Catalogo Cuscinetti Combinati
Catalog for Combined Bearings

I cuscinetti combinati K.S.B. sono particolarmente adatti per essere impiegati nei montaggi dei carrelli elevatori ed in ogni altro sistema di traslazione e movimentazione dove si utilizzano dei profili. La particolare configurazione del cuscinetto combinato permette un'ottimale suddivisione dei carichi esterni agenti sul cuscinetto stesso che vengono ripartiti tra il cuscinetto principale di guida longitudinale ed il rullo di contrato laterale.In questo modo si assicura una migliore distribuzione dei cerichi con una notevole riduzione delle pressioni specifiche sul profilo che pertanto è meno soggetto ad usura.Il cuscinetto combinato presenta una notevole facilità di montaggio perchè è già pronto per essere saldato sul profilo dopo essere stato inserito nel foro di alloggiamento.

Caratteristiche Tecniche

Gli anelli esterni dei cuscinetti sono realizzati in acciaio da cementazione UNI 20 MnCr 5 con durezza HRC 60+2.
Gli anelli interni dei cuscinetti sono realizzati in acciaio UNI 100 Cr 6 con durezza HRC 62-2.
I rulli sono del tipo a testa piana rettificata in acciaio UNI 100 Cr 6 con durezza HRC 59-64
I supporti sono realizzati in acciaio a basso tenore di carbonio facilmente saldabile.
I cuscinetti radiali montano tenute a labirinto e rulli laterali con tenute in gomma, mentre i cuscinetti radiali e laterali montano tenute in gomma a labbro strisciante.
I cuscinetti vengono forniti lubrificati con grasso a gradazione 3 (es. SHELL Alvania 3).

Carichi

I valori delle capacità di carico C e Co indicati nelle tabelle a fianco di ogni tipo sono riferiti ai normali concetti propri dei cuscinetti e quindi determinati in base alla norme ISO 281/1 E 76.
Questo non esime dalla necessità di verificare il dimensionamento delle ruote in regolazione ai carichi radiali massimi ammissibili.

Istruzioni di Montaggio

A - alloggiamento del perno alesato
B - controllo ortogonalità asse/montante
C - perno fissato a struttura con saldatura elettrica a punti fino a formare il cordone di saldatura. Si consiglia di operare a cuscinetto smontato.
D - lubrificazione con grasso al litio, consistenza NLGI 3.

K.S.B. combined bearings have been designed to meet the technical requirements of fork lift mast manifacturers but are also suitable for any other equipment where a linear motion is required. K.S.B. combined bearings provide the best resolution of the external load into its components the radial load acts on the main radial bearing and the axial load acts on the side guide roller. This system allows the longest life for bearing and profile, being minimized the specific pressure value between bearing and beam. Assembling of combined bearings is very easy radial bearing and side guide roller are fitted in the bolt which is ready to be welded to the beam.

Technical Characteristics

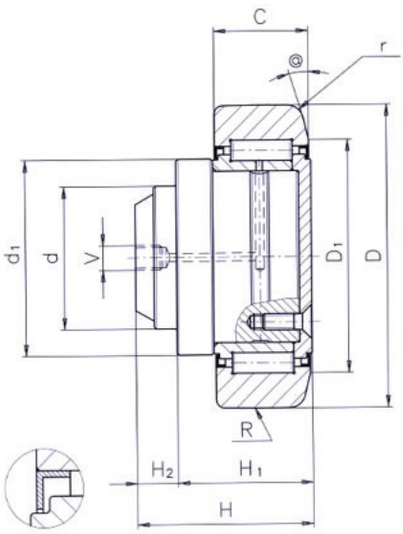
Outer rings are made from case-hardened steel UNI 20 MnCr 5 hardened at HRC 60+2.
Inner rings are made from bearing steel UNI 100 Cr 6 hardened at HRC 62-2.
Cylindrical rollers have flat ground heads UNI 100 Cr 6 hardened HRC 59-64.
Welding bolts are made from low carbon steel.
The radial bearings and labyrinth seals mountain side rollers with rubber seals, while the radial and side mount rubber seals in sliding lip.
Bearings are supplied lubricated with grease grade 3 (example SHELL Alvania 3).

Loads

The values of load capacities C and Co shown in the tables in connection with each bearing type refer to the normal concepts peculliar to bearings and therefore determined by norms ISO 281/1 E 76.
It is nevertheless necessary to verify the wheel dimensions according to he allowed maximum radial loads.

Mounting Instructions

A - bolt seating to be line bored.
B - check orthogonality between axis and mast.
C - bolt to be electrically dot welded so to create a weldline robe.It is recommended to disassemble the bearing in order to avoid.
D - use lithium based grease lubricant with an NLGI 3 consistency.



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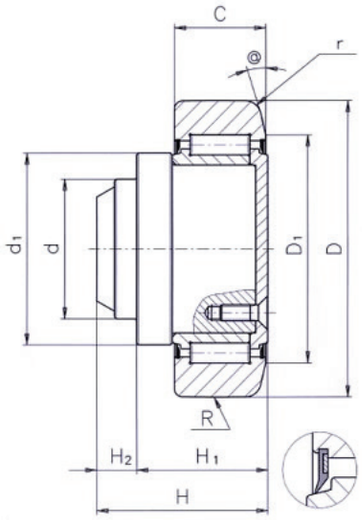
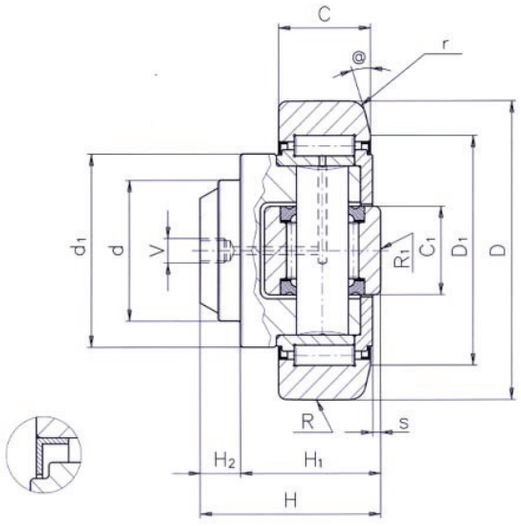


2RS

Tipo Type	Dimensioni - Dimension												Coefficienti di Carico Load Factors		Velocità Speed	Massa Mass
	d mm	D mm	C mm	H mm	H1 mm	H2 mm	D1 mm	d1 mm	@ gradi	r mm	R mm	V mm	C Kn	Co Kn	g./min.	Kg
KMR.111-ZZ	30	62.0	20	36.5	29.5	7.0	50	42	20°	3	500	M6x1	39	65	900	0.6
KMR.112-ZZ	35	70.1	23	42.0	34.0	8.0	57	48	20°	3	500	M6x1	56	93	900	0.8
KMR.113-ZZ	40	77.7	23	44.5	33.5	11.5	61	53	20°	3	700	M6x1	58	101.5	800	1.1
KMR.115-ZZ	45	88.9	30	54.0	41.0	13.0	68	59	20°	4	700	M6x1	84	133	700	1.7
KMR.117-ZZ	60	107.7	31	65.5	51.5	14.0	82	71	20°	4	1000	M6x1	94	162	650	2.7
KMR.119-ZZ	60	123.0	37	67.8	51.5	16.3	92	80	20°	4	1000	M6x1	132	242	500	3.9
KMR.120-ZZ	60	149.0	43	74.0	54.0	20.0	116	103	15°	4	1000	M6x1	179	353	400	6.5
KMR.121-2RS	30	62.0	20	36.5	29.5	7.0	50	42	20°	3	500	M6x1	39	65	900	0.6
KMR.122-2RS	35	70.1	23	42.0	34.0	8.0	57	48	20°	3	500	M6x1	56	93	900	0.8
KMR.123-2RS	40	77.7	23	44.5	33.5	11.5	61	53	20°	3	700	M6x1	58	101.5	800	1.1
KMR.125-2RS	45	88.9	30	54.0	41.0	13.0	68	59	20°	4	700	M6x1	84	133	700	1.7
KMR.127-2RS	60	107.7	31	65.5	51.5	14.0	82	71	20°	4	1000	M6x1	94	162	650	2.7
KMR.129-2RS	60	123.0	37	67.8	51.5	16.3	92	80	20°	4	1000	M6x1	132	242	500	3.9
KMR.130-2RS	60	149.0	43	74.0	54.0	20.0	116	103	15°	4	1000	M6x1	179	353	400	6.5



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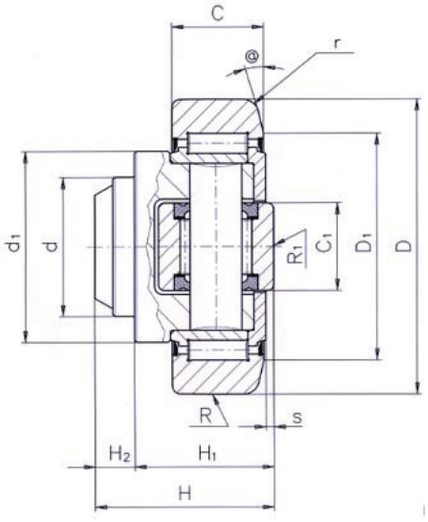

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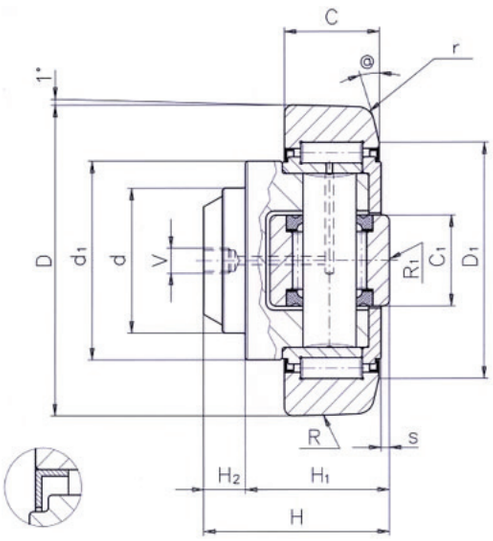
Tipo Type	Dimensioni - Dimension															Coefficienti di Carico Load Factors				Velocità Speed	Massa Mass
	d mm	D mm	C mm	H mm	H1 mm	H2 mm	D1 mm	C1 mm	d1 mm	S mm	@ gradi	r mm	R mm	R1 mm	V mm	C Kn	Co Kn	CA Kn	CoA Kn	g./min.	Kg
KMR.706-ZZ	30	52.5	19	33	27	6	43	16	40	2.5	10°	3	500	500	-	26.5	46	6	6	800	0.39
KMR.001-ZZ	30	62	20	37.5	30.5	7	50	20	42	2	20°	3	500	500	-	39	65	14	21	900	0.52
KMR.002-ZZ	35	70.1	23	44	36	8	57	22	48	2	20°	3	500	500	M6x1	56	93	17	25	900	0.78
KMR.003-ZZ	44	77.7	23	48	36.5	11.5	61	24	54	2.5	20°	3	700	700	M6x1	58	101.5	21	32	800	1.02
KMR.005-ZZ	45	88.9	30	57	44	13	68	26	59	3	20°	4	700	700	M6x1	84	133	28	43	700	1.61
KMR.007-ZZ	60	107.7	31	69	55	14	82	34	71	3.5	20°	4	1000	700	M6x1	94	162	46	84	650	2.69
KMR.009-ZZ	60	123	37	72.3	56	16.3	92	40	80	4.5	20°	4	1000	1000	M6x1	132	242	53	94	500	3.88
KMR.010-ZZ	60	149	43	78.5	58.5	20	116	50	103	4.5	15°	4	1000	1000	M6x1	179	353	83	131	400	6.65
KMR.191-ZZ	60	149	45	86	67	19	120	50	107	5	15°	4	1000	1000	1/8 G	179	353	83	131	400	7.15
KMR.021-2RS	30	62	20	37.5	30.5	7	50	20	42	2	20°	3	500	500	-	39	65	14	21	900	0.52
KMR.022-2RS	35	70.1	23	44	36	8	27	22	48	2	20°	3	500	500	M6x1	56	93	17	25	900	0.78
KMR.023-2RS	40	77.7	23	48	36.5	11.5	61	24	54	2.5	20°	3	700	700	M6x1	58	101.5	21	32	800	1.02
KMR.025-2RS	45	88.9	30	57	44	13	68	26	59	3	20°	4	700	700	M6x1	84	133	28	43	700	1.61
KMR.027-2RS	60	107.7	31	69	55	14	82	34	71	3.5	20°	4	1000	700	M6x1	94	162	46	84	650	2.69
KMR.029-2RS	60	123	37	72.3	56	16.3	92	40	80	4.5	20°	4	1000	1000	M6x1	132	242	53	94	500	3.88
KMR.030-2RS	60	149	43	78.5	58.5	20	116	50	103	4.5	15°	4	1000	1000	M6x1	179	353	83	131	400	6.65



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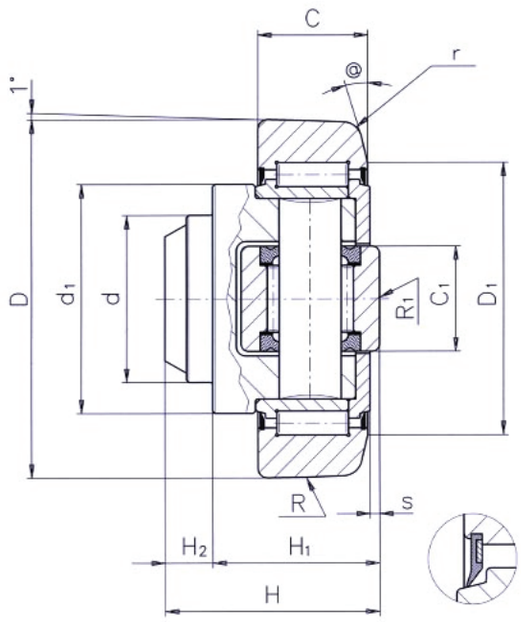
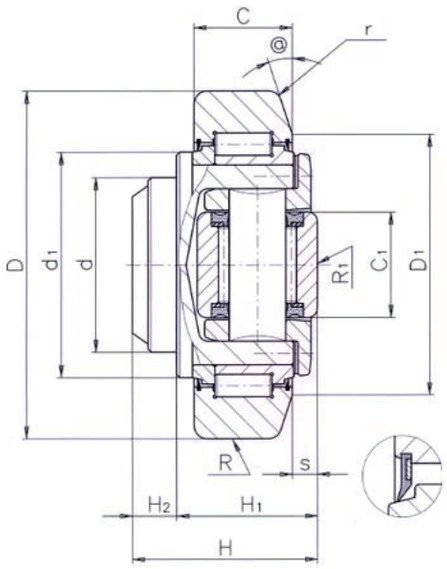


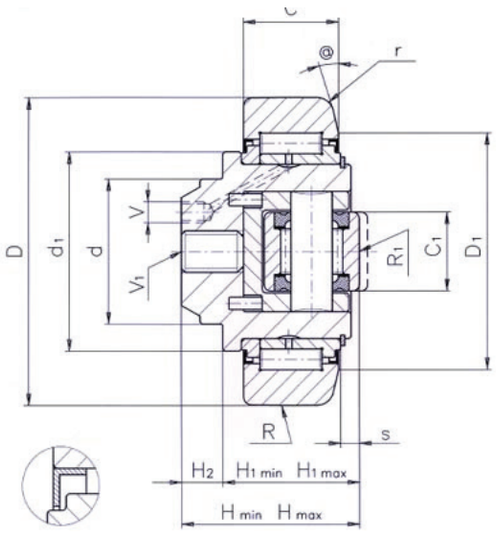
2RS

Tipo Type	Dimensioni - Dimension															Coefficienti di Carico Load Factors				Velocità Speed	Massa Mass
	d mm	D mm	C mm	H mm	H1 mm	H2 mm	D1 mm	C1 mm	d1 mm	S mm	@ gradi	r mm	R mm	R1 mm	V mm	C Kn	Co Kn	CA Kn	CoA Kn	g./min.	Kg
KMR.031-ZZ	35	70.35	23	40.5	30.5	10	57	22	48	2.5	20°	4	650	500	-	56	93	17	25	900	0.47
KMR.004-ZZ	40	78.3	23	40.7	29	11.7	61	24	53	3.5	20°	4	700	700	M6x1	58	101.5	21	32	800	0.88
KMR.034-ZZ	45	89.25	30	50	37.5	12.5	68	26	59	3	20°	4	850	700	M6x1	84	133	28	43	800	1.58
KMR.006-ZZ	50	101.8	28	46	33	13	77	30	67	2.5	20°	4	850	700	M6x1	91	153	32	50	700	1.72
KMR.008-ZZ	55	108.55	31	53	38.5	14.5	82	34	71	3.5	20°	4	1000	700	M6x1	94	162	39	66	700	2.22
KMR.040-ZZ	60	123.5	33	57	42	15	94	33	78	2.5	15°	4	1000	750	M6x1	134	211	39	57	500	3.20
KMR.016-ZZ	60	129.4	33	56.5	42.5	14	94	40	78	2.5	10°	4	1000	750	M6x1	126	200	42	73	500	3.40
KMR.011-ZZ	80	165	36	61	46	15	130	60	113	2.5	10°	4	1000	1000	M6x1	173	306	58	111	400	6.30
KMR.032-2RS	35	70.35	23	40.5	30.5	10	57	22	48	2.5	20°	4	650	500	-	56	93	17	25	900	0.47
KMR.024-2RS	40	78.3	23	40.7	29	11.7	61	24	53	3.5	20°	4	700	700	M6x1	58	101.5	21	32	800	0.88
KMR.035-2RS	45	89.25	30	50	37.5	12.5	68	26	59	3	20°	4	850	700	M6x1	84	133	28	43	800	1.58
KMR.026-2RS	50	101.8	28	46	33	13	77	30	67	2.5	20°	4	850	700	M6x1	91	153	32	50	700	1.72
KMR.028-2RS	55	108.55	31	53	38.5	14.5	82	34	71	3.5	20°	4	1000	700	M6x1	94	162	39	66	700	2.22
KMR.041-2RS	60	123.5	33	57	42	15	94	33	78	2.5	15°	4	1000	750	M6x1	134	211	39	57	500	3.20



2RS

Tipo Type	Dimensioni - Dimension															Coefficienti di Carico Load Factors				Velocità Speed	Massa Mass
	d mm	D mm	C mm	H mm	H1 mm	H2 mm	D1 mm	C1 mm	d1 mm	S mm	@ gradi	r mm	R mm	R1 mm	V mm	C Kn	Co Kn	CA Kn	CoA Kn	g./min.	Kg
KMR.146-2RS	30	62	20	43	33	10	50	16	42	5.5	20°	3	500	500	-	39	65	10	14	900	0.60
KMR.147-2RS	35	70.1	23	48	40	8	57	16	48	6.5	20°	4	500	500	-	56	93	10	14	900	0.90
KMR.148-2RS	40	77.7	23	50.5	39.5	11	61	21	54	7	20°	4	700	700	-	58	101.5	14	22	800	1.05
KMR.149-2RS	40	78.3	23	45	34	11	61	21	54	7	20°	4	850	700	-	58	101.5	14	22	800	0.95
KMR.150-2RS	45	88.9	30	61	48	13	69.5	21	59	7	20°	3	850	700	-	84	133	14	22	700	1.70
KMR.151-2RS	50	101.9	28	50.5	37.5	13	77	21	67	7	20°	3	850	700	-	91	153	18	22	700	1.85
KMR.142-2RS	60	107.7	31	69	55	14	82	33	71	8	20°	4	1000	700	-	94	162	39	57	65	2.40
KMR.152-2RS	55	108.55	31	58.5	44.5	14	82	33	71	8	20°	4	1000	700	-	94	162	39	57	650	2.80
KMR.153-2RS	60	123	37	75.8	59.5	16.3	92	33	78	8	20°	4	1000	1000	-	132	242	39	57	500	4.10
KMR.154-2RS	60	149	43	89	69	20	116	50	103	15	15°	4	1000	1000	-	179	353	83	131	400	6.80



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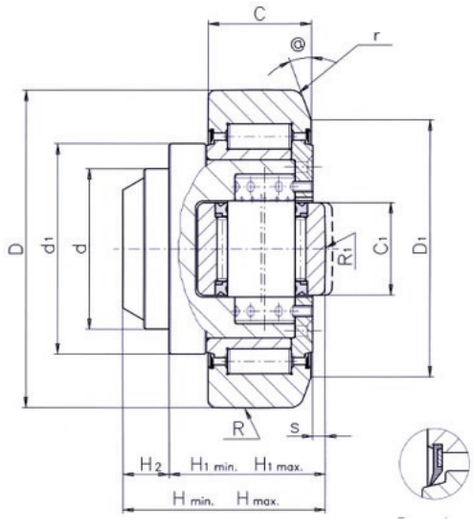
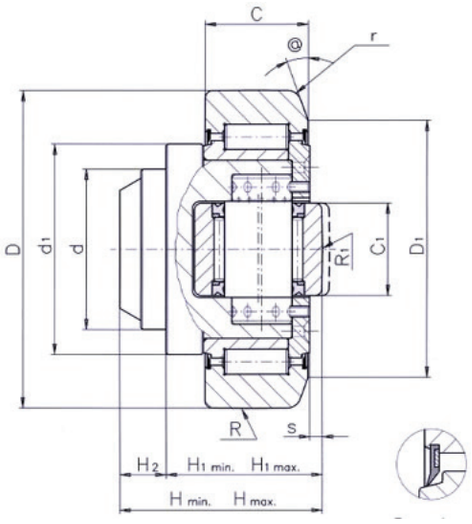
Tipo Type	Dimensioni - Dimension																	Coefficienti di Carico Load Factors				Velocità Speed	Massa Mass
	d mm	D mm	C mm	H min mm	H max mm	H1 min mm	H1 max mm	H2 mm	D1 mm	C1 mm	d1 mm	@ gradi	r mm	R mm	R1 mm	V mm	V1 mm	C Kn	Co Kn	CA Kn	CoA Kn	g./ min.	Kg
KMR.961-ZZ	30	62	20	37.5	39.5	30.5	32.5	7	50	-	42	20°	3	500	500	-	M10	39	65	-	-	900	0.52
KMR.962-ZZ	35	70.1	23	38.5	40.5	31.5	33.5	7	57	-	48	20°	3	500	500	M6x1	M10	56	59	-	-	900	0,60
KMR.963-ZZ	40	77.7	23	40.7	42.7	31.7	33.7	9	61	-	54	20°	3	700	700	M6x1	M10	58	101.5	-	-	800	0.82
KMR.964-ZZ	45	88.9	30	48.5	51	36.5	39	12	68	21	59	20°	4	700	700	M6x1	M10	84	133	15	22	700	1.43
KMR.965-ZZ	50	101.9	28	46	48.5	33	35.5	13	77	21	67	20°	4	850	700	M6x1	M10	91	153	18	22	700	1.70
KMR.966-ZZ	55	107.7	31	53.5	56.5	41.5	44.5	12	82	30	71	20°	4	1000	700	M6x1	M16	94	162	31	40	650	2.45
KMR-967-ZZ	60	123	33	61.5	64.5	49.5	52	12	94	30	78	15°	4	1000	1000	M6x1	M16	132	242	31	40	500	3.50
KMR.968-ZZ	60	149	43	75.5	79	58.5	62	17	116	45	103	15°	4	1000	1000	M6x1	M10	179	353	68	71	400	6.50



2RS

Tipo Type	Dimensioni - Dimension																Coefficienti di Carico Load Factors				Velocità Speed	Massa Mass
	d mm	D mm	C mm	H min mm	H max mm	H1 min mm	H1 max mm	H2 mm	D1 mm	C1 mm	d1 mm	s mm	@ gradi	r mm	R mm	R1 mm	C Kn	Co Kn	CA Kn	CoA Kn	g./ min.	Kg
KKRES.062	30	62	20	37.5	39	30.5	32	7	50	20	42	2	20°	3	500	500	39	65	14	21	900	0.52
KKRES.070	35	70.1	23	44	45.5	36	37.5	8	57	20	48	2	20°	3	500	500	56	93	14	21	900	0.78
KKRES.078	40	77.7	23	48	50	36.5	38.5	11.5	61	24	53	2.5	20°	3	700	700	58	101.5	21	32	800	1.02
KKRES.089	45	88.9	30	57	59	44	46	13	68	26	59	3	20°	4	700	700	84	133	28	43	700	1.61
KKRES.101	50	101.9	28	46	48.5	33	35.5	13	77	26	67	2.5	20°	4	850	700	91	153	30	35	700	1.75
KKRES.108	60	107.7	31	69	71.5	55	57.5	14	82	34	71	3.5	20°	4	1000	700	94	162	33	47	650	2.69
KKRES.123	60	123	37	72.3	75.3	56	59	16.3	92	40	80	4.5	20°	4	1000	700	132	242	53	94	500	3.88
KKRES.149	60	149	43	78.5	81.5	58.5	61.5	20	116	50	103	4.5	15°	4	1000	700	179	353	68	71	400	6.65



2RS

Tipo Type	Dimensioni - Dimension																Coefficienti di Carico Load Factors				Velocità Speed	Massa Mass
	d mm	D mm	C mm	H min mm	H max mm	H1 min mm	H1 max mm	H2 mm	D1 mm	C1 mm	d1 mm	s mm	@ gradi	r mm	R mm	R1 mm	C Kn	Co Kn	CA Kn	CoA Kn	g./ min.	Kg
KMR.038A-2RS	80	165	40	69	72	53	56	16	130	50	113	8	15°	3	1000	1000	190	336	68	71	120	9.2
KMR.012A-2RS	100	190	48	84.5	87.5	64.5	67.5	20	160	60	124	6.5	15°	4	1000	1500	257	441	99	165	100	10.6
KMR.013A-2RS	110	220	58	94.5	97.5	74.5	77.5	20	190	75	145	6.5	15°	4	1500	2000	325	681	152	295	90	17.3
KMR.014A-2RS	120	250	60	102	105	77	80	25	220	75	168	7	15°	4	1500	2000	354	794.5	152	295	70	23.9
KMR.015A-2RS	150	280	72	119.5	123.5	89.5	93.5	30	250	90	188	7.5	15°	4	2000	3000	496	1091	215	475	55	36.0

KSB	FARO	LI.BE
KMR.11...	-	MR.11...
KMR.00...	405...	MR.00...
KMR.0....	400...	MR.0...
KMR.15...	-	MR.15...
KMR.9....	-	MR.9...
KKRE.....	445.....	KRE.....
KMR.0....A	-	MR.0....A