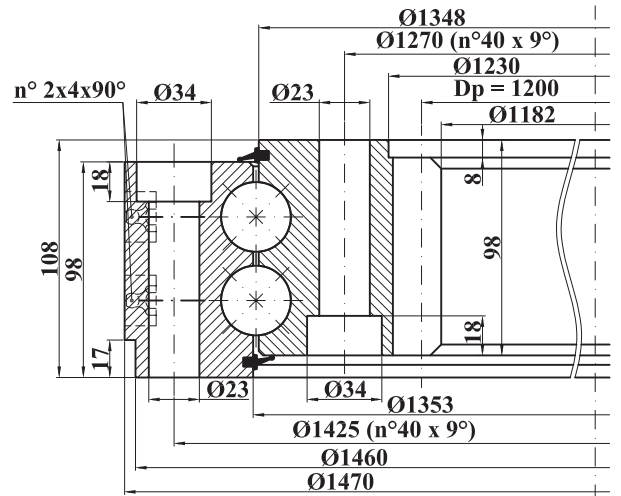
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
3988	1426	560	320	827	193	10	98	20	-	1	83,2

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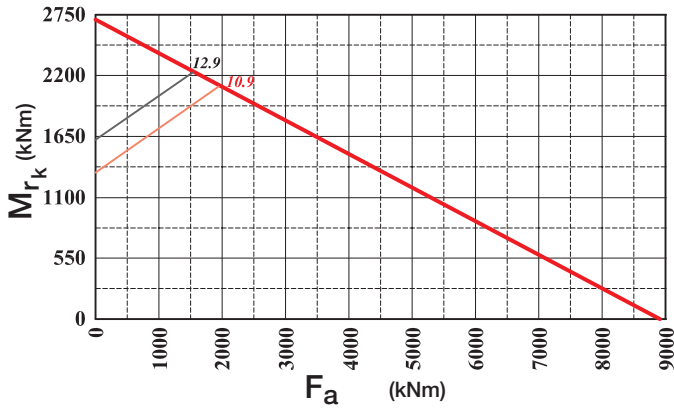
Serie 2I.DI



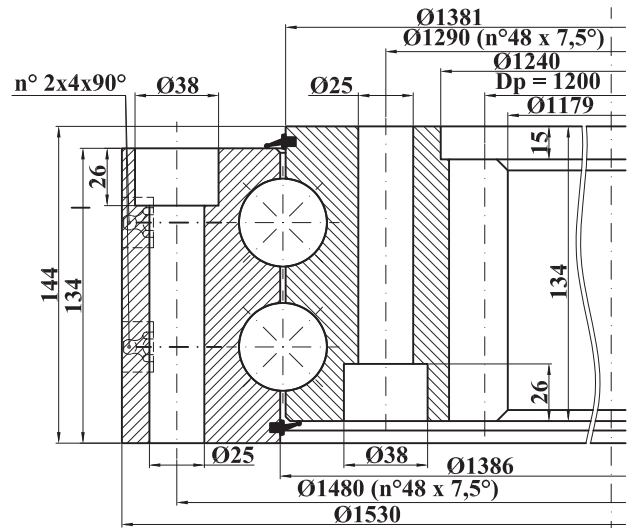
Ref : 2ID.147.00



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
7090	2746	1020	607	1963	158	10	120	20	0	1	93,6

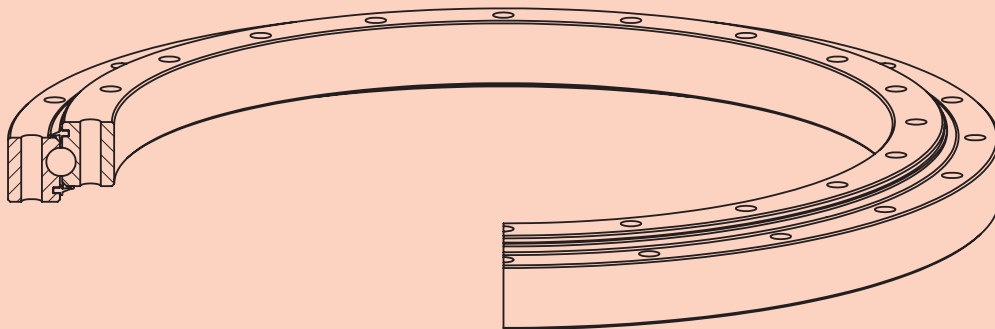


Ref : 2ID.153.00



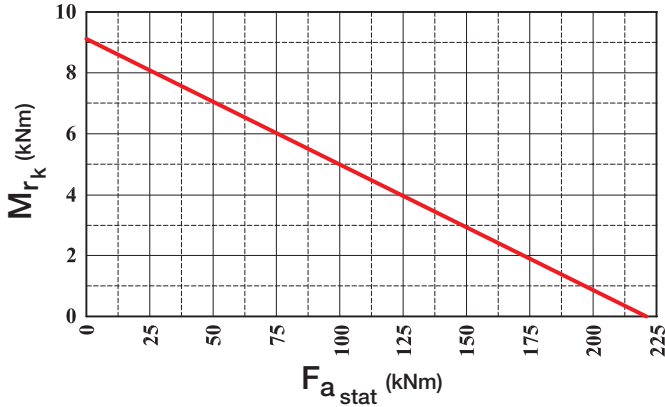
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
8906	3597	1433	870	2693	207	12	100	20	-	1,5	148,5

Serie C.SD

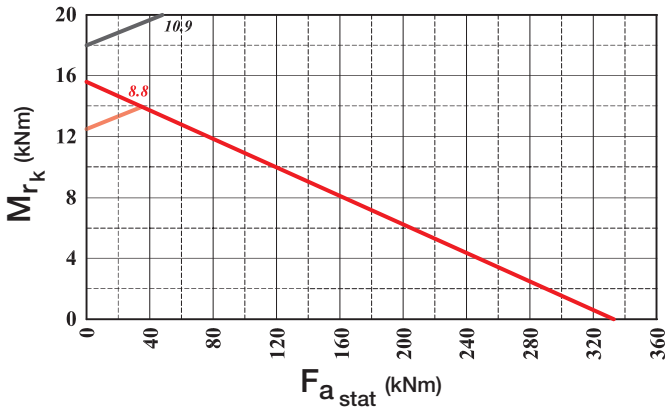
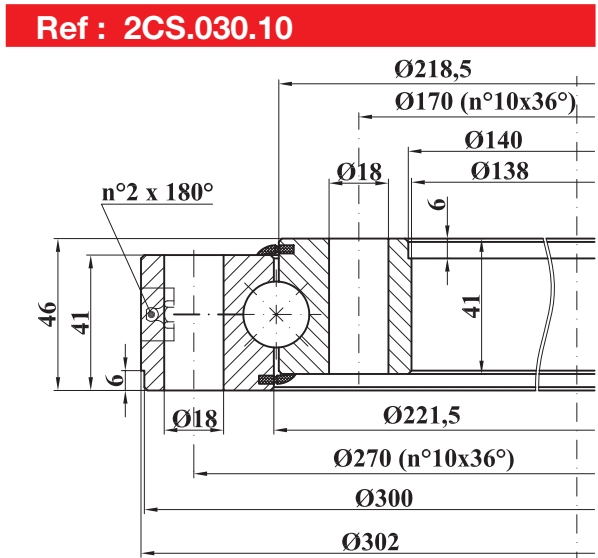
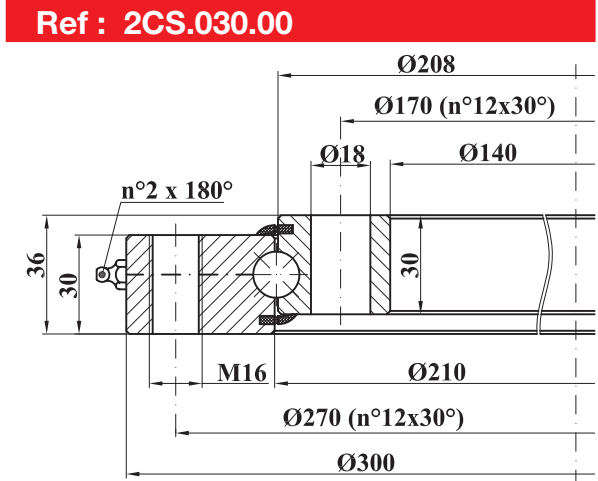


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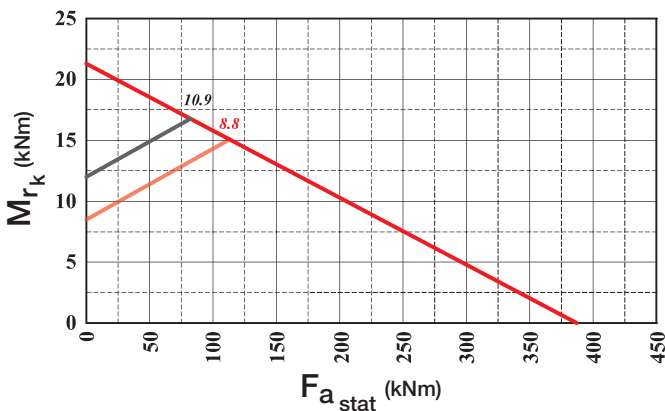
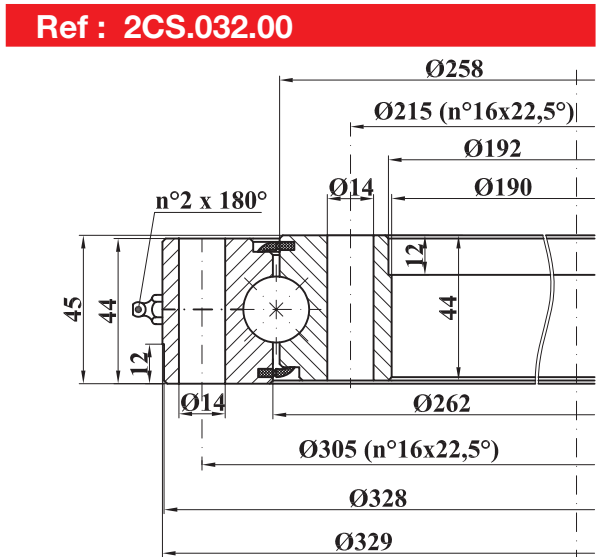
Serie C.SD



Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
221	78,3	92,8	52,8	9,12	12

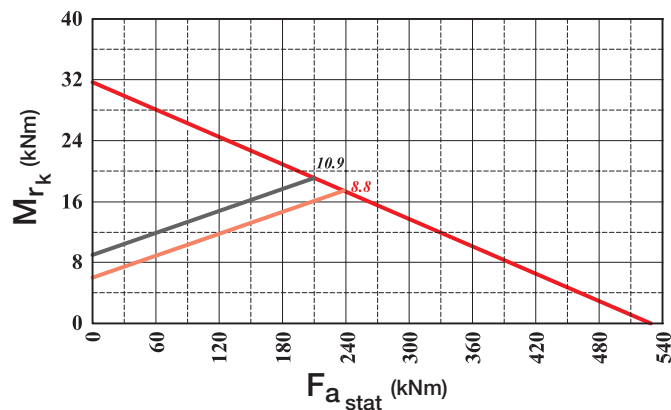


Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
333	124	159	94,8	15,6	16

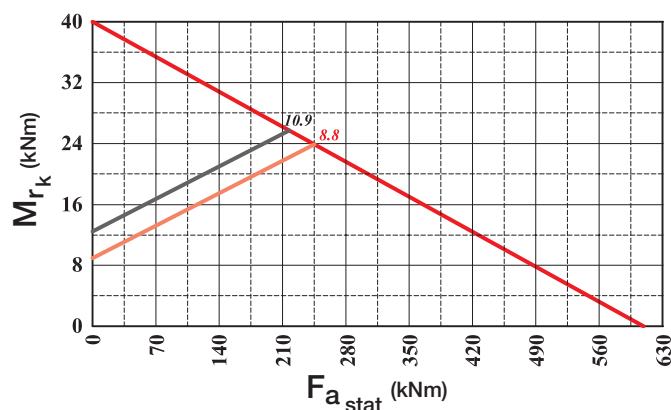
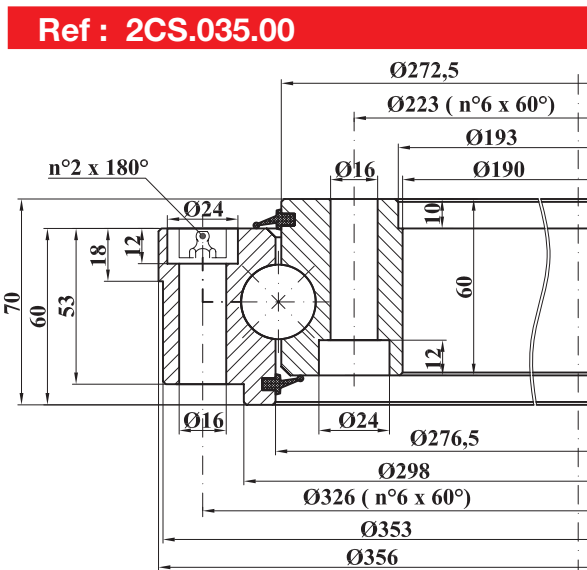


Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
387	149	168	100	21,3	17

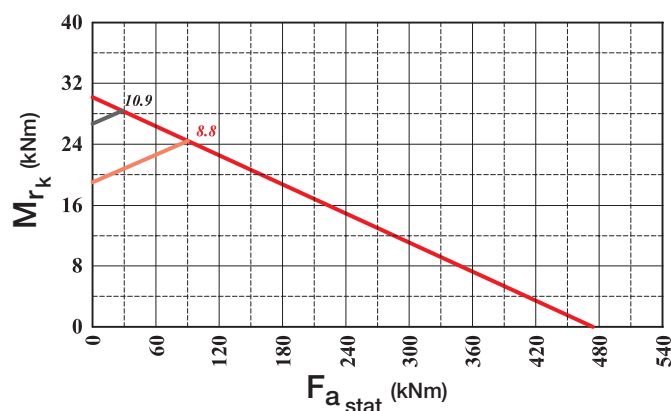
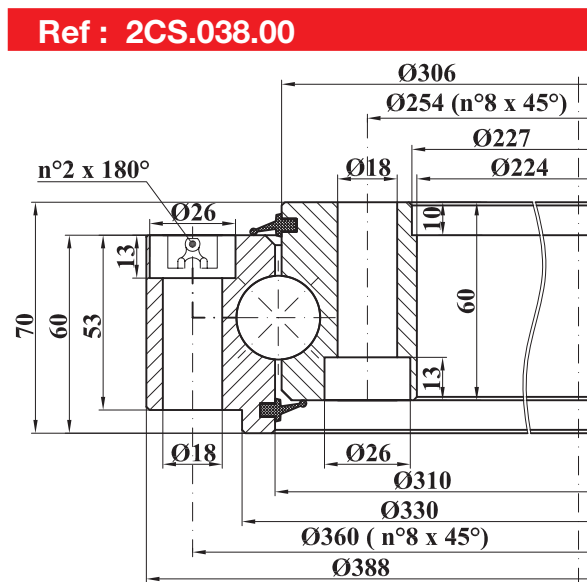
Serie C.SD



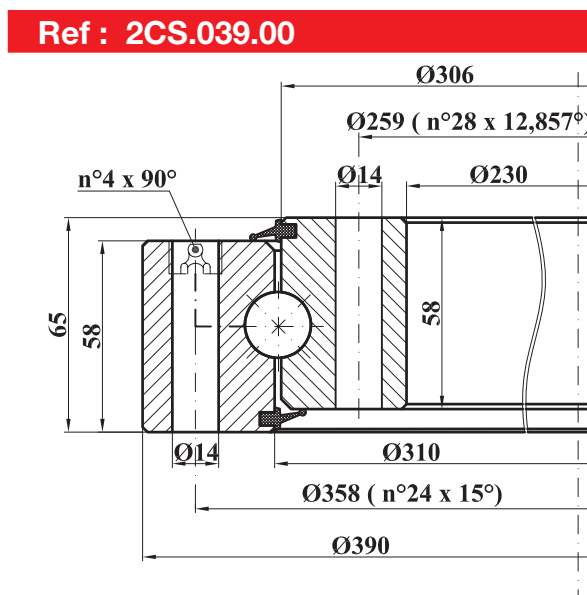
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
529	207	244	148	31,7	29



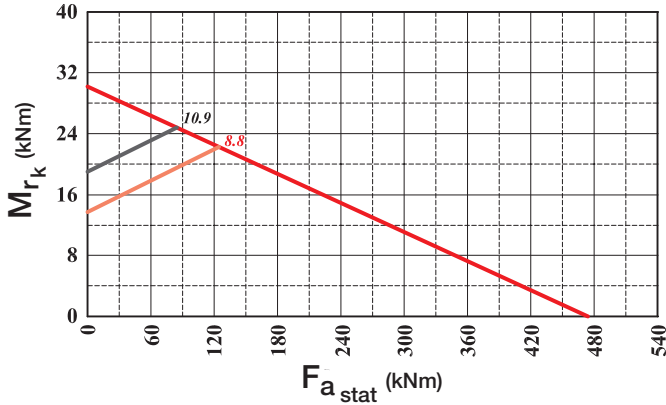
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
609	233	257	156	40	34



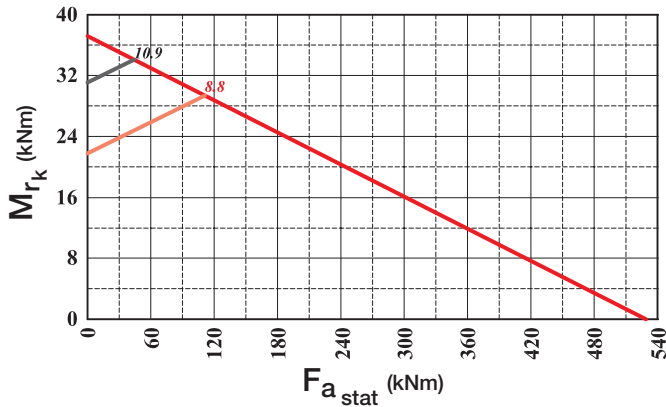
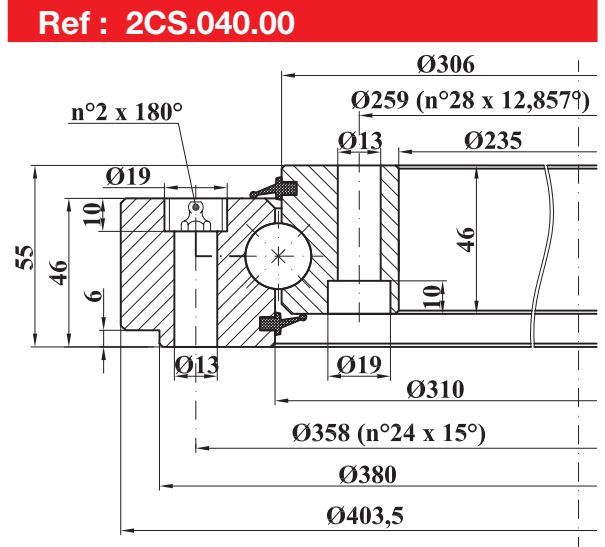
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
474	178	181	108	30,2	28



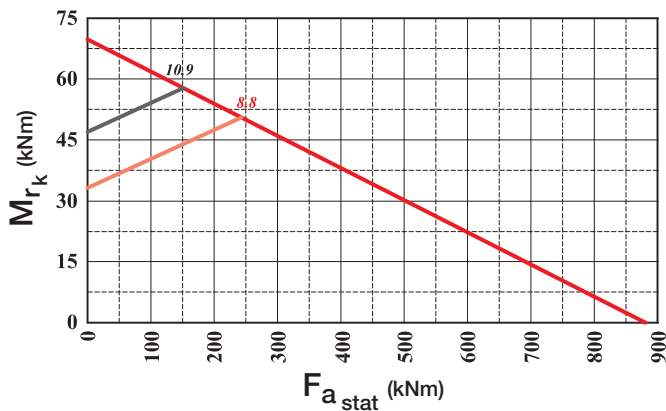
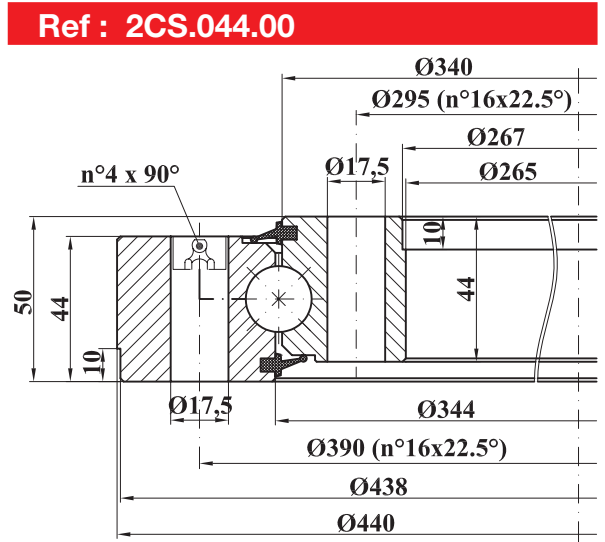
Serie C.SD



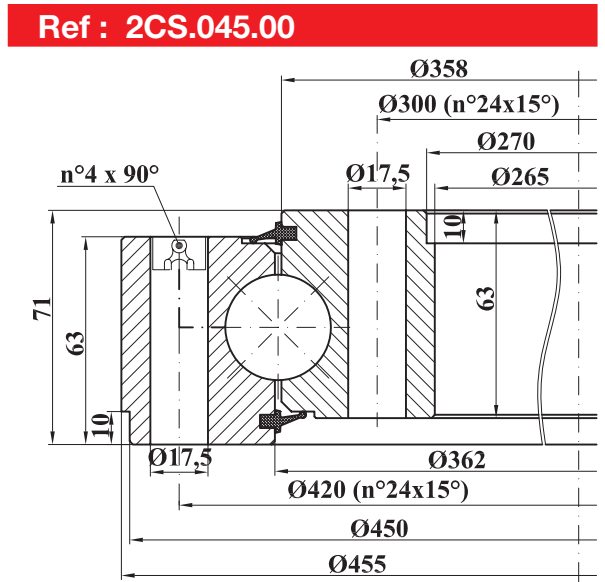
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
474	178	181	108	30,2	26



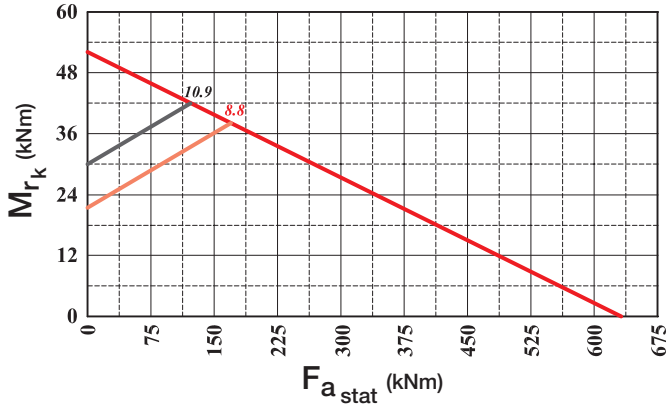
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
529	199	189	112	37,1	29



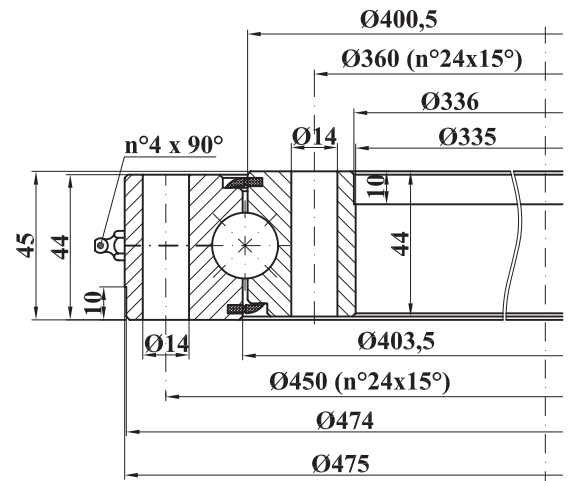
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
881	355	380	234	69,8	45



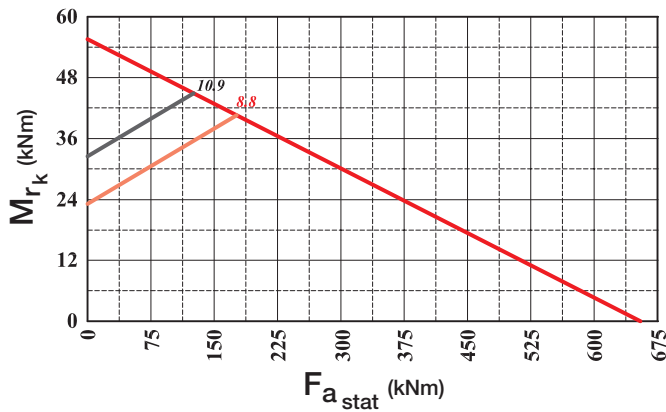
Serie C.SD



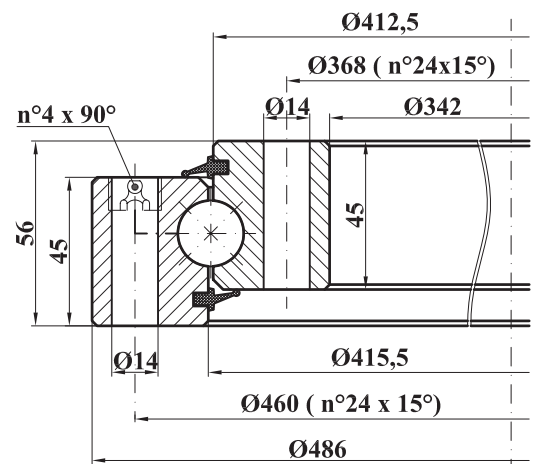
Ref : 2CS.047.00



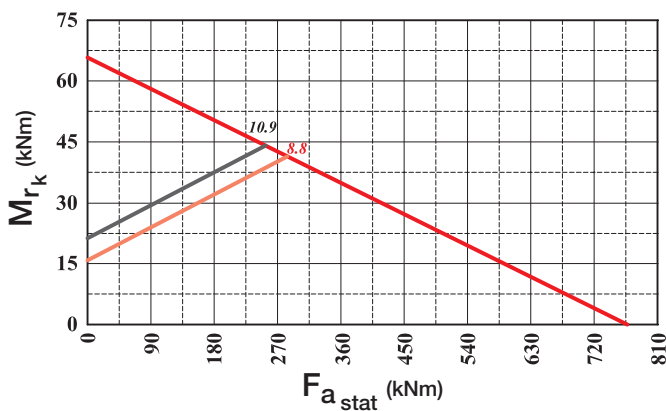
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
632	232	200	119	52,1	28



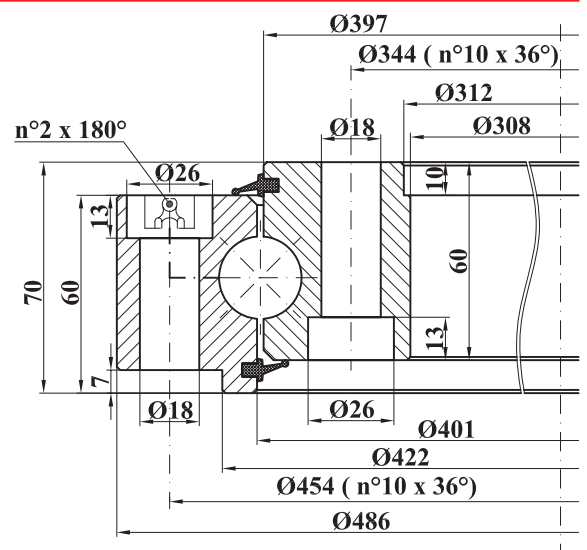
Ref : 2CS.048.00



Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
654	240	203	121	55,6	29



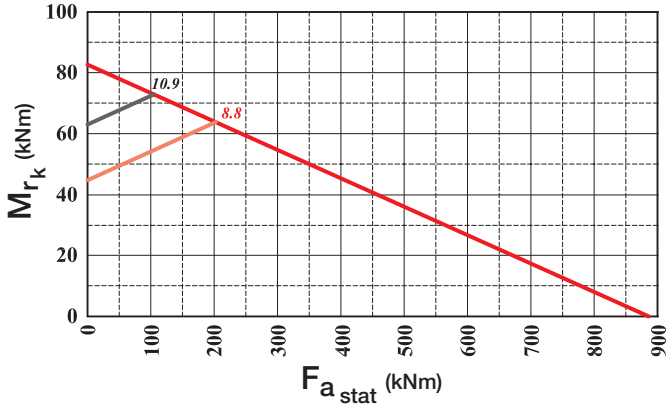
Ref : 2CS.048.10



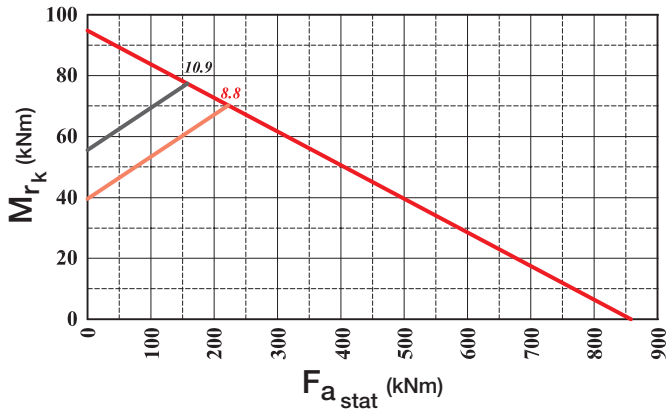
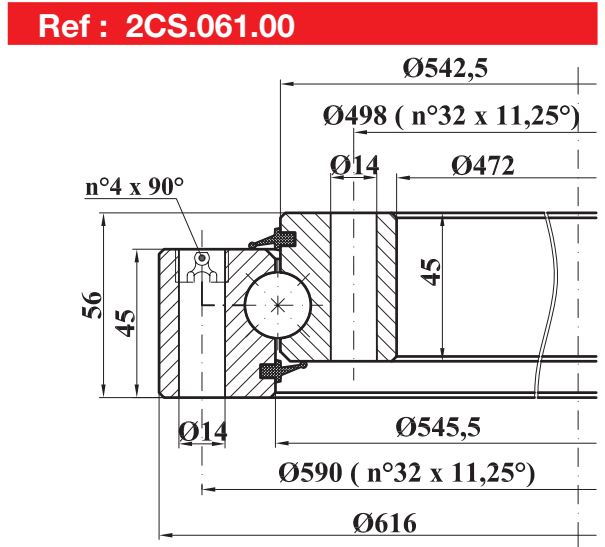
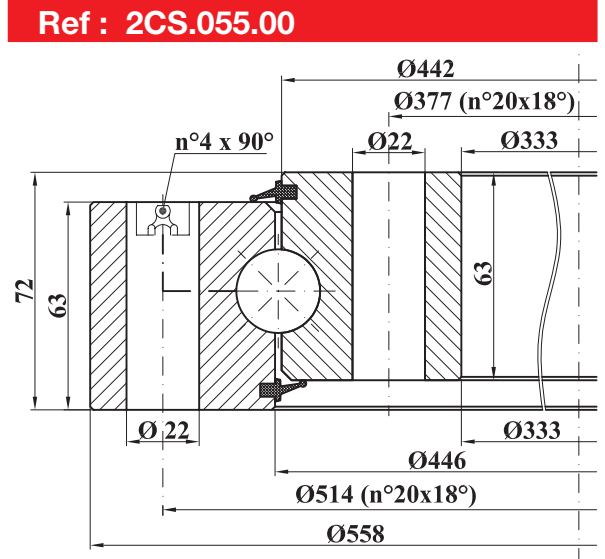
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
767	305	279	169	65,8	47

NEURN020000_001

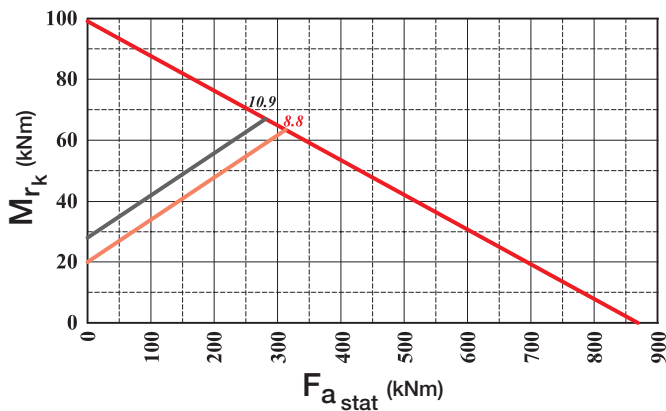
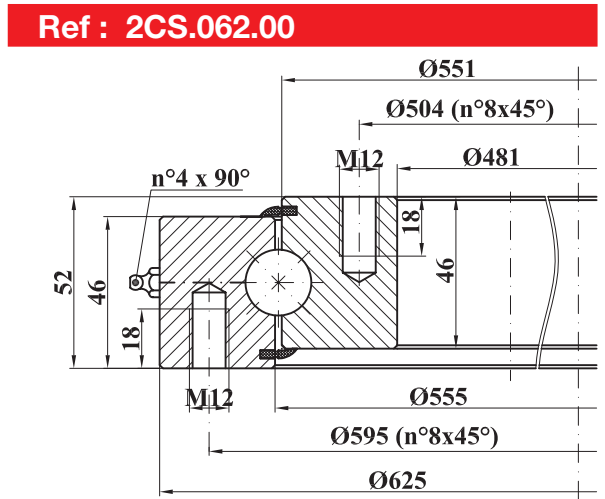
Serie C.SD



Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
886	333	295	179	82,7	66

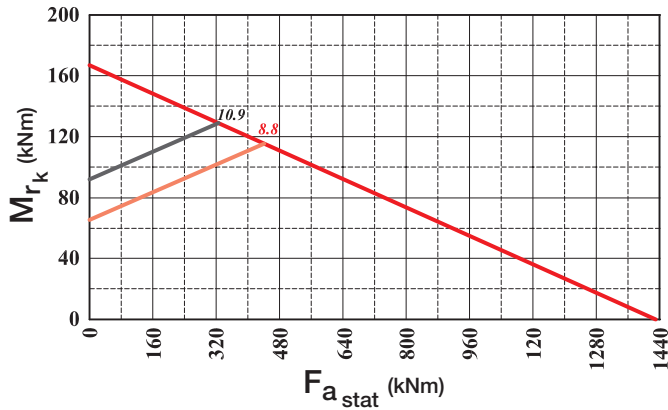


Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
858	324	225	133	94,8	36

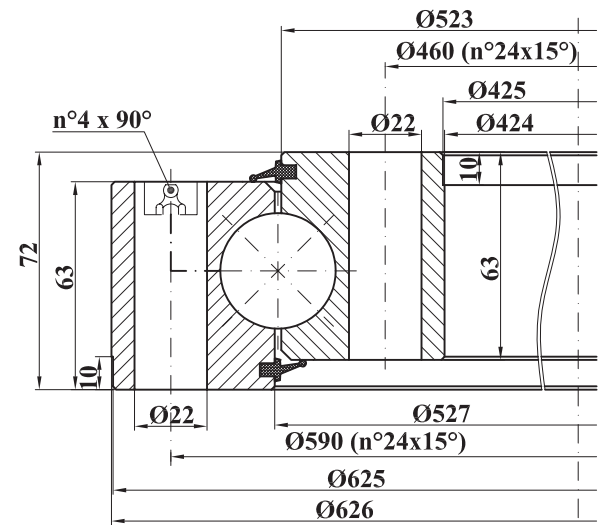


Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
869	329	226	134	99,1	42

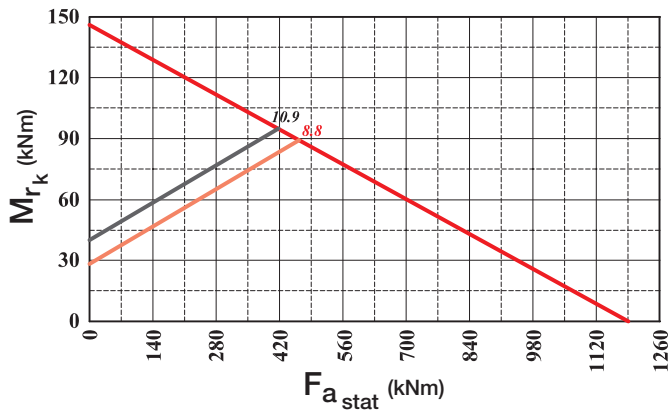
Serie C.SD



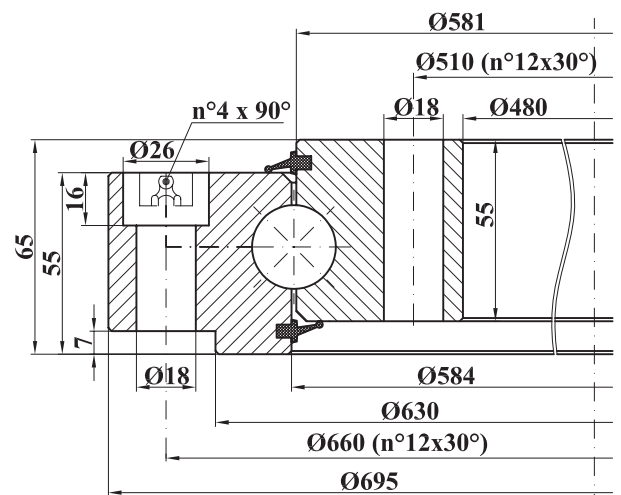
Ref : 2CS.062.10



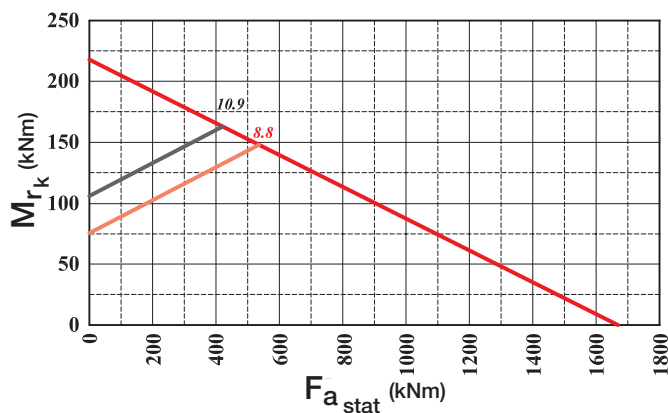
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
1430	558	501	310	167	70



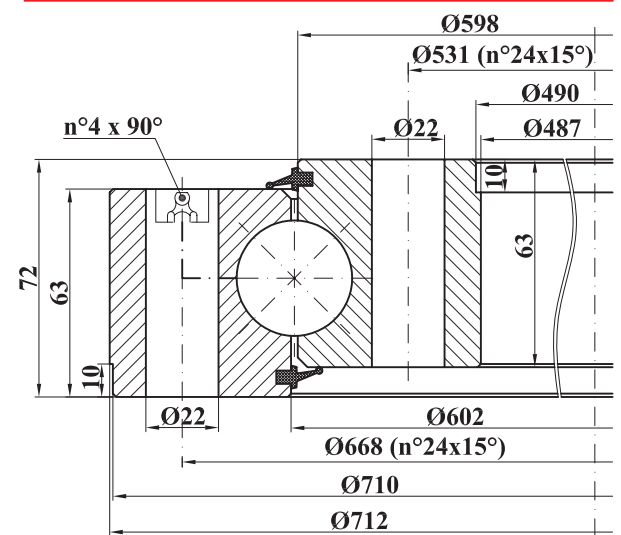
Ref : 2CS.069.00



Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
1191	462	329	199	146	75



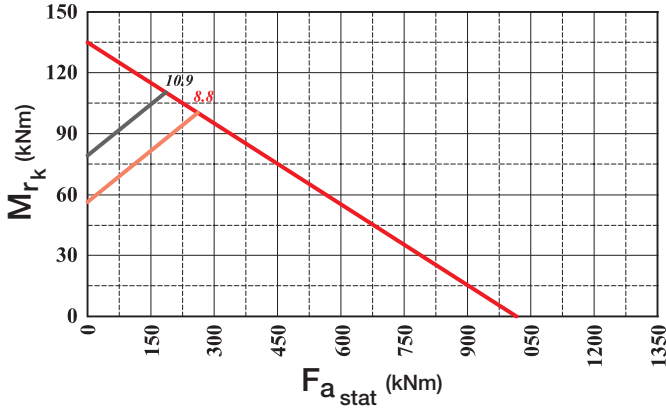
Ref : 2CS.071.00



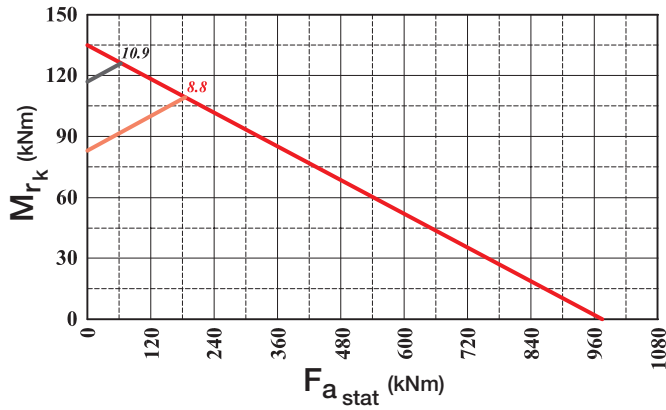
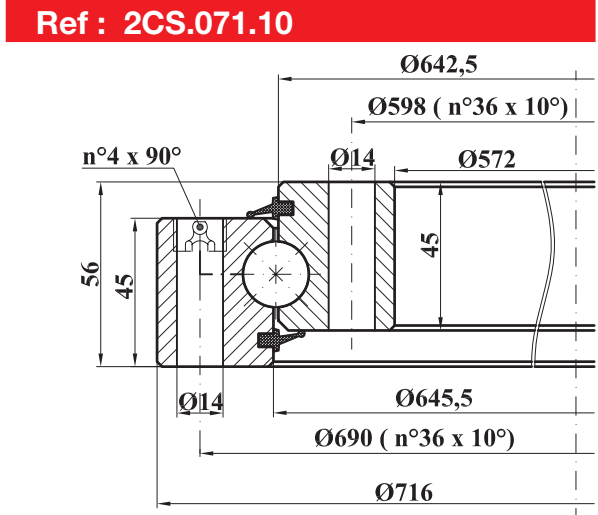
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
1683	642	530	319	213	91

NEURN020000_001

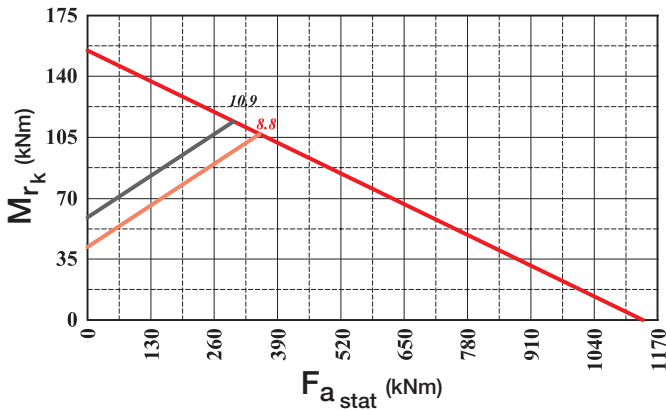
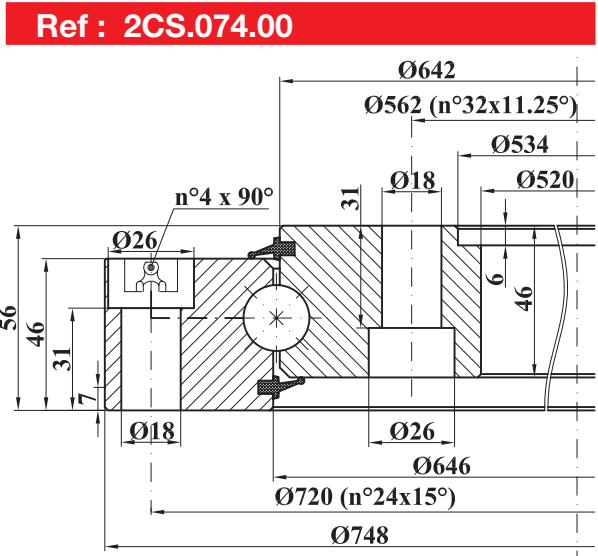
Serie C.SD



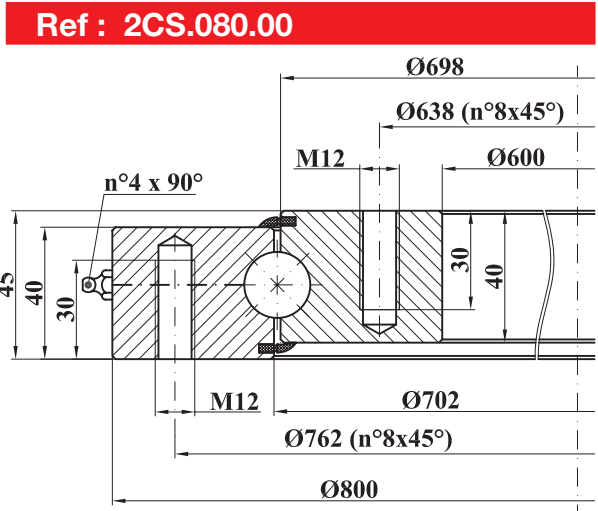
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
1016	384	240	142	135	44



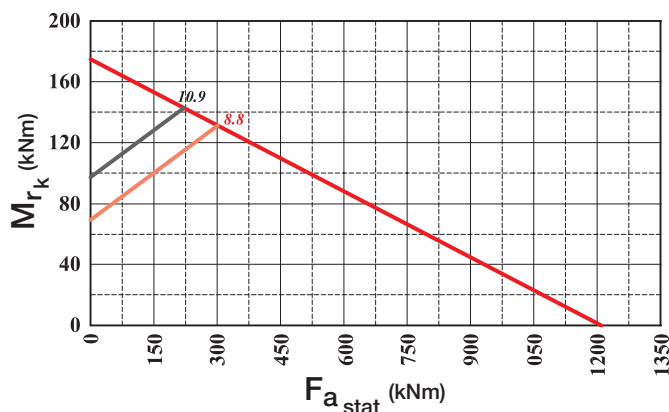
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
1016	384	240	142	135	72



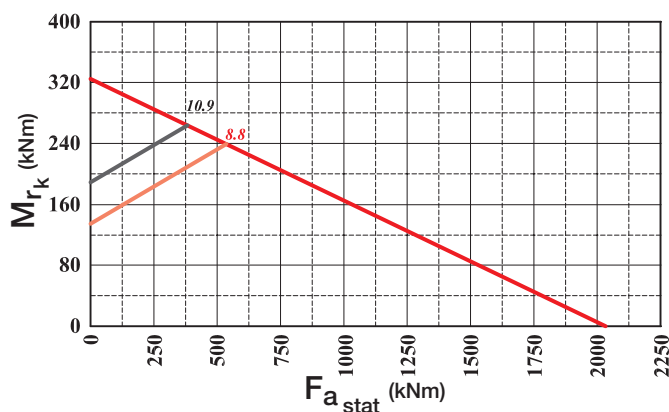
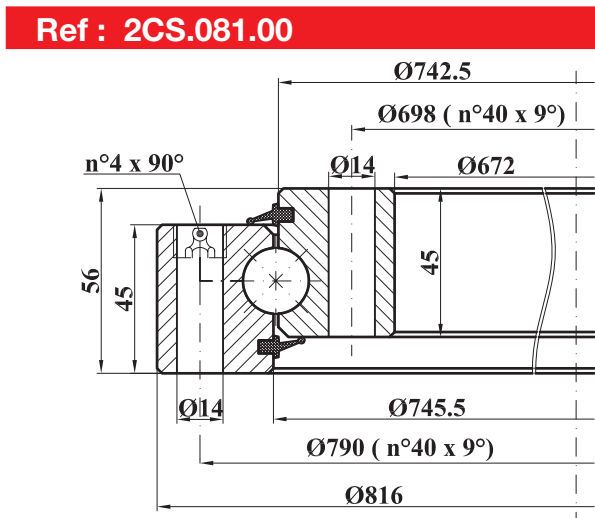
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
1140	394	252	142	155	66



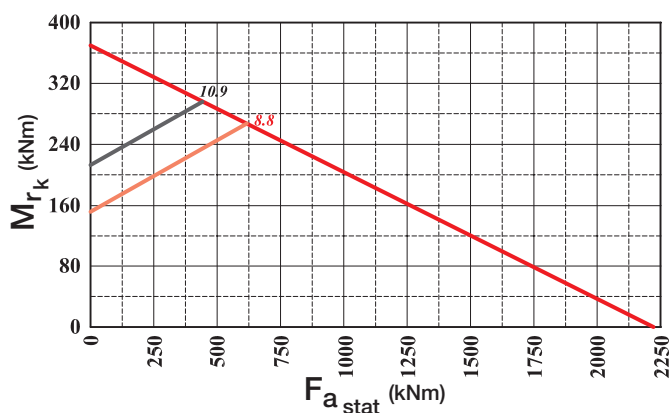
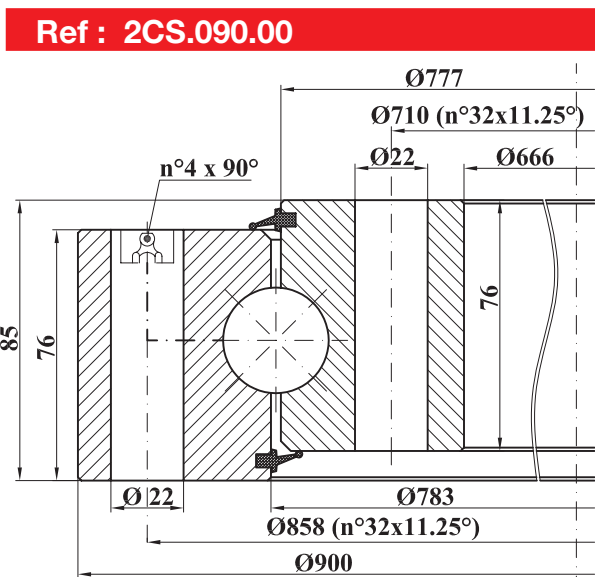
Serie C.SD



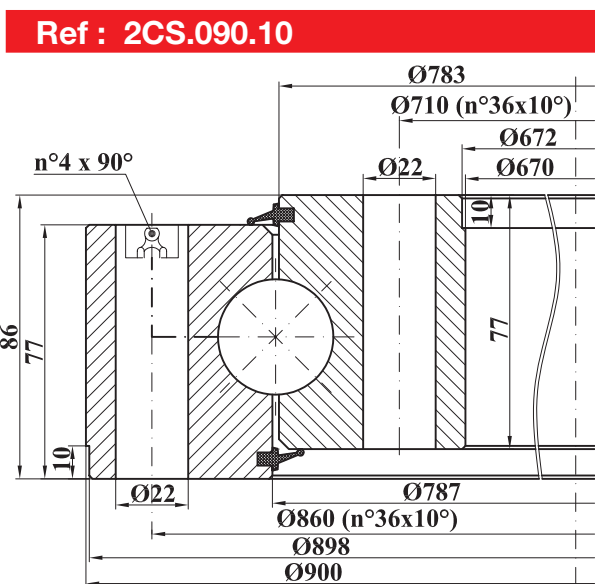
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
1210	418	257	145	175	53



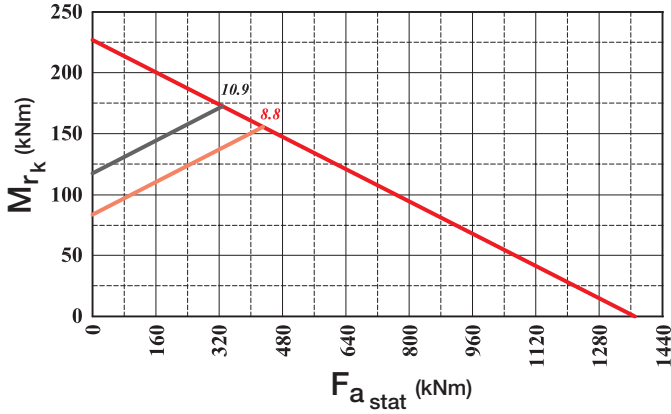
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
2033	758	517	308	325	148



Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
2222	879	591	355	370	146

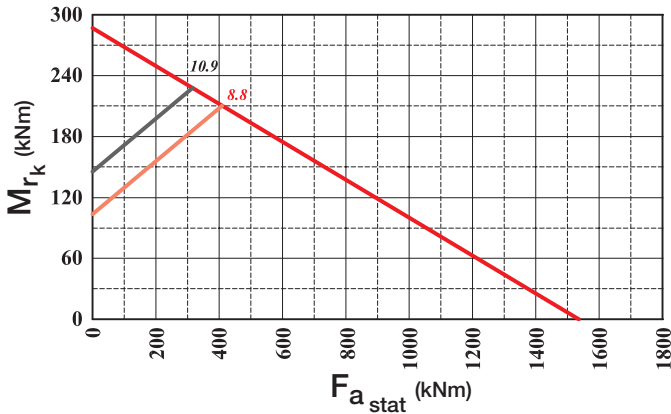
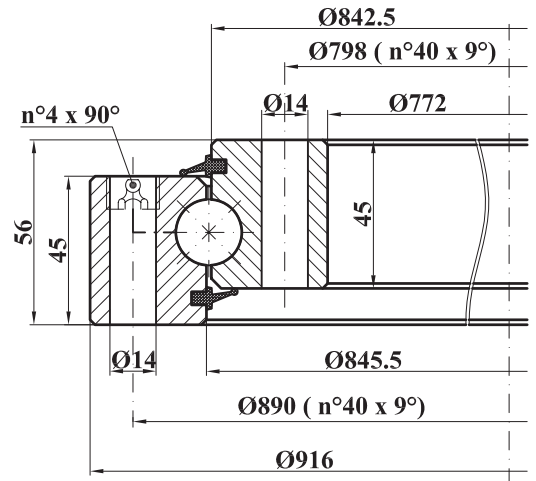


Serie C.SD



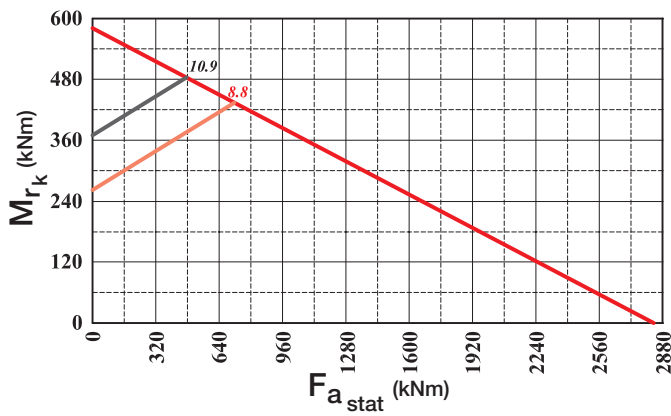
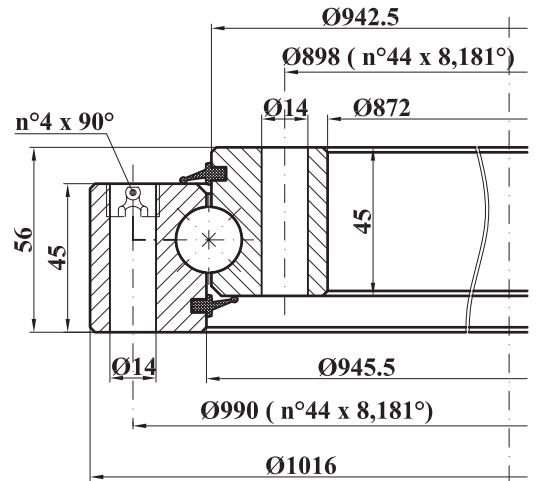
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
1373	490	270	152	227	60

Ref : 2CS.091.00



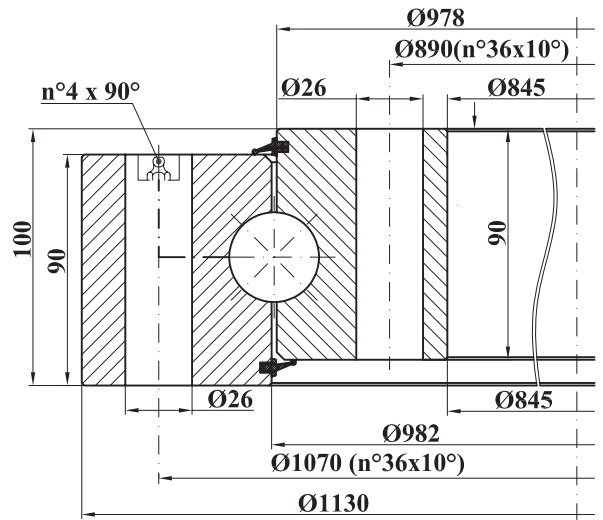
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
1536	548	281	158	287	68

Ref : 2CS.101.00

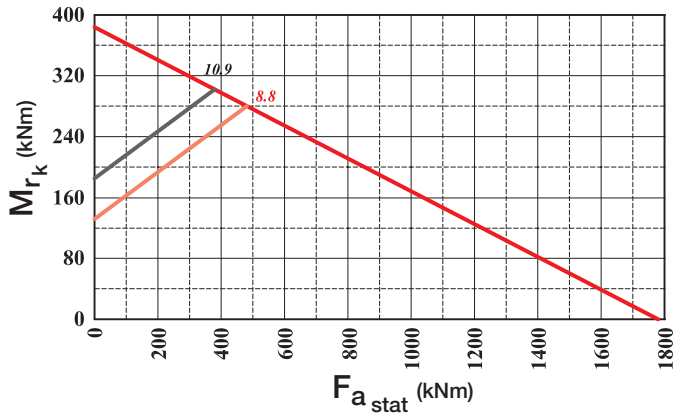


Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
2835	1090	641	385	581	271

Ref : 2CS.113.00

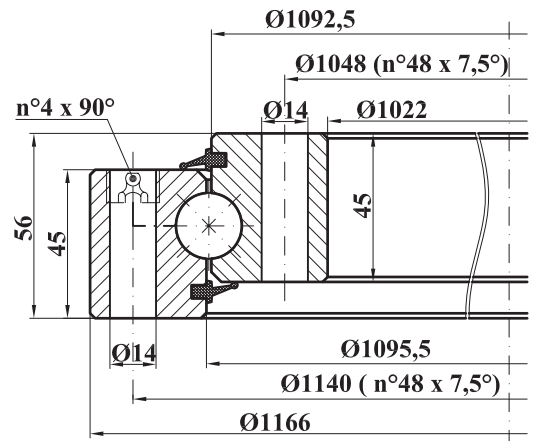


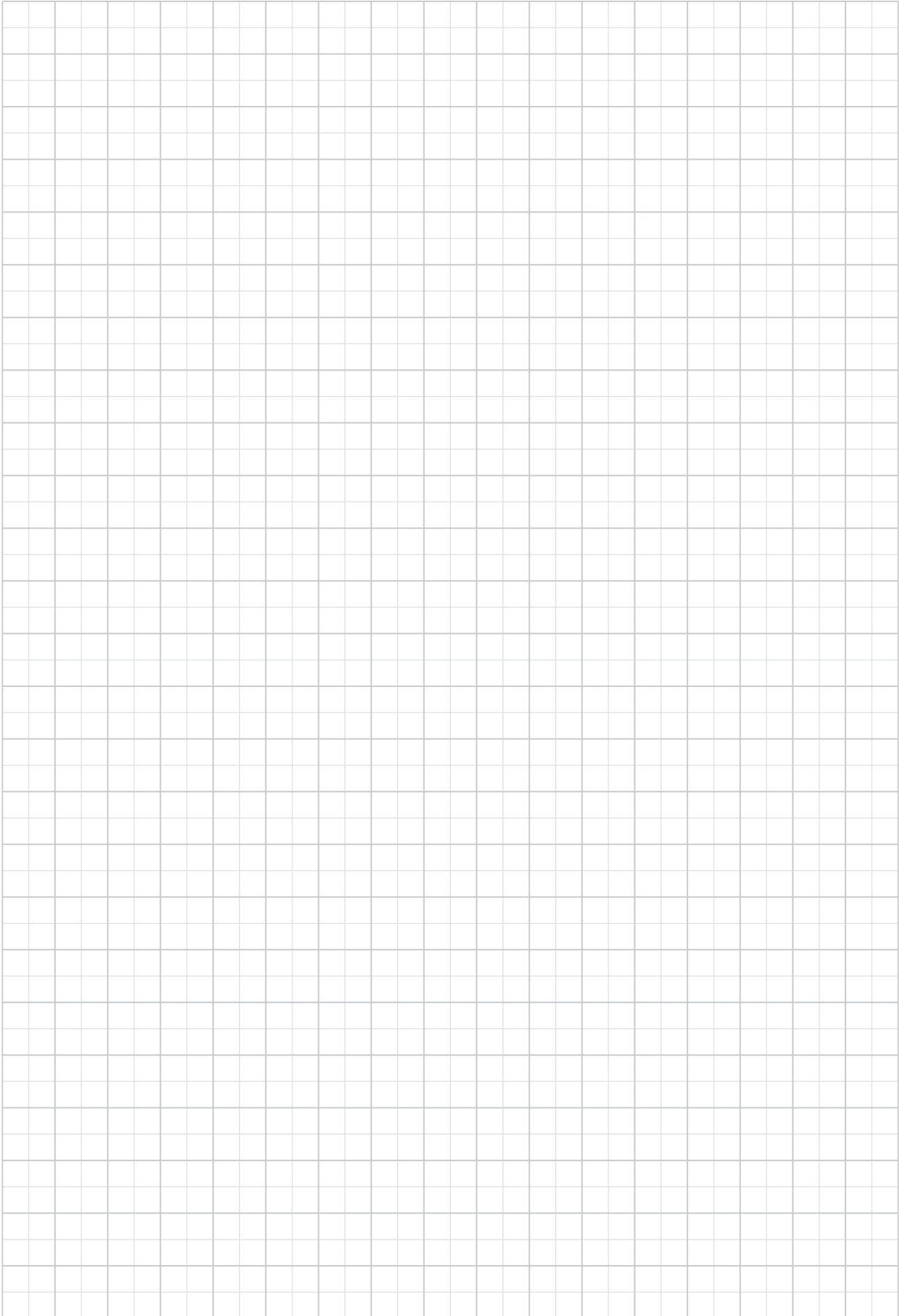
Serie C.SD



Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
1780	635	297	167	384	76

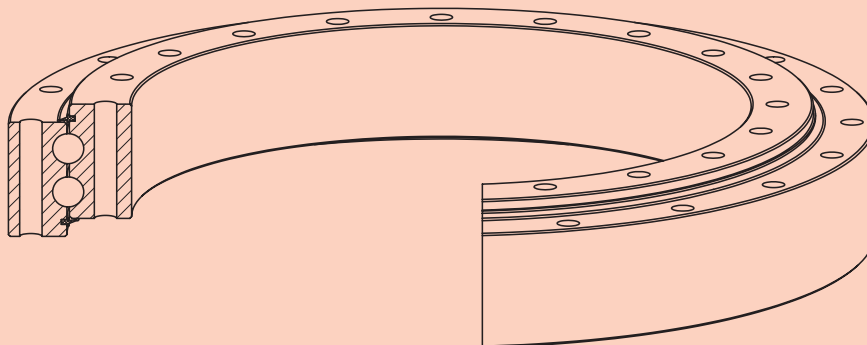
Ref : 2CS.116.00





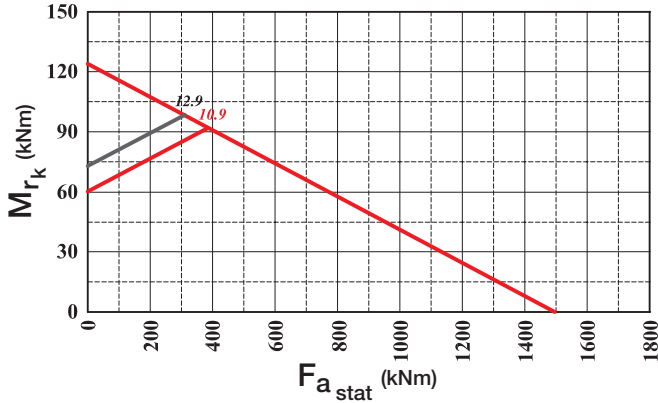
NEUFN020000_001

Serie 2C.SD

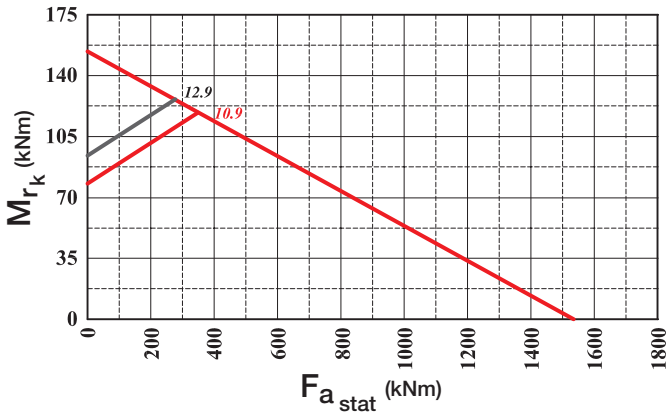
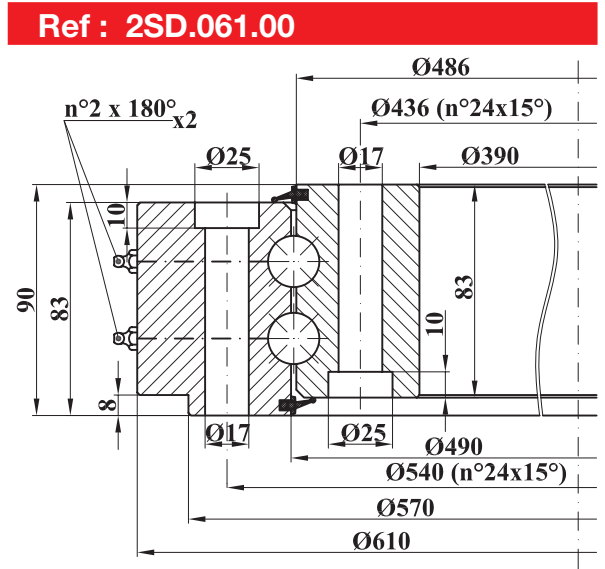
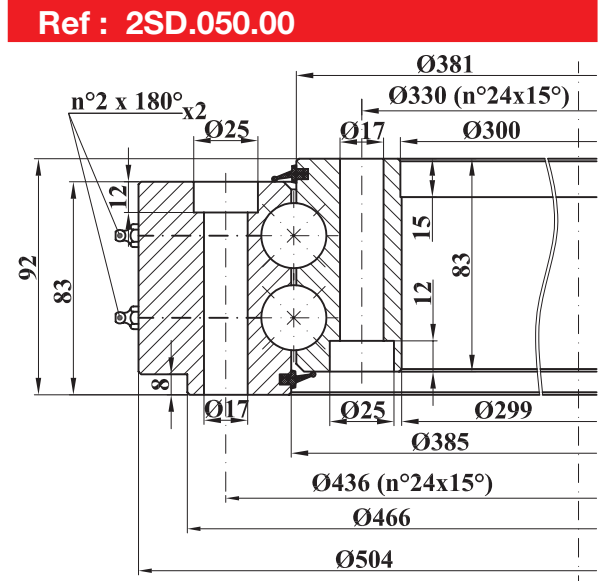


NEURN02000_001

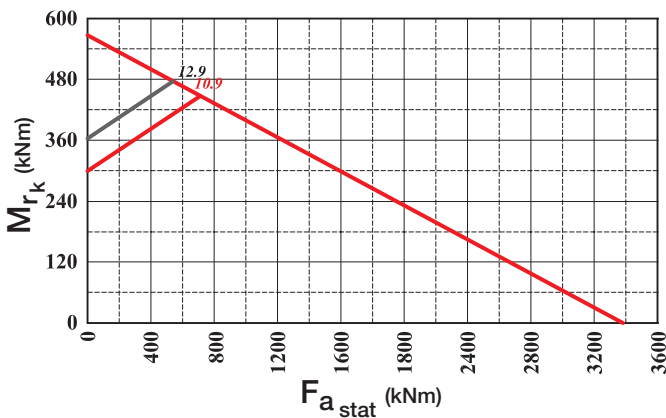
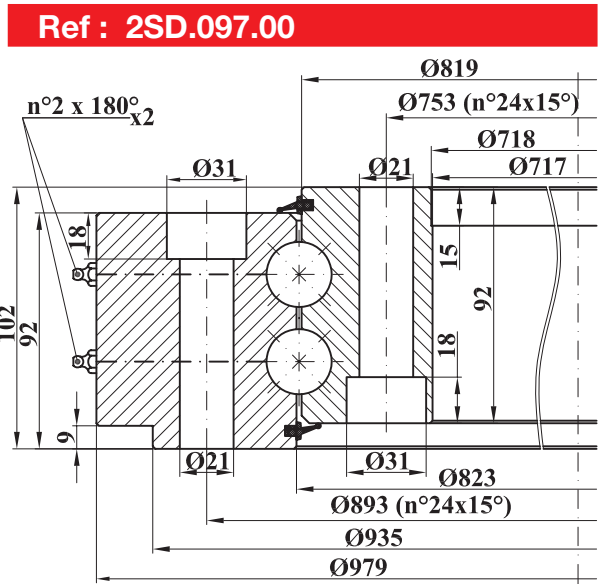
Serie 2C.SD



Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
1496	587	452	274	124	69

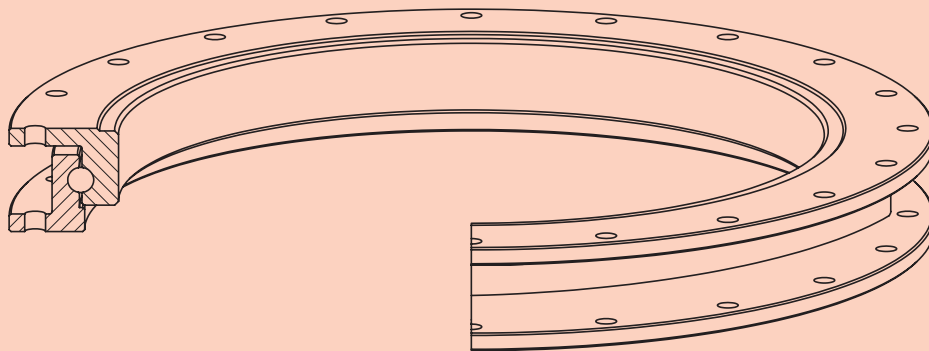


Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
1535	581	351	208	154	96



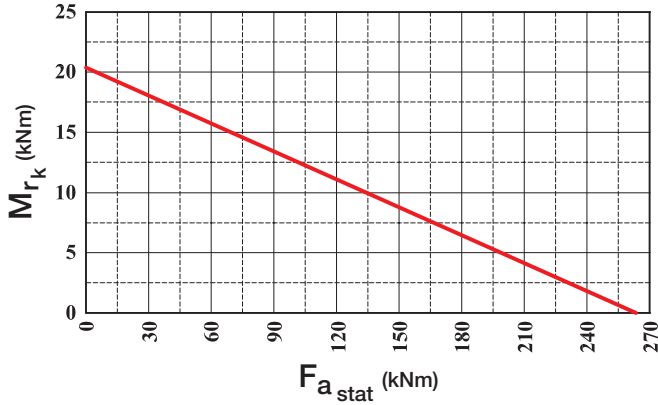
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
3382	1240	611	355	567	222

Serie U.ND



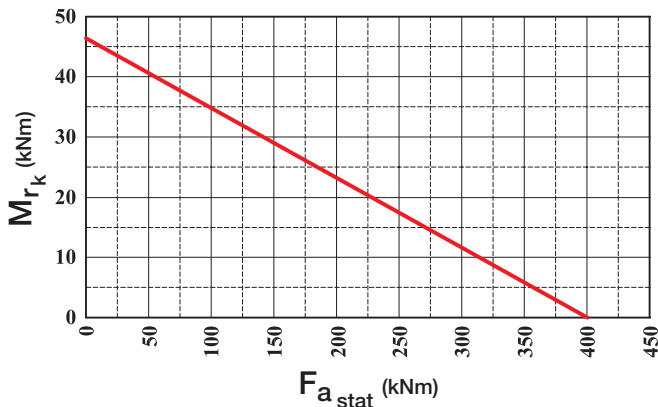
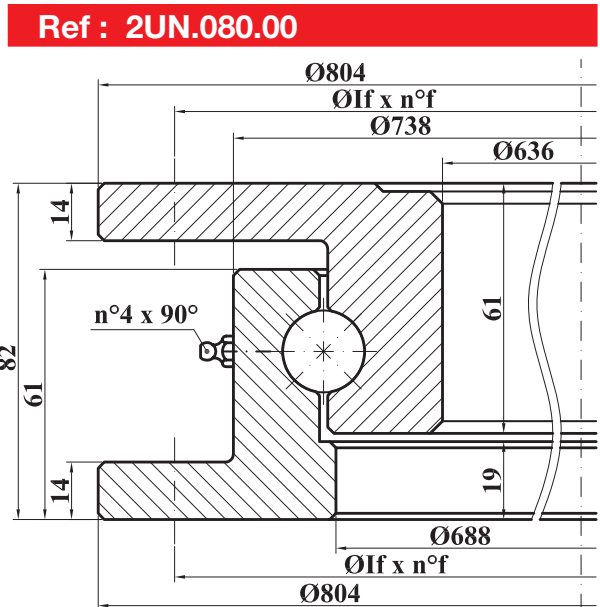
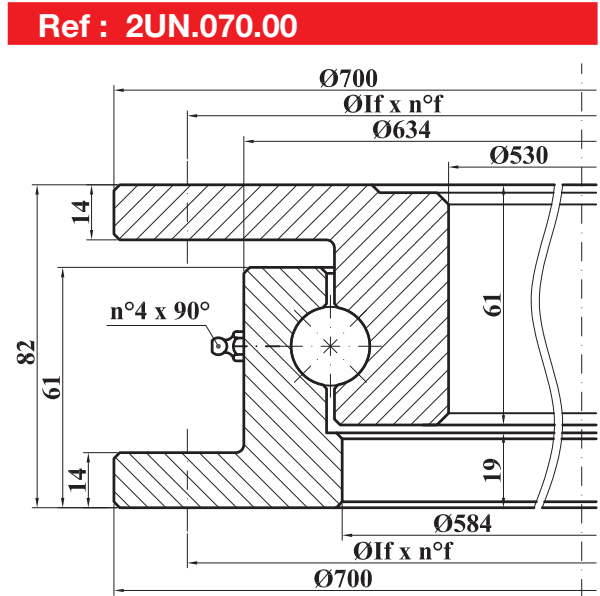
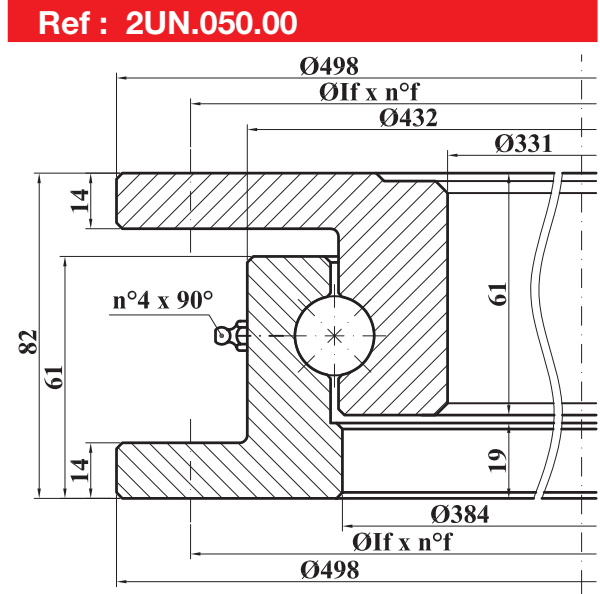
NEURN02000_001

Serie U.ND



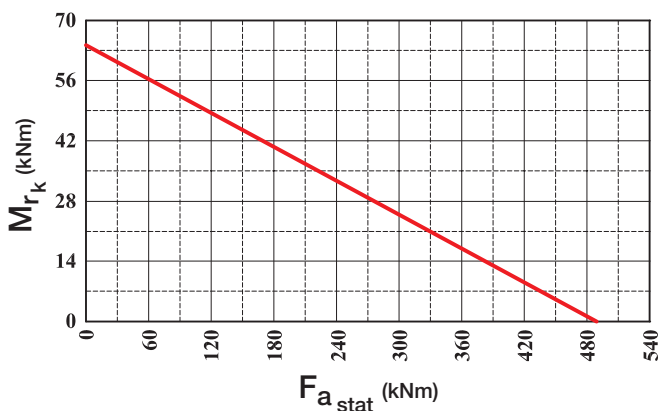
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
246	95,5	167	102	20,6	39

De kranzen worden zonder boringen geleverd



Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
401	145	196	120	47,2	62

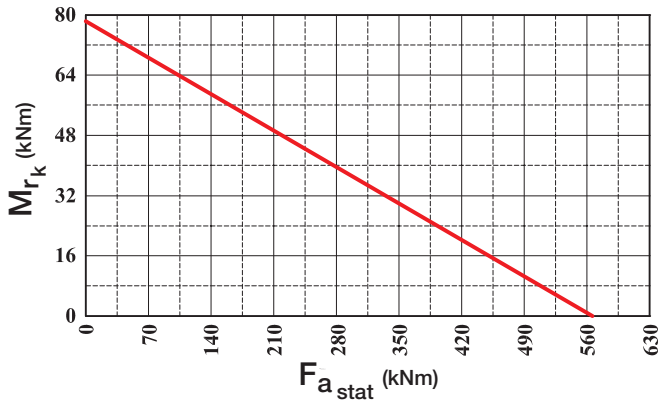
De kranzen worden zonder boringen geleverd



Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
491	179	209	127	65,5	69

De kranzen worden zonder boringen geleverd

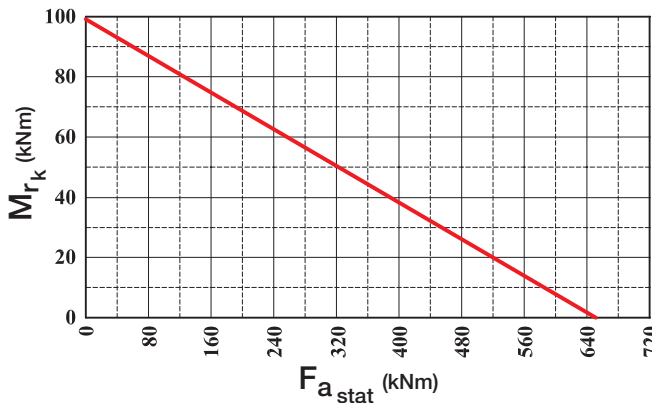
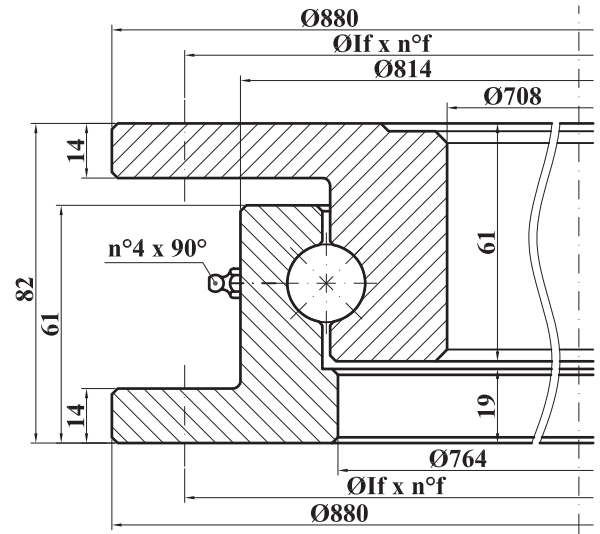
Serie U.ND



Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
567	178	221	128	77	77

De kranzen worden zonder boringen geleverd

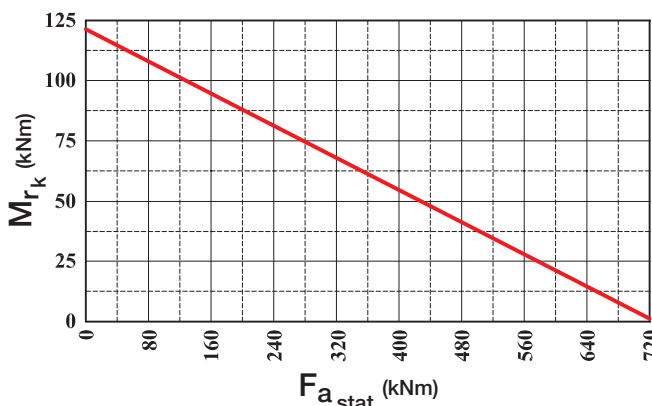
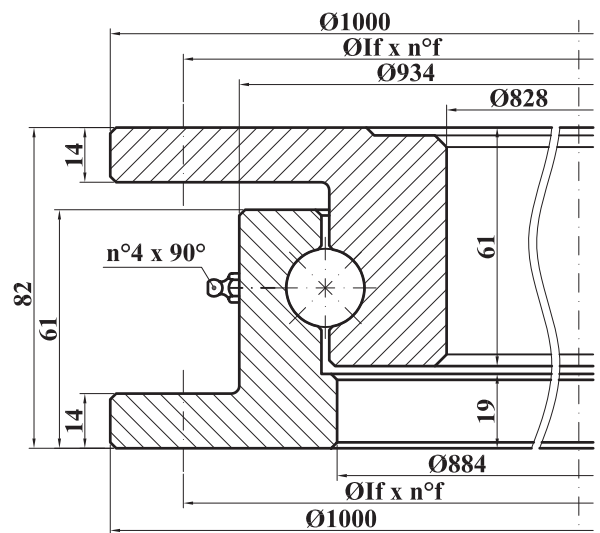
Ref : 2UN.088.00



Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
651	205	232	135	99	89

De kranzen worden zonder boringen geleverd

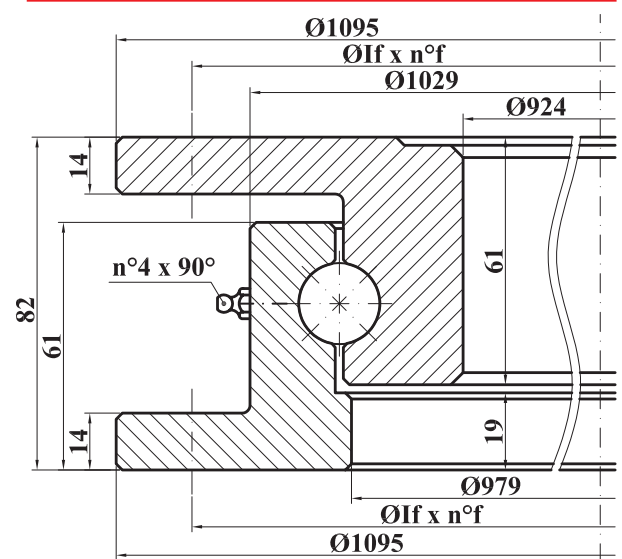
Ref : 2UN.100.00

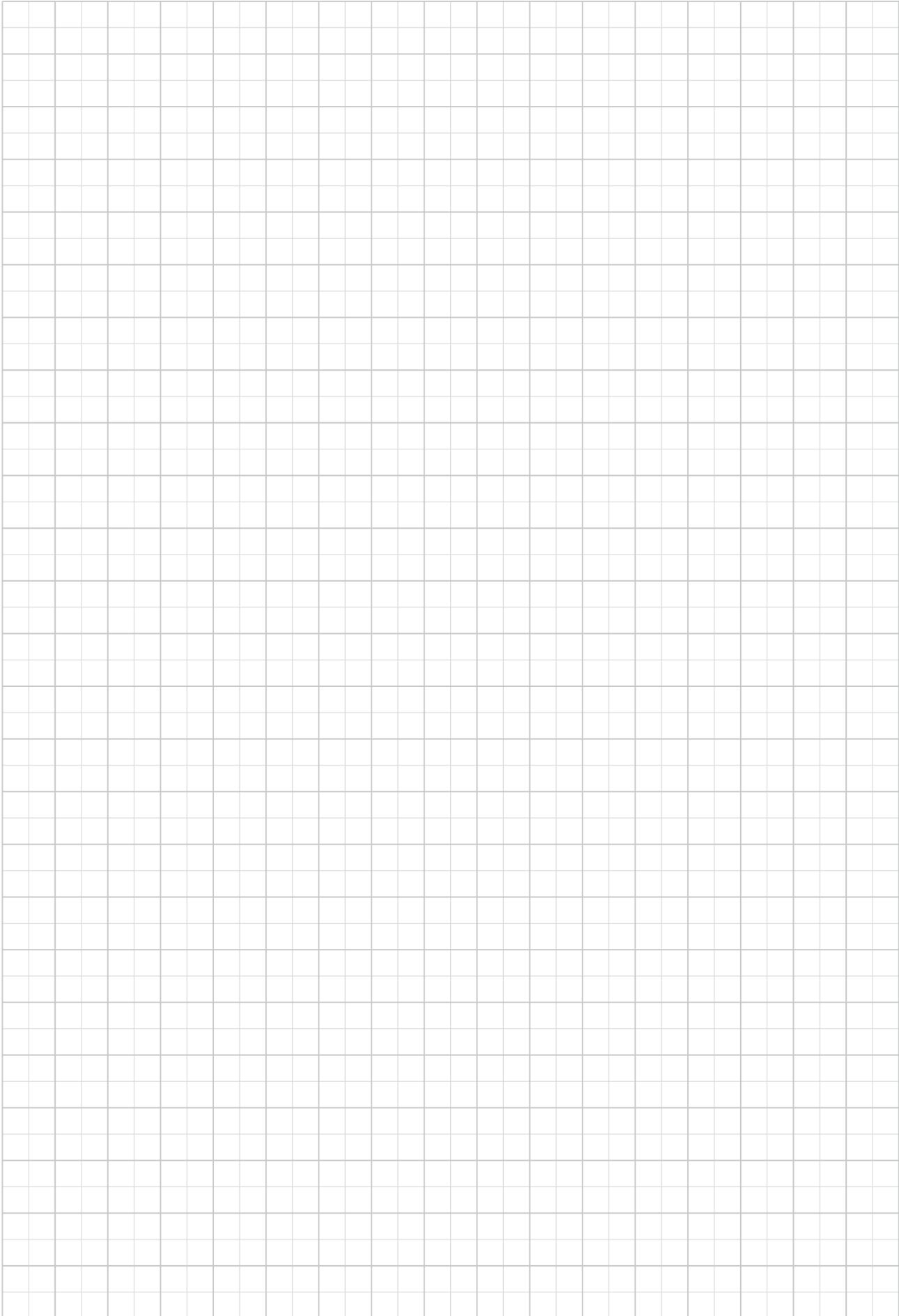


Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
730	205	245	136	120	98

De kranzen worden zonder boringen geleverd

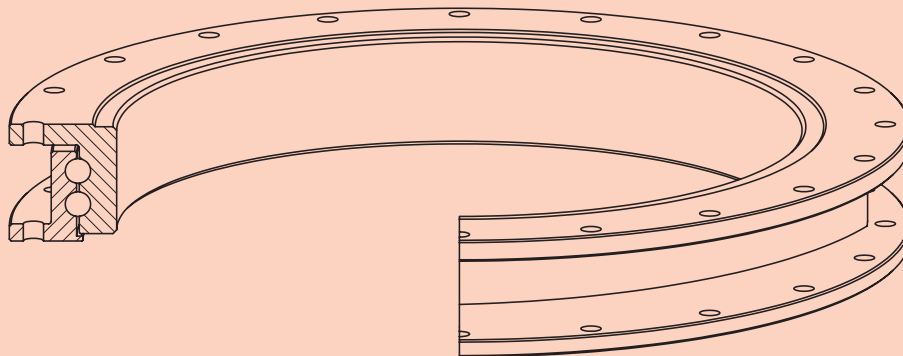
Ref : 2UN.110.00





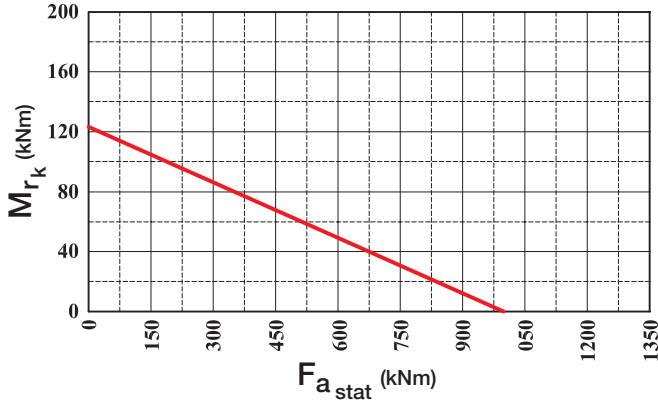
NEUFN020000_001

Serie 2U.ND



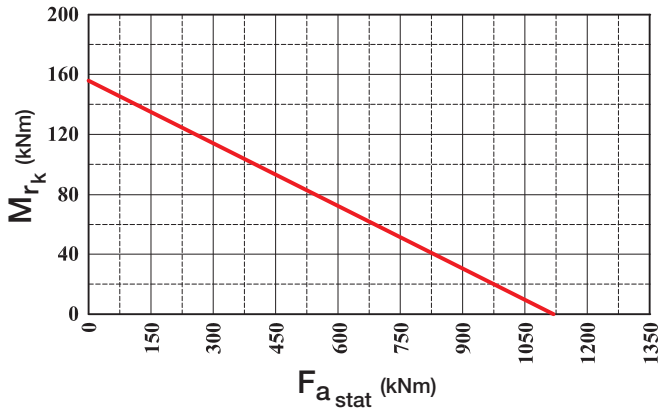
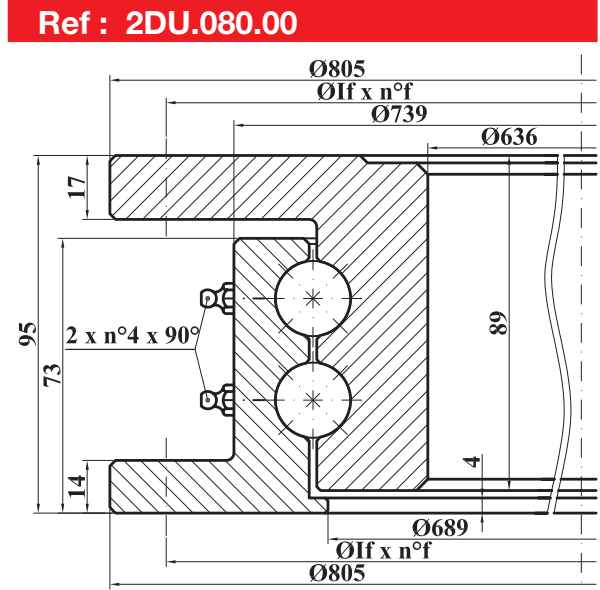
NEURN02000_001

Serie 2U.ND



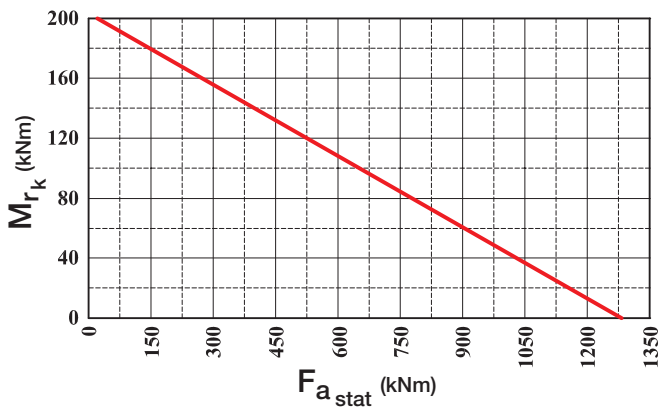
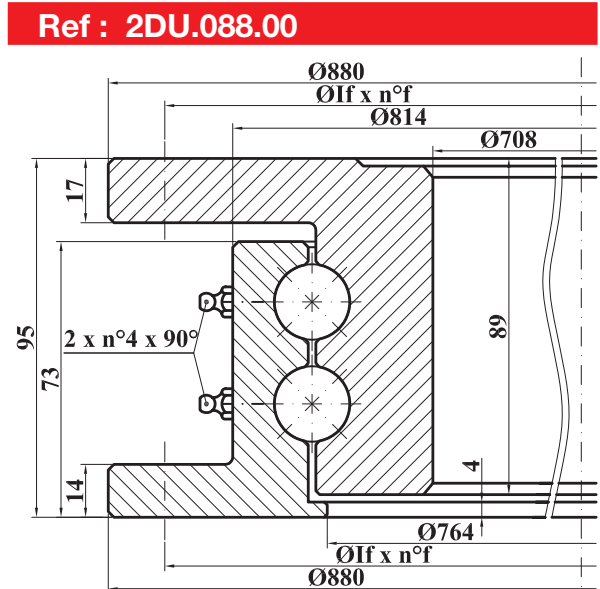
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
991	326	342	202	124	83

De kranzen worden zonder boringen geleverd



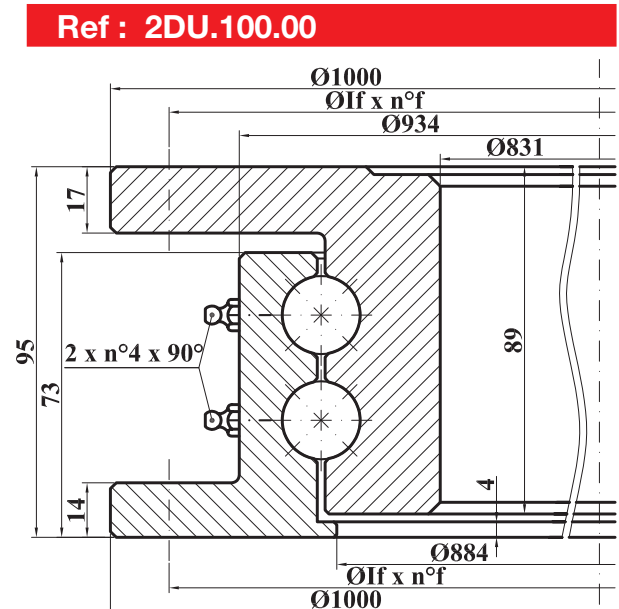
Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
1103	371	356	211	155	89

De kranzen worden zonder boringen geleverd

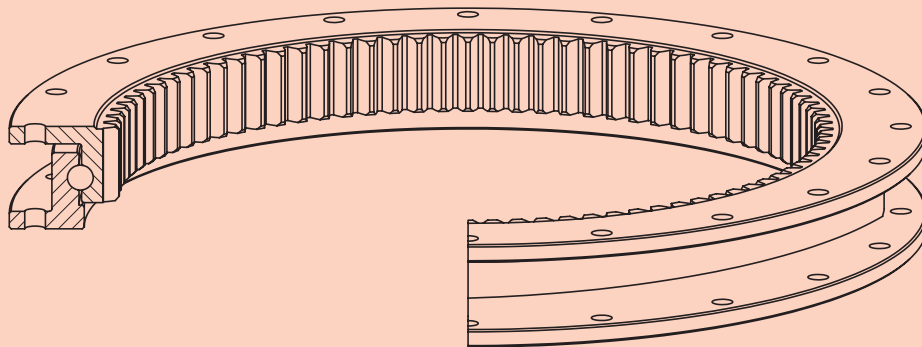


Statisch		Dynamisch		Mrk	Gew.
Fa	Fr	Fa	Fr		
kN	kN	kN	kN	kNm	kg
1280	430	377	223	208	99

De kranzen worden zonder boringen geleverd

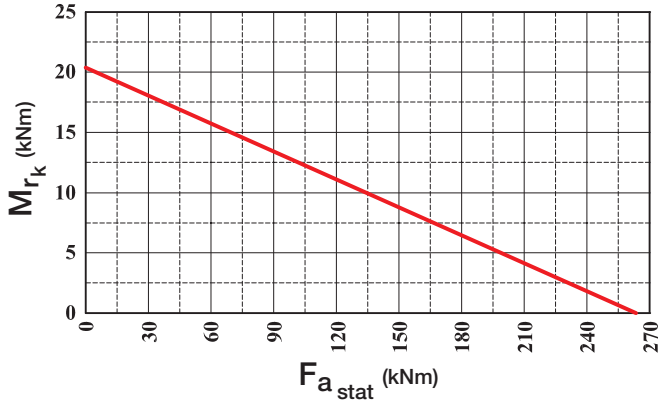


Serie U.DI



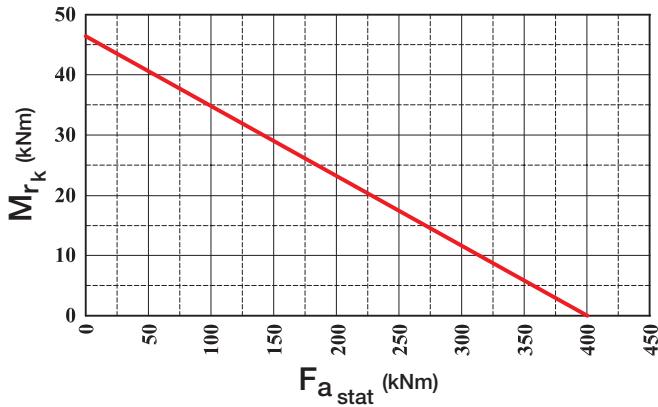
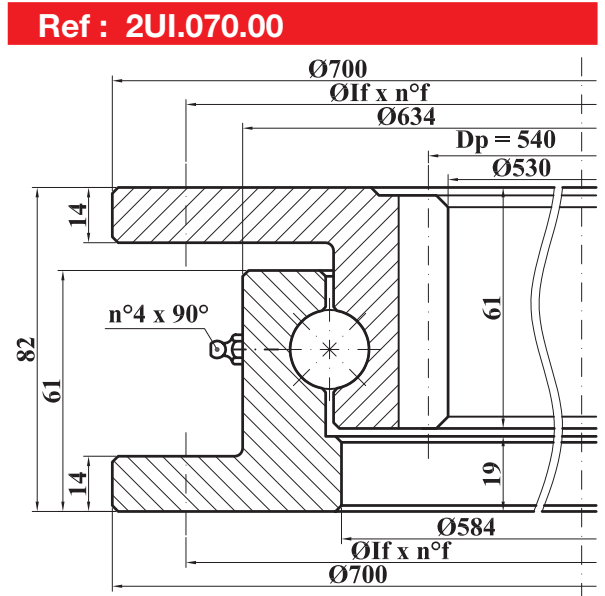
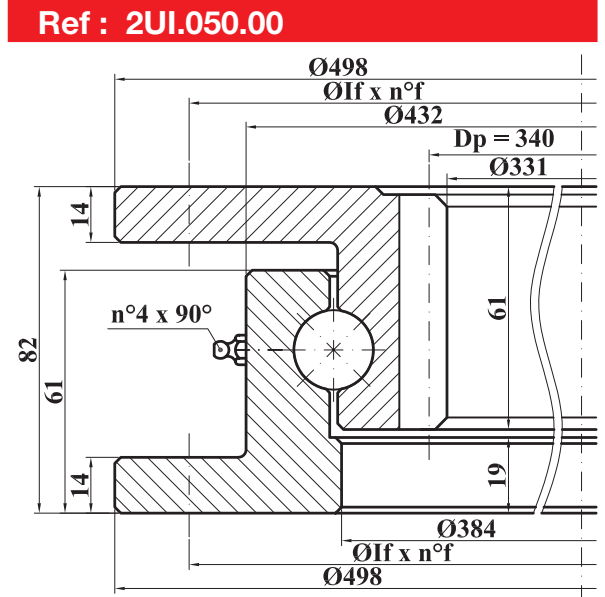
NEURN02000_001

Serie U.DI



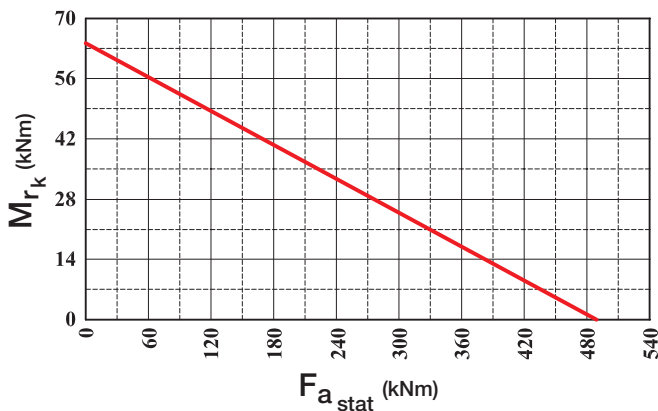
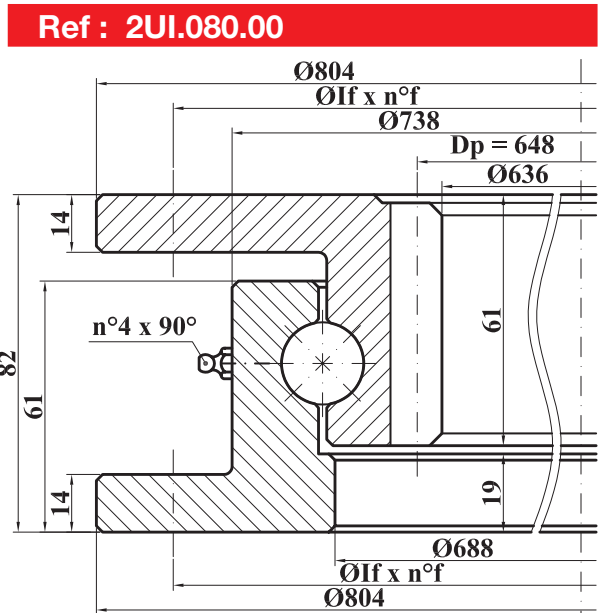
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
264	95,5	167	102	20,6	37	5	68	20	-	0,5	30,7

De kranen worden zonder boringen geleverd



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
401	145	196	120	47,2	60	5	108	20	-	-	30,7

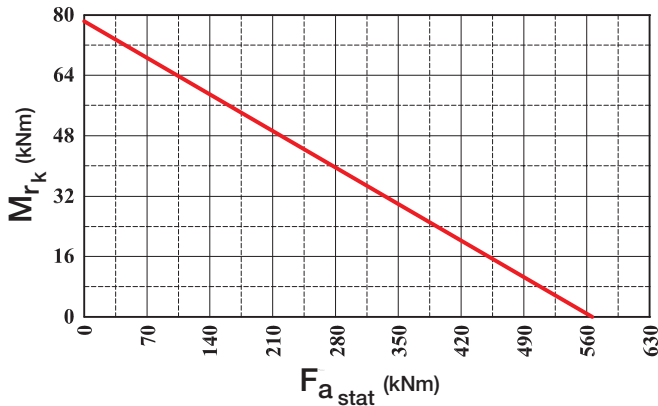
De kranen worden zonder boringen geleverd



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
491	179	209	127	65,5	67	6	108	20	-	-	36,8

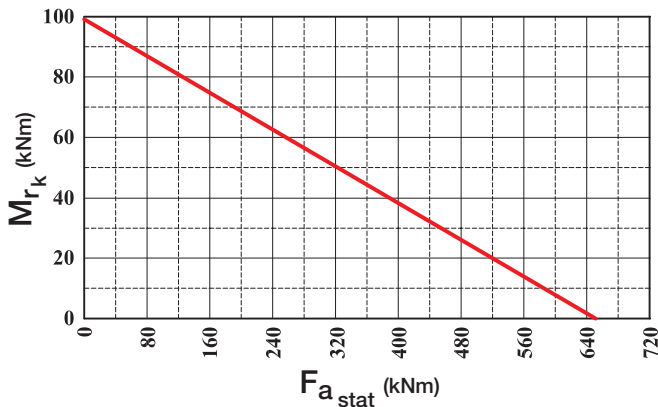
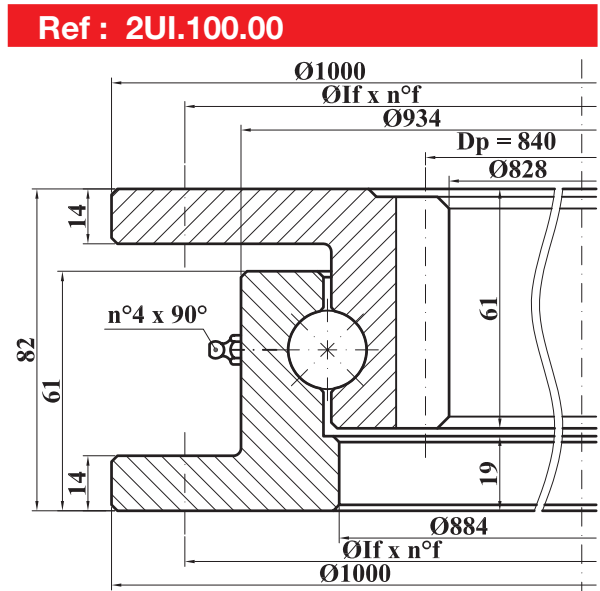
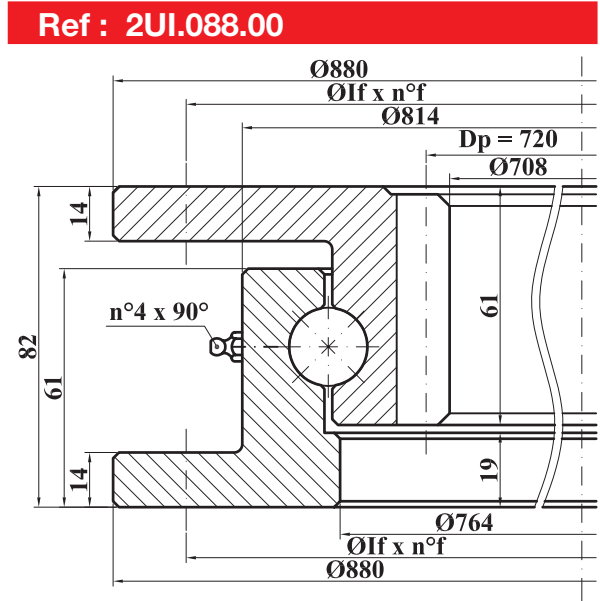
De kranen worden zonder boringen geleverd

Serie U.DI



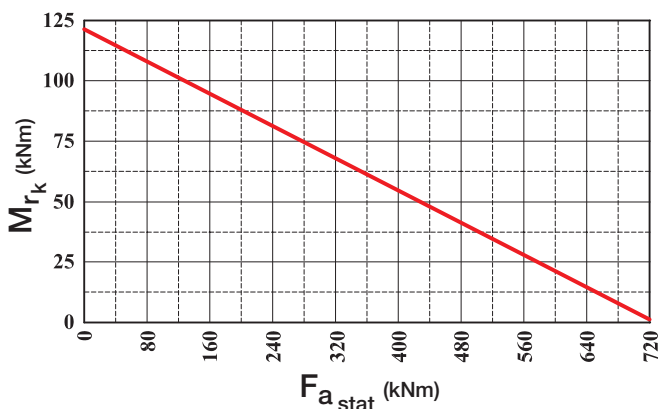
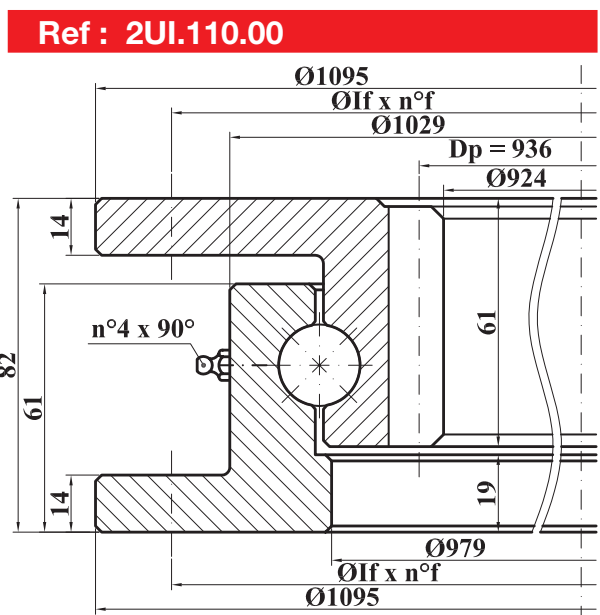
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
567	178	221	128	77	75	6	120	20	-	-	36,8

De kranen worden zonder boringen geleverd



Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
651	205	232	135	99	87	6	140	20	-	-	36,8

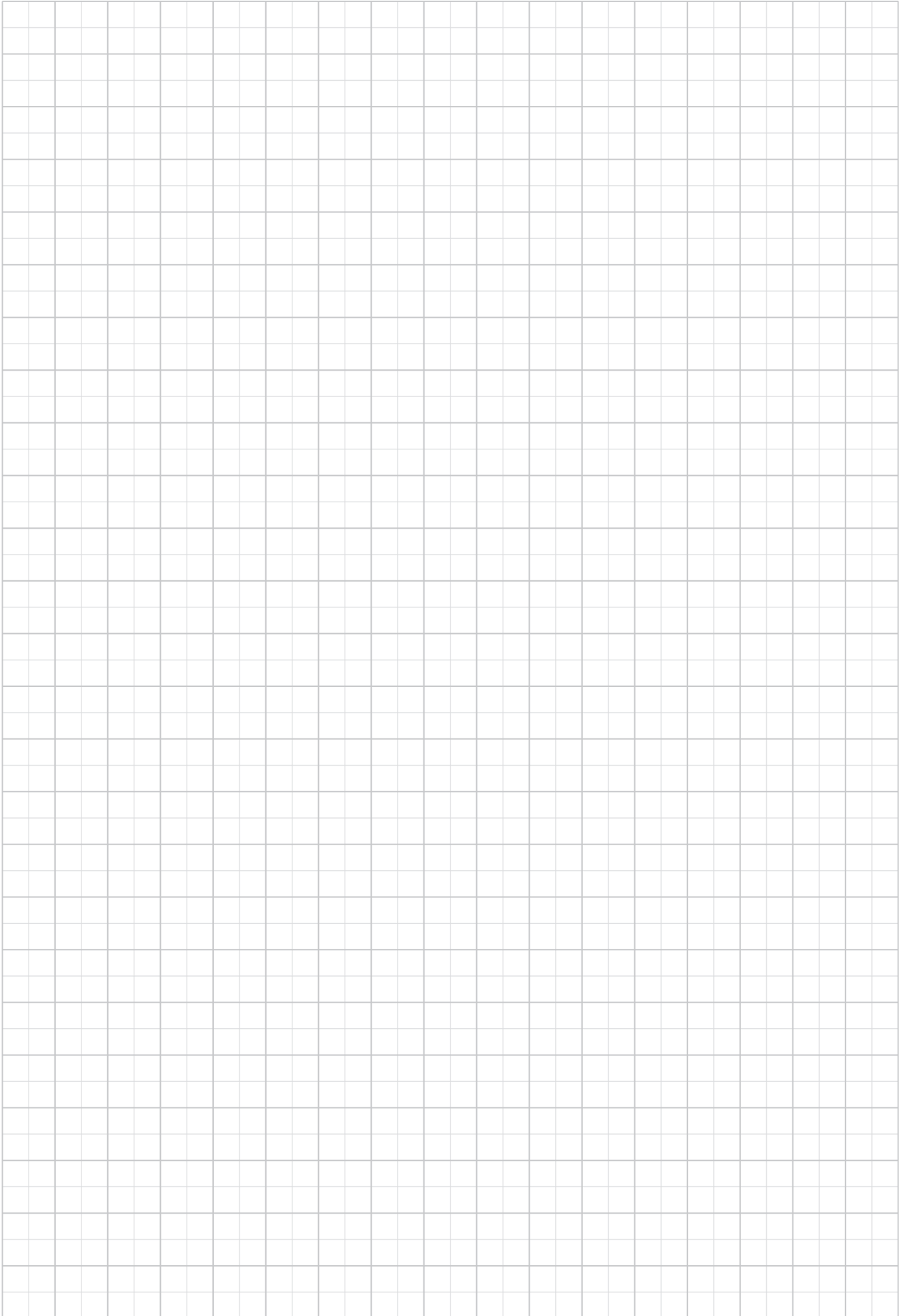
De kranen worden zonder boringen geleverd



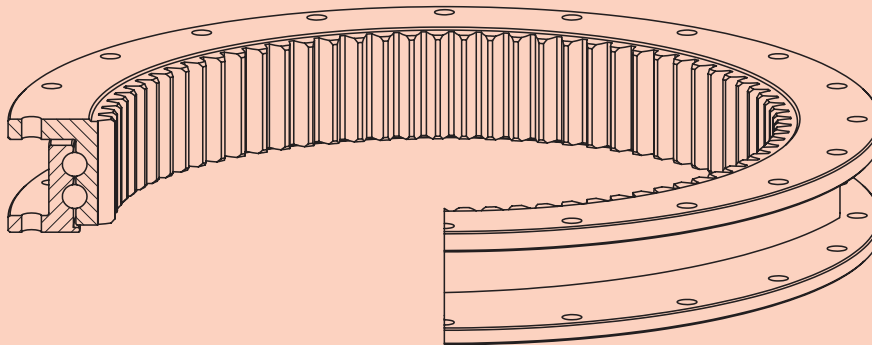
Statisch		Dynamisch				Tandwiel					
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
730	205	245	136	120	96	6	156	20	-	-	36,8

De kranen worden zonder boringen geleverd

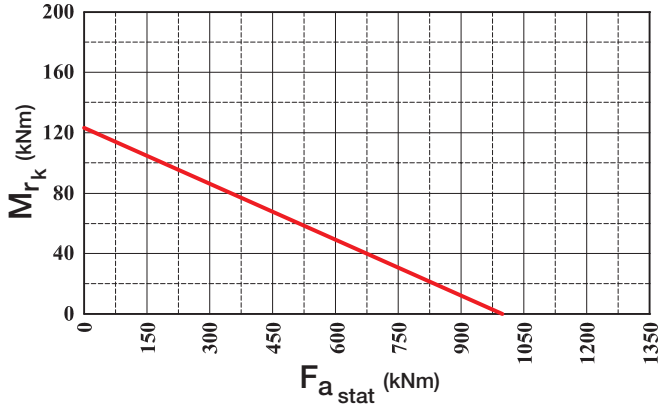
NEURN020000_001



Serie 2U.DI

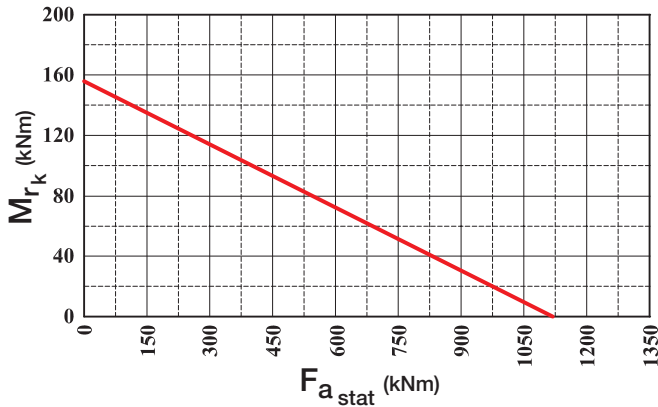
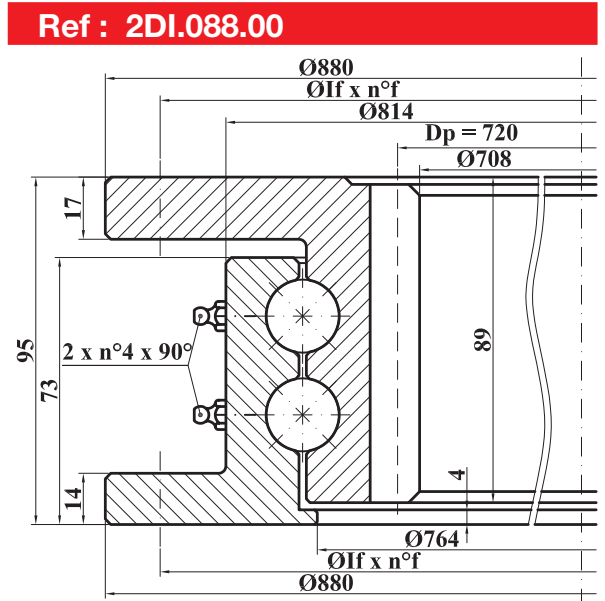
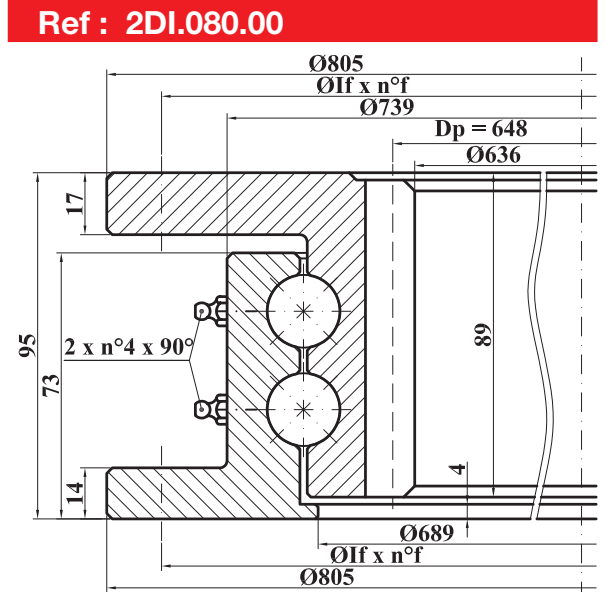


Serie 2U.DI



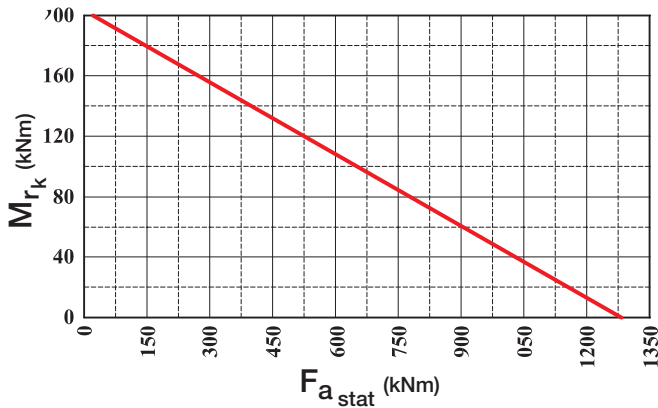
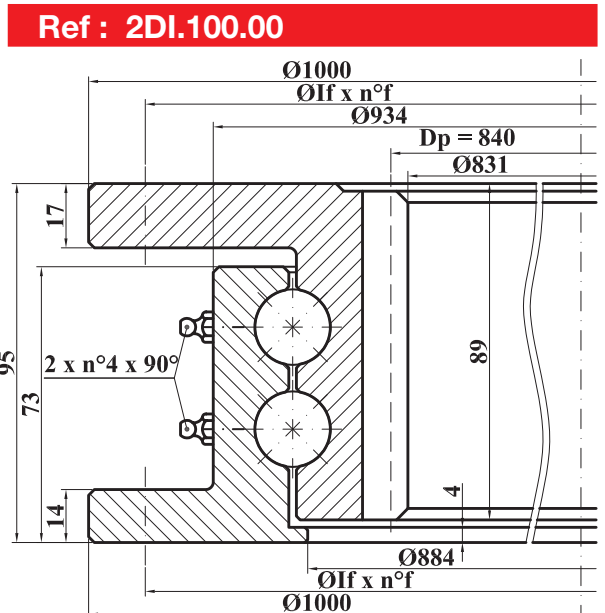
Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
991	326	342	202	124	85	6	108	20	-	-	54,3

De kranen worden zonder boringen geleverd



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1103	371	356	211	155	92	6	120	20	-	-	54,3

De kranen worden zonder boringen geleverd



Statisch		Dynamisch		Tandwiel							
Fa	Fr	Fa	Fr	Mrk	Gew.	m	z	α	Xm	Km	Ft
kN	kN	kN	kN	kNm	kg			°		mm	kN
1280	430	377	223	208	103	6	140	20	-	1,5	54,3

De kranen worden zonder boringen geleverd

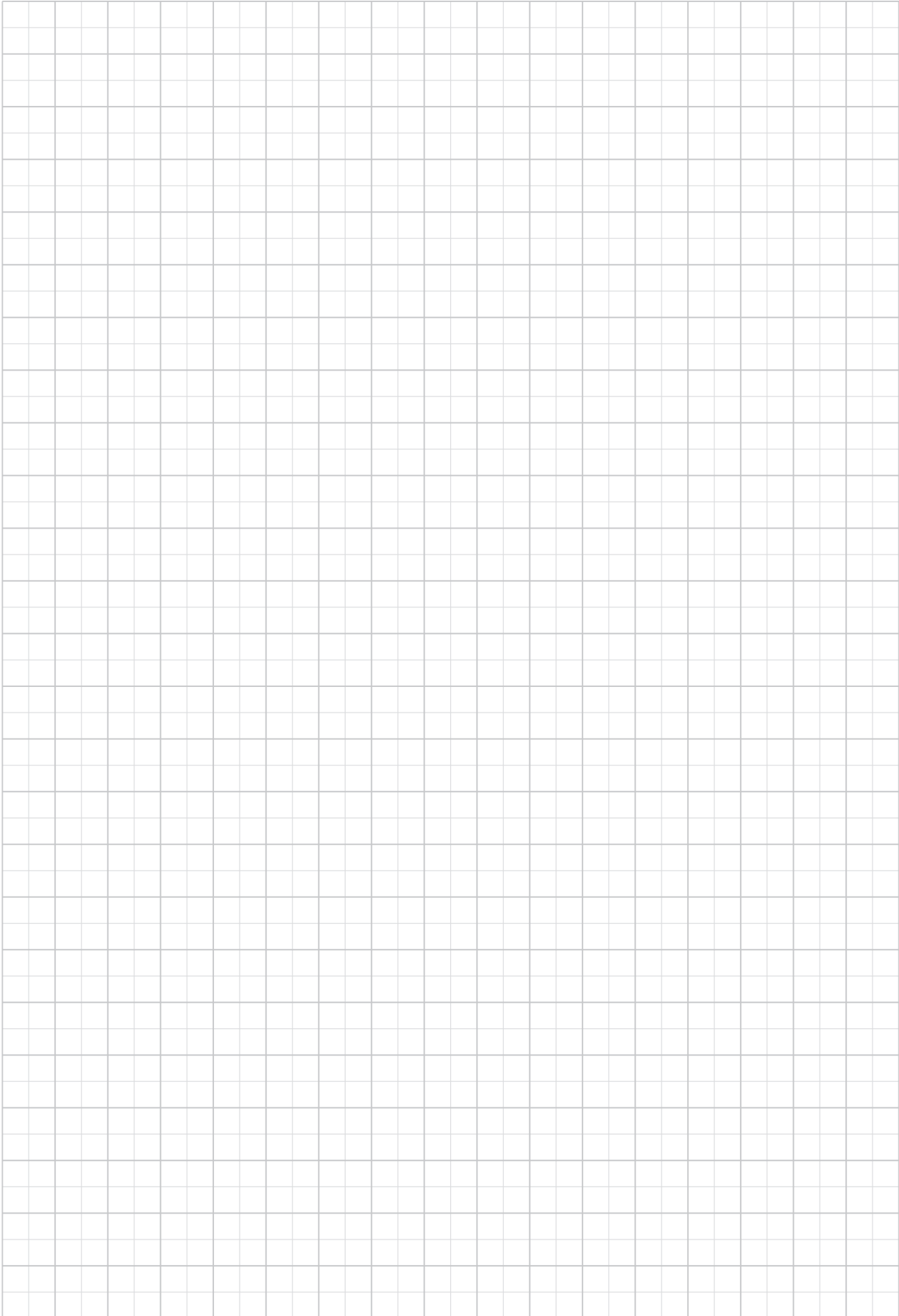
Referentie overzicht

Serie U.ND			
Ref	Ø lf	aantal	Ø f
nr	mm	n	mm
2UN.050.00	470	16	17
2UN.070.00	670	24	17
2UN.080.00	774	30	17
2UN.088.00	850	36	17
2UN.100.00	970	36	17
2UN.110.00	1065	36	17

Serie U.DI			
Ref	Ø lf	aantal	Ø f
nr	mm	n	mm
2UI.050.00	470	16	17
2UI.070.00	670	24	17
2UI.080.00	774	30	17
2UI.088.00	850	36	17
2UI.100.00	970	36	17
2UI.110.00	1065	36	17

Serie 2U.ND			
Ref	Ø lf	aantal	Ø f
nr	mm	n	mm
2DU.080.00	774	42	17
2DU.088.00	850	48	17
2DU.100.00	970	48	17

Serie 2U.DI			
Ref	Ø lf	aantal	Ø f
nr	mm	n	mm
2DI.080.00	774	42	17
2DI.088.00	850	48	17
2DI.100.00	970	48	17



NEUFN020000_001

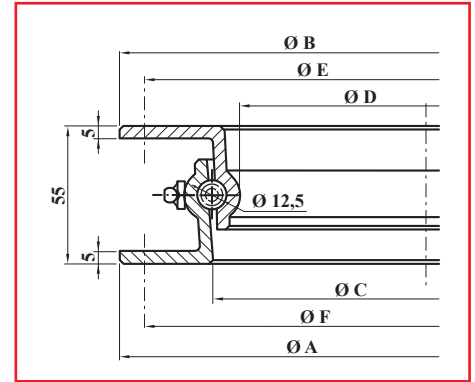
Serie L-M-P ZN-ZD I 90



Serie L - M - P - LM/D

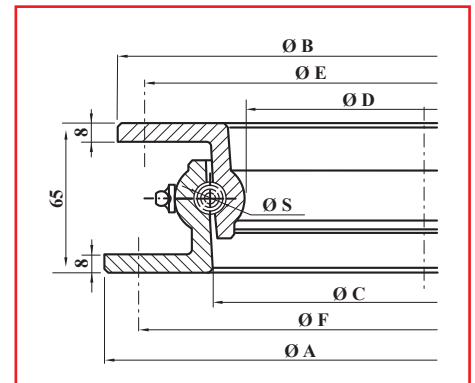
Draaikrans type L

Art.	Afmetingen Ø mm						Fa Kg	Gew. Kg
	A	B	C	D	E	F		
20101	300	300	225	200	270	270	500	5
20102	400	400	321	300	375	375	750	7
20103	500	500	421	400	475	475	1000	9



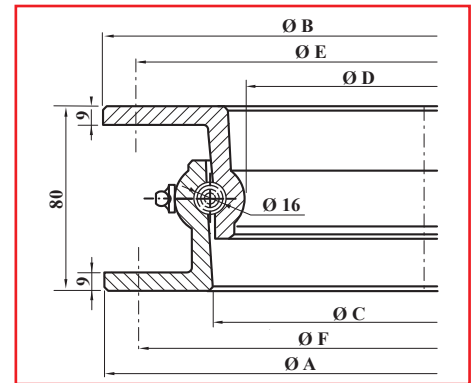
Draaikrans type M

Art.	Afmetingen Ø mm							Fa Kg	Gew. Kg
	A	B	C	D	E	F	S		
20103A	500	500	410	388	475	475	12,5	1000	15
20104	600	600	510	486	575	575	12,5	1500	20
20105	650	650	560	536	625	625	12,5	1600	22
20106	700	700	610	587	675	675	14	2000	24
20107	750	750	660	636	725	725	14	2100	26
20108	800	800	710	688	775	775	14	2500	27
20109	850	850	760	728	825	825	14	3000	29
20110	900	900	810	786	875	875	14	3500	32
20111	950	950	860	837	925	925	14	3500	33
20112	1000	1000	910	888	975	975	14	4000	35
20113	1050	1050	960	938	1025	1025	14	4500	37
20114	1100	1100	1010	988	1075	1075	14	4500	40



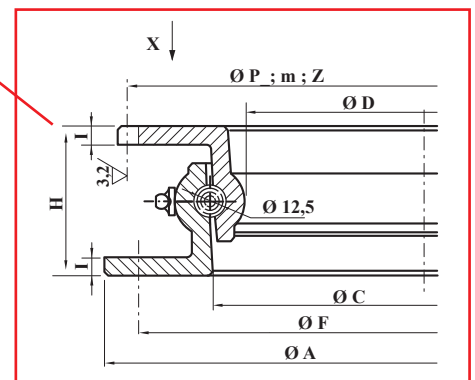
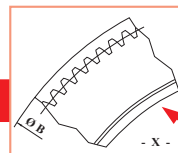
Draaikrans type P

Art.	Afmetingen Ø mm						AFa Kg	Gew. Kg
	A	B	C	D	E	F		
20116	908	907	808	773	870	870	5000	39
20117	1008	1012	908	878	974	974	6000	43
20118	1108	1107	1008	973	1070	1070	6500	47



Draaikrans type LM/D

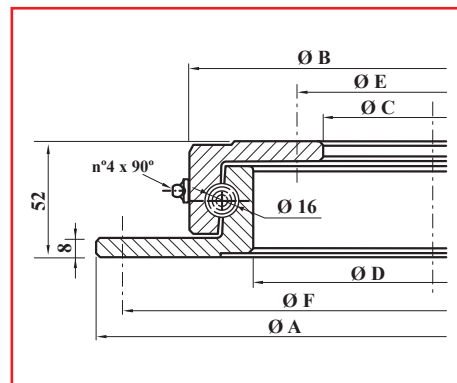
Type	Afmetingen Ø mm									Gew. Kg
	A	B	C	D	H	I	P	m	Z	
20102D	407	400	324	301	55	5	392	4	98	7
20103D	503	496	424	404	55	5	488	4	122	9
20104D	606	592	516	493	65	8	584	4	146	20



Serie ZN - ZD

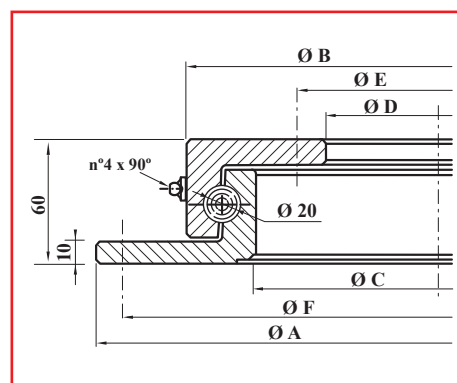
Draaikrans type ZN

Art.	Afmetingen Ø mm						F _a Kg	Gew. Kg
	A	B	C	D	E	F		
20119	400	338	215	281	260	375	1400	15
20124	500	437	315	381	340	475	1800	19
20127	650	590	465	525	490	625	2500	25
20120	750	690	565	625	590	725	3000	30
20121	850	790	665	725	690	825	3500	35
20122	950	888	765	833	790	925	4000	41
20123	1050	987	865	932	890	1025	5000	46



Draaikrans type ZD

Art.	Afmetingen Ø mm						F _a Kg	Gew. Kg
	A	B	C	D	E	F		
20128	952	885	821	750	920	780	5800	55
20129	1102	1027	963	890	1070	920	6800	64

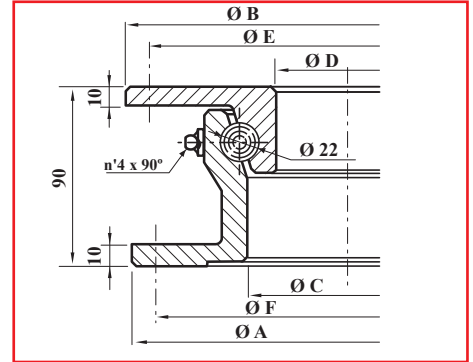


Serie I 90 - I 90 G - VA/90-2

Draaikrans type I 90

Art.	Afmetingen Ø mm						Fa Kg	Gew. Kg
	A	B	C	D	E	F		
20125	998	1000	886	848	974	960	10000	74
20126	1098	1100	986	948	1074	1060	12000	79
20126F	1098	1100	986	948	1074	1060	12000	79
20178	1198	1200	1086	1048	1174	1160	14000	84
20178F	1198	1200	1086	1048	1174	1160	14000	84

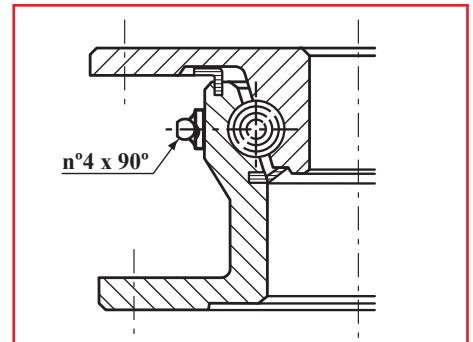
Art. eindigend op F = standaard boringen



Draaikrans type I 90 G

Art.	Afmetingen Ø mm					
	A	B	C	D	E	F
20125T	998	1000	886	848	974	960
20126T	1098	1100	986	948	1074	1060
20126TF	1098	1100	986	948	1074	1060
20178T	1198	1200	1086	1048	1174	1160
20178TF	1198	1200	1086	1048	1174	1160

Art. eindigend op T = geharde kogelbaan



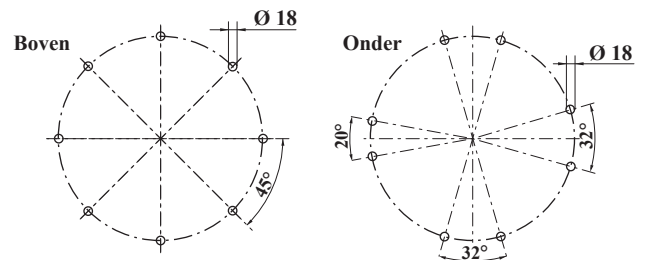
Schema standaard boringen

Boringen voor:

Art. 20126F - 20126TF

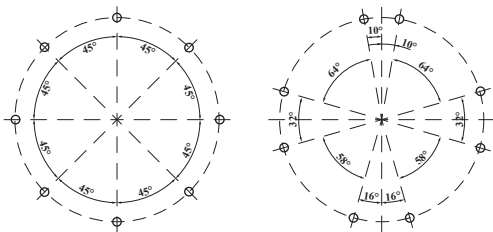
20178F - 20178TF

Voor speciale boringen bel: 0252 - 219123

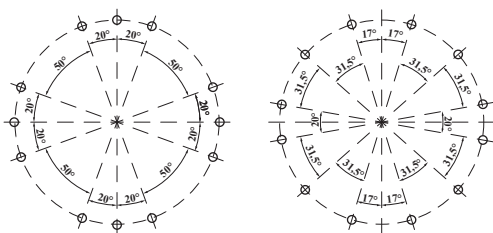


Draaikrans type VA/90-2

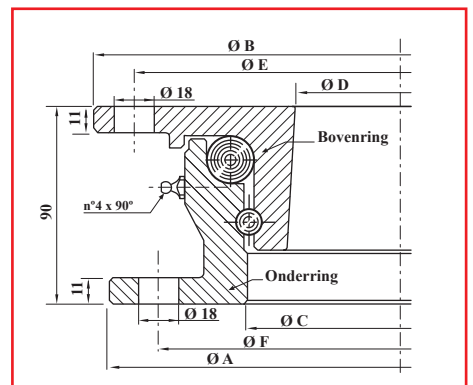
Standaard boringen VA/90-2-1000/1100



Standaard boringen VA/90-2-1200



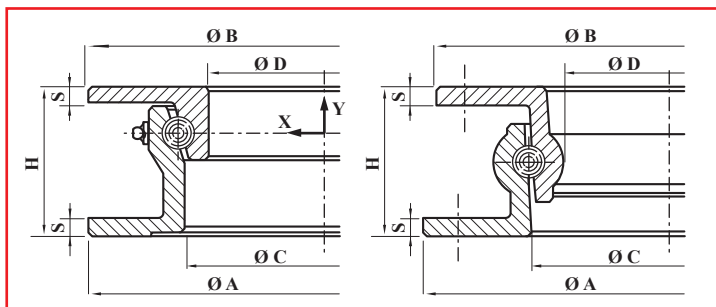
Voor speciale boringen bel: 0252 - 219123



Art.	Bovenring			Onderring			Boring		Fa Kg	Gew. Kg
	mm			mm			Ø	n°		
	B	D	E	A	C	F	mm			Kg
VA/90-2 -1000	1000	832	966	994	872	952	18	8	16000	72
VA/90-2 -1100	1100	932	1074	1094	972	1060	18	8	16000	82
VA/90-2 -1200	1200	1032	1174	1194	1072	1160	18	12	20000	95

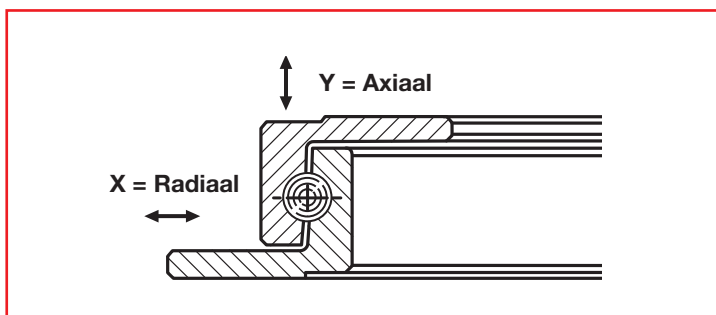
Tolerantie tabel

Type	mm					
	H	A	B	C	D	S
L	±3	+5 -2	+5 -2	+5 -2	+5 -2	±1
M	±3	+9 +5	±2	±3	±3	±1
P	±3	±2	±2	±2	±3	±1
ZN-ZD	±0,5	±1	+1 -2	+2 -1	±1	±0,8
I 90-VA 90	+3 -1	+2 -3	+2 -3	±2	±2	±1

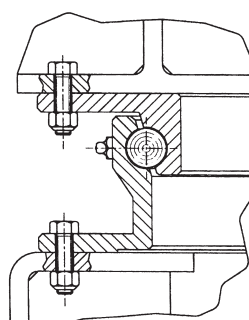
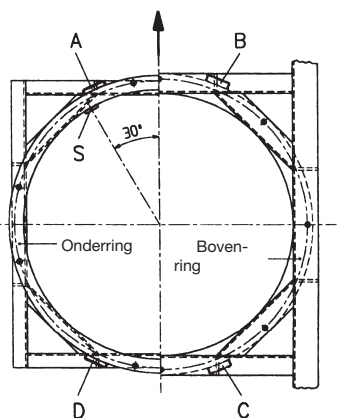
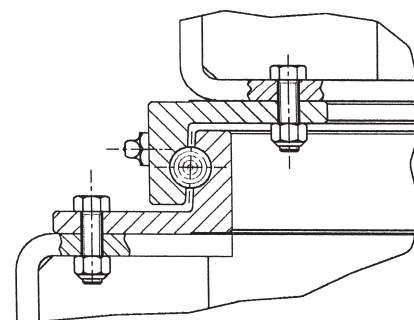
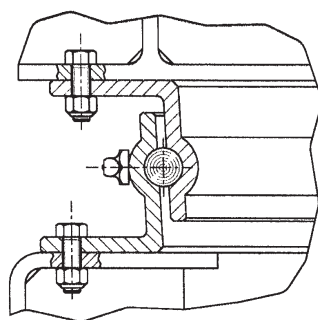
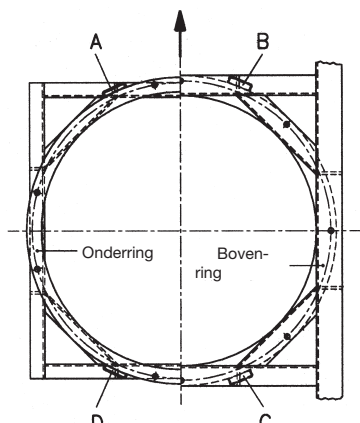


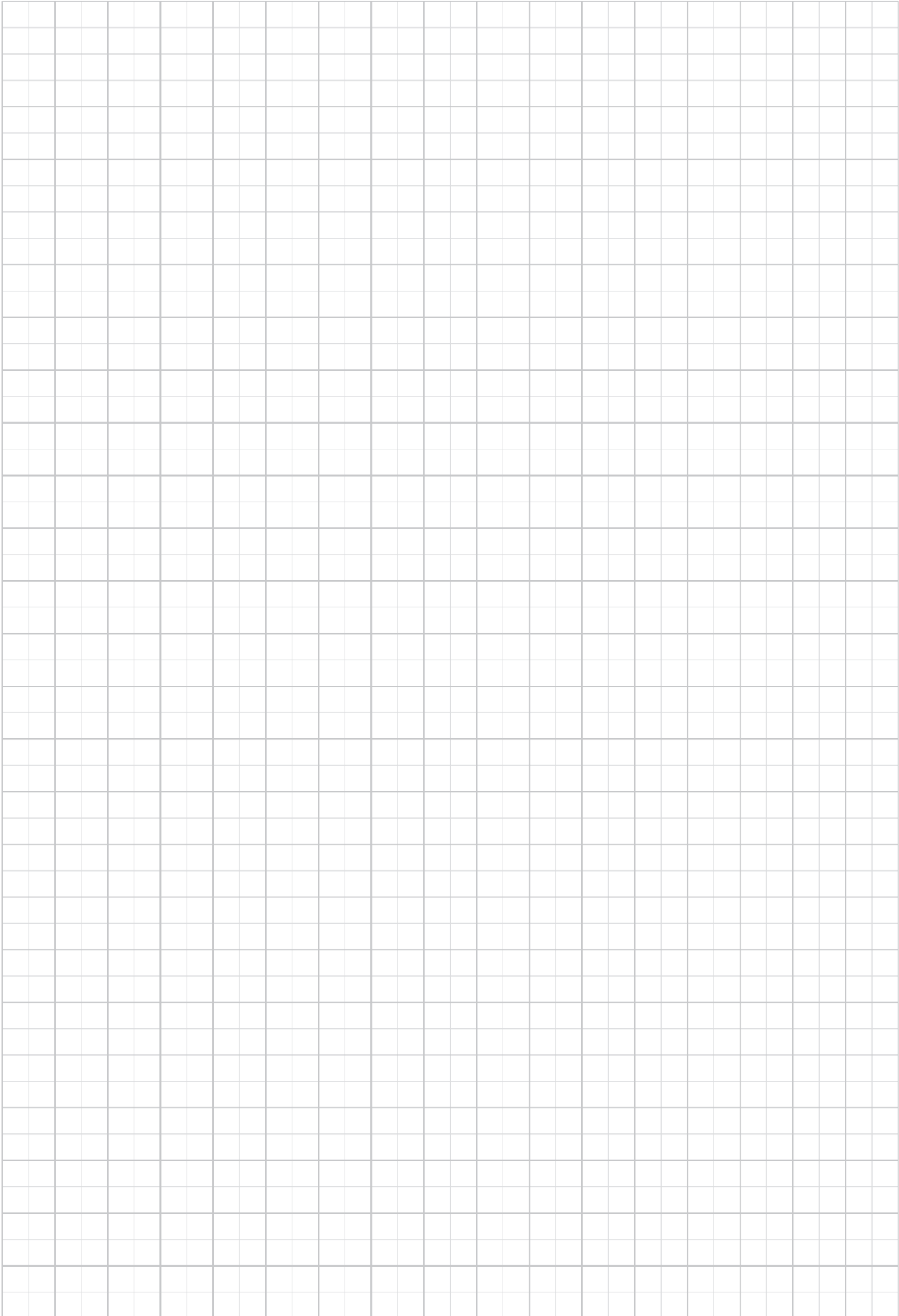
Tolerantie tabel axiaal en radiaal

Type	mm	
	X	Y
ZN	0,3 ÷ 0,7	0,3 ÷ 1
ZD	0,3 ÷ 0,7	0,3 ÷ 1
I 90	0,3 ÷ 0,7	0,3 ÷ 1



Montage voorbeelden van bevestigingsbouten

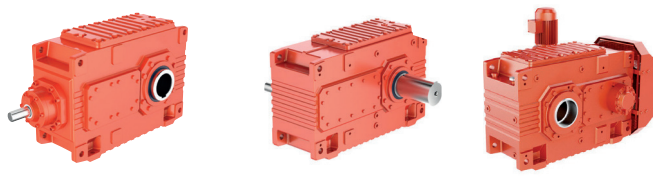




MOTORREDUCTOREN



HEAVY DUTY REDUCTOREN



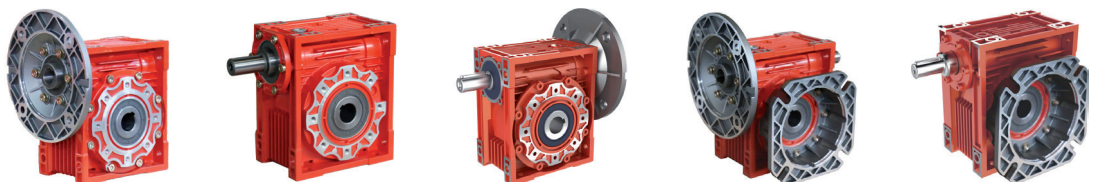
PLANETAIRE REDUCTOREN



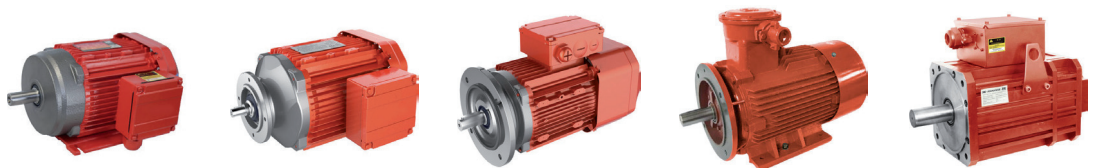
RVS AANDRIJVINGEN



WORMWIELREDUCTOREN



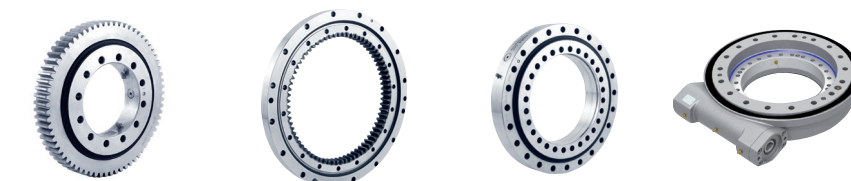
ELEKTROMOTOREN




REGELAARS & ENCODERS



DRAAIKRANSEN





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