

CUSCINETTI ASSIALI A RULLI CILINDRICI

AXIAL CYLINDRICAL ROLLER BEARINGS





I cuscinetti assiali a rulli cilindrici sono costituiti da una gabbia assiale a rulli cilindrici e da una ralla di tipo GS per alloggiamento e da una ralla di tipo WS per albero. Solitamente vengono utilizzati i cuscinetti assiali a rulli cilindrici quando i cuscinetti assiali a rullini non sono più in grado di sopportare carichi assiali elevati.

Le tolleranze dimensionali corrispondono alla classe di tolleranza PO, ma su espressa richiesta della clientela possono essere forniti cuscinetti assiali a rulli cilindrici e ralle per cuscinetti assiali della serie WS, GS e ZS con classe di tolleranza P5 e P6.

Cuscinetti assiali a rullini con bordo di centraggio nella ralla assiale.

Le componenti principali dei cuscinetti assiali a rullini della serie AXW sono una gabbia assiale a rullini AXK ed una ralla AS. Possono essere combinati con diverse ralle per cuscinetti assiali del tipo AS, LS e WS, bussole, astucci a rullini e cuscinetti a rullini.

Gabbie assiali

Le gabbie assiali sono composte da una struttura che ha il compito principale di trattenere e guidare i rullini con elevata precisione. Le gabbie a rullini presentano il vantaggio di avere un ingombro molto ridotto, ancor più se possono utilizzare le superficie adiacenti come pista di rotolamento e comunque in caso contrario sono fornibili completi di gabbia e ralle.

Gabbie assiali a rullini

La gabbia assiale AXK è l'elemento principale che forma i cuscinetti assiali a rullini che sono disposti in modo radiale. È proprio grazie alla gabbia ed ai rullini che si muovono con precisione ottenendo una distribuzione omogenea dei carichi. Le gabbie assiali possono raggiungere un elevato numero di giri, e normalmente possono combinarsi con ralle del tipo AS, GS, WS, LS e ZS.

Gabbie assiali a rulli cilindrici

Le gabbie assiali a rulli cilindrici K hanno una struttura più robusta e possono essere costruite con materiale plastico, in leghe leggere ed ottone. Le gabbie assiali a rulli cilindrici possono accoppiarsi con ralle per alloggiamento di tipo GS e con ralle per albero di tipo WS. Le gabbie assiali a rulli cilindrici appartenenti alla serie K 811 possono accoppiarsi anche con ralle di tipo AS, LS e ZS.

Ralle per cuscinetti assiali

Le ralle AS sono costruite in acciaio di buona qualità, sono lappate ed hanno uno spessore di circa 1 mm. Solitamente vengono utilizzate sia come ralle per alloggiamento che come ralle per albero, in combinazione con le gabbie assiali a rullini della serie AXK e con le gabbie assiali a rulli cilindrici della serie K811.

Axial roller bearings are assembled with an axial roller cage, with a GS housing piloted washer and with a WS shaft piloted washer.

Usually axial roller bearings are required when axial needle bearings are not able to stand heavier axial loads.

Dimensional tolerances are of PO precision class, but under request axial roller bearings and thrust washers for axial bearings of WS, GS and ZS series, can be supplied with P5 and P6 precision tolerance.

Axial needle roller bearings with centring spigot on the bearing washer

The most important components for AXW axial needle bearings are an AXK axial needle roller bearing and cage assembly and an AS thrust washer. They can also be combined with some other washers for axial bearings such as, AS, LS, WS, sleeves, needle bearings and drawn cup needle roller bearings.

Axial needle roller and cage assemblies

Axial roller and cage assemblies are fitted with a particular structure which enables them to keep and drive the needle rollers with a very high degree of precision.

Their dimensions are reduced and they could be even smaller if they could use the adjacent cluttered surfaces as raceway, otherwise they can be fitted with axial bearing washers and cage.

Axial needle roller and cage assemblies

Axial needle roller and cage assembly, are fitted with axial cages: thanks to this cage and thanks to the rollers moving with precision, loads are homogeneously distributed.

AXK are able to reach very high speeds and can be combined with AS, GS, WS, LS and ZS axial bearing washers.

Axial cylindrical roller and cage assemblies

K axial cylindrical rollers and cage assemblies have a stronger structure and can be manufactured with plastic, light alloys and brass material.

They can be assembled with GS housing locating washers WS shaft locating washers, AS, LS and ZS.

Axial bearing washers

AS axial bearing washers are made of a good quality steel, lapped and have a thickness of about 1 mm.

They can be used as shaft or housing locating washers, suitable for AXK and K811 assemblies.

Ralle per alloggiamento e per albero

Le ralle appartenenti a questo gruppo (GS e WS) sono ralle di tipo massiccio, prodotte in acciaio per cuscinetti volventi. Le superfici di rotolamento sono lappate, mentre le superfici esterne della ralla per alloggiamento sono rettificate.

Ralle per cuscinetti assiali

Le ralle di tipo LS appartengono alla linea più economica in quanto solitamente vengono utilizzate quando non si ha necessità di elevata precisione, possono essere impiegate sia come ralle di alloggiamento che come ralle per albero. Le piste volventi delle ralle sono rettificate e possono essere combinate con le gabbie assiali a rullini della serie AXK ed a rulli cilindrici della serie K 811.

Ralle intermedie

Le ralle di tipo intermedio ZSI e ZSE sono ideali per ottenere combinazioni di cuscinetti assiali a doppio effetto con l'impiego di ralle di alloggiamento GS e ralle per albero WS. Possono essere montate tra due gabbie a rullini di tipo AXK o a rulli cilindrici della serie K 811.

Housing and shaft locating washers

These kinds of washers are made of hardened rolling bearing steel, GS and WS belong to a massive washers. Running surfaces are lapped, outer surfaces of housing washers are grinded.

Axial bearing washers

LS axial bearing washers belong to the most economical line as they are usually mounted when high precision is not required; they can be used as housing washers or as shaft washers. LS axial bearing washers have grinded raceways that can be combined with AXK Axial thrust needle roller and cage assemblies and with K 811 axial cylindrical roller and cage assemblies.

Intermediate washers

ZSI and ZSE intermediate washers are the most indicated double effect axial bearing by using housing (GS) and shaft (WS) locating washers. They can be mounted with two AXK axial needle roller and cage assemblies or with K 811 axial cylindrical roller and cage assemblies.

Tipologie dei cuscinetti assiali a rullini ed a rulli cilindrici

Axial needle and cylindrical roller bearings types

Tipo-Type	Caratteristiche-Characteristics
AXW	Cuscinetto assiale a rullini, formato da AXK e AS con bordo di centraggio, combinabile con diverse tipologie di ralle per cuscinetti assiali, bussole, astucci e cuscinetti a rullini. <i>Axial needle bearings, composed by AXK and AS with centering spigot, can be combined with different types of axial bearing washers, bushes, drawn cups and needle bearings.</i>
811-812	Cuscinetti assiali a rulli cilindrici, formati da K 811 o 812 con GS o WS (adatti per carichi assiali elevati) <i>Axial cylindrical roller bearings, composed by K 811 or 812 with GS or WS (suitable for high axial loads)</i>
893-894	Cuscinetti assiali a rulli cilindrici, formati da K 893 o 894 con GS o WS (adatti per carichi assiali elevatissimi) <i>Axial cylindrical roller bearings, composed by K 893 or 894 with GS or WS (suitable for the highest axial loads)</i>

Tipologie delle gabbie assiali a rullini ed a rulli cilindrici

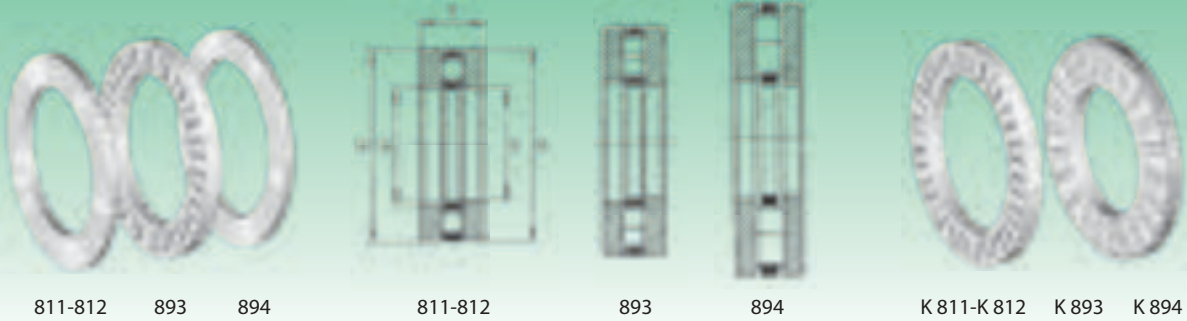
Axial needle cylindrical roller and cage assemblies types

Tipo-Type	Caratteristiche-Characteristics
AXK	Gabbia assiale a rullini, combinabile con diverse tipologie di ralle per cuscinetti assiali. <i>Axial needle roller and cage assembly, that can be combined with different types of axial bearing washers.</i>
K 811-812	Gabbie assiali a rulli cilindrici, ad una corona, combinabili con diverse tipologie di ralle per cuscinetti assiali. <i>Axial cylindrical roller and cage assemblies with one crown, that can be combined with different types of axial bearing washers.</i>
K 893-894	Gabbie assiali a rulli cilindrici, a due corone, combinabili con diverse ralle per cuscinetti assiali. <i>Axial cylindrical roller and cage assemblies with two crowns, that can be combined with different axial bearing washers.</i>

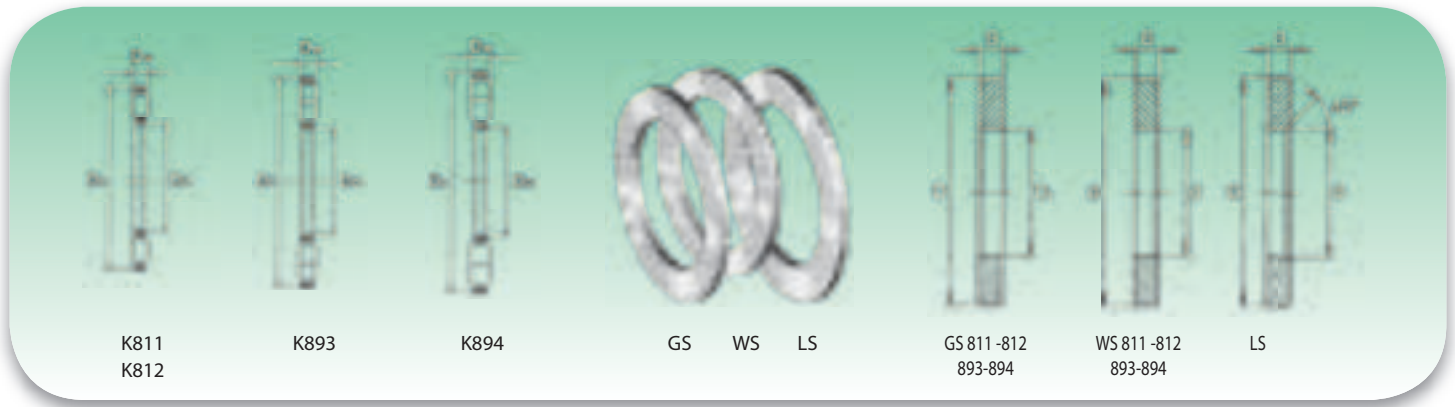
Types de rondelles pour butées

Axial bearings washers type

Tipo-Type	Caratteristiche-Characteristics
AS	Ralla assiale, utilizzabile come ralla per albero e per alloggiamento, adatta a AXK e K 811 <i>Axial bearings washer, used as a housing and shaft locating washer, suitable for AXK and K 811</i>
GS	Ralla per alloggiamento, centraggio esterno <i>Housing locating washer, with outer centering</i>
WS	Ralla per albero, centraggio interno <i>Shaft locating washer, with inner centering</i>
LS	Ralla assiale, utilizzabile come ralla per albero e per alloggiamento, adatta a AXK e K 811 (minor precisione) <i>Axial bearing washer, used as a shaft and housing locating washer, suitable for AXK and K 811 (lower precision)</i>
ZSI - ZSE	Ralla intermedia con centraggio interno ed esterno, utilizzabile combinata con cuscinetti assiali a doppio effetto, adatta a AXK e K811 <i>Intermediate washer with inner and outer centering, can be used if combined with double effect axial bearings, suitable for AXK and K811</i>



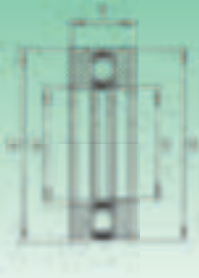
Cuscinetti assiali a rulli cilindrici <i>Axial cylindrical roller bearings</i>					Gabbie assiali a rulli cilindrici <i>Axial cylindrical roller</i>		Ralle per cuscinetti assiali <i>Axial bearing washers</i>				
Diametro albero (mm) <i>Shaft diameter (mm)</i>	Sigla - Designation				Peso (g) <i>Weight (g)</i>	Sigla <i>Designation</i>	Peso (g) <i>Weight (g)</i>	Ralle per alloggiamento <i>Housing locating washers</i>	Ralle per albero <i>Shaft locating washers</i>	Ralle di rotolamento <i>Bearing washers</i>	Peso (g) <i>Weight (g)</i>
	Serie 811 <i>811 Series</i>	Serie 812 <i>812 Series</i>	Serie 893 <i>893 Series</i>	Serie 894 <i>894 Series</i>							
15	811 02 TN				24	K811 02 TN	6	GS811 02	WS811 02	LS1528	8
17	811 03 TN				27	K811 03 TN	9	GS811 03	WS811 03	LS1730	9
20	811 04 TN				37	K811 04 TN	13	GS811 04	WS811 04	LS2035	12
25	811 05 TN				53	K811 05 TN	15	GS811 05	WS811 05	LS2542	19
30	811 06 TN				57	K811 06 TN	17	GS811 06	WS811 06	LS3047	20
		812 06 TN			123	K812 06 TN	33	GS812 06	WS812 06	—	45
			893 06 TN		240	K893 06 TN	40	GS893 06	WS893 06	—	95
35	811 07 TN				73	K811 07 TN	19	GS811 07	WS811 07	LS3552	27
		812 07 TN			195	K812 07 TN	43	GS812 07	WS812 07	—	76
			893 07 TN		340	K893 07 TN	53	GS893 07	WS893 07	—	134
40	811 08 TN				105	K811 08 TN	31	GS811 08	WS811 08	LS4060	37
		812 08 TN			249	K812 08 TN	81	GS812 08	WS812 08	—	84
			893 08 TN		484	K893 08 TN	98	GS893 08	WS893 08	—	193
45	811 09 TN				130	K811 09 TN	35	GS811 09	WS811 09	LS4565	47
		812 09 TN			287	K812 09 TN	85	GS812 09	WS812 09	—	101
			893 09 TN		615	K893 09 TN	121	GS893 09	WS893 09	—	247
50	811 10 TN				140	K811 10 TN	38	GS811 10	WS811 10	LS5070	51
		812 10 TN			356	K812 10 TN	98	GS812 10	WS812 10	—	129
			893 10 TN		887	K893 10 TN	175	GS893 10	WS893 10	—	356
55	811 11 TN				218	K811 11 TN	45	GS811 11	WS811 11	LS5578	82
		812 11 TN			568	K812 11 TN	166	GS812 11	WS812 11	—	201
			893 11 TN		118	K893 11 TN	195	GS893 11	WS893 11	—	485
60	811 12 TN				266	K811 12 TN	82	GS811 12	WS811 12	LS6085	92
		812 12 TN			642	K812 12 TN	176	GS812 12	WS812 12	—	233
			893 12 TN		126	K893 12 TN	210	GS893 12	WS893 12	—	517
				894 12 TN	2 818	K894 12 TN	538	GS894 12	WS894 12	—	1 115



Dimensioni (mm) Dimensions (mm)							Coefficienti di carico (N) Basic load ratings (N)		Velocità limite Limiting Speed
D _{c1} d	D ₁	D D _c	d ₁	T	D _w	B	Dinamico C Dynamic C	Statico C _s Static C _s	Olio (N. giri max) Oil (max rpm)
15	16	28	28	9	3.5	2.75	13 500	28 000	12 350
17	18	30	30	9	3.5	2.75	15 100	32 900	11 400
20	21	35	35	10	4.5	2.75	23 700	52 600	9 500
25	26	42	42	11	5	3	32 900	72 000	8 000
30	32	47	47	11	5	3	34 800	85 000	7 100
30	32	52	52	16	7.5	4.25	63 500	139 000	6 650
30	32	60	60	18	5.5	6.25	67 900	188 500	6 200
35	37	52	52	12	5	3.5	38 500	100 900	6 200
35	37	62	62	18	7.5	5.25	79 800	198 100	5 700
35	37	68	68	20	6	7	79 800	236 500	5 200
40	42	60	60	13	6	3.5	55 000	147 500	5 700
40	42	68	68	19	9	5	106 500	264 600	5 200
40	42	78	78	22	7	7.5	119 000	384 500	4 700
45	47	65	65	14	6	4	58 500	162 500	4 750
45	47	73	73	20	9	5.5	104 500	264 100	4 700
45	47	85	85	24	7.5	8.25	138 500	439 000	4 200
50	52	70	70	14	6	4	60 700	167 000	4 500
50	52	78	78	22	9	6.5	106 000	309 000	4 300
50	52	95	95	27	8	9.5	166 500	557 900	3 800
55	57	78	78	16	6	5	87 900	298 700	4 100
55	57	90	90	25	11	7	153 100	404 500	3 800
55	57	105	105	30	9	10.5	183 200	599 800	3 500
60	62	85	85	17	7.5	4.75	102 100	309 500	3 800
60	62	95	95	26	11	7.5	171 100	478 000	3 500
60	62	110	110	30	9	10.5	195 100	669 800	3 200
60	62	130	130	42	14	14	388 000	1 219 500	2 850



811-812 893 894



811-812



893



894

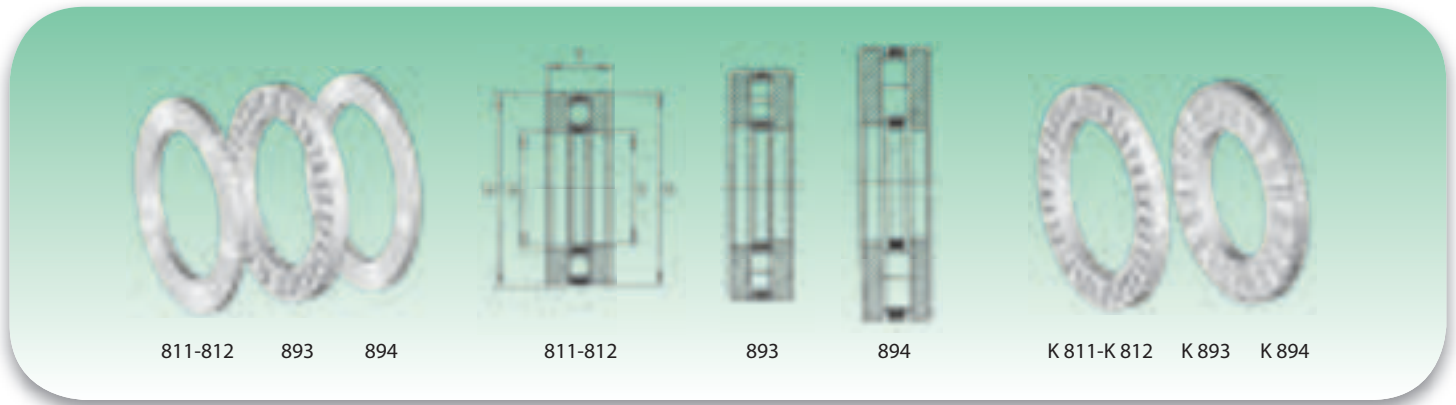


K 811-K 812 K 893 K 894

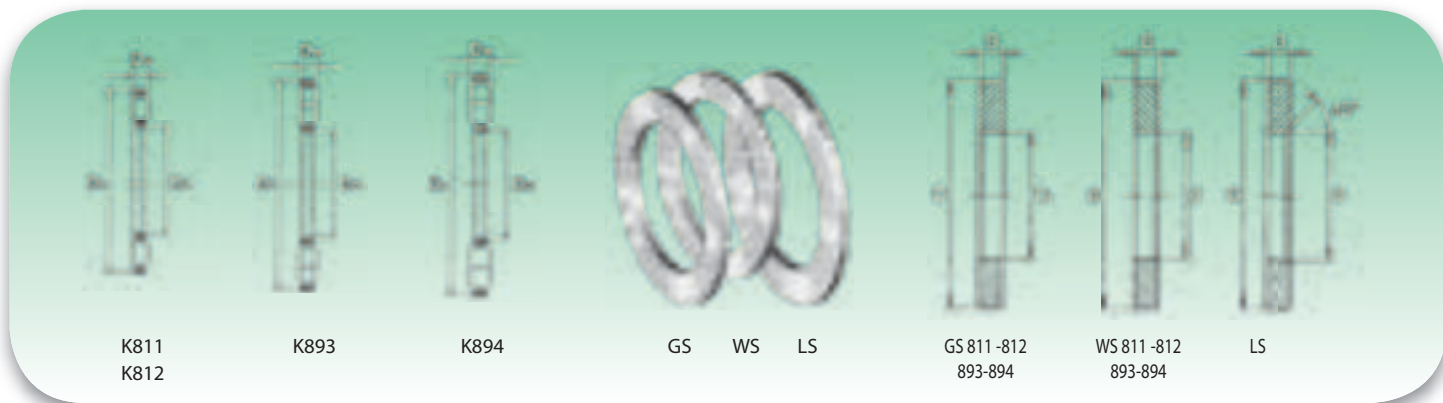
Cuscinetti assiali a rulli cilindrici <i>Axial cylindrical roller bearings</i>					Gabbie assiali a rulli cilindrici <i>Axial cylindrical roller</i>		Ralle per cuscinetti assiali <i>Axial bearing washers</i>				
Diametro albero (mm) <i>Shaft diameter (mm)</i>	Sigla - Designation				Peso (g) <i>Weight (g)</i>	Sigla <i>Designation</i>	Peso (g) <i>Weight (g)</i>	Ralle per alloggiamento <i>Housing locating washers</i>	Ralle per albero <i>Shaft locating washers</i>	Ralle di rotolamento <i>Bearing washers</i>	Peso (g) <i>Weight (g)</i>
	Serie 811 <i>811 Series</i>	Serie 812 <i>812 Series</i>	Serie 893 <i>893 Series</i>	Serie 894 <i>894 Series</i>							
65	811 13 TN				310	K811 13 TN	90	GS811 13	WS811 13	LS 6590	110
		812 13 TN			721	K812 13 TN	185	GS812 13	WS812 13	—	268
			893 13 TN		1 330	K893 13 TN	210	GS893 13	WS893 13	—	535
				894 13 TN	3 520	K894 13 TN	720	GS894 13	WS894 13	—	1 400
70	811 14 TN				332	K811 14 TN	92	GS811 14	WS811 14	LS 7095	120
		812 14 TN			768	K812 14 TN	212	GS812 14	WS812 14	—	278
			893 14 TN		1 820	K893 14 TN	290	GS893 14	WS893 14	—	800
				894 14 TN	4 180	K894 14 TN	920	GS894 14	WS894 14	—	1 730
75	811 15 TN				393	K811 15 TN	96	GS811 15	WS811 15	LS 75100	136
		812 15 TN			800	K812 15 TN	195	GS812 15	WS812 15	—	293
			893 15 TN		2 230	K893 15 TN	375	GS893 15	WS893 15	—	970
				894 15-M	5 250	K894 15-M	1 070	GS894 15	WS894 15	—	2 090
80	811 16 TN				400	K811 16 TN	95	GS811 16	WS811 16	LS 80105	144
		812 16 TN			900	K812 16 TN	234	GS812 16	WS812 16	—	333
			893 16 TN		2 370	K893 16 TN	420	GS893 16	WS893 16	—	1 020
				894 16-M	6 410	K894 16-M	1 410	GS894 16	WS894 16	—	2 500
85	811 17 TN				420	K811 17 TN	118	GS811 17	WS811 17	LS 85110	151
		812 17 TN			1 260	K812 17 TN	280	GS812 17	WS812 17	—	490
			893 17-M		3 000	K893 17-M	540	GS893 17	WS893 17	—	1 230
				894 17-M	7 550	K894 17-M	1 610	GS894 17	WS894 17	—	2 970
90	811 18 TN				620	K811 18 TN	150	GS811 18	WS811 18	LS 90120	225
		812 18 TN			1 770	K812 18 TN	542	GS812 18	WS812 18	—	614
			893 18-M		3 280	K893 18-M	620	GS893 18	WS893 18	—	1 330
				894 18-M	8 770	K894 18-M	1 870	GS894 18	WS894 18	—	3 450
100	811 20 TN				950	K811 20 TN	250	GS811 20	WS811 20	LS 100135	350
		812 20			2 200	K812 20	600	GS812 20	WS812 20	—	800
			893 20-M		4 190	K893 20-M	810	GS893 20	WS893 20	—	1 690
				894 20-M	11 900	K894 20-M	2 400	GS894 20	WS894 20	—	4 750



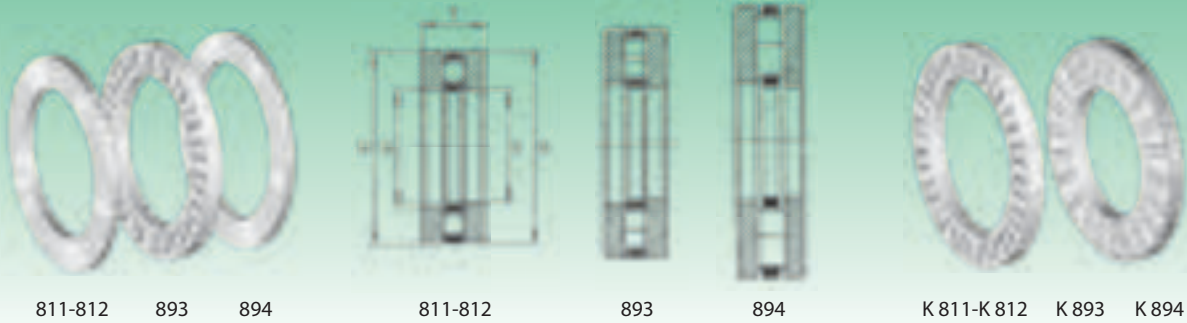
Dimensioni (mm) Dimensions (mm)							Coefficienti di carico (N) Basic load ratings (N)		Velocità limite Limiting Speed
D _{c1} d	D ₁	D D _c	d ₁	T	D _w	B	Dinamico C Dynamic C	Statico C _s Static C _s	Olio (N. giri max) Oil (max rpm)
65	67	90	90	18	7,5	5,25	106 500	339 500	3 500
65	67	100	100	27	11	8	176 800	499 500	3 300
65	67	115	115	30	9	10,5	193 500	667 900	3 000
65	68	140	140	45	15	15	444 000	1 396 000	2 700
70	72	95	95	18	7,5	5,25	110 800	364 500	3 300
70	72	105	105	27	11	8	186 000	549 700	3 100
70	72	125	125	34	10	12	238 500	829 600	2 850
70	73	150	150	48	16	16	449 800	1 389 500	2 500
75	77	100	100	19	7,5	5,75	104 500	339 600	3 100
75	77	110	110	27	11	8	171 500	498 700	2 900
75	77	135	135	36	11	12,5	284 800	1 009 000	2 600
75	78	160	160	51	17	17	499 600	1 579 800	2 350
80	82	105	105	19	7,5	5,75	105 800	348 800	2 900
80	82	115	115	28	11	8,5	200 600	629 600	2 850
80	82	140	140	36	11	12,5	304 500	1 109 800	2 500
80	83	170	170	54	18	18	559 600	1 769 500	2 200
85	87	110	110	19	7,5	5,75	111 900	369 600	2 850
85	88	125	125	31	12	9,5	216 500	659 700	2 600
85	88	150	150	39	12	13,5	324 600	1 099 600	2 400
85	88	180	180	58	19	19,5	619 500	1 979 800	2 100
90	92	120	120	22	9	6,5	140 600	459 000	2 550
90	93	135	135	35	14	10,5	288 900	886 900	2 450
90	93	155	155	39	12	13,5	329 500	1 199 400	2 300
90	93	190	190	60	20	20	678 900	2 199 600	2 000
100	102	135	135	25	11	7	197 000	649 800	2 400
100	103	150	150	38	15	11,5	279 800	839 600	2 200
100	103	170	170	42	13	14,5	379 500	1 399 500	2 000
100	103	210	210	67	22	22,5	849 000	2 847 900	1 800



Cuscinetti assiali a rulli cilindrici <i>Axial cylindrical roller bearings</i>					Gabbie assiali a rulli cilindrici <i>Axial cylindrical roller</i>		Ralle per cuscinetti assiali <i>Axial bearing washers</i>				
Diametro albero (mm) <i>Shaft diameter (mm)</i>	Sigla - Designation				Peso (g) <i>Weight (g)</i>	Sigla <i>Designation</i>	Peso (g) <i>Weight (g)</i>	Ralle per alloggiamento <i>Housing locating washers</i>	Ralle per albero <i>Shaft locating washers</i>	Ralle di rotolamento <i>Bearing washers</i>	Peso (g) <i>Weight (g)</i>
	Serie 811 <i>811 Series</i>	Serie 812 <i>812 Series</i>	Serie 893 <i>893 Series</i>	Serie 894 <i>894 Series</i>							
110	811 22 TN				1 040	K811 22 TN	270	GS811 22	WS811 22	LS 110145	385
		812 22 TN			2 445	K812 22 TN	685	GS812 22	WS812 22	—	880
			893 22 - M		6 030	K893 22 - M	1 150	GS893 22	WS893 22	—	2 440
				894 22 - M	15 600	K894 22 - M	3 300	GS894 22	WS894 22	—	6 150
120	811 24 TN				1 170	K811 24 TN	340	GS811 24	WS811 24	LS 120155	415
		812 24 TN			2 690	K812 24 TN	730	GS812 24	WS812 24	—	980
			893 24 - M		8 520	K893 24 - M	1 720	GS893 24	WS893 24	—	3 400
				894 24 - M	19 700	K894 24 - M	4 300	GS894 24	WS894 24	—	7 700
130	811 26 TN				1 700	K811 26 TN	414	GS811 26	WS811 26	LS 130170	643
		812 26 TN			4 204	K812 26 TN	1 144	GS812 26	WS812 26	—	1 530
			893 26 - M		10 000	K893 26 - M	1 910	GS893 26	WS893 26	—	4 045
				894 26 - M	24 000	K894 26 - M	5 000	GS894 26	WS894 26	—	9 500
140	811 28 TN				1 946	K811 28 TN	448	GS811 28	WS811 28	LS 140180	749
		812 28 - M			4 567	K812 28 - M	1 197	GS812 28	WS812 28	—	1 635
			893 28 - M		11 990	K893 28 - M	2 390	GS893 28	WS893 28	—	4 800
				894 28 - M	27 200	K894 28 - M	6 000	GS894 28	WS894 28	—	10 600
150	811 30 TN				2 066	K811 30 TN	474	GS811 30	WS811 30	LS 150190	796
		812 30 - M			5 886	K812 30 TN	1 520	GS812 30	WS812 30	—	2 180
			893 30 - M		12 630	K893 30 - M	2 510	GS893 30	WS893 30	—	5 060
				894 30 - M	32 100	K894 30 - M	7 100	GS894 30	WS894 30	—	12 500
160	811 32 TN				2 189	K811 32 TN	505	GS811 32	WS811 32	LS 160200	842
		812 32 - M			6 203	K812 32 - M	1 603	GS812 32	WS812 32	—	2 300
				894 32 - M	38 200	K894 32 - M	8 600	GS894 32	WS894 32	—	14 800
170	811 34 TN				2 950	K811 34 TN	750	GS811 34	WS811 34	—	1 100
		812 34 - M			7 690	K812 34 - M	1 890	GS812 34	WS812 34	—	2 900
				894 34 - M	47 200	K894 34 - M	10 200	GS894 34	WS894 34	—	18 500



Dimensioni (mm) Dimensions (mm)							Coefficienti di carico (N) Basic load ratings (N)		Velocità limite Limiting Speed
D _{c1} d	D ₁	D D _c	d ₁	T	D _w	B	Dinamico C Dynamic C	Statico C ₀ Static C ₀	Olio (N. giri max) Oil (max rpm)
110	112	145	145	25	11	7	206 850	699 200	2 200
110	113	160	160	38	15	11.5	299 800	939 700	2 000
110	113	190	190	48	15	16.5	499 500	1 867 900	1 800
110	113	230	230	73	24	24.5	998 500	3 397 800	1 600
120	122	155	155	25	11	7	202 700	698 900	2 000
120	123	170	170	39	15	12	309 600	979 600	1 900
120	123	210	210	54	17	18.5	639 500	2 417 600	1 600
120	123	250	250	78	26	26	1 159 500	3 987 900	1 500
130	132	170	170	30	12	9	232 700	809 600	1 800
130	133	190	187	45	19	13	424 500	1 287 900	1 700
130	134	225	225	58	18	20	709 600	2 697 900	1 500
130	134	270	270	85	28	28.5	1 329 700	4 599 800	1 350
140	142	180	178	31	12	9.5	241 800	865 900	1 700
140	143	200	197	46	19	13.5	444 500	1 449 700	1 600
140	144	240	240	60	19	20.5	819 700	3 198 900	1 400
140	144	280	280	85	28	28.5	1 379 600	4 949 800	1 300
150	152	190	188	31	12	9.5	249 600	929 700	1 600
150	153	215	212	50	21	14.5	589 600	1 938 900	1 500
150	154	250	250	60	19	20.5	837 900	3 347 900	1 300
150	154	300	300	90	30	30	1 569 500	5 698 900	1 200
160	162	200	198	31	12	9.5	259 600	989 600	1 500
160	163	225	222	51	21	15	599 500	2 028 900	1 400
160	164	320	320	95	32	31.5	1 778 600	6 498 800	1 100
170	172	215	213	34	14	10	324 600	1 215 700	1 400
170	173	240	237	55	22	16.5	679 900	2 339 500	1 300
170	174	340	340	103	34	34.5	1 989 900	7 399 850	1 000

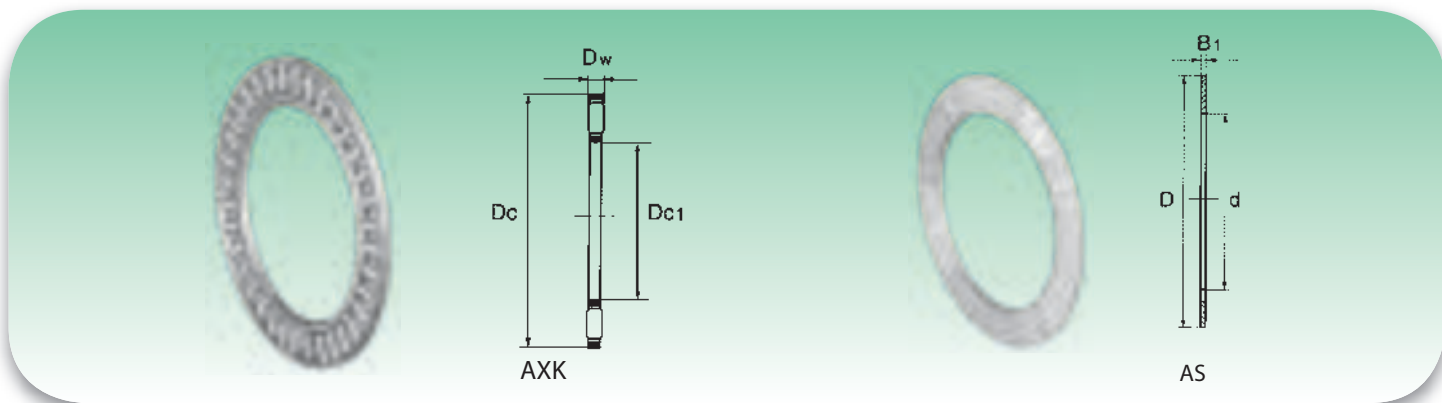


Cuscinetti assiali a rulli cilindrici <i>Axial cylindrical roller bearings</i>					Gabbie assiali a rulli cilindrici <i>Axial cylindrical roller</i>		Ralle per cuscinetti assiali <i>Axial bearing washers</i>			
Diametro albero (mm) <i>Shaft diameter (mm)</i>	Sigla - Designation				Peso (g) <i>Weight (g)</i>	Sigla Designation	Peso (g) <i>Weight (g)</i>	Ralle per alloggiamento <i>Housing locating washers</i>	Ralle per albero <i>Shaft locating washers</i>	Peso (g) <i>Weight (g)</i>
	Serie 811 <i>811 Series</i>	Serie 812 <i>812 Series</i>	Serie 893 <i>893 Series</i>	Serie 894 <i>894 Series</i>						
180	811 36 - M				3 040	K811 36 - M	800	GS811 36	WS811 36	1 120
		812 36 - M			8 240	K812 36 - M	1 980	GS812 36	WS812 36	3 130
				894 36 - M	54 800	K894 36 - M	12 200	GS894 36	WS894 36	21 300
190	811 38 - M				3 840	K811 38 - M	940	GS811 38	WS811 38	1 450
		812 38 - M			10 400	K812 38 - M	2 730	GS812 38	WS812 38	3 835
				894 38 - M	65 700	K894 38 - M	14 500	GS894 38	WS894 38	25 600
200	811 40 - M				4 000	K811 40 - M	980	GS811 40	WS811 40	1 510
		812 40 - M			11 910	K812 40 - M	3 090	GS812 40	WS812 40	4 410
				894 40 - M	74 800	K894 40 - M	16 200	GS894 40	WS894 40	29 300
220	811 44 - M				4 500	K811 44 - M	1 320	GS811 44	WS811 44	1 590
		812 44 - M			12 850	K812 44 - M	3 350	GS812 44	WS812 44	4 750
				894 44 - M	82 000	K894 44 - M	17 600	GS894 44	WS894 44	32 200
240	811 48 - M				7 250	K811 48 - M	2 110	GS811 48	WS811 48	2 570
		812 48 - M			21 950	K812 48 - M	5 650	GS812 48	WS812 48	8 150
				894 48 - M	87 800	K894 48 - M	19 200	GS894 48	WS894 48	34 300
260	811 52 - M				7 830	K811 52 - M	2 300	GS811 52	WS811 52	2 765
		812 52 - M			23 900	K812 52 - M	6 100	GS812 52	WS812 52	8 900
				894 52 - M	114 000	K894 52 - M	25 500	GS894 52	WS894 52	44 250
280	811 56 - M				10 300	K811 56 - M	3 000	GS811 56	WS811 56	3 650
		812 56 - M			25 900	K812 56 - M	6 400	GS812 56	WS812 56	9 750
				894 56 - M	142 000	K894 56 - M	30 800	GS894 56	WS894 56	55 600
300	811 60 - M				16 670	K811 60 - M	4 830	GS811 60	WS811 60	5 920
		812 60 - M			40 550	K812 60 - M	10 150	GS812 60	WS812 60	15 200
				894 60 - M	153 000	K894 60 - M	32 700	GS894 60	WS894 60	80 150
320	811 64 - M				17 820	K811 64 - M	5 120	GS811 64	WS811 64	6 350
				894 64 - M	42 600	K894 64 - M	10 700	GS894 64	WS894 64	15 950
340	811 68 [▲]				19 450	K811 68 [▲] - M	5 510	GS811 68 [▲]	WS811 68 [▲]	6 970
		812 68 [▲]			46 750	K812 68 [▲] - M	11 250	GS812 68 [▲]	WS812 68 [▲]	17 750
360	811 72 [▲]				19 500	K811 72 [▲] - M	5 550	GS811 72 [▲]	WS811 72 [▲]	6 975
		812 72 [▲]			65 650	K812 72 [▲] - M	17 250	GS812 72 [▲]	WS812 72 [▲]	24 200

▲ = Disponibile su richiesta / Available under request



Dimensioni (mm) Dimensions (mm)							Coefficients di carico (N) Basic load ratings (N)		Velocità limite Limiting Speed
D_{c1} d	D_1	D D_c	d_1	T	D_w	B	Dinamico C Dynamic C	Statico C_0 Static C_0	Olio (N. giri max) Oil (max rpm)
180	183	225	222	34	14	10	339 600	1 299 700	1 300
180	183	250	247	56	22	17	689 780	2 439 500	1 200
180	184	360	360	109	36	36.5	2 200 400	8 199 300	1 000
190	193	240	237	37	15	11	384 700	1 498 900	1 200
190	194	270	267	62	26	18	879 300	2 998 900	1 200
190	195	380	380	115	38	38.5	2 449 400	9 198 300	950
200	203	250	247	37	15	11	394 650	1 549 300	1 200
200	204	280	277	62	26	18	899 700	3 149 150	1 100
200	205	400	400	122	40	41	2 699 100	10 198 500	900
220	223	270	267	37	15	11	419 780	1 729 635	1 100
220	224	300	297	63	26	18.5	939 960	3 449 750	1 000
220	225	420	420	122	40	41	2 899 100	11 499 890	850
240	243	300	297	45	18	13.5	599 850	2 498 800	1 000
240	244	340	335	78	32	23	1 369 600	4 999 100	950
240	245	440	440	122	40	41	2 995 900	12 189 900	800
260	263	320	317	45	18	13.5	619 400	2 649 700	950
260	264	360	355	79	32	23.5	1 439 500	5 398 900	900
260	265	480	480	132	44	44	3 548 860	14 599 850	750
280	283	350	347	53	22	15.5	859 000	3 649 750	850
280	284	380	375	80	32	24	1 450 000	5 595 000	800
280	285	520	520	145	48	48.5	4 190 600	17 399 000	650
300	304	380	376	62	25	18.5	1 050 000	4 495 000	800
300	304	420	415	95	38	28.5	1 920 000	7 298 500	750
300	305	540	540	145	48	48.5	4 298 950	18 300 000	650
320	324	400	396	63	25	19	1 050 500	4 7000 000	750
320	325	580	575	155	68	43.5	1 959 600	7 592 900	700
340	344	420	416	64	25	19.5	1 128 500	4 998 600	700
340	345	460	455	96	38	29	2 058 900	8 299 000	650
360	364	440	436	65	25	20	1 139 500	5 099 900	650
360	365	500	495	110	45	32.5	2 690 600	10 595 000	600



Diametro albero (mm) Shaft diameter (mm)	Sigla Designation	Peso (g) Weight (g)	Ralla assiale Axial Bearing Washer	Peso (g) Weight (g)	Dimensioni (mm) Dimensions (mm)				Coefficienti di carico (N) Basic load ratings (N)		Velocità limite Limiting Speed
					Dc1/d	Dc/D	Dw	B ₁	Dinamico C Dynamic C	Statico C ₀ Static C ₀	Olio (N. giri max) Oil (max rpm)
4	AXK 0414 TN	0.7	AS 0414	1	4	14	2	1	4 380	7 500	20 000
5	AXK 0515 TN	0.8	AS 0515	1	5	15	2	1	4 680	9 100	20 000
6	AXK 0619 TN	1	AS 0619	2	6	19	2	1	6 740	15 400	18 000
8	AXK 0821 TN	2	AS 0821	2	8	21	2	1	7 750	19 000	17 000
10	AXK 1024	3	AS 1024	3	10	24	2	1	9 150	24 500	16 000
12	AXK 1226	3	AS 1226	3	12	26	2	1	9 860	28 600	14 250
15	AXK 1528	4	AS 1528	3	15	28	2	1	11 200	35 500	12 350
17	AXK 1730	4	AS 1730	4	17	30	2	1	11 800	38 600	11 400
20	AXK 2035	5	AS 2035	5	20	35	2	1	12 900	45 600	9 500
25	AXK 2542	7	AS 2542	7	25	42	2	1	13 800	57 800	8 000
30	AXK 3047	8	AS 3047	8	30	47	2	1	15 600	69 500	6 500
35	AXK 3552	10	AS 3552	9	35	52	2	1	16 900	80 100	6 100
40	AXK 4060	16	AS 4060	12	40	60	3	1	27 500	113 500	5 700
45	AXK 4565	18	AS 4565	13	45	65	3	1	29 050	127 600	4 750
50	AXK 5070	20	AS 5070	14	50	70	3	1	31 500	138 500	4 500
55	AXK 5578	28	AS 5578	18	55	78	3	1	37 400	185 000	4 100
60	AXK 6085	33	AS 6085	22	60	85	3	1	43 900	232 500	3 800
65	AXK 6590	35	AS 6590	24	65	90	3	1	45 800	254 600	3 500
70	AXK 7095	60	AS 7095	25	70	95	4	1	53 600	254 600	3 300
75	AXK 75100	61	AS 75100	27	75	100	4	1	54 500	264 500	3 100
80	AXK 80105	63	AS 80105	28	80	105	4	1	55 600	278 500	2 900
85	AXK 85110	67	AS 85110	29	85	110	4	1	57 500	275 000	2 850
90	AXK 90120	86	AS 90120	39	90	120	4	1	72 500	401 000	2 500
100	AXK 100135	104	AS 100135	50	100	135	4	1	90 500	559 500	2 400
110	AXK 110145	122	AS 110145	55	110	145	4	1	96 500	617 500	2 200
120	AXK 120155	131	AS 120155	59	120	155	4	1	101 500	679 000	2 000
130	AXK 130170	205	AS 130170	65	130	170	5	1	132 400	838 900	1 800
140	AXK 140180	219	AS 140180	79	140	180	5	1	137 200	899 000	1 700
150	AXK 150190	232	AS 150190	84	150	190	5	1	142 800	959 000	1 600
160	AXK 160200	246	AS 160200	89	160	200	5	1	147 600	1 015 000	1 500

TN= Gabbia in materiale plastico, temperatura di funzionamento ammessa: 80°C (continuativi).
TN= Plastic cage; temperature allowed: 80°C. (continuous working).

Lubrificazione con grasso: 25% in meno dei valori indicati in tabella.
Grease lubrication: less 25% of value indicated in tables.

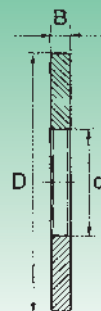


AXW

Diametro albero (mm) Shaft diameter (mm)	Sigla Designation	Peso (g) Weight (g)	Dimensioni (mm) Dimensions (mm)					Coefficienti di carico (N) Basic load ratings (N)		Velocità limite Limiting Speed Olio (N. giri max) Oil (max rpm)
			D _{c1}	D ₁	D	B	B ₁	Dinamico C Dynamic C	Statico C ₀ Static C ₀	
10	AXW 10	8.3	10	14	27	3.2	3	9 100	24 000	15 200
12	AXW 12	9.1	12	16	29	3.2	3	9 400	27 800	13 300
15	AXW 15	10.1	15	21	31	3.2	3.5	10 500	35 000	12 350
17	AXW 17	11	17	23	33	3.2	3.5	11 300	38 800	11 400
20	AXW 20	14	20	26	38	3.2	3.5	12 700	45 600	10 000
25	AXW 25	19.5	25	32	45	3.2	4	13 900	57 500	7 600
30	AXW 30	22	30	37	50	3.2	4	15 900	69 500	6 650
35	AXW 35	26.6	35	42	55	3.2	4	17 000	80 100	6 200
40	AXW 40	39.2	40	47	63	4.2	4	27 800	109 000	5 200
45	AXW 45	43.4	45	52	68	4.2	4	29 500	121 600	4 750
50	AXW 50	49.2	50	58	73	4.2	4.5	31 800	140 900	4 500

Lubrificazione con grasso: 25% in meno dei valori indicati in tabella.

Grease lubrication: less 25% of value indicated in tables.


ZSI

Diametro albero (mm) Shaft Diameter (mm)	Sigla Designation	Peso (g) Weight (g)	Dimensioni (mm) Dimensions (mm)			Gabbie assiali a rullini Axial needle roller	Gabbie assiali a rulli cilindrici Axial cylindrical roller	Ralle per alloggiamento Housing locating Washers
			d	D	B			
15	ZSI 1127	21	11	27	5.5	AXK 1528	K 811 02 TN	GS 811 02
17	ZSI 1329	23	13	29	5.5	AXK 1730	K 811 03 TN	GS 811 03
20	ZSI 1634	31	16	34	5.5	AXK 2035	K 811 04 TN	GS 811 04
25	ZSI 2141	45	21	41	6	AXK 2542	K 811 05 TN	GS 811 05
30	ZSI 2646	60	26	46	7	AXK 3047	K 811 06 TN	GS 811 06
35	ZSI 3151	78	31	51	8	AXK 3552	K 811 07 TN	GS 811 07
40	ZSI 3159	125	31	59	8	AXK 4060	K 811 08 TN	GS 811 08
45	ZSI 3664	156	36	64	9	AXK 4565	K 811 09 TN	GS 811 09
50	ZSI 4169	191	41	69	10	AXK 5070	K 811 10 TN	GS 811 10
55	ZSI 4677	235	46	77	10	AXK 5578	K 811 11 TN	GS 811 11
60	ZSI 5184	316	51	84	11.5	AXK 6085	K 811 12 TN	GS 811 12
65	ZSI 5689	360	56	89	12	AXK 6590	K 811 13 TN	GS 811 13
70	ZSI 5694	440	56	94	12.5	AXK 7095	K 811 14 TN	GS 811 14
75	ZSI 6199	470	61	99	12.5	AXK 75100	K 811 15 TN	GS 811 15
80	ZSI 66104	500	66	104	12.5	AXK 80105	K 811 16 TN	GS 811 16
85	ZSI 71109	593	71	109	14.5	AXK 85110	K 811 17 TN	GS 811 17
90	ZSI 76119	806	76	119	16	AXK 90120	K 811 18 TN	GS 811 18
100	ZSI 86134	1 180	86	134	18	AXK 100135	K 811 20 TN	GS 811 20
110	ZSI 96144	1 430	96	144	20	AXK 110145	K 811 22 TN	GS 811 22
120	ZSI 101154	1 830	101	154	22	AXK 120155	K 811 24	GS 811 24
130	ZSI 111169	2 210	111	169	22	AXK 130170	K 811 26	GS 811 26
140	ZSI 121179	2 460	121	179	23	AXK 140180	K 811 28	GS 811 28
150	ZSI 131189	2 740	131	189	24	AXK 150190	K 811 30	GS 811 30
160	ZSI 141199	3 030	141	199	25	AXK 160200	K 811 32	GS 811 32

Ralle intermedie con centraggio esterno (serie ZSE)
Intermediate washers with outer centering (ZSE series)



Diametro albero (mm) Shaft Diameter (mm)	Ralle intermedie Designation of Center Washers	Peso (g) Weight (g)	Dimensioni (mm) Dimensions (mm)			Gabbie assiali a rullini Axial needle roller	Gabbie assiali a rulli cilindrici Axial cylindrical roller	Ralle per albero Shaft locating washers
			d	D	B			
15	ZSE 1634	31	16	34	5,5	AXK 1528	K 811 02 TN	WS 811 02
20	ZSE 2141	45	21	41	6	AXK 2035	K 811 04 TN	WS 811 04
25	ZSE 2646	60	26	46	7	AXK 2542	K 811 05 TN	WS 811 05
30	ZSE 3151	78	31	51	8	AXK 3047	K 811 06 TN	WS 811 06
35	ZSE 3664	156	36	64	9	AXK 3552	K 811 07 TN	WS 811 07
40	ZSE 4169	191	41	69	10	AXK 4060	K 811 08 TN	WS 811 08
45	ZSE 4677	235	46	77	10	AXK 4565	K 811 09 TN	WS 811 09
50	ZSE 5184	316	51	84	11,5	AXK 5070	K 811 10 TN	WS 811 10
55	ZSE 5689	360	56	89	12	AXK 5578	K 811 11 TN	WS 811 11
60	ZSE 6199	470	61	99	12,5	AXK 6085	K 811 12 TN	WS 811 12
65	ZSE 66104	500	66	104	12,5	AXK 6590	K 811 13 TN	WS 811 13
70	ZSE 71109	593	71	109	14,5	AXK 7095	K 811 14 TN	WS 811 14
75	ZSE 76119	806	76	119	16	AXK 75100	K 811 15 TN	WS 811 15
85	ZSE 86134	1 180	86	134	18	AXK 85110	K 811 17 TN	WS 811 17
100	ZSE 101154	1 830	101	154	22	AXK 100135	K 811 20 TN	WS 811 20
110	ZSE 111169	2 210	111	169	22	AXK 110145	K 811 22 TN	WS 811 22
120	ZSE 121179	2 460	121	179	23	AXK 120155	K 811 24	WS 811 24
130	ZSE 131189	2 740	131	189	24	AXK 130170	K 811 26	WS 811 26
140	ZSE 141199	3 030	141	199	25	AXK 140180	K 811 28	WS 811 28
150	ZSE 151214	3 830	151	214	27	AXK 150190	K 811 30	WS 811 30
160	ZSE 161224	4 350	161	224	29	AXK 160200	K 811 32	WS 811 32