

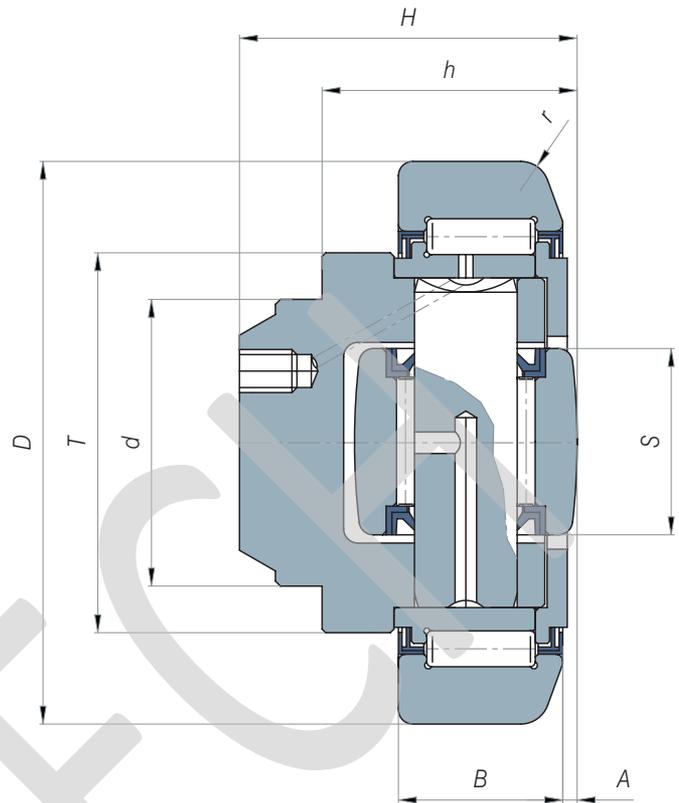
HANDLING



FIXED COMBINED BEARINGS

Fixed combined bearings are particularly suitable to be used in forklift masts and in any other moving and handling system, where rolled or extruded profiles are used.

The best combination axial part/radial part allows to get high load capacity with extremely small dimensions of the bearing, in addition to easiness of assembling on any kind of structure.



ref.	d	T	D	H	h	B	A	S	r	C	C ₀	C _a	C _{0a}	∅ on request	PROFILE
	mm	mm	mm	mm	mm	mm	mm	mm	mm	KN	KN	KN	KN	mm	
400-0053	30	40	52,5	33	27	17	5	15	2	24,8	34,5	9,2	11,7	*	EC 053
400-0054	30	42	62	37,5	30,5	20	2,5	20	3	39	65,2	14,4	21	62,5	2890
400-0055	35	48	70,1	44	36	23	2,5	22	4	55,5	91,7	17,6	25	70,7 / 70,4	2867
400-0056	40	53	77,7	48	36,5	23	3	24	4	58,4	100	23,2	35,8	78,1 / 78,5	2810
400-0058	45	59	88,4	57	44	30	3,5	26	3	83,8	132,3	27,7	42	88,9	2811
400-0061	60	71	107,7	69	55	31	4	34	5	94,2	160,7	38,6	65,2	108,2/108,5	2862
400-0062	60	80	123	72,3	56	37	5	40	5	128	226,8	53	92	*	2891
400-0063	60	108	149	78,5	58,5	45	5,5	50	3	172,3	325,9	133,3	244	*	2757
400-0011	60	108	149	86	67	45	5,5	50	3	172,3	325,9	133,3	244	*	2757
400-0037	80	120	174	95	71	55	7	63	7	265	488	205,3	381	*	*
400-0039	80	120	185	95	71	55	7	63	7	265	488	205,3	381	*	*

THE BEARINGS ARE IN ZRS EXECUTION

C : Dynamic load

C₀ : Static load

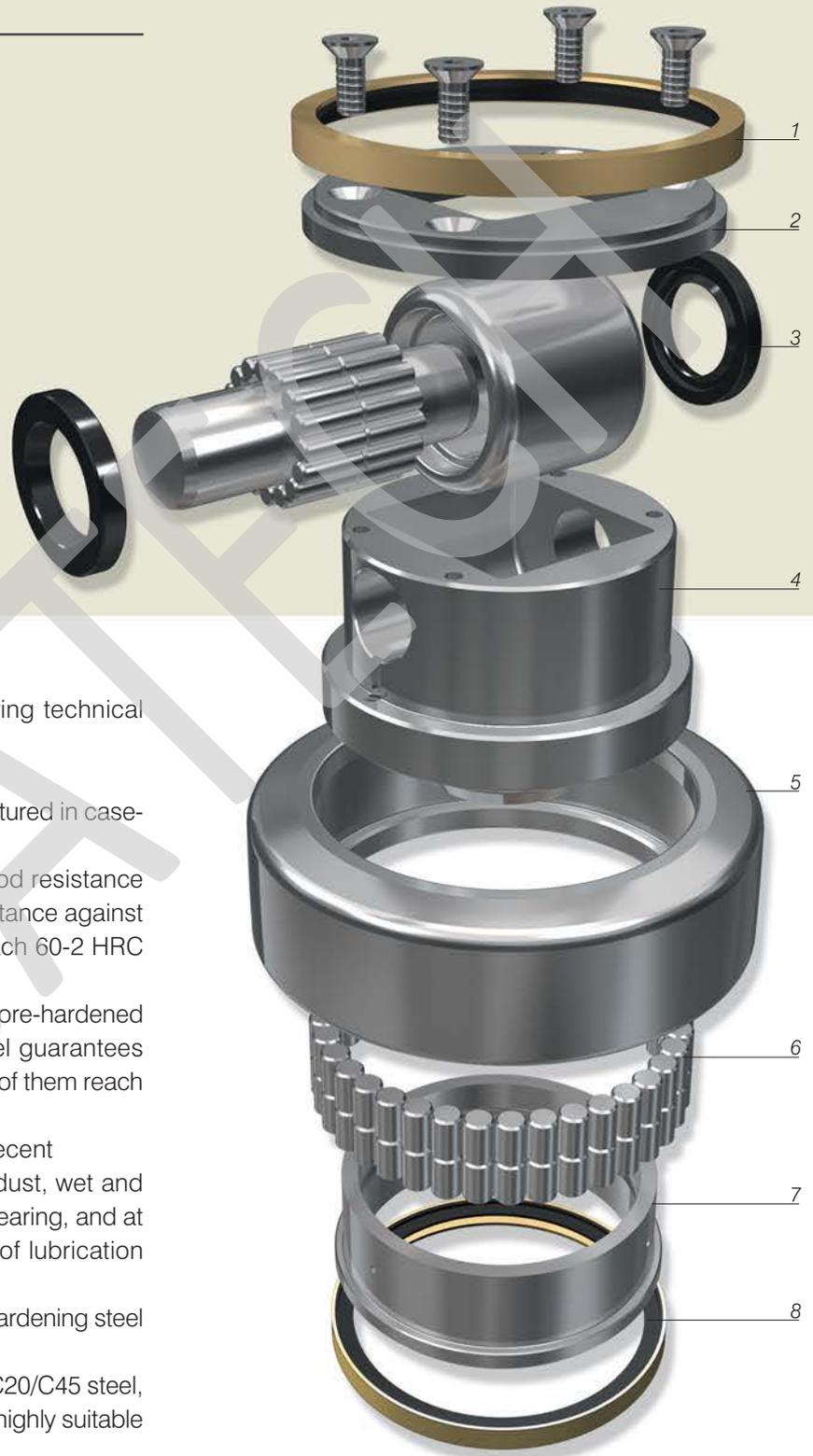
C_a : Dynamic axial load

C_{0a} : Static axial load

400-0053 AND 400-0054 ARE SUPPLIED WITHOUT LUBRICATION HOLE

FIXED COMBINED BEARINGS

-
1. ZRS SEAL RING
 2. SUPPORT THRUST RING
 3. AXIAL PART
 4. PIVOT
 5. OUTER RING
 6. CYLINDRICAL ROLLERS
 7. INNER RING
 8. ZRS SEAL RING
-



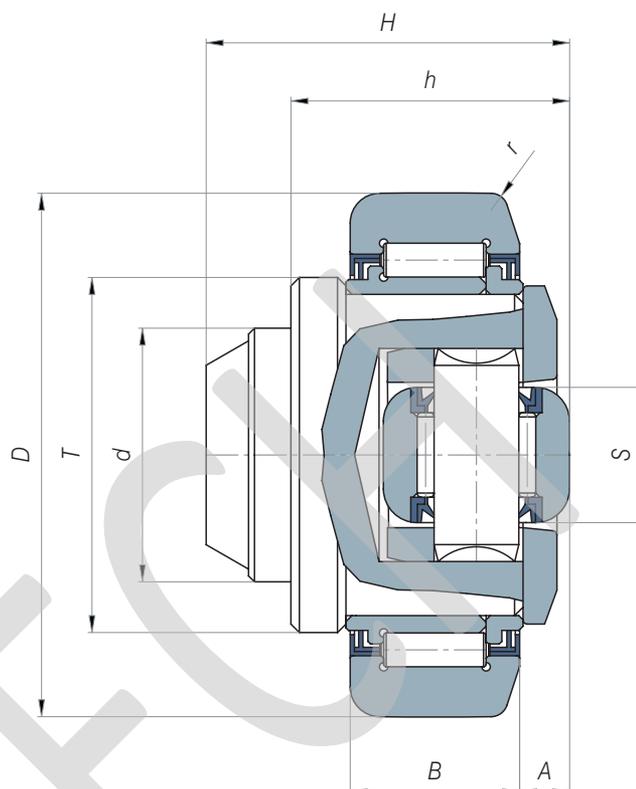
Fixed combined bearings have the following technical characteristics:

- Outer ring and axial little roll are manufactured in case-hardening steel type 20CrMnTi. This kind of steel guarantees a very good resistance to stress, and assures a very good resistance against crashes. The surface hardness can reach 60-2 HRC for both of them.
- Inner ring and pin are manufactured in core-hardened 100 Cr6 steel. The total-hardening steel guarantees high resistance to wear and stress; both of them reach 60-2 HRC hardness value.
- ZRS seal system, realized during the recent years, prevents outer agents, such as dust, wet and mill scale, to enter the inner part of the bearing, and at the same time it prevents the leakage of lubrication grease.
- The lateral thrust cover is made in case-hardening steel as well.
- The central pivot is made in low carbon C20/C45 steel, which guarantees high resistance and is highly suitable for welding.

ADJUSTABLE COMBINED BEARINGS

Adjustable combined bearings have the same characteristics as fixed combined bearings.

The only difference is the possibility to adjust the distance between bearing and profile through the use of washers.



ref.	d	T	D	H	h	B	A	S	r	C	C ₀	C _a	C _{oa}	Ø on request	PROFILE
	mm	mm	mm	mm	mm	mm	mm	mm	mm	KN	KN	KN	KN	mm	
400-0072	30	42	62	43	33	20	5,5	16	3	39	65,2	5,8	6	62,5	2890
400-0073	35	48	70,1	48	40	23	6,5	16	4	55,5	91,7	5,8	6	70,7 / 70,4	2867
400-0074	40	53	77,7	51	39,5	23	7	21	4	58,4	100	13,2	14,5	78,1 / 78,5	2810
400-0076	45	59	88,4	61	48	30	7	21	3	83,8	132,3	13,2	14,5	88,9	2811
400-0078 / L	60	71	107,7	73	59	31	8	33	5	94,2	160,7	25	28	108,2 / 108,5	2862
400-0079	60	80	123	75,8	59,5	37	8	33	5	128	226,8	25	28	*	2891
400-0080	60	103	149	89	69	45	15	50	5	172,3	325,9	83	130	*	2757

THE BEARINGS ARE IN ZRS EXECUTION.

C : Dynamic load

C₀ : Static load

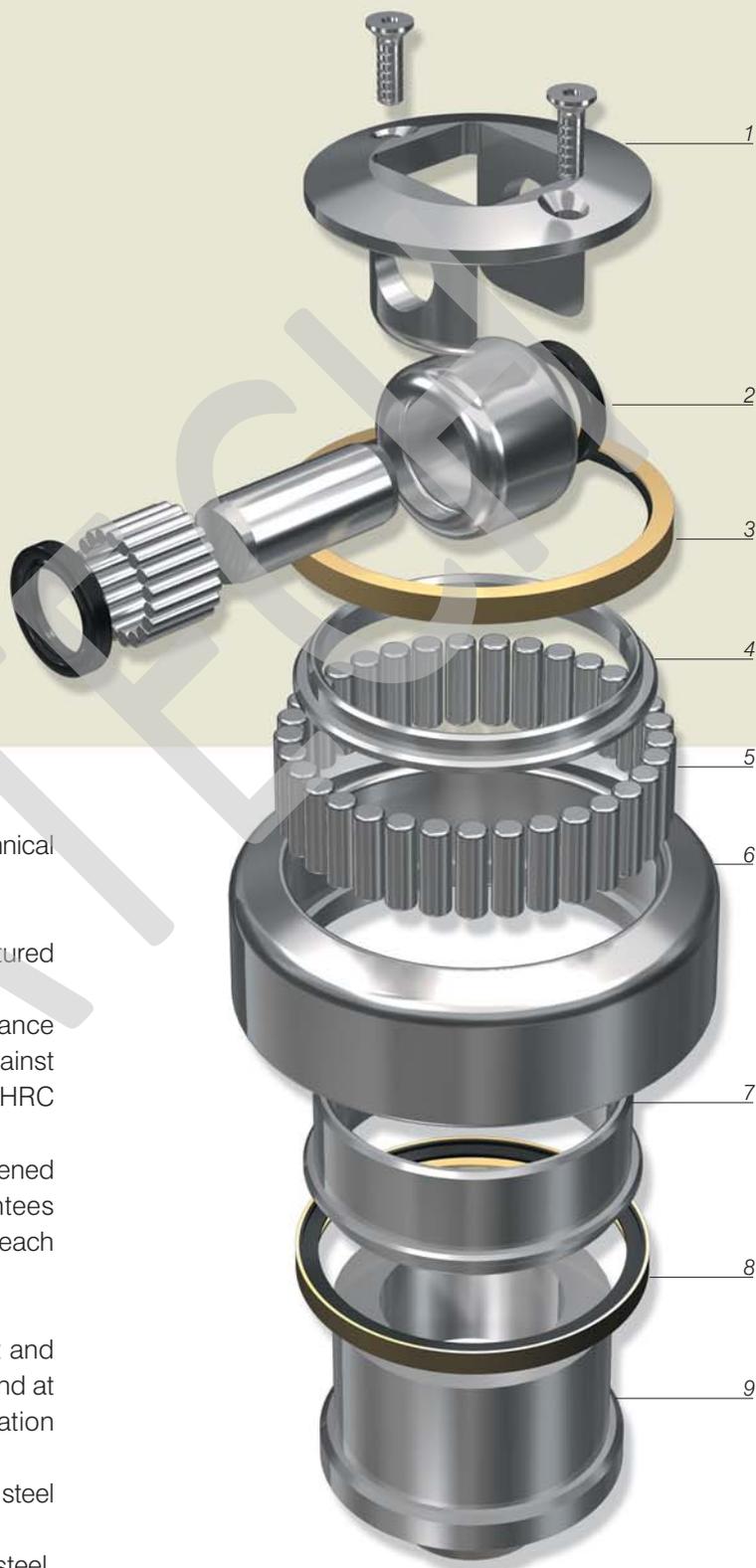
C_a : Dynamic axial load

C_{oa} : Static axial load

The adjusting of dimension "A" is made through washer rings put between the main support roll and the support roll of the lateral guide bearing. Adjusting washers are available with thickness 0,3-0,5-1 mm.

ADJUSTABLE COMBINED BEARINGS

1. SUPPORT
2. AXIAL PART
3. ZRS SEAL RING
4. SUPPORT THRUST RING
5. CYLINDRICAL ROLLERS
6. OUTER RING
7. INNER RING
8. ZRS SEAL RING
9. PIVOT



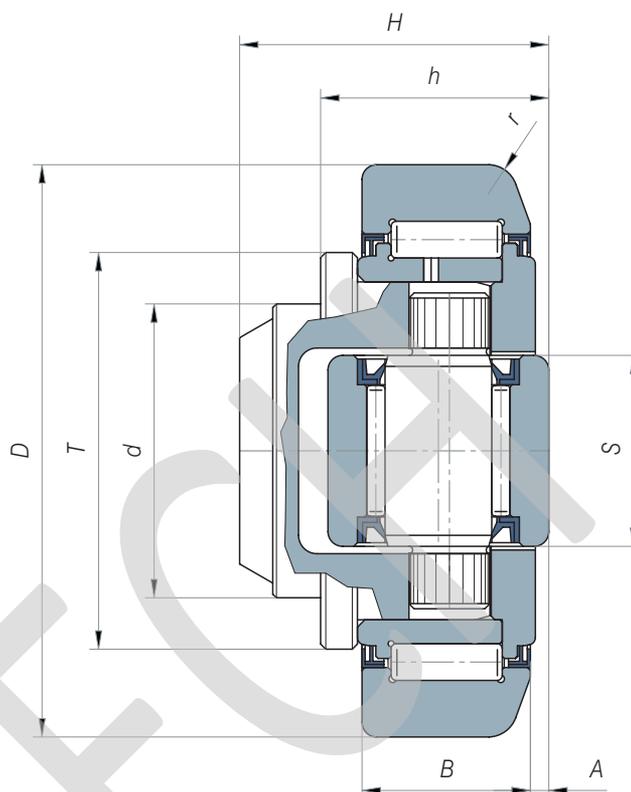
Adjustable combined bearings have the following technical characteristics:

- The outer ring and the axial little roll are manufactured in case-hardening steel type 20CrMnTi. This kind of steel guarantees a very good resistance to stress, and assures a very good resistance against crashes. The surface hardness can reach 60-2 HRC for both of them.
- Inner ring and pin are manufactured in core-hardened 100 Cr6 steel. The total-hardening steel guarantees high resistance to wear and stress; both of them reach 60-2 HRC hardness value.
- ZRS seal system, realized during the recent years, prevents outer agents, such as dust, wet and mill scale, to enter the inner part of the bearing, and at the same time it prevents the leakage of lubrication grease.
- The lateral thrust cover is made in case-hardening steel as well.
- The central pivot is made in low carbon C20/C45 steel, which guarantees high resistance and is highly suitable for welding.
- The support roll, which allows the adjusting of the axial clearance between profile and bearing through washers of 0,3 to 0,5 mm, is manufactured in 20 CrMo steel.

ADJUSTABLE COMBINED BEARINGS WITH ECCENTRIC PIN

Adjustable combined bearings with eccentric pin have the same characteristics as adjustable combined bearings.

In this case, the adjusting of the distance is made through the rotation of the whole axial part (pin and little roll) in the central pivot.



ref.	d	T	D	H	$h_{min.}$	$h_{max.}$	B	A	S	r	C	C_0	C_a	C_{0a}	PROFILE
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	KN	KN	KN	KN	
400-0454	30	42	62	37,5	30,5	32	20	4	20	3	39	65,2	16	25	2890
400-0455	35	48	70,1	44	36	37,5	23	4	20	4	55,5	91,7	16	25	2867
400-0456	40	54	77,7	48	37	38,5	23	3,5	26	4	58,4	100	23	36	2810
400-0458	45	59	88,4	57	44	45,5	30	4	26	4	83,8	132,3	23	36	2811
400-0461	60	69	107,7	69	55	57	31	4	30	5	94,2	160,7	32	50	2862
400-0462*	60	80	123	72,3	56	60	37	4,5	34	5	128	226,8	41	72	2891
400-0463*	60	108	149	78,5	58,5	62,5	45	6	34	3	172,3	325,9	41	72	2757

THE BEARINGS ARE IN ZRS EXECUTION.

C : Dynamic load

C_0 : Static load

C_a : Dynamic axial load

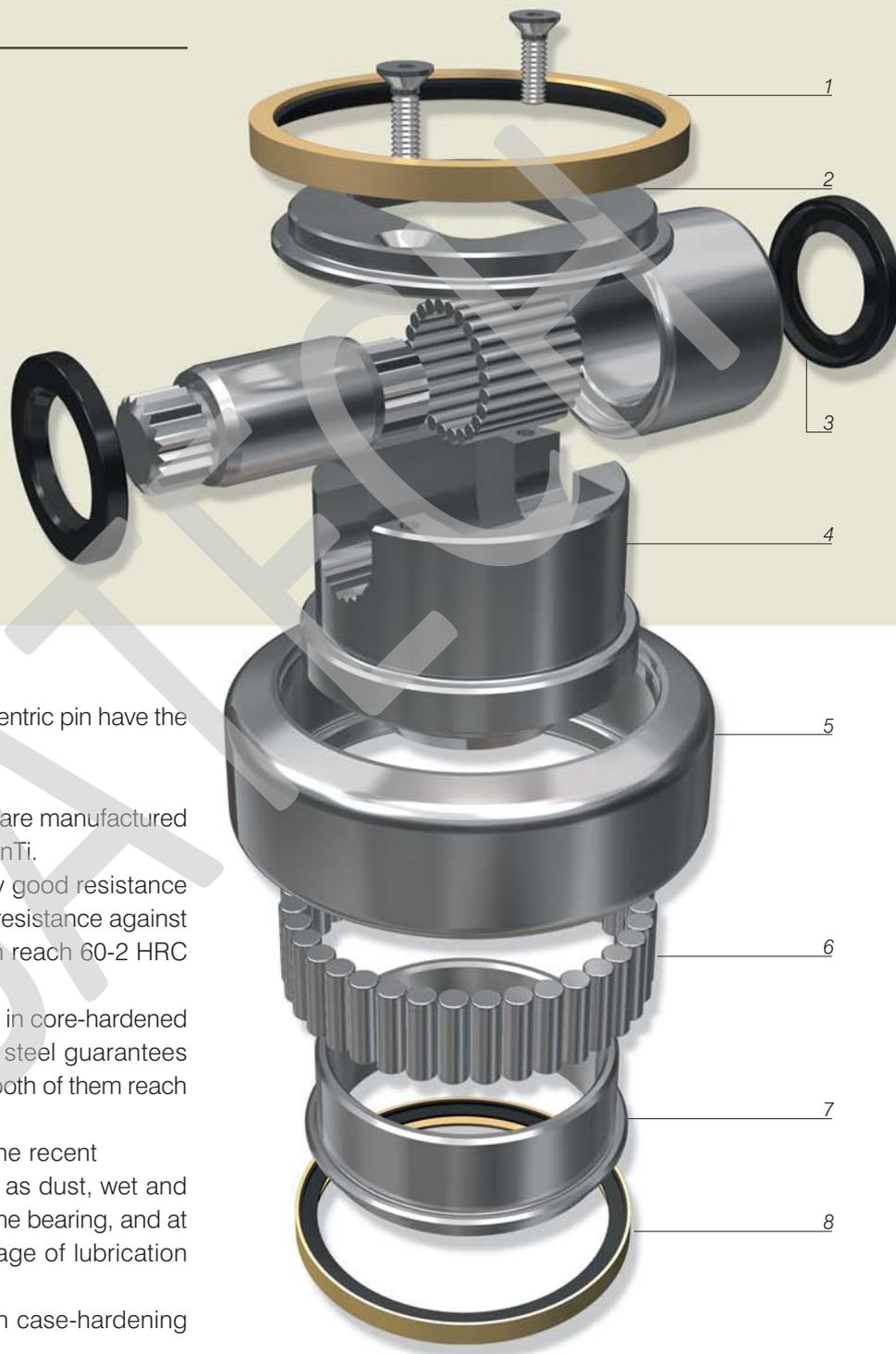
C_{0a} : Static axial load

The adjusting of dimension "A" can be made through the rotation of the axial pivot.

* "JUMBO" EXECUTION

ADJUSTABLE COMBINED BEARINGS WITH ECCENTRIC PIN

1. ZRS SEAL RING
2. SUPPORT THRUST RING
3. AXIAL PART
4. PIVOT
5. OUTER RING
6. CYLINDRICAL ROLLERS
7. INNER RING
8. ZRS SEAL RING

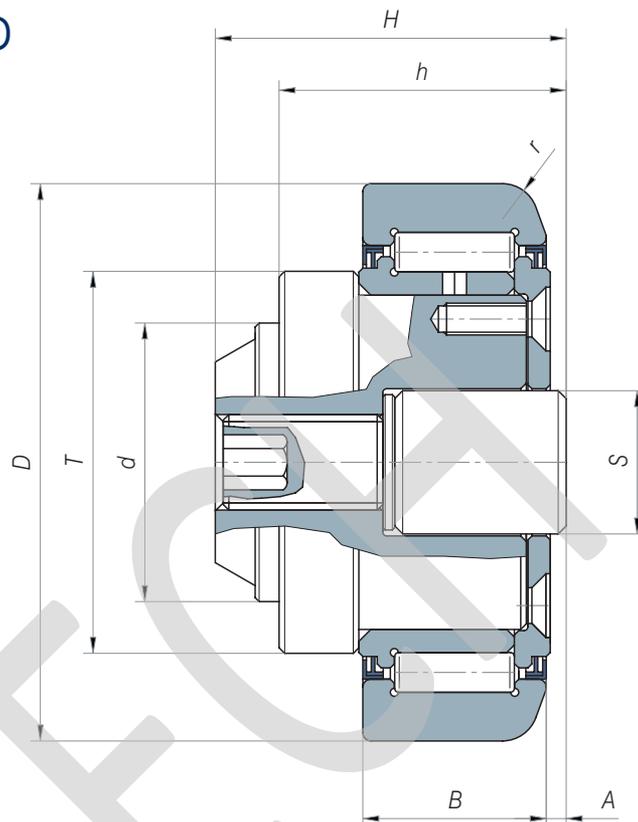


Adjustable combined bearings with eccentric pin have the following technical characteristics:

- The outer ring and the axial little roll are manufactured in case-hardening steel type 20CrMnTi. This kind of steel guarantees a very good resistance to stress, and assures a very good resistance against crashes. The surface hardness can reach 60-2 HRC for both of them.
- Inner ring and pin are manufactured in core-hardened 100 Cr6 steel. The total-hardening steel guarantees high resistance to wear and stress; both of them reach 60-2 HRC hardness value.
- ZRS seal system, realized during the recent years, prevents outer agents, such as dust, wet and mill scale, to enter the inner part of the bearing, and at the same time it prevents the leakage of lubrication grease.
- The thrust cover is manufactured in case-hardening steel as well.
- The central pivot is made in low carbon C20/C45 steel, which guarantees high resistance and is highly suitable for welding.

ADJUSTABLE COMBINED BEARINGS WITH CAP

Adjustable combined bearings with cap made in plastic material maintain high resistance to the load applied on them, and at the same time have an easy system of adjusting the distance between profile and bearing. The adjusting is made through the shifting of a screw which is put in the core of the pivot and lays on the cap.



ref.	d	T	D	H	h	B	A	S	r	C	C ₀	Ø on request	PROFILE
	mm	mm	mm	mm	mm	mm	mm	mm	mm	KN	KN	mm	
400-0562	30	42	62	37,5	30,5	20	2,5	18	3	39	65,2	62,5	2890
400-0563	35	48	70,1	44	36	23	2,5	18	4	55,5	91,7	70,7 / 70,4	2867
400-0564	40	53	77,7	48	36,5	23	3	18	4	58,4	100	78,1 / 78,5	2810
400-0565	45	59	88,4	57	44	30	3,5	18	3	83,8	132,3	88,9	2811
400-0566	60	71	107,7	69	55	31	4	25	5	94,2	160,7	108,2 / 108,5	2862
400-0567	60	80	123	72,3	56	37	5	40	5	128	226,8	*	2891
400-0568	60	108	149	78,5	58,5	45	5,5	40	3	172,3	325,9	*	2757
400-0569	60	108	149	86	67	45	5,5	40	3	172,3	325,9	*	2757

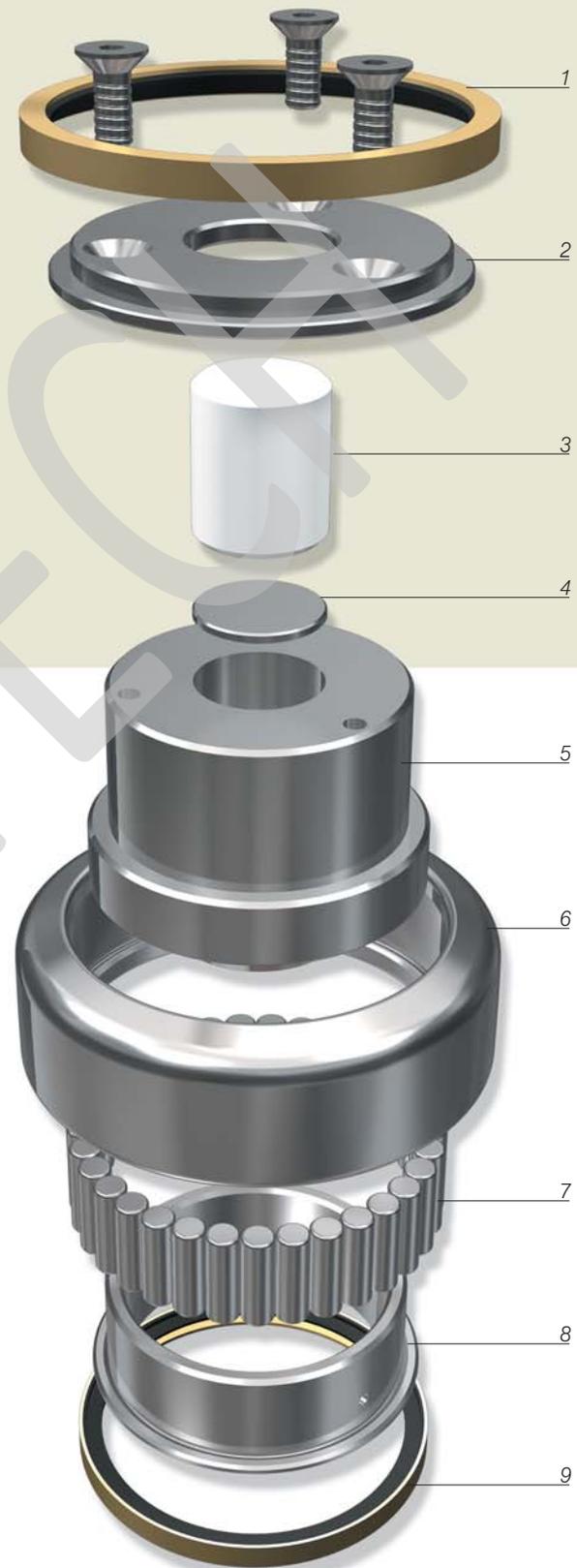
THE BEARINGS ARE IN ZRS EXECUTION.

C : Dynamic load C₀ : Static load

The adjusting of dimension "A" can be made through the rotation of the screw inserted in the pivot.

ADJUSTABLE COMBINED BEARINGS WITH CAP

1. ZRS SEAL RING
2. SUPPORT THRUST RING
3. CAP
4. WASHER
5. PIVOT
6. OUTER RING
7. CYLINDRICAL ROLLERS
8. INNER RING
9. ZRS SEAL RING



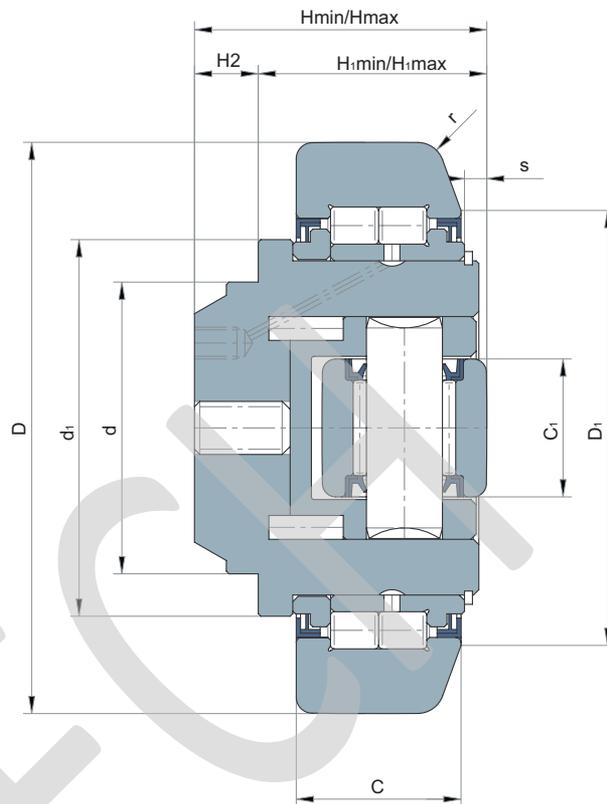
Adjustable combined bearings with plastic cap have the following technical characteristics:

- The outer ring is made in case-hardening steel type 20 CrMnTi. It guarantees high resistance to stress and very good resistance against crashes. Surface hardness reaches 60-2 HRC.
- The inner ring is made in core-hardened 100 Cr6 steel with hardness 60-2 HRC. Total-hardening steel guarantees high resistance to wear and stress.
- ZRS seal system, realized during the recent years, prevents outer agents, such as dust, wet and mill scale, to enter the inner part of the bearing, and at the same time it prevents the leakage of lubrication grease.
- The lateral thrust cover is made in case-hardening steel as well.
- The central pivot is made in low carbon C20/C45 steel, which guarantees high resistance and is highly suitable for welding.
- The guiding lateral cap is manufactured in plastic alloy, which is very resistant to wear and damaging outer agents.

ADJUSTABLE COMBINED BEARINGS WITH STEEL CAP

As for the previous series, adjustable combined bearings with steel cap maintain a very high resistance to applied loads, and at the same time, they have an easy system of axial adjusting.

Also in this case, the adjusting is made through the shifting of a central screw laid on the cap. In comparison to the adjustable execution with plastic cap, this execution can bear much higher axial loads, and therefore its wear is definitely lower.



ref.	d	D	C	H _{min.}	H _{max.}	H1 _{min.}	H1 _{max.}	H2	D1	C1	d1	r	C	C ₀	C _a	C _{0a}	PROFILE
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	KN	KN	KN	KN	
400-0301	30	62	20	38	40	30,5	32,5	7	50	-	42	3	31	35,5	-	-	2890
400-0302	30	70,1	23	38,5	40,5	31,5	33,5	7	57	-	48	4	45,5	51	-	-	2867
400-0303	35	77,7	23	40,7	42,7	31,7	33,7	9	61	-	54	4	48	56,8	-	-	2810
400-0305	40	88,9	30	48,5	51	36,5	39	12	68	21	59	3	68	72	15	15	2811
400-0306	45	101,9	28	46	48,5	33	35,5	13	77	24	67	4	73	82	18	19	2912
400-0307	60	107,7	31	53,5	56,5	41,5	44,5	12	82	30	71	5	81	95	31	36	2862
400-0308	60	123	33	61,5	64,5	49,5	52,5	12	94	30	80	5	110	132	31	36	2891
400-0309	60	149	43	75,5	79	58,5	62	17	116	45	103	3	151	192	68	71	2757

THE BEARINGS ARE IN ZRS EXECUTION.

C : Dynamic load

C₀ : Static load

C_a : Dynamic axial load

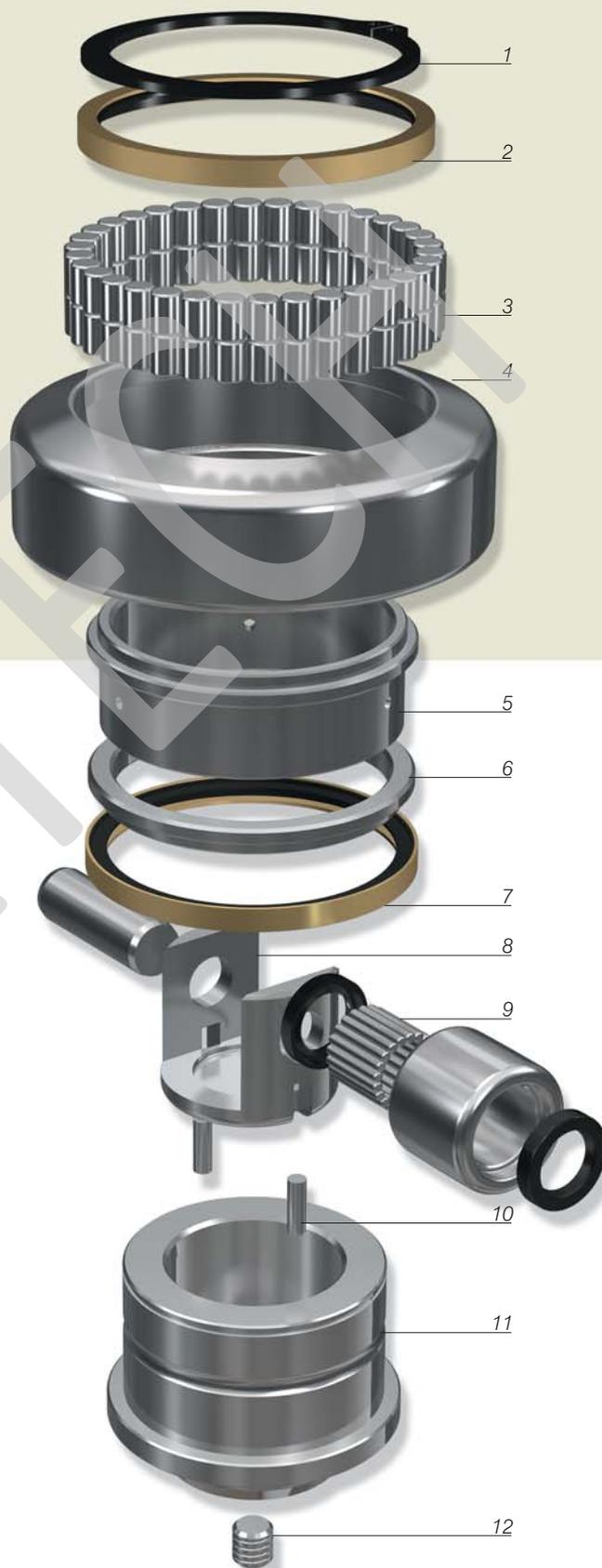
C_{0a} : Static axial load

ADJUSTABLE COMBINED BEARINGS WITH STEEL CAP

-
1. SEEGER LOCKING RING
 2. ZRS SEAL RING
 3. CYLINDRICAL ROLLERS
 4. OUTER RING
 5. INNER RING
 6. SUPPORT THRUST RING
 7. ZRS SEAL RING
 8. SUPPORT
 9. AXIAL PART
 10. PIN
 11. PIVOT
 12. ADJUSTING SCREW
-

Adjustable combined bearings with steel cap have the following technical characteristics:

- The outer ring is made in case-hardening steel type 20 CrMnTi. It guarantees high resistance to stress and against crashes. Surface hardness reaches 60-2 HRC.
- The inner ring is manufactured in 60-2 HRC core-hardening 100 Cr6 steel. Total-hardening steel guarantees high resistance to wear and stress.
- ZRS seal system, realized during the recent years, prevents outer agents, such as dust, wet and mill scale, to enter the inner part of the bearing, and at the same time it prevents the leakage of lubrication grease.
- The lateral thrust cover is made in case-hardening steel as well.
- The central pivot is made in low carbon C20/C45 steel, which guarantees high resistance and is highly suitable for welding.
- Lateral guiding cap is manufactured in case-hardening 20 CrMnTi steel. It guarantees a very high resistance to stress and crashes. Surface hardness reaches 60-2 HRC.

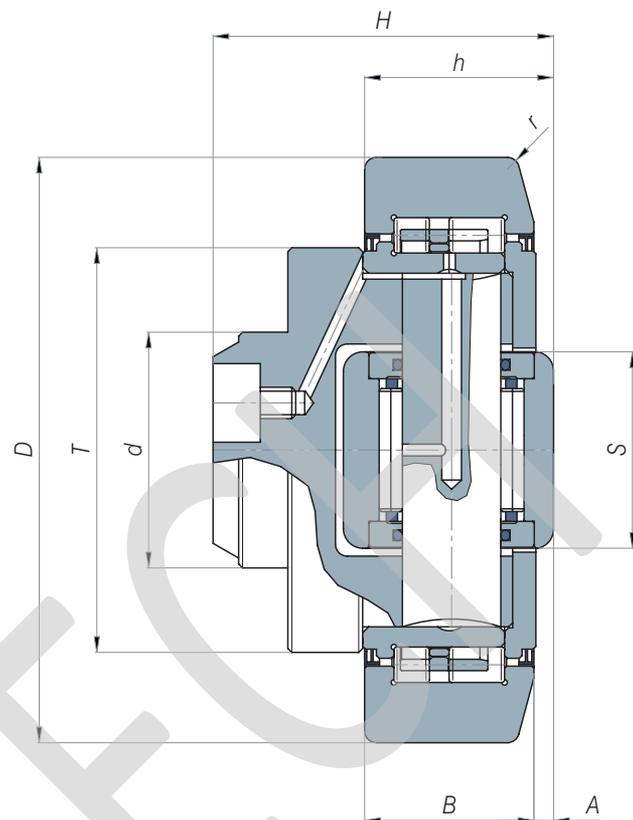


COMBINED BEARINGS FOR HIGH SPEED

Combined bearings for high speed maintain the same technical characteristics as fixed combined bearings.

They are provided with bronze cages both in the radial and in the axial part, therefore they can rotate at a high number of revolutions.

They are provided also with Viton seals, so that they can bear heavy working conditions and high temperatures.



ref.	d	T	D	H	h	B	A	S	r	C	C ₀	C _a	C _{0a}
	mm	mm	mm	mm	mm	mm	mm	mm	mm	KN	KN	KN	KN
400-0235	45	59	88,9	57	44	30	3,5	26	3	46,6	50	26	32,2
400-0227	60	71	107,7	69	55	31	4	34	5	76	90	30	32
400-0228	60	80	123	72,3	56	37	5	40	5	106	120	42	46
400-0229	60	108	149	86	67	45	5	50	3	129	180	62	70
400-0230	80	120	185	90,5	76	55	7	65	7,5	170	250	80	104

THE BEARINGS ARE IN ZRS OR ZZ EXECUTION .

C : Dynamic load

C₀ : Static load

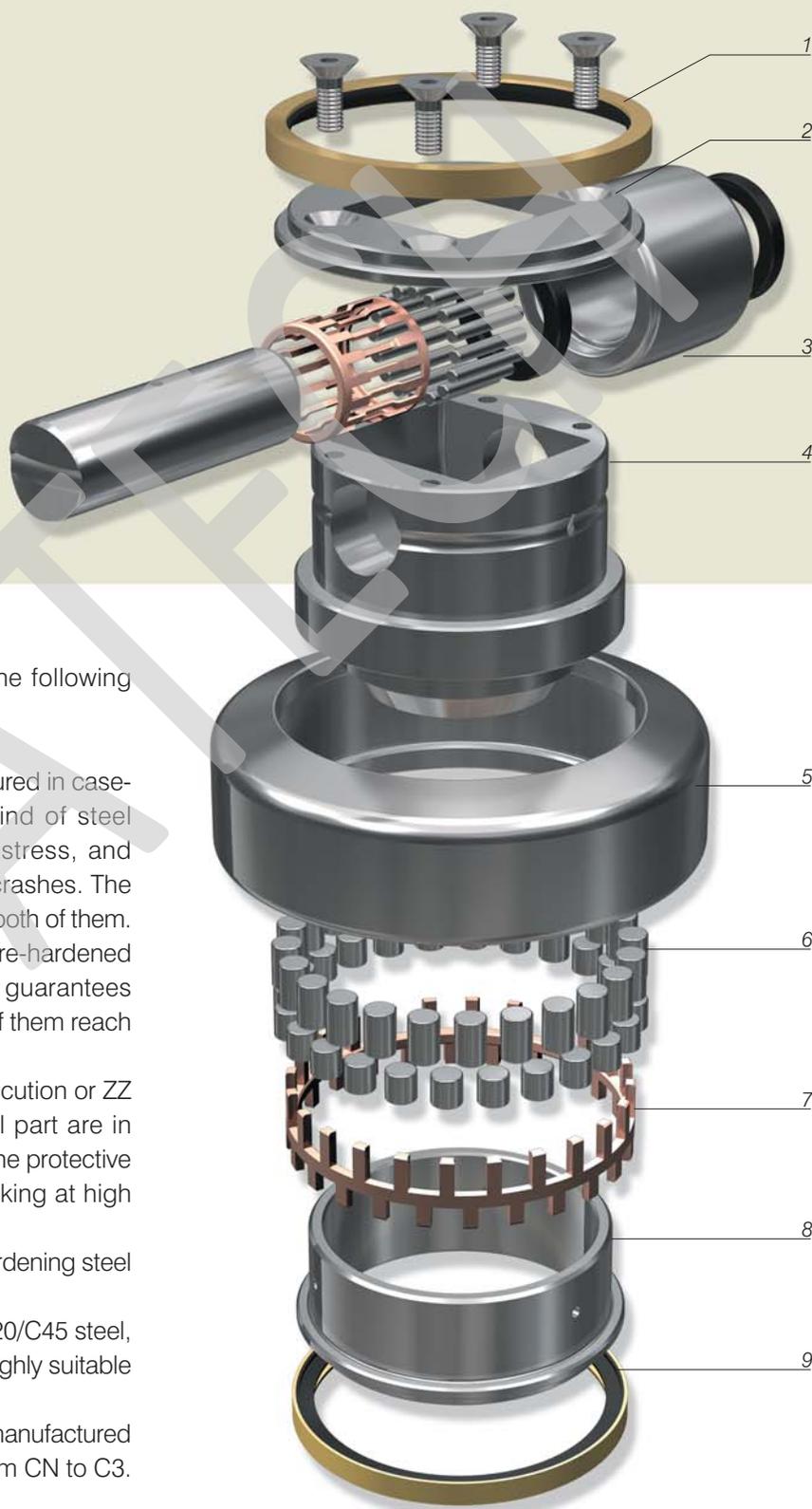
C_a : Dynamic axial load

C_{0a} : Static axial load

The bearings are supplied with lubrication hole.

COMBINED BEARINGS FOR HIGH SPEED

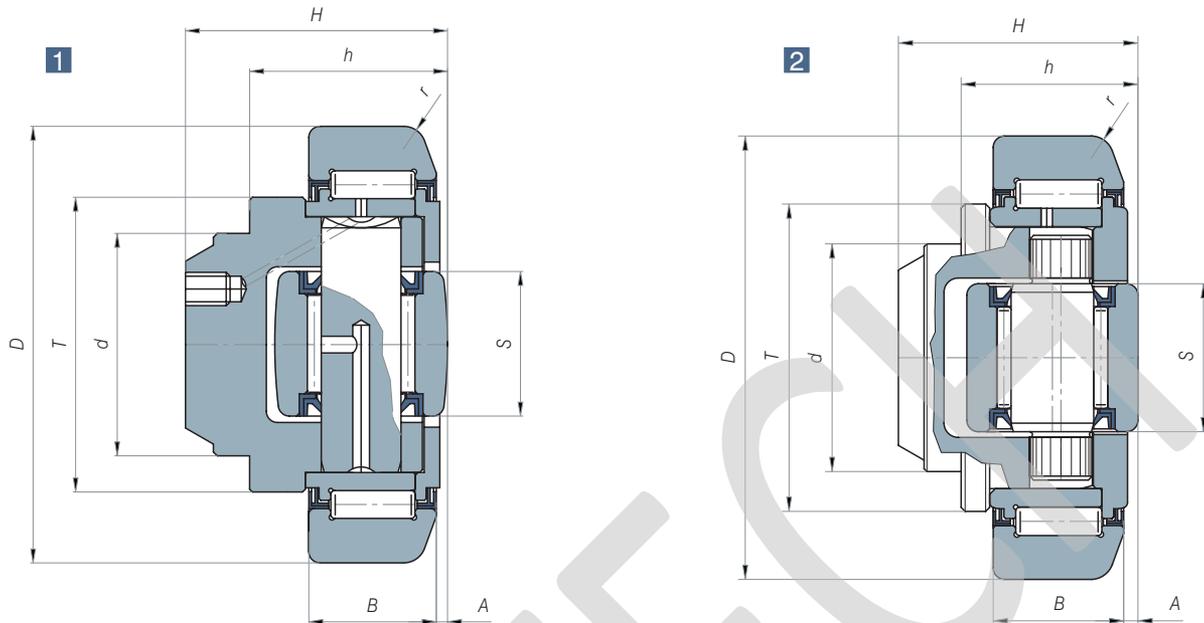
1. ZRS SEAL RING
2. SUPPORT THRUST RING
3. AXIAL PART
4. PIVOT
5. OUTER RING
6. CYLINDRICAL ROLLERS
7. CAGE
8. INNER RING
9. ZRS SEAL RING



Combined bearings for high speed have the following technical characteristics:

- Outer ring and little axial roll are manufactured in case-hardening steel type 20CrMnTi. This kind of steel guarantees a very good resistance to stress, and assures a very good resistance against crashes. The surface hardness can reach 60-2 HRC for both of them.
- Inner ring and pin are manufactured in core-hardened 100 Cr6 steel. The total-hardening steel guarantees high resistance to wear and stress; both of them reach 60-2 HRC hardness value.
- The seals in the radial part are in ZRS execution or ZZ execution whereas the seals in the axial part are in Viton. This is made in order to guarantee the protective device to the bearing also during its working at high temperature.
- The lateral thrust cover is made in case-hardening steel as well.
- The central pivot is made in low carbon C20/C45 steel, which guarantees high resistance and is highly suitable for welding.
- The cages inside radial and axial part are manufactured in bronze. Radial clearances may vary from CN to C3.

PRECISION COMBINED BEARINGS



Precision combined bearings maintain the same characteristics as the previous series. They are manufactured with a wider diameter than the standard ones, because they are used in machined profiles. The very precise coupling between profile and bearing represents a very good and economic solution in comparison to linear guides. These bearings are being used in alternative to the linear guides more often.

ref.	d	T	D	H	h _{min./max.}	B	A	S	r	C	C ₀	C _a	C _{0a}	PROFILE	Ref.
	mm	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	KN	KN	KN	KN		
DR 400-0054	30	42	64,8	37,5	30,5	20	2,5	20	3	39	65,2	14,4	21	EC 065 L	1
DR 400-0454	30	42	64,8	37,5	30,5 - 32	20	4	20	3	39	65,2	16	25	EC 065 L	2
DR 400-0055	35	48	73,8	44	36	23	2,5	22	4	55,5	91,7	17,6	25	EC 074 L	1
DR 400-0455	35	48	73,8	44	36 - 37,5	23	4	20	4	55,5	91,7	16	25	EC 074 L	2
* DR 400-0056	40	54	81,8	48	36,5	23	3	26	4	58,4	100	23,2	35,8	EC 082 L	1
DR 400-0456	40	54	81,8	48	37 - 38,5	23	3,5	26	4	58,4	100	23	36	EC 082 L	2
* DR 400-0058	45	59	92,8	57	44	30	3,5	26	3	83,8	132,3	27,7	42	EC 093 L	1
DR 400-0458	45	59	92,8	57	44 - 45,5	30	4	26	4	83,8	132,3	23	36	EC 093 L	2
* DR 400-0061	60	71	111,8	69	55	31	4	34	5	94,2	160,7	38,6	65,2	EC 112 L	1
DR 400-0461	60	69	111,8	69	55 - 57	31	4	30	5	94,2	160,7	32	50	EC 112 L	2
* DR 400-0062	60	80	127,8	72,3	56	37	5	40	5	128	226,8	53	92	EC 128 L	1
DR 400-0462	60	80	127,8	72,3	56 - 60	37	5	34	5	128	226,8	41	72	EC 128 L	2
* DR 400-0063	60	103	153,8	78,5	58,5	43	5,5	50	3	172,3	325,9	133,3	244	EC 154 L	1
DR 400-0463	60	108	153,8	78,5	58,5 - 62,5	45	6	34	3	172,3	325,9	41	72	EC 154 L	2

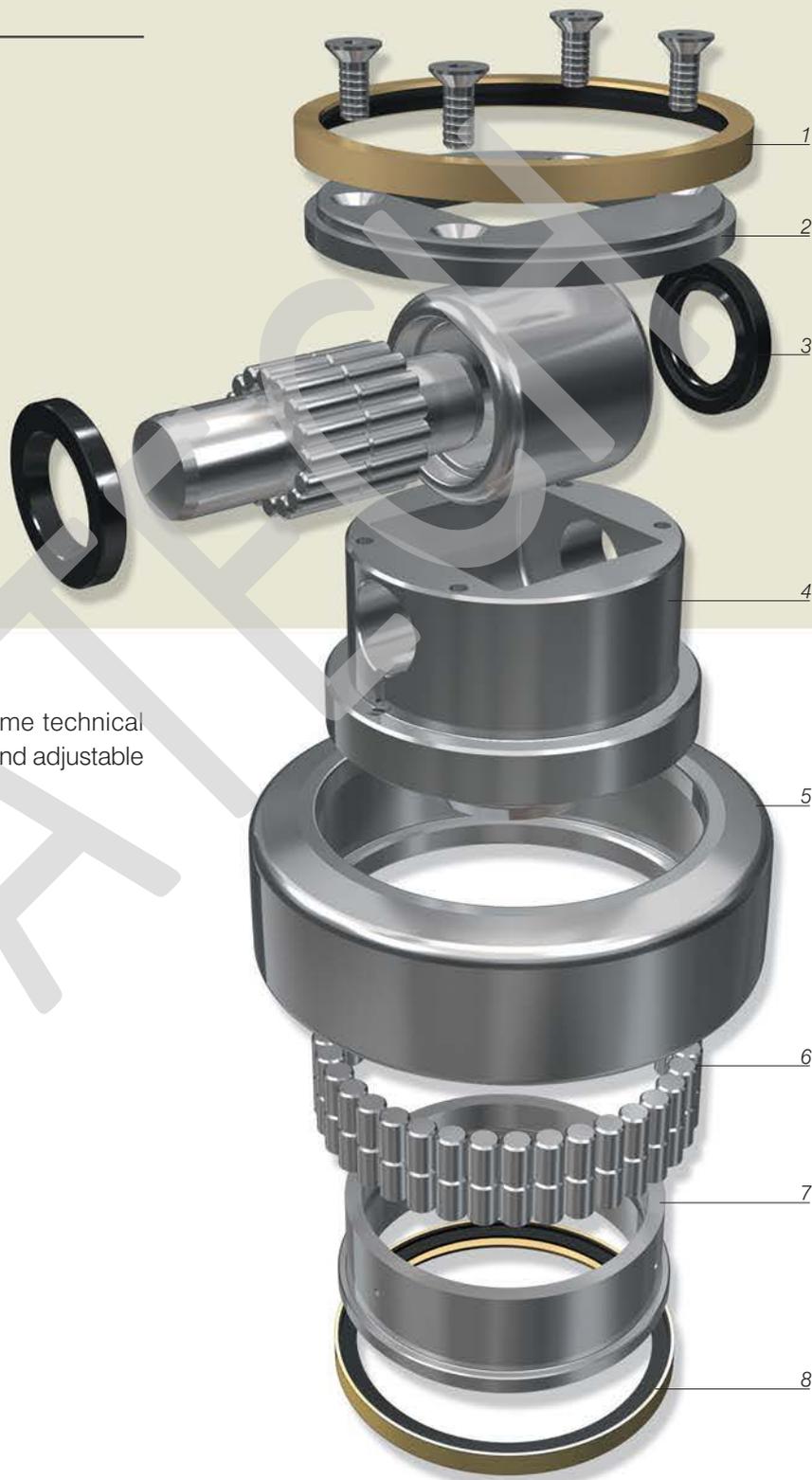
THE BEARINGS ARE IN ZRS EXECUTION.

C : Dynamic load C₀ : Static load C_a : Dynamic axial load C_{0a} : Static axial load

* DR400-0056, DR400-0058, DR400-0063 are executed with lubrication holes.

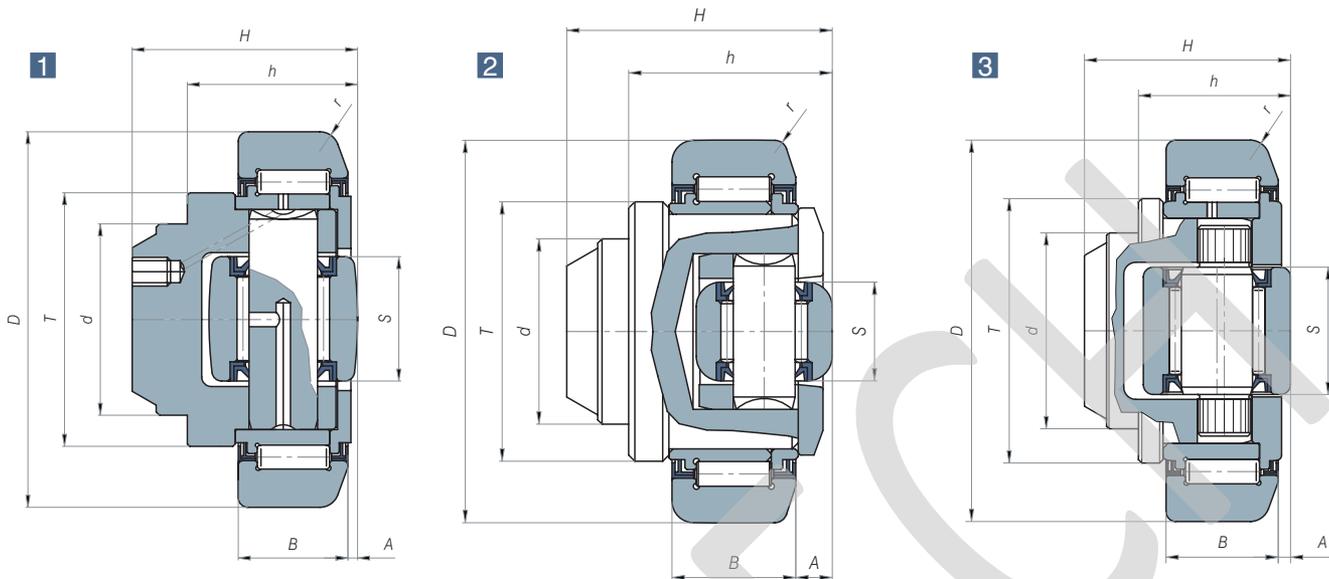
PRECISION COMBINED BEARINGS

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1. ZRS SEAL RING
 2. SUPPORT THRUST RING
 3. AXIAL PART
 4. PIVOT
 5. OUTER RING
 6. CYLINDRICAL ROLLERS
 7. INNER RING
 8. ZRS SEAL RING
-



Precision combined bearings have the same technical characteristics as fixed combined bearings and adjustable combined bearings with eccentric pin.

COMBINED BEARINGS FOR "I" STANDARD RAILS



The combined bearings for I profiles keep the standard features. They are exclusively used by the manufacturers of port lift masts.

ref.	d	T	D	H	h	B	A	S	r	C	C ₀	C _a	C _{0a}	∅ on request	PROFILE	Ref.
	mm	mm	mm	mm	mm	mm	mm	mm	mm	KN	KN	KN	KN	mm		
400-0055 / 1	35	48	70,1	40	30,5	23	2,5	22	4	55,5	91,7	17,6	25	70,4 / 70,7	3018	1
400-0057	40	53	77,7	40,7	29	23	3	26	4	58,4	100	28,2	35,8	78,1 / 78,5	3019	1
400-0075	40	53	77,7	45	34	23	7	21	4	58,4	100	28,2	35,8	78,1 / 78,5	3019	2
400-0457	40	54	77,7	40	29	23	3,5	26	4	58,4	100	28,2	35,8	*	3019	3
400-0058 / 52	45	59	88,4	52	39	30	3,5	26	3	83,8	132,3	27,7	42	88,9	3020	1
400-0059	50	67	101,2	46	33	28	3	30	3	91	150	31	49	101,9	2912	1
400-0077	50	67	101,2	50,5	37,5	28	7	21	3	91	150	13,2	14,5	101,9	2912	2
400-0459	50	69	101,2	46	33	26	4,5	30	3	91	150	31	49	*	2912	3
400-0060	55	71	107,7	53	39	31	3	34	5	92,5	157	38	65	108,2 / 108,5	3100	1
400-0078	55	71	107,7	58,5	44,5	31	8	33	5	92,5	157	25	28	108,2 / 108,5	3100	2
400-0460	55	69	107,7	54	40	31	4	30	5	92,5	157	31	49	*	3100	3
400-0259	55	76	123,5	57	42	33	4,5	33	5	109,7	185,7	25	28	*	3353	2

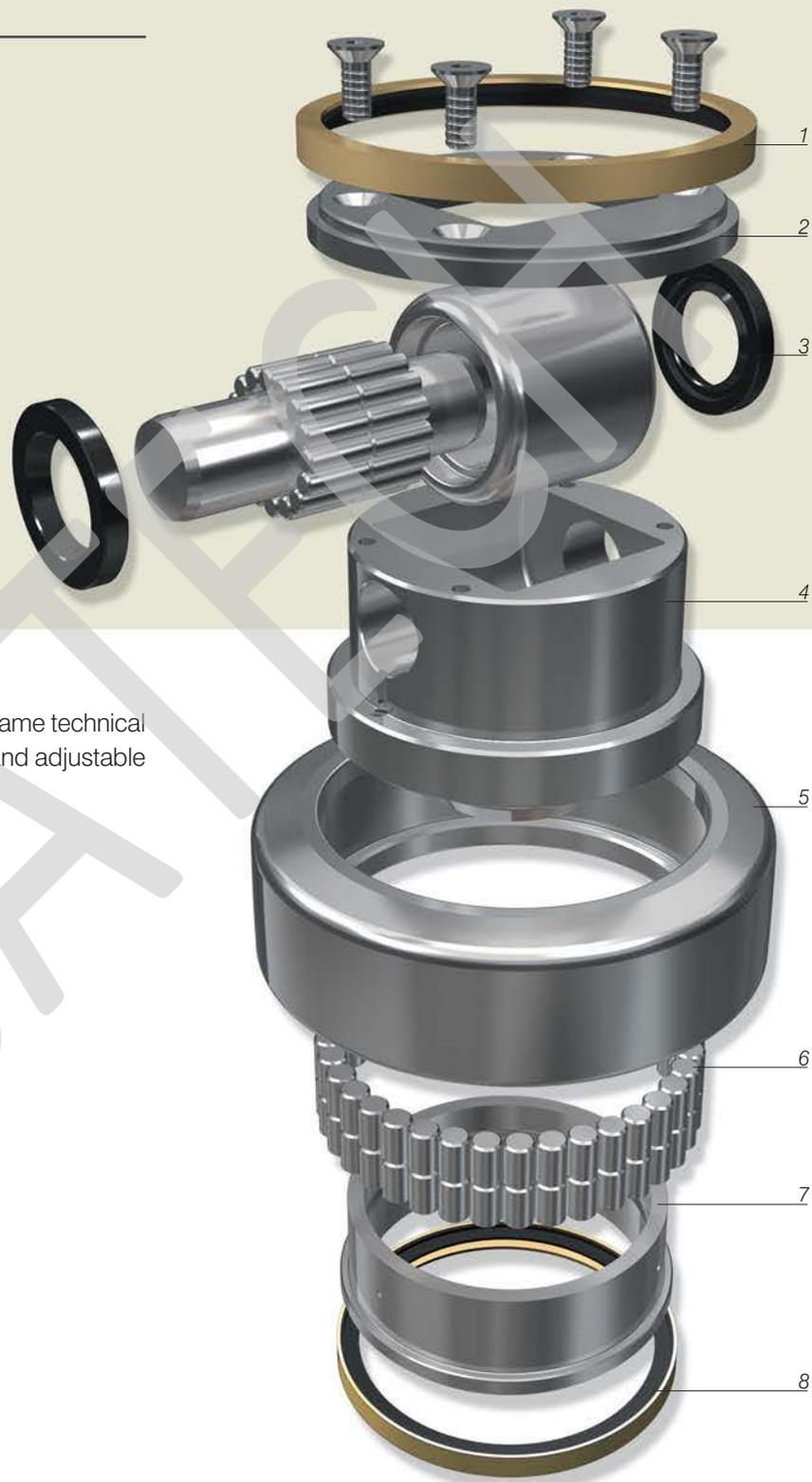
THE BEARINGS ARE IN ZRS EXECUTION.

C: Dynamic load C₀: Static load C_a: Dynamic axial load C_{0a}: Static axial load

* 400-0457, 400-0058/52, 400-0059, 400-0060 are executed with lubrication holes.

COMBINED BEARINGS FOR "I" STANDARD RAILS

-
1. ZRS SEAL RING
 2. SUPPORT THRUST RING
 3. AXIAL PART
 4. PIVOT
 5. OUTER RING
 6. CYLINDRICAL ROLLERS
 7. INNER RING
 8. ZRS SEAL RING
-



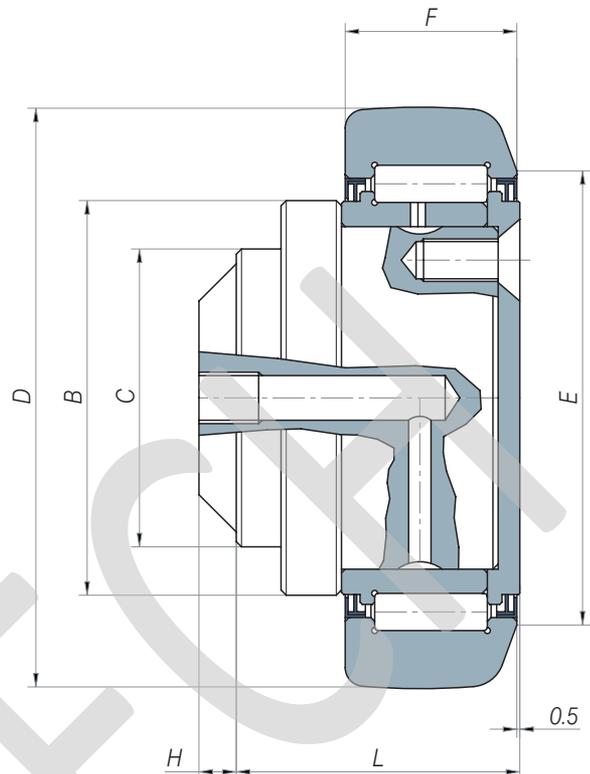
Combined bearings for "I" profiles have the same technical characteristics as fixed combined bearings and adjustable combined bearings with eccentric pin.

RADIAL BEARINGS WITH PIVOT

The radial bearings with pivot keep the same structural features as the combined bearings.

In this case there is no axial guide inside the bearing.

For this reason these bearings are used in application fields where it is not necessary to bear differentiated loads.



ref.	C	B	D	L	F	H	E	C	C ₀	PROFILE
	mm	mm	mm	mm	mm	mm	mm	KN	KN	
* 200-0856	25	42	62	23,5	20	7	50	39	65,2	2890
* 200-0363	30	42	62	29,5	20	7	50	39	65,2	2890
200-0360	35	48	70,1	33,5	23	8,2	57	55,5	91,7	2867
9.2102	40	53	78,1	32	23	11	61	58,4	100	2810
200-0448	45	59	88,9	41	30	13	68	83,8	132,3	2811
200-1641	55	69	107,7	35	31	14	82	94,2	160,7	3100
200-1641 / 1	60	69	107,7	50,5	31	14	82	94,2	160,7	2862
200-1642	60	79	123	51,5	37	16,3	92	128	226,8	2891
200-1643	60	103	149	54	43	20	116	172,3	325,9	2757

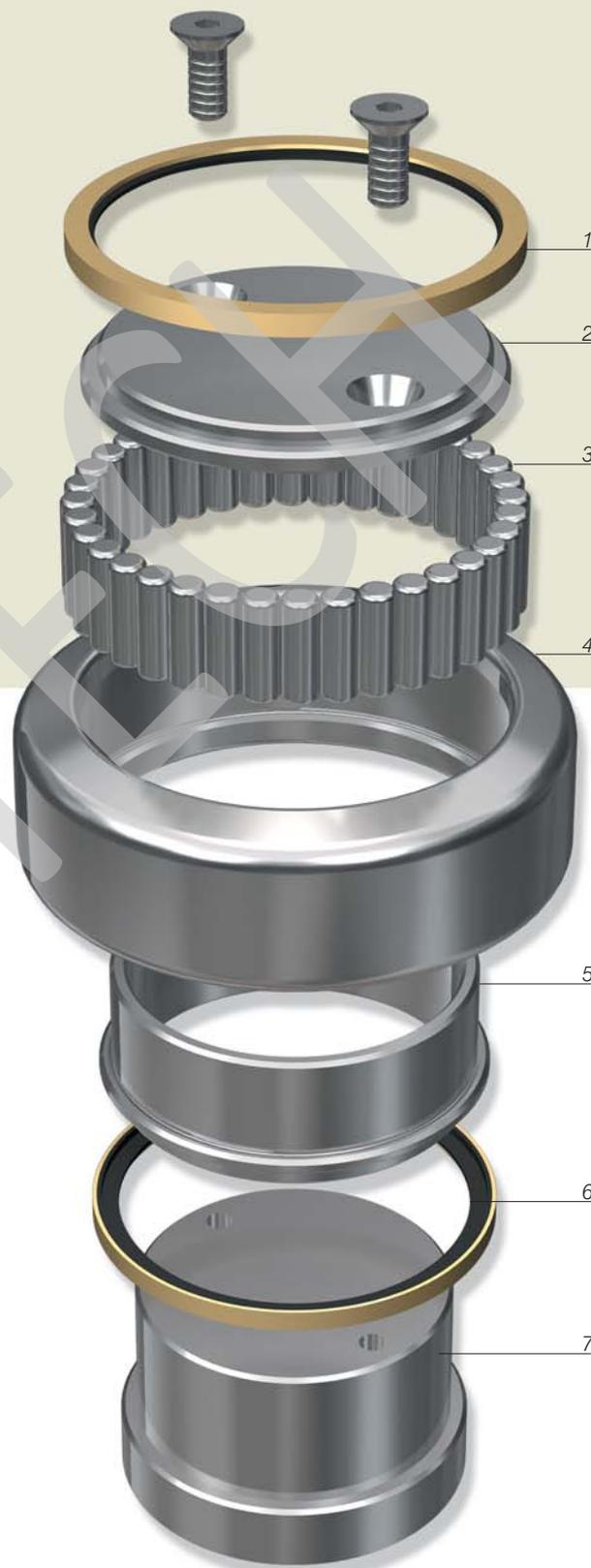
THE BEARINGS ARE IN ZRS EXECUTION.

C : Dynamic load C₀ : Static load

* 200-0856 and 200-0363 are supplied in "Long life" execution.

RADIAL BEARINGS WITH PIVOT

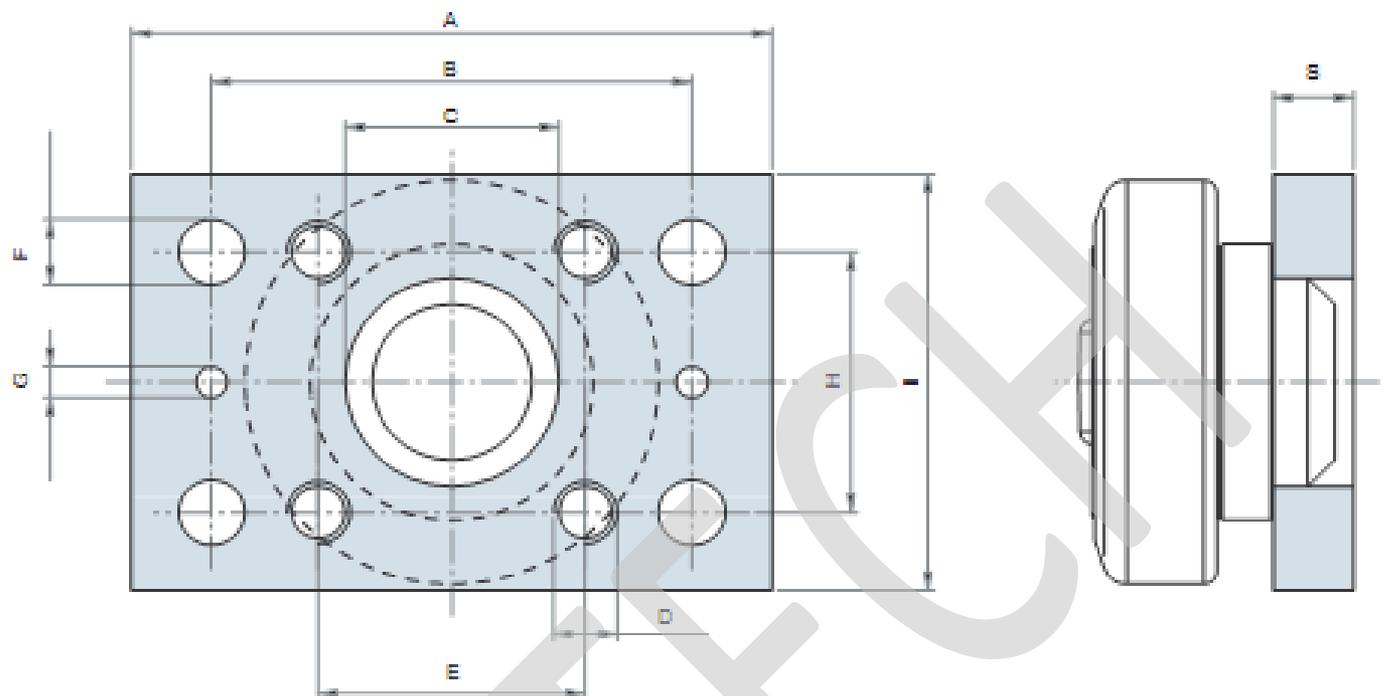
-
1. ZRS SEAL RING
 2. SUPPORT THRUST RING
 3. CYLINDRICAL ROLLERS
 4. OUTER RING
 5. INNER RING
 6. ZRS SEAL RING
 7. PIVOT
-



The radial bearings with pivot have the following technical features:

- The outer ring is manufactured in 20CrMnTi cementation steel. This kind of steel can guarantee a very high resistance to stress and can assure a strong resistance against shocks. The surface hardness is 60-2 HRC.
- The inner ring is manufactured in core hardened 100Cr6. The core hardening guarantees a high resistance to wearing and to fatigue. The hardness is 60-2 HRC.
- ZRS seal system, realized during the recent years, prevents outer agents, such as dust, wet and mill scale, to enter the inner part of the bearing, and at the same time it prevents the leakage of lubrication grease.
- Also the side thrust ring is manufactured in cementation steel.
- The central pivot is manufactured in low C20/C45 carbon steel. This kind of material guarantees a good resistance and a perfect welding.

COMBINED BEARINGS WELDED ON PLATE



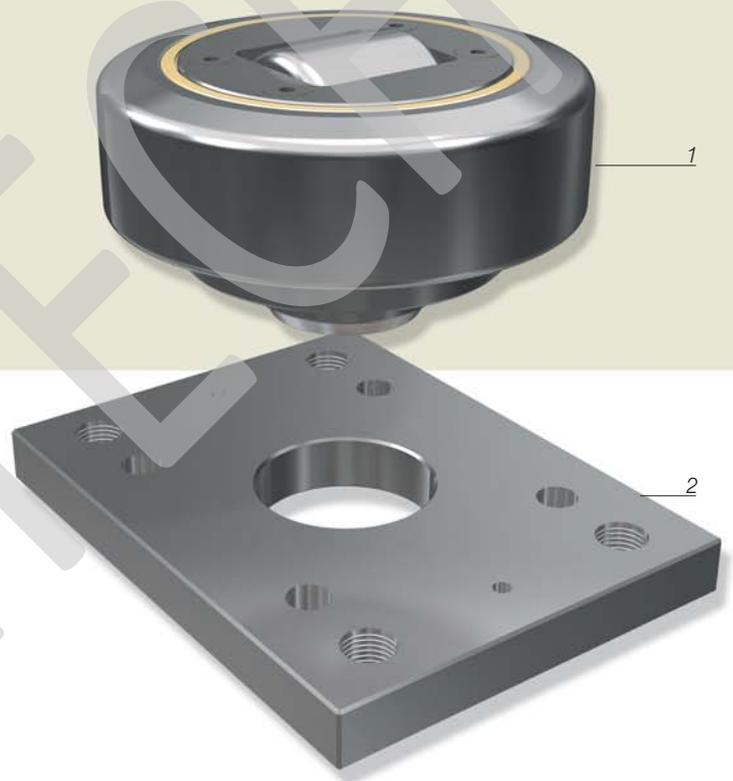
Bearing ref. + plate	Bearing ref.	Plate ref.	A	B	C	D	E	F	G	H	I	S	PROFILE
			mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
400-0631	400-0053	800-0288	90	70	30	M 8	40	8,5	6	30	50	10	EC053
400-0608	400-0054	800-0276	100	80	30	M 10	40	10,5	6	40	60	10	2890
400-0609	400-0072	800-0276	100	80	30	M 10	40	10,5	6	40	60	10	2890
400-0610	400-0055	800-0277	120	90	35	M 12	50	12,5	6	50	80	15	2867
400-0611	400-0073	800-0277	120	90	35	M 12	50	12,5	6	50	80	15	2867
* 400-0612	400-0056	800-0278	120	90	40	M 12	50	12,5	6	50	80	15	2810
400-0613	400-0074	800-0278	120	90	40	M 12	50	12,5	6	50	80	15	2810
* 400-0614	400-0058	800-0279	120	90	45	M 16	90	-	-	90	120	20	2811
400-0615	400-0076	800-0279	120	90	45	M 16	90	-	-	90	120	20	2811
* 400-0616	400-0061	800-0280	180	140	60	M 16	80	17	6	80	120	20	2862
400-0617	400-0078 / L	800-0280	180	140	60	M 16	80	17	6	80	120	20	2862
* 400-0618	400-0062	800-0280	180	140	60	M 16	80	17	6	80	120	20	2891
400-0619	400-0079	800-0280	180	140	60	M 16	80	17	6	80	120	20	2891
* 400-0620	400-0063	800-0281	200	160	60	M 16	100	17	6	100	150	20	2757
400-0621	400-0080	800-0281	200	160	60	M 16	100	17	6	100	150	20	2757
* 400-0624	400-0011	800-0281	200	160	60	M 16	100	17	6	100	150	20	2757

THE BEARINGS ARE IN ZRS EXECUTION.

* 400-0612, 400-0614, 400-0616, 400-0618, 400-0620, 400-0624 are supplied with lubrication holes.

COMBINED BEARINGS WELDED ON PLATE

-
1. *COMBINED BEARING*
 2. *PLATE*
-



combined bearings are usually welded on plate.

This is an ideal solution because the bearing welded on plate is directly applied on the structure of the plant, with the big advantage that the assembling and disassembling operations are extremely fast and cheap.

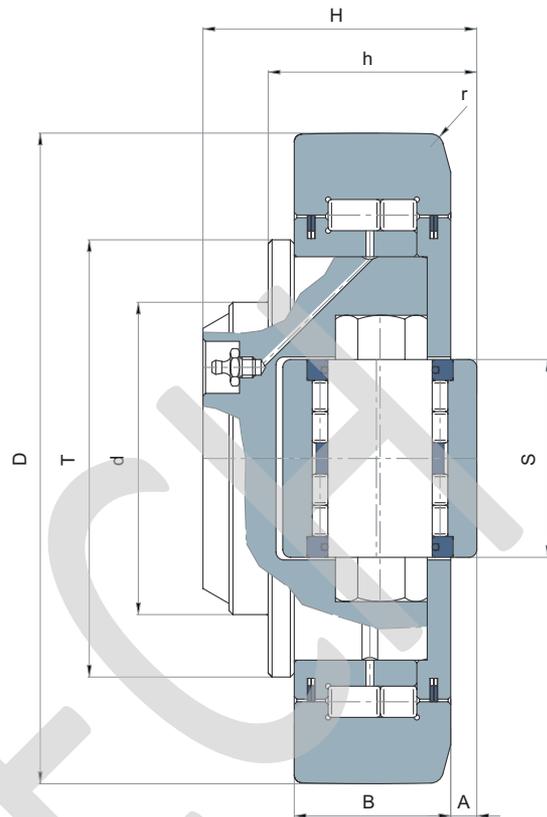
The combined bearings on plate can be supplied in the fixed or adjustable execution.

"JUMBO" ADJUSTABLE COMBINED BEARINGS

The Jumbo adjustable combined bearings represent a special range both for dimensions and technical features.

They are used both for big size fork lift masts and for different industrial applications in the following fields: ship, aircraft, steel industry.

High load capacity and a limited width represent the fundamental features of this bearing.



ref.	d	T	D	H	h min.	h max.	B	A	S	r	C	C ₀	C _a	C _{0a}	PROFILE
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	KN	KN	KN	KN	
400-0089	80	113	165	69	53	56	40	5	50	3	213	388	85	133	FM 165
400-0090	100	124	190	84,5	64,5	67,5	48	6,5	60	4	266	500	100	180	FM 190
400-0091	110	146	220	94,5	74,5	77,5	58	6,5	75	5	326	681	138	257	FM 220
400-0092	120	168	250	102	77	80	60	7	75	5	369	748	138	257	FM 250
400-0093	150	188	280	119,5	89,5	93,5	72	7,5	90	5	489	1066	182	488	FM 280
400-0094	140	218	320	135	110	114	85	10	90	8	542	1370	210	422	*

THE BEARINGS ARE IN 2ZL EXECUTION.

C : Dynamic load

C₀ : Static load

C_a : Dynamic axial load

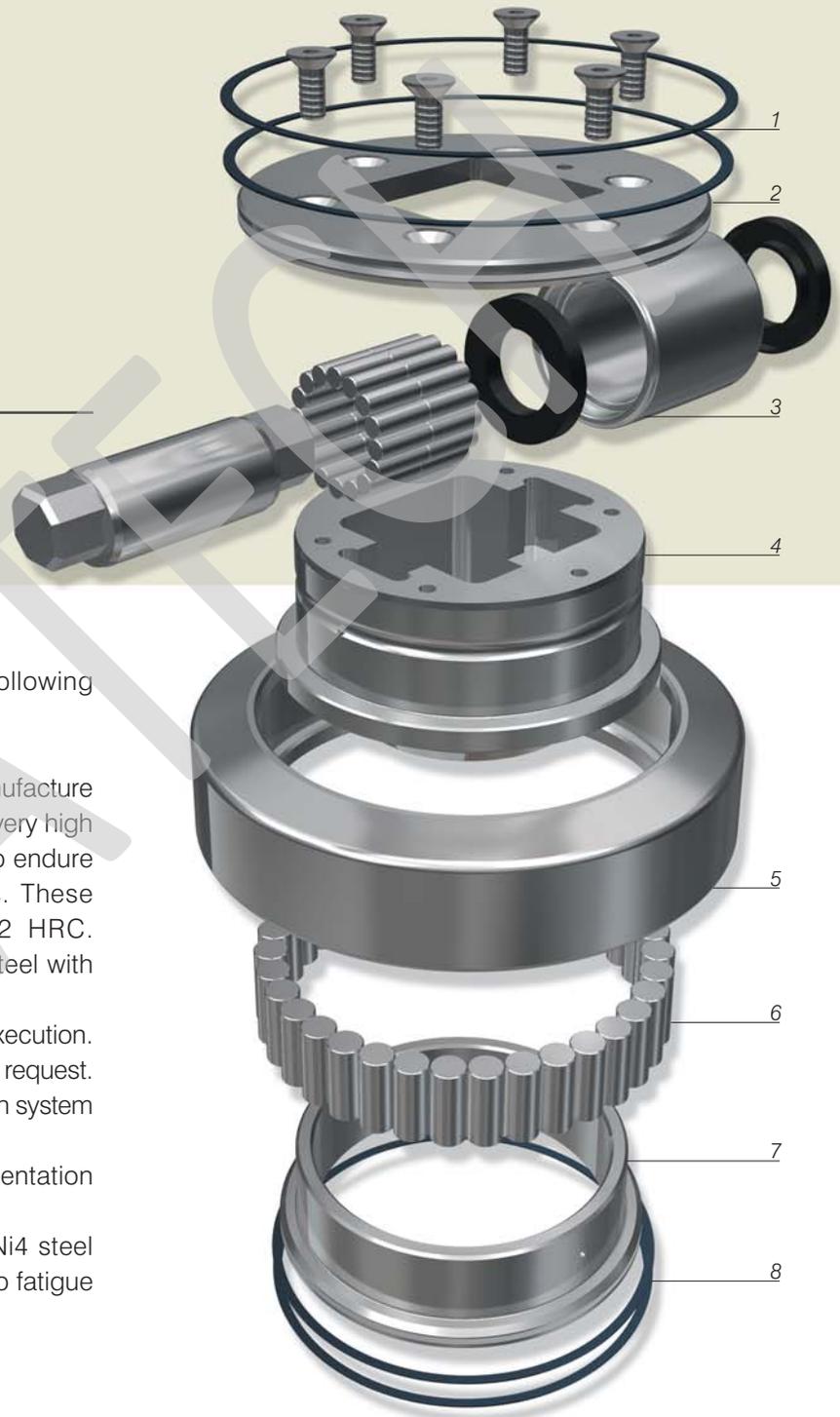
C_{0a} : Static axial load

The adjusting of dimension "H" is possible through the rotation of the axial pivot.

The bearings are supplied with lubrication holes.

"JUMBO" ADJUSTABLE COMBINED BEARINGS

1. FEY SEAL RING
2. SUPPORT THRUST RING
3. AXIAL PART
4. PIVOT
5. OUTER RING
6. CYLINDRICAL ROLLERS
7. INNER RING
8. FEY SEAL RING



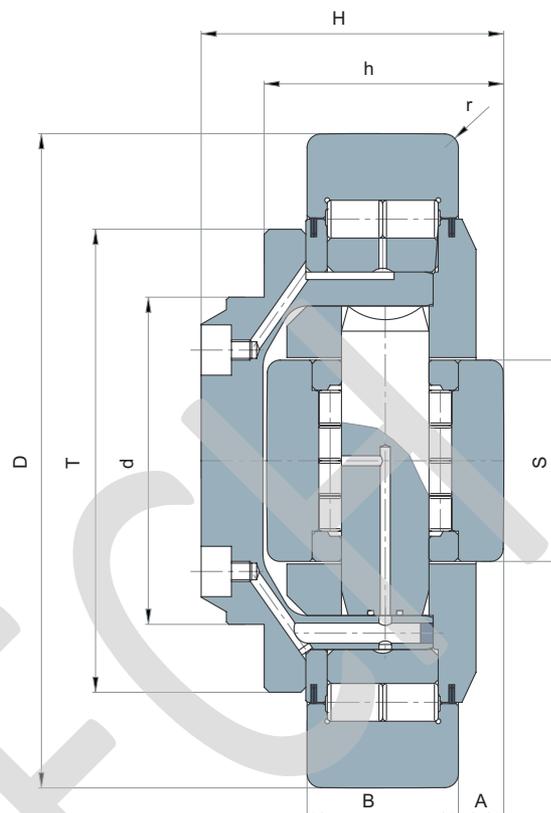
The "Jumbo" adjustable bearings have the following features:

- Outer ring, axial little roll and little pin are manufacture in 16CrNi4 steel . This kind of material has a very high core resistance and is particularly suitable to endure shocks and to support the applied loads. These components reach a hardness of 60-2 HRC.
- The inner ring is manufactured in 100Cr6 steel with hardness 60+2 HRC.
- They are normally supplied with seals in ZZ execution. They can also be supplied in 2RS execution on request. "Jumbo" bearings are provided with a lubrication system of the radial part.
- Also the thrust ring is manufactured in cementation steel.
- The central pivot is manufactured in 16CrNi4 steel which guarantees the maximum resistance to fatigue and a good welding.

ADJUSTABLE COMBINED BEARINGS FOR HEAVY INDUSTRY

Big size adjustable combined bearings can bear very high loads.

They are mainly used for masts of fork lifts up to 50TN and in steel industry where they are used as a wheel for rolling mills carrying cars.



ref.	d	T	D	H	h	B	A	S	r	C	C _o	C _a	C _{oa}
	mm	mm	mm	mm	mm	mm	mm	mm	mm	KN	KN	KN	KN
400-0069	70	98	170	109,7	84,7	51	11,2	49,7	4	195	361	83	129
400-0087	80	115	185	100	75	47	15	49,7	3	235	440	83	130
400-0019	110	150	220	115	90	60	13,5	70	5	367	719	103	230
400-0038	130	184	260	120	95	60	18,5	80	5	475	1.000	167	279
400-0274	150	187	260	135	110	80	10	80	5	566	1.300	167	279
400-0088	140	190	300	140	110	80	10	86	8	549	1.272	195	335
400-0278	140	240	315	240	120	89	10	100	8	785	1.690	227	392
400-0084	140	240	340	150	120	89	10	100	8	785	1.690	227	392
400-0275	170	242	390	200	150	118	11	100	8	1.076	2.535	227	392

THE BEARINGS ARE IN ZZ EXECUTION, THEY CAN BE EXECUTED IN 2RS ON REQUEST.

C : Dynamic load C_o : Static load C_a : Dynamic axial load C_{oa} : Static axial load

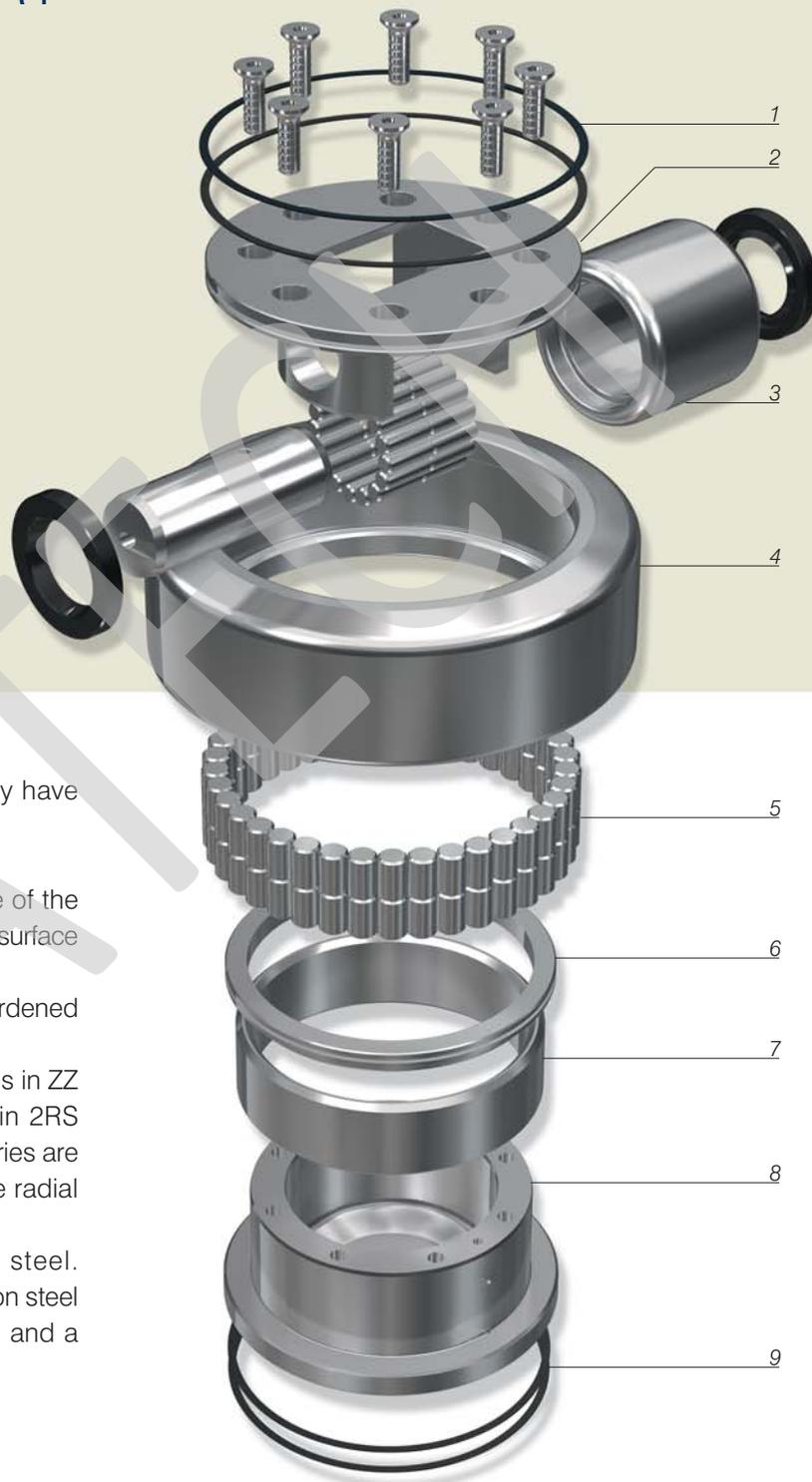
The adjusting of "A" size is made through washer rings put between the main support roll and the lateral guide bearing.

Adjusting washers with 0,3-0,5-1 mm thickness are available.

The bearings are supplied with lubrication holes.

ADJUSTABLE COMBINED BEARINGS FOR HEAVY INDUSTRY

1. FEY SEAL RINGS
2. SUPPORT
3. AXIAL PART
4. OUTER RING
5. CYLINDRICAL ROLLERS
6. SUPPORT THRUST RING
7. INNER RING
8. PIVOT
9. FEY SEAL RINGS



Adjustable combined bearings for heavy industry have the following features:

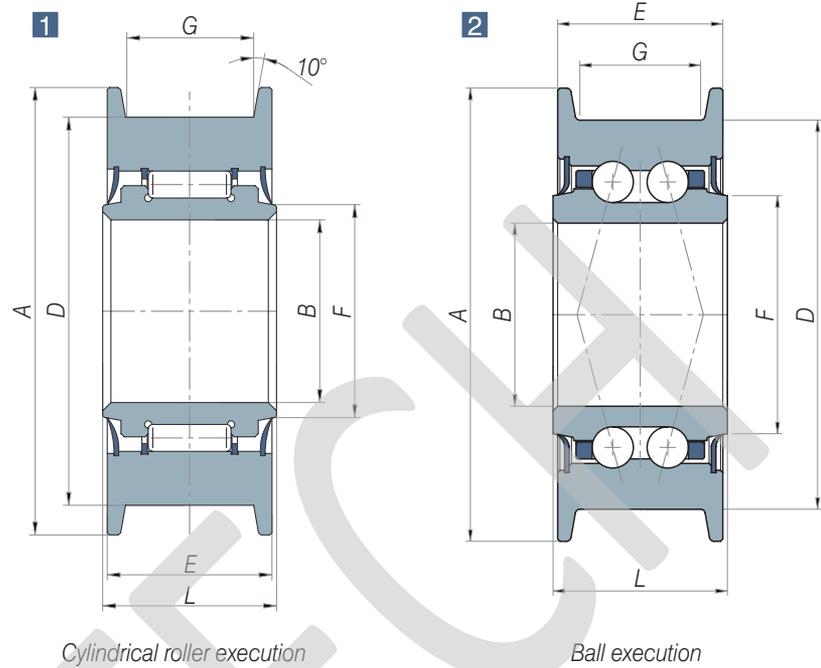
- The outer ring and the axial little roll are made of the best possible 18NiCrMo5 cementation steel. The surface hardness is 60-2 HRC.
- The inner ring and little pin are made of core hardened 100Cr6 with hardness 60+2 HRC.
- These bearings are normally supplied with seals in ZZ execution. They can also be manufactured in 2RS execution on request. All the bearings of this series are provided with a lubrication system both for the radial and the axial part.
- The thrust ring is made of cementation steel.
- The central pivot is made of 16CrNi4 cementation steel which guarantees a high resistance to stress and a good welding.

CHAIN PULLEYS

chain pulleys are suitable to gear Fleyer chains.

They are used as lifting parts in fork lifts masts.

They are supplied pre-lubricated and with seals.



1	ref.	B mm	D mm	L mm	E mm	G mm	A mm	F mm	C KN	C ₀ KN	CHAIN
	200-0247 / 2	40	70	26,5	25	19	78	50	44	46	BL 534 - AL 544 - LL 1044
	200-1644 / 2	40	80	28	26	19	90	50	50	54	BL 534 - AL 544 - LL 1244
	200-0252	40	80	43	41	33	98	50	81	87	BL 634 - AL 666 - LL 1288
	200-1080 / 2	40	85	38	36	28	98	50	64	70	BL 634 - AL 644 - LL 1266
	200-0241 / 2	50	100	42	40	33	115	60	89	162	BL 834 - AL 844 - LL 1644
	200-1190	55	110	58	56	45	135	65	135	146	BL 846 - AL 866 - LL 1666
	200-1191	55	130	67	65	55	158	65	200	218	BL 1046 - AL 1066 - LL 2066

2	ref.	B mm	D mm	L mm	E mm	G mm	A mm	F mm	C KN	C ₀ KN	CHAIN
	900-3481	40	70	26,5	25	19	78	50	25	32	BL 534 - AL 544 - LL 1044
	900-3822	40	80	28	26	19	90	50	25	32	BL 534 - AL 544 - LL 1244
	900-3823	40	80	43	41	33	98	50	37	45	BL 634 - AL 666 - LL 1288
	900-2975	40	85	38	36	28	98	50	37	45	BL 634 - AL 644 - LL 1266
	900-3283	50	100	42	40	33	115	60	52,8	58,5	BL 834 - AL 844 - LL 1644
	900-3468	55	110	58	56	45	135	65	57,2	67	BL 846 - AL 866 - LL 1666
	900-3376	55	130	67	65	55	158	65	72,1	85	BL 1046 - AL 1066 - LL 2066

C : Dynamic load

C₀ : Static load

CHAIN PULLEYS

-
1. *RS SEAL RING*
 2. *BALLS*
 3. *CAGE*
 4. *INNER RING*
 5. *CAGE*
 6. *BALLS*
 7. *OUTER RING*
 8. *RS SEAL RING*
-



Chain pulleys have the following features:

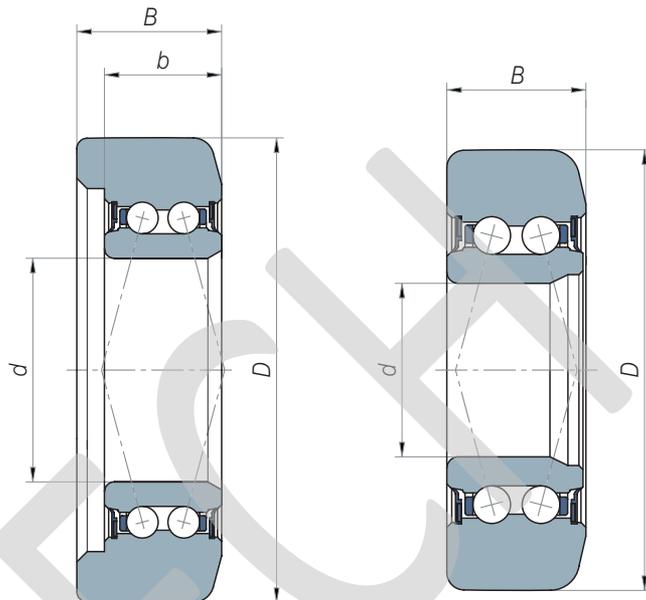
- The outer ring is made of 20CrMnTi cementation steel with surface hardness 60-2 HRC.
- The inner ring is made of 100Cr6 total hardened steel with hardness 60+2 HRC.

BALL BEARINGS WITH **CAGE** FOR **FORK LIFT MASTS**

radial ball bearings are mainly used for fork lift masts.

They are manufactured in rigid execution, with two or four contact points and with one or two crowns of balls which are separated by a polyamide cage.

This series of bearings presents a quite good radial load capacity and a very good resistance against the axial thrusts.



ref.	d mm	D mm	b mm	B mm	C KN	C ₀ KN
900-3945	35	80,9	25,2	26	35,5	72
900-3945/A	35	81,2	25,2	26	35,5	72
900-3945/B	35	81,5	25,2	26	35,5	72
900-3945/C	35	81,8	25,2	26	35,5	72
900-3494	40	89,9	-	29	74,0	93
900-3494/A	40	90,2	-	29	74,0	93
900-3494/B	40	90,5	-	29	74,0	93
900-3493	45	106,1	-	34	94,0	122
900-3493/A	45	105,8	-	34	94,0	122
900-3493/B	45	105,4	-	34	94,0	122
900-3522	65	135,1	34,0	42	130,0	200
900-3522/A	65	135,6	34,0	42	130,0	200
900-3522/B	65	136,0	34,0	42	130,0	200

C : Dynamic load

C₀ : Static load

BALL BEARINGS WITH **CAGE** FOR **FORK** LIFT **MASTS**

-
1. *RS SEAL RING*
 2. *CAGE*
 3. *BALLS*
 4. *CAGE*
 5. *OUTER RING*
 6. *INNER RING*
 7. *RS SEAL RING*
-



I cuscinetti radiali a sfere per montanti di carrelli elevatori presentano le seguenti caratteristiche.

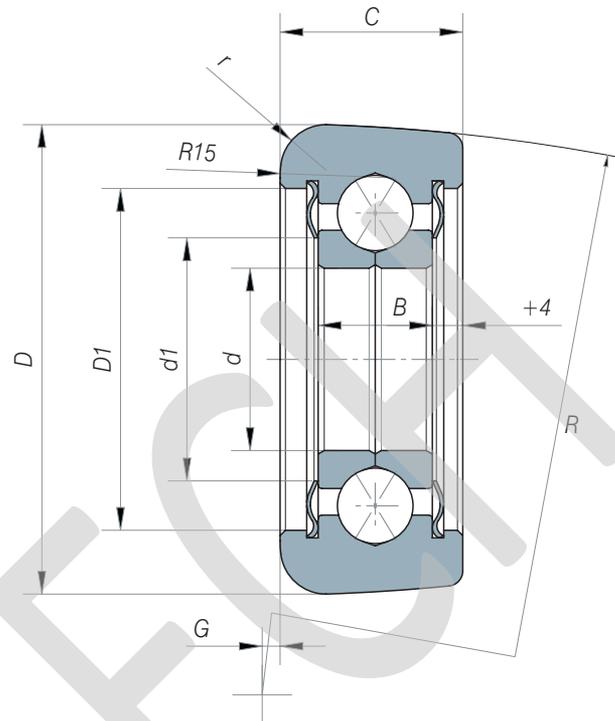
- The outer ring is made of UNI 20 CrMnTi cementation steel, with surface hardness degree 60-2 HRC.
- The inner ring is made of total hardened UNI 100Cr6 steel, with surface hardness degree 60±2 HRC.
- These bearings are designed with a limited radial clearance and with small size sections.

FULL COMPLEMENT BALL BEARINGS FOR FORK LIFT MASTS

Full complement radial ball bearings, like the previous series, are mainly used in fork lift masts.

They are manufactured with one row of balls with four contact points.

The full complement execution guarantees a very high radial load capacity and a very good axial support.



ref.	d	D	C	B	d ₁	D ₁	R	G	C	C ₀	C _a	C _{0a}
	mm	mm	mm	mm	mm	mm	mm	mm	KN	KN	KN	KN
900-3596	24	69,5	26	15	30	45	250	4,25	38	28	32,5	24
900-3377	28	77,5	28	18	37	57	250	4,85	51	31,5	44	29
900-3568	33	88,5	30	20	43	62,5	500	4,9	66	42	56	37,5
900-3801	40	107	34	23	51	79	500	2,35	92	70	75	59
900-3597	50	122,5	38	26	63	93	1000	21,4	119	98	93	77
900-3598	65	149	44	30	80	115	1000	17,25	178	155	131	111

C : Dynamic load C₀ : Static load C_a : Dynamic load as roller C_{0a} : Static load as roller

FULL COMPLEMENT BALL BEARINGS FOR FORK LIFT MASTS

-
1. PROTECTION COVER
 2. INNER RING
 3. OUTER RING
 4. BALLS
 5. INNER RING
 6. PROTECTION COVER
-

Full complement ball bearings for fork lift masts have the following characteristics:

- The outer ring is manufactured in case hardened UNI 20CrMnTi steel with hardness degree 60-2 HRC.
- The inner ring, which is made of two half-rings, is manufactured in total hardening UNI 100Cr6 steel with hardness degree $60\pm\text{HRC}$.
- The calculation of these bearings is made with restricted radial clearance and sections.

