



**DISTITEC®**

CATALOGUE FOR STEEL INDUSTRY



This catalogue provides an overview of the products made – partly in outsourcing – by **DISTITEC S.R.L.** and employed in the steel and mechanical industry.

The bearings described in this catalogue are mainly used in the flattening and straightening lines of steel sheet, stainless steel sheet and aluminum sheet, but also in rolling mills on the rolling cylinder necks, in overhead conveyors and in many applications of the mechanical industry such as LIFTING VEHICLES, NAVAL CRANES, PALLETIZERS, SOLAR PANELS, WIND TURBINES, WOOD PROCESSING MACHINES, RADARS, BOTTLING MACHINES, REVOLVING LIFTING CLAMPS, WELDING ROBOTS, REVOLVING TABLES and OTHERS.

**DISTITEC** relies on qualified and certified technicians with a long experience in this field and equipped with advanced machine tools to produce high precision mechanical parts.

**DISTITEC** performs the design, assembling and testing of its products and provides an efficient technical assistance to the customer. After sizing the bearings and executing the construction drawings we follow the order progress: the components are worked, checked, tested and assembled. Finally, we execute the final testing. If the assembled bearing is in accordance with the technical requests and the roller bearing standards, it is ready to be packed and shipped. Our stock can meet the customers' requests with a short delivery time.

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# TECHNICAL SPECIFICATIONS FOR SINGLE CYLINDRICAL BACK-UP ROLLERS



- 1 – Outer ring
- 2 – Inner ring
- 3 – Loose rib
- 4 – Cylindrical roller
- 5 – Seal ring
- 6 – Protection ring
- 7 – Protection

Single cylindrical back-up rollers for metal flattening machines and straightening plates have the following characteristics:

The outer and inner ring is supplied in 100Cr6 core hardened steel (UNI 3097) that can reach hardness 60-2 HRC.

Once seen the condition of coupling with working cylinders, the degree of hardness can be reduced to 53 HRc for those bearings for the flattening of very thin sheets.

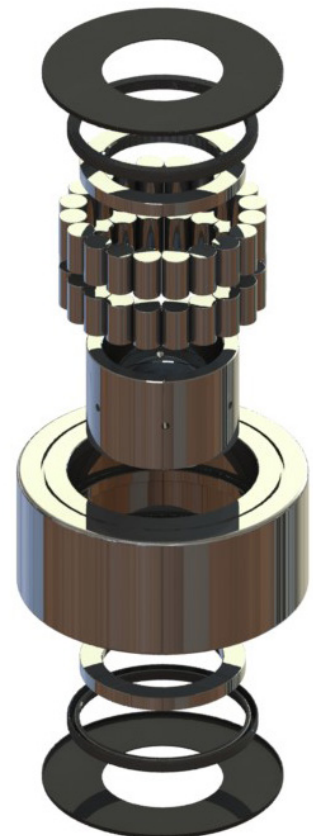
The profile of the **outer ring** is usually cambered in order to optimize the distribution of the applied load. For the outer rings of large thickness is used 100CrMo7.3 (UNI 3097) core hardened steel. On request are performed particular hardening.

**Inner ring** presents holes for internal periodic lubrication. The full-complement of cylindrical rollers ensures the highest load capacity possible.

The **seal system** can be either with screens formed by metal rings or through the radial seal with steel sliding parts in NBR or FKM.

Precision class generally is P0 (DIN 620); on request the rollers can be manufactured with precision class P5 or P6.

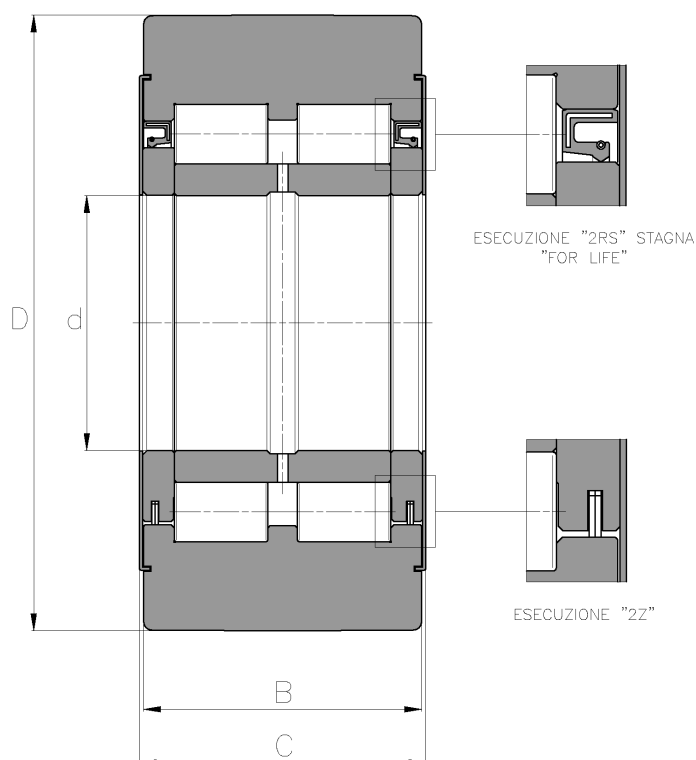
On request, they can be manufactured in stainless steel.



Single cylindrical back-up rollers are built with two or more rings at full complement of cylindrical rollers bearings, separated by distance ring integrated in outer ring.

This back up roller is particularly suitable to work with high radial loads; thanks to its toughness, it maintains all its primary technical characteristics for a long flattening lifetime.

These bearings provide good axial load capacity suitable to counteract the axial thrusts that occur, inevitably, in the above mentioned applications



	d	D	C	B	C	C0	V max.
		[mm]			[kN]		[giri/min]
DSTR 2048	20	48	37	36	36	53	1.935
DSTR 2552	25	52	42	40	38	60	1.730
DSTR 3072	30	72	42	40	73	105	1.280
DSTR 3080	30	80	48	44	85	141	1.150
DSTR 3580	35	80	54	50	103	163	1.150
DSTR 4080	40	80	33	31	39,5	32	3.570
DSTR 4090	40	90	35	32	57	62	850
DSTR 45100	45	100	40	37	85,5	76	900
DSTR 50120	50	120	58	55	161	245	800
DSTR 55140	55	140	60	56	180,5	209	500
DSTR 60135	60	135	44	42	155	150	600
DSTR 60160	60	160	104	100	476	806	610
DSTR 65130	65	130	44	42	150	143	660
DSTR 65150	65	150	55	51	220	324	620
DSTR 70150	70	150	63	61	223,5	259	570
DSTR 75210	75	210	148	146	765	1.433	490
DSTR 80200	80	200	92	88	482	870	375
DSTR 90180	90	180	102	98	493	1.107	450
DSTR 100210	100	210	101	100	560	978	420
DSTR 120200	120	200	57	55	311	632	390
DSTR 120250	120	250	94	90	611	1.112	370
DSTR 120280	120	280	124	121	892	1.665	350

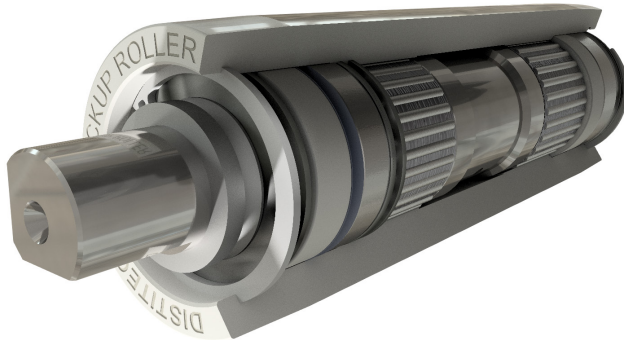
C = Dynamic radial load

C0 = Static radial load

For any further request or technical information, please consult our technical department



# TECHNICAL SPECIFICATIONS FOR BACK-UP ROLLERS WITH PIVOT



- 1 – Outer ring
- 2 – Washer
- 3 – Distance ring
- 4 – O-Ring
- 5 – Seeger
- 6 – Pressure spring
- 7 – Pivot
- 8 – Radial roller cage
- 9 – Thrust bearing
- 10 – V-ring

Back-up rollers with pivot for metal flattening machines and straightening plates have the following characteristics:

The **outer ring** is supplied in 100Cr6/100CrMo7 core hardened steel (UNI 3097) that can reach hardness 60+2 HRC.

Once seen the condition of coupling with working cylinders, the degree of hardness can be reduced to 53 HRC for those bearings for the flattening of very thin sheets.

The profile of the outer ring is usually cambered in order to optimize the distribution of the applied load.

The **pivot** is made in two different steel types, according to dimension and shape:

Core hardened steel UNI 100Cr6 / 100CrMo7, case hardened steel UNI 18NiCrMo5. In both cases the degree of hardness is 60-HRC. The bearings have a grease lubrication system and are supplied already pre-lubricated.

The lubrication system foresees both the entrance and the exit of grease.

They can be supplied also in Long-life execution.

The **sealing system** is very efficient, it does not allow outer agents (such as, dust, mill scale, humidity) to enter the back-up roll; at the same time, it prevents the leakage of grease.

Precision class is P0; on request the rollers can be manufactured with precision class P5 or P6.

On request, they can be manufactured in stainless steel.

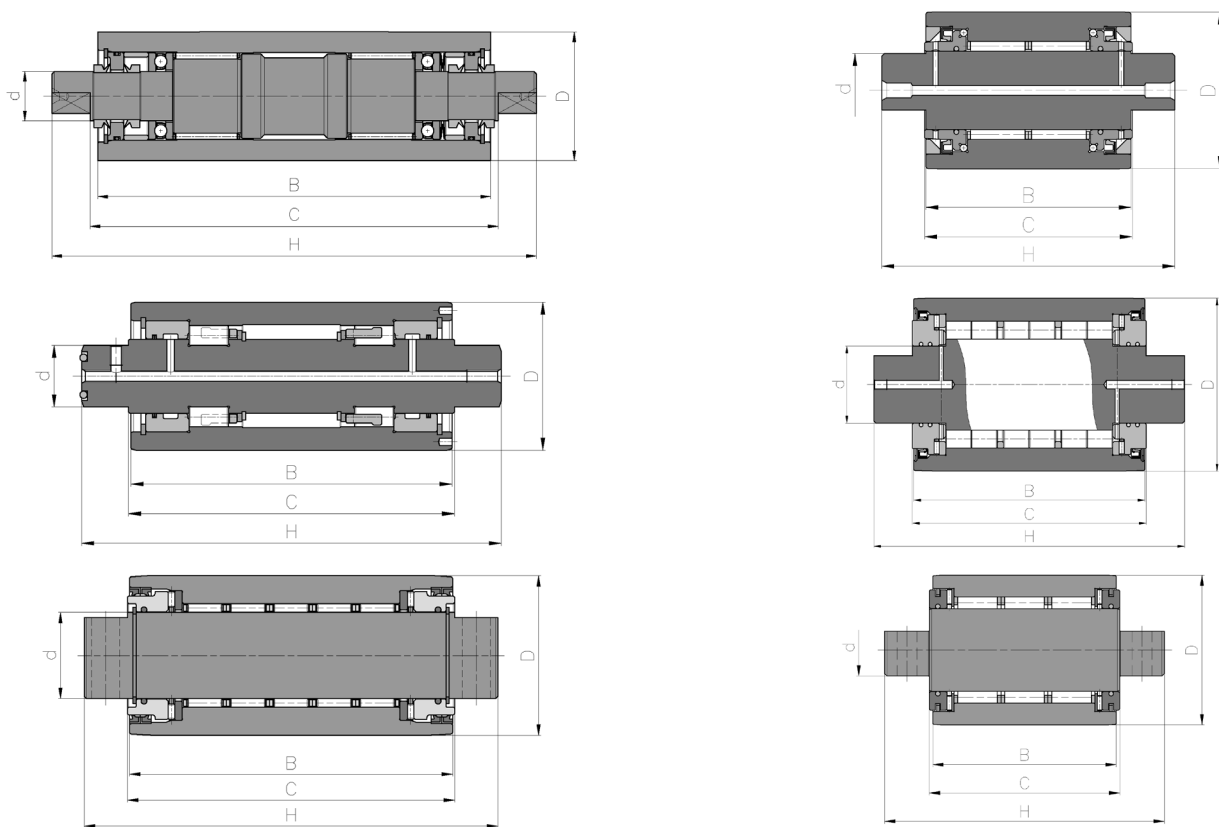


These DISTITEC products are very specific and can perform various executions.

For this reason we prefer not to provide a list of products, but assess each individual customer's request.

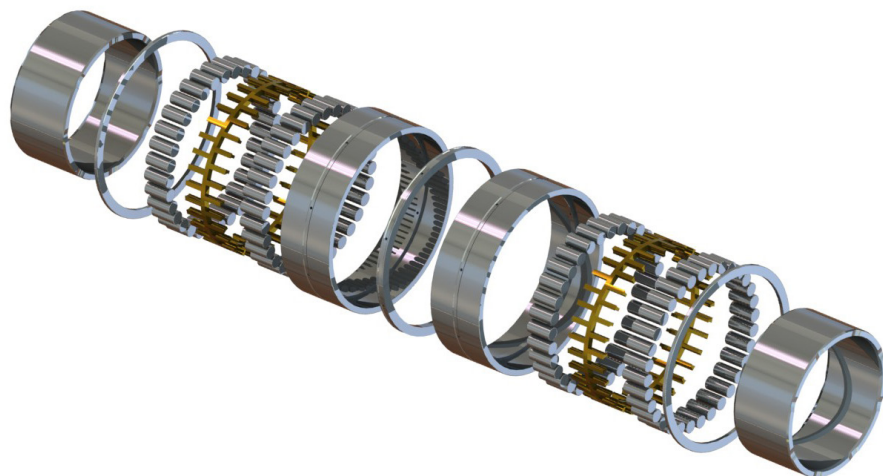
In the table below we indicated a range of production, in relation to the size that our machines allow us to perform.

In the images below, some designs ever built.



For any further request or technical information, please consult our technical department

Production Range	$d$	$D$	$B$ [mm]	$C$	$H$
Minimum size	12	25,5	30	32	61,5
Maximum size	120	400	250	270	440



- 1 – Outer ring
- 2 – Inner ring
- 3 – Loose rib
- 4 – Distance
- 5 – Cage comb bearing
- 6 – Cylindrical roller

MULTIROW have the following characteristics:

**Outer and inner rings** are mainly supplied in UNI 100Cr6 / 100CrMo7 core hardened steel and reach hardness 60-2HRC. Some implementations include the use of 18NiCrMo5 (UNI 7846) case-hardening steel.

**Loose ribs and distance ring** are supplied in 100Cr6 or 100CrMo7 (UNI 3097) core hardened steel and can reach hardness 60+2 HRc.

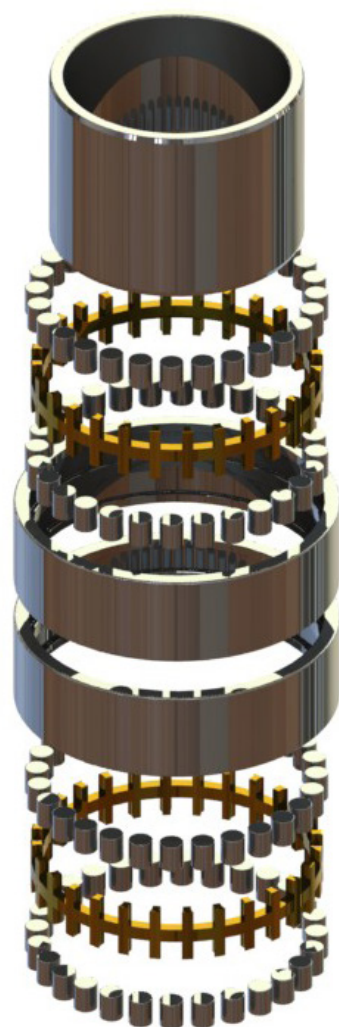
**Double pronged machined cage** are supplied in bronze or brass and it are subjected to a special working process to remove any burrs.

On request are built in structural-steel, for those applications where it is necessary to have a stronger cage design.

Multirow are manufactured in P6/P5 precision class.

Multirow bearings undergo stabilization treatment, which allows their use with temperatures up to 150° C, without any particular dimensional change.

On request, stabilized bearings for working temperature up to 250° C can be supplied.





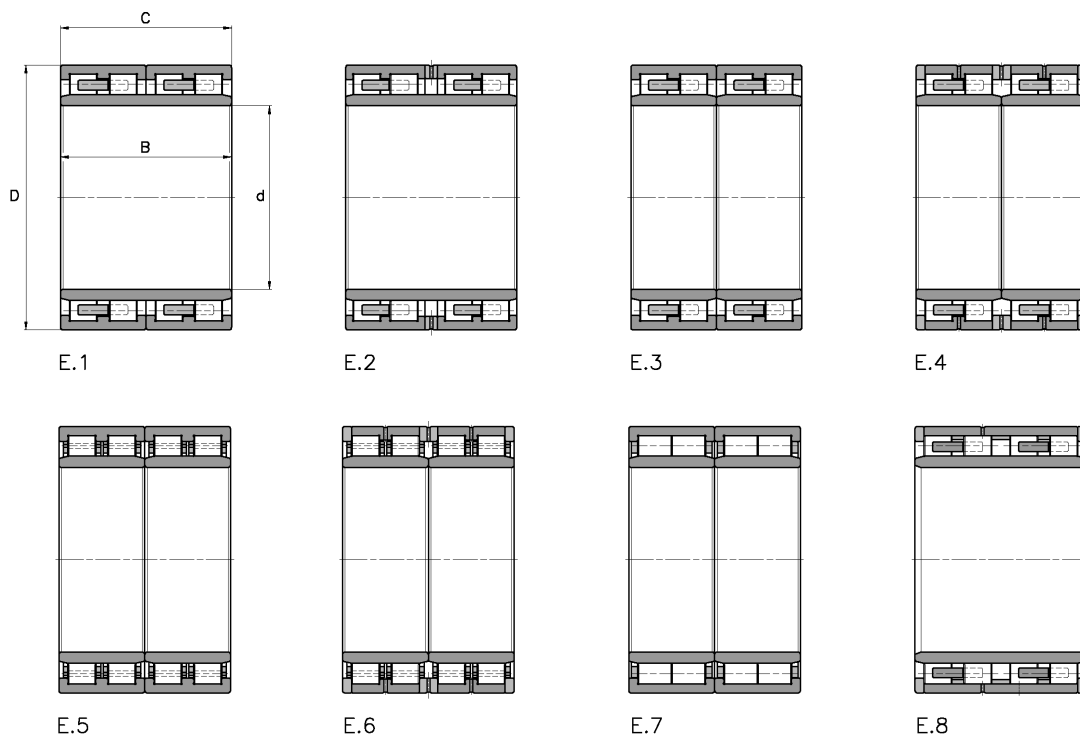
Four-row and six-row cylindrical roller bearings are generally used on the neck of milling cylinders, of calenders and of cylinder presses. They are particularly suitable on high speed steel mills.

Thanks to the high quantity of rolling raceways, the radial load capacity is extremely high.

The MULTIROW tolerate only radial load for this reason are mounted in combination with types able to support axial loads.

Four-row and six-row cylindrical roller bearings are dismountable, that is to say, the outer ring and the cages form a unique body named "R" and can be fixed independently from the inner ring.

DISTITEC S.R.L. MULTIROW are produced with a cylindrical hole, but some of them are available with tapered hole.



Given the wide variety of executions (top only some of the many) and sizes, will be displayed in tab only the min and max limits sizes bearing constructible.

For a complete and detailed view please refer to the technical catalog specifically related to the bearings in question

Production range	d	D	B	C
	[mm]			
Minimum size	105	150	71	71
Maximum size	1400	1900	1360	1360



- 1 – Outer ring
- 2 – Inner ring
- 3 – Cylindrical roller
- 4 – FKM O-Ring

Pressure rolls have the following technical characteristics:

The **outer** and **inner rings** are usually made of 100CrMo7 (UNI 3097) hardened steel, steel with the best resistance to wear due to fatigue.

The **outer ring**, of great thickness, has three integral edges. It also has a very wear-resistant diametrical outer surface.

The **inner ring** is in two parts, each equipped with an integral flange, designed to withstand the strong axial loads that accompany radial loads.

Some executions provide for the bainitic hardening heat treatment in cases where the application is particularly subjected to shocks.

The suffixes to be added in this case are:

- BH1 - Bainitic hardening for both rings;
- BH2 - Bainitic hardening only for the outer ring.

Some executions require the use of 18NiCrMo5 (UNI 7846) case hardening steel.

The surface hardness that can be achieved for these parts is 60 + 2 HRC.

These bearings, normally working in the presence of high temperatures, are always subjected to stabilization treatment for use up to 250 °C.

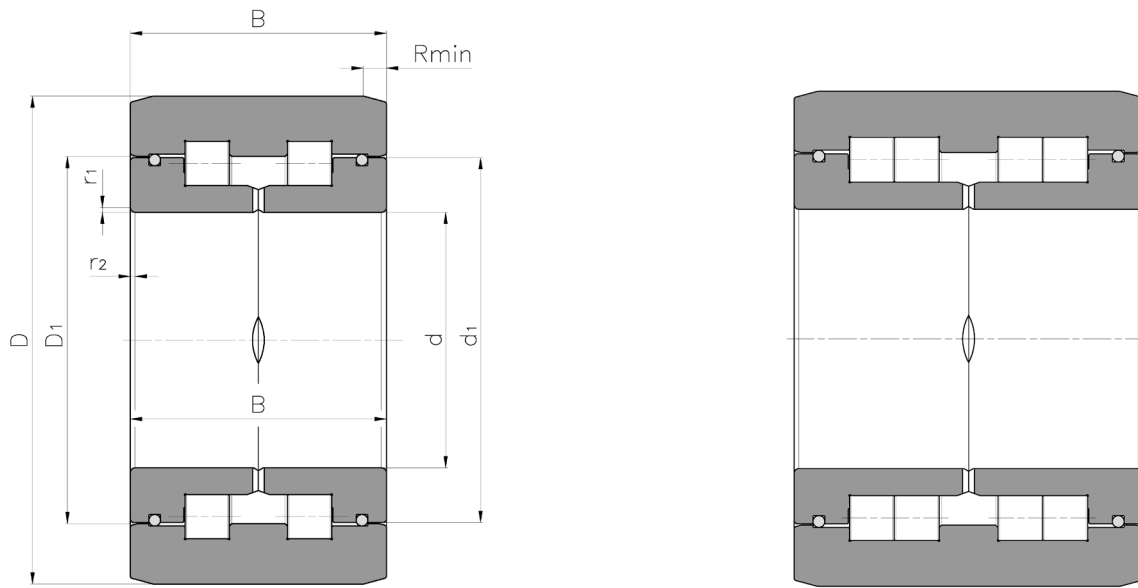
The **O-rings** (FKM), inserted in a special groove of the inner ring edges, make the bearing non-separable and prevent the contamination from the outside and the leakage of the lubricant. The material allows it to be used up to 250 °C.



The **pressure rollers** basically derive from full complement double row cylindrical roller bearings. In some cases, they can be four-row, full complement cylindrical rollers

Originally, the pressure rollers were designed to be used on the continuous furnaces of sintering and pelletizing plants.

These units, ready for assembly, are also suitable for all applications where high loads are present and the direction of rotation often reverses, or in applications where there are low speeds.



	d	d1	D	D1	B	r1,r2 min	R min	C	C0	Cw	C0w	Weight
	[mm]							[kN]				[Kg]
DSRP 1000	110	157	210	158	110	2	10x15°	402	610	255	325	20
DSRP 1001	120	157	158	210	114	4	10x15°	550	915	330	455	19
DSRP 1002	140	187	250	188	114	3	13,5x17°	825	1400	512	750	25
DSRP 1003	140	187	280	188	114	3	13,5x15°	915	1460	671	1000	34
DSRP 1004	160	195	250	197	140	3	13,5x17°	2100	4400	1100	1830	26

C = Radial dynamic load rating

C0 = Radial static load rating

Cw= Radial dynamic load rating as a roller

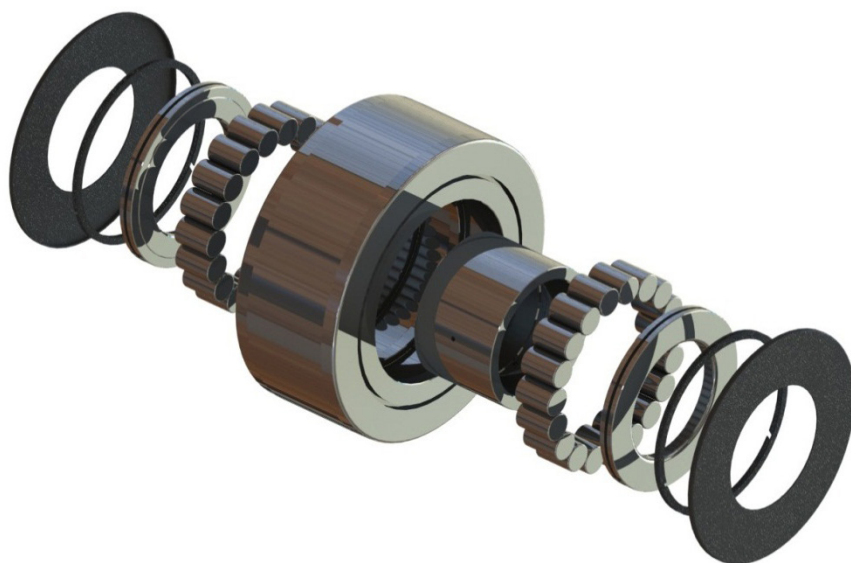
C0w= Radial static load rating as a roller

## SUFFIX

BH1 = Bainitic hardening on inner and outer ring

BH2 = Bainitic hardening on outer ring

For any further request or technical information, please consult our technical department



- 1 – Outer ring
- 2 – Inner ring
- 3 – Support thrust ring
- 4 – Cylindrical roller
- 5 – FEY seal ring
- 6 – Steel shield

Generally the cylindrical rollers bearings have the following technical characteristics:

The **outer ring** is usually manufactured in case-hardening steel 16NiCr4/ 20CrMo (UNI 7846) steel for low capacities and 18NiCrMo5 (UNI 7846) for high capacities. These steels can reach hardness degree of 60-2 HRc.

The profile of the outer ring is available in three different executions:

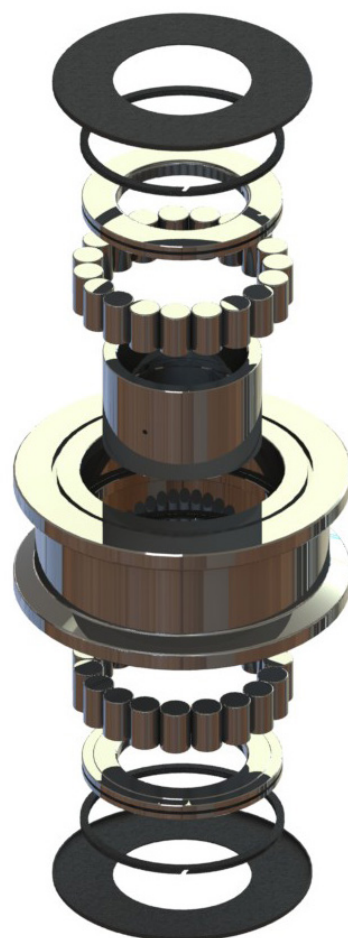
- 1) Ring with outer surface without borders
- 2) Ring with one guide border on the outer surface
- 3) Ring with double guide border on the outer surface

The **inner ring** is manufactured in hardening and tempering steel 100Cr6 (UNI 3097) and can reaches hardness degree of 60+2 HRc.

Grease **internal lubrication** is made through a groove and holes in the inner ring surface.

The **protection system** can be made with steel shields or with elastic layered steel rings.

Considering the application of the cylindrical rollers, we can supply execution with radial clearance C3 or C4 and stabilizing heat treatment up to 250°, on request

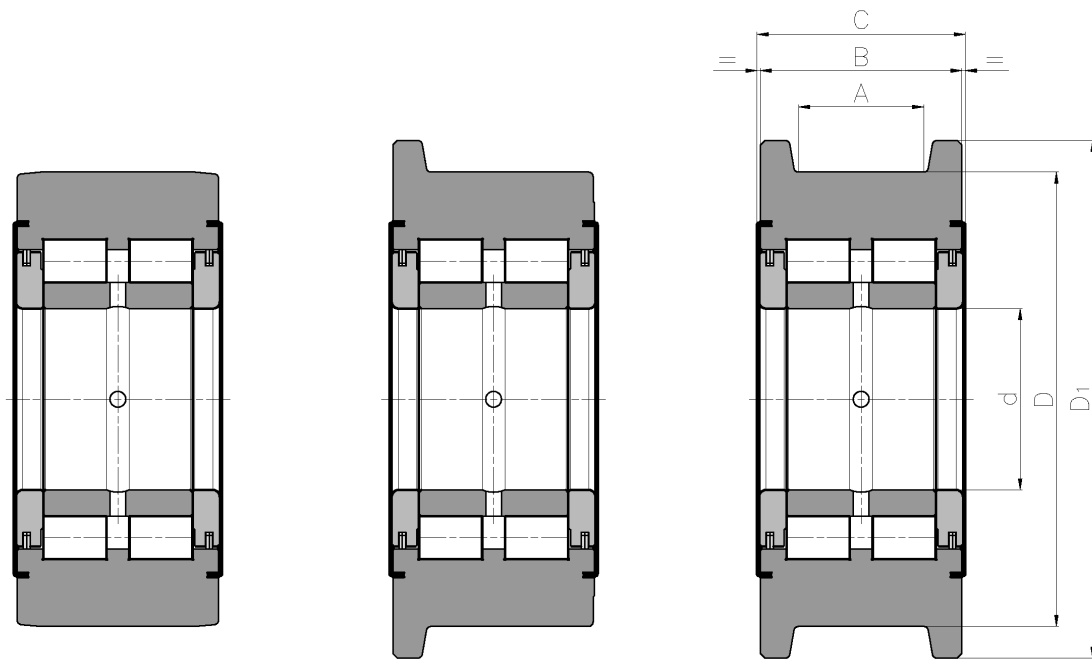


DISTITEC Full-complement cylindrical rollers for conveyor belts, are manufactured with a different profile of the outer ring.

They are mainly used as support bearings in conveyor belts for coils.

The Execution with cylindrical rollers is generally used with high radial loads, as this can absorb distortions and dilatations.

The entire borders obtained in the outer ring allow the absorption of average axial thrusts.



	d	D	D1	A	B	C	C	C0	V. max	Weight
	[mm]						[kN]		[rpm]	[Kg]
DSTRC 4200	50	125	140	40	60	65	130	135	1.100	4,85
DSTRC 4201	60	150	170	50	70	75	195	215	900	8,2
DSTRC 4202	70	165	190	55	75	80	230	245	700	10,6
DSTRC 4203	80	185	210	60	80	85	285	320	550	14
DSTRC 4204	100	215	250	65	85	90	355	410	400	19,4
DSTRC 4205	120	255	290	70	95	100	470	580	300	30,3

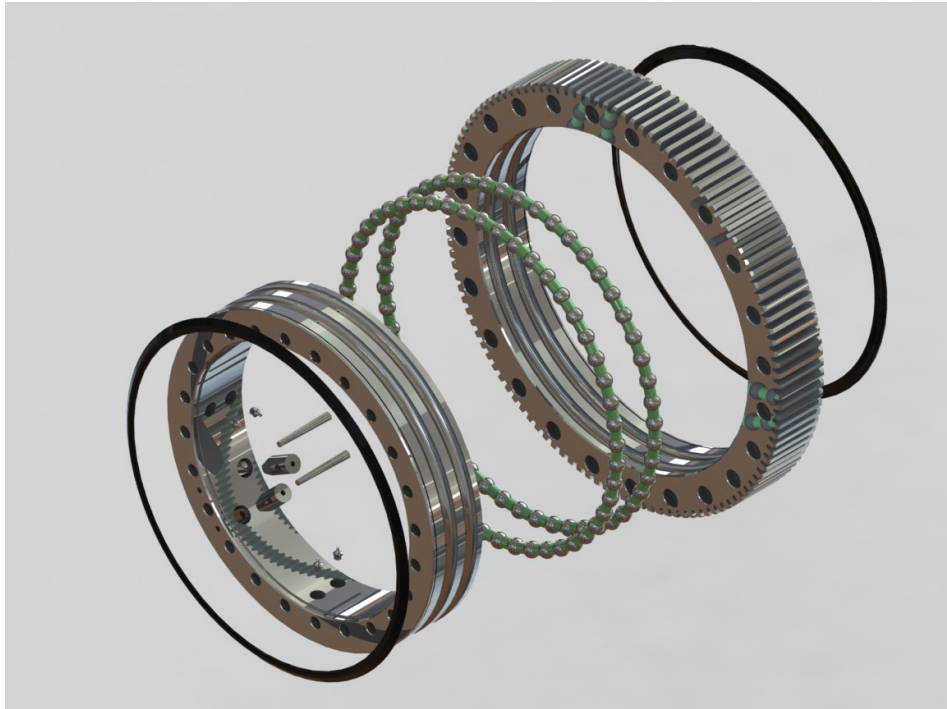
C = Radial dynamic load rating

C0 = Radial static load rating

All these bearings have the possibility of internal lubrication

For the right execution add suffix "A" or "B" or "C" to the standard code

For any further request or technical information, please consult our technical department



- 1 – Outer ring
- 2 – Inner ring
- 3 – Ball
- 4 – Distance ring
- 5 – Seal ring
- 6 – Bearing cup
- 7 – Taper pin
- 8 – Greasers

DISTITEC'S slewing rings have the following technical features:

**Outer and inner rings** made mainly of C45 carbon steel (UNI 7845) or 42CrMo4 alloy steel (UNI 7846), both in the initial reclaimed condition.

The use of a material or another depends on the required mechanical characteristics, including resistance and hardness, but also on technological factors.

The 42CrMo4 provides higher thickness of the hardened layer of the rolling tracks, and so higher bearing capacities.

The C45 (or equivalent) is the material in which most standard bearings with medium-small diameters are built; the 42CrMo4 is used for medium-large diameters as well as many special executions.

The induction hardening to which the sliding tracks are subject is necessary to increase the bearing capacity and to protect the tracks from plastification effects caused by the contact pressure with the rolling elements.

After this treatment the hardness of the sliding tracks of the rolling bodies can be as high as 62 HRc. The hardening thickness varies depending on the size and therefore on the loads to bear.

#### **Rolling elements:**

the balls, built according to DIN 5401, are used for bearings with four contact points, whereas the cylindrical rollers, built according to DIN 5402, are used for crossed roller bearings. Both are made in 100Cr6 core hardening steel (UNI 3097). The hardness of these elements reaches 64 HRc.

#### **The spacers:**

are made in materials with high mechanical characteristics such as Nylon or P.T.F.E. (Teflon). They are used to keep the rolling elements separate, thus avoiding the contact between them.

Distance rings may not be included in applications where the accepted loads of the slewing ring must be high.

The seal rings or **O-rings** are produced in NBR nitrile elastomer. The seal rings prevent the introduction of dirt, dust and humidity. The proper lubrication increases the effectiveness of the seal.



**Grease:** the slewing rings are supplied with the initial lubrication of the ball or roller sliding track. The use and maintenance manual we provide with the products gives information about the specific grease used as well as the instructions for the proper periodic lubrication.

**Greasers:** Distitec's slewing rings are supplied with the dedicated greasers, located in the housings along the diameter where the toothing is not present, or where required by the client in case of special executions.

**Straight tooth cylindrical toothing** (see photo): this toothing is executed in compliance with all the relevant technical requirements.

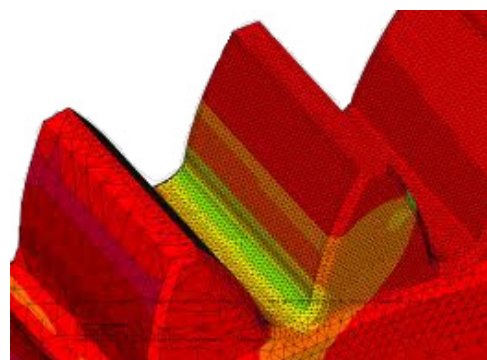
The parameters related to the toothing are marked on the drawing released by Distitec. In order to enable the correct execution of the pinion that will mesh with the toothing.

The standard surface hardness of the reclaimed material being used can be as high as 30 HRc (42CrMo4); this hardness value may not always be acceptable to preserve the toothing life in some applications.

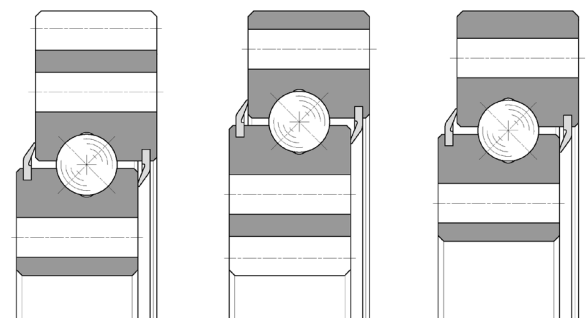
It may be advisable to execute the induction hardening treatment on the toothing too in the presence of some conditions, such as a high rotational torque which generates high strain and friction on the tooth, high rotational speed, unfavorable environmental conditions with presence of dust or other abrasive elements, or the need to extend the life cycle of the slewing ring as much as possible.

The treatment can be executed only on the side or on the side and the bottom of the tooth, according to the loads and the application type. The maximum surface hardness that can be reached is 60 HRc.

For more detailed information about tolerances, normal or reduced clearances, surface treatments etc, please refer to the dedicated catalogue of slewing rings or contact our technical department.

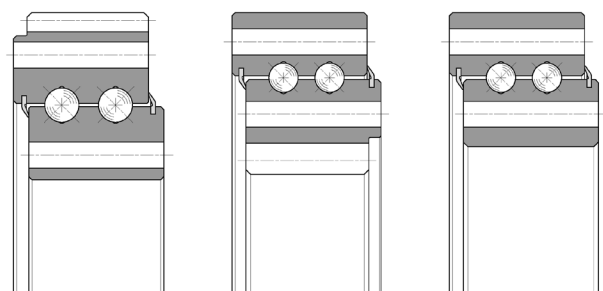


## FULL SECTION SLEWING RINGS, SINGLE-ROW OF BALLS



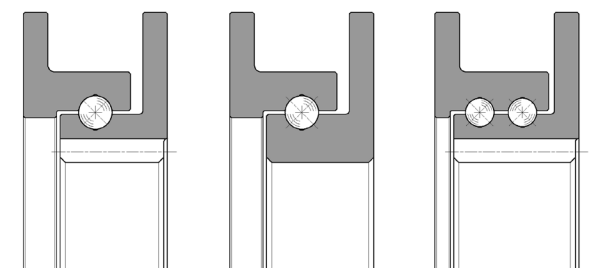
Production range	Inner diameter	Outer diameter mm	Thickness	Module n°
Minimum size	289	456	59	5
Maximum size	6442	7027,2	221	16

## FULL SECTION SLEWING RINGS, DOUBLE-ROW OF BALLS



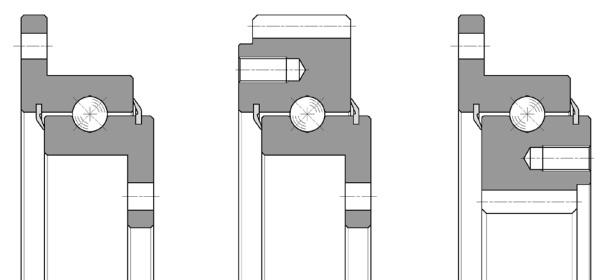
Production range	Inner diameter	Outer diameter mm	Thickness	Module n°
Minimum size	224	432	92	5
Maximum size	1779	2178	156	15

## FLANGED SLEWING RINGS WITH BALLS



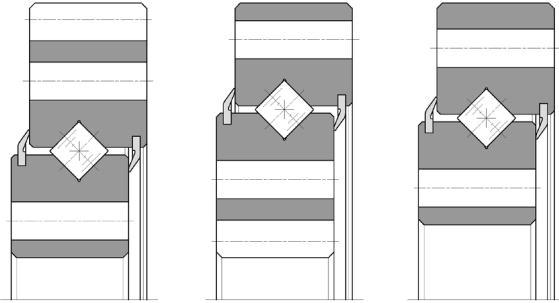
Production range	Inner diameter	Outer diameter mm	Thickness	Module n°
Minimum size	233	401	36	5
Maximum size	1310	1598	90	10

## FLANGED / FULL SECTION SLEWING RINGS WITH BALLS



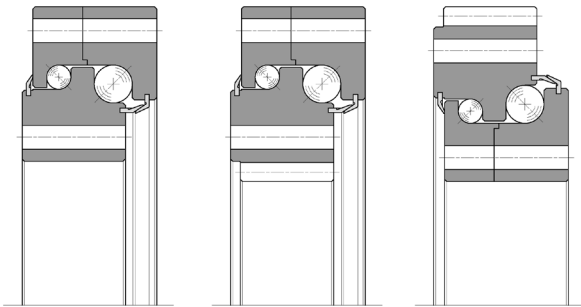
Production range	Inner diameter	Outer diameter mm	Thickness	modulo n°
Minimum size	233	401	36	5
Maximum size	1310	1598	90	10

## CROSSED ROLLER SLEWING RINGS



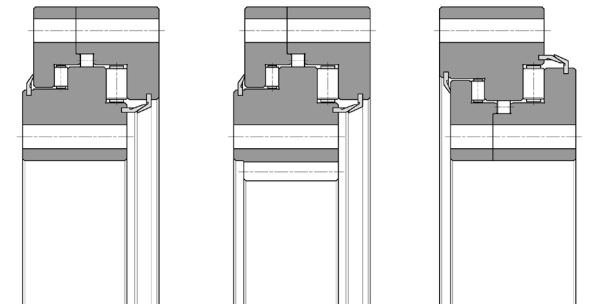
Production range	Inner diameter	Outer diameter mm	Thickness	Module n°
Minimum size	304	475	55	4
Maximum size	2809	3296	130	20

## SLEWING RINGS, DOUBLE ROW OF BALLS



Production range	Inner diameter	Outer diameter mm	Thickness	Module n°
Minimum size	679	863	77	6
Maximum size	3970	4500	187	20

## SLEWING RINGS WITH THREE ROW OF CYLINDRICAL ROLLER



Production range	Inner diameter	Outer diameter mm	Thickness	Module n°
Minimum size	1032	1397	132	12
Maximum size	6470	7147	268	24

## SPECIAL EXECUTIONS

The large number of machines at our disposal allow us to produce slewing rings with any kind of technical characteristics, even the most particular.