

# Special Double Row Bearings for Water Pumps of Combustion Engines



The special double-row bearings built not separable and sealed unit. They are composed of a shaft and cylindrical bushing which is arranged in two rows of rolling elements. The rolling elements are seated in light single-sided plastic cages. The raceways on the shaft and in the cylindrical bushing are produced with a very high degree of accuracy. In order to protect them against penetration of impurities, they are equipped on both sides by efficiency contact sealing. The bearings are filled with high quality grease, which provides the sufficient lubrication for the whole lifetime of the bearing. They have been designed to meet all customer's requirements for minimum weight, maximal compactness, high quality and stability of material and close quality supervision during the whole production process.

On the market, KINEX, a. s., presents two modifications of double-row ball bearings for water pumps:

- Type K with two rows of balls,
- Type R with one row of balls and one row of rollers.

The R type is characteristic by significantly higher resistance against radial load on the cylindrical rollers row side. The rollers are placed on the loaded side of the bearing that extends its lifetime.

The bearings are designated by type (K or R) and three-figures number. In certain cases the three-figures number is followed by OS or S which means, in comparison with bearing without OS or S that the special double-row bearing has been produced for repairs of water pumps.

## Material

The material for production of double-row bearings is supplied by carefully selected and highly qualified supplier.

Bushing: STN 14109 (DIN100Cr6, SAE 52100, JIS SUJ2) – through hardened; HRC60-63

Shaft:

- STN 14220 (DIN16MnCr5, SAE 5115) – casehardened by special hardening procedure; HRC60-64
- STN 14109 (DIN100Cr6, SAE 52100, JIS SUJ2) – through hardened; HRC60-63
- STN 14109 (DIN100Cr6, SAE 52100, JIS SUJ2) – induction hardening; HRC 60min

Chemical composition of the steels is shown in Table No. 1

Rolling elements: STN 14109 (DIN100Cr6, SAE 52100, JIS SUJ2)

Cage: Polyamide

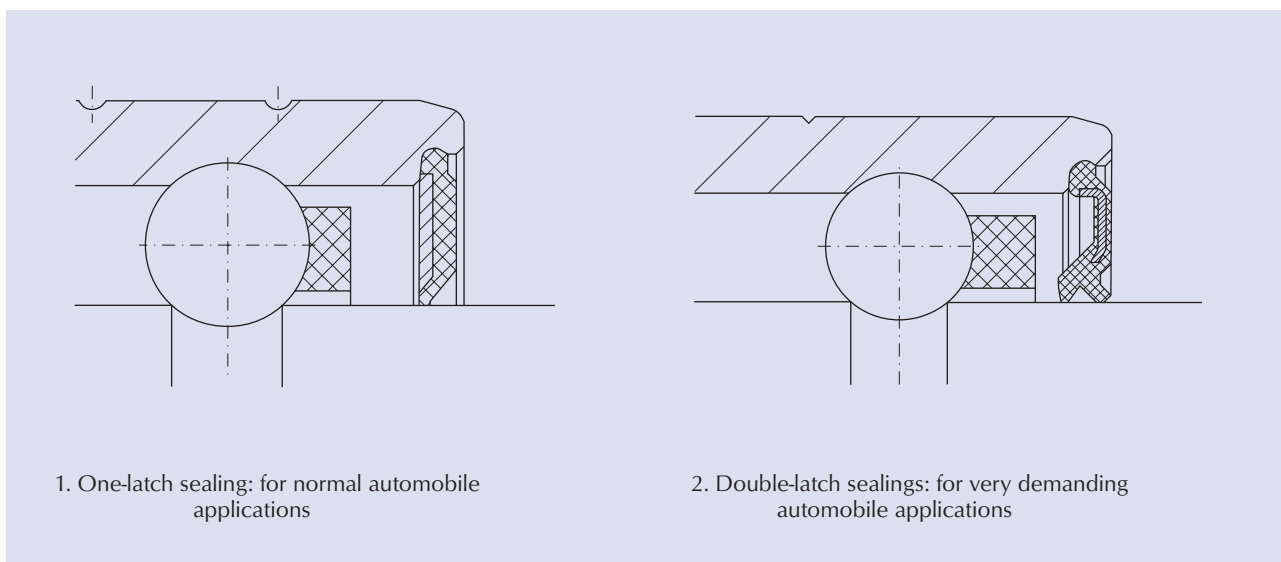
Sealing: nitrile rubber deposited on a steel brace

	Composition %								
	C	Si	Mn	P	S	Cr	Ni	Cu	Ni+Cu
STN 14 109	0,90-1,10	0,15-0,35	0,30-0,50	0,027max	0,030max	1,30-1,65	0,30max	0,25max	0,50max
STN 14 220	0,14-0,19	0,17-0,37	1,10-1,40	0,035max	0,035max	0,80-1,10	-	-	-

Lubricants: SHELL ALVANIA G3 – standard  
 CHEVRON SRI GREASE NLGI 2  
 SHELL ALVANIA RL3  
 KLÜBER PETAMOGHY 133N  
 KLÜBER STABURAGS GBUY 132

## Sealing

The function of the sealing is to protect the bearing against penetration of impurities inside the bearing and against the leaking of the lubricant out of the bearing:



## Clearance and Correct Assembly

For a correct bearing assembly into the water pump, it is necessary to choose the proper tolerance of the bearing arrangement between the bushing of the bearing and the housing bore. The running clearance which does effect the lifetime of the bearing depends from this arrangements. Too large clearance results into inaccurate assembly and too low results into overloading of the bearing.

The recommended parameters for the bearings assembly into the body of a water pump are stated in the Table No 2.

Material of water pump body	Recommended dimensions of bore (mm)			
	Bushing diameter (mm)			
	30,000	38,100	47,625	55,000
Steel	29,972 29,946	38,067 38,047		
Aluminium	29,949 29,924	38,029 38,003		54,923 54,898
Iron alloys	29,967 29,947	38,067 38,048	47,587 47,562	54,946 54,919

## Load Ratings

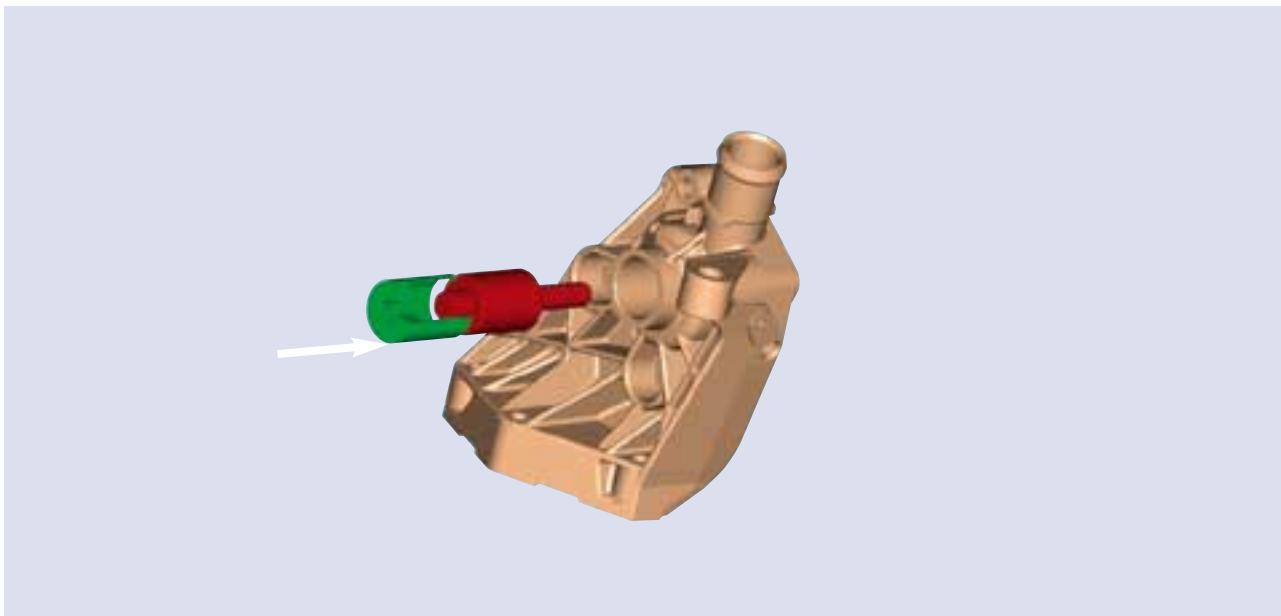
Row of balls								
Shaft diameter [mm]	12	15	16	17	17,2	19	20	25
Basic radial dynamic load ratings $C_r$ [kN]	3,96	6,6	6,6	8,11	6,15	9,8	8,2	22,8
Basic radial static load ratings $C_r$ [kN]	1,57	2,7	2,7	3,46	2,6	4,3	3,6	8,58
Row of rollers								
Shaft diameter [mm]	15	16	19	25				
Basic radial dynamic load ratings $C_r$ [kN]	2,3	14	17,8	40,6				
Basic radial static load ratings $C_r$ [kN]	11,7	13,5	16,7	34,1				

### Instruction for the Assembly of the Bearings into the Water Pump

The special double-row bearings for the water pumps are highly accurate components, therefore it is very important to handle them with special care. When assembling the bearing into the body of the water pump it is very important not to transfer the press through the rolling elements. An improper assembly can cause the damage in the bearing causing noisy running, high rate of vibrations and this all results in untimely failure. It is suitable to keep the bearings in their original package until their assembly.

The proper assembling tools and procedure ensure that these will avoid any damage of the raceways or rolling elements of the bearings. Therefore it is recommended to use the tooling as shown in the following pictures.

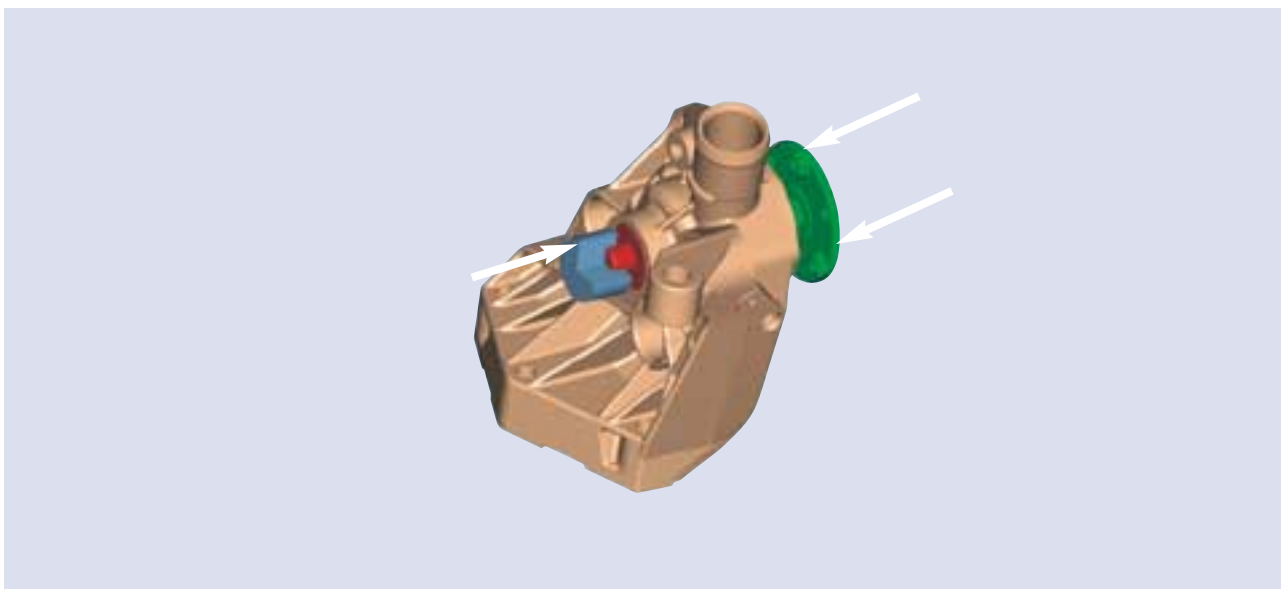
Pressing of a bearing into the water pump body



The assembling bushing has to be designed in the way to touch during the assembly the end face of the outer rings only. The acting of the pressing pressure only on the outer ring can be ensured by this, which is the condition of the proper assembly. When the pressure would be applied directly onto the shaft, this could be transferred through the rolling elements onto the outer ring, that could cause the damaging of the rolling elements as well as of the raceways.

The machine pressure must be applied (not the hit by a hammer).

Pressing of the components (boss of belt pulley, driving wheel, mechanical packing) onto the shaft of the assembled bearing.

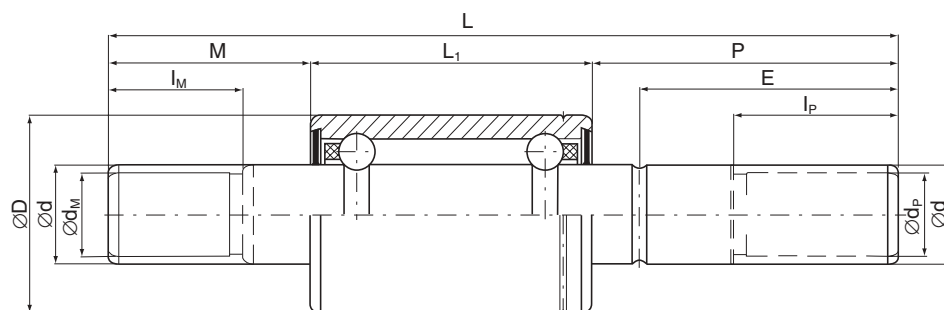


When pressing the components onto the shaft, there is necessary to support it on the opposite side.

**Identification symbol of the producer: E**

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Ball “K”

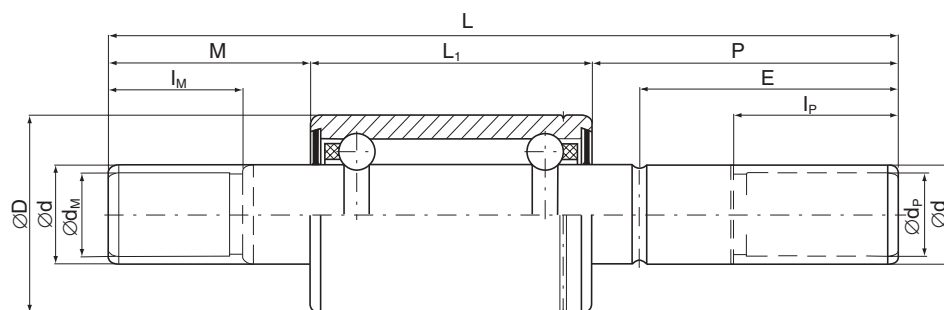


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
K611	24,000	23,50	82,50	12,038	25,00	34,00	-	7,000	-	22,00	-	*
K469	24,000	23,50	87,00	12,038	24,50	39,00	-	7,000	-	26,00	-	*
K426	24,000	24,50	62,30	12,000	9,80	28,00	8,000	8,000	8,80	27,00	-	*
K526	24,000	24,50	65,00	12,000	12,50	25,00	-	8,000	-	27,00	-	*
K360	24,000	27,00	80,00	12,008	16,50	36,50	-	-	-	-	-	
K618	24,000	27,00	80,20	12,037	17,40	35,80	-	-	-	-	-	
K101	24,000	27,00	81,50	12,000	16,50	38,00	-	-	-	-	-	
K205	24,000	27,00	82,00	12,052	16,50	38,50	-	-	-	-	-	
K102	24,000	27,00	85,00	12,037	21,00	37,00	-	-	-	-	-	
K285	24,000	27,00	85,00	12,037	21,00	37,00	-	-	-	-	-	*
K620	24,000	27,00	106,00	12,038	25,20	53,80	-	-	-	-	-	
K352	24,000	33,34	82,73	12,038	16,00	33,33	-	-	-	-	-	
K075	24,000	33,38	83,90	12,037	28,32	22,20	-	-	-	-	-	
K259	24,000	33,40	79,60	12,038	16,10	30,10	-	-	-	-	-	
K359	24,000	33,40	79,60	12,038	16,10	30,10	-	-	-	-	-	
K315	24,000	33,40	80,00	12,738	14,20	32,40	-	-	-	-	-	
K032	24,000	33,40	82,73	12,038	16,00	33,33	-	-	-	-	-	
K362	24,000	33,40	83,44	12,738	16,19	33,85	-	-	-	-	-	
K558	24,000	33,40	84,50	12,000	16,10	35,00	-	-	-	-	-	
K363	24,000	33,40	100,84	12,738	25,03	42,41	-	-	-	-	-	
K364	24,000	33,40	107,19	12,738	31,40	42,39	-	-	-	-	-	

\* The deviations from the specification in the picture are noticed in the drawings

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### Arrangement Ball – Ball “K”

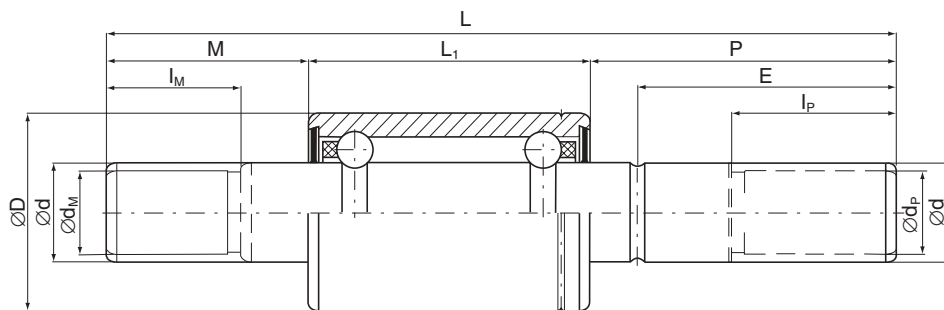


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
K097	26,000	30,00	89,00	12,000	18,00	41,00	-	-	-	-	-	
K025	26,000	39,00	89,50	12,000	16,50	34,00	-	-	-	-	-	
K199	26,000	39,00	90,00	12,000	14,00	37,00	-	-	-	-	-	
K227	26,000	39,00	92,51	12,000	16,50	37,01	-	-	-	-	-	
K241 OS	26,000	39,00	94,49	12,050	21,38	34,11	-	-	-	-	-	
K027	26,000	39,00	94,50	12,000	21,50	34,00	-	-	-	-	-	
K027 OS	26,000	39,00	94,50	12,050	21,50	34,00	-	-	-	-	-	
K090	26,000	39,00	98,00	12,000	21,00	38,00	-	-	-	-	-	
K174	26,000	39,00	102,50	12,000	21,50	42,00	-	-	-	-	-	
K578	26,000	39,00	103,50	12,000	21,50	43,00	-	-	-	-	-	
K471	26,000	39,00	104,00	12,000	22,00	43,00	-	-	-	-	-	
K093	26,000	40,00	92,00	12,006	17,00	35,00	-	-	-	-	-	
K268	26,000	40,00	92,00	12,006	17,00	35,00	-	-	-	-	-	*
K351	26,000	40,00	92,00	12,006	17,00	35,00	-	-	-	-	-	
K031	26,000	40,00	102,00	12,000	27,00	35,00	-	-	-	-	-	
K449	26,000	40,00	102,00	12,008	27,00	35,00	-	-	-	-	-	

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## Special Double Row Bearings for Water Pumps of Combustion Engines

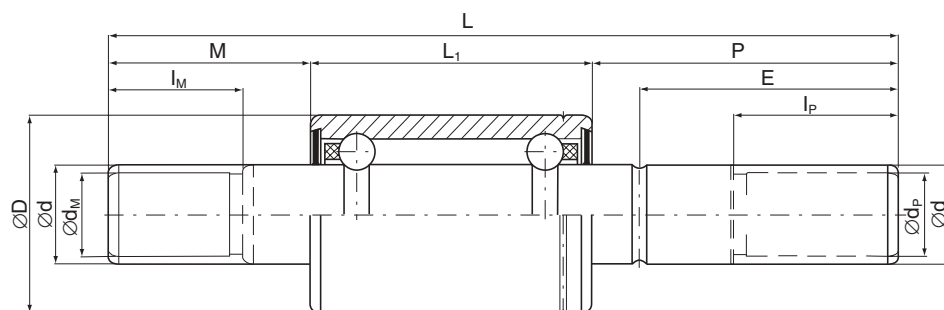
### Arrangement Ball – Ball “K”



Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	I <sub>M</sub>	I <sub>P</sub>	E	
	mm											
K500	28,000	20,00	69,30	15,918	13,11	36,19	-	12,038	-	35,00	-	
K376	28,000	20,00	70,00	17,200	9,50	40,50	13,000	12,038	7,50	38,50	-	

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Ball “K”

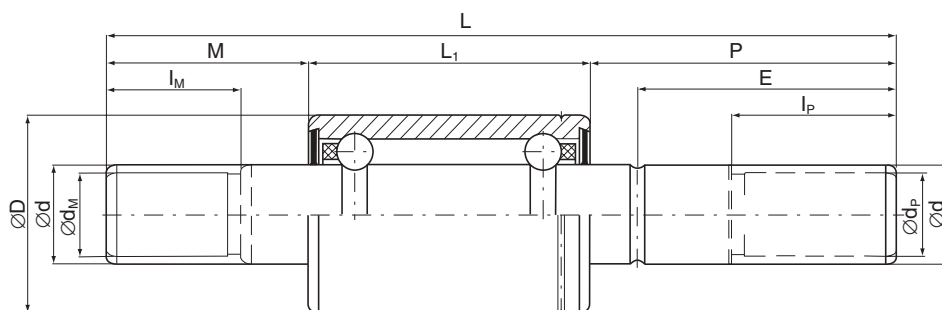


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
K233	30,000	22,00	60,00	15,918	9,20	28,80	-	10,000	-	27,40	-	
K279	30,000	22,00	65,00	15,918	14,20	28,80	-	10,000	-	27,40	-	
K562	30,000	22,00	74,00	15,918	9,00	43,00	13,000	12,000	8,00	42,00	-	
K598	30,000	22,00	74,00	16,000	12,40	39,60	-	10,000	-	38,95	-	
K310	30,000	22,00	75,00	16,000	18,00	35,00	-	-	-	-	-	
K249	30,000	22,00	77,80	15,918	15,50	40,30	-	12,000	-	37,30	-	
K595	30,000	22,00	82,60	15,918	21,72	38,88	ES	12,038	15,05	37,15	-	*
K266	30,000	23,00	71,20	17,200	13,50	34,70	-	12,000	-	31,70	-	
K486	30,000	23,00	71,20	17,246	13,50	34,70	-	12,057	-	31,70	-	
K235	30,000	23,00	75,00	17,200	13,90	38,10	-	12,000	-	36,50	-	
K448	30,000	23,00	75,01	17,201	13,50	38,51	-	12,007	-	36,50	-	
K452	30,000	23,00	75,01	17,201	13,50	38,51	-	12,000	-	36,50	-	
K283	30,000	23,00	77,80	17,200	15,50	39,30	-	12,000	-	32,70	-	
K432	30,000	23,00	77,80	17,200	15,49	39,31	-	12,000	-	33,30	-	
K613	30,000	23,00	92,46	17,200	16,39	53,07	15,918	12,000	14,50	50,54	-	
K563	30,000	23,00	92,53	17,170	15,44	54,09	-	12,000	-	51,31	-	
K103	30,000	24,00	58,50	15,000	10,00	24,50	-	10,000	-	23,50	-	
K163	30,000	24,00	66,50	15,000	10,00	32,50	-	12,000	-	30,00	-	
K055	30,000	24,00	71,00	15,918	12,50	34,50	-	12,006	-	33,50	-	
K523	30,000	25,00	43,00	15,918	3,00	15,00	-	-	-	-	-	
K302	30,000	25,00	83,15	15,918	16,05	42,10	-	-	-	-	-	

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### Arrangement Ball – Ball “K”



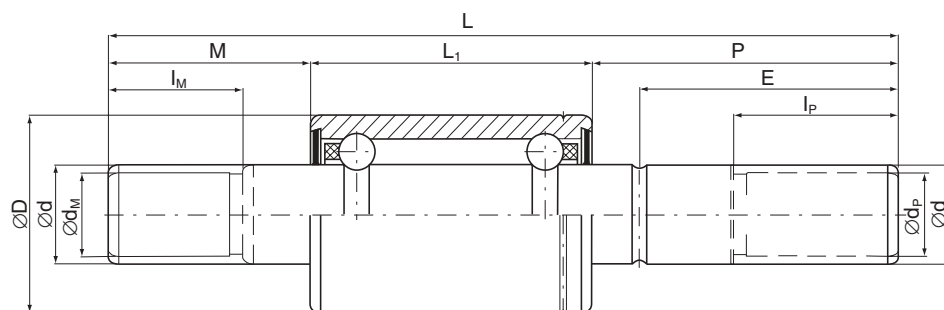
Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	I <sub>M</sub>	I <sub>P</sub>	E	
	mm											
K365	30,000	27,00	75,50	15,918	18,50	30,00	-	12,000	-	28,00	-	
K060	30,000	27,00	77,75	15,918	18,75	32,00	-	12,000	-	30,00	-	
K590	30,000	27,00	78,50	15,918	15,00	36,50	-	12,000	-	34,00	-	
K624	30,000	27,00	78,90	15,918	15,50	36,40	-	12,000	-	33,40	-	
K155	30,000	27,00	79,10	15,918	13,60	38,50	-	-	-	-	34,70	
K1550S	30,000	27,00	79,10	15,969	13,60	38,50	-	-	-	-	34,70	
K255	30,000	27,00	79,10	15,918	13,60	38,50	-	-	-	-	34,70	*
K492	30,000	27,00	80,04	15,918	15,75	37,29	-	-	-	-	-	
K312	30,000	27,00	81,00	16,000	18,00	36,00	-	-	-	-	-	
K568	30,000	27,00	81,50	15,918	18,00	36,50	-	12,008	-	34,50	-	
K572	30,000	27,00	81,75	15,918	17,24	37,51	-	12,038	-	35,15	-	
K542	30,000	27,00	81,84	15,918	17,35	37,49	-	12,037	-	35,33	-	
K536	30,000	27,00	82,80	15,918	17,19	38,61	-	-	-	-	33,83	
K536S	30,000	27,00	82,80	15,977	17,19	38,61	-	-	-	-	33,83	
K594	30,000	27,00	83,30	15,918	18,78	37,52	-	12,008	-	28,72	-	
K294	30,000	27,00	84,00	15,918	16,00	41,00	-	-	-	-	-	
K385	30,000	27,00	84,00	16,000	14,00	43,00	-	-	-	-	-	
K566	30,000	27,00	84,30	15,918	20,80	36,50	-	12,008	-	34,50	-	
K164	30,000	27,00	84,38	15,918	20,57	36,81	-	12,088	-	35,00	-	
K077	30,000	27,00	84,51	15,918	17,25	40,26	-	-	-	-	37,26	
K077 OS	30,000	27,00	84,51	15,969	17,25	40,26	-	-	-	-	37,26	
K077 S	30,000	27,00	84,51	15,977	17,25	40,26	-	-	-	-	37,26	
K411 OS	30,000	27,00	84,51	15,977	17,25	40,26	-	-	-	-	-	
K371	30,000	27,00	84,63	15,918	17,27	40,36	-	12,038	-	38,36	-	
K3710S	30,000	27,00	84,63	15,969	17,27	40,36	-	12,088	-	38,36	-	
K546	30,000	27,00	85,00	16,000	17,00	41,00	-	12,052	-	39,50	-	
K569	30,000	27,00	85,00	15,918	21,00	37,00	-	12,038	-	35,30	-	
K591	30,000	27,00	85,00	15,918	17,00	41,00	-	12,000	-	38,50	-	
K621	30,000	27,00	85,00	15,918	17,00	41,00	-	12,038	-	35,00	-	
K248	30,000	27,00	86,20	15,918	19,30	39,90	-	12,000	-	36,90	-	
K648	30,000	27,00	86,20	15,918	19,30	39,90	-	12,038	-	36,90	-	
K132	30,000	27,00	88,00	15,918	18,00	43,00	-	-	-	-	-	
K158	30,000	27,00	88,00	15,918	18,00	43,00	12,000	-	7,50	-	-	
K349	30,000	27,00	88,00	15,918	18,00	43,00	-	-	-	-	-	
K343	30,000	27,00	89,30	15,918	21,00	41,30	-	12,000	-	38,00	-	
K597	30,000	27,00	90,00	15,918	15,50	47,50	-	12,000	-	42,50	-	
K460	30,000	27,00	94,00	15,918	16,00	51,00	-	12,038	-	45,00	-	
K508	30,000	27,00	94,00	15,918	16,00	51,00	-	12,038	-	45,000	-	
K608	30,000	27,00	94,00	15,918	16,00	51,00	-	12,038	-	49,00	-	

\* The deviations from the specification in the picture are noticed in the drawings



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### Arrangement Ball – Ball “K”

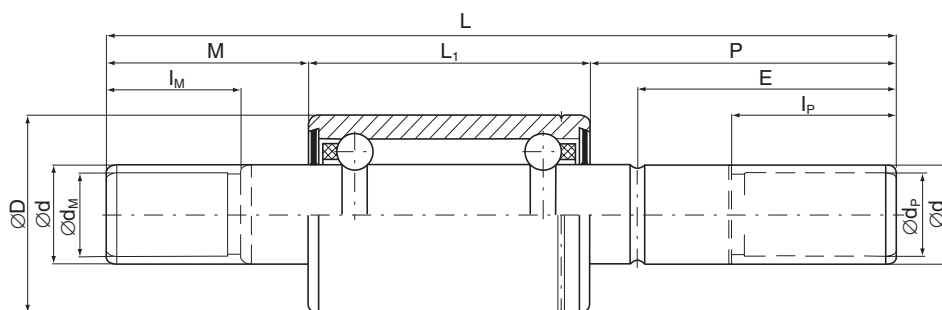


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
K327	30,000	27,00	96,00	15,918	17,00	52,00	-	-	-	-	-	
K615	30,000	27,00	96,00	15,918	15,00	54,00	-	12,000	-	40,00	-	
K337	30,000	27,00	107,80	15,918	25,25	55,55	-	-	-	-	48,29	
K186	30,000	27,50	84,30	15,918	15,30	41,50	-	-	-	-	-	
K247	30,000	27,90	85,00	15,918	17,00	40,10	-	12,000	-	36,00	-	
K479	30,000	27,94	84,51	15,918	17,37	39,20	-	-	-	-	33,32	
K530	30,000	27,94	90,88	15,918	15,67	47,27	-	-	-	-	40,00	
K528	30,000	27,94	107,80	15,918	24,31	55,55	-	-	-	-	48,29	
K180	30,000	30,00	86,00	15,918	16,50	39,50	-	12,000	-	37,00	-	
K246	30,000	30,00	86,20	15,918	16,30	39,90	-	-	-	-	-	
K264	30,000	30,00	88,60	15,918	14,20	44,40	-	12,038	-	39,00	-	
K296	30,000	30,00	88,60	15,918	14,20	44,40	-	12,038	-	39,00	-	
K384	30,000	30,00	88,80	15,918	14,30	44,50	-	12,052	-	42,70	-	
K504	30,000	30,00	94,18	15,918	16,38	47,80	-	12,000	-	45,01	-	
K275	30,000	32,72	83,44	15,918	16,79	33,93	-	12,738	-	32,13	-	
K517	30,000	33,40	79,60	15,918	16,10	30,10	-	12,038	-	39,100	-	
K596	30,000	33,40	82,50	15,918	15,10	34,00	-	12,000	-	33,00	-	
K470	30,000	33,40	103,50	16,000	37,00	33,10	15,000	-	36,00	-	-	*
K222	30,000	33,45	79,60	15,923	16,05	30,10	-	12,038	-	29,00	-	
K170	30,000	33,45	83,40	15,918	16,15	33,80	-	12,738	-	30,50	-	
K030	30,000	33,45	85,40	16,000	16,15	35,80	-	-	-	-	-	
K190	30,000	36,00	87,50	15,000	37,90	13,60	-	-	-	-	-	
K1900S	30,000	36,00	87,50	15,051	37,90	13,60	-	-	-	-	-	
K197	30,000	36,00	87,50	15,008	13,50	38,00	-	-	-	-	-	*
K326	30,000	36,00	87,50	15,918	13,50	38,00	-	12,000	-	34,25	-	
K033	30,000	36,00	88,00	15,008	17,00	35,00	-	-	-	-	-	
K117	30,000	36,00	88,75	16,000	19,25	33,50	-	-	-	-	-	
K348	30,000	36,00	88,75	16,000	19,25	33,50	-	-	-	-	-	
K250	30,000	36,00	101,00	15,008	20,54	44,46	-	-	-	-	-	*
K519	30,000	36,50	87,50	15,000	16,60	34,40	-	-	-	-	-	

\* The deviations from the specification in the picture are noticed in the drawings

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Ball “K”

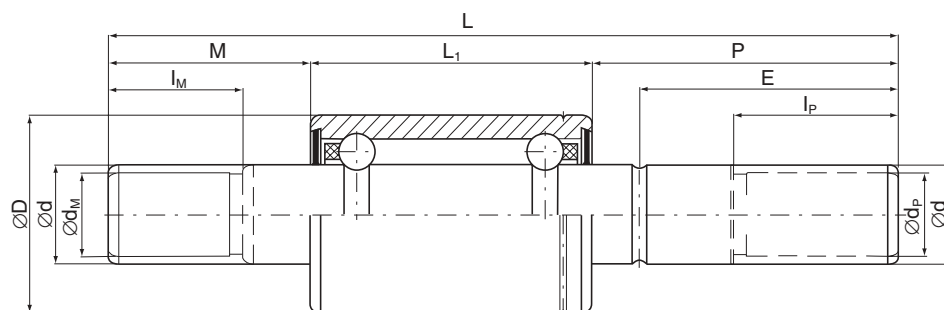


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	I <sub>M</sub>	I <sub>P</sub>	E	
	mm											
K154	30,000	36,52	108,00	15,951	23,48	48,00	-	-	-	-	45,80	
K261	30,000	36,52	108,00	16,000	34,49	36,99	15,000	12,019	33,50	36,00	-	*
K215	30,000	36,52	112,00	15,951	28,48	47,00	-	-	-	-	40,00	
K313	30,000	38,90	68,90	16,000	-	30,00	-	-	-	-	-	*
K080	30,000	38,90	74,63	15,918	3,99	31,74	-	-	-	-	-	*
K041	30,000	38,90	78,70	15,918	2,80	37,00	-	W1/2"	-	28,600	-	*
K338	30,000	38,90	84,33	15,918	14,34	31,09	-	-	-	-	23,83	
K242 OS	30,000	38,90	84,99	15,977	12,99	33,10	-	-	-	-	-	
K417 OS	30,000	38,90	84,99	15,977	12,99	33,10	-	12,050	-	30,00	-	
K172	30,000	38,90	85,20	15,918	31,10	15,20	12,042	-	29,20	-	-	
K430	30,000	38,90	86,60	15,918	2,00	45,70	-	-	-	-	-	*
K383	30,000	38,90	88,00	15,918	12,50	36,60	-	-	-	-	-	
K206	30,000	38,90	89,15	15,918	16,72	33,53	11,950	-	6,10	-	-	
K481	30,000	38,90	90,00	15,963	14,10	37,00	-	12,057	-	35,50	-	
K456	30,000	38,90	90,12	15,918	14,86	36,36	-	-	-	-	31,14	
K453	30,000	38,90	90,17	15,918	15,46	35,81	-	12,037	-	33,78	-	
K483	30,000	38,90	91,00	15,963	12,10	40,00	-	12,057	-	38,50	-	
K234	30,000	38,90	91,80	15,918	36,90	16,00	12,675	-	34,50	-	-	
K058	30,000	38,90	91,85	15,918	20,37	32,58	-	12,675	-	31,00	-	
K216	30,000	38,90	92,00	16,000	15,30	37,80	-	-	-	-	34,50	
K232	30,000	38,90	92,00	15,000	17,00	36,10	12,003	12,003	16,00	35,00	-	
K454	30,000	38,90	92,46	15,918	16,48	37,08	-	12,037	-	34,54	-	
K091	30,000	38,90	92,50	15,918	16,50	37,10	12,000	12,000	14,00	34,50	-	
K178	30,000	38,90	92,50	15,918	16,49	37,11	12,000	12,000	14,50	34,50	-	
K244	30,000	38,90	92,50	15,918	16,50	37,10	-	12,000	-	34,50	-	
K445	30,000	38,90	92,51	15,918	16,50	37,11	-	12,007	-	34,49	-	
K503	30,000	38,90	92,51	15,918	16,60	37,01	12,000	12,000	15,00	34,49	-	
K574	30,000	38,90	92,58	15,918	16,42	37,26	-	12,000	-	34,80	-	
K355	30,000	38,90	92,99	15,918	18,48	35,61	-	-	-	-	-	
K355 OS	30,000	38,90	92,99	15,969	18,48	35,61	-	-	-	-	-	
K461	30,000	38,90	93,90	15,918	16,00	39,00	-	12,038	-	37,50	-	
K512	30,000	38,90	93,90	15,918	16,00	39,00	-	12,038	-	37,50	-	
K529	30,000	38,90	93,90	15,918	15,14	39,86	-	-	-	-	32,25	
K118	30,000	38,90	94,35	15,918	17,50	37,95	-	-	-	-	-	
K278	30,000	38,90	94,35	15,918	17,50	37,95	-	-	-	-	-	
K072	30,000	38,90	94,49	15,918	21,49	34,10	12,738	12,738	19,81	32,13	-	
K619	30,000	38,90	94,50	16,000	16,00	39,60	-	12,006	-	38,00	-	
K516	30,000	38,90	95,45	15,918	14,23	42,32	-	-	-	-	39,12	

\* The deviations from the specification in the picture are noticed in the drawings

## Special Double Row Bearings for Water Pumps of Combustion Engines

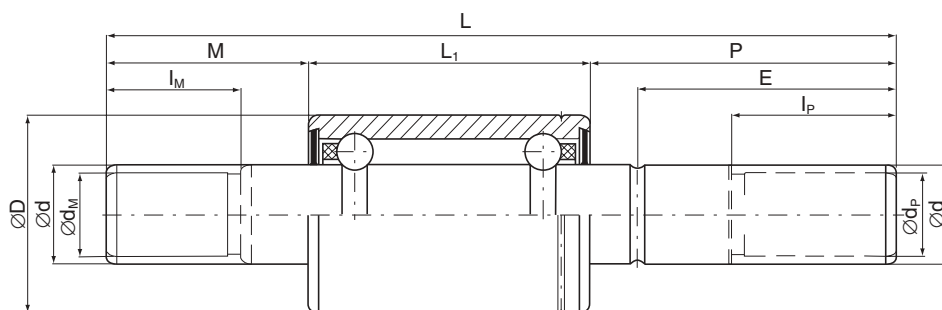
### Arrangement Ball – Ball “K”



Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
K482	30,000	38,90	95,50	15,963	13,60	43,00	-	12,090	-	41,50	-	
K287	30,000	38,90	96,49	15,008	39,85	17,74	12,052	-	35,43	-	-	
K273	30,000	38,90	96,60	16,000	17,90	39,80	15,008	12,052	16,90	35,50	-	
K104	30,000	38,90	97,50	15,006	23,50	35,10	-	-	-	-	-	
K422	30,000	38,90	97,50	15,918	16,60	42,00	-	-	-	-	-	
K068	30,000	38,90	98,00	15,918	42,09	17,01	-	-	-	-	-	
K076	30,000	38,90	98,00	15,918	17,00	42,10	-	-	-	-	-	
K114	30,000	38,90	98,00	16,000	18,00	41,00	-	-	-	-	38,00	
K157	30,000	38,90	98,00	15,918	16,50	42,60	-	12,000	-	40,11	-	
K175	30,000	38,90	98,00	15,000	20,00	39,10	-	-	-	-	-	
K177	30,000	38,90	98,00	15,918	42,09	17,01	-	-	-	-	-	
K189	30,000	38,90	98,00	15,918	20,00	39,10	-	-	-	-	-	
K195	30,000	38,90	98,00	15,918	17,01	42,09	-	-	-	-	-	
K195 OS	30,000	38,90	98,00	15,969	17,01	42,09	-	-	-	-	-	
K208 OS	30,000	38,90	98,00	15,969	17,01	42,09	-	-	-	-	-	
K258	30,000	38,90	98,00	16,000	18,10	41,00	-	-	-	-	38,00	
K318 OS	30,000	38,90	98,00	15,977	17,01	42,09	-	-	-	-	-	
K502	30,000	38,90	98,00	15,918	16,61	42,49	-	12,000	-	40,01	-	
K518	30,000	38,90	98,00	15,918	18,00	41,10	-	-	-	-	-	
K545	30,000	38,90	98,00	15,918	17,01	42,09	-	-	-	-	-	
K548	30,000	38,90	98,00	16,000	18,10	41,00	-	12,000	-	39,00	-	
K057	30,000	38,90	98,04	15,918	18,44	40,70	-	12,235	-	38,86	-	
K564	30,000	38,90	98,04	15,918	18,44	40,70	-	12,038	-	38,86	-	
K212	30,000	38,90	98,17	15,918	18,69	40,58	-	12,038	-	37,88	-	
K001	30,000	38,90	98,43	15,918	22,47	37,06	-	12,008	-	33,93	-	
K001 OS	30,000	38,90	98,43	15,969	22,47	37,06	-	12,057	-	33,93	-	
K001 S	30,000	38,90	98,43	15,977	22,47	37,06	-	12,050	-	33,93	-	
K575	30,000	38,90	98,60	15,918	22,50	37,20	-	12,000	-	33,70	-	
K096	30,000	38,90	99,50	15,918	16,50	44,10	12,000	12,000	14,00	41,50	-	
K473	30,000	38,90	99,57	15,918	16,51	44,16	12,037	12,037	14,73	41,40	-	
K166	30,000	38,90	100,00	15,000	19,80	41,30	-	-	-	-	-	
K434	30,000	38,90	100,00	15,918	23,99	37,11	-	12,000	-	35,08	-	
K577	30,000	38,90	100,00	15,918	24,10	37,00	-	12,000	-	33,85	-	
K054	30,000	38,90	101,00	16,000	21,10	41,00	12,006	12,006	19,00	40,00	-	
K018	30,000	38,90	101,50	15,939	17,49	45,11	-	-	-	-	-	
K018 OS	30,000	38,90	101,50	15,989	17,49	45,11	-	-	-	-	-	
K389 OS	30,000	38,90	101,50	15,989	17,49	45,11	-	12,089	-	43,30	-	
K412 OS	30,000	38,90	101,50	15,989	17,49	45,11	-	-	-	-	38,76	
K423	30,000	38,90	101,50	15,918	22,60	40,00	-	-	-	-	-	

## Special Double Row Bearings for Water Pumps of Combustion Engines

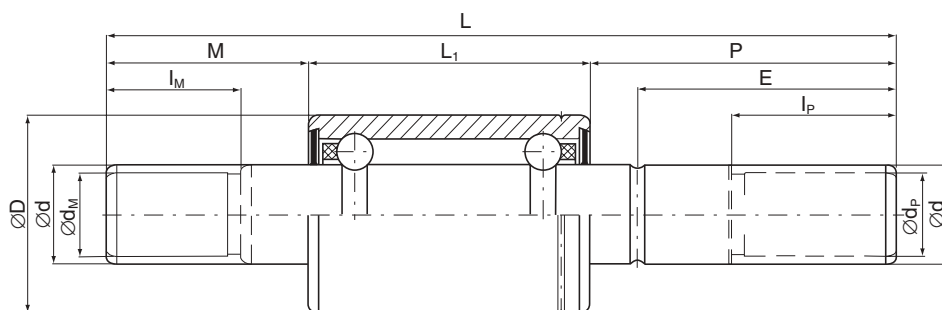
### Arrangement Ball – Ball “K”



Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	I <sub>M</sub>	I <sub>P</sub>	E	
	mm											
K339	30,000	38,90	102,49	15,918	17,87	45,72	-	-	-	-	38,46	
K067	30,000	38,90	102,62	15,918	41,34	22,38	12,675	-	38,10	-	-	
K527	30,000	38,90	102,62	15,918	22,45	41,27	-	12,675	-	38,10	-	
K284	30,000	38,90	102,80	16,000	18,10	45,80	-	-	-	-	42,90	
K112	30,000	38,90	102,87	15,918	22,57	41,40	-	12,675	-	38,23	-	
K040	30,000	38,90	102,90	15,918	23,10	40,90	-	-	-	-	38,35	
K042	30,000	38,90	102,90	15,918	23,10	40,90	-	-	-	-	-	
K328	30,000	38,90	102,90	15,918	23,10	40,90	-	-	-	-	-	
K532	30,000	38,90	103,00	15,918	16,50	47,60	-	12,000	-	43,00	-	
K506	30,000	38,90	103,17	15,918	22,99	41,28	-	-	-	-	-	
K377	30,000	38,90	103,18	15,918	23,40	40,88	-	-	-	-	32,88	
K019	30,000	38,90	103,20	15,918	23,41	40,89	-	-	-	-	36,09	
K019 OS	30,000	38,90	103,20	15,969	23,41	40,89	-	-	-	-	36,09	
K019 S	30,000	38,90	103,20	15,977	23,41	40,89	-	-	-	-	36,09	
K387 OS	30,000	38,90	103,50	15,969	21,46	43,14	-	12,042	-	41,30	-	
K484	30,000	38,90	103,50	15,963	17,10	47,50	-	12,037	-	46,00	-	
K433 S	30,000	38,90	103,51	15,977	21,51	43,10	12,050	12,050	18,01	39,50	-	
K539S	30,000	38,90	103,63	15,977	27,39	37,34	-	-	-	-	32,56	
K485	30,000	38,90	105,00	15,963	30,10	36,00	-	12,022	-	34,50	-	
K579	30,000	38,90	105,10	15,918	31,00	35,20	-	12,000	-	32,60	-	
K153	30,000	38,90	105,20	15,918	23,83	42,47	-	-	-	-	-	
K281	30,000	38,90	105,41	15,918	20,31	46,20	-	-	-	-	39,85	
K281 OS	30,000	38,90	105,41	15,977	20,31	46,20	-	-	-	-	39,85	
K455	30,000	38,90	105,41	15,918	23,33	43,18	-	12,037	-	39,62	-	
K444	30,000	38,90	105,51	15,918	23,51	43,10	-	12,007	-	40,49	-	
K540S	30,000	38,90	105,92	15,977	29,94	37,08	-	12,050	-	33,53	-	
K179	30,000	38,90	105,97	15,918	20,64	46,43	-	-	-	-	40,84	
K1790S	30,000	38,90	105,97	15,969	20,64	46,43	-	-	-	-	40,84	
K317 OS	30,000	38,90	105,97	15,977	20,64	46,43	-	-	-	-	40,84	
K059	30,000	38,90	105,99	15,994	26,09	41,00	-	-	-	-	38,00	
K231	30,000	38,90	105,99	15,918	29,99	37,10	-	12,007	-	33,50	-	
K257	30,000	38,90	106,00	16,000	26,10	41,00	-	-	-	-	38,00	
K066	30,000	38,90	106,17	15,918	24,87	42,40	-	12,738	-	38,86	-	
K084	30,000	38,90	106,20	15,918	18,50	48,80	-	12,000	-	41,00	-	
K169	30,000	38,90	106,20	15,918	42,20	25,10	12,738	-	38,90	-	-	
K347	30,000	38,90	106,20	15,918	25,10	42,20	-	12,738	-	38,90	-	
K108	30,000	38,90	106,25	15,994	26,22	41,13	-	-	-	-	-	
K414	30,000	38,90	106,40	15,939	5,40	62,10	-	-	-	-	49,30	
K171	30,000	38,90	106,50	15,008	39,90	27,70	12,052	-	38,00	-	-	

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Ball “K”

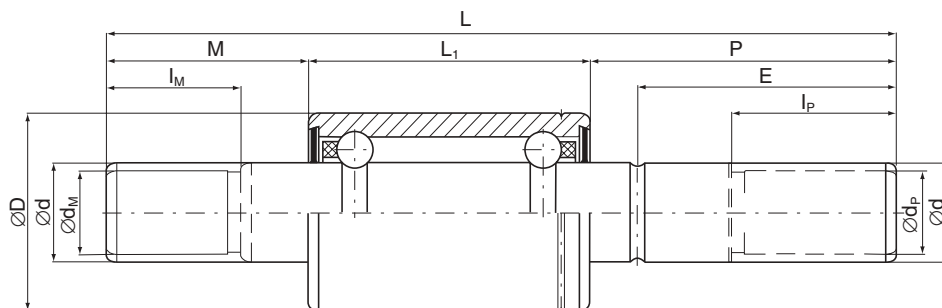


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
K201	30,000	38,90	106,50	15,008	20,10	47,50	-	-	-	-	-	
K388	30,000	38,90	108,00	16,000	26,00	43,10	-	12,000	-	39,50	-	
K074	30,000	38,90	108,74	15,918	42,86	26,98	12,789	-	33,32	-	-	
K567	30,000	38,90	109,45	15,918	25,25	45,30	-	12,008	-	41,70	-	*
K221	30,000	38,90	109,50	15,918	25,12	45,48	-	12,038	-	42,22	-	
K585	30,000	38,90	109,52	15,918	14,68	55,94	-	-	-	-	-	
K565	30,000	38,90	110,21	15,918	23,76	47,55	-	-	-	-	-	
K209	30,000	38,90	110,39	15,918	21,35	50,14	-	-	-	-	41,00	
K209 OS	30,000	38,90	110,39	15,969	21,35	50,14	-	-	-	-	-	
K319 OS	30,000	38,90	110,39	15,977	21,35	50,14	-	-	-	-	41,00	
K015	30,000	38,90	111,51	15,918	23,79	48,82	-	-	-	-	42,47	
K015 OS	30,000	38,90	111,51	15,969	23,79	48,82	-	-	-	-	42,47	
K015 S	30,000	38,90	111,51	15,977	23,79	48,82	-	-	-	-	42,47	
K237	30,000	38,90	111,76	15,918	29,20	43,66	-	-	-	-	38,86	
K237 OS	30,000	38,90	111,76	15,969	29,20	43,66	-	-	-	-	38,86	
K321 OS	30,000	38,90	111,76	15,977	29,20	43,66	-	-	-	-	38,86	
K289	30,000	38,90	111,99	15,918	46,08	27,01	-	-	-	-	-	
K297	30,000	38,90	112,00	16,000	30,00	43,10	-	12,000	-	39,50	-	
K354	30,000	38,90	113,11	15,918	31,72	42,49	-	-	-	-	36,14	
K354 OS	30,000	38,90	113,11	15,969	31,72	42,49	-	-	-	-	36,14	
K253	30,000	38,90	113,20	15,918	30,20	44,10	-	12,766	-	35,20	-	
K052	30,000	38,90	113,21	15,918	42,38	31,93	-	-	-	-	-	
K497	30,000	38,90	113,49	15,918	27,37	47,22	-	-	-	-	39,37	
K404	30,000	38,90	113,51	15,918	27,39	47,22	-	-	-	-	42,44	
K404 OS	30,000	38,90	113,51	15,977	27,39	47,22	-	-	-	-	42,44	
K252	30,000	38,90	114,00	15,918	19,10	56,00	-	12,000	-	46,00	-	
K295	30,000	38,90	114,00	16,000	32,00	43,10	-	12,000	-	39,50	-	
K514	30,000	38,90	114,30	15,918	31,99	43,41	-	-	-	-	34,26	
K256	30,000	38,90	114,80	15,994	25,90	50,00	-	-	-	-	43,00	
K069	30,000	38,90	115,01	15,918	16,48	59,63	-	12,037	-	40,01	-	
K210	30,000	38,90	115,49	15,918	20,48	56,11	-	-	-	-	-	
K210 OS	30,000	38,90	115,49	15,969	20,48	56,11	-	-	-	-	-	
K210 S	30,000	38,90	115,49	15,977	20,48	56,11	-	-	-	-	-	
K130	30,000	38,90	115,50	16,000	41,55	35,05	15,000	-	39,50	-	-	*
K420	30,000	38,90	115,50	15,008	36,70	39,90	-	-	-	-	33,55	
K390	30,000	38,90	115,85	15,918	26,96	49,99	-	-	-	-	45,39	
K151	30,000	38,90	116,00	15,918	27,14	49,96	-	-	-	-	-	
K251	30,000	38,90	116,00	15,008	27,10	50,00	-	-	-	-	-	

\* The deviations from the specification in the picture are noticed in the drawings

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Ball “K”

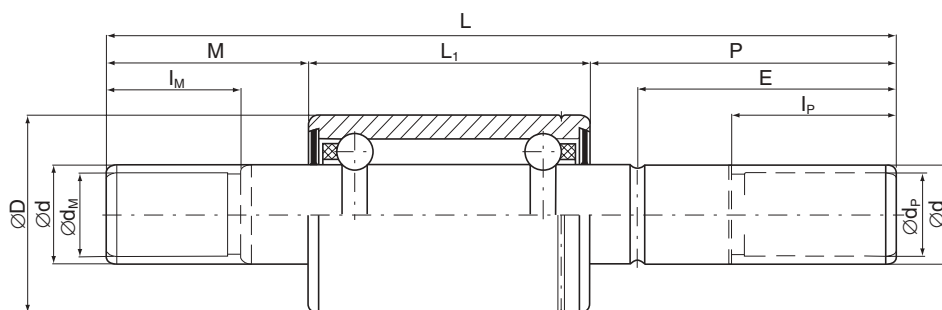


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
K346	30,000	38,90	116,00	15,918	27,14	49,96	-	-	-	-	-	
K271	30,000	38,90	118,50	15,008	15,50	64,10	-	-	-	-	-	
K424	30,000	38,90	119,00	15,918	37,10	43,00	-	-	-	-	-	
K413 OS	30,000	38,90	119,05	15,977	37,30	42,85	-	-	-	-	36,50	
K003	30,000	38,90	119,08	15,918	37,30	42,88	-	-	-	-	36,53	
K003 OS	30,000	38,90	119,08	15,969	37,30	42,88	-	-	-	-	36,53	
K576	30,000	38,90	120,12	15,918	27,82	53,40	-	12,000	-	48,00	-	
K192	30,000	38,90	120,65	15,918	29,35	52,40	-	-	-	-	46,05	
K192 OS	30,000	38,90	120,65	15,969	29,35	52,40	-	-	-	-	46,05	
K288	30,000	38,90	120,65	15,918	35,64	46,11	-	-	-	-	-	
K086	30,000	38,90	121,50	16,000	41,50	41,10	15,000	12,019	39,50	38,00	-	*
K537S	30,000	38,90	121,67	15,977	18,76	64,01	-	-	-	-	59,23	
K064	30,000	38,90	121,92	15,918	50,33	32,69	12,703	-	44,70	-	-	
K408	30,000	38,90	122,17	15,918	33,87	49,40	-	-	-	-	44,63	
K408S	30,000	38,90	122,17	15,977	33,87	49,40	-	-	-	-	44,63	
K016	30,000	38,90	122,25	15,939	40,17	43,18	-	-	-	-	38,28	
K016 OS	30,000	38,90	122,25	15,989	40,17	43,18	-	-	-	-	38,28	
K418	30,000	38,90	122,43	15,918	26,25	57,28	-	12,037	-	44,17	-	
K418OS	30,000	38,90	122,43	15,969	26,25	57,28	-	12,050	-	44,17	-	
K418 S	30,000	38,90	122,43	15,977	26,25	57,28	-	12,050	-	44,17	-	
K219	30,000	38,90	123,01	15,918	19,01	65,10	-	-	-	-	-	
K219 OS	30,000	38,90	123,01	15,969	19,01	65,10	-	-	-	-	-	
K437	30,000	38,90	123,19	15,918	19,27	65,02	-	-	-	-	60,25	
K538S	30,000	38,90	123,44	15,977	19,01	65,53	-	-	-	-	60,75	
K020	30,000	38,90	123,67	15,918	31,73	53,04	-	-	-	-	44,45	
K020 OS	30,000	38,90	123,67	15,696	31,73	53,04	-	-	-	-	44,45	
K020 S	30,000	38,90	123,67	15,977	31,73	53,04	-	-	-	-	44,45	
K229	30,000	38,90	124,00	16,000	42,00	43,10	-	12,000	-	39,50	-	
K330	30,000	38,90	124,00	15,918	42,00	43,10	-	12,007	-	40,49	-	
K458	30,000	38,90	124,40	15,918	27,11	58,39	11,000	-	23,00	-	48,74	*
K556	30,000	38,90	126,00	16,000	27,10	60,00	-	-	-	-	-	
K391	30,000	38,90	126,24	15,918	36,74	50,60	-	-	-	-	44,25	
K325	30,000	38,90	127,00	15,918	28,41	59,69	-	12,000	-	48,26	-	
K582	30,000	38,90	127,00	15,918	25,40	62,70	-	-	-	-	-	
K345	30,000	38,90	127,79	15,939	30,95	57,94	-	-	-	-	51,59	*
K533	30,000	38,90	128,98	15,918	31,74	58,34	-	-	-	-	53,57	
K131	30,000	38,90	131,00	16,000	57,05	35,05	15,000	-	55,00	-	-	*
K087	30,000	38,90	131,50	16,000	52,50	40,10	15,000	12,019	51,50	38,00	-	*
K021	30,000	38,90	132,13	15,939	40,17	53,06	-	-	-	-	48,29	

\* The deviations from the specification in the picture are noticed in the drawings

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Ball “K”

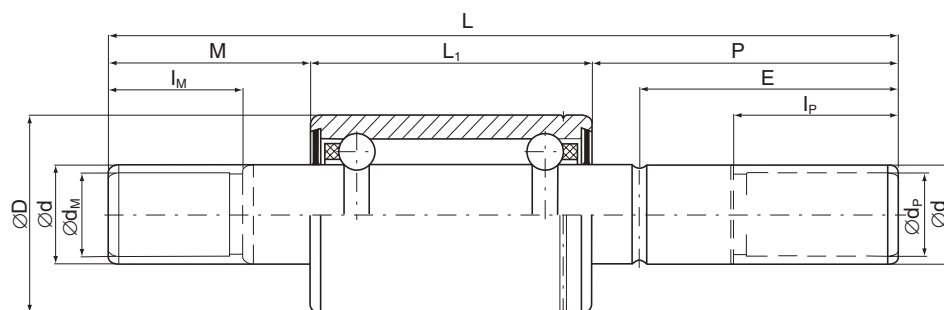


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
K021 OS	30,000	38,90	132,13	15,989	40,17	53,06	-	-	-	-	48,29	
K392	30,000	38,90	132,16	15,918	50,41	42,85	-	-	-	-	36,50	
K254	30,000	38,90	132,64	15,938	29,77	63,97	-	-	-	-	59,21	
K254 OS	30,000	38,90	132,64	15,989	29,77	63,97	-	-	-	-	59,21	
K282	30,000	38,90	132,64	15,939	29,76	63,98	-	-	-	-	59,18	
K541	30,000	38,90	133,10	15,918	38,70	55,50	-	-	-	-	50,61	
K552	30,000	38,90	134,90	16,000	26,00	70,00	-	12,000	-	39,50	-	
K098	30,000	38,90	135,00	15,918	24,94	71,16	-	-	-	-	-	
K183	30,000	38,90	135,00	15,918	71,10	25,00	-	-	-	-	-	
K498	30,000	38,90	135,28	15,918	50,79	45,59	-	-	-	-	40,77	
K182	30,000	38,90	136,00	15,918	67,10	30,00	-	-	-	-	-	
K065	30,000	38,90	136,40	15,918	39,10	58,40	-	-	-	-	48,24	
K353	30,000	38,90	136,40	15,918	39,03	58,47	-	-	-	-	48,97	
K353 OS	30,000	38,90	136,40	15,969	39,03	58,47	-	-	-	-	48,97	
K581	30,000	38,90	136,50	15,918	39,70	57,90	-	-	-	-	-	
K043	30,000	38,90	136,66	15,918	39,17	58,59	-	-	-	-	49,00	
K110	30,000	38,90	136,66	15,918	39,17	58,59	-	-	-	-	-	
K245	30,000	38,90	136,66	16,000	39,17	58,59	-	12,100	-	56,59	-	
K301	30,000	38,90	136,66	15,918	39,17	58,59	-	-	-	-	-	
K260	30,000	38,90	137,00	16,000	57,05	41,05	15,000	12,019	55,00	38,00	-	*
K036	30,000	38,90	138,10	15,918	58,33	40,87	-	-	-	-	34,54	
K037	30,000	38,90	138,10	15,918	58,33	40,87	-	-	-	-	-	
K062	30,000	38,90	138,10	15,918	58,33	40,87	-	-	-	-	-	
K386 OS	30,000	38,90	139,32	15,969	35,04	65,38	-	-	-	-	56,24	
K405	30,000	38,90	139,32	15,918	35,04	65,38	-	-	-	-	56,24	
K405 OS	30,000	38,90	139,32	15,977	35,04	65,38	-	-	-	-	56,24	
K193 OS	30,000	38,90	141,25	15,969	38,85	63,50	-	-	-	-	58,67	
K396 OS	30,000	38,90	142,88	15,977	40,07	63,91	-	-	-	-	57,56	
K406 OS	30,000	38,90	142,88	15,977	40,07	63,91	-	-	-	-	-	
K121	30,000	38,90	146,00	15,918	61,70	45,40	-	-	-	-	-	
K393	30,000	38,90	146,05	15,918	61,71	45,44	-	-	-	-	40,69	
K393S	30,000	38,90	146,05	15,977	61,71	45,44	-	-	-	-	40,69	
K082	30,000	38,90	146,20	15,918	61,71	45,59	-	-	-	-	40,770	
K002	30,000	38,90	154,23	15,939	29,76	85,57	-	-	-	-	79,22	
K002 OS	30,000	38,90	154,23	15,989	29,76	85,57	-	-	-	-	79,22	
K491	30,000	38,90	155,45	15,918	69,84	46,71	-	-	-	-	41,96	
K4960S	30,000	38,90	161,93	15,969	58,34	64,69	-	-	-	-	59,13	

\* The deviations from the specification in the picture are noticed in the drawings

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Ball “K”



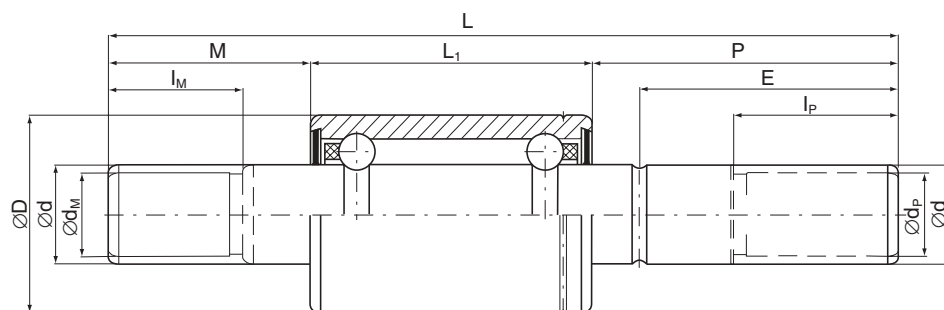
Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
K120	30,000	38,91	103,50	15,918	25,80	38,80	-	-	-	-	-	
K116	30,000	38,91	127,78	15,918	25,80	63,10	-	-	-	-	56,75	
K128	30,000	39,00	67,00	16,000	26,00	2,00	-	-	-	-	-	
K336	30,000	39,00	87,00	12,000	3,00	45,00	-	11,000	-	43,50	-	*
K106	30,000	39,00	92,00	16,000	15,50	37,50	-	-	-	-	34,50	
K276	30,000	39,00	98,00	16,000	18,00	41,00	-	-	-	-	38,00	
K472	30,000	39,00	105,00	12,000	16,00	50,00	-	-	-	-	-	
K107	30,000	39,00	106,00	16,000	26,00	41,00	-	-	-	-	38,00	
K277	30,000	39,00	106,00	16,000	26,00	41,00	-	-	-	-	38,00	
K605	30,000	39,00	108,00	16,000	26,00	43,00	-	-	-	-	40,00	
K105	30,000	39,00	115,00	16,000	26,00	50,00	-	-	-	-	43,00	
K557	30,000	40,00	104,00	16,000	23,00	41,00	-	-	-	-	-	
K088	30,000	45,00	109,50	15,918	20,50	44,00	-	-	-	-	-	
K262	30,000	45,00	150,00	15,918	69,00	36,00	15,000	12,019	67,00	34,00	-	*
K467	30,000	46,00	99,60	16,000	17,00	36,60	-	-	-	-	-	
K463	30,000	50,75	134,00	16,000	34,80	48,45	-	-	-	-	43,20	
K493	30,000	52,00	109,25	15,008	17,75	39,50	-	-	-	-	36,00	
K272	30,000	52,00	120,50	15,008	16,20	52,00	-	-	-	-	-	
K304	30,000	52,00	124,00	15,008	16,50	55,50	-	-	-	-	-	
K051	30,000	57,15	123,19	15,918	40,64	25,40	-	-	-	-	-	
K350	30,000	57,15	123,19	15,918	25,40	40,64	-	-	-	-	-	
K109	30,000	57,15	123,44	15,918	25,60	40,69	-	-	-	-	-	
K129	30,000	57,15	123,44	15,918	25,60	40,69	-	-	-	-	-	
K213	30,000	57,15	124,75	15,918	22,50	45,10	-	12,038	-	42,10	-	
K200	30,000	57,15	125,15	15,918	28,00	40,00	-	12,000	-	37,00	-	
K286	30,000	57,15	127,25	15,918	25,64	44,46	-	12,675	-	41,34	-	
K119	30,000	57,15	128,00	15,918	23,00	47,85	-	-	-	-	-	
K111	30,000	57,15	141,98	15,918	32,12	52,71	-	-	-	-	-	
K083	30,000	57,15	192,53	15,918	63,10	72,28	-	-	-	-	-	
K465	30,000	59,00	124,00	16,000	25,00	40,00	-	-	-	-	-	
K280	30,010	28,45	89,81	15,918	45,87	15,49	12,042	-	38,10	-	-	

\* The deviations from the specification in the picture are noticed in the drawings



## Special Double Row Bearings for Water Pumps of Combustion Engines

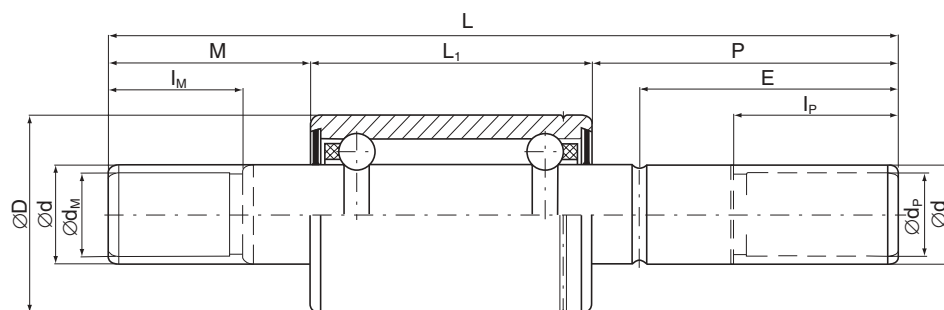
### Arrangement Ball – Ball “K”



Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
K505	34,000	30,00	74,00	17,000	15,50	28,50	-	12,000	-	25,50	-	
K495	35,000	29,90	85,50	17,501	15,49	40,11	-	12,000	-	37,49	-	
K495 OS	35,000	29,90	85,50	17,551	15,49	40,11	-	12,050	-	37,49	-	
K614	35,000	29,90	85,50	17,501	15,49	40,11	15,918	12,000	14,30	37,49	-	
K555	35,000	29,90	88,00	17,500	15,60	42,50	-	12,000	-	39,25	-	
K607	35,000	29,90	89,10	17,501	15,49	43,71	-	12,000	-	41,99	-	
K616	35,000	29,90	91,95	17,511	15,39	46,66	-	12,000	-	45,00	-	
K544	35,000	30,00	91,95	15,918	15,39	46,56	-	12,000	-	45,00	-	
K560	35,000	38,89	91,00	17,500	15,00	37,11	-	12,000	-	33,95	-	
K489	35,000	38,90	92,50	15,976	16,60	37,00	-	12,052	-	35,50	-	
K501	35,000	38,90	95,86	15,918	15,76	41,20	-	12,000	-	38,30	-	
K464	35,000	38,90	100,97	15,918	25,07	37,00	-	12,007	-	34,50	-	
K488	35,000	38,90	101,00	15,923	25,10	37,00	-	12,022	-	35,50	-	
K604	35,000	38,90	113,97	15,918	25,07	50,00	-	12,007	-	47,70	-	
K487	35,000	46,00	101,00	15,923	19,00	36,00	-	12,014	-	34,50	-	
K196	35,000	46,00	119,00	15,918	30,00	43,00	-	12,000	-	39,00	-	
K228	35,000	46,00	119,00	16,000	30,00	43,00	-	12,000	-	39,00	-	

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Ball “K”

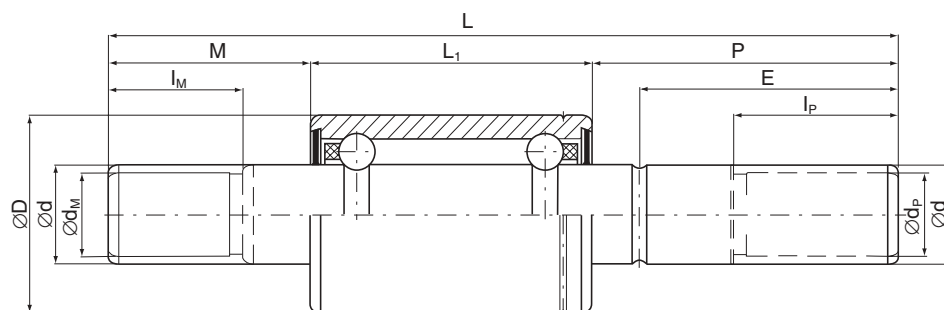


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
K401	36,000	28,50	31,50	22,500		3,00	-	-	-	-	-	*
K580	36,000	30,00	112,00	20,000	20,00	62,00	-	12,000	-	46,00	-	
K139	36,000	34,00	103,00	19,000	38,50	30,50	12,000	15,000	38,00	30,00	-	*
K592	36,000	37,00	96,00	20,000	17,00	42,00	15,918	15,918	17,00	41,60	-	
K267	36,000	38,90	90,70	17,008	14,00	37,80	-	15,008	-	34,00	-	
K267 OS	36,000	38,90	90,70	17,059	14,00	37,80	-	15,057	-	34,00	-	
K269	36,000	38,90	90,70	17,008	14,00	37,80	-	15,008	-	34,00	-	*
K293	36,000	38,90	90,70	17,000	14,00	37,80	-	15,918	-	34,09	-	
K293 OS	36,000	38,90	90,70	17,059	14,00	37,80	-	15,969	-	34,09	-	
K265	36,000	38,90	92,51	17,008	17,81	35,80	-	15,008	-	32,00	-	
K665	36,000	38,90	92,51	17,008	17,81	35,80	-	15,008	-	34,49	-	
K329	36,000	38,90	135,00	15,918	24,94	71,16	-	-	-	-	-	
K191	36,000	39,00	91,00	18,961	37,80	14,20	15,000	34,000	-	-	-	
K089	36,000	39,00	92,50	18,961	17,80	35,70	17,000	15,000	16,80	34,70	-	
K162	36,000	39,00	100,00	19,012	18,00	43,00	15,000	15,000	16,70	42,00	-	
K311	36,000	46,00	111,00	18,961	27,30	37,70	17,500	12,000	24,50	34,80	-	
K623	36,000	46,50	100,50	16,000	17,50	36,50	-	12,000	-	35,00	-	
K332	36,000	48,00	145,00	20,000	33,50	63,50	15,000	15,000	15,00	61,50	-	*
K361	36,000	48,00	145,00	20,000	33,30	63,70	14,984	15,000	14,70	62,50	-	*
K202	36,000	48,00	145,70	19,012	33,30	64,40	15,000	15,002	14,70	63,40	-	*
K356	36,000	48,00	145,70	20,000	33,30	64,40	14,984	15,002	14,70	63,40	-	*
K203	36,000	48,00	156,70	19,012	22,30	86,40	15,000	15,002	3,70	74,40	-	
K419	36,000	48,00	158,50	20,000	33,50	77,00	15,000	15,000	15,00	75,00	-	*
K204	36,000	48,00	159,20	19,012	33,30	77,90	15,000	15,002	14,70	76,20	-	*
K612	36,000	48,00	159,20	20,000	33,30	77,90	15,000	15,000	14,70	75,00	-	*
K5610S	36,000	52,00	125,50	19,012	25,25	48,25	15,002	15,002	24,25	47,25	-	

\* The deviations from the specification in the picture are noticed in the drawings

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Ball “K”

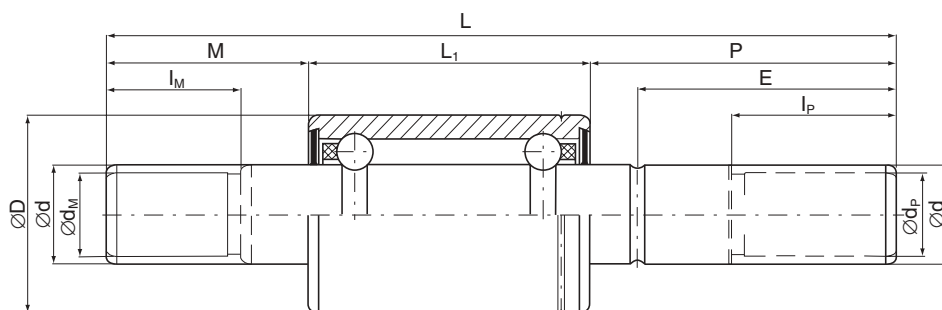


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
K606	36,000	54,05	129,30	20,000	30,25	45,00	18,961	15,000	29,30	44,00	-	
K299	36,000	54,05	143,48	19,000	30,76	58,67	-	16,000	-	50,55	-	
K292	36,000	54,05	145,00	20,000	33,30	57,65	15,000	15,000	15,00	56,50	-	*
K099	36,000	57,15	128,00	18,961	23,00	47,85	15,918	15,918	23,00	47,85	-	
K092	36,000	60,00	125,70	20,004	17,00	48,70	-	15,002	-	43,00	-	*
K333	36,000	60,00	126,40	20,000	17,00	49,40	-	15,002	-	43,70	-	*
K291	36,000	60,00	129,50	20,000	13,50	56,00	-	15,000	-	53,00	-	*
K187	36,000	60,00	135,20	19,012	25,00	50,20	15,944	15,002	8,00	41,00	-	
K450	36,000	60,00	135,20	20,000	25,00	50,20	15,950	15,000	8,00	47,00	-	
K520	36,000	60,00	135,20	20,000	25,00	50,20	15,950	15,000	8,000	47,000	-	
K188	36,000	60,00	166,20	19,012	56,00	50,20	15,000	15,918	10,00	46,20	-	*
K462	36,000	60,00	167,00	20,000	58,00	49,00	15,000	15,000	11,00	46,00	-	
K056	36,003	54,05	134,10	18,963	49,70	30,35	15,923	-	48,00	-	-	
K184	38,000	41,10	118,00	19,000	29,80	47,10	15,918	15,918	27,30	44,60	-	
K559	38,000	41,10	118,00	19,000	29,80	47,10	16,000	16,000	27,30	44,60	-	

\* The deviations from the specification in the picture are noticed in the drawings

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Ball “K”

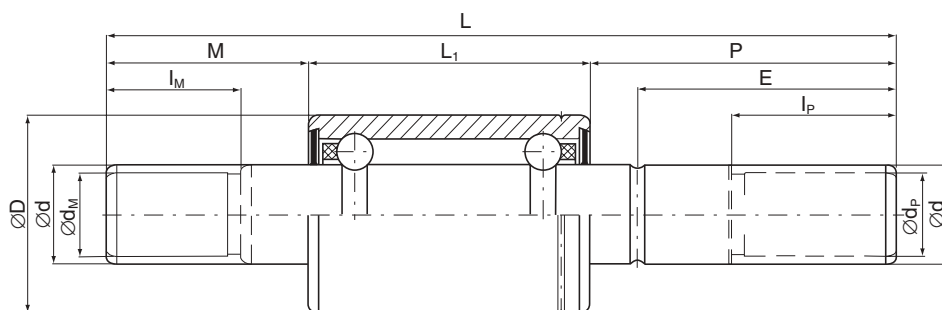


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	I <sub>M</sub>	I <sub>P</sub>	E	
	mm											
K382	38,100	38,90	135,00	15,918	24,94	71,16	-	-	-	-	-	
K046	38,100	41,28	102,01	18,961	13,99	46,74	-	15,918	-	44,70	-	*
K046 OS	38,100	41,28	102,01	19,012	13,99	46,74	-	15,918	-	44,70	-	*
K165 OS	38,100	41,28	102,01	19,012	13,99	46,74	-	15,918	-	44,70	-	*
K214 OS	38,100	41,28	102,01	19,012	13,99	46,74	-	15,969	-	44,70	-	*
K457 OS	38,100	41,28	102,01	19,012	13,99	46,74	-	15,969	-	42,20	-	*
K602	38,100	41,28	112,00	18,961	25,13	45,59	15,918	12,038	22,63	42,48	-	
K026	38,100	41,28	112,67	18,961	28,59	42,80	15,918	15,918	24,13	39,62	-	
K026 OS	38,100	41,28	112,67	19,012	28,59	42,80	15,969	15,969	24,13	39,62	-	
K026 S	38,100	41,28	112,67	19,012	28,59	42,80	15,977	15,977	24,13	39,62	-	
K070	38,100	41,28	112,67	18,961	42,86	28,53	15,918	-	39,62	-	-	
K603	38,100	41,28	112,67	18,961	28,59	42,80	15,918	12,038	24,13	39,62	-	
K045	38,100	41,28	117,20	18,961	24,71	51,21	-	15,918	-	37,59	-	*
K045 OS	38,100	41,28	117,20	19,012	24,71	51,21	-	15,969	-	37,59	-	*
K159	38,100	41,28	117,20	18,961	24,71	51,21	-	15,918	-	47,50	-	*
K159 OS	38,100	41,28	117,20	19,012	24,71	51,21	-	15,968	-	47,50	-	*
K160	38,100	41,28	117,20	18,961	24,71	51,21	-	15,918	-	43,10	-	*
K181	38,100	41,28	117,20	18,961	24,71	51,21	-	15,918	-	47,50	-	
K181 OS	38,100	41,28	117,20	19,012	24,71	51,21	-	15,968	-	47,50	-	
K181 S	38,100	41,28	117,20	19,012	24,71	51,21	-	15,977	-	47,50	-	
K409 OS	38,100	41,28	119,05	19,012	26,59	51,18	-	15,969	-	48,01	-	
K443	38,100	41,28	119,05	18,961	26,59	51,18	-	15,918	-	48,01	-	
K324	38,100	41,28	120,65	18,961	33,35	46,02	15,918	15,918	15,88	43,26	-	
K459	38,100	41,28	120,65	18,961	30,58	48,79	-	15,918	-	43,31	-	
K370	38,100	41,28	121,68	18,961	30,08	50,32	-	12,038	-	45,24	-	
K136	38,100	54,00	175,70	19,000	53,00	68,70	16,000	16,000	14,00	64,00	-	
K081	38,100	54,10	99,70	18,961	44,10	1,50	-	-	-	-	-	
K323	38,100	54,10	99,70	18,961	1,50	44,10	-	-	-	-	-	
K303	38,100	54,10	111,00	18,961	12,65	44,25	-	-	-	-	-	
K380 OS	38,100	54,10	115,32	19,012	23,35	37,87	-	12,088	-	35,71	-	
K425	38,100	54,10	118,20	18,961	23,10	41,00	-	15,918	-	39,50	-	
K4390S	38,100	54,10	120,40	19,012	25,66	40,64	-	12,088	-	39,12	-	
K218	38,100	54,10	120,50	18,961	25,68	40,72	-	12,032	-	39,09	-	
K218 OS	38,100	54,10	120,50	19,012	25,68	40,72	-	12,088	-	39,09	-	
K220	38,100	54,10	120,50	18,961	25,68	40,72	-	15,918	-	38,99	-	
K220 OS	38,100	54,10	120,50	19,012	25,68	40,72	-	15,969	-	38,99	-	

\* The deviations from the specification in the picture are noticed in the drawings

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Ball “K”



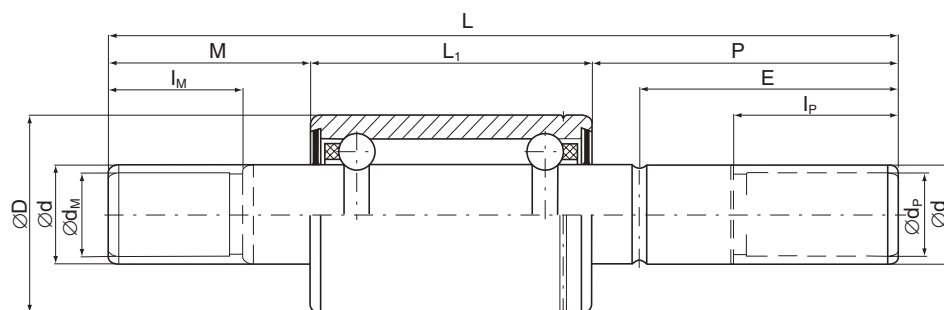
Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
K320	38,100	54,10	120,50	18,961	25,68	40,72	-	12,037	-	39,09	-	
K5350S	38,100	54,10	121,41	19,012	30,99	36,32	15,918	15,977	13,72	33,27	-	
K543	38,100	54,10	121,92	18,961	24,43	43,39	-	12,037	-	41,58	-	
K211 OS	38,100	54,10	123,11	19,012	30,91	38,10	15,918	15,969	13,97	33,10	-	
K211 S	38,100	54,10	123,11	19,012	30,91	38,10	15,918	15,977	13,97	33,10	-	
K224	38,100	54,10	123,11	18,961	30,91	38,10	15,918	15,918	13,97	35,46	-	
K447	38,100	54,10	123,11	18,961	30,91	38,10	15,918	15,918	13,97	33,10	-	
K335	38,100	54,10	125,00	18,961	25,50	45,40	-	15,918	-	42,00	-	
K3350S	38,100	54,10	125,00	19,012	25,50	45,40	-	15,969	-	42,00	-	
K230	38,100	54,10	125,48	18,961	26,17	45,21	15,918	15,918	22,86	40,64	-	
K243	38,100	54,10	125,48	18,961	67,82	3,56	-	-	-	-	-	
K610	38,100	54,10	125,73	18,961	40,77	30,86	15,918	15,918	37,34	27,43	-	
K223	38,100	54,10	127,00	18,961	31,24	41,66	-	15,918	-	38,10	-	
K223 OS	38,100	54,10	127,00	19,012	31,24	41,66	-	15,977	-	38,10	-	
K314	38,100	54,10	127,00	18,961	26,54	46,36	15,918	15,918	11,68	43,82	-	
K397 OS	38,100	54,10	127,00	19,012	26,54	46,36	15,918	15,977	8,89	43,69	-	
K534	38,100	54,10	127,00	18,961	26,54	46,36	15,939	15,939	8,89	43,69	-	
K446	38,100	54,10	127,25	18,961	29,00	44,15	-	15,918	-	40,21	-	
K010	38,100	54,10	127,48	18,961	30,91	42,47	15,918	15,918	14,35	39,30	-	
K010 OS	38,100	54,10	127,48	19,012	30,91	42,47	15,918	15,969	14,35	39,30	-	
K421	38,100	54,10	131,60	18,961	24,50	53,00	-	15,918	-	48,10	-	
K583	38,100	54,10	131,80	18,961	24,50	53,20	-	15,918	-	49,20	-	
K584	38,100	54,10	131,80	18,961	28,60	49,10	-	15,918	-	45,30	-	
K006	38,100	54,10	132,08	18,961	29,72	48,26	15,918	15,918	12,32	43,18	-	
K006 OS	38,100	54,10	132,08	19,012	29,72	48,26	15,918	15,969	12,32	43,18	-	
K006 S	38,100	54,10	132,08	19,012	29,72	48,26	15,918	15,977	12,32	43,18	-	
K053	38,100	54,10	132,08	18,961	29,85	48,13	15,918	15,918	12,32	43,18	-	
K586	38,100	54,10	133,35	18,961	24,21	55,04	-	15,918	-	49,28	-	
K071	38,100	54,10	134,11	18,961	49,66	30,35	15,918	-	47,24	-	-	
K571	38,100	54,10	134,62	18,961	31,62	48,90	18,961	15,918	7,11	44,70	-	
K340	38,100	54,10	134,87	18,961	36,70	44,07	-	15,977	-	16,87	38,40	
K014	38,100	54,10	134,88	18,961	37,22	43,56	-	15,918	-	41,02	-	
K014 OS	38,100	54,10	134,88	19,012	37,22	43,56	-	15,969	-	41,02	-	
K014 S	38,100	54,10	134,88	19,012	37,22	43,56	-	15,977	-	41,02	-	
K023	38,100	54,10	135,64	18,961	31,76	49,78	-	15,918	-	47,24	-	
K023 OS	38,100	54,10	135,64	19,012	31,76	49,78	-	15,969	-	47,24	-	
K023 S	38,100	54,10	135,64	19,012	31,76	49,78	-	15,977	-	47,24	-	
K274	38,100	54,10	135,86	18,961	30,71	51,05	15,918	15,918	12,24	42,93	-	
K012	38,100	54,10	136,40	18,961	36,07	46,23	15,918	15,918	12,32	43,43	-	





## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Ball “K”



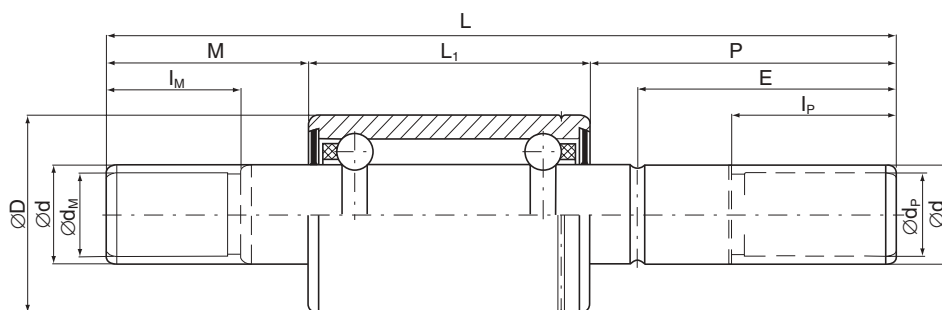
Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
K094	40,000	38,90	74,63	15,918	3,99	31,74	-	-	-	-	-	*
K435	40,000	42,00	117,50	20,000	51,50	24,00	15,008	-	47,80	-	-	
K270	40,000	46,00	110,50	19,000	22,60	41,90	-	12,000	-	39,90	-	
K511	40,000	46,00	111,45	19,000	28,90	36,55	-	12,000	-	34,55	-	
K085	40,000	46,00	112,00	19,012	28,50	37,50	18,000	13,000	26,00	35,00	-	
K290	40,000	46,00	116,80	18,961	30,20	40,60	17,000	12,000	23,00	37,00	-	
K480	40,000	46,00	116,80	19,000	30,20	40,60	-	12,000	-	37,00	-	
K587	40,000	46,00	116,85	18,961	30,35	40,50	-	12,038	-	35,50	-	
K588	40,000	46,00	116,85	18,961	30,35	40,50	17,000	12,038	27,80	35,50	-	
K490	40,000	46,00	117,00	17,030	30,00	41,00	-	12,067	-	39,50	-	
K531	40,000	46,00	117,00	18,961	29,30	41,70	-	15,918	-	39,10	-	
K524	40,000	46,00	119,00	19,000	26,49	46,51	17,000	13,000	24,00	42,01	-	
K309	40,000	46,00	126,20	19,000	30,20	50,00	-	12,000	-	45,00	-	
K300	40,000	46,00	129,00	19,000	32,00	51,00	-	12,000	-	45,01	-	
K573	40,000	46,00	129,95	18,961	29,97	53,98	-	12,000	-	48,92	-	
K507	40,000	50,00	91,00	20,004	35,00	6,00	-	-	-	-	-	
K372	40,000	50,00	113,00	20,054	17,50	45,50	-	16,000	-	43,00	-	
K367	40,000	50,00	143,00	20,004	31,50	61,50	-	16,000	-	55,00	-	*
K494	40,000	60,00	129,60	20,000	13,50	56,10	-	15,000	-	53,10	-	*
K451	40,000	60,00	147,00	20,000	35,50	51,50	-	15,008	-	47,80	-	
K379	40,000	61,11	155,96	20,004	31,10	63,75	15,918	15,918	30,00	56,11	-	
K617	40,000	61,90	135,10	20,000	25,10	48,10	15,918	15,000	8,00	42,00	-	
K358	40,000	62,00	135,20	20,004	25,00	48,20	15,944	15,002	8,00	41,00	-	
K357	40,000	62,00	177,60	20,004	23,40	92,20	15,944	15,002	6,00	80,70	-	

\* The deviations from the specification in the picture are noticed in the drawings



## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Ball “K”

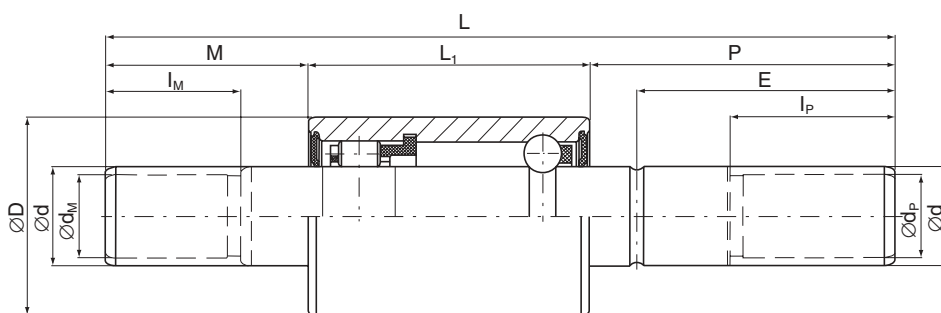


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
K400	42,000	42,00	117,50	20,000	24,00	51,50	-	15,000	-	48,00	-	
K427	42,000	42,00	155,00	20,000	69,50	43,50	15,000	15,000	68,50	42,50	-	*
K553	42,000	43,50	119,00	16,000	47,00	28,50	-	15,000	-	27,50	-	
K428	42,000	46,00	149,80	20,000	64,80	39,00	14,900	12,700	63,80	38,00	-	*
K551	47,000	30,00	77,25	25,400	5,00	42,25	-	15,918	-	42,25	-	
K378	47,000	30,00	93,75	25,400	21,50	42,25	15,018	15,918	20,00	41,25	-	
K373	47,000	47,50	110,85	20,009	15,15	48,20	-	16,000	-	47,80	-	*
K341	47,000	48,00	111,20	25,400	1,00	62,20	-	15,000	-	41,00	-	*
K554	47,000	58,00	141,00	20,000	26,50	56,50	-	-	-	-	-	
K342	47,000	75,00	137,50	25,400	1,00	61,50	-	15,000	-	44,00	-	*
K570	47,625	69,85	122,91	25,400	51,06	2,00	-	-	-	-	-	
K521	47,625	69,85	146,69	25,400	33,15	43,69	-	15,918	-	42,160	-	
K306	47,625	69,85	160,78	25,400	39,52	51,41	18,961	15,918	33,30	49,78	-	
K306 OS	47,625	69,85	160,78	25,400	39,52	51,41	19,012	15,969	33,30	49,78	-	
K306 S	47,625	69,85	160,78	25,400	39,52	51,41	19,012	15,977	33,30	49,78	-	
K589	47,625	69,85	177,80	25,400	57,15	50,80	-	15,918	-	48,26	-	
K474	47,625	69,85	180,98	25,400	67,44	43,69	-	15,918	-	42,16	-	
K305	47,625	69,85	181,10	25,400	49,15	62,10	-	15,918	-	58,93	-	

\* The deviations from the specification in the picture are noticed in the drawings

## Special Double Row Bearings for Water Pumps of Combustion Engines

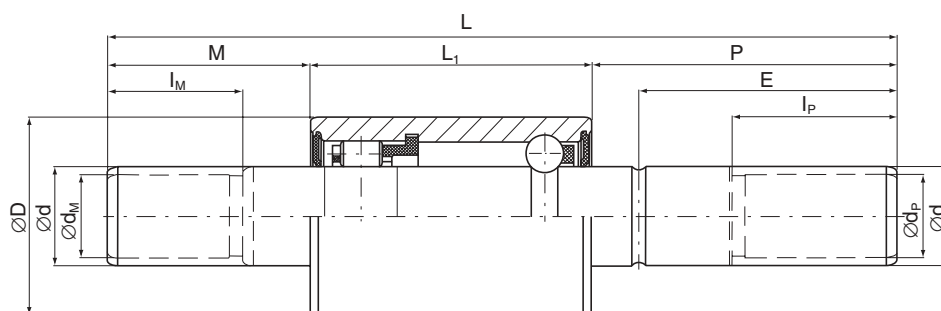
### Arrangement Ball – Cylindrical Roller “R”



Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	I <sub>M</sub>	I <sub>P</sub>	E	
	mm											
R400	28,000	27,00	74,60	17,201	13,10	41,50	-	12,000	-	39,50	-	

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Cylindrical Roller “R”

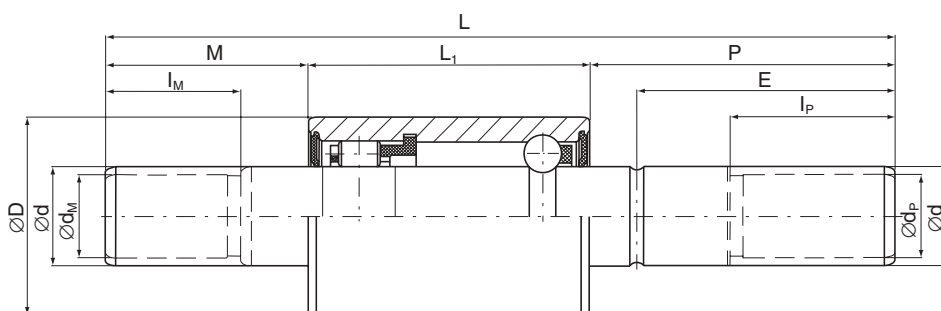


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
R276	30,000	27,00	73,75	15,918	14,65	32,10	-	12,038	-	28,10	-	
R164	30,000	27,00	76,00	15,918	16,31	32,69	-	12,037	-	30,30	-	
R255 OS	30,000	27,00	76,00	15,969	16,31	32,69	-	12,088	-	30,30	-	
R262	30,000	27,00	76,00	15,918	16,31	32,69	-	12,037	-	30,70	-	
R394	30,000	27,00	76,00	15,918	16,31	32,69	-	12,037	-	30,71	-	
R232	30,000	27,00	80,00	16,000	15,50	37,50	-	-	-	-	-	
R263	30,000	27,00	80,04	15,918	15,75	37,29	-	-	-	-	-	
R191	30,000	27,00	85,10	15,918	14,16	43,94	-	12,038	-	41,48	-	
R337	30,000	27,00	85,34	15,918	15,62	42,72	-	12,000	-	38,53	-	
R292	30,000	27,00	85,85	15,918	17,45	41,40	-	12,037	-	39,37	-	
R390	30,000	27,00	85,90	15,918	14,15	43,94	-	12,037	-	41,48	-	
R338	30,000	27,00	87,30	15,918	14,53	45,77	-	-	-	-	37,57	
R349	30,000	27,00	88,47	15,918	19,43	42,04	-	12,037	-	39,75	-	
R212	30,000	27,00	88,49	15,918	19,22	42,27	-	12,037	-	39,75	-	
R217	30,000	27,00	88,49	15,918	19,22	42,27	-	12,037	-	39,75	-	
R2170S	30,000	27,00	88,49	15,969	19,22	42,27	-	12,088	-	39,75	-	
R384	30,000	27,00	88,49	15,918	19,22	42,27	-	12,037	-	39,75	-	*
R411	30,000	27,00	94,00	15,918	16,00	51,00	-	12,038	-	49,00	-	
R425	30,000	27,00	101,00	15,918	31,80	42,20	-	12,000	-	40,70	-	
R303	30,000	27,00	120,23	15,918	29,06	64,17	-	12,037	-	57,71	-	
R194	30,000	30,00	77,70	17,200	12,10	35,60	-	12,000	-	33,60	-	
R318	30,000	30,00	79,26	15,918	13,50	35,76	-	12,038	-	33,76	-	
R392	30,000	30,00	82,50	15,918	16,50	36,00	-	12,000	-	34,50	-	
R382	30,000	30,00	83,82	15,918	15,77	38,05	-	12,000	-	35,46	-	
R204	30,000	30,00	84,00	16,000	15,50	38,50	-	12,000	-	36,50	-	
R239	30,000	30,00	85,82	15,918	14,50	41,32	-	12,038	-	39,32	-	
R195	30,000	30,00	87,25	15,918	15,25	42,00	-	12,038	-	39,50	-	
R260	30,000	30,00	87,30	15,918	14,53	42,77	-	-	-	-	37,57	
R386	30,000	30,00	94,30	15,918	16,30	48,00	-	12,000	-	45,00	-	
R3860S	30,000	30,00	94,30	15,969	16,30	48,00	-	12,050	-	45,00	-	
R192	30,000	31,48	89,66	15,918	16,45	41,73	-	12,037	-	39,75	-	
R086	30,000	31,55	89,66	15,918	16,43	41,68	-	12,037	-	39,75	-	
R419	30,000	32,00	86,80	15,918	13,30	41,50	-	12,038	-	38,00	-	

\* The deviations from the specification in the picture are noticed in the drawings

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Cylindrical Roller “R”

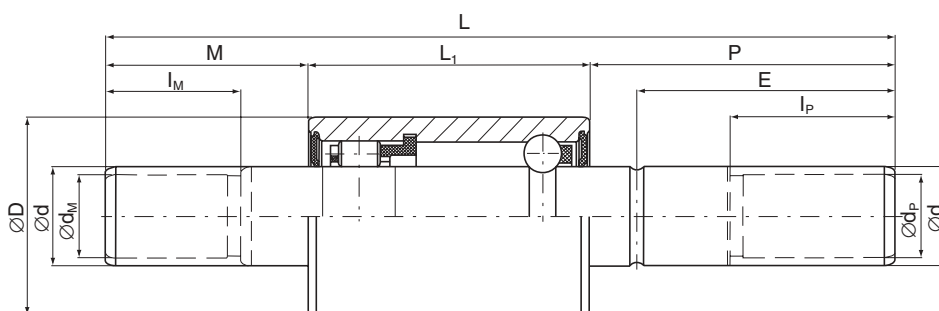


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
R396	30,000	33,40	82,50	15,918	15,10	34,00	-	12,000	-	33,00	-	
R082	30,000	33,40	83,00	15,918	15,60	34,00	-	12,083	-	33,00	-	
R408	30,000	33,40	96,25	15,918	14,94	47,91	-	12,000	-	45,40	-	
R093	30,000	33,80	96,30	15,918	14,60	47,90	-	12,038	-	46,40	-	
R091	30,000	34,00	91,00	15,918	20,00	37,00	-	12,380	-	34,50	-	
R377	30,000	34,00	101,55	15,918	22,05	45,50	-	12,000	-	43,38	-	
R242	30,000	34,08	104,60	15,918	17,50	53,02	-	12,038	-	44,70	-	*
R214	30,000	34,50	74,00	15,918	5,00	34,50	-	-	-	-	-	
R046	30,000	34,50	99,10	15,918	18,90	45,70	-	-	-	-	-	
R219	30,000	34,50	104,20	15,918	19,00	50,70	-	-	-	-	-	
R001	30,000	36,00	87,50	15,008	16,50	35,00	-	12,000	-	34,00	-	
R076	30,000	36,00	87,50	15,008	16,50	35,00	-	-	-	-	-	
R253	30,000	36,00	87,50	15,918	13,50	38,00	-	12,000	-	34,25	-	
R388	30,000	36,50	87,50	15,918	16,50	34,50	-	-	-	-	-	
R005	30,000	36,50	88,75	16,000	19,25	33,00	-	-	-	-	31,00	
R071	30,000	36,50	88,75	16,000	19,25	33,00	-	-	-	-	31,00	
R090	30,000	36,50	101,50	15,951	20,00	45,00	-	-	-	-	-	
R099	30,000	38,00	113,50	15,920	28,50	47,00	-	-	-	-	-	

\* The deviations from the specification in the picture are noticed in the drawings

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Cylindrical Roller “R”

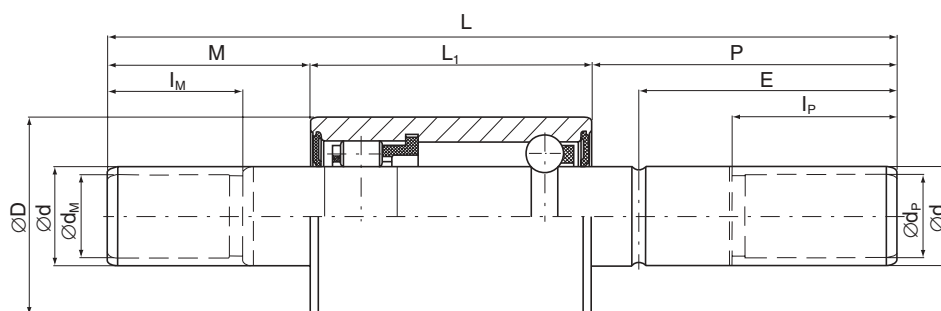


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
R075	30,000	38,90	85,00	15,008	13,10	33,00	-	12,038	-	32,00	-	
R098	30,000	38,90	85,20	15,918	15,20	31,10	-	12,042	-	29,20	-	
R341	30,000	38,90	87,00	15,008	15,00	33,10	-	12,055	-	30,20	-	
R326	30,000	38,90	89,50	15,918	12,10	38,50	-	12,000	-	34,50	-	
R027	30,000	38,90	90,00	15,008	18,00	33,10	-	12,000	-	32,00	-	
R172 OS	30,000	38,90	90,00	15,977	18,00	33,10	-	12,050	-	30,50	-	
R250	30,000	38,90	90,20	15,918	15,49	35,81	-	12,000	-	33,86	-	
R061	30,000	38,90	90,50	15,008	12,10	39,50	-	12,067	-	35,50	-	
R101	30,000	38,90	90,50	15,008	12,10	39,50	-	12,067	-	35,50	-	
R151	30,000	38,90	90,50	15,008	12,10	39,50	-	12,067	-	35,50	-	
R200	30,000	38,90	90,50	15,008	12,10	39,50	-	12,067	-	35,50	-	
R201	30,000	38,90	90,50	15,008	12,10	39,50	-	12,038	-	35,50	-	
R254	30,000	38,90	90,50	15,008	12,10	39,50	-	12,067	-	35,50	-	*
R401	30,000	38,90	90,50	15,008	12,10	39,50	-	12,053	-	35,50	-	
R249	30,000	38,90	91,31	15,918	13,45	38,96	-	12,000	-	36,45	-	
R257	30,000	38,90	91,31	15,918	13,45	38,96	-	12,037	-	36,45	-	
R108	30,000	38,90	92,00	16,000	15,60	37,50	-	-	-	-	34,50	
R344	30,000	38,90	92,50	15,918	25,10	28,50	-	12,038	-	27,00	-	
R019	30,000	38,90	92,51	15,918	25,12	28,49	-	12,037	-	24,49	-	
R264	30,000	38,90	92,61	15,918	16,54	37,17	-	12,000	-	35,56	-	
R288	30,000	38,90	92,99	15,918	18,81	35,28	12,000	-	16,20	-	29,51	
R334	30,000	38,90	92,99	15,918	18,64	35,45	-	-	-	-	29,74	
R079	30,000	38,90	93,00	15,918	18,60	35,50	-	12,006	-	34,50	-	
R283	30,000	38,90	93,00	15,918	18,50	35,60	-	-	-	-	-	
R340	30,000	38,90	93,35	15,918	16,76	37,69	-	-	-	-	31,98	
R026	30,000	38,90	94,40	15,008	15,60	39,90	-	-	-	-	-	
R060	30,000	38,90	94,40	15,008	15,60	39,90	-	-	-	-	36,40	
R220	30,000	38,90	94,40	15,008	15,60	39,90	-	-	-	-	36,40	
R324	30,000	38,90	94,45	15,918	14,23	42,32	-	12,038	-	40,32	-	
R372	30,000	38,90	94,50	15,008	14,50	41,10	-	12,000	-	40,00	-	
R328	30,000	38,90	94,51	15,918	19,08	36,53	12,002	-	16,00	-	30,86	
R304	30,000	38,90	94,80	16,000	12,90	43,00	-	-	-	-	-	
R056	30,000	38,90	95,45	15,918	14,23	42,32	-	-	-	-	39,32	
R290	30,000	38,90	95,50	15,918	14,18	42,42	-	12,037	-	40,39	-	
R2900S	30,000	38,90	95,50	15,977	14,18	42,42	-	12,088	-	40,39	-	
R329	30,000	38,90	95,63	15,918	17,53	39,20	-	12,000	-	34,90	-	
R228	30,000	38,90	96,00	15,918	15,00	42,10	-	12,038	-	37,50	-	
R045	30,000	38,90	96,40	15,008	18,00	39,50	-	12,067	-	36,60	-	
R170	30,000	38,90	96,40	15,918	18,00	39,50	-	12,052	-	36,60	-	

\* The deviations from the specification in the picture are noticed in the drawings

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Cylindrical Roller “R”

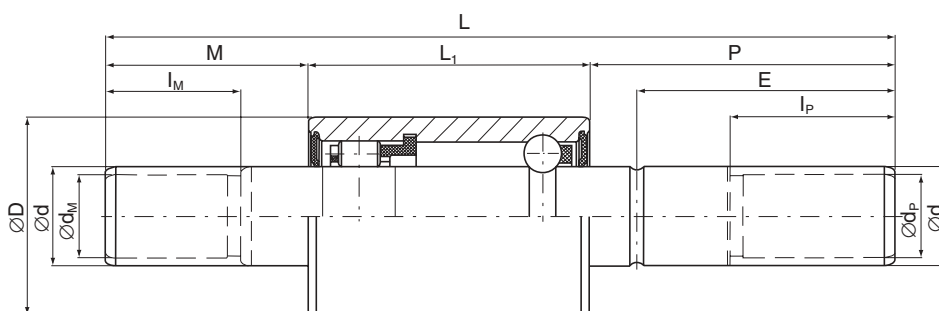


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
R371	30,000	38,90	96,49	15,918	16,44	41,15	-	12,000	-	38,51	-	
R088	30,000	38,90	96,50	15,918	15,35	42,25	-	12,738	-	40,00	-	
R017	30,000	38,90	97,50	15,006	23,50	35,10	-	-	-	-	33,00	
R210	30,000	38,90	97,51	15,918	19,51	39,10	-	12,037	-	37,31	-	
R092	30,000	38,90	98,00	16,000	18,10	41,00	-	-	-	-	38,00	
R104	30,000	38,90	98,00	15,008	18,50	40,60	-	12,067	-	36,60	-	*
R216	30,000	38,90	98,00	15,918	17,00	42,10	-	12,000	-	40,00	-	
R305	30,000	38,90	98,78	15,918	18,42	41,46	-	12,052	-	38,90	-	
R3050S	30,000	38,90	98,78	15,969	18,42	41,46	-	12,095	-	38,90	-	
R350	30,000	38,90	98,79	15,918	18,43	41,46	-	12,038	-	39,46	-	
R356	30,000	38,90	99,49	15,918	16,47	44,12	12,000	12,000	14,61	41,28	-	
R070	30,000	38,90	99,85	15,918	10,50	50,45	-	12,038	-	43,30	-	
R213	30,000	38,90	99,85	15,918	10,81	50,14	-	12,037	-	43,31	-	
R2130S	30,000	38,90	99,85	15,969	10,81	50,14	-	12,088	-	43,31	-	
R268	30,000	38,90	100,51	15,918	18,01	43,60	-	12,000	-	33,50	-	
R376	30,000	38,90	100,85	15,918	16,00	45,95	-	-	-	-	-	
R287	30,000	38,90	100,99	15,918	25,25	36,84	-	-	-	-	31,14	
R013	30,000	38,90	101,00	15,918	24,99	37,11	-	12,000	-	34,98	-	
R013 OS	30,000	38,90	101,00	15,969	24,99	37,11	-	12,050	-	34,98	-	
R157 OS	30,000	38,90	101,00	15,977	24,99	37,11	-	12,050	-	34,98	-	
R269	30,000	38,90	101,09	15,918	22,84	39,35	12,002	12,042	19,84	38,61	-	
R025	30,000	38,90	101,45	16,000	19,55	43,00	-	-	-	-	-	*
R110	30,000	38,90	101,45	16,000	19,55	43,00	-	-	-	-	-	*
R202	30,000	38,90	102,00	15,918	17,00	46,10	-	-	-	-	41,30	
R211	30,000	38,90	102,01	15,918	17,01	46,10	-	-	-	-	-	*
R404	30,000	38,90	102,24	15,918	23,72	39,62	-	12,000	-	38,10	-	
R231	30,000	38,90	103,00	16,000	27,10	37,00	-	-	-	-	-	
R306	30,000	38,90	103,00	15,918	16,50	47,60	-	12,000	-	45,30	-	
R383	30,000	38,90	103,02	15,918	16,54	47,58	-	12,000	-	44,86	-	
R057	30,000	38,90	103,12	15,918	27,92	36,30	-	-	-	-	31,47	
R0570S	30,000	38,90	103,12	15,969	27,92	36,30	-	-	-	-	31,47	
R275	30,000	38,90	103,20	15,000	23,40	40,90	-	-	-	-	-	
R259	30,000	38,90	103,33	15,918	18,54	45,89	-	12,738	-	43,79	-	
R187	30,000	38,90	103,50	15,918	19,50	45,10	-	12,038	-	43,16	-	
R190	30,000	38,90	103,50	15,918	19,44	45,16	-	12,038	-	43,16	-	*
R367	30,000	38,90	103,99	15,918	16,99	48,10	-	12,000	-	46,69	-	
R184	30,000	38,90	104,00	15,918	20,00	45,10	-	12,038	-	42,50	-	
R395	30,000	38,90	104,00	15,918	19,70	45,40	-	12,000	-	43,00	-	
R176	30,000	38,90	104,55	15,939	20,93	44,72	-	12,037	-	42,62	-	

\* The deviations from the specification in the picture are noticed in the drawings

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Cylindrical Roller “R”

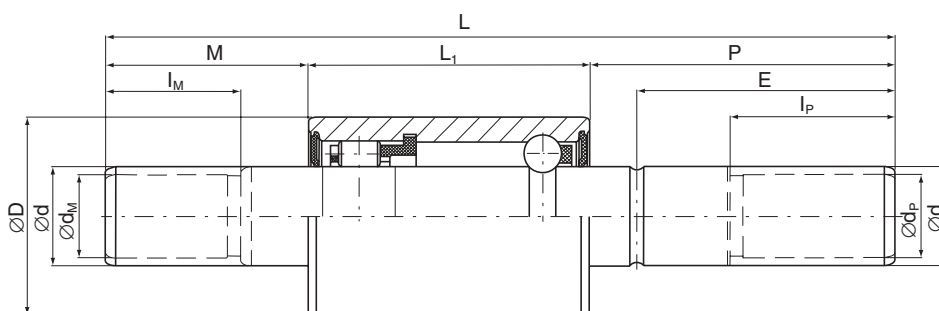


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
R074	30,000	38,90	105,00	15,008	17,10	49,00	-	12,067	-	45,00	-	*
R080	30,000	38,90	105,00	15,918	30,70	35,40	-	12,000	-	32,00	-	
R106	30,000	38,90	105,00	15,008	17,10	49,00	-	12,067	-	45,00	-	*
R007	30,000	38,90	105,41	15,918	20,31	46,20	-	-	-	-	41,38	
R007 OS	30,000	38,90	105,41	15,969	20,31	46,20	-	-	-	-	41,38	
R265	30,000	38,90	105,97	15,918	21,06	46,01	-	-	-	-	40,79	
R083	30,000	38,90	106,00	16,000	26,10	41,00	-	-	-	-	38,00	
R238	30,000	38,90	106,00	15,918	23,05	44,05	-	12,038	-	39,60	-	
R252	30,000	38,90	106,00	15,007	27,60	39,50	-	12,067	-	35,80	-	
R261	30,000	38,90	106,12	15,918	29,69	37,53	-	-	-	-	30,78	
R016	30,000	38,90	106,17	15,918	25,13	42,14	-	12,738	-	40,00	-	
R081	30,000	38,90	106,17	15,918	25,13	42,14	-	12,738	-	40,00	-	
R277	30,000	38,90	106,20	15,918	18,43	48,87	-	12,000	-	41,00	-	
R034	30,000	38,90	106,50	16,000	20,10	47,50	-	-	-	-	-	
R044	30,000	38,90	106,50	15,918	20,10	47,50	-	-	-	-	-	
R215	30,000	38,90	106,50	15,918	17,50	50,10	-	12,000	-	48,00	-	
R320	30,000	38,90	106,50	15,918	21,96	45,64	-	12,037	-	43,64	-	
R174	30,000	38,90	107,39	15,918	23,05	45,44	-	-	-	-	44,04	
R330	30,000	38,90	107,39	15,918	18,67	49,82	-	12,000	-	45,14	-	
R229	30,000	38,90	108,30	15,918	18,40	51,00	-	12,038	-	48,00	-	
R055	30,000	38,90	109,50	15,918	25,12	45,48	-	12,037	-	42,83	-	
R014	30,000	38,90	110,39	15,918	21,35	50,14	-	-	-	-	41,00	
R014 OS	30,000	38,90	110,39	15,969	21,35	50,14	-	-	-	-	41,00	
R158 OS	30,000	38,90	110,39	15,977	21,35	50,14	-	-	-	-	41,00	
R226	30,000	38,90	110,39	15,918	21,35	50,14	-	12,037	-	46,96	-	
R271	30,000	38,90	110,39	15,918	21,41	50,08	-	-	-	-	45,49	
R002	30,000	38,90	110,90	15,918	25,12	46,88	-	-	-	-	-	
R078	30,000	38,90	110,90	15,918	25,12	46,88	-	-	-	-	-	
R381	30,000	38,90	110,90	15,918	25,13	46,87	-	-	-	-	-	
R406	30,000	38,90	110,90	15,918	25,10	46,90	-	12,000	-	45,90	-	
R153	30,000	38,90	111,00	16,000	29,90	42,20	-	12,000	-	39,70	-	
R111	30,000	38,90	112,00	16,000	32,10	41,00	-	-	-	-	38,00	
R286	30,000	38,90	112,34	15,918	23,70	49,74	-	-	-	-	44,04	
R207	30,000	38,90	114,30	15,918	31,99	43,41	-	-	-	-	34,29	
R048 OS	30,000	38,90	114,81	15,969	31,99	43,92	-	-	-	-	34,87	
R109	30,000	38,90	115,00	16,000	26,10	50,00	-	-	-	-	46,00	
R050 OS	30,000	38,90	115,49	15,969	20,48	56,11	-	-	-	-	-	
R065	30,000	38,90	115,49	15,918	20,48	56,11	-	-	-	-	-	
R065 OS	30,000	38,90	115,49	15,977	20,48	56,11	-	-	-	-	-	

\* The deviations from the specification in the picture are noticed in the drawings

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Cylindrical Roller “R”



Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
R331	30,000	38,90	115,72	15,918	20,96	55,86	-	-	-	-	50,17	
R058	30,000	38,90	115,85	15,918	27,93	49,02	-	-	-	-	44,20	
R058 OS	30,000	38,90	115,85	15,969	27,93	49,02	-	-	-	-	44,20	
R159 OS	30,000	38,90	115,85	15,977	27,93	49,02	-	-	-	-	44,20	
R267	30,000	38,90	115,85	15,918	28,32	48,63	-	-	-	-	44,32	
R004	30,000	38,90	117,00	16,000	26,10	52,00	-	-	-	-	47,00	
R208	30,000	38,90	117,27	15,918	33,87	44,50	-	-	-	-	39,62	
R332	30,000	38,90	117,27	15,918	34,26	44,11	-	-	-	-	38,40	
R036	30,000	38,90	117,30	15,918	18,09	60,31	-	12,038	-	55,00	-	*
R183	30,000	38,90	117,30	15,918	18,11	60,29	-	12,038	-	58,29	-	
R373	30,000	38,90	119,00	15,918	17,50	62,20	-	12,008	-	45,00	-	
R066	30,000	38,90	119,05	15,918	37,30	42,85	-	-	-	-	36,50	
R354	30,000	38,90	119,05	15,918	30,11	50,04	-	-	-	-	45,26	
R049 OS	30,000	38,90	119,08	15,969	37,30	42,88	-	-	-	-	36,53	
R285	30,000	38,90	119,89	15,918	36,96	44,03	-	-	-	-	38,07	
R279	30,000	38,90	120,68	15,918	27,93	53,85	-	-	-	-	49,02	
R375	30,000	38,90	121,40	15,918	25,80	56,70	-	12,008	-	41,60	-	*
R068 OS	30,000	38,90	121,62	15,977	31,41	51,31	-	-	-	-	46,53	
R335	30,000	38,90	122,68	15,918	27,20	56,58	-	12,042	-	44,20	-	
R037	30,000	38,90	123,01	15,918	19,01	65,10	-	-	-	-	-	
R037 OS	30,000	38,90	123,01	15,969	19,01	65,10	-	-	-	-	-	
R266	30,000	38,90	123,01	15,918	19,28	64,83	-	-	-	-	59,61	
R047	30,000	38,90	123,50	15,918	20,50	64,10	-	-	-	-	57,50	
R333	30,000	38,90	123,67	15,918	32,13	52,64	-	-	-	-	46,94	
R003	30,000	38,90	127,00	16,000	26,10	62,00	-	-	-	-	57,00	
R248	30,000	38,90	127,43	15,918	21,98	66,55	-	-	-	-	61,72	
R177	30,000	38,90	127,80	15,918	23,30	65,60	-	12,040	-	48,60	-	
R084	30,000	38,90	129,00	16,000	47,10	43,00	15,008	-	43,00	-	-	*
R278	30,000	38,90	129,03	15,918	31,71	58,42	-	-	-	-	-	
R353	30,000	38,90	132,13	15,939	40,17	53,06	-	-	-	-	48,29	
R209	30,000	38,90	138,99	15,918	23,10	76,99	-	-	-	-	72,16	
R031	30,000	38,90	154,23	15,939	29,76	85,57	-	-	-	-	79,22	
R031 OS	30,000	38,90	154,23	15,989	29,76	85,57	-	-	-	-	79,22	

\* The deviations from the specification in the picture are noticed in the drawings





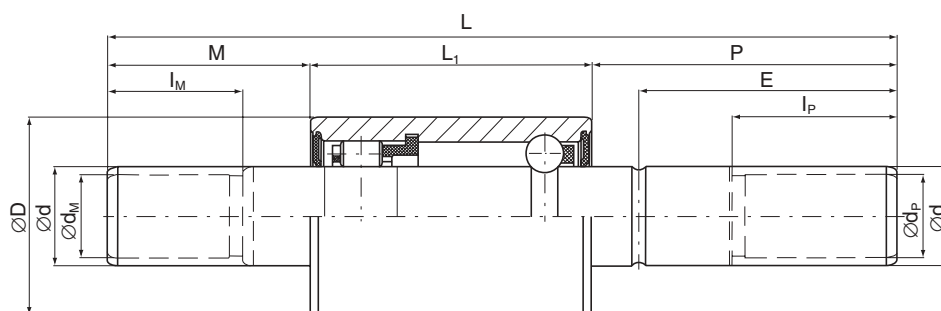






## Special Double Row Bearings for Water Pumps of Combustion Engines

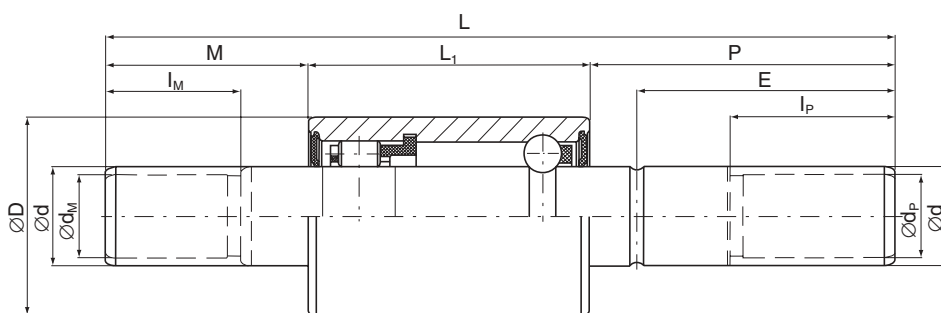
### Arrangement Ball – Cylindrical Roller “R”



Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
R010	38,100	54,10	158,24	18,961	43,05	61,09	15,918	15,918	14,10	56,64	-	
R010 OS	38,100	54,10	158,24	19,012	43,05	61,09	15,918	15,969	14,10	56,64	-	
R155 OS	38,100	54,10	158,24	19,012	43,05	61,09	15,918	15,977	14,10	56,64	-	
R163	38,100	54,10	158,40	18,961	34,78	69,52	15,918	15,918	12,80	60,30	-	
R225	38,100	54,10	158,67	18,961	34,92	69,65	15,918	15,918	12,88	61,90	-	
R162	38,100	54,10	160,53	18,961	44,33	62,10	-	15,918	-	58,93	-	
R015	38,100	54,10	161,04	18,961	46,61	60,33	15,918	15,918	33,15	55,88	-	
R015 OS	38,100	54,10	161,04	19,012	46,61	60,33	15,969	15,969	33,15	55,88	-	
R015 S	38,100	54,10	161,04	19,012	46,61	60,33	15,977	15,977	33,53	55,88	-	
R167	38,100	54,10	161,93	18,961	35,44	72,39	15,918	15,918	15,14	70,05	-	
R189	38,100	54,10	174,75	18,961	52,40	68,25	15,918	15,918	14,10	63,75	-	
R189 OS	38,100	54,10	174,75	19,012	52,40	68,25	15,918	15,969	14,10	63,75	-	
R321	38,100	54,10	174,75	18,961	35,00	85,65	15,918	12,037	14,12	59,84	-	
R323	38,100	54,10	174,75	18,961	52,41	68,24	-	12,038	-	43,00	-	
R403	38,100	54,10	174,75	18,961	52,53	68,12	15,918	12,038	14,10	43,00	-	
R294	38,100	54,10	174,80	18,961	52,40	68,30	-	12,037	-	43,00	-	

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Cylindrical Roller “R”

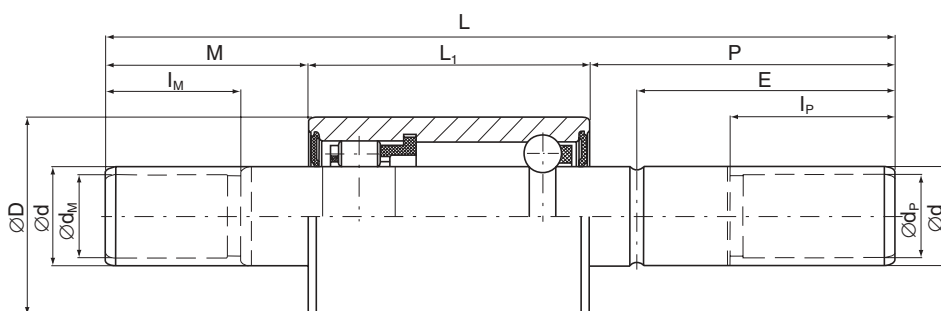


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	I <sub>M</sub>	I <sub>P</sub>	E	
	mm											
R342	40,000	46,00	117,00	18,961	29,30	41,70	-	15,918	-	39,10	-	
R188	40,000	50,00	104,50	20,004	47,50	7,00	-	-	-	-	-	
R302	40,000	50,00	112,00	19,000	29,00	33,00	-	12,000	-	32,00	-	
R362	40,000	50,00	112,00	20,004	18,00	44,00	-	16,000	-	40,00	-	
R256	40,000	50,00	122,00	19,000	22,00	50,00	-	12,000	-	46,00	-	
R236	40,000	50,00	132,00	20,004	20,50	61,50	-	15,918	-	55,00	-	*
R186	40,000	50,00	143,00	20,004	31,50	61,50	-	16,000	-	55,00	-	*
R051	40,000	50,00	151,00	19,000	51,50	49,50	14,500	16,000	49,00	44,00	-	*
R234	40,000	52,50	132,00	20,004	18,00	61,50	-	16,000	-	56,50	-	*
R251	40,000	52,50	132,00	20,004	18,00	61,50	-	16,000	-	56,50	-	*
R409	41,000	38,90	88,20	22,000	13,60	35,70	20,000	12,000	12,60	34,31	-	
R352	42,000	32,00	95,30	22,000	15,70	47,60	-	12,000	-	43,60	-	
R322	42,000	32,00	97,64	22,000	15,70	49,94	-	12,000	-	46,94	-	
R422	42,000	41,50	115,00	22,000	29,80	43,70	15,918	15,918	8,50	41,70	-	
R205 OS	42,000	44,00	118,00	19,012	28,00	46,00	18,000	16,000	26,50	44,50	-	
R274	42,000	45,90	130,50	20,004	23,60	61,00	19,000	12,000	22,60	59,00	-	
R421	42,000	46,00	118,00	22,000	28,00	44,00	-	12,000	-	40,50	-	

\* The deviations from the specification in the picture are noticed in the drawings

## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Cylindrical Roller “R”

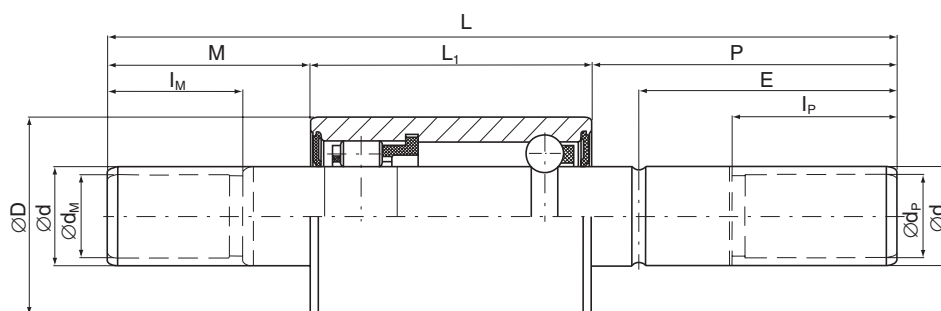


Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
R180	47,587	69,85	160,78	25,362	39,52	51,41	18,961	15,918	13,59	46,36	-	
R181	47,625	54,10	136,14	25,400	23,37	58,67	18,961	15,918	21,97	53,62	-	
R345	47,625	54,10	136,14	25,400	23,50	58,54	18,961	15,918	19,86	53,62	-	
R336	47,625	54,10	137,92	25,400	33,02	50,80	-	12,037	-	45,21	-	
R295	47,625	54,10	138,00	25,400	32,90	51,00	-	12,037	-	42,00	-	
R327	47,625	69,85	154,38	25,400	33,78	50,75	-	15,918	-	46,84	-	
R233	47,625	69,85	160,00	25,400	29,80	60,35	20,008	15,918	27,80	51,60	-	*
R298	47,625	69,85	160,78	25,400	39,52	51,41	18,961	15,918	13,59	46,36	-	
R166	47,625	69,85	177,80	25,400	57,15	50,80	-	15,918	-	48,26	-	
R246	47,625	69,85	184,15	25,400	53,95	60,35	20,008	15,918	51,95	51,60	-	*
R346	47,625	69,85	184,15	25,400	53,95	60,35	25,250	15,918	7,00	51,60	-	*
R063	52,000	53,50	134,50	25,000	26,00	55,00	-	15,918	-	54,50	-	
R126	52,000	53,50	134,50	25,000	26,00	55,00	-	12,500	-	54,50	-	*

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## Special Double Row Bearings for Water Pumps of Combustion Engines

### Arrangement Ball – Cylindrical Roller “R”



Bearing designation	Dimensions											Note
	D	L <sub>1</sub>	L	d	M	P	d <sub>M</sub>	d <sub>P</sub>	l <sub>M</sub>	l <sub>P</sub>	E	
	mm											
R053	55,000	60,00	127,00	25,061	25,00	42,00	-	15,056	-	41,00	-	
R114	55,000	60,00	127,00	25,000	25,00	42,00	-	16,000	-	41,20	-	
R122	55,000	60,00	127,00	25,000	25,00	42,00	-	16,000	-	41,00	-	
R197	55,000	60,00	127,00	25,061	25,00	42,00	-	16,056	-	37,50	-	
R222	55,000	60,00	127,00	25,061	25,00	42,00	-	15,056	-	41,00	-	
R230	55,000	60,00	127,00	25,061	25,00	42,00	-	16,000	-	41,00	-	
R237	55,000	60,00	127,00	25,061	25,00	42,00	-	16,056	-	41,00	-	*
R351	55,000	60,00	127,00	25,061	25,00	42,00	-	15,056	-	42,00	-	*
R358	55,000	60,00	127,00	25,061	25,00	42,00	-	16,056	-	42,00	-	*
R124	55,000	60,00	131,00	25,000	26,00	45,00	-	15,918	-	44,00	-	
R118	55,000	60,00	145,00	25,000	25,00	60,00	-	15,918	-	59,00	-	*
R128	55,000	60,00	145,00	25,000	25,00	60,00	-	16,000	-	59,00	-	
R289	55,000	60,00	145,54	25,061	31,88	53,66	18,961	15,918	28,70	50,50	-	
R343	55,000	60,00	153,29	25,061	32,00	61,29	18,961	15,918	13,59	57,89	-	
R178	55,000	60,00	156,59	25,061	35,43	61,16	18,961	15,918	13,59	57,99	-	
R119	55,000	60,00	177,00	25,000	54,00	63,00	-	15,900	-	50,00	58,00	
R123	55,000	60,00	177,00	25,000	57,00	63,00	-	16,000	-	50,00	58,00	*
R042	55,000	60,00	200,00	25,000	30,00	110,00	-	15,918	-	48,00	-	
R120	55,000	60,00	212,00	25,000	89,00	63,00	20,000	15,900	37,00	50,00	58,00	*
R182	55,000	75,00	174,50	25,000	36,00	63,50	-	18,600	-	58,00	-	*

\* The deviations from the specification in the picture are noticed in the drawings