STRUCTURAL BEARINGS

TETRON® CD POT BEARINGS

Data sheet n°: FT En C V 4 1 V02 – 05/24

- Simple design and assembly
- High horizontal capacity
- Adaptable to any standard
- Multiple adaptations and accessories available
- High durability
- Limited preventive inspections

Introduction

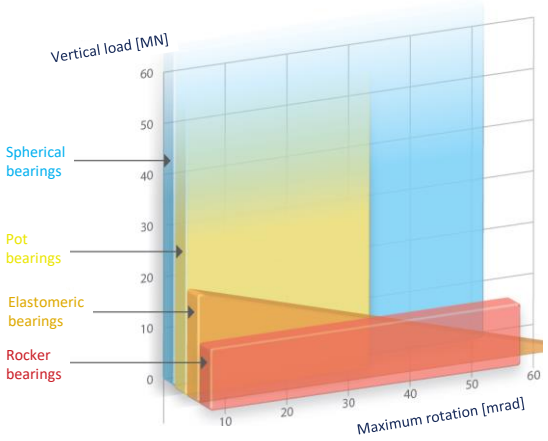
Bearings are a major component of structures, and their function means that they play a decisive role in the operation of those structures. As such, bearings must be designed, manufactured, and installed by specialists.
As a major player in the field of construction, Freyssinet has developed a wide range of bearings. Freyssinet designs and provides the right solution to meet its customers' needs for every type of structure.
Freyssinet TETRON® range is a leading solution for bearings since 1960's with hundreds of thousands of bearings successfully designed, manufactured and installed all around the globe.
TETRON® bearings are manufactured in-house, CE-marked, and officially approved in many countries.

Areas of use

Bearings are most commonly used to provide the connection between the piers and the deck of a bridge. Freyssinet bearings can also be used in several other areas, such as stadiums, pipelines, and all types of buildings.

Description

TETRON® CD pot bearings consist of a pot/piston assembly within which an elastomeric disc is placed. Under loading, this elastomeric disc acts in a manner similar to an uncompressible confined fluid, enabling the relative rotation between the pot and the piston. The deformation of the elastomer defines the rotation capacity of the bearing (up to 30 mrad).
A flat sliding surface can be integrated in the bearing design to allow translation movement, either in only one or both directions. They are cost-effective for high vertical loads, and small to moderate horizontal loads.



Pot bearings capacity compared with other types of bearings

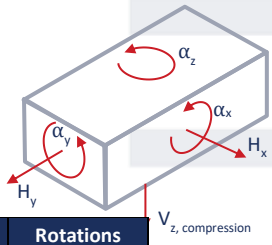
Design

TETRON® CD pot bearings can be designed according to main bearing-design standards and additional rules which depend on projects' requirements: European Standards EN 1337, American AASHTO, Australian Standards AS 5100, previous British Standard BS 5400 and many others.
The bearing schedule shall identify applicable loads/displacements and rotations in Service and Ultimate/Strength combinations.

TETRON® CD comes in the following basic types:

- FX: Fixed
- GG: Guided sliding
- GL: Free sliding

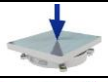
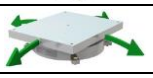
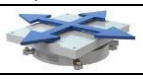
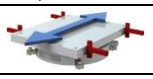
Behaviour of each type is summarized in the table below:



Type	Reactions			Displacements			Rotations		
	H_x	H_y	V_z	Δ_x	Δ_y	Δ_z	α_x	α_y	α_z
FX	✓	✓	✓ compression	-	-	-	✓	✓	✓
GG	-	✓		✓	-				
	✓	-		-	✓				
GL	-	-		✓	✓				

Type of bearings

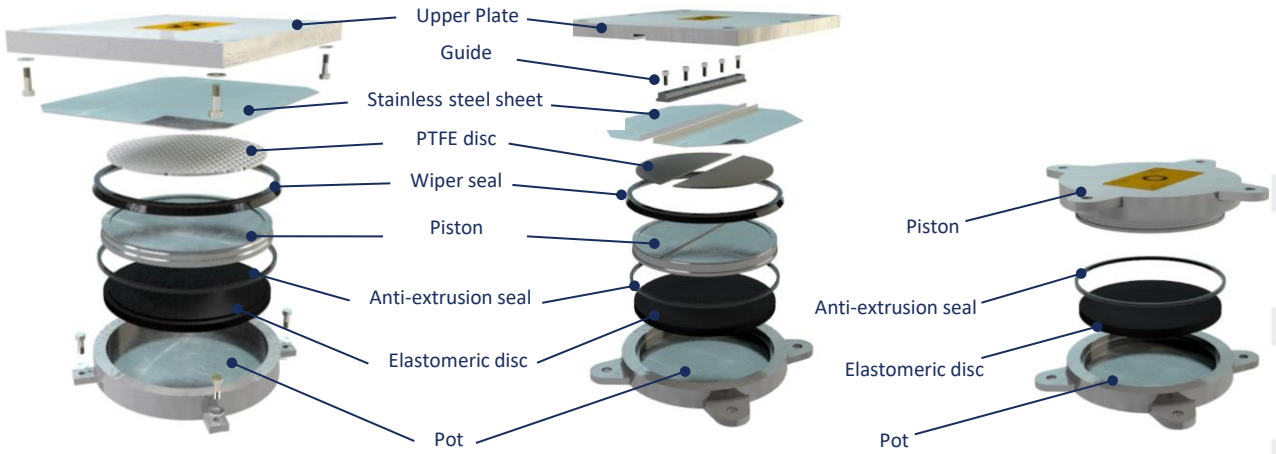
TETRON® CD FX - fixed pot bearings are made up of a pot, an elastomeric disc, and a piston. The pot is fixed to the support and the piston is fixed to the superstructure. It does not allow any horizontal movement. It, therefore, transfers the loads from the superstructure to its support in all directions.
TETRON® CD GG - guided sliding pot bearing is designed like a free sliding bearing, but with a guide. The guide is secured to the piston, and slots into a groove in the upper sliding plate. In some cases, guidance can be provided by lateral guides. It accepts horizontal movement along the axis of the guide and horizontal loads in the perpendicular direction.
TETRON® CD GL - free sliding pot bearing is made up of a pot, an elastomeric disc, and a piston covered with a sliding material sheet on which the upper plate can slide freely. The pot is generally fixed to the lower support (pier, abutment, column, etc.) and the upper plate is fixed to the superstructure. It is designed to permit horizontal movements, without any constraint other than friction.

Type	Free Sliding bearing	Guided sliding bearing	Fixed bearing
	GL	GG	FX
Symbol			
Vertical load			
Rotation			
	Up to 30 mrad	Up to 30 mrad	Up to 30 mrad
Horizontal movement			
	Multidirectional	Unidirectional	Blocked

STRUCTURAL BEARINGS

TETRON® CD POT BEARINGS

TETRON® CD general concept



TETRON® CD GL | **TETRON® CD GG** | **TETRON® CD FX**

TETRON® CD naming system

The designation of TETRON® CD bearings identify their main characteristics.

GL Free sliding bearing	**20,000** Vertical load at ULS in kN	.	**250** Total acceptable longitudinal movement in mm	.	**40** Total acceptable transverse movement in mm
GG Transverse guided bearing		—	**2000** Longitudinal load at ULS in kN	.	**40** Total acceptable transverse movement in mm
GG Longitudinal guided bearing		—	**2000** Transverse load at ULS in kN	.	**250** Total acceptable longitudinal movement in mm
FX Fixed bearing		—	**3000** Horizontal load at ULS in kN (resultant of x/y*)		

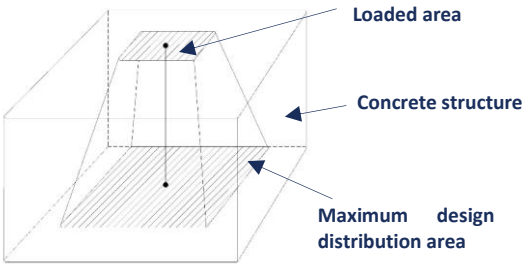
This gives the following designations, for example:

- TETRON® CD GL 20,000.250.40
- TETRON® CD GG 20,000-2000.40
- TETRON® CD FX 20,000-3000

Concrete contact pressure

The contact pressure between the bearing and the adjacent structures is designed in accordance with EN 1992, AS 5100.4, AASHTO LRFD and BS 5400, partially loaded areas, considering the distribution of the loads on an area loaded to the maximum design distribution area.

By default, Freyssinet adopted the ratio between the loaded areas with a ratio of 2.



STRUCTURAL BEARINGS

TETRON® CD POT BEARINGS

Materials

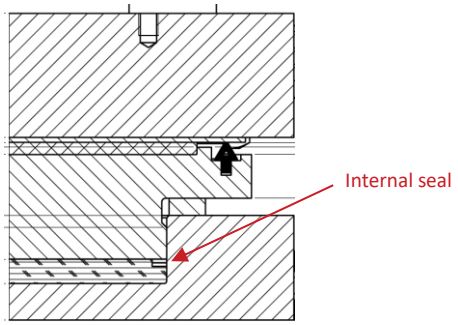
In order to provide the best mechanical performance and durability, the following materials are used:

- Structural steel components: minimum grade S355J2 as per EN 10025
- Sliding material:
  - polytetrafluoroethylene (conventional PTFE) material for sliding surface as per EN 1337-2
  - Special sliding material ISOGLIDE certified per European Technical Approval ETA 17/0808 whenever high temperature strength and improved wear characteristics are required
- Sliding surfaces: austenitic steel 1.4404+2B as per EN 10088
- Structural bolting: class 10.9 as per ISO 898
- Wiper seal: EPDM as per ISO 4097
- Anti-extrusion seal:
  - Brass as per EN 12163
  - PTFE + 25% of carbon as per EN1337-5
- Rubber disc: Natural rubber or chloroprene rubber, hardness 50 shore, as per ISO 6446/AASHTO M251/AS 5100.4.

Bearings in stainless steel grade 1.4301 or 1.4401 as per EN 10088 (respectively 304 and 316) can be supplied according to the specifications.

Anti-extrusion seal (Internal seal)

Essential component of a pot bearing is an internal seal incorporated around the elastomeric disc to prevent its extrusion under compressive load and simultaneously applied cyclic rotations. Cyclic rotations generate wear of the internal seal, which defines the service life of the pot bearings.



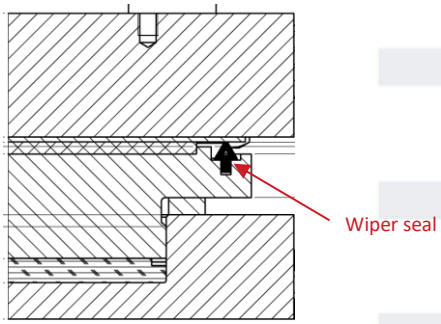
The following materials are used in TETRON® CD pot bearings according to each standard:

Standards	Material	Max. accumulated sliding path
EN 1337-5	Brass seal	1000m
	Carbon-filled PTFE Seal	2000m
AS 5100.4	Brass seal	1000m
	Carbon-filled PTFE seal	2000m
AASHTO LRFD	Brass seal	1000m

In line with EN 1337-5 standard, Freyssinet recommends use of Carbon-PTFE seals on railway and heavily loaded highway structures.

Wiper Seal

All Freyssinet mechanical bearings by default include a wiper seal located at the edge of the sliding material to protect bearings from debris. The material used is EPDM in accordance with ISO 4097.
Wiper seal is installed in a way that allows easy measurement of sliding material protrusion without the removal of the seals.



Other dust & debris protection solutions, including Freyssinet Bodygarde® system are available.

Corrosion Protection

As structural steel components, bearings must be protected against corrosion by painting. The system is selected depending on the surroundings and reference standard applied.

Freyssinet offers reliable, extensively tested systems in accordance with EN ISO 12944 and EN 1337-9 standards.

System	Environmental Use	Durability
C4-H	Highly corrosive atmosphere	High
C4-VH		Very high
C5-H	Extremely corrosive atmosphere (Marine or Industrial)	High
C5-VH		Very high

Other corrosion protection systems can be proposed upon request.

As an alternative, use of stainless steel is a particularly effective solution to minimize any corrosion problems and avoid the need for paint maintenance.

Labelling

Each bearing has an individual identification label permanently fixed to its body, indicating its unique serial number and its design capacity.

Moreover, a highly visible yellow position label is placed on top of the bearing to facilitate the correct placement of the device in the structure.

STRUCTURAL BEARINGS

TETRON® CD POT BEARINGS

Anchoring systems

Several types of fixings can be provided, depending on the type of structure, the level of loads and the installation methods.

Friction

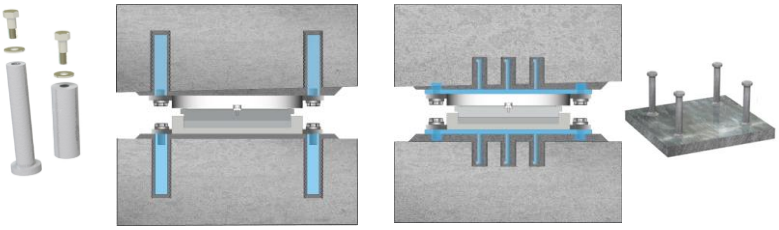
The design of fastening systems is restrained by the combination of friction and mechanical fastener. The friction coefficient is considered as per the following values given in the reference standards.

Interface	EN 1337	AS 5100.4	AASHTO
Steel on concrete	0.6	0.5	0.5
Steel on steel grit blasted, metal zinc sprayed or lightly primed surfaces	0.4	0.3	0.3
Steel on steel clean mill scale surfaces	-	0.2	0.2
Hot-dip-galvanized surfaces	-	0.08	-

In accordance with EN 1337-1 and AS 5100.4, in the case of dynamically stressed structures where extreme load fluctuations can occur, e.g. railway bridges and earthquakes, the horizontal forces shall not be resisted by friction.

Dowels/shear studs

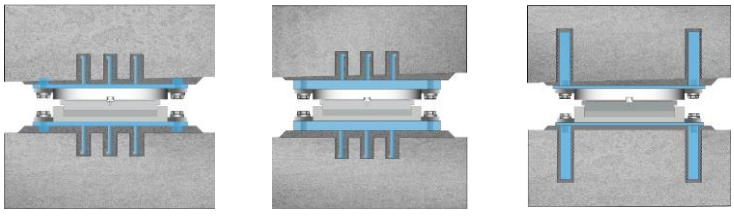
Anchors are used to secure the bearing to the structure for horizontal loads or uplift load if any. Different types of anchorages are available:



Dowels *Welded shear studs*

Masonry plates

Masonry plates are installed between the bearings and the structure. They make it easier to remove the bearing, and in some cases make it possible to reduce the bearing dimensions.



Dowels

Bolts

Bolts are generally used for fastening to a metal structure; they are designed to withstand horizontal loads and uplift, if any.

Installation

The effective installation of TETRON CD® pot bearings is a meticulous operation during which any mistake or lack in precision may, throughout the structures' life expectancy, induce effects that may prove harmful to the bearings and, in the most severe cases, even jeopardize the structural integrity. The bearings' pathology is closely associated with their installation quality. It's the reason why Freyssinet prepared guidelines that describes the principles to follow to guarantee a correct installation of the bearings. This installation guidelines are available on request.

Professional bearings installation by Freyssinet teams

Surveillance and maintenance

The bearings are essential elements of a bridge. Their durability depends on solicitations and environmental conditions. It is essential to apply a policy of inspection and maintenance to reduce the effects of any normal deterioration: painting, coating, wear... Freyssinet can assist with the whole life of our products by supporting service through our local entity, Freyssinet can prepare initial procedures, inspect and maintain during the life of the product, working with the asset owner to prolong life and deliver sustainability.

Quality & Manufacturing

Freyssinet designs and produces all the bearings supplied to its customers at its plants, and we ensure the quality of its products by carefully managing processes from design all the way through manufacture and onwards to the site through the installation teams located worldwide. This complete service approach, embracing products and services, is unrivalled allowing us to adapt solutions to a wide range of conditions.

All Freyssinet bearings are developed and designed by an in-house technical department that ensures compliance with applicable standards and project specifications. Coordination between the design, manufacturing solutions, and the choice of materials is critical for optimizing solutions and offering reliable, durable products.

In addition to the European certification represented by CE marking and quality ISO 9001.

TETRON® CD POT BEARINGS

Testing

Full-scale testing of finished bearings can be carried out to demonstrate the bearing's behaviour (compression test, friction test, horizontal load test &, etc in the testing laboratory ISOLAB. All required tests for the project are to be considered at the beginning of the project.

The testing laboratory ISOLAB can test the pot bearings in different conditions (proof load test, friction test, lateral load test etc). Other testing requirements can be proposed upon request.

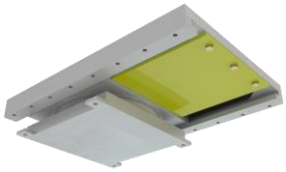
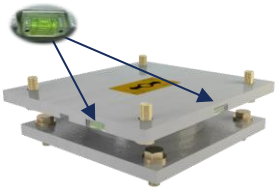
TETRON® CD guided sliding bearing test at ISOLAB testing facility

Bridge at the Intersection of Prince Turki Rd. with King Abdullah Rd. (Saudi Arabia)

Bearings manufactured under CE marking certification, have a guaranteed Constancy of Performance thanks to continuous factory production control and their testing is not mandatory.

Options & add-ons

Freyssinet offers several options on its bearings, which should be clearly asked by the customer from the design stage to be considered in the design and added to the drawings.

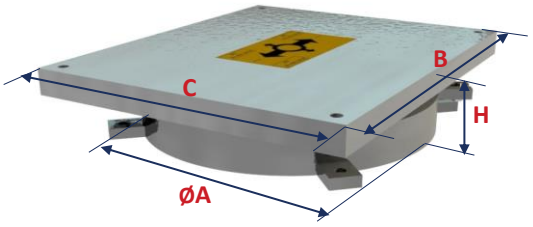
Anti-uplift	Temporary stoppers	Jacking bearing	Fuse stops
			
Incremental launching (launch-over bearings)	Monitoring of loads and / or displacements	Spirit levels	Protective skirt Bodygarde®
			

TETRON® CD POT BEARINGS

Indicative dimensions

TETRON CD GL pot bearings with +/-50mm longitudinal and +/-20mm transverse displacement
+ additional displacements required by applicable standard
Rotation = 10 mrad + additional rotations required by applicable standard
Lower concrete structure grade = minimum C35/45
Upper concrete structure grade = minimum C35/45

TETRON® CD GL



Fixing lugs and anchors are not included in the dimensions below.

Bearing type	EN 1337				AASHTO				AS 5100				BS 5400			
	ØA [mm]	B [mm]	C [mm]	H [mm]	ØA [mm]	B [mm]	C [mm]	H [mm]	ØA [mm]	B [mm]	C [mm]	H [mm]	ØA [mm]	B [mm]	C [mm]	H [mm]
GL 500 . 100 . 40	160	275	235	92	180	290	260	85	155	290	260	83	150	265	225	82
GL 1 000 . 100 . 40	210	310	280	96	240	345	315	96	200	345	315	87	195	300	270	82
GL 1 500 . 100 . 40	245	345	315	96	280	385	355	95	240	390	360	92	230	330	300	82
GL 2 000 . 100 . 40	275	375	345	96	320	420	390	100	275	425	395	97	260	360	330	81
GL 3 000 . 100 . 40	330	430	400	90	380	480	450	89	335	485	455	111	310	410	380	71
GL 4 000 . 100 . 40	380	475	445	95	440	525	495	119	385	535	505	121	350	450	420	71
GL 5 000 . 100 . 40	425	515	485	104	490	570	540	128	435	585	555	120	385	485	455	75
GL 6 000 . 100 . 40	465	550	520	103	540	610	580	133	475	625	595	134	420	520	490	75
GL 8 000 . 100 . 40	535	610	580	117	620	675	645	152	545	695	665	153	480	575	545	84
GL 10 000 . 100 . 40	605	670	640	121	695	740	710	161	615	760	730	157	540	630	600	83
GL 12 000 . 100 . 40	660	720	690	130	765	795	765	171	680	820	790	172	585	675	645	97
GL 14 000 . 100 . 40	715	765	735	135	830	845	815	180	720	875	845	197	630	715	685	97
GL 16 000 . 100 . 40	760	805	775	144	890	895	865	200	800	925	895	190	675	755	725	101
GL 18 000 . 100 . 40	810	845	815	159	940	935	905	209	825	970	940	215	720	795	765	102
GL 20 000 . 100 . 40	855	885	855	163	990	980	950	219	890	1 015	985	208	755	830	800	106
GL 24 000 . 100 . 40	935	955	925	177	1 085	1 065	1 035	236	980	1 095	1 065	227	830	895	865	115
GL 28 000 . 100 . 40	1 020	1 020	990	189	1 170	1 140	1 120	248	1 095	1 175	1 145	227	895	955	925	129
GL 30 000 . 100 . 40	1 055	1 050	1 020	193	1 215	1 175	1 155	263	1 110	1 210	1 180	246	930	985	955	129
GL 35 000 . 100 . 40	1 140	1 125	1 095	211	1 315	1 260	1 240	291	1 195	1 295	1 275	270	1 000	1 050	1 020	132
GL 40 000 . 100 . 40	1 225	1 205	1 175	229	1 405	1 340	1 325	295	1 310	1 375	1 355	269	1 070	1 115	1 085	150
GL 45 000 . 100 . 40	1 290	1 255	1 235	242	1 490	1 415	1 400	329	1 375	1 445	1 425	288	1 135	1 175	1 145	152
GL 50 000 . 100 . 40	1 365	1 315	1 295	257	1 570	1 485	1 475	328	1 455	1 515	1 495	297	1 195	1 230	1 200	167

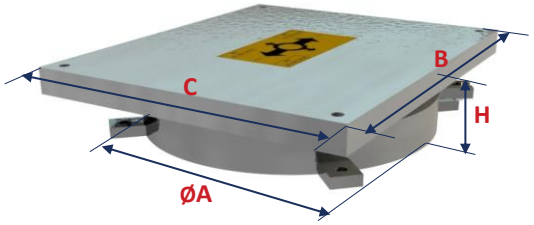
The dimensions above are indicative.
All bearings are designed and manufactured according to effective loads/displacements/ rotations provided in projects bearing schedule.

STRUCTURAL BEARINGS

TETRON® CD POT BEARINGS

TETRON CD GL pot bearings with +/-200mm longitudinal and +/-20mm transverse displacement
+ additional displacements required by applicable standard
Rotation = 10 mrad + additional rotations required by applicable standard
Lower concrete structure grade = minimum C35/45
Upper concrete structure grade = minimum C35/45

TETRON® CD GL



Fixing lugs and anchors are not included in the dimensions below.

Bearing type	EN 1337				AASHTO				AS 5100				BS 5400			
	ØA [mm]	B [mm]	C [mm]	H [mm]	ØA [mm]	B [mm]	C [mm]	H [mm]	ØA [mm]	B [mm]	C [mm]	H [mm]	ØA [mm]	B [mm]	C [mm]	H [mm]
GL 500 . 400 . 40	160	575	235	92	180	590	260	86	155	590	260	93	150	565	225	82
GL 1 000 . 400 . 40	210	610	280	96	240	645	315	96	200	645	315	97	195	600	270	82
GL 1 500 . 400 . 40	245	645	315	101	280	685	355	100	240	690	360	102	230	630	300	82
GL 2 000 . 400 . 40	275	675	345	101	320	720	390	105	275	725	395	107	260	660	330	86
GL 3 000 . 400 . 40	330	730	400	100	380	780	450	94	335	785	455	121	310	710	380	76
GL 4 000 . 400 . 40	380	775	445	105	440	825	495	124	385	835	505	132	350	750	420	76
GL 5 000 . 400 . 40	425	815	485	109	490	870	540	133	435	885	555	131	385	785	455	80
GL 6 000 . 400 . 40	465	850	520	113	540	910	580	138	475	925	595	145	420	820	490	85
GL 8 000 . 400 . 40	535	910	580	127	620	975	645	157	545	995	665	159	480	875	545	89
GL 10 000 . 400 . 40	605	970	640	131	695	1 040	710	165	615	1 060	730	167	540	930	600	88
GL 12 000 . 400 . 40	660	1 020	690	139	765	1 095	765	175	680	1 120	790	181	585	975	645	102
GL 14 000 . 400 . 40	715	1 065	735	144	830	1 145	815	184	720	1 175	845	206	630	1 015	685	101
GL 16 000 . 400 . 40	760	1 105	775	153	890	1 195	865	199	800	1 225	895	199	675	1 055	725	110
GL 18 000 . 400 . 40	810	1 145	815	168	940	1 235	905	213	825	1 270	940	224	720	1 095	765	111
GL 20 000 . 400 . 40	855	1 185	855	172	990	1 280	950	218	890	1 315	985	218	755	1 130	800	110
GL 24 000 . 400 . 40	935	1 255	925	186	1 085	1 365	1 035	236	980	1 395	1 065	237	830	1 195	865	119
GL 28 000 . 400 . 40	1 020	1 320	990	199	1 170	1 440	1 120	248	1 095	1 475	1 145	237	895	1 255	925	133
GL 30 000 . 400 . 40	1 055	1 350	1 020	203	1 215	1 475	1 155	263	1 110	1 510	1 180	251	930	1 285	955	133
GL 35 000 . 400 . 40	1 140	1 425	1 095	216	1 315	1 560	1 240	291	1 195	1 595	1 275	280	1 000	1 350	1 020	142
GL 40 000 . 400 . 40	1 225	1 495	1 165	219	1 405	1 640	1 325	295	1 310	1 675	1 355	269	1 070	1 415	1 085	155
GL 45 000 . 400 . 40	1 290	1 555	1 235	242	1 490	1 715	1 400	329	1 375	1 745	1 425	298	1 135	1 475	1 145	157
GL 50 000 . 400 . 40	1 365	1 615	1 295	252	1 570	1 785	1 475	328	1 455	1 815	1 495	306	1 195	1 530	1 200	172

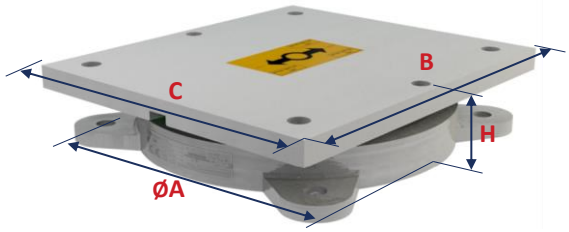
The dimensions above are indicative.
All bearings are designed and manufactured according to effective loads/displacements/ rotations provided in projects bearing schedule.

STRUCTURAL BEARINGS

TETRON® CD POT BEARINGS

TETRON CD GG pot bearings with horizontal load = 10% of vertical load and +/-50mm longitudinal displacement
+ additional displacements required by applicable standard
Rotation = 10 mrad + additional rotations required by applicable standard
Lower concrete structure grade = minimum C35/45
Upper concrete structure grade = minimum C35/45

TETRON® CD GG



Fixing lugs and anchors are not included in the dimensions below.

Bearing type	EN 1337				AASHTO				AS 5100				BS 5400			
	ØA [mm]	B [mm]	C [mm]	H [mm]	ØA [mm]	B [mm]	C [mm]	H [mm]	ØA [mm]	B [mm]	C [mm]	H [mm]	ØA [mm]	B [mm]	C [mm]	H [mm]
GG 500 - 50 . 100	160	360	245	92	180	320	245	91	160	370	255	83	150	320	245	82
GG 1 000 - 100 . 100	210	390	275	96	240	375	300	100	200	425	310	92	195	335	260	87
GG 1 500 - 150 . 100	245	425	310	96	280	415	340	107	245	470	355	107	235	365	290	87
GG 2 000 - 200 . 100	280	455	340	96	325	450	375	111	285	505	390	112	265	395	320	86
GG 3 000 - 300 . 100	350	505	390	104	395	505	430	118	350	570	455	125	320	440	365	91
GG 4 000 - 400 . 100	405	545	430	103	455	555	480	132	415	620	505	129	365	475	400	96
GG 5 000 - 500 . 100	455	585	470	117	510	600	525	149	470	665	550	137	405	510	435	100
GG 6 000 - 600 . 100	495	620	505	120	560	640	565	153	515	710	595	145	450	540	465	104
GG 8 000 - 800 . 100	570	680	565	133	640	705	630	162	590	780	665	163	515	605	530	122
GG 10 000 - 1000 . 100	640	730	615	141	720	765	690	180	675	850	735	177	580	655	580	130
GG 12 000 - 1200 . 100	705	780	665	163	790	830	745	188	735	905	790	195	630	710	630	144
GG 14 000 - 1400 . 100	765	825	710	168	855	875	800	202	785	965	850	218	680	740	665	163
GG 16 000 - 1600 . 100	810	870	755	172	915	920	850	215	860	1 015	900	220	730	785	710	182
GG 18 000 - 1800 . 100	860	905	790	189	965	965	905	219	905	1 060	945	232	775	820	745	181
GG 20 000 - 2000 . 100	905	945	830	188	1 020	1 015	950	230	975	1 115	1 000	235	815	860	785	185
GG 24 000 - 2400 . 100	1 010	1 015	900	222	1 120	1 095	1 210	263	1 070	1 200	1 095	254	900	935	860	202
GG 28 000 - 2800 . 100	1 095	1 080	965	220	1 210	1 170	1 285	269	1 155	1 280	1 175	277	970	985	920	240
GG 30 000 - 3000 . 100	1 130	1 115	1 205	223	1 250	1 220	1 345	293	1 180	1 310	1 205	296	1 005	1 010	945	238
GG 35 000 - 3500 . 100	1 220	1 180	1 300	239	1 350	1 290	1 400	301	1 270	1 400	1 510	309	1 080	1 085	1 020	246
GG 40 000 - 4000 . 100	1 310	1 265	1 385	262	1 445	1 370	1 505	324	1 365	1 480	1 620	337	1 165	1 155	1 285	231
GG 45 000 - 4500 . 100	1 385	1 310	1 430	260	1 535	1 445	1 545	351	1 480	1 560	1 700	335	1 235	1 200	1 360	249
GG 50 000 - 5000 . 100	1 460	1 370	1 490	274	1 615	1 515	1 645	354	1 520	1 630	1 770	375	1 300	1 260	1 420	268

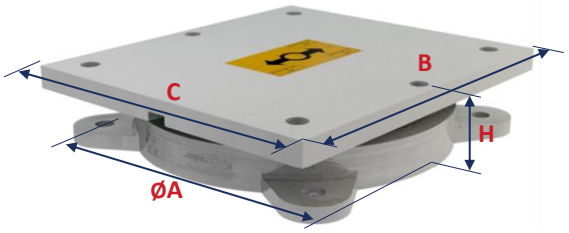
The dimensions above are indicative.
All bearings are designed and manufactured according to effective loads/displacements/ rotations provided in projects bearing schedule.

STRUCTURAL BEARINGS

TETRON® CD POT BEARINGS

TETRON CD GG pot bearings with horizontal load = 10% of vertical load and +/-200mm longitudinal displacement
+ additional displacements required by applicable standard
Rotation = 10 mrad + additional rotations required by applicable standard
Lower concrete structure grade = minimum C35/45
Upper concrete structure grade = minimum C35/45

TETRON® CD GG



Fixing lugs and anchors are not included in the dimensions below.

Bearing type	EN 1337				AASHTO				AS 5100				BS 5400			
	ØA [mm]	B [mm]	C [mm]	H [mm]	ØA [mm]	B [mm]	C [mm]	H [mm]	ØA [mm]	B [mm]	C [mm]	H [mm]	ØA [mm]	B [mm]	C [mm]	H [mm]
GG 500 - 50 . 400	160	660	245	97	180	620	245	91	160	670	255	98	150	620	245	82
GG 1 000 - 100 . 400	210	690	275	101	240	675	300	100	200	725	310	102	195	635	260	82
GG 1 500 - 150 . 400	245	725	310	101	280	715	340	107	245	770	355	117	235	665	290	87
GG 2 000 - 200 . 400	280	755	340	106	325	750	375	111	285	805	390	122	265	695	320	86
GG 3 000 - 300 . 400	350	805	390	114	395	805	430	118	350	870	455	136	320	740	365	86
GG 4 000 - 400 . 400	405	845	430	113	455	855	480	137	415	920	505	140	365	775	400	91
GG 5 000 - 500 . 400	455	885	470	127	510	900	525	149	470	965	550	148	405	810	435	95
GG 6 000 - 600 . 400	495	920	505	130	560	940	565	153	515	1 010	595	155	450	840	465	104
GG 8 000 - 800 . 400	570	980	565	143	640	1 005	630	166	590	1 080	665	173	515	905	530	117
GG 10 000 - 1000 . 400	640	1 030	615	150	720	1 065	690	179	675	1 150	735	186	580	955	580	125
GG 12 000 - 1200 . 400	705	1 080	665	172	790	1 130	745	192	735	1 205	790	204	630	1 010	630	143
GG 14 000 - 1400 . 400	765	1 125	710	177	855	1 175	800	201	785	1 265	850	227	680	1 040	665	157
GG 16 000 - 1600 . 400	810	1 170	755	181	915	1 220	850	219	860	1 315	900	230	730	1 085	710	176
GG 18 000 - 1800 . 400	860	1 205	790	198	965	1 265	905	218	905	1 360	945	242	775	1 120	745	175
GG 20 000 - 2000 . 400	905	1 245	830	197	1 020	1 315	950	230	975	1 415	1 000	245	815	1 160	785	179
GG 24 000 - 2400 . 400	1 010	1 315	900	232	1 120	1 395	1 210	263	1 070	1 500	1 095	264	900	1 235	860	196
GG 28 000 - 2800 . 400	1 095	1 380	965	230	1 210	1 470	1 285	264	1 155	1 580	1 175	292	970	1 285	920	234
GG 30 000 - 3000 . 400	1 130	1 415	1 205	233	1 250	1 520	1 345	293	1 180	1 610	1 205	311	1 005	1 310	945	233
GG 35 000 - 3500 . 400	1 220	1 480	1 300	249	1 350	1 590	1 400	296	1 270	1 700	1 510	319	1 080	1 385	1 020	241
GG 40 000 - 4000 . 400	1 310	1 565	1 385	267	1 445	1 670	1 505	319	1 365	1 780	1 620	347	1 165	1 455	1 285	226
GG 45 000 - 4500 . 400	1 385	1 610	1 430	275	1 535	1 745	1 545	351	1 480	1 860	1 700	344	1 235	1 500	1 360	244
GG 50 000 - 5000 . 400	1 460	1 670	1 490	284	1 615	1 815	1 645	353	1 520	1 930	1 770	384	1 300	1 560	1 420	258

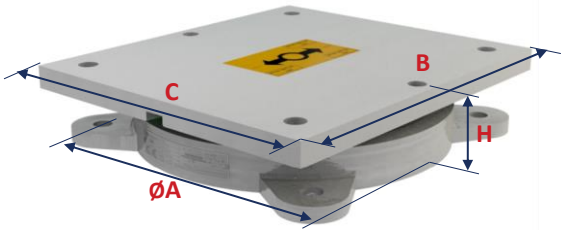
The dimensions above are indicative.
All bearings are designed and manufactured according to effective loads/displacements/ rotations provided in projects bearing schedule.

STRUCTURAL BEARINGS

TETRON® CD POT BEARINGS

TETRON CD GG pot bearings with horizontal load = 30% of vertical load and +/-50mm longitudinal displacement
+ additional displacements required by applicable standard
Rotation = 10 mrad + additional rotations required by applicable standard
Lower concrete structure grade = minimum C35/45
Upper concrete structure grade = minimum C35/45

TETRON® CD GG



Fixing lugs and anchors are not included in the dimensions below.

Bearing type	EN 1337				AASHTO				AS 5100				BS 5400			
	ØA [mm]	B [mm]	C [mm]	H [mm]	ØA [mm]	B [mm]	C [mm]	H [mm]	ØA [mm]	B [mm]	C [mm]	H [mm]	ØA [mm]	B [mm]	C [mm]	H [mm]
GG 500 - 150 . 100	160	385	245	91	180	340	265	96	170	385	270	91	165	320	245	87
GG 1 000 - 300 . 100	220	440	290	97	255	395	320	108	225	460	330	107	220	355	275	90
GG 1 500 - 450 . 100	265	495	335	100	305	455	365	121	275	535	375	120	265	410	310	104
GG 2 000 - 600 . 100	310	555	370	118	355	530	405	134	330	550	420	124	300	460	340	112
GG 3 000 - 900 . 100	385	615	420	135	430	580	475	165	415	625	490	141	365	530	395	130
GG 4 000 - 1200 . 100	465	645	470	155	495	665	540	183	485	685	540	155	420	590	445	158
GG 5 000 - 1500 . 100	525	705	520	178	550	685	580	187	540	775	610	183	470	605	490	180
GG 6 000 - 1800 . 100	575	785	575	192	610	765	620	201	610	795	660	186	515	665	520	200
GG 8 000 - 2400 . 100	670	885	645	218	700	785	870	234	695	900	750	230	600	750	590	221
GG 10 000 - 3000 . 100	755	915	705	231	780	860	975	261	785	1 000	830	251	675	850	660	264
GG 12 000 - 3600 . 100	825	890	1 010	238	860	925	1 045	288	885	1 035	905	263	735	875	715	277
GG 14 000 - 4200 . 100	890	935	1 045	256	930	975	1 095	317	985	1 070	1 205	266	780	830	950	256
GG 16 000 - 4800 . 100	950	985	1 105	264	990	1 035	1 155	330	1 040	1 135	1 275	282	845	870	1 030	292
GG 18 000 - 5400 . 100	1 005	1 015	1 135	271	1 050	1 085	1 235	357	1 070	1 150	1 290	310	900	930	1 090	309
GG 20 000 - 6000 . 100	1 060	1 065	1 180	299	1 105	1 135	1 255	364	1 175	1 230	1 370	316	945	940	1 100	318
GG 24 000 - 7200 . 100	1 165	1 160	1 270	324	1 220	1 235	1 355	401	1 255	1 300	1 440	343	1 040	1 020	1 180	333
GG 28 000 - 8400 . 100	1 460	1 250	1 355	341	1 315	1 325	1 445	439	1 395	1 460	1 570	360	1 120	1 090	1 250	350
GG 30 000 - 9000 . 100	1 300	1 235	1 355	349	1 360	1 370	1 510	457	1 425	1 430	1 570	378	1 160	1 140	1 300	356
GG 35 000 - 10500 . 100	1 405	1 375	1 465	376	1 470	1 455	1 605	504	1 500	1 530	1 670	455	1 250	1 195	1 355	373
GG 40 000 - 12000 . 100	1 560	1 435	1 555	423	1 570	1 560	1 690	502	1 680	1 660	1 800	434	1 340	1 310	1 435	379
GG 45 000 - 13500 . 100	1 615	1 540	1 630	451	1 665	1 630	1 780	559	1 765	1 735	1 875	480	1 420	1 355	1 505	407
GG 50 000 - 15000 . 100	1 705	1 565	1 680	459	1 755	1 700	1 850	575	1 835	1 795	1 935	496	1 495	1 445	1 570	424

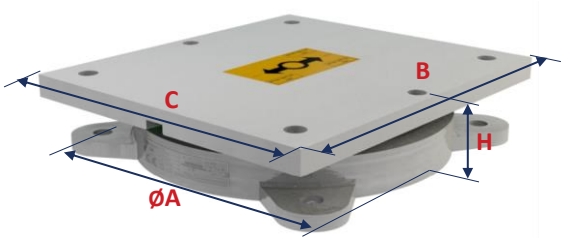
The dimensions above are indicative.
All bearings are designed and manufactured according to effective loads/displacements/ rotations provided in projects bearing schedule.

STRUCTURAL BEARINGS

TETRON® CD POT BEARINGS

TETRON CD GG pot bearings with horizontal load = 30% of vertical load and +/-200mm longitudinal displacement
+ additional displacements required by applicable standard
Rotation = 10 mrad + additional rotations required by applicable standard
Lower concrete structure grade = minimum C35/45
Upper concrete structure grade = minimum C35/45

TETRON® CD GG



Fixing lugs and anchors are not included in the dimensions below.

Bearing type	EN 1337				AASHTO				AS 5100				BS 5400			
	ØA [mm]	B [mm]	C [mm]	H [mm]	ØA [mm]	B [mm]	C [mm]	H [mm]	ØA [mm]	B [mm]	C [mm]	H [mm]	ØA [mm]	B [mm]	C [mm]	H [mm]
GG 500 - 150 . 400	160	685	245	96	180	640	265	91	170	685	270	101	165	620	245	87
GG 1 000 - 300 . 400	220	740	290	102	255	695	320	103	225	760	330	122	220	655	275	85
GG 1 500 - 450 . 400	265	795	335	110	305	755	365	116	275	835	375	130	265	710	310	99
GG 2 000 - 600 . 400	310	855	370	123	355	830	405	129	330	850	420	135	300	760	340	107
GG 3 000 - 900 . 400	385	915	420	140	430	880	475	160	415	930	495	147	365	830	395	125
GG 4 000 - 1200 . 400	465	945	470	150	495	965	540	178	485	985	540	161	420	890	445	153
GG 5 000 - 1500 . 400	525	1 005	520	172	550	985	580	182	540	1 075	600	183	470	905	490	175
GG 6 000 - 1800 . 400	575	1 085	575	191	610	1 065	620	195	610	1 095	660	186	515	965	520	195
GG 8 000 - 2400 . 400	670	1 185	645	212	700	1 085	870	228	695	1 200	750	224	600	1 050	590	215
GG 10 000 - 3000 . 400	755	1 215	705	225	780	1 160	975	250	785	1 300	830	245	675	1 150	660	248
GG 12 000 - 3600 . 400	825	1 195	1 010	223	860	1 225	1 045	283	885	1 325	905	258	735	1 175	715	266
GG 14 000 - 4200 . 400	890	1 235	1 045	246	930	1 275	1 095	307	985	1 375	1 215	261	780	1 130	950	245
GG 16 000 - 4800 . 400	950	1 285	1 105	264	990	1 335	1 155	320	1 040	1 435	1 275	282	845	1 170	1 030	282
GG 18 000 - 5400 . 400	1 005	1 315	1 135	261	1 050	1 385	1 235	357	1 070	1 450	1 290	300	900	1 235	1 090	289
GG 20 000 - 6000 . 400	1 060	1 365	1 180	289	1 105	1 435	1 255	354	1 175	1 530	1 370	306	945	1 240	1 100	308
GG 24 000 - 7200 . 400	1 165	1 460	1 270	314	1 220	1 535	1 355	391	1 265	1 650	1 480	343	1 040	1 320	1 180	323
GG 28 000 - 8400 . 400	1 460	1 550	1 355	331	1 315	1 625	1 445	429	1 395	1 730	1 570	360	1 120	1 390	1 250	320
GG 30 000 - 9000 . 400	1 300	1 535	1 355	339	1 360	1 670	1 510	447	1 425	1 730	1 570	368	1 160	1 440	1 300	326
GG 35 000 - 10500 . 400	1 405	1 655	1 465	366	1 470	1 755	1 605	494	1 500	1 830	1 670	444	1 250	1 495	1 355	353
GG 40 000 - 12000 . 400	1 560	1 745	1 555	393	1 570	1 860	1 690	501	1 680	1 960	1 800	423	1 340	1 610	1 435	359
GG 45 000 - 13500 . 400	1 615	1 845	1 665	440	1 665	1 935	1 780	538	1 765	2 035	1 875	470	1 420	1 655	1 505	387
GG 50 000 - 15000 . 400	1 705	1 865	1 680	438	1 755	2 000	1 850	575	1 835	2 095	1 935	476	1 495	1 745	1 570	404

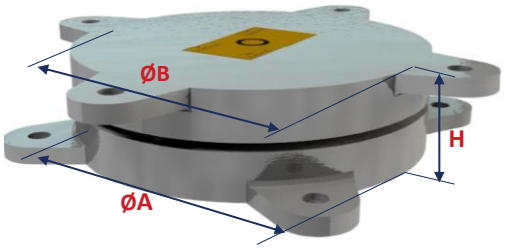
The dimensions above are indicative.
All bearings are designed and manufactured according to effective loads/displacements/ rotations provided in projects bearing schedule.

STRUCTURAL BEARINGS

TETRON® CD POT BEARINGS

TETRON CD FX pot bearings with horizontal load = 10% of vertical load
Rotation = 10 mrad + additional rotations required by applicable standard
Lower concrete structure grade = minimum C35/45
Upper concrete structure grade = minimum C35/45

TETRON® CD FX



Fixing lugs and anchors are not included in the dimensions below.

Bearing type	EN 1337			AASHTO			AS 5100			BS 5400		
	ØA [mm]	ØB [mm]	H [mm]	ØA [mm]	ØB [mm]	H [mm]	ØA [mm]	ØB [mm]	H [mm]	ØA [mm]	ØB [mm]	H [mm]
FX 500 - 50	160	160	52	180	180	59	155	155	52	150	150	52
FX 1 000 - 100	210	210	56	240	240	63	200	200	51	195	195	52
FX 1 500 - 150	245	245	56	280	280	70	240	240	56	230	230	52
FX 2 000 - 200	280	280	56	325	325	74	280	280	61	265	265	51
FX 3 000 - 300	345	345	60	395	395	86	340	340	69	315	315	56
FX 4 000 - 400	400	400	69	455	455	100	405	405	73	365	365	61
FX 5 000 - 500	450	450	78	505	505	102	460	460	82	405	405	65
FX 6 000 - 600	490	490	81	560	560	116	505	505	90	445	445	70
FX 8 000 - 800	565	565	94	640	640	130	600	600	98	510	510	88
FX 10 000 - 1000	635	635	102	720	720	143	665	665	111	570	570	91
FX 12 000 - 1200	695	695	110	790	790	156	720	720	124	625	625	104
FX 14 000 - 1400	750	750	119	855	855	170	805	805	127	675	675	104
FX 16 000 - 1600	805	805	127	910	910	183	845	845	140	720	720	117
FX 18 000 - 1800	850	850	130	965	965	182	920	920	139	765	765	127
FX 20 000 - 2000	900	900	144	1 015	1015	189	965	965	157	805	805	130
FX 24 000 - 2400	995	995	156	1 120	1120	226	1 060	1060	175	885	885	143
FX 28 000 - 2800	1 080	1080	164	1 205	1205	234	1 140	1140	182	950	950	141
FX 30 000 - 3000	1 115	1115	183	1 250	1250	253	1 200	1200	190	985	985	151
FX 35 000 - 3500	1 205	1205	190	1 350	1350	251	1 295	1295	199	1 065	1065	167
FX 40 000 - 4000	1 295	1295	198	1 445	1445	279	1 375	1375	217	1 145	1145	184
FX 45 000 - 4500	1 370	1370	207	1 535	1535	306	1 465	1465	226	1 215	1215	172
FX 50 000 - 5000	1 445	1445	216	1 615	1615	304	1 580	1580	234	1 285	1285	171

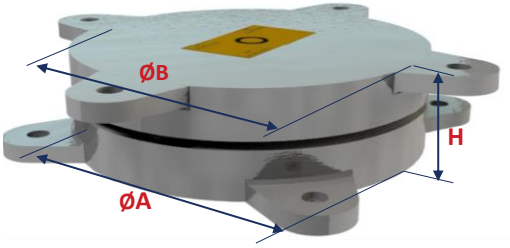
The dimensions above are indicative.
All bearings are designed and manufactured according to effective loads/displacements/ rotations provided in projects bearing schedule.

STRUCTURAL BEARINGS

TETRON® CD POT BEARINGS

TETRON CD FX pot bearings with horizontal load = 30% of vertical load
Rotation = 10 mrad + additional rotations required by applicable standard
Lower concrete structure grade = minimum C35/45
Upper concrete structure grade = minimum C35/45

TETRON® CD FX



Fixing lugs and anchors are not included in the dimensions below.

Bearing type	EN 1337			AASHTO			AS 5100			BS 5400		
	ØA [mm]	ØB [mm]	H [mm]	ØA [mm]	ØB [mm]	H [mm]	ØA [mm]	ØB [mm]	H [mm]	ØA [mm]	ØB [mm]	H [mm]
FX 500 - 150	160	160	51	180	180	59	155	155	50	160	160	52
FX 1 000 - 300	220	220	58	250	250	67	210	210	61	220	220	56
FX 1 500 - 450	265	265	66	300	300	79	275	275	65	260	260	69
FX 2 000 - 600	305	305	79	350	350	88	330	330	69	300	300	72
FX 3 000 - 900	380	380	95	425	425	104	400	400	85	360	360	85
FX 4 000 - 1200	460	460	105	490	490	132	475	475	94	415	415	103
FX 5 000 - 1500	520	520	123	550	550	144	555	555	98	465	465	116
FX 6 000 - 1800	570	570	137	605	605	149	610	610	106	510	510	130
FX 8 000 - 2400	665	665	154	695	695	167	680	680	133	590	590	148
FX 10 000 - 3000	745	745	161	775	775	180	780	780	151	660	660	150
FX 12 000 - 3600	805	805	149	850	850	197	865	865	158	730	730	167
FX 14 000 - 4200	870	870	157	925	925	231	940	940	175	775	775	175
FX 16 000 - 4800	945	945	175	985	985	229	1 000	1000	183	840	840	173
FX 18 000 - 5400	1 000	1000	173	1 045	1045	256	1 085	1085	189	890	890	170
FX 20 000 - 6000	1 055	1055	189	1 100	1100	254	1 135	1135	207	940	940	179
FX 24 000 - 7200	1 155	1155	206	1 215	1215	281	1 245	1245	224	1 030	1030	173
FX 28 000 - 8400	1 250	1250	223	1 310	1310	309	1 350	1350	231	1 100	1100	180
FX 30 000 - 9000	1 290	1290	221	1 355	1355	308	1 410	1410	239	1 140	1140	168
FX 35 000 - 10500	1 395	1395	238	1 460	1460	335	1 480	1480	276	1 240	1240	185
FX 40 000 - 12000	1 510	1510	256	1 560	1560	362	1 620	1620	284	1 325	1325	192
FX 45 000 - 13500	1 600	1600	283	1 660	1660	389	1 685	1685	321	1 410	1410	199
FX 50 000 - 15000	1 690	1690	301	1 745	1745	407	1 825	1825	318	1 485	1485	207

The dimensions above are indicative.
All bearings are designed and manufactured according to effective loads/displacements/ rotations provided in projects bearing schedule.