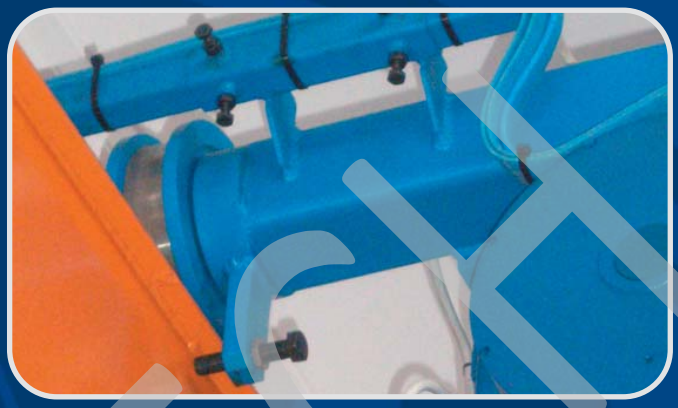
TRACK**ROLLERS**

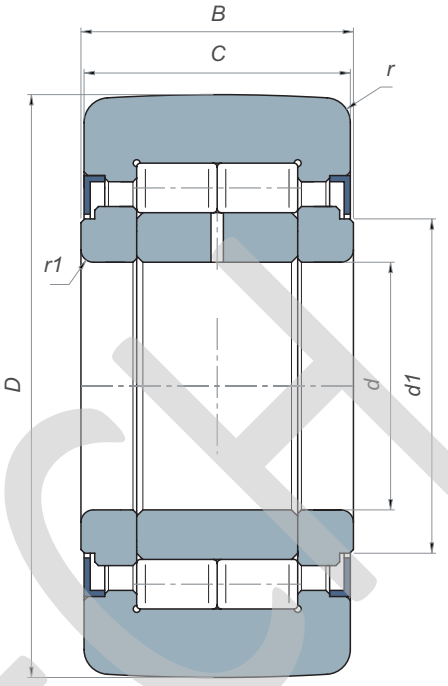
FISATECH



FISATECH

NUTR
TRACK ROLLERS

The main characteristic of this series of rollers is the high thickness of the outer ring, which is suitable to bear high specific pressures and the thrusts deriving form the use of these bearings as pressure rollers, cam followers, conveyor belt rollers, bearings for fork lift masts.



C.R. SPECIAL PROFILE

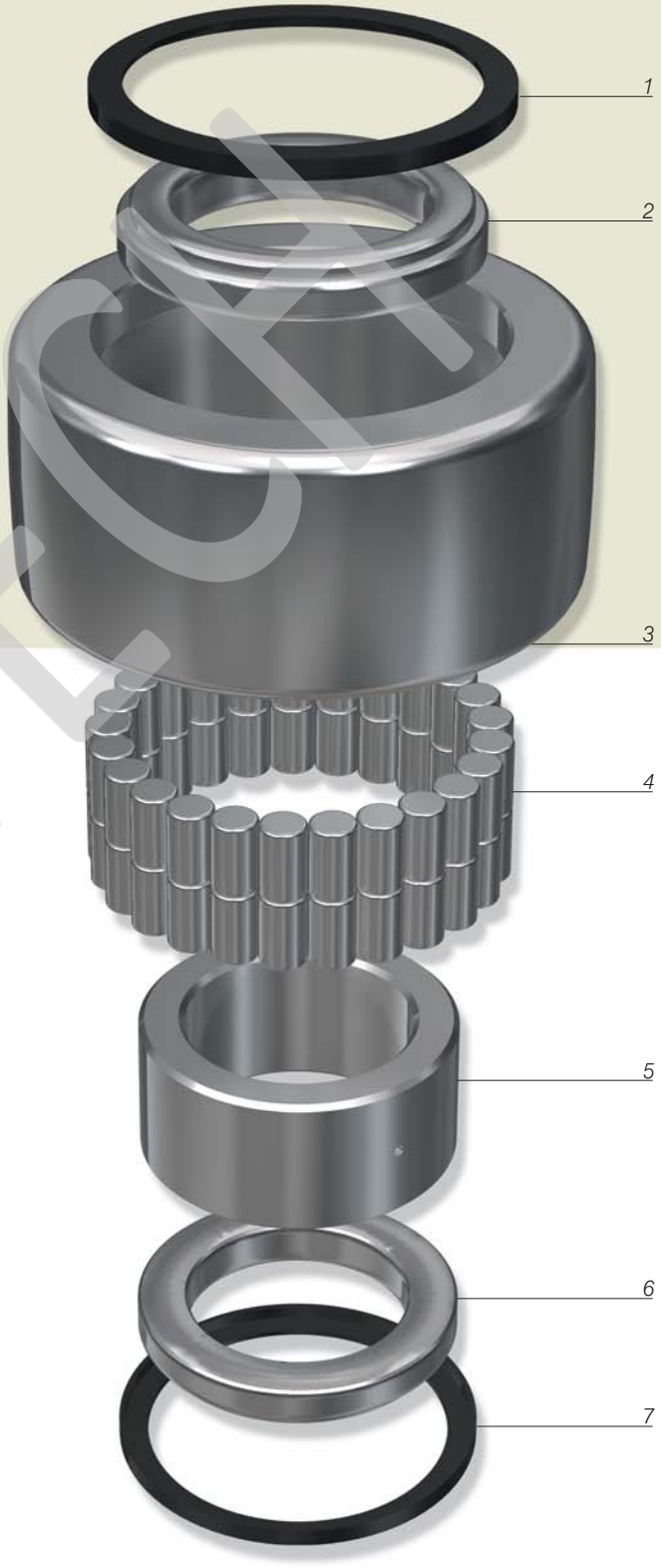
ref.	d	D	B	C	d_1	r min.	r_1 min.	C_w	C_{OW}	Max speed
	mm	mm	mm	mm	mm	mm	mm	KN	KN	RPM min^{-1}
NUTR 15	15	35	19	18	20	0,6	0,3	15	16,8	6500
NUTR 17	17	40	21	20	22	1	0,5	18,4	22,6	5500
NUTR 15 42	15	42	19	18	20	0,6	0,3	18,1	21,9	6500
NUTR 17 47	17	47	21	20	22	1	0,5	21,3	28	5500
NUTR 20	20	47	25	24	27	1	0,5	28	35	4200
NUTR 20 52	20	52	25	24	27	1	0,5	31,5	41	4200
NUTR 25	25	52	25	24	31	1	0,5	29	37,5	3400
NUTR 25 62	25	62	25	24	31	1	0,5	35,5	50	3400
NUTR 30	30	62	29	28	38	1	0,5	40	50	2600
NUTR 30 72	30	72	29	28	38	1	0,5	47,5	64	2600
NUTR 35	35	72	29	28	44	1,1	0,6	44,5	60	2100
NUTR 35 80	35	80	29	28	44	1,1	0,6	51	72	2100
NUTR 40	40	80	32	30	51	1,1	0,6	55	75	1600
NUTR 45	45	85	32	30	55	1,1	0,6	56	78	1400
NUTR 40 90	40	90	32	30	51	1,1	0,6	66	95	1600
NUTR 50	50	90	32	30	60	1,1	0,6	57	81	1300
NUTR 45 100	45	100	32	30	55	1,1	0,6	71	107	1400
NUTR 50 110	50	110	32	30	60	1,1	0,6	76	120	1300

C_w Dynamic load C_{OW} Static load

FISATECH

NUTR
TRACK ROLLERS

1. SEAL SHEET
2. SUPPORT THRUST RING
3. OUTER RING
4. CYLINDRICAL ROLLERS
5. INNER RING
6. SUPPORT THRUST RING
7. SEAL SHEET



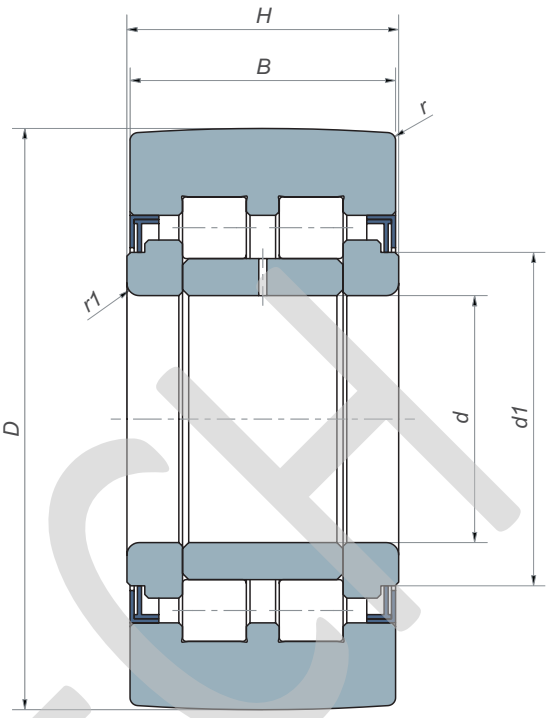
Other important features of these bearings are:

- Outer ring with double border of the rollers obtained entirely and accurately grinded to allow the roller to bear loads with axial components. The ring is usually cambered on the outer part, in order to improve working condition with heavy loads and to prevent the concentration of load onto side bands of the raceway. On request, can supply rollers with cylindrical outer surface.
- Inner ring with holes and channels for the inflow of lubricants.
- Grinded thrust rings, which form a labyrinth protection system, along with steel sealing sheets forced on the outer ring. One of the lateral thrust rings can be a closed thrust ring, to allow the fixing of the rollers at the edge of the shaft.
- Full-complement of grinded flat head rollers.
- Tolerance of execution according to normal class, possibility of special execution according to class P5 (DIN 620).

FISATECH

PWTR TRACK ROLLERS

The main characteristic of this series of rollers is the high thickness of outer ring, which is suitable to bear high specific pressures and the impacts deriving form the use of these bearings as pressure rollers, cam followers, conveyor belt rollers, bearings for fork lift masts.
It differs from NUTR series as far as the characteristics of the seals are concerned, as they are of ZRS type (steel and rubber).



C.R. SPECIAL PROFILE

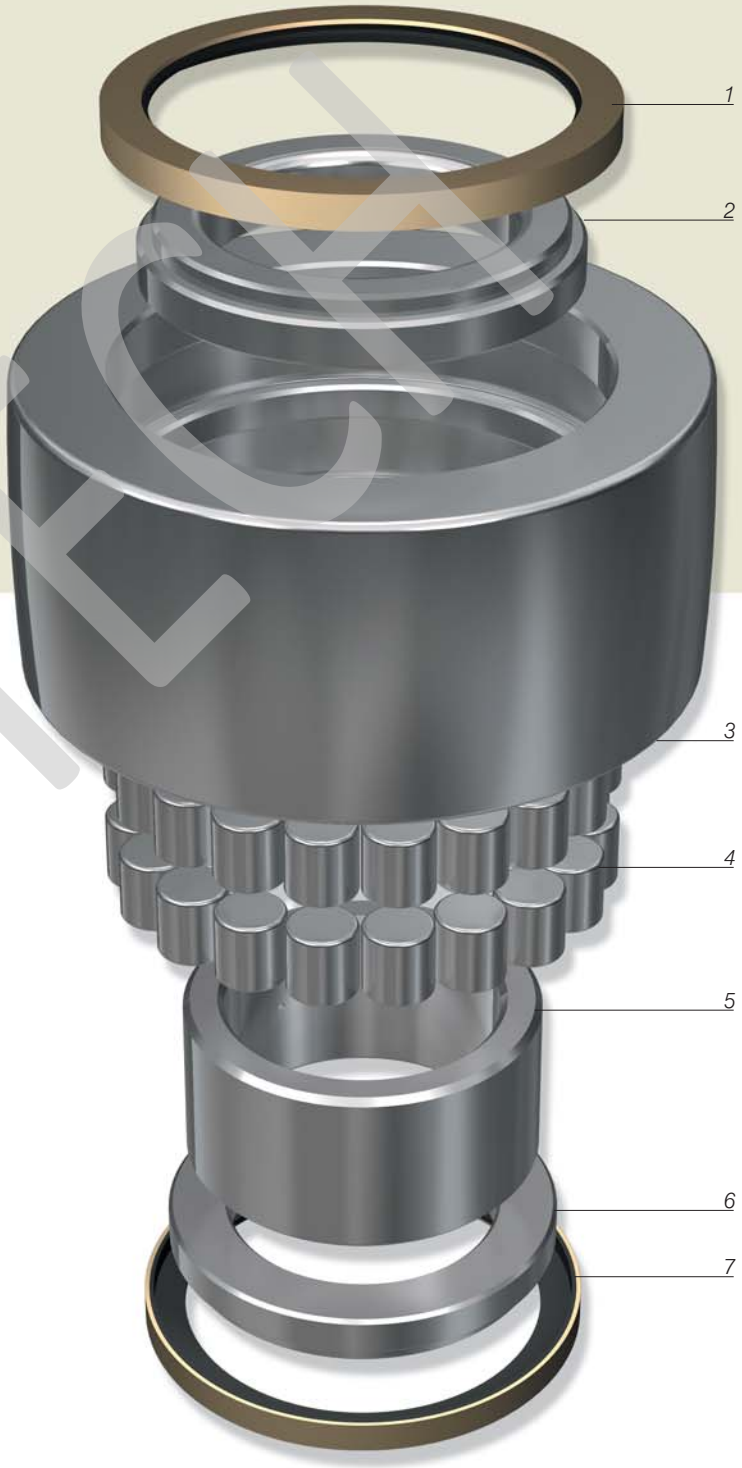
ref.	d	D	B	C	d_1	r min.	r_1 min.	C_w	C_{OW}	Max speed
	mm	mm	mm	mm	mm	mm	mm	KN	KN	RPM min^{-1}
PWTR 15 2RS	15	35	19	18	20	0,6	0,3	11,6	11,3	6000
PWTR 17 2RS	17	40	21	20	22	1	0,5	13,2	13,8	5000
PWTR 15 42 2RS	15	42	19	18	20	0,6	0,3	13,5	14,1	6000
PWTR 17 47 2RS	17	47	21	20	22	1	0,5	14,8	16,4	5000
PWTR 20 2RS	20	47	25	24	27	1	0,5	23,2	25,5	3800
PWTR 20 52 2RS	20	52	25	24	27	1	0,5	25,5	29,5	3800
PWTR 25 2RS	25	52	25	24	31	1	0,5	24,2	28	3800
PWTR 25 62 2RS	25	62	25	24	31	1	0,5	29	36	3800
PWTR 30 2RS	30	62	29	28	38	1	0,5	35	39,5	2200
PWTR 30 72 2RS	30	72	29	28	38	1	0,5	41	49	2200
PWTR 35 2RS	35	72	29	28	44	1,1	0,6	38,5	46,5	1800
PWTR 35 80 2RS	35	80	29	28	44	1,1	0,6	43,5	55	1800
PWTR 40 2RS	40	80	32	30	51	1,1	0,6	44,5	53	1500
PWTR 45 2RS	45	85	32	30	55	1,1	0,6	45	55	1300
PWTR 40 90 2RS	40	90	32	30	51	1,1	0,6	52	66	1500
PWTR 50 2RS	50	90	32	30	60	1,1	0,6	45,5	57	1100
PWTR 45 100 2RS	45	100	32	30	55	1,1	0,6	56	74	1300
PWTR 50 110 2RS	50	110	32	30	60	1,1	0,6	59	82	1100

C_w Dynamic load C_{OW} Static load

FISATECH

PWTR
TRACK ROLLERS

1. *ZRS SEAL RING*
2. *SUPPORT THRUST RING*
3. *OUTER RING*
4. *CYLINDRICAL ROLLERS*
5. *INNER RING*
6. *SUPPORT THRUST RING*
7. *ZRS SEAL RING*



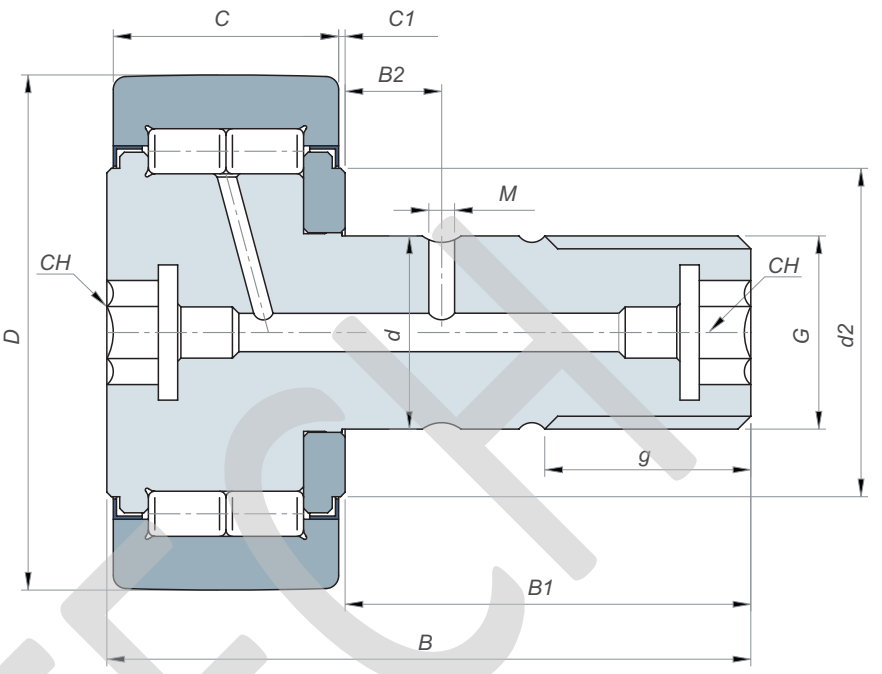
Other important features of these bearings are:

- Outer ring with double border of rollers obtained entirely on the outer ring and accurately grinded in order to allow the roller to bear loads with axial components. Usually, the ring is cambered on the outer part, in order to improve working condition with heavy loads and to prevent the concentration of load onto side bands of the raceway. On request, rollers with cylindrical outer surface can be supplied.
- Inner ring with holes and channels for the inflow of lubricants.
- Grinded thrust rings which, along with ZRS seals forced on the outer ring, guarantee an extremely efficient protection system. One of lateral thrust rings can be a closed thrust ring, to allow the fixing of the rollers at the edge of the shaft.
- Full-complement of grinded flat head cylindrical rollers.
- Tolerance of execution according to normal class, possibility of special execution according to class P5 (DIN 620).

FISATECH

NUKR
CAM FOLLOWERS

The main characteristic of this series of rollers is the high thickness of the outer ring, which is suitable to bear specific high pressures and the impacts that characterize the use of these bearings (ex. cam followers).



C.R. SPECIAL PROFILE

ref.	D	d (h7)	C	r min.	B	B1	B2	G	g	M	C1	d2	CH	Cw	COW	Max. speed	Nut locking couple
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	KN	KN	RPM min-1	Nm
NUKR 35	35	16	18	0,6	52	32,5	7,8	M16x1,5	17	3	0,8	20	8	15	16,8	6500	58
NUKR 40	40	18	20	1	58	36,5	8	M18x1,5	19	3	0,8	22	8	18,4	22,6	5500	87
NUKR 47	47	20	24	1	66	40,5	9	M20x1,5	21	4	0,8	27	10	28	35	4200	120
NUKR 52	52	20	24	1	66	40,5	9	M20x1,5	21	4	0,8	31	10	29	37,5	3400	120
NUKR 62	62	24	28	1	80	49,5	11	M24x1,5	25	4	1,3	38	14	40	50	2600	220
NUKR 72	72	24	28	1,1	80	49,5	11	M24x1,5	25	4	1,3	44	14	44,5	60	2100	220
NUKR 80	80	30	35	1,1	100	63	15	M30x1,5	32	4	1	47	14	69	98	1800	450
NUKR 90	90	30	35	1,1	100	63	15	M30x1,5	32	4	1	47	14	79	117	1800	450

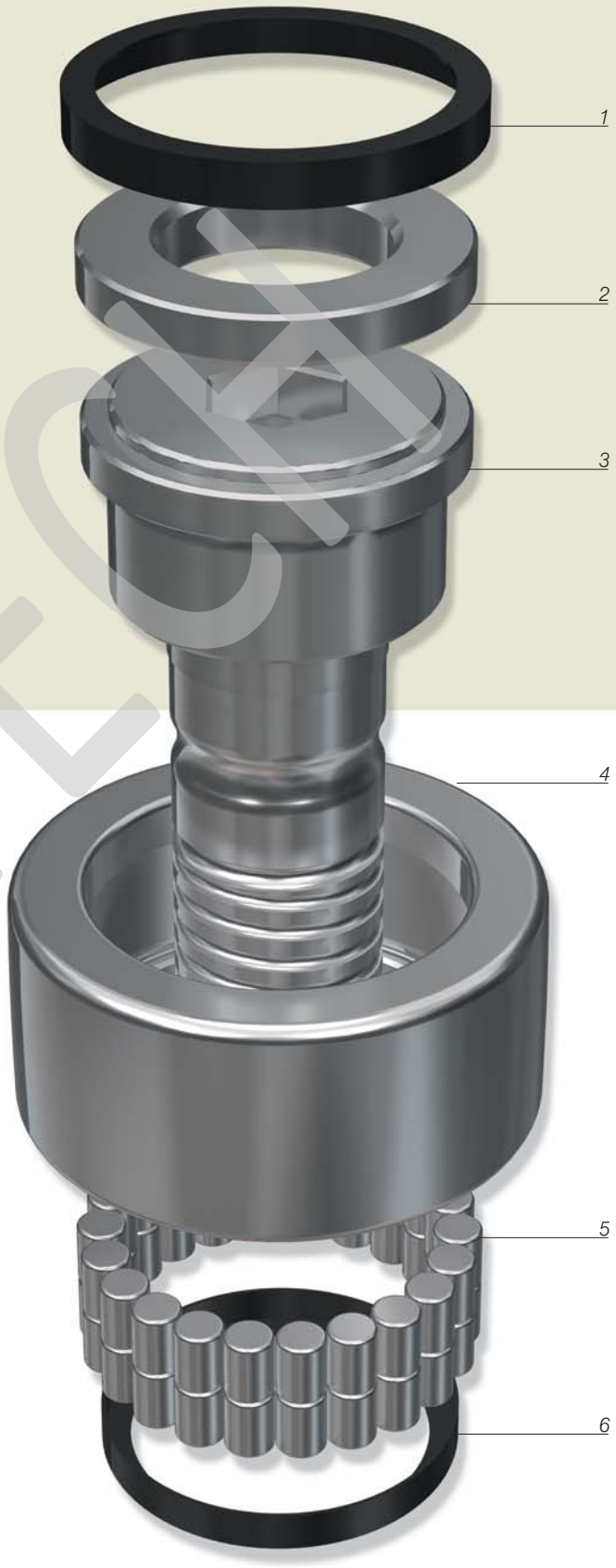
Pressure greaser	NIP A2x7,5	NUKR 35 - NUKR 40 - NUKR 47 - NUKR 52
	NIP A3x9,5	NUKR 62 - NUKR 72 - NUKR 80 - NUKR 90
Adaptor for central lubrication	AP8	NUKR 35 - NUKR 40
	AP10	NUKR 47 - NUKR 52
	AP14	NUKR 62 - NUKR 72 - NUKR 80 - NUKR 90

Cw Dynamic load COW Static load

FISATECH

NUKR
CAM FOLLOWERS

1. SEAL SHEET
2. SUPPORT THRUST RING
3. PIVOT
4. OUTER RING
5. CYLINDRICAL ROLLERS
6. SEAL SHEET



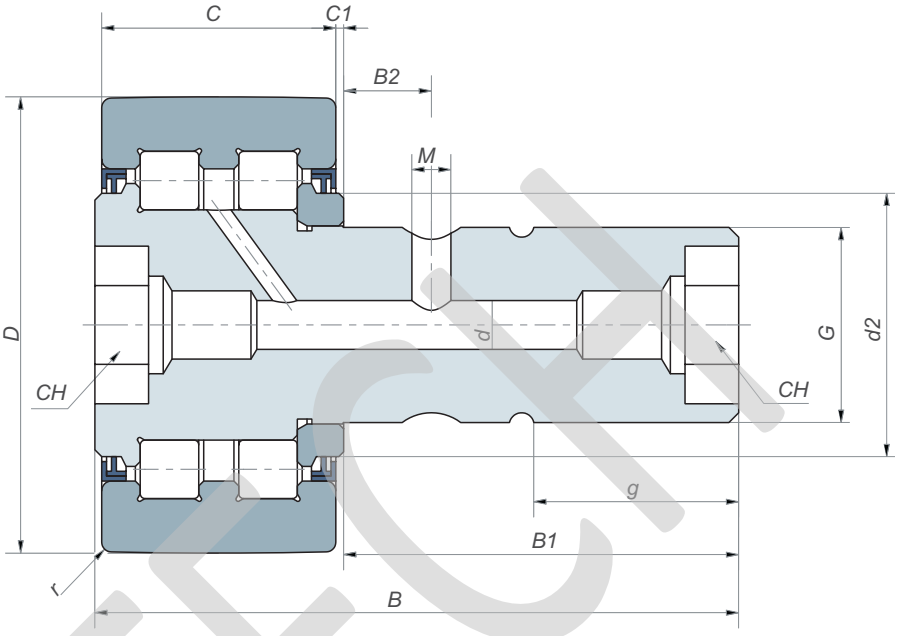
Other important features of these bearings are:

- Outer ring with double border of the rollers obtained entirely on the outer ring and accurately grinded to allow the roller to bear loads with axial components. The ring is usually cambered on the outer part, in order to improve working condition with heavy loads and to prevent the concentration of load onto side bands of the raceway. Rollers with cylindrical outer surface can be supplied on request.
- Pivot with threaded shank, one guide border of rollers obtained entirely and tempered rolling raceway. On the front part, a seat for hexagon wrench or for corkscrew (on request) can be foreseen.
- Sealing steel sheets forced on the outer diameter to form a safe labyrinth protection system.
- Full complement of grinded flat-head cylindrical rollers.
- Lubrication channels and holes in the pivot.
- Tolerance of execution according to normal class, possibility of special execution according to class P5 (DIN 620).

FISATECH

PWKR
CAM FOLLOWERS

The main characteristic of this series of rollers is the high thickness of the outer ring, which is suitable to bear specific high pressures and the impacts that characterize the use of these bearings (ex. cam followers).
It differs from NUKR series as far as the characteristics of the seals are concerned, as they are of ZRS type (steel and rubber). Furthermore, a chamber for the lubrication grease is foreseen between the rolling raceways of the outer ring.



C.R. SPECIAL PROFILE

ref.	D	d h7	C	r min.	B	B_1	B_2	G	g	M	C1	d2	CH	C_w	C_{OW}	Max. speed	Nut locking couple
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	KN	KN	RPM min^{-1}	Nm
PWKR 35 2RS	35	16	18	0,6	52	32,5	7,8	M16x1,5	17	3	0,8	20	8	11,6	11,3	6000	58
PWKR 40 2RS	40	18	20	1	58	36,5	8	M18x1,5	19	3	0,8	22	8	13,2	13,8	5000	87
PWKR 47 2RS	47	20	24	1	66	40,5	9	M20x1,5	21	4	0,8	27	10	23,2	25,5	3800	120
PWKR 52 2RS	52	20	24	1	66	40,5	9	M20x1,5	21	4	0,8	31	10	24,2	28	3800	120
PWKR 62 2RS	62	24	28	1	80	49,5	11	M24x1,5	25	4	1,3	38	14	35	39,5	2200	220
PWKR 72 2RS	72	24	28	1,1	80	49,5	11	M24x1,5	25	4	1,3	44	14	38,5	46,5	2200	220
PWKR 80 2RS	80	30	35	1,1	100	63	15	M30x1,5	32	4	1	47	14	56	70	1800	450
PWKR 90 2RS	90	30	35	1,1	100	63	15	M30x1,5	32	4	1	47	14	63	82	1800	450

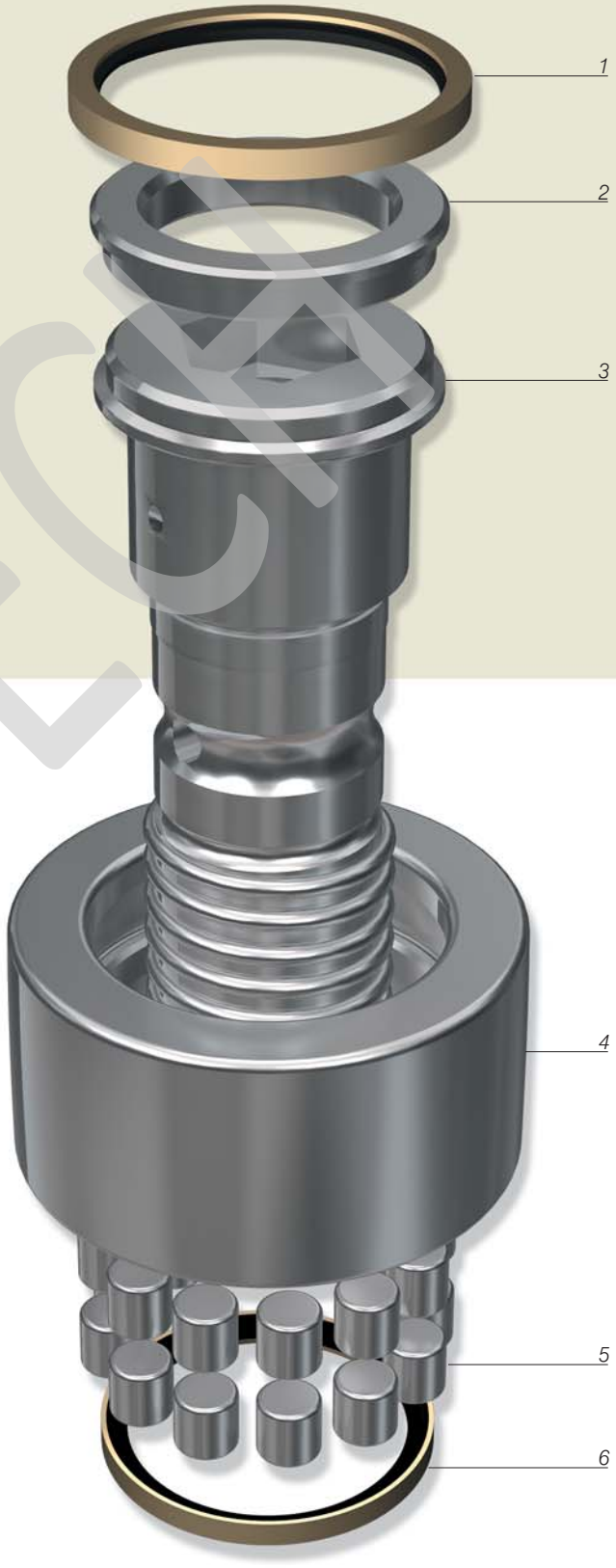
Pressure greaser	NIP A2x7,5	PWKR 35 2RS - PWKR 40 2RS - PWKR 47 2RS - PWKR 52 2RS
	NIP A3x9,5	PWKR 62 2RS - PWKR 72 2RS - PWKR 80 2RS - PWKR 90 2RS
Adaptor for central lubrication	AP8	PWKR 35 2RS - PWKR 40 2RS
	AP10	PWKR 47 2RS - PWKR 52 2RS
	AP14	PWKR 62 2RS - PWKR 72 2RS - PWKR 80 2RS - PWKR 90 2RS

C_w Dynamic load C_{OW} Static load

FISATECH

PWKR
CAM FOLLOWERS

1. *ZRS SEAL RING*
2. *SUPPORT THRUST RING*
3. *PIVOT*
4. *OUTER RING*
5. *CYLINDRICAL ROLLERS*
6. *ZRS SEAL RING*



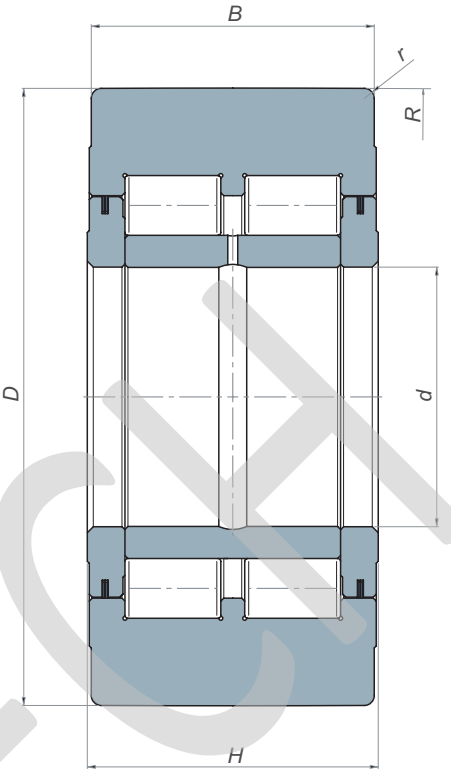
Other important features of these bearings are:

- Outer ring with double border of the rollers obtained entirely and accurately grinded to allow the roller to bear loads with axial components. The ring is usually cambered on the outer part, in order to improve working condition with heavy loads and to prevent the concentration of load onto side bands of the raceway. On request, can supply rollers with cylindrical outer surface.
- Pivot with threaded shank, one guide border of rollers obtained entirely and tempered rolling raceway. On the front part, a seat for hexagon wrench or for corkscrew (on request) are foreseen.
- The ZRS seals forced on the outer ring guarantee an extremely efficient protection system.
- Full complement of grinded flat head cylindrical rollers.
- Lubrication channels and holes in the pivot.
- Tolerance of execution according to normal class, possibility of special execution according to class P5 (DIN 620).

FISATECH

RSU TRACK ROLLERS

The main characteristic of this series of rollers is the high thickness of outer ring, which is suitable to bear high specific pressures and the impacts deriving from the use of these bearings as pressure rollers, cam followers, conveyor belt rollers, bearings for fork lift masts.



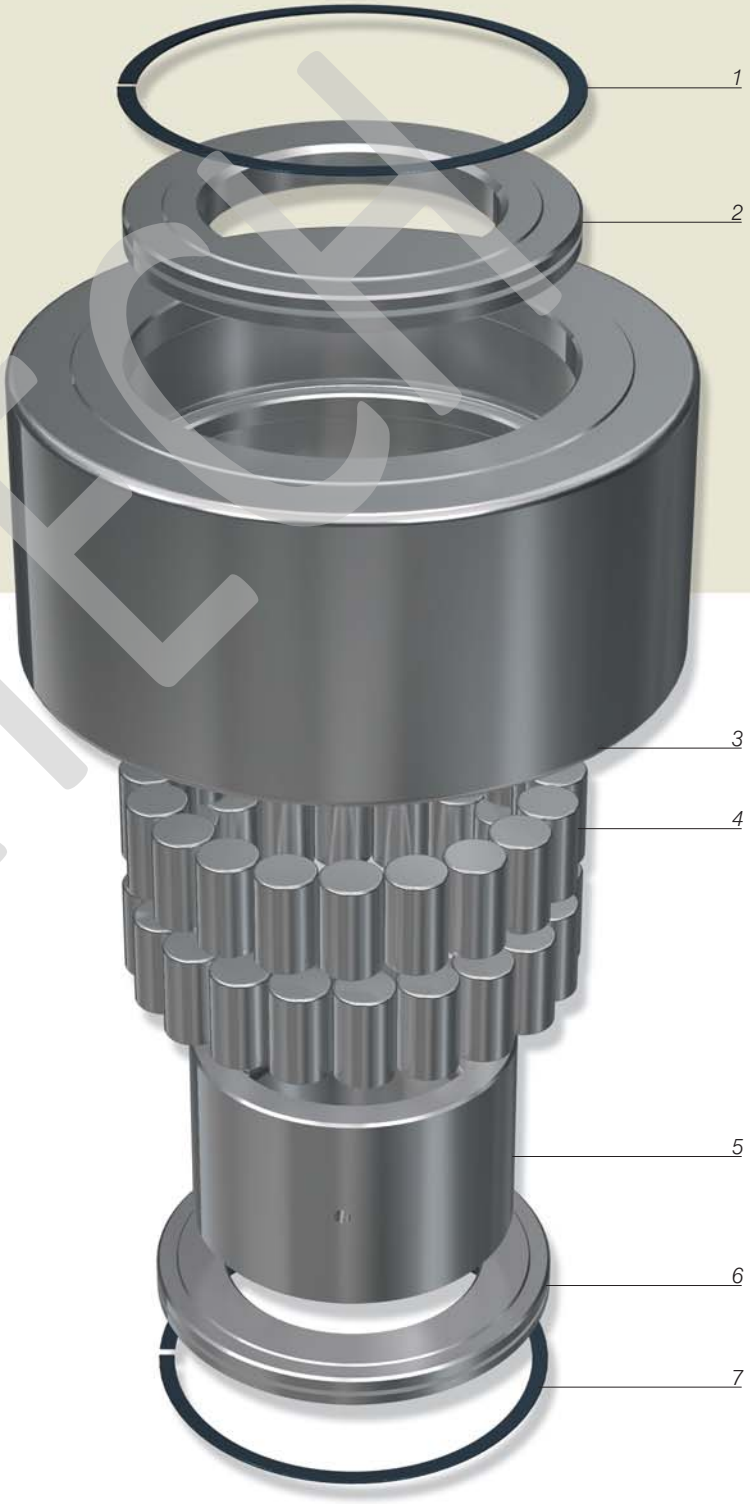
ref.	d	D	B	H	R	r	C_w	C_{OW}	Max. speed
	mm	mm	mm	mm	mm	mm	KN	KN	RPM min^{-1}
RSU 55-120	55	120	40	43	10.000	2	128	195	1.000
RSU 50-130	50	130	63	65	10.000	3	192	250	1.100
RSU 55-140	55	140	68	70	10.000	3	223	300	850
RSU 60-150	60	150	73	75	10.000	3	255	350	800
RSU 65-160	65	160	73	75	10.000	3	275	370	700
RSU 70-180	70	180	83	85	10.000	3	350	490	600
RSU 80-200	80	200	88	90	10.000	4	410	580	500
RSU 90-220	90	220	98	100	10.000	4	495	720	400
RSU 100-240	100	240	103	105	10.000	4	560	830	340
RSU 110-260	110	260	113	115	10.000	4	670	1020	300
RSU 120-290	120	290	133	135	15.000	4	890	1370	260
RSU 130-310	130	310	144	146	15.000	5	1020	1600	240
RSU 140-340	140	340	160	162	15.000	5	1215	1950	200
RSU 150-360	150	360	171	173	15.000	5	1360	2210	180

C_w Dynamic load C_{OW} Static load

FISATECH

RSU
TRACK **ROLLERS**

1. *FEY SEAL RING*
2. *SUPPORT THRUST RING*
3. *OUTER RING*
4. *CYLINDRICAL ROLLERS*
5. *INNER RING*
6. *SUPPORT THRUST RING*
7. *FEY SEAL RING*



Other important features of these bearings are:

- Outer ring with double border of the rollers obtained entirely on the outer ring and accurately grinded in order to allow the roller to bear loads with axial components. The ring is usually cambered on the outer part, in order to improve working condition with heavy loads and to prevent the concentration of load onto side bands of the raceway. On request, can supply rollers with cylindrical outer surface.
- Inner ring with holes and channels for the inflow of lubricants.
- Grinded thrust rings, which form a labyrinth protection system, along with steel sealing sheets forced on the outer ring. One of lateral thrust rings can be a closed thrust ring, to allow the fixing of the rollers at the edge of the shaft.
- Full-complement of grinded flat-head rollers.
- Tolerance of execution according to normal class, possibility of special execution according to class P5 (DIN 620).

FISATECH

NEEDLE **BEARINGS** WITH ENTIRE **BORDERS**

Massive needle bearings with entire borders obtained on the outer ring form a unique body that cannot be disassembled, as the outer ring, the cages and the needle rollers cannot be disassembled.

These bearings have very small dimensions but a great load capacity.
The bearings are available with inner ring or without inner ring.

Needle bearings without inner ring are used in plants whose project foresees a grinded and tempered shaft that acts as rolling raceway.

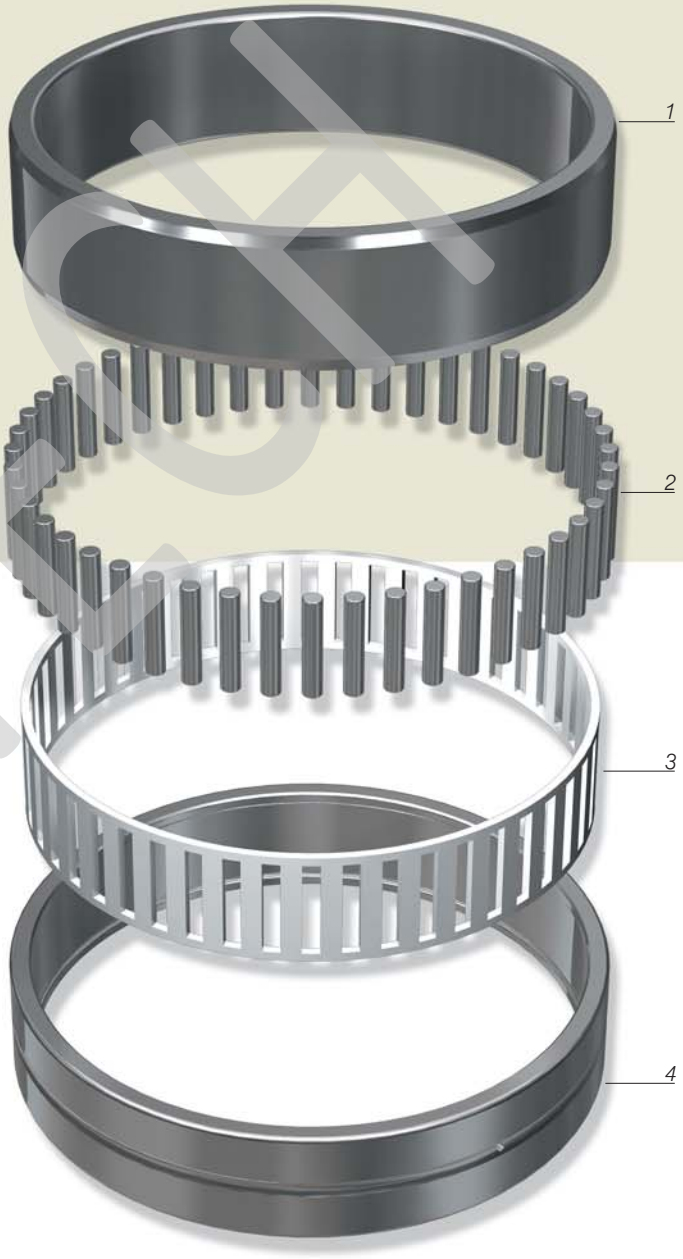
ref.	d	F	D	B	$r_{1\ min.}$	s	C_w	C_{OW}	Max. speed
	mm	mm	mm	mm	mm	mm	KN	KN	RPM min^{-1}
NA 4822	110	120	140	30	1	0,8	106	216	3900
NA 4824	120	130	150	30	1	0,8	112	239	3150
NA 4826	130	145	165	35	1,1	1	134	310	3300
NA 4828	140	155	175	35	1,1	1	136	325	3100
NA 4830	150	165	190	40	1,1	1,5	172	400	2900
NA 4832	160	175	200	40	1,1	1,5	181	435	2700
NA 4834	170	185	215	45	1,1	1,5	209	510	2550
NA 4836	180	195	225	45	1,1	1,5	219	550	2420
NA 4838	190	210	240	50	1,5	1,5	255	690	2280
NA 4840	200	220	250	50	1,5	1,5	260	720	2180
NA 4844	220	240	270	50	1,5	1,5	275	790	2000
NA 4848	240	265	300	60	2	2	400	1080	1810
NA 4852	260	285	320	60	2	2	415	1160	1690
NA 4856	280	305	350	69	2	2,5	510	1300	1560
NA 4860	300	330	380	80	2,1	2	700	1770	1440
NA 4864	320	350	400	80	2,1	2	710	1850	1360
NA 4868	340	370	420	80	2,1	2	730	1940	1290
NA 4872	360	390	440	80	2,1	2	740	2020	1230
NA 4876	380	415	480	100	2,1	2	1130	2900	1140

C_w Dynamic load C_{OW} Static load

FISATECH

NEEDLE **BEARINGS** WITH ENTIRE **BORDERS**

1. *OUTER RING*
2. *NEEDLE ROLLERS*
3. *CAGE*
4. *INNER RING*



Needle bearings with entire borders have the following characteristics:

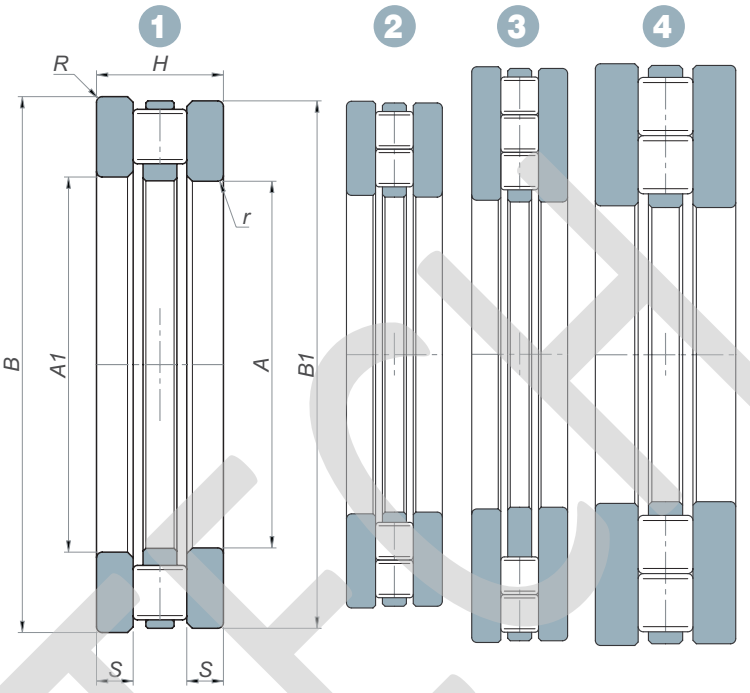
- Outer ring and inner ring are manufactured in core-hardened UNI 100Cr6 steel and reach hardness of 60±2 HRC.
- The cages are in moulded sheet.
- Lubrication is made through one groove and hole on the outer ring.
- The inner ring allows an axial shifting. The bearings can be supplied with RS seals on request.
- Needle bearings with inner ring are used when the shaft cannot act as rolling raceway.

FISATECH

AXIAL CYLINDRICAL ROLLER BEARINGS

Axial cylindrical roller bearings are made up of one cylindrical roller axial cage, one support thrust ring per GS housing and one thrust ring per WS shaft.

The bearings of series 811 and 812 are used when very high loads must be born. The bearings of series 874, 893 and 894 are used when even higher loads must be born.



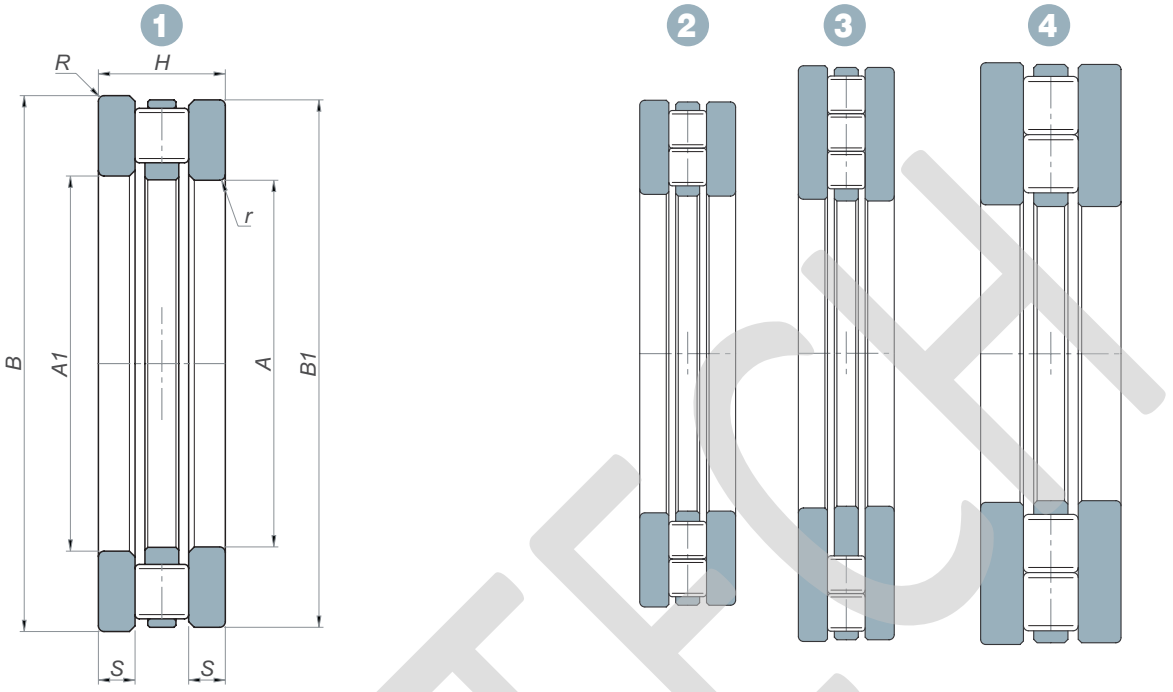
Cylindrical roller axial cages have massive structure and have seats like the spokes of a wheel, in which the cylindrical rollers are guided and held.
All axial cylindrical roller cages can be combined with the thrust rings for GS housing and with the thrust rings for WS shaft.

ref.	Series	A	B	H	S	R	r	A1	B1	C	C_o	Max. speed	Exec.
		mm	mm	mm	mm	mm	mm	mm	mm	KN	KN	RPM min^{-1}	
M300-0020	81120	100	135	25	7	1	1	102	135	199	650	1.900	1
M300-0120	81220	100	150	38	11,5	1,1	1,1	103	150	340	1080	900	1
M300-0220	89320	100	170	42	14,5	1,5	1,5	103	170	380	1400	750	2
M300-0320	87420	100	210	50	17,5	3	3	103	210	590	1250	550	3
89420	89420	100	210	67	22,5	3	3	103	210	850	2850	550	4
M300-0022	81122	110	145	25	7	1	1	112	145	207	700	2.300	1
M300-0122	81222	110	160	38	11,5	1,1	1	113	160	325	1030	2.100	1
M300-0222	89322	110	190	48	16,5	2	2	113	190	500	1870	1.900	2
M300-0322	87422	110	230	54	18,5	3	3	113	230	710	1490	1.700	3
89422	89422	110	230	73	24,5	3	3	113	230	1000	3400	1.700	4
M300-0024	81124	120	155	25	7	1	1	122	155	214	760	2.100	1
M300-0124	81224	120	170	39	12	1,1	1,1	123	170	340	1120	2.000	1
M300-0224	89324	120	210	54	18,5	2,1	2,1	123	210	640	2420	1.700	2
M300-0324	87424	120	250	58	20	4	4	123	250	1010	1790	1.600	3
89424	89424	120	250	78	26	4	4	123	250	1160	4000	1.600	4
M300-0026	81126	130	170	30	9	1	1	132	170	250	900	1.900	1
M300-0126	81226	130	190	45	13	1,5	1,5	133	190	480	1520	1.800	1
M300-0226	89326	130	225	58	20	2,1	2,1	134	225	710	2700	1.600	2

C Dynamic load C_O Static load

FISATECH

AXIAL CYLINDRICAL ROLLER BEARINGS

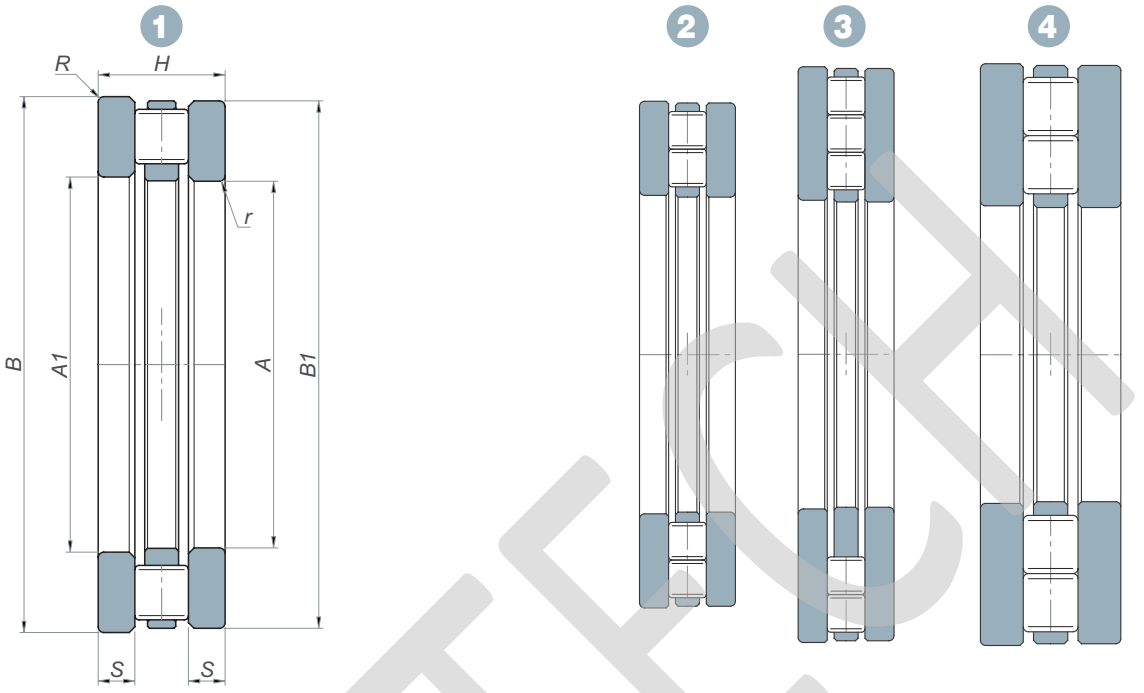


ref.	Series	A	B	H	S	R	r	A1	B1	C	C_o	Max. speed	Exec.
		mm	mm	mm	mm	mm	mm	mm	mm	KN	KN	RPM min^{-1}	
M300-0326	87426	130	270	63	22	4	4	134	270	920	2040	1.400	3
89426	89426	130	270	85	28,5	4	4	134	270	1130	4600	1.400	4
M300-0028	81128	140	180	31	9,5	1	1	142	180	260	960	1.800	1
M300-0128	81228	140	200	46	13,5	1,5	1,5	143	200	455	1450	1.700	1
M300-0228	89328	140	240	60	20,5	2,1	2,1	144	240	820	3200	1.500	2
M300-0328	87428	140	280	63	22	4	4	144	280	970	2200	1.400	3
89428	89428	140	280	85	28,5	4	4	144	280	1380	4950	1.400	4
M300-0030	81130	150	190	31	9,5	1	1	152	190	270	1020	1.700	1
M300-0130	81230	150	215	50	14,5	1,5	1	153	215	590	1940	1.600	1
M300-0230	89330	150	250	60	20,5	2,1	2,1	154	250	840	3350	1.400	2
M300-0330	87430	150	300	67	23	4	4	154	300	1100	2470	1.300	3
89430	89430	150	300	90	30	4	4	154	300	1570	5700	1.300	4
M300-0032	81132	160	200	31	9,5	1	1	162	200	260	990	1.600	1
M300-0132	81232	160	225	51	15	1,5	1,5	163	225	600	2030	1.500	1
M300-0232	89332	160	270	67	23	3	3	164	270	850	1730	1.300	2
M300-0332	87432	160	320	73	25,5	5	5	164	320	1270	2950	1.200	3
89432	89432	160	320	95	31,5	5	5	164	320	1780	6500	1.200	4
M300-0034	81134	170	215	34	10	1,1	1,1	172	215	360	1380	1.500	1
M300-0134	81234	170	240	55	16,5	1,5	1,5	173	240	680	2340	1.400	1
M300-0234	89334	170	280	67	23	3	3	174	280	870	1810	1.300	2

C Dynamic load C_O Static load

FISATECH

AXIAL CYLINDRICAL ROLLER BEARINGS

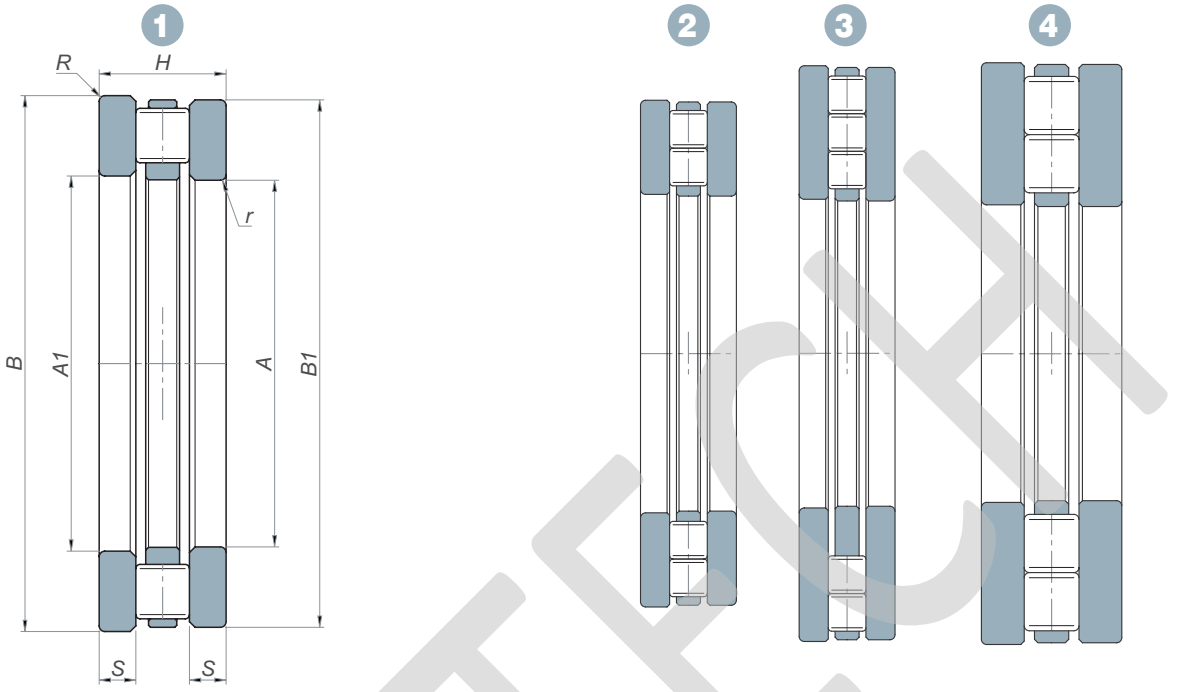


ref.	Series	A	B	H	S	R	r	A1	B1	C	C_o	Max. speed	Exec.
		mm	mm	mm	mm	mm	mm	mm	mm	KN	KN	RPM min^{-1}	
M300-0334	87434	170	340	78	27	5	5	174	340	1410	3250	1.100	3
89434	89434	170	340	103	34,5	5	5	174	340	1990	7400	1.100	4
M300-0036	81136	180	225	34	10	1,1	1,1	183	225	340	1300	1.400	1
M300-0136	81236	180	250	56	17	1,5	1,5	183	250	690	2440	1.300	1
M300-0236	89336	180	300	73	24,5	3	3	184	300	1100	2270	1.200	2
M300-0336	87436	180	360	82	28,5	5	5	184	360	1620	3850	1.100	3
89436	89436	180	360	109	36,5	5	5	184	360	2210	8200	1.100	4
M300-0038	81138	190	240	37	11	1,1	1,1	193	240	385	1500	1.300	1
M300-0138	81238	190	270	62	18	2	1	194	270	880	3000	1.300	1
M300-0238	89338	190	320	78	26	4	4	195	320	1230	2550	1.100	2
M300-0338	87438	190	380	85	29,5	5	5	195	380	1730	4150	1.000	3
89438	89438	190	380	115	38,5	5	5	195	380	2450	9200	1.000	4
M300-0040	81140	200	250	37	11	1,1	1,1	203	250	390	1550	1.300	1
M300-0140	81240	200	280	62	18	2	2	204	280	900	3150	1.200	1
M300-0240	89340	200	340	85	28,5	4	4	205	340	1420	2950	1.100	2
M300-0340	87440	200	400	90	31	5	5	205	400	1990	4800	950	3
89440	89440	200	400	122	41	5	5	205	400	2700	10200	950	4
M300-0044	81144	220	270	37	11	1,1	1,1	223	270	420	1730	1.200	1
M300-0144	81244	220	300	63	18,5	2	2	224	300	940	3450	1.100	1
M300-0344	89444	220	420	122	41	6	6	225	420	2900	11500	900	4

C Dynamic load C_O Static load

FISATECH

AXIAL CYLINDRICAL ROLLER BEARINGS

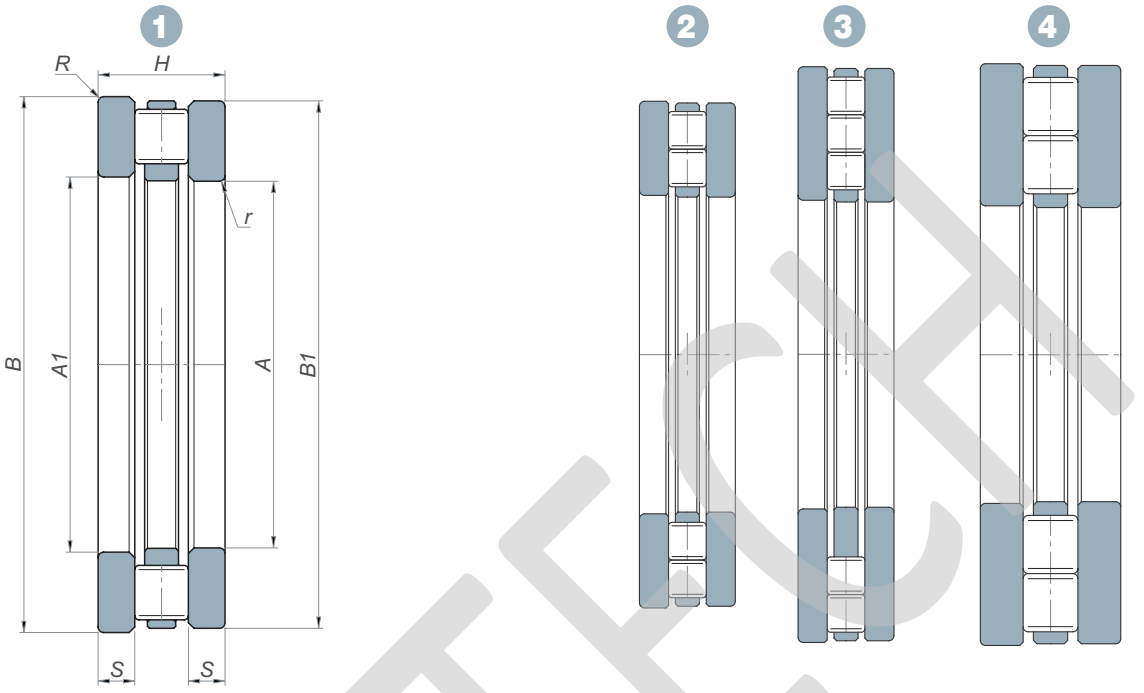


ref.	Series	A	B	H	S	R	r	A1	B1	C	C_o	Max. speed	Exec.
		mm	mm	mm	mm	mm	mm	mm	mm	KN	KN	RPM min^{-1}	
M300-0048	81148	240	300	45	13,5	1,5	1,5	243	300	600	2500	1.100	1
M300-0148	81248	240	340	78	23	2,1	2,1	244	340	1370	5000	1.000	1
M300-0348	89448	240	440	122	41	6	6	245	440	3000	12200	850	4
M300-0052	81152	260	320	45	13,5	1,5	1,5	263	320	620	2650	1.000	1
M300-0152	81252	260	360	79	23,5	2,1	2,1	264	360	1440	5400	950	1
M300-0352	89452	260	480	132	44	6	6	265	480	3600	14700	800	4
M300-0056	81156	280	350	53	15,5	1,5	1,5	283	350	860	3650	900	1
M300-0156	81256	280	380	80	24	2,1	2,1	284	380	1460	5600	850	1
M300-0356	89456	280	520	145	48,5	6	1	285	520	4200	17600	700	4
M300-0060	81160	300	380	62	18,5	2	2	304	380	1060	4500	850	1
M300-0160	81260	300	420	95	28,5	3	3	304	420	1930	7300	800	1
M300-0360	89460	300	540	145	48,5	6	6	305	540	4350	18500	700	4
M300-0064	81164	320	400	63	19	2	2	324	400	1100	4750	800	1
M300-0164	81264	320	440	95	28,5	3	3	325	440	1960	7600	750	1
M300-0068	81168	340	420	64	19,5	2	2	344	420	1130	5000	750	1
M300-0168	81268	340	460	96	29	3	3	345	460	2060	8300	700	1
M300-0072	81172	360	440	65	20	2	2	364	440	1140	5100	700	1
M300-0172	81272	360	500	110	32,5	4	4	365	500	2700	10600	650	1
M300-0076	81176	380	460	65	20	2	2	384	460	1170	5400	700	1
M300-0176	81276	380	520	112	33,5	4	4	385	520	2750	11000	650	1

C Dynamic load C_O Static load

FISATECH

AXIAL CYLINDRICAL ROLLER BEARINGS



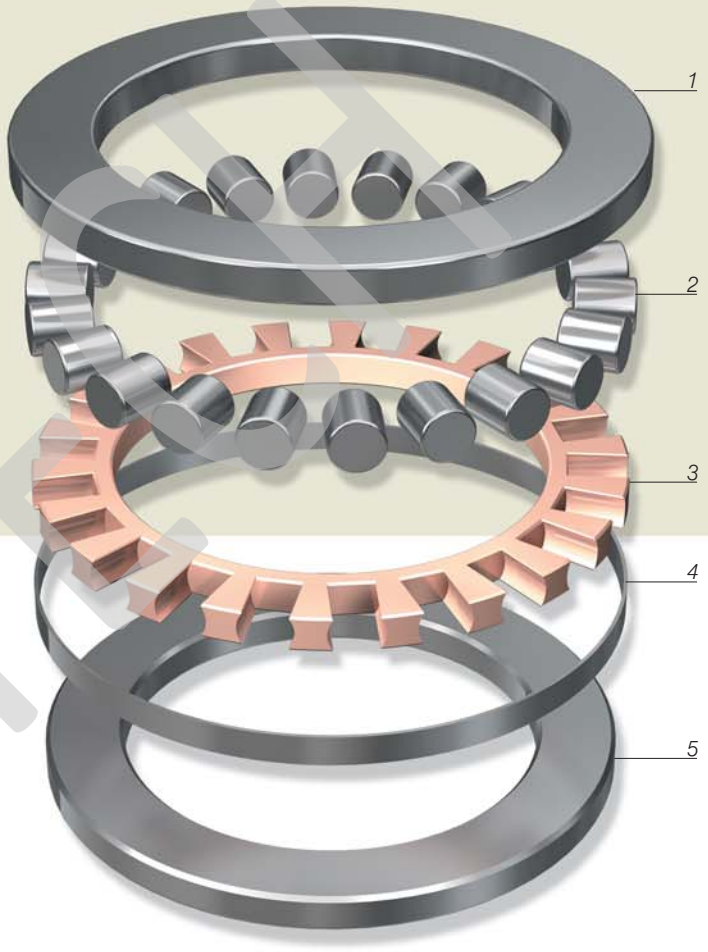
ref.	Series	A	B	H	S	R	r	A1	B1	C	C_o	Max. speed	Exec.
		mm	mm	mm	mm	mm	mm	mm	mm	KN	KN	RPM min^{-1}	
M300-0080	81180	400	480	65	20	2	2	404	480	1.200	5.700	650	1
M300-0180	81280	400	540	112	33,5	4	4	405	540	2.800	11.400	600	1
M300-0084	81184	420	500	65	20	2	2	424	500	1.230	5.900	650	1
M300-0184	81284	420	580	130	39	5	5	425	580	3.500	14.200	600	1
M300-0088	81188	440	540	80	24	2,1	2,1	444	540	1.780	8.200	600	1
M300-0188	81288	440	600	130	39	5	5	445	600	3.600	14.800	550	1
M300-0092	81192	460	560	80	24	2,1	1	464	560	1.840	8.700	550	1
M300-0192	81292	460	620	130	39	5	5	465	620	3.650	15.400	550	1
M300-0096	81196	480	580	80	24	2,1	2,1	484	580	1.860	8.900	550	1
M300-0196	81296	480	650	135	39,5	5	5	485	650	4.100	17.000	500	1
M300-0400	811 / 500	500	600	80	24	2,1	2,1	505	600	1.910	9.300	500	1
812 / 500	812 / 500	500	670	135	39,5	5	5	505	670	4.150	17.600	490	1
811 / 530	811 / 530	530	640	85	25,5	3	3	535	640	2.140	10.500	490	1
812 / 530	812 / 530	530	710	140	40	5	5	535	710	4.750	20.300	460	1
811 / 560	811 / 560	560	670	85	25,5	3	3	565	670	2.190	11.000	470	1
811 / 560	811 / 560	560	750	150	45	5	5	565	750	4.850	21.100	440	1
811 / 600	811 / 600	600	710	85	25,5	3	3	605	710	2.230	11.500	440	1
812 / 600	812 / 600	600	800	160	48	5	5	605	800	5.500	24.000	410	1

C Dynamic load C_O Static load

FISATECH

AXIAL CYLINDRICAL **ROLLER** BEARINGS

1. *WS SUPPORT THRUST RING*
2. *CYLINDRICAL ROLLERS*
3. *CAGE*
4. *LOCKING LITTLE RING*
5. *GS SUPPORT THRUST RING*



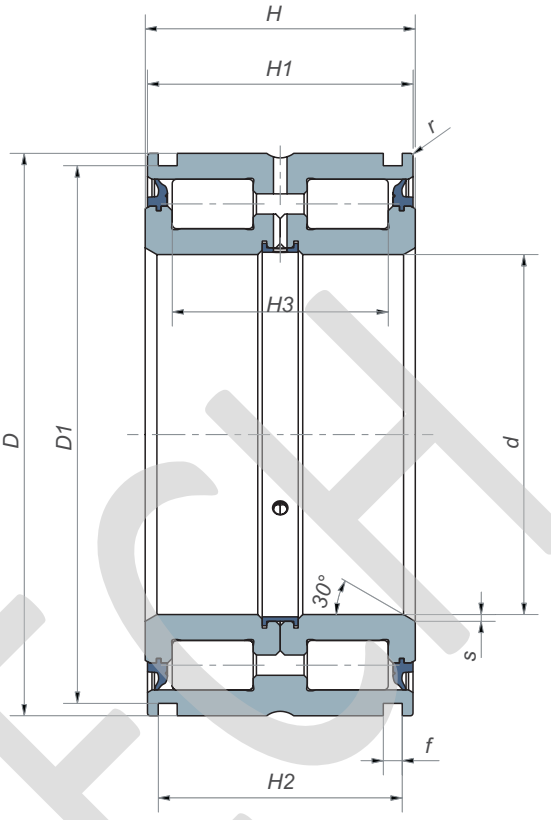
Thanks to the stiffness of the cages, the rolling elements are held and guided with high precision. In the cases in which the surfaces adjacent to the cages have suitable rolling raceways, small sized supports can be obtained. On the contrary, the various thrust rings for axial bearings allow to fulfil other support possibilities which adapt to the surrounding structure. Even though the rotation of the cylindrical bodies on a flat circular raceway generates a rolling/dragging effect, these axial bearings allow favourable friction coefficients, which can be compared to those of other types of rolling bearings. Axial cylindrical roller bearings have the following characteristics:

- GS and WS support thrust rings are made in UNI 100Cr6/100CrMo7 steel. They can be supplied in case-hardened 18 NiCrMo5 steel. They reach hardness 60 +2 HRC.
- The massive axial cages are usually supplied in bronze, which guarantees high sturdiness and high toughness, and maintains good elasticity. They can be executed in light alloy on request.
- The bearings are manufactured in standard precision class; on request they can be supplied with precision class P5/P6.

FISATECH

RADIAL CYLINDRICAL **ROLLER** BEARINGS
with grooves on the outer ring

Radial bearings with grooves on the outer ring are manufactured with two rows of cylindrical rollers; they are made of one outer ring and two inner rings with entire massive borders, which act as an efficient axial guide for the rolling bodies. The high sturdiness of the sections, along with the number of rollers inserted in the rolling raceways, allow this series of bearings to achieve a very high load capacity, both dynamic and static.



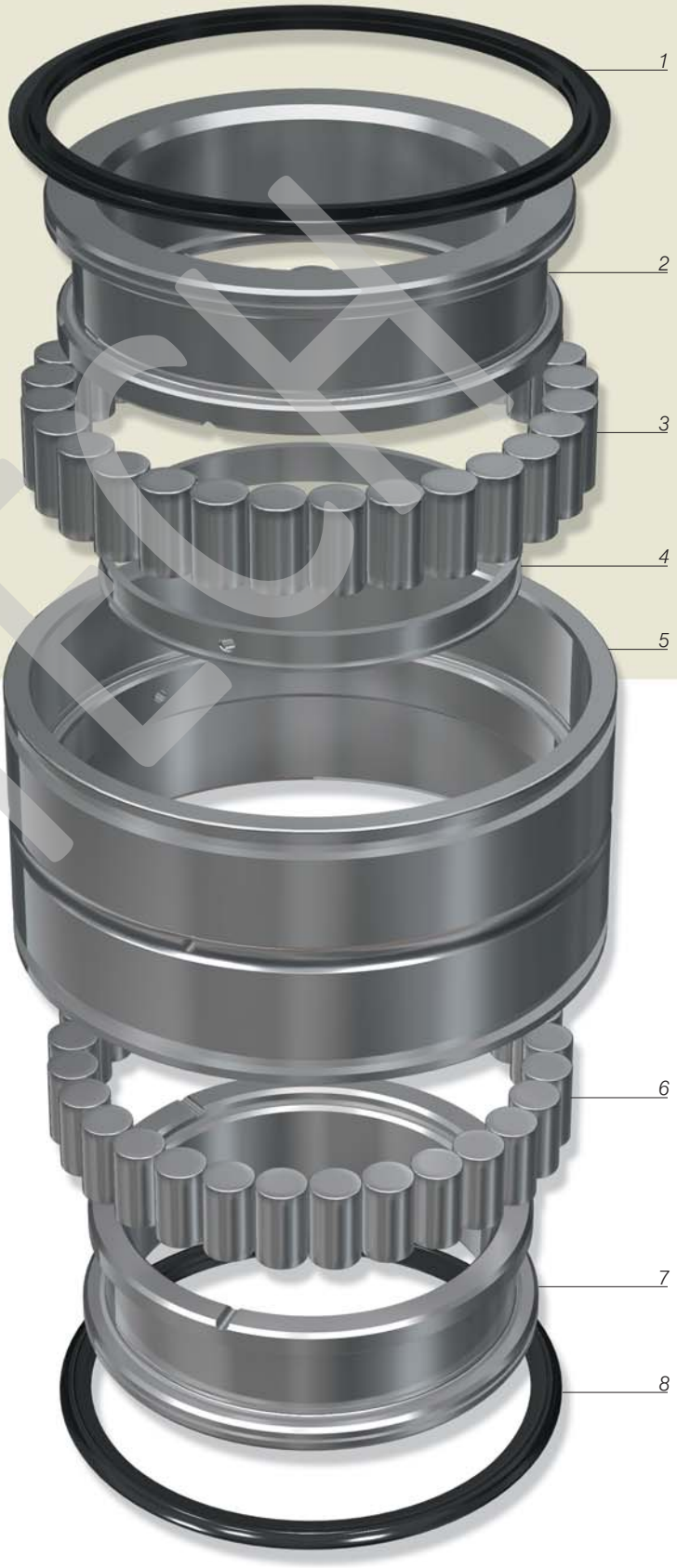
ref.	d	D	H	H_1	H_2	$D_{1+0,2}$	f	r	s	H_3	C	C_0	Max. speed
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kn	kn	RPM min^{-1}
NNF 5004-PP	20	42	30	29	24,7	40,2	1,8	0,3	0,5	22,5	40,5	49	4000
NNF 5005-PP	25	47	30	29	24,7	45,2	1,8	0,3	0,5	22,5	44,5	58	3600
NNF 5006-PP	30	55	34	33	28,2	53	2,1	0,3	0,5	25,5	50	67	3000
NNF 5007-PP	35	62	36	35	30,2	60	2,1	0,3	0,5	27,5	63	88	2600
NNF 5008-PP	40	68	38	37	32,2	65,8	2,7	0,6	0,8	28,5	76	103	2400
NNF 5009-PP	45	75	40	39	34,2	72,8	2,7	0,6	0,8	30,5	92	130	2200
NNF 5010-PP	50	80	40	39	34,2	77,8	2,7	0,6	0,8	30,5	97	142	2000
NNF 5011-PP	55	90	46	45	40,2	87,4	3,2	0,6	1	36	115	175	1800
NNF 5012-PP	60	95	46	45	40,2	92,4	3,2	0,6	1	36	120	189	1700
NNF 5013-PP	65	100	46	45	40,2	97,4	3,2	0,6	1	36	125	203	1600
NNF 5014-PP	70	110	54	53	48,2	107,1	4,2	0,6	1	42	168	265	1400
NNF 5015-PP	75	115	54	53	48,2	112,1	4,2	0,6	1	42	194	300	1400
NNF 5016-PP	80	125	60	59	54,2	122,1	4,2	0,6	1,5	48	203	325	1300
NNF 5017-PP	85	130	60	59	54,2	127,1	4,2	0,6	1,5	48	211	350	1200
NNF 5018-PP	90	140	67	66	59,2	137	4,2	0,6	1,5	54	305	510	1100
NNF 5019-PP	95	145	67	66	59,2	142	4,2	0,6	1,5	54	315	530	1100
NNF 5020-PP	100	150	67	66	59,2	147	4,2	0,6	1,5	54	330	550	1000
NNF 5022-PP	110	170	80	79	70,2	167	4,2	0,6	1,8	64	395	680	900
NNF 5024-PP	120	180	80	79	71,2	176	4,2	0,6	1,8	64	410	740	900
NNF 5026-PP	130	200	95	94	83,2	196	4,2	0,6	1,8	77	540	960	800
NNF 5028-PP	140	210	95	94	83,2	206	5,2	0,6	1,8	77	610	1100	750
NNF 5030-PP	150	225	100	99	87,2	221	5,2	0,6	2	80	710	1260	700
NNF 5032-PP	160	240	109	108	95,2	236	5,2	0,6	2	89	740	1360	650
NNF 5034-PP	170	260	122	121	107,2	254	5,2	0,6	2	100	960	1750	600
NNF 5036-PP	180	280	136	135	118,2	274	5,2	0,6	2	112	1140	2130	550
NNF 5038-PP	190	290	136	135	118,2	284	5,2	0,6	2	112	1160	2210	550
NNF 5040-PP	200	310	150	149	128,2	304	6,3	0,6	2	126	1350	2600	500
NNF 5044-PP	220	340	160	159	138,2	334	6,3	1	2	132	1570	3050	480
NNF 5048-PP	240	360	160	159	138,2	354	6,3	1	2	132	1630	3300	440
NNF 5052-PP	260	400	190	189	162,2	394	6,3	1,1	3	150	2380	4700	400
NNF 5056-PP	280	420	190	189	163,2	413	7,3	1,1	3	150	2600	5200	380
NNF 5060-PP	300	460	218	216	185,2	453	7,3	1,1	3	170	3000	5800	340

C Dynamic load *C_0 Static load*

FISATECH

RADIAL CYLINDRICAL **ROLLER** BEARINGS
with grooves on the outer ring

1. *SEAL RING*
2. *INNER RING*
3. *CYLINDRICAL ROLLERS*
4. *CONNECTING LINK*
5. *OUTER RING*
6. *CYLINDRICAL ROLLERS*
7. *INNER RING*
8. *SEAL RING*



Radial cylindrical roller bearings with grooves on the outer ring have the following characteristics:

- The outer rings and the inner rings are manufactured in 100Cr6 steel; sometimes, in some specific working condition, mainly when hard impacts occur, they can be supplied in case-hardened 18NiCrMo5 steel.
- They reach hardness degree of 60±2 HRC.
- The inner rings are divided into two parts, on axial direction, which are linked to each other through a shaped steel ring.
- They are supplied with execution with lateral plastic seals and are already lubricated with lithium soap grease.
- Lubrication can be made both on the outer ring and on the inner ring.

FISATECH

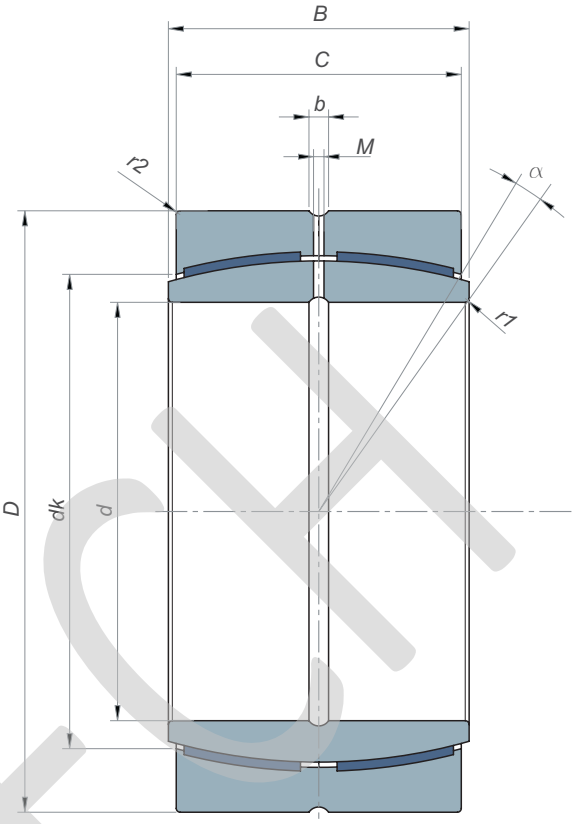
BALL JOINTS

Ball joints are made of one inner ring with spherical and convex surface, which matches with the concavity of the inner surface of the outer ring.
They are particularly used in case it is necessary to align the shaft to the housing, with low shearing speeds.

ball joints have different surface materials and can be divided into two groups:

1. Steel-to-steel ball joints (thanks to the high resistance of the working surface, they are particularly suitable for application with alternating loads)

2. Maintenance-free ball joints (they are generally used in working condition with high loads with constant direction, and when the lubrication system is not adequate and therefore the use of steel-to-steel ball joints is not recommended).



	ref.	d	D	B	C	α	d_k	b	M	$r_{1\ min.}$	$r_{2\ min.}$	C	C_o
1		mm	mm	mm	mm	°	mm	mm	mm	mm	mm	kn	kn
	GE 100 FS	100	150	70	55	7	130	11,3	5	1	1	610	3050
	GE 110 FS	110	160	70	55	6	140	11,5	5	1	1	655	3250
	GE 120 FS	120	180	85	70	6	160	13,5	6	1	1	950	4750
	GE 140 FS	140	210	90	70	7	180	13,5	6	1	1	1080	5400
	GE 160 FS	160	230	105	80	8	200	13,5	6	1	1	1370	6800
	GE 180 FS	180	260	105	80	6	225	13,5	6	1,1	1,1	1530	7650
	GE 200 FS	200	290	130	100	7	250	15,5	7	1,1	1,1	2120	10600
	GE 220 FS	220	320	135	100	8	275	15,5	7	1,1	1,1	2320	11600
	GE 240 FS	240	340	140	100	8	300	15,5	7	1,1	1,1	2550	12700
	GE 260 FS	260	370	150	110	7	325	15,5	7	1,1	1,1	3050	15300
	GE 280 FS	280	400	155	120	6	350	15,5	7	1,1	1,1	3550	18000
	GE 300 FS	300	430	165	120	7	375	15,5	7	1,1	1,1	3800	19000
2	GEP 100 FS	100	150	71	67	2	135	7,4	4	1	1	600	900
	GEP 110 FS	110	160	78	74	2	145	7,5	4	1	1	720	1080
	GEP 120 FS	120	180	85	80	2	160	7,5	4	1	1	850	1270
	GEP 140 FS	140	210	100	95	2	185	7,5	4	1	1	1200	1800
	GEP 160 FS	160	230	115	109	2	210	7,5	4	1	1	1600	2400
	GEP 180 FS	180	260	128	122	2	240	7,5	4	1,1	1,1	2080	3100
	GEP 200 FS	200	290	140	134	2	260	11,5	5	1,1	1,1	2450	3650
	GEP 220 FS	220	320	155	148	2	290	13,5	6	1,1	1,1	3050	4550
	GEP 240 FS	240	340	170	162	2	310	13,5	6	1,1	1,1	3550	5400
	GEP 260 FS	260	370	185	175	2	340	15,5	7	1,1	1,1	4250	6400
	GEP 280 FS	280	400	200	190	2	370	15,5	7	1,1	1,1	5000	7500
	GEP 300 FS	300	430	212	200	2	110	15,5	7	1,1	1,1	5600	8300

C Dynamic load C_O Static load

FISATECH

BALL JOINTS

1. *OUTER RING*
2. *INNER RING*
3. *OUTER RING*

ball joints have the following technical characteristics:

- Steel-to-steel ball joints are manufactured in hardened and phosphatized UNI 100 Cr6/100CrMo7 steel.
- Contact surfaces undergo an additional special treatment, to make them completely resistant to wear.
- They cannot be disassembled and they have a groove and a hole on both rings to favour the lubrication.
- Ball joints with 2RS execution have double lip sliding seals on both sides.
- Maintenance-free ball joints have the outer ring covered with a layer of special plastic material, stiffened with glass fibre, absolutely resistant to wear.
- The outer ring is divided into two parts, which are perpendicular to the axis.
- The inner ring is manufactured in UNI 100Cr6/100CrMo7.
- Even though the ball joints are maintenance-free, it is possible to make an anti-corrosion lubrication.
- ball joints are provided with groove and holes on both rings, to favour lubrication.

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