

ROLAMENTOS CORRENTES

Introdução

Os rolamentos e correntes da marca GBR são desenvolvidos e fabricados dentro das mais rígidas normas de qualidade. Suas fábricas são certificadas dentro dos padrões ISO 9000, o que assegura sua qualidade e tecnologia aplicada.

A GBR busca soluções para atender as necessidades de seus clientes nos mercados agrícola, industrial e automotivo, oferecendo uma grande diversidade de produtos e serviço especializado de atendimento ao cliente.

Este catálogo tem por objetivo orientar e auxiliar nossos clientes na aplicação e especificação dos produtos GBR, disponibilizando informações, recomendações e formas de uso para que os produtos GBR proporcionem melhor desempenho em suas aplicações.

Tecnologia e qualidade é o que a GBR oferece a seus clientes.

Maiores informações contatar: gbr@gbrparts.com.br

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Produtos

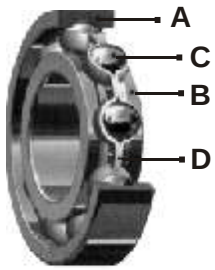
Principais características dos rolamentos

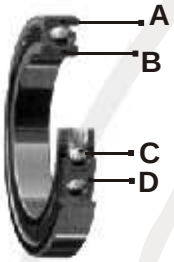
Rolamentos são elementos de máquinas de alta precisão, tendo em sua construção normal o anel interno, o anel externo, elementos rolantes e gaiolas.

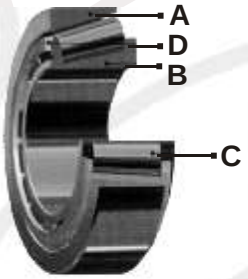
Mancais são os apoios dos eixos, podendo ser mancais de deslizamentos ou mancais de rolamentos.

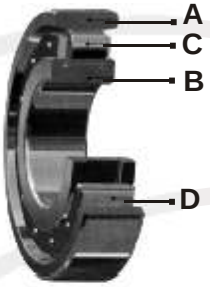
Tipos e Características

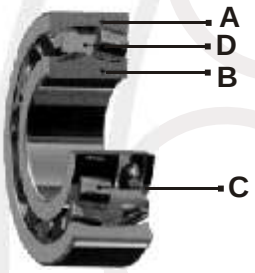
Os mancais de rolamentos têm várias vantagens em relação aos mancais de deslizamentos:
- A diferença entre o atrito de partida e o atrito dinâmico é pequena.
- O avanço da padronização internacional permite um melhor custo/benefício e facilidade na reposição.
- Facilidade de inspeção e manutenção simplificada.
- Admitem cargas radiais e axiais simultaneamente.
- Facilidade de aplicação em baixas e altas temperaturas.
- A alta tecnologia permite aplicação com pré-cargas, folga negativa, dando maior rigidez ao conjunto.

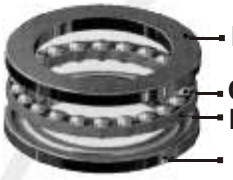


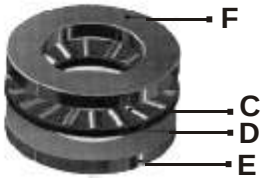












A - Anel Externo
B - Anel Interno
C - Elementos Rolantes
D - Gaiola
E - Anel de Apoio
F - Anel de Encosto

Características dos Rolamentos

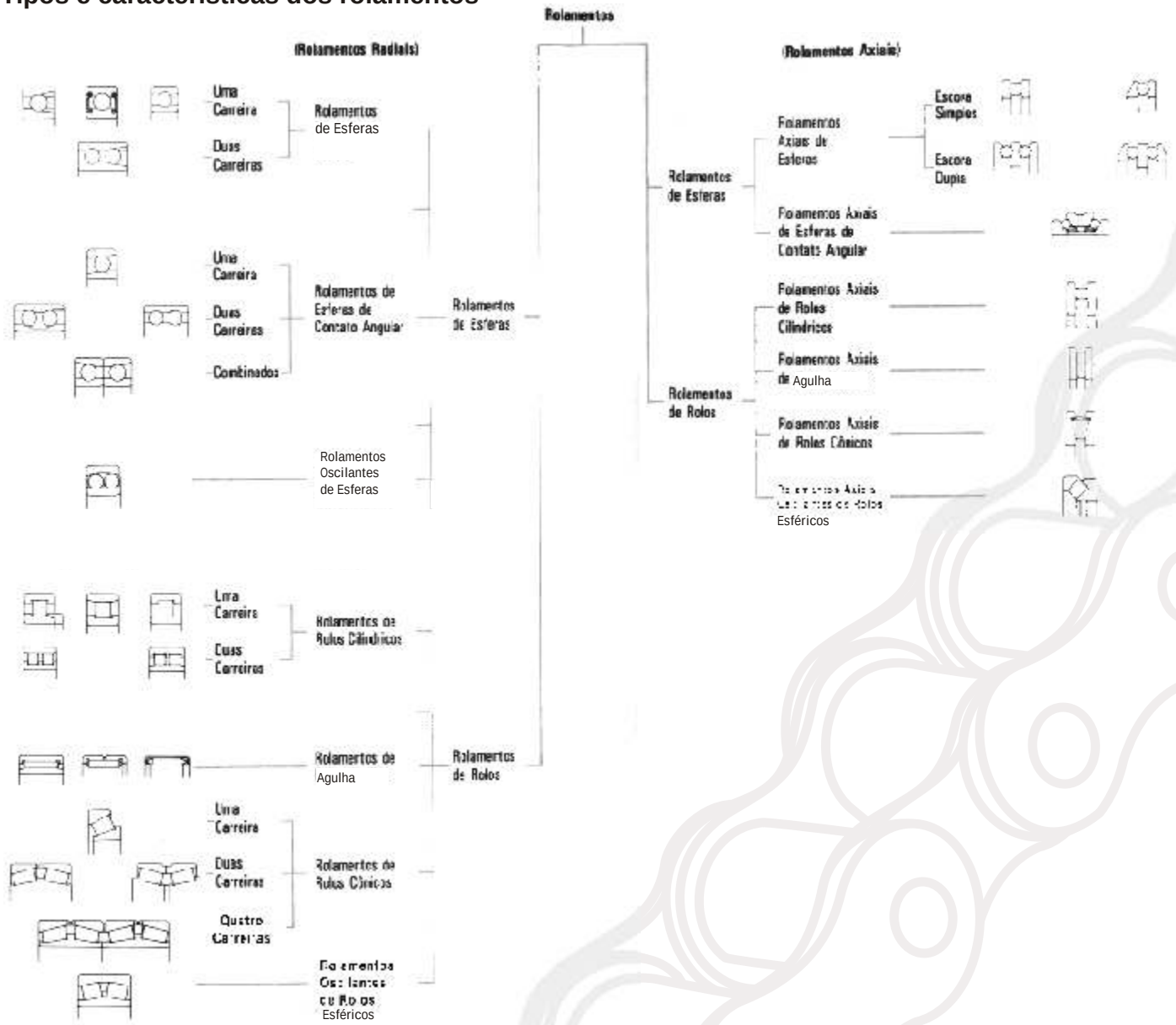
Características \ Tipos	Radial de Esfera	Uma carreira de esferas com contato angular	Duas carreiras de esferas com contato angular	Carreira de contato angular de esfera	Oscilante de duas carreiras de esferas	Rolos cilíndricos sem borda interna	Rolos cilíndricos com uma borda	Rolos cilíndricos com duas bordas	Duas carreiras de rolos cilíndricos	De agulhas	De rolos cônicos	Duas carreiras de rolos cônicos	Oscilante de rolos esféricos	Axial de Esferas	Axial Oscilante de rolos esféricos	Axial de rolos cilíndricos
Axial ← Capacidade de carga → Radial	↕	↗	↔	↔	↔	↑	→	↔	↑	↑	↙↑	↔	↙↘	←	↔	◂
Aptidão p/ alta rotação	△△△△	△△△△	△△	△△△	△△△	△△△△	△△△	△△△	△△△	△△△	△△	△△	△△		△	△
Alta precisão de giro	△△△△	△△△△		△△△△		△△△			△△△		△△△			△△△		
Baixo nível de ruído	△△△△	△△△△		△△△△	△	△△	△	△	△△	△						
Alta rigidez			△△	△△△		△△△	△△△	△△△	△△△△	△△△	△△△	△△△△				△△△
Resistência a Choque e Vibração			△		△	△△	△△	△△	△△	△△	△△	△△△	△△△		△△	
Desalinhamento Admissível					△△△								△△△		△△△	
Rolamento lado fixo	○		○	○	○			○				○	○			
Rolamento lado livre	●	●	●	●	●	○			○	○		●	●			
Carga Radial	△△	△△△	△△△	△△△	△△	△△△	△△△	△△△	△△△△	△△△	△△△	△△△△	△△△△		△	
Carga Axial	△△	△△△	△△△	△△△	△		△△	△△			△△△	△△△	△△	△△△	△△△△	
Carga Combinada	△△	△△△	△△△	△△△	△		△△	△△			△△△	△△△△	△△△		△	

△ = Precário △△ = Regular △△△ = Boa △△△△ = Muito Boa # = Não se aplica (impróprio)

○ = Aplicável ● = Aplicável (ver projeto)

Principais tipos de rolamentos

Tipos e características dos rolamentos





Rolamentos radiais de uma carreira de esferas



Rolamentos radiais de duas carreiras de esferas



Rolamentos radiais oscilantes de esferas



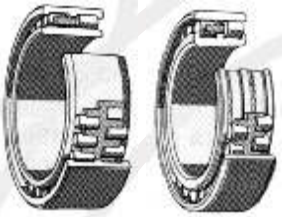
Rolamentos de uma carreira de esferas com contato angular



Rolamentos de duas carreiras de esferas com contato angular



Rolamentos radiais de uma carreira de rolos cilíndricos



Rolamentos radiais de duas carreiras de rolos cilíndricos



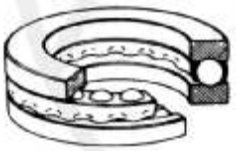
Rolamentos radiais de agulhas



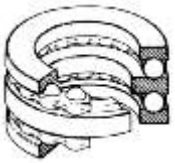
Rolamentos radiais oscilantes de rolos esféricos



Rolamentos de rolos cônicos



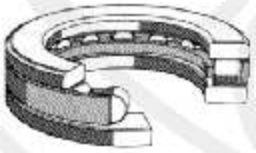
Rolamentos axiais de esferas com escora simples



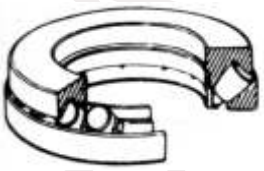
Rolamentos axiais de esferas com escora dupla



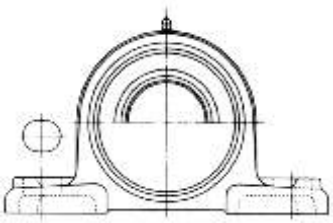
Rolamentos axiais de agulhas



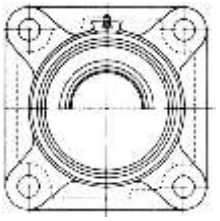
Rolamentos axiais de rolos cilíndricos



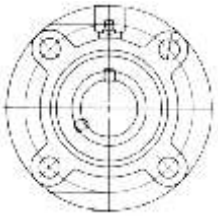
Rolamentos axiais oscilantes de rolos esféricos



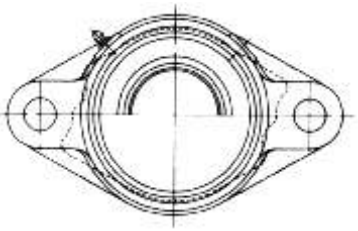
Mancais monobloco tipo pedestal de ferro fundido



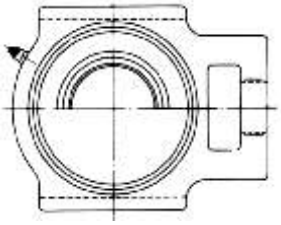
Mancais monobloco tipo flange quadrada de ferro fundido



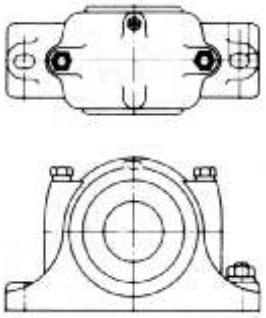
Mancais monobloco tipo flange redonda de ferro fundido



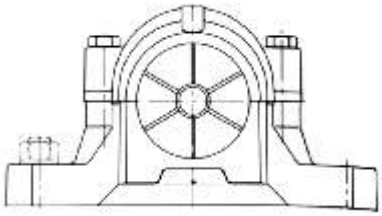
Mancais monobloco tipo flange oval de ferro fundido



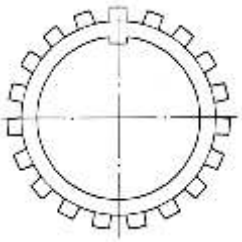
Mancais monobloco tipo flange tensora de ferro fundido



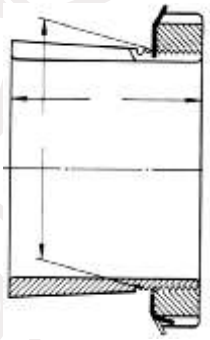
Mancais bipartidos tipo SN



Mancais bipartidos tipo SNH



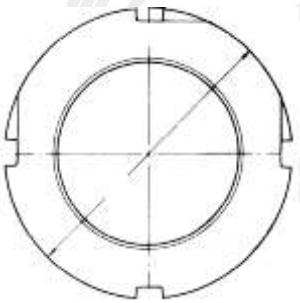
Arruelas de trava tipo MB



Buchas de fixação



Buchas de desmontagem



Porcas de fixação tipo M

Normas

Os Rolamentos marca GBR, são fabricados seguindo o padrão da Norma Internacional ISO para Rolamentos. Qualidades e precisões dimensionais estão indicadas nas tabelas constantes neste catálogo.

Especificação dos Rolamentos

Codificação básica dos rolamentos

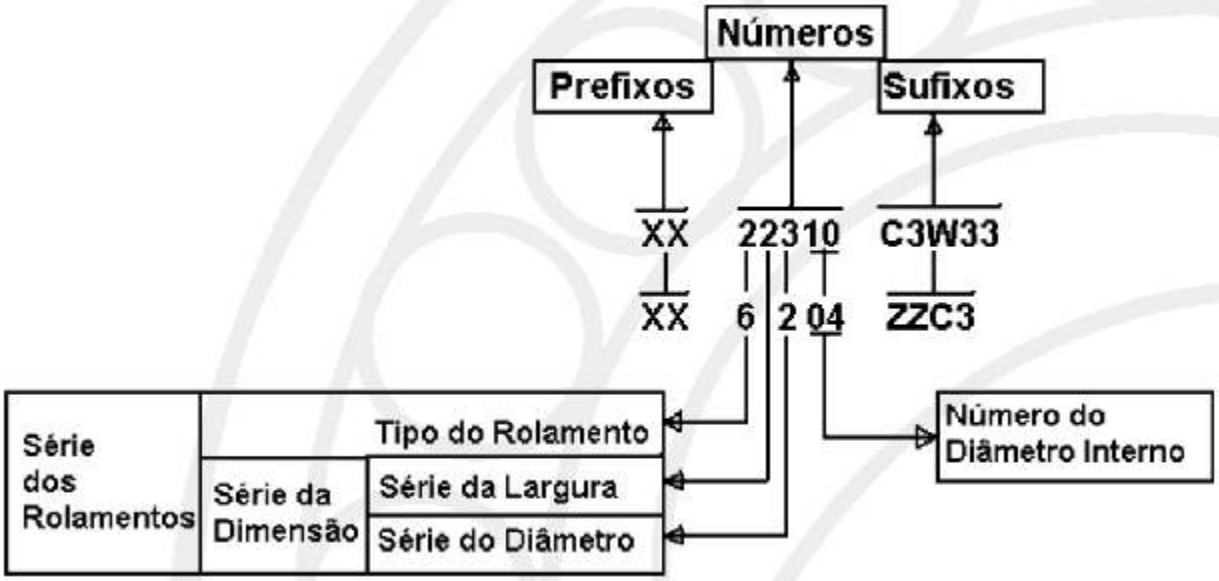
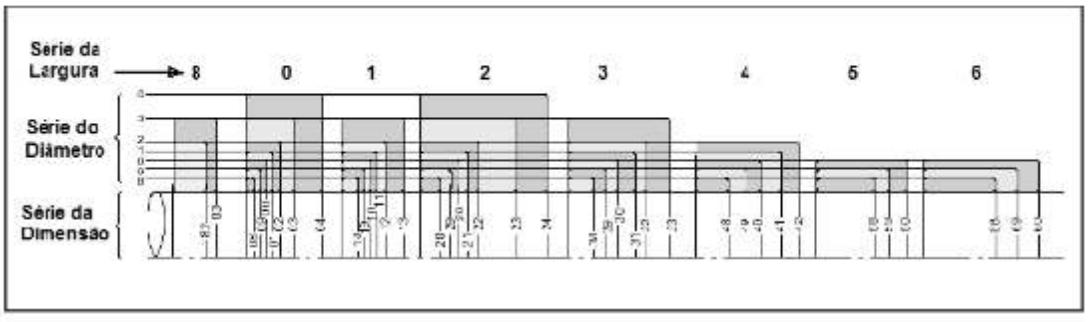


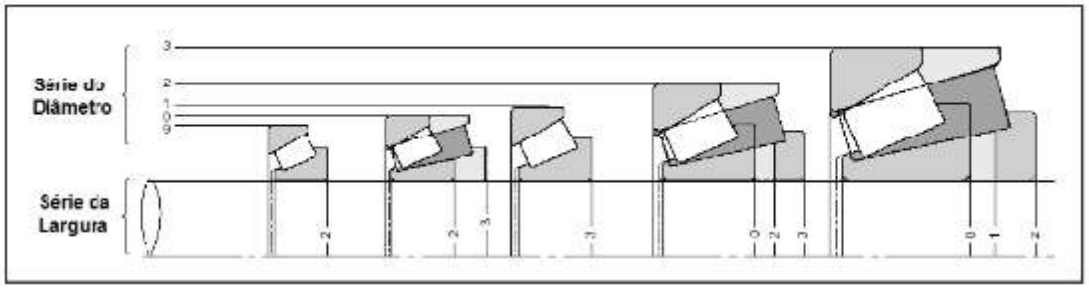
Figura demonstrativa das séries

O ábaco abaixo mostra que se dispõe de grande variedade de dimensões de rolamentos, o que sempre possibilita um tipo para uma aplicação solicitada.

Séries das dimensões para rolamentos radiais (exceto rolamentos de rolos cônicos)



Séries das dimensões para rolamentos de rolos cônicos



Simbologia das séries dos rolamentos

Numeração dos rolamentos

Tipos	Séries	Tipo	Série da Largura	Série do Diâmetro
Rolamentos de uma carreira de esferas	67	6	(1)	7
	68		(1)	8
	69		(1)	9
	60		(1)	0
	62		(0)	2
	63		(0)	3
	64		(0)	4
Rolamentos de uma carreira de esferas com contato angular	78	7	(1)	8
	79		(1)	9
	70		(1)	0
	72		(0)	2
	73		(0)	3
	74		(0)	4
Rolamentos oscilantes de esferas	12	1	(0)	2
	13	1	(0)	3
	22	2	(2)	2
	23	2	(2)	3
Rolamentos de rolos cilindricos	NU10	NU	1	0
	NU2		(0)	2
	NU22		2	2
	NU3		(0)	3
	NU23		2	3
	NU4		(0)	4
	NJ2	NJ	(0)	2
	NJ22		2	2
	NJ3		(0)	3
	NJ23		2	3
	NJ4		(0)	4
	N10	N	1	0
	N2		(0)	2
	N3		(0)	3
	N4		(0)	4
Rolamentos de rolos cônicos	329X	3	2	9
	320X		2	0
	302		0	2
	322		2	2
	303		0	3
	303D		0	3
	313X		1	3
	323		2	3
Rolamentos oscilantes de rolos esféricos	239	2	3	9
	230		3	0
	240		4	0
	231		3	1
	241		4	1
	222		2	2
	232		3	2
	213		0	3
	223		2	3
Rolamentos axiais de esferas escora simples	511	5	1	1
	512			2
	513			3
	514			4
Rolamentos axiais de esferas escora dupla	522	5	2	2
	523			3
	524			4
Rolamentos axiais oscilantes de rolos esféricos	292	2	9	2
	293			3
	294			4

Prefixos e Sufixos

- **Prefixos são os algarismos que antecedem o número dos rolamentos.**
- **Sufixos são os algarismos que vêm depois do número dos rolamentos.**

Prefixos	Sufixos	Significado	Exemplos
AH		Buchas de desmontagem	AH3036
B		Rolamentos de esferas de contato angular, com duas bordas no anel interno	B7004CP4
BL		Rolamentos radiais de esferas para maior capacidade de carga	BL208
F		Mancais tipo flange quadrada de ferro fundido	F210
FC		Mancais tipo flange redonda de ferro fundido	FC209
FL		Mancais tipo flange oval de ferro fundido	FL208
H		Buchas de fixação, medidas em milímetros	H312
H		Rolamentos de rolos cônicos série pesada	
HA		Buchas de fixação, medidas em polegadas, múltiplo de 1/16"	HA2310
HE		Buchas de fixação, medidas em polegadas, múltiplo de 1/4"	HE210
HH		Rolamentos de rolos cônicos série superpesada	HH437549/510
HJ		Anel de bloqueio para rolamentos de rolos cilíndricos	HJ205
HM		Porca de desmontagem	HM74
HM		Rolamentos de rolos cônicos série mais pesada que a média	HM903249/210
J		Rolamentos de rolos cônicos série métrica	JLM109048/910
K		Gaiola com elementos rolantes	
K		Rolamentos de rolos cônicos com tratamento temperado	KLM88548/510
KM		Porca de fixação	KM24
L		Anel removível dos rolamentos	L30210
L		Rolamentos de rolos cônicos série leve	L44643/610
LL		Rolamentos de rolos cônicos série super leve	LL103049/010
LM		Rolamentos de rolos cônicos série média leve	LM12749/710
M		Rolamentos de rolos cônicos série média	M86649/610
MB		Arruela de fixação	MB10
N		Rolamentos de uma carreira de rolos cilíndricos com anel externo livre	N308
NA		Rolamentos de uma carreira de agulha	NA4910
NF		Rolamentos de rolos cilíndricos com duas bordas no anel interno e uma borda no anel externo	NF208
NH		Rolamentos de uma carreira de rolos cilíndricos fixo ambos os lados, com anel HJ	NH308
NJ		Rolamentos de uma carreira de rolos cilíndricos com duas bordas no anel externo e uma borda no anel interno	NJ210
NN		Rolamentos de duas carreiras de rolos cílindricos sem bordas no anel externo	NN3012KP51
NNU		Rolamentos de duas carreiras de rolos cilíndricos sem bordas no anel interno	NNU4921K
NU		Rolamentos de uma carreira de rolos cilíndricos sem bordas no anel interno	NU409
NUJ		Rolamentos de rolos cilíndricos tipo NU com anel de bloqueio tipo HJ	NUJ409
NUP		Rolamentos de uma carreira de rolos cilíndricos com uma borda no anel interno e um anel tipo P fixando axialmente	NUP208B
P		Anel de bloqueio para rolamentos de rolos cilíndricos com alteração no anel interno	P208
P		Mancais tipo pedestal de ferro fundido	P210
QJ		Rolamentos de esferas com 4 pistas	QJ309
R		Rolamentos sem o anel removível	RNU206
S		Rolamentos de aço inoxidável	S6205
SN		Mancais tipo bipartido, de ferro fundido	SN510
T		Rolamentos axiais de rolos cônicos	T177

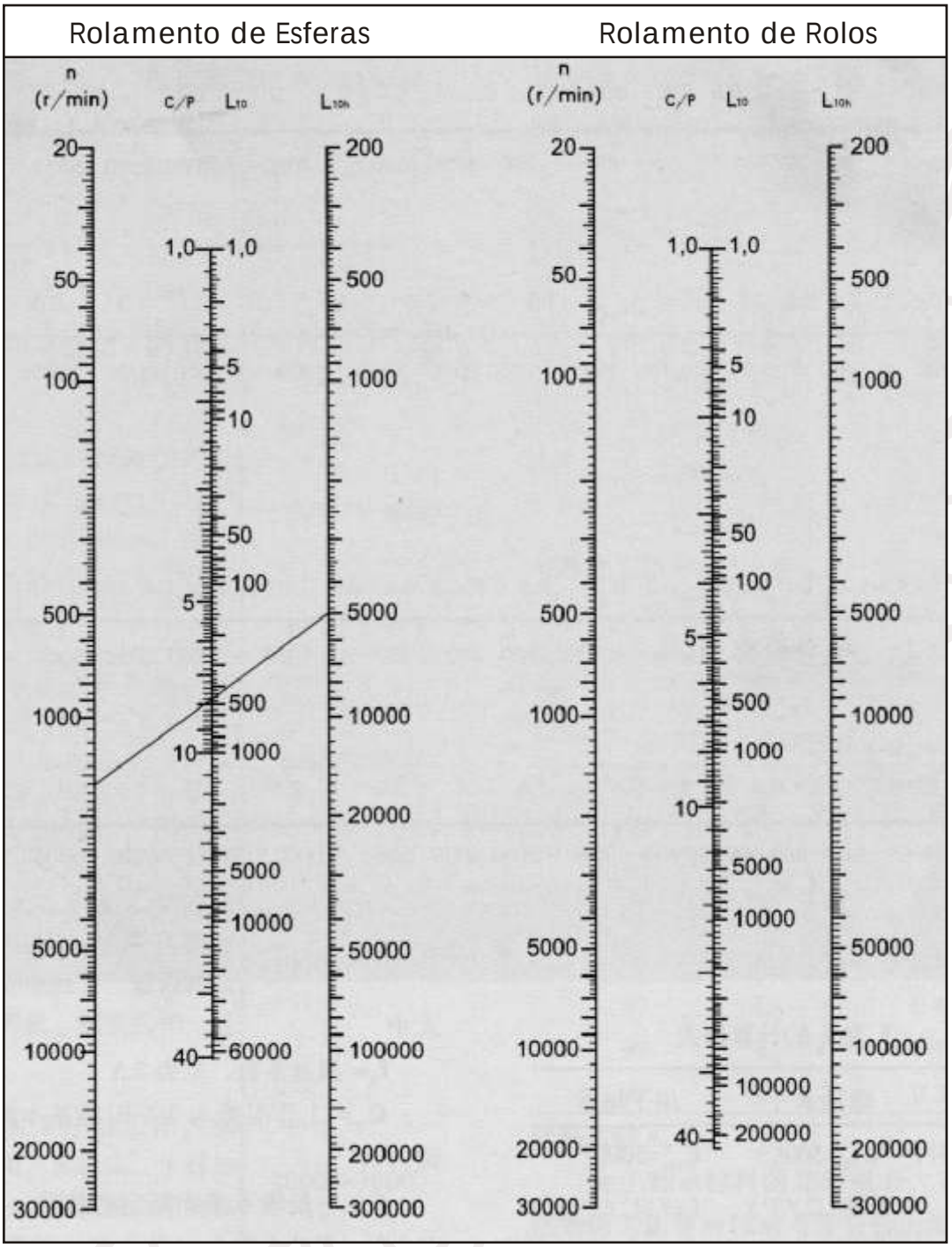
Prefixos	Sufixos	Significado	Exemplos
U		Contra placa oscilante para rolamentos axiais de esferas	U212
UC		Rolamentos abaulados, série métrica	UC207
X		Rolamentos de rolos cônicos indica que é um cone	X32311/Y32311
Y		Rolamentos de rolos cônicos indica que é uma capa	X32311/Y32311
	2RS	Duas vedações de borracha sintética	6212-2RS
	2RS1	Duas vedações de borracha sintética	6210-2RS1
	A	Alteração na construção interna que melhora a condição funcional	51211A
	A	Gaiola guiada no anel externo	22312MA
	A	Rolamentos de esferas de contato angular com ângulo de 25°	7208A
	Abec 1	Precisão conforme norma americana. Aprox precisão Normal > Norma ISO	
	Abec 3	Precisão conforme norma americana. Aprox precisão P6 > Norma ISO	
	Abec 5	Precisão conforme norma americana. Aprox precisão P5 > Norma ISO	
	Abec 7	Precisão conforme norma americana. Aprox precisão P4 > Norma ISO	
	B	Gaiola guiada no anel interno	22315MB
	B	Rolamentos de rolos cônicos, série polegada, com flange na capa	18790/720B
	B	Alteração na construção interna que melhora a condição funcional	NU308B
	B	Rolamentos de esferas de contato angular com ângulo de 40°	7310B
	BG	Rolamentos de esferas com contato angular para montagem em par universal e ângulo de contato 40°	7310BG
	C	Alteração na construção interna que melhora a condição funcional	22224C
	C	Rolamentos de esferas de contato angular com ângulo de 15°	7010C
	C1	Folga radial menor que C2	3202C1
	C2	Folga radial menor que o Normal	6212C2
	C3	Folga radial maior que o Normal	22315KC3
	C4	Folga radial maior que C3	1215KC4
	C5	Folga radial maior que C4	6310C5
	C6	Vibração e ruído reduzido	32005C6
	CA	Rolamentos de esferas de contato angular com ângulo de 12°	7003CATBP4
	CB	Rolamentos de esferas de contato angular com ângulo de 10°	B7005CBTBP4
	CN	Folga normal, não indicado na numeração	6205
	D	Alteração na construção interna que melhora a condição funcional	16004D
	DA	Anel interno bipartido	3309DA
	E	Alteração na construção interna que aumenta a capacidade de carga	32210E
	EMQ	Controle de ruído e lubrificante especial para motores elétricos	6204ZZEMQ
	F	Gaiola usinada de aço guiada nos elementos rolantes	52207F
	G	Rolamentos de esferas com contato angular, com faces laterais retificadas para montagem em par universal (O, X, T)	7308BG
	H	Pré-carga alta	
	J	Gaiola de chapa de aço estampado guiada nos elementos rolantes	22312W33J
	K	Furo cônico, conicidade 1:12	1211KC3
	K30	Furo cônico, conicidade 1:30	24120K30
	L	Pré-carga leve	7003P5OL
	L	Gaiola usinada de metal leve guiada nos elementos rolantes	

Prefixos	Sufixos	Significado	Exemplos
	M	Gaiola maciça de latão guiada nas esferas	22315MC3
	M	Pré-carga média	7204CAP5OM
	M	Rolamentos de rolos cônicos com tratamento temperado	32214M
	MA	Gaiola maciça de latão guiada no anel externo	22318MAC3
	MB	Gaiola maciça de latão guiada no anel interno	23128MB
	N	Ranhura no anel externo	6206ZN
	NR	Ranhura e anel de trava no anel externo	6206ZNR
	NS	Ranhura centrada no anel externo	NN3010KNS
	O	Rolamentos de esferas de contato angular com montagem em pares na disposição costa com costa	7204CAP5OL
	P0	Precisão Normal - não indicado na numeração	3208
	P4	Precisão maior que o P5	7008CBP4
	P4S	Precisão maior que P4 - super precisão	B7002CBP4S
	P5	Precisão maior que o P6	6206AP5
	P6	Precisão maior que o Normal	6208AP6
	R	Anel de trava	6208ZZNR
	RS	Uma vedação de borracha sintética	6205RS
	RS1	Uma vedação de borracha sintética	6306RS1
	RZ	Uma vedação de borracha sintética de baixa pressão	6205RZ
	S0	Estabilização dimensional para temperatura até 150 °C	6204S0
	S1	Estabilização dimensional para temperatura até 200 °C	6205ZC3S1
	S2	Estabilização dimensional para temperatura até 250 °C	6208S2
	S3	Estabilização dimensional para temperatura até 300 °C	23130JC3S3
	S4	Estabilização dimensional para temperatura até 350 °C	
	T	Gaiola de celeron	7205TB
	T	Rolamentos de esferas de contato angular com montagem em pares na disposição em série	7006CATBT
	TV, TN	Gaiola de poliamida com fibra de vidro	1205TV
	U	Rolamentos de esferas de contato angular para montagem nas disposições O, X ou T	7209BMU
	U	Rolamentos axiais de esferas com placa autocompensadora.	53212U
	V	Rolamento sem gaiola	
	W20	Anel externo com furos para lubrificação	22210JW20
	W33	Anel externo com ranhura e furos para lubrificação	22318MW33
	X	Rolamentos de esferas de contato angular com montagem em pares na disposição face com face	B7006CATBX
	X	Alteração nas principais dimensões conforme normas ISO	32005X
	Y	Gaiola de latão estampada, guiada nos elementos rolantes	627Y
	Z	Uma blindagem de chapa de aço	6202Z
	ZZ	Duas blindagens de chapa de aço	6204ZZ

Vida Útil

Para o cálculo da vida útil dos rolamentos, pode-se utilizar o ábaco abaixo:

C = carga dinâmica indicada no catálogo
P = carga aplicada
L10 = vida útil em milhões de revoluções
L10h = vida útil em horas de operação
n = rpm



Dimensões e Tolerâncias

Tolerância Dimensional

As tolerâncias indicam a precisão em que são fabricados os rolamentos
Seguem as indicações das Normas ISO 199, 492, 578 e 582. As classes de precisão são indicadas pelos símbolos P0, P6, P5, P4; o símbolo de precisão normal P0 não vem indicado na numeração dos rolamentos.

Tipos de Rolamentos e Classes de Tolerâncias						
Tipos de Rolamentos		**Classes de Tolerâncias**				
Norma ISO		P0	P6	P5	P4	
Norma Din		P0	P6	P5	P4	P2
Norma AFBMA	Esferas	Abec 1	Abec 3	Abec 5	Abec 7	Abec 9
	Rolos cônicos	Classe 4	Classe 2	Classe 3	Classe 0	Classe 00
Radial de uma carreira de esferas		0	P6	P5	P4	P2
De esferas com contato angular		0	P6	P5	P4	P2
Radial oscilantes de esferas		0	P6	P5	P4	P2
Radial de rolos cilíndricos		0	P6	P5	P4	P2
Radial de agulhas		0	P6	P5	P4	P2
Radial oscilantes de rolos esféricos		0	P6	P5	P4	P2
De rolos cônicos	Série métrica	0	P6	P5	P4	P2
	Série polegada	Classe 4	Classe 2	Classe 3	Classe 0	Classe 00
Axiais de esferas		0	P6	P5	P4	P2
Axiais oscilantes de rolos esféricos		0	P6	P5	P4	P2

Símbolos

ΔB_s	Desvio da largura do anel interno	S_D	Inclinação da superfície externa do anel externo
ΔC_s	Desvio da largura do anel externo	S_d	Desvio lateral de giro do anel interno
Δ_{mp}	Diâmetro médio do furo	S_{ea}	Desvio axial de giro anel externo
Δ_{ds}	Desvio do diâmetro do furo	S_{ia}	Desvio axial de giro anel interno
Δ_{Ts}	Desvio da altura de montagem	T	Altura nominal
B	Largura nominal	V_{Bs}	Variação da largura do anel interno
C	Largura nominal do anel externo	V_{Cs}	Variação da largura do anel externo
d	Diâmetro nominal do furo	Vd_{mp}	Variação do diâmetro médio do furo
d_{1mp}	Diâmetro médio do maior diâmetro teórico do furo cônico	VD_{mp}	Variação do diâmetro externo médio
D	Diâmetro nominal externo	VD_p	Variação do diâmetro externo
K_{ea}	Desvio radial de giro do anel externo	Vd_p	Variação do diâmetro do furo.
K_{ia}	Desvio radial de giro do anel interno	r	Raio

Tabelas de tolerância dimensional

Tolerância para rolamentos radiais (exceto rolamentos de rolos cônicos)
Anel Interno

Unid.- µm

Diâmetro Nominal d (mm)		Tolerância para furo cilíndrico Δdmp										Variação do diâmetro do furo Vdp														
		class 0		class 6		class 5		class 4		class 2		diâmetro série 9					diâmetro série 0,1					diâmetro série 2,3,4				
												class 0	class 6	class 5	class 4	class 2	class 0	class 6	class 5	class 4	class 2	class 0	class 6	class 5	class 4	class 2
de	até	high	low	high	low	high	low	high	low	high	low	max					max					max				
0.6	2.5	0	-8	0	-7	0	-5	0	-4	0	-2.5	10	9	5	4	2.5	8	7	4	3	2.5	6	5	4	3	2.5
2.5	10	0	-8	0	-7	0	-5	0	-4	0	-2.5	10	9	5	4	2.5	8	7	4	3	2.5	6	5	4	3	2.5
10	18	0	-8	0	-7	0	-5	0	-4	0	-2.5	10	9	5	4	2.5	8	7	4	3	2.5	6	5	4	3	2.5
18	30	0	-10	0	-8	0	-6	0	-5	0	-2.5	13	10	6	5	2.5	10	8	5	4	2.5	8	6	5	4	2.5
30	50	0	-12	0	-10	0	-8	0	-6	0	-2.5	15	13	8	6	2.5	12	10	6	5	2.5	9	8	6	5	2.5
50	80	0	-15	0	-12	0	-9	0	-7	0	-4	19	15	9	7	4	19	15	7	6	4	11	9	7	5	4
80	120	0	-20	0	-15	0	-10	0	-8	0	-5	25	19	10	8	5	25	19	8	6	5	15	11	8	6	5
120	150	0	-25	0	-18	0	-13	0	-10	0	-7	31	23	13	10	7	31	23	10	8	7	19	14	10	8	7
150	180	0	-25	0	-18	0	-13	0	-10	0	-7	31	23	13	10	7	31	23	10	8	7	19	14	10	8	7
180	250	0	-30	0	-22	0	-15	0	-12	0	-8	38	28	15	12	8	38	28	12	9	8	23	17	12	9	8
250	315	0	-35	0	-25	0	-18	•	•	•	•	44	31	18	•	•	44	31	14	•	•	26	19	14	•	•
315	400	0	-40	0	-30	0	-23	•	•	•	•	50	38	23	•	•	50	38	18	•	•	30	23	18	•	•
400	500	0	-45	0	-35	•	•	•	•	•	•	56	44	•	•	•	56	44	•	•	•	34	26	•	•	•
500	630	0	-50	0	-40	•	•	•	•	•	•	63	50	•	•	•	63	50	•	•	•	38	30	•	•	•
630	800	0	-75	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
800	1 000	0	-100	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
1 000	1 250	0	-125	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
1 250	1 600	0	-160	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
1 600	2 000	0	-200	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Anel Externo

Unid.- µm

Diâmetro Externo Nominal D (mm)		Tolerância dimensional do diâmetro externo Δ dmp										Variação do diâmetro externo Vdp tipo aberto														
		class 0		class 6		class 5		class 4		class 2		diâmetro série 9					diâmetro série 0, 1					diâmetro série 2, 3, 4				
												class 0	class 6	class 5	class 4	class 2	class 0	class 6	class 5	class 4	class 2	class 0	class 6	class 5	class 4	class 2
de	até	high	low	high	low	high	low	high	low	high	low	max					max					max				
2.5	6	0	-8	0	-7	0	-5	0	-4	0	-2.5	10	9	5	4	2.5	8	7	4	3	2.5	6	5	4	3	2.5
6	18	0	-8	0	-7	0	-5	0	-4	0	-2.5	10	9	5	4	2.5	8	7	4	3	2.5	6	5	4	3	2.5
18	30	0	-9	0	-8	0	-6	0	-5	0	-4	12	10	6	5	4	9	8	5	4	4	7	6	5	4	4
30	50	0	-11	0	-9	0	-7	0	-6	0	-4	14	11	7	6	4	11	9	5	5	4	8	7	5	5	4
50	80	0	-13	0	-11	0	-9	0	-7	0	-4	16	14	9	7	4	13	11	7	5	4	10	8	7	5	4
80	120	0	-15	0	-13	0	-10	0	-8	0	-5	19	16	10	8	5	19	16	8	6	5	11	10	8	6	5
120	150	0	-18	0	-15	0	-11	0	-9	0	-5	23	19	11	9	5	23	19	8	7	5	14	11	8	7	5
150	180	0	-25	0	-18	0	-13	0	-10	0	-7	31	23	13	10	7	31	23	10	8	7	19	14	10	8	7
180	250	0	-30	0	-20	0	-15	0	-11	0	-8	38	25	15	11	8	38	25	11	8	8	23	16	11	8	8
250	315	0	-35	0	-25	0	-18	0	-13	0	-8	44	31	18	13	8	44	31	14	10	8	26	19	14	10	8
315	400	0	-40	0	-28	0	-20	0	-15	0	-10	50	35	20	15	10	50	35	15	11	10	30	21	15	11	10
400	500	0	-45	0	-33	0	-23	•	•	•	•	56	41	23	•	•	56	41	17	•	•	34	25	17	•	•
500	630	0	-50	0	-38	0	-28	•	•	•	•	63	48	28	•	•	63	48	21	•	•	38	29	21	•	•
630	800	0	-75	0	-45	0	-35	•	•	•	•	94	56	35	•	•	94	56	26	•	•	56	34	26	•	•
800	1 000	0	-100	0	-60	•	•	•	•	•	•	125	75	•	•	•	125	75	•	•	•	75	45	•	•	•
1 000	1 250	0	-125	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
1 250	1 600	0	-160	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
1 600	2 000	0	-200	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
2 000	2 500	0	-250	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Tabelas de tolerância dimensional

Anel Interno

Unid.- µm

Diâmetro do Furo Vdmp					Anel Interno Desvio Radial de giro Kia					Desvio lateral de giro anel interno Sd			Desvio axial de giro, anel interno Sia			Desvio da Largura do Anel Interno △Bs								Variação da largura do anel interno VBs				
																normal				modified ①								
class 0	class 6	class 5	class 4	class 2	class 0	class 6	class 5	class 4	class 2	class 5	class 4	class 2	class 5	class 4	class 2	class 0,6		class 5,4		class 2	class 0,6		class 5,4		class 3	class 6	class 5	class 4	class 2
max					max					max			max			high	low	high	low	high	low	high	low	high	low	max				
6	5	3	2	1,5	10	5	4	2,5	1,5	7	3	1,5	7	3	1,5	0	-40	0	-40	0	-40	•	•	•	•	12	12	5	2,5	1,5
6	5	3	2	1,5	10	6	4	2,5	1,5	7	3	1,5	7	3	1,5	0	-120	0	-40	0	-40	0	-250	0	-250	15	15	5	2,5	1,5
6	5	3	2	1,5	10	7	4	2,5	1,5	7	3	1,5	7	3	1,5	0	-120	0	-80	0	-80	0	-250	0	-250	20	20	5	2,5	1,5
8	6	3	2,5	1,5	13	8	4	3	2,5	8	4	1,5	8	4	2,5	0	-120	0	-120	0	-120	0	-250	0	-250	20	20	5	2,5	1,5
9	8	4	3	1,5	15	10	5	4	2,5	8	4	1,5	8	4	2,5	0	-120	0	-120	0	-120	0	-250	0	-250	20	20	5	3	1,5
11	9	5	3,5	2	20	10	5	4	2,5	8	5	1,5	8	5	2,5	0	-150	0	-150	0	-150	0	-380	0	-250	25	25	6	4	1,5
15	11	5	4	2,5	25	13	6	5	2,5	9	5	2,5	9	5	2,5	0	-200	0	-200	0	-200	0	-380	0	-380	25	25	7	4	2,5
19	14	7	5	3,5	30	18	8	6	2,5	10	6	2,5	10	7	2,5	0	-250	0	-250	0	-250	0	-500	0	-380	30	30	8	5	2,5
19	14	7	5	3,5	30	18	8	6	5	10	6	4	10	7	5	0	-250	0	-250	0	-250	0	-500	0	-380	30	30	8	5	4
23	17	8	6	4	40	20	10	8	5	11	7	5	13	8	5	0	-300	0	-300	0	-300	0	-500	0	-500	30	30	10	6	5
26	19	9	•	•	•	50	25	13	•	•	•	13	•	•	•	15	•	•	•	0	-350	0	•	•	•	0	-500	0	•	•	35	35	13	•	•	•
30	23	12	•	•	•	60	30	15	•	•	•	15	•	•	•	20	•	•	•	0	-400	0	•	•	•	0	-630	0	•	•	40	40	15	•	•	•
34	26	•	•	•	•	•	65	35	•	•	•	•	•	•	•	•	•	•	•	0	-450	•	•	•	•	•	•	•	•	•	50	45	•	•	•	•
38	30	•	•	•	•	•	70	40	•	•	•	•	•	•	•	•	•	•	•	0	-500	•	•	•	•	•	•	•	•	•	60	50	•	•	•	•
55	•	•	•	•	•	•	80	•	•	•	•	•	•	•	•	•	•	•	•	0	•	•	•	•	•	•	•	•	•	•	70	•	•	•	•	•
75	•	•	•	•	•	•	90	•	•	•	•	•	•	•	•	•	•	•	•	0	•	•	•	•	•	•	•	•	•	•	80	•	•	•	•	•
94	•	•	•	•	•	•	100	•	•	•	•	•	•	•	•	•	•	•	•	0	•	•	•	•	•	•	•	•	•	•	100	•	•	•	•	•
120	•	•	•	•	•	•	120	•	•	•	•	•	•	•	•	•	•	•	•	0	•	•	•	•	•	•	•	•	•	•	120	•	•	•	•	•
150	•	•	•	•	•	•	140	•	•	•	•	•	•	•	•	•	•	•	•	0	•	•	•	•	•	•	•	•	•	•	140	•	•	•	•	•

Diâmetro Externo

Unid.- µm

Variação do diâm ext. num plano radial VDp		Variação do diâm ext médio num plano VDmp					Desvio radial de giro do anel externo Kea					Inclinação da superfície do diâm externo SD			Desvio axial de giro, do anel externo Sea			Desvio da largura do anel externo △Cs	Variação da largura do anel externo VCs			
Série do diâm externo 2,3,4. . . . 0,1,2,3,4																						
class 0	class 6	class 6	class 5	class 4	class 2		class 0	class 6	class 5	class 4	class 2	class 5	class 4	class 2	class 5	class 4	class 2	todos os tipos	class 0,6	class 5	class 4	class 2
max		max					max					max			max				max			
10	9	6	5	3	2	1,5	15	8	5	3	1,5	8	4	1,5	8	5	1,5			5	2,5	1,5
10	9	6	5	3	2	1,5	15	8	5	3	1,5	8	4	1,5	8	5	1,5			5	2,5	1,5
12	10	7	6	3	2,5	2	15	9	6	4	2,5	8	4	1,5	8	5	2,5	Depende da tolerância de △Bs em relação a d, de alguns rolamentos	Depende da tolerância de △Bs em relação a d, de alguns rolamentos	5	2,5	1,5
16	13	8	7	4	3	2	20	10	7	5	2,5	8	4	1,5	8	5	2,5			5	2,5	1,5
20	16	10	8	5	3,5	2	25	13	8	5	4	8	4	1,5	10	5	4			6	3	1,5
26	20	11	10	5	4	2,5	35	18	10	6	5	9	5	2,5	11	6	5			8	4	2,5
30	25	14	11	6	5	2,5	40	20	11	7	5	10	5	2,5	13	7	5			8	5	2,5
38	30	19	14	7	5	3,5	45	23	13	8	5	10	5	2,5	14	8	5			8	5	2,5
•	•	23	15	8	6	4	50	25	15	10	7	11	7	4	15	10	7			10	7	4
•	•	26	19	9	7	4	60	30	18	11	7	13	8	5	18	10	7			11	7	5
•	•	30	21	10	8	5	70	35	20	13	8	13	10	7	20	13	8			13	8	7
•	•	34	25	12	•	•	80	40	23	•	•	15	•	•	23	•	•			15	•	•
•	•	38	29	14	•	•	100	50	25	•	•	18	•	•	25	•	•			18	•	•
•	•	55	34	18	•	•	120	60	30	•	•	20	•	•	30	•	•			20	•	•
•	•	75	45	•	•	•	140	75	•	•	•	•	•	•	•	•	•			•	•	•
•	•	•	•	•	•	•	160	•	•	•	•	•	•	•	•	•	•			•	•	•
•	•	•	•	•	•	•	190	•	•	•	•	•	•	•	•	•	•			•	•	•
•	•	•	•	•	•	•	220	•	•	•	•	•	•	•	•	•	•			•	•	•
•	•	•	•	•	•	•	250	•	•	•	•	•	•	•	•	•	•			•	•	•

Tabelas de tolerância dimensional

Tolerâncias para Rolamentos de Rolos Cônicos (Série Métrica)
Anel Interno (Cone)

µm

Diâmetro do Furo d (mm)		Δ_{dmp}						Δ_{ds}		V_{dp}				V_{dmp}				K_{ia}				S_d		S_{ia}
		P0 P6X		P6 P5		P4		P4		P0 P6X	P6	P5	P4	P0 P6X	P6	P5	P5	P0 P6X	P6	P5	P4	P5	P4	P4
de	até	+	-	+	-	+	-	+	-	max	max	max	max	max	max	max	max	max	max	max	max	max	max	max
10	18	0	-8	0	-7	0	-5	0	-5	8	7	5	4	6	5	5	4	15	7	3,5	2,5	7	3	3
18	30	0	-10	0	-8	0	-6	0	-6	10	8	6	5	8	6	5	4	18	7	4	3	8	4	4
30	50	0	-12	0	-10	0	-8	0	-8	12	10	8	6	9	8	5	5	20	10	5	4	8	4	4
50	80	0	-15	0	-12	0	-9	0	-9	15	12	9	7	11	9	6	5	25	10	5	4	8	5	4
80	120	0	-20	0	-15	0	-10	0	-10	20	15	11	8	15	11	8	5	30	13	5	5	9	5	5
120	180	0	-25	0	-18	0	-13	0	-13	25	18	14	10	19	14	9	7	35	18	8	6	10	6	7
180	250	0	-30	0	-18	0	-15	0	-15	30	22	17	11	23	16	11	8	50	20	10	8	11	7	8
250	315	0	-35	0	-25	0	-18	0	-18	35	--	--	--	26	--	--	--	60	25	13	10	13	8	10
315	400	0	-40	0	-30	0	-23	0	-23	40	--	--	--	30	--	--	--	70	30	15	12	15	10	14
400	500	0	-45	0	-35	0	-27	0	-27	--	--	--	--	--	--	--	--	70	35	18	14	19	13	17
500	630	0	-50	0	-40	0	--	--	--	--	--	--	--	--	--	--	--	85	40	20	--	22	--	--
630	800	0	-75	0	-60	0	--	--	--	--	--	--	--	--	--	--	--	100	45	22	--	27	--	--

Tolerância para Rolamentos de Rolos Cônicos (Série Métrica)
Anel Externo (Capa)

µm

Diâmetro Externo D (mm)		Δ_{Dmp}						Δ_{Ds}		V_{Dp}				V_{Dmp}				K_{ea}				V_D		S_{ea}
		P0 P6X		P6		P4		P4		P0	P6	P5	P4	P0	P6	P5	P4	P0	P6	P5	P4	P5	P4	P4
de	até	+	-	+	-	+	-	+	-	max	max	max	max	max	max	max	max	max	max	max	max	max	max	max
18	30	0	-9	0	-8	0	-6	0	-6	9	8	6	5	7	6	5	4	18	9	6	4	8	4	5
30	50	0	-11	0	-9	0	-7	0	-7	11	9	7	5	8	7	5	5	20	10	7	5	8	4	5
50	80	0	-13	0	-11	0	-9	0	-9	13	11	8	7	10	8	6	5	25	13	8	5	8	4	5
80	120	0	-15	0	-13	0	-10	0	-10	15	13	10	8	11	10	7	5	35	18	10	6	9	5	6
120	150	0	-18	0	-15	0	-11	0	-11	18	15	11	8	14	11	8	6	40	20	11	7	10	5	7
150	180	0	-25	0	-18	0	-13	0	-13	25	18	14	10	19	14	9	7	45	23	13	8	10	5	8
180	250	0	-30	0	-20	0	-15	0	-15	30	20	15	11	23	15	10	8	50	25	15	10	11	7	10
250	315	0	-35	0	-25	0	-18	0	-18	35	25	19	14	26	19	13	9	60	30	18	11	13	8	10
315	400	0	-40	0	-28	0	-20	0	-20	40	28	22	15	30	21	14	10	70	35	20	13	13	10	13
400	500	0	-45	0	-33	0	-23	0	-23	45	--	--	--	--	--	--	--	80	40	23	15	15	11	15
500	630	0	-50	0	-38	0	-28	0	-28	50	--	--	--	--	--	--	--	100	50	25	18	18	13	18
630	800	0	-75	0	-45	--	--	--	--	--	--	--	--	--	--	--	--	120	60	30	--	20	--	--
800	1 000	0	-100	0	-60	--	--	--	--	--	--	--	--	--	--	--	--	120	75	35	--	23	--	--

Tolerâncias para Rolamentos de Rolos Cônicos (Série Métrica)
Largura (Altura)

µm

Diâmetro do Furo d (mm)		Δ_{Bs}						Δ_{Cs}						Δ_{Ts}					
		P0 P6		P6X		P5 P4		P0 P6		P6X		P5 P4		P0 P5		P6X		P5 P4	
de	até	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
10	18	0	-120	0	-50	0	-200	0	-120	0	-100	0	-200	+200	0	+100	0	+200	-200
18	30	0	-120	0	-50	0	-200	0	-120	0	-100	0	-200	+200	0	+100	0	+200	-200
30	50	0	-200	0	-50	0	-240	0	-120	0	-100	0	-240	+200	0	+100	0	+200	-200
50	80	0	-150	0	-50	0	-300	0	-150	0	-100	0	-300	+200	0	+100	0	+200	-200
80	120	0	-200	0	-50	0	-300	0	-200	0	-100	0	-400	+200	-200	+100	0	+200	-200
120	180	0	-250	0	-50	0	-500	0	-250	0	-100	0	-500	+350	-250	+150	0	+350	-250
180	250	0	-300	0	-50	0	-600	0	-300	0	-100	0	-600	+350	-250	+250	0	+350	-250
250	315	0	-350	0	-50	0	-700	0	-350	0	-100	0	-700	+350	-250	+200	0	+350	-250
315	400	0	-400	0	-50	0	-800	0	-400	0	-100	0	-800	+400	-400	+200	0	+400	-400
400	500	0	-450	--	--	0	-800	0	-450	--	--	0	-800	+400	-400	--	--	+400	-400
500	630	0	-500	--	--	0	-800	0	-500	--	--	0	-800	+500	-500	--	--	+500	-500
630	800	0	-750	--	--	0	-800	0	-750	--	--	0	-800	+600	-600	--	--	+600	-600

Tabelas de tolerância dimensional

Tolerância para Rolamentos de Rolos Cônicos (Série Polegadas)
Anel Interno (Cone)

µm

Diâmetro do Furo d (mm)				Δ_{ds}					
de		até		CLASSE 4, 2		CLASSE 3, 0		CLASSE 00	
mm	pol	mm	pol	+	-	+	-	+	-
---	---	76,200	3,0000	+ 13	0	+ 13	0	+ 8	0
76,200	3,0000	266,700	10,5000	+ 25	0	+ 13	0	+ 8	0
266,700	10,5000	304,800	12,0000	+ 25	0	+ 13	0	---	---
304,800	12,0000	609,600	24,0000	+ 51	0	+ 25	0	---	---
609,600	24,0000	914,400	36,0000	+ 76	0	+ 38	0	---	---
914,400	36,0000	1.219,200	48,0000	+102	0	+ 51	0	---	---
1.219,200	48,0000	---	---	+127	0	+ 76	0	---	---

Tolerâncias para Rolamentos de Rolos Cônicos (Série Polegadas)
Anel Externo (Capa) e Desvio Radiais de Giro

µm

Diâmetro Externo D (mm/pol)				Δ_{Ds}						K_{ia}, K_{ea}				
de		até		CLASSE 4, 2		CLASSE 3, 0		CLASSE 00		CLASSE 4	CLASSE 2	CLASSE 3	CLASSE 0	CLASSE 00
(mm)	(pol)	(mm)	(pol)	+	–	+	–	+	–	max	max	max	max	max
---	---	266,700	10,5000	+ 25	0	+ 13	0	+ 8	0	51	38	8	4	2
266,700	10,5000	304,800	12,0000	+ 25	0	+ 13	0	---	---	51	38	8	4	---
304,800	12,0000	609,600	24,0000	+ 51	0	+ 25	0	---	---	51	38	18	---	---
609,600	24,0000	914,400	36,0000	+ 76	0	+ 38	0	---	---	76	51	51	---	---
914,400	36,0000	1.219,200	48,0000	+102	0	+ 51	0	---	---	76	---	76	---	---
1.219,200	48,0000	---	---	+127	0	+ 76	0	---	---	76	---	76	---	---

Tolerância para Largura de Montagem

µm

Diâmetro do Furo d				Variação da Largura de Montagem - de uma carreira Δ_{Ts}									
de		até		CLASSE 4		CLASSE 2		CLASSE 3				CLASSE 0, 00	
								D<508,000(mm)		D>508,000(mm)			
(mm)	(Pol)	(mm)	(Pol)	+	-	+	-	+	-	+	-	+	-
---	---	101,600	4,0000	+ 203	0	+ 203	0	+ 203	- 203	+ 203	- 203	+ 203	- 203
101,600	4,0000	304,800	12,0000	+ 356	- 254	+ 203	0	+ 203	- 203	+ 203	- 203	+ 203	- 203
304,800	12,0000	609,600	24,0000	+ 381	- 381	+ 381	- 381	+ 203	- 203	+ 381	- 381	---	---
609,600	24,0000	---	---	+ 381	- 381	+ 381	- 381	+ 381	- 381	+ 381	- 381	---	---

Tabelas de tolerância dimensional

Tolerâncias para Rolamentos Axiais de Esferas

Diâmetro Interno - d

µm

Diâmetro do Furo d , d_2 (mm)		Δ_{dmp} , Δ_{d2mp}				V_{dp} , V_{2p}		S_i, S_e			
		P0, P6, P5		P4		P0, P6 P5	P4	P0	P6	P5	P4
de	até	+	-	+	-	max	max	max	max	max	max
- - -	18	0	- 8	0	- 7	6	5	10	5	3	2
18	30	0	- 10	0	- 8	8	6	10	5	3	2
30	50	0	- 12	0	- 10	9	8	10	6	3	2
50	80	0	- 15	0	- 12	11	9	10	7	4	3
80	120	0	- 20	0	- 15	15	11	15	8	4	3
120	180	0	- 25	0	- 18	19	14	15	9	5	4
180	250	0	- 30	0	- 22	23	17	20	10	5	4
250	315	0	- 35	0	- 25	26	19	25	13	7	5
315	400	0	- 40	0	- 30	30	23	30	15	7	5
400	500	0	- 45	0	- 35	34	26	30	18	9	6
500	630	0	- 50	0	- 40	38	26	35	21	11	7
630	800	0	- 75	0	- 50	- - -	- - -	40	25	13	8
800	1 000	0	- 100	- - -	- - -	- - -	- - -	45	30	15	- - -
1 000	1 250	0	- 125	- - -	- - -	- - -	- - -	50	35	18	- - -

Tolerâncias para Rolamentos Axiais de Esferas

Diâmetro Externo - D

µm

Diâmetro Externo D, D3 (mm)		Δ_{Dmp}						V_{Dp}		Diâmetro Externo da Contraplaca Esférica	
		Assento Plano				Assento Esférico					
		P0, P6, P5		P4		P0, P6		P0, P6, P5	P4	P0, P6	
de	até	+	-	+	-	+	-	max	max	+	-
10	18	0	- 11	0	- 7	0	- 17	8	5	0	- 25
18	30	0	- 13	0	- 8	0	- 20	10	6	0	- 30
30	50	0	- 16	0	- 9	0	- 24	12	7	0	- 35
50	80	0	- 19	0	- 11	0	- 29	14	8	0	- 45
80	120	0	- 22	0	- 13	0	- 33	17	10	0	- 60
120	180	0	- 25	0	- 15	0	- 38	19	11	0	- 75
180	250	0	- 30	0	- 20	0	- 45	23	15	0	- 90
250	315	0	- 35	0	- 25	0	- 53	26	19	0	- 105
315	400	0	- 40	0	- 28	0	- 60	30	21	0	- 120
400	500	0	- 45	0	- 33	0	- 68	34	25	0	- 135
500	630	0	- 50	0	- 38	0	- 75	38	29	0	- 180
630	800	0	- 75	0	- 45	0	- 113	55	34	0	- 225
800	1 000	0	- 100	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
1 000	1 250	0	- 125	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
1 250	1 600	0	- 160	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -

Tolerância para Rolamentos Axiais Oscilantes de Rolos Esféricos

Precião Normal (P0)

Anel Interno e Altura — Anel Externo

µm

Diâmetro do Furo d (mm)		Δ_{Dmp}		V_{dp}	Referencia			Diâmetro Externo D (mm)		Δ_{Dmp}	
					S_d	Δ_{Ts}					
de	até	+	-	max	max	+	-	de	até	+	-
50	80	0	- 15	11	25	+ 150	- 150	120	180	0	- 25
80	120	0	- 20	15	25	+ 200	- 200	180	250	0	- 30
120	180	0	- 25	19	30	+ 250	- 250	250	315	0	- 35
180	250	0	- 30	23	30	+ 300	- 300	315	400	0	- 40
250	315	0	- 35	26	35	+ 350	- 350	400	500	0	- 45
315	400	0	- 40	30	40	+ 400	- 400	500	630	0	- 50
400	500	0	- 45	34	45	+ 450	- 450	630	800	0	- 75
								800	1 000	0	- 100

Tabelas de tolerância dimensional

Tolerância para Rolamentos Axiais de Esferas

Alturas — µm

Diâmetro do Furo d (mm)		Assento Plano				Assento Esférico				Contraplaca Esférica				Anel Central	
		Δ_{T_s}, $\Delta_{T_{2s}}$		$\Delta_{T_{1s}}$		$\Delta_{T_{3s}}$, $\Delta_{T_{6s}}$		$\Delta_{T_{5s}}$		$\Delta_{T_{4s}}$, $\Delta_{T_{8s}}$		$\Delta_{T_{7s}}$		Δ_{B_s}	
		P0, P6, P5, P4		P0, P6, P5, P4		P0, P6		P0, P6		P0, P6		P0, P6		P0, P6, P5, P4	
de	até	+	-	+	-	+	-	+	-	+	-	+	-	+	-
- - -	30	0	- 75	+ 50	- 150	0	- 75	+ 50	- 150	+ 50	- 75	+ 150	- 150	0	- 50
30	50	0	- 100	+ 75	- 200	0	- 100	+ 75	- 200	+ 50	- 100	+ 175	- 200	0	- 75
50	80	0	- 125	+ 100	- 250	0	- 125	+ 100	- 250	+ 75	- 125	+ 250	- 250	0	- 100
80	120	0	- 150	+ 125	- 300	0	- 150	+ 125	- 300	+ 75	- 150	+ 275	- 300	0	- 125
120	180	0	- 175	+ 150	- 350	0	- 175	+ 150	- 350	+ 100	- 175	+ 350	- 350	0	- 150
180	250	0	- 200	+ 175	- 400	0	- 200	+ 175	- 400	+ 100	- 200	+ 375	- 400	0	- 175
250	315	0	- 225	+ 200	- 450	0	- 225	+ 200	- 450	+ 125	- 225	+ 450	- 450	0	- 200
315	400	0	- 300	+ 250	- 600	0	- 300	+ 250	- 600	+ 150	- 275	+ 550	- 550	0	- 250

Folgas Internas

É considerada folga interna a medida obtida pelo movimento entre o anel interno e o anel externo, no sentido radial ou no sentido axial. São definidas como folga interna radial e folga interna axial.

Folga radial para rolamentos radiais de esferas (furo cilíndrico) **Unidade:** µm

Diâmetro do Furo d (mm)		Folga									
		C2		Normal		C3		C4		C5	
de	até	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
2.5	6	0	7	2	13	8	23	-	-	-	-
6	10	0	7	2	13	8	23	14	29	20	37
10	18	0	9	3	18	11	25	18	33	25	45
18	24	0	10	5	20	13	28	20	36	28	48
24	30	1	11	5	20	13	28	23	41	30	53
30	40	1	11	6	20	15	33	28	46	40	64
40	50	1	11	6	23	18	36	30	51	45	73
50	65	1	15	8	28	23	43	38	61	55	90
65	80	1	15	10	30	25	51	46	71	65	105
80	100	1	18	12	36	30	58	53	84	75	120
10	120	2	20	15	41	36	66	61	97	90	140
120	140	2	23	18	48	41	81	71	114	105	160
140	160	2	23	18	53	46	91	81	113	120	180
160	180	2	25	20	61	53	102	91	147	135	200
180	200	2	30	25	71	63	117	107	163	150	230
200	225	2	35	25	85	75	140	125	195	175	265
225	250	2	40	30	95	85	160	145	225	205	300
250	280	2	45	35	105	90	170	155	245	225	340
280	315	2	55	40	115	100	190	175	270	245	370
315	355	3	60	45	125	110	210	195	300	275	410
355	400	3	70	55	145	130	240	225	340	315	460

Folga radial para rolamentos oscilantes de esferas (furo cilíndrico) **Unidade:** µm

Diâmetro do Furo d (mm)		Folga									
		C2		Normal		C3		C4		C5	
de	até	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
2.5	6	1	8	5	15	10	20	15	25	21	33
6	10	2	9	6	17	12	25	19	33	27	42
10	14	2	10	6	19	13	26	21	35	30	48
14	18	3	12	8	21	15	28	23	37	32	50
18	24	4	14	10	23	17	30	25	39	34	52
24	30	5	16	11	24	19	35	29	46	40	58
30	40	6	18	13	29	23	40	34	53	46	66
40	50	6	19	14	31	25	44	37	57	50	71
50	65	7	21	16	26	30	50	45	69	62	88
65	80	8	24	18	40	35	60	54	83	76	108
80	100	9	27	22	48	42	70	64	96	89	124
100	120	10	31	25	56	50	83	75	114	105	145
120	140	10	38	30	68	60	100	90	135	125	175
140	160	15	44	35	80	70	120	110	161	150	210

Folga radial para rolamentos oscilantes de esferas (furo cônico) **Unidade:** µm

Diâmetro do Furo d (mm)		Folga									
		C2		Normal		C3		C4		C5	
de	até	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
2.5	6										
6	10										
10	14										
14	18	-	-	-	-	-	-	-	-	-	-
18	24	7	17	13	26	20	33	28	42	37	55
24	30	9	20	15	28	23	39	33	50	44	62
30	40	12	24	19	35	29	46	40	59	52	72
40	50	14	27	22	39	33	52	45	65	58	79
50	65	18	32	27	47	41	61	56	80	73	99
65	80	23	39	35	57	50	75	69	98	91	123
80	100	29	47	42	68	62	90	84	116	109	144
100	120	35	56	50	81	75	108	100	139	130	170
120	140	40	68	60	98	90	130	120	165	155	205
140	160	45	74	65	110	100	150	140	191	180	240

Folga radial para rolamentos oscilantes de rolos esféricos (furo cônico) **Unidade:** µm

Diâmetro do Furo d (mm)		Folga									
		C2		Normal (CN)		C3		C4		C5	
de	até	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
18	24	15	25	25	35	35	45	45	65	65	75
24	30	20	30	30	40	40	55	55	75	75	95
30	40	25	35	35	50	50	65	65	85	85	105
40	50	30	45	45	60	60	80	80	100	100	130
50	65	40	55	55	75	75	95	95	120	120	160
65	80	50	70	70	95	95	120	120	150	150	200
80	100	55	80	80	110	110	140	140	180	180	230
100	120	65	100	100	135	135	170	170	220	220	280
120	140	80	120	120	160	160	200	200	260	260	330
140	160	90	130	130	180	180	230	230	300	300	380
160	180	100	140	140	200	200	260	260	340	340	430
180	200	110	160	160	220	220	290	290	370	370	470
200	225	120	180	180	250	250	320	320	410	410	520
225	250	140	200	200	270	270	350	350	450	450	570
250	280	150	220	220	300	300	390	390	490	490	620
280	315	170	240	240	330	330	430	430	540	540	680
315	355	190	270	270	360	360	470	470	590	590	740
355	400	210	300	300	400	400	520	520	650	650	820
400	450	230	330	330	440	440	570	570	720	720	910
450	500	260	370	370	490	490	630	630	790	790	1000
500	560	290	410	410	540	540	680	680	870	870	1100
560	630	320	460	460	600	600	760	760	980	980	1230
630	710	350	510	510	670	670	850	850	1090	1090	1360
710	800	390	570	570	750	750	960	960	1220	1220	1500
800	900	440	640	640	840	840	1070	1070	1370	1370	1690
900	1000	490	710	710	930	930	1190	1190	1520	1520	1680

Folga radial para rolamentos oscilantes de rolos esféricos (furo cilíndrico) **Unidade:** µm

Diâmetro do Furo d (mm)		Folga									
		C2		Normal (CN)		C3		C4		C5	
de	até	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
14	18	10	20	20	35	35	45	45	60	60	75
18	24	10	20	20	35	35	45	45	60	60	75
24	30	15	25	25	40	40	55	55	75	75	95
30	40	15	30	30	45	45	60	60	80	80	100
40	50	20	35	35	55	55	75	75	100	100	125
50	65	20	40	40	65	65	90	90	120	120	150
65	80	30	50	50	80	80	110	110	145	145	180
80	100	35	60	60	100	100	135	135	180	180	225
100	120	40	75	75	120	120	160	160	210	210	260
120	140	50	95	95	145	145	190	190	240	240	300
140	160	60	110	110	170	170	220	220	280	280	350
160	180	65	120	120	180	180	240	240	310	310	390
180	200	70	130	130	200	200	260	260	340	340	430
200	225	80	140	140	220	220	290	290	380	380	470
225	250	90	150	150	240	240	320	320	420	420	520
250	280	100	170	170	260	260	350	350	460	460	570
280	315	110	190	190	280	280	370	370	500	500	630
315	355	120	200	200	310	310	410	410	550	550	690
355	400	130	220	220	340	340	450	450	600	600	750
400	450	140	240	240	370	370	500	500	660	660	820
450	500	140	260	260	410	410	550	550	720	720	900
500	560	150	280	280	440	440	600	600	780	780	1000
560	630	170	310	310	480	480	650	650	850	850	1100
630	710	190	350	350	530	530	700	700	920	920	1190
710	800	210	390	390	580	580	770	770	1010	1010	1300
800	900	230	430	430	650	650	860	860	1120	1120	1440
900	1000	260	480	480	710	710	930	930	1220	1220	1570

Folga radial para rolamentos de rolos cilíndricos (furo cilíndrico) **Unidade:** µm

Diâmetro do Furo d (mm)		Folga									
		C2		Normal (CN)		C3		C4		C5	
de	até	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
-	10	0	25	20	45	35	60	50	75	-	-
10	24	0	25	20	45	35	60	50	75	65	90
24	30	0	25	20	45	35	60	50	75	70	95
30	40	5	30	25	50	45	70	60	85	80	105
40	50	5	35	30	60	50	80	70	100	95	125
50	65	10	40	40	70	60	90	80	110	110	130
65	80	10	45	40	75	65	100	90	125	130	165
80	100	15	50	50	85	75	110	105	140	155	190
100	120	15	55	50	90	85	125	125	165	180	220
120	140	15	60	60	105	100	145	145	190	200	245
140	160	20	70	70	120	115	165	165	215	225	275
160	180	25	75	75	125	120	170	170	220	250	300
180	200	35	90	90	145	140	195	195	250	275	330
200	225	45	105	105	165	160	220	220	280	305	365
225	250	45	110	110	175	170	235	235	300	300	395
250	280	55	125	125	195	190	260	260	330	375	440
280	315	55	130	130	205	200	275	275	350	410	485
315	355	65	145	145	225	225	305	305	385	455	535
355	400	100	190	190	180	280	370	370	460	510	600
400	450	110	210	210	310	310	410	410	510	565	665
450	500	110	220	220	330	330	440	440	550	625	735

Folga radial para rolamentos de duas carreiras de esferas com contato angular **Unidade:** µm

Diâmetro do Furo d (mm)		Folga							
		C2		Normal (CN)		C3		C4	
de	até	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
6	10	1	11	5	21	12	28	25	45
10	18	1	12	6	23	13	31	27	47
18	24	2	14	7	25	16	34	28	48
24	30	2	15	8	27	18	37	30	50
30	40	2	16	9	29	21	40	33	54
40	50	2	18	11	33	23	44	36	58
50	65	3	22	13	36	26	48	40	63
65	80	3	24	15	40	30	54	46	71
80	100	3	26	18	46	35	63	55	83
100	120	4	30	22	53	42	73	65	96
120	140	4	34	25	59	48	82	74	108

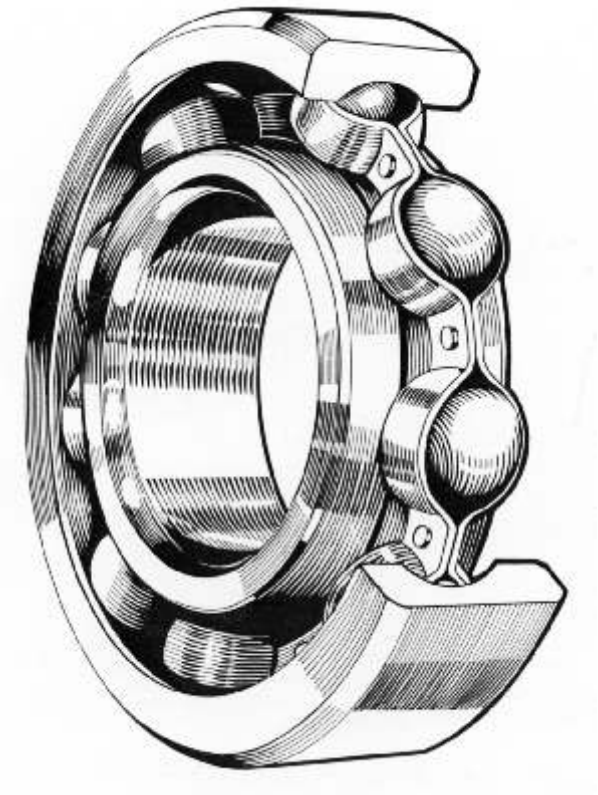
Materiais

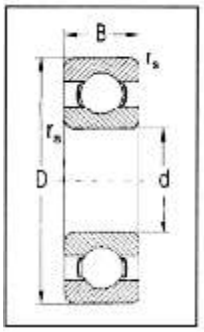
Os rolamentos são fabricados com aços especiais de alta resistência à fadiga e ao desgaste. Os aços para têmpera são de alto carbono 0,95 a 1,10 % e Cromo de 1,30 a 1,60 %. De acordo com a aplicação, podem ser adicionados Manganês ou Molibdênio. Os aços para cementação são de baixo carbono por volta de 0,15 %.

Aços Especiais para Rolamentos - Composição Química

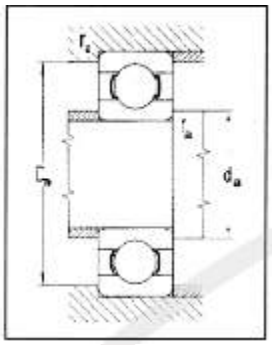
Tipo	C	Si	Mn	Cr	P	S
SAE52100	0,95~1,10	0,15~0,35	~0,50	1,30~1,60	~0,025	~0,025

Rolamentos radiais de uma carreira de esferas

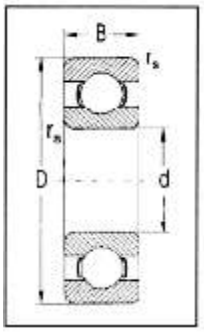




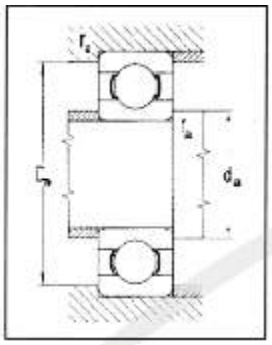
Medidas				Capac. Carga		Limite de Rotação		Rolamentos	Medidas			Massa
d	D	B	r_s	Dinam C	Estat Co	a graxa	a óleo	**Número**	d_a min	D_a max	r_a max	Peso
mm				KN		rpm			mm			Kg
2	6	2.3	0.1	0,27	0,09	63.000	79.000	**619/2**	3.2	4.8	0.1	0.0004
3	10	4.0	0.15	0,49	0,22	40.000	50.000	**623**	4.2	8.5	0.1	0.0015
4	13	5.0	0.2	0,90	0,41	38.000	45.000	**624**	5.6	11.2	0.2	0.0032
	16	5.0	0.3	1,43	0,74	35.000	42.000	**634**	6.2	13.4	0.3	0.0050
5	13	4.0	0.2	0,67	0,36	47.000	56.000	**619/5**	6.6	11.5	0.2	0.0025
	16	5.0	0.3	1,43	0,74	35.000	42.000	**625**	7.0	14.0	0.3	0.0047
	19	6.0	0.3	2,12	1,16	35.000	42.000	**635**	7.2	15.8	0.3	0.0090
6	15	5.0	0.2	0,91	0,50	42.000	50.000	**619/6**	7.8	13.0	0.2	0.0040
	17	6.0	0.3	2,19	0,87	38.000	45.000	**606**	8.0	15.0	0.3	0.0079
	19	6.0	0.3	2,12	1,16	35.000	42.000	**626**	8.2	17.0	0.3	0.0081
7	19	6.0	0.3	2,20	1,16	35.000	42.000	**607**	9.0	17.2	0.3	0.0075
	22	7.0	0.3	2,50	1,34	35.000	42.000	**627**	9.2	19.0	0.3	0.0123
8	16	4.0	0.2	1,55	0,72	35.000	42.000	**618/8**	9.8	14.0	0.2	0.0030
	22	7.0	0.3	2,50	1,34	35.000	42.000	**608**	10.0	20.0	0.3	0.0120
9	24	7.0	0.3	2,80	1,53	35.000	42.000	**609**	11.0	22.0	0.3	0.0180
	26	8.0	0.3	3,55	1,93	35.000	42.000	**629**	11.0	24.0	0.3	0.0200
10	19	5.0	0.3	1,83	0,92	36.000	43.000	**61800**	12.0	17.0	0.3	0.0054
	22	6.0	0.3	1,95	0,75	34.000	40.000	**61900**	12.0	20.0	0.3	0.0100
	26	8.0	0.3	3,91	1,96	28.000	33.000	**6000**	12.0	24.0	0.3	0.0190
	30	9.0	0.6	5,11	2,66	25.000	30.000	**6200**	14.0	26.0	0.6	0.0310
	35	11.0	0.6	6,81	3,41	22.000	27.000	**6300**	14.0	31.0	0.6	0.0540
12	21	5.0	0.3	1,91	1,04	32.000	38.000	**61801**	14.0	19.0	0.3	0.0061
	24	6.0	0.3	2,25	0,98	30.000	36.000	**61901**	14.0	22.0	0.3	0.0110
	28	7.0	0.3	4,50	2,37	25.000	30.000	**16001**	14.0	26.0	0.3	0.0200
	28	8.0	0.3	4,50	2,22	25.000	30.000	**6001**	14.0	26.0	0.3	0.0220
	32	10.0	0.6	6,10	3,10	22.000	27.000	**6201**	16.0	28.0	0.6	0.0370
	37	12.0	1.0	8,58	4,22	20.000	24.000	**6301**	17.0	32.0	1.0	0.0610
15	24	5.0	0.3	2,08	1,26	28.000	34.000	**61802**	17.0	22.0	0.3	0.0072
	28	7.0	0.3	4,33	2,25	24.000	30.000	**61902**	17.0	26.0	0.3	0.0155
	32	8.0	0.3	5,21	2,82	21.000	25.000	**16002**	17.0	30.0	0.3	0.0270
	32	9.0	0.3	5,21	2,82	21.000	25.000	**6002**	17.0	30.0	0.3	0.0300
	35	11.0	0.6	7,10	3,73	20.000	24.000	**6202**	19.0	31.0	0.6	0.0460
	42	13.0	1.0	10,40	5,41	28.000	21.000	**6302**	20.0	36.0	1.0	0.0850
17	26	5.0	0.3	2,22	1,46	24.000	30.000	**61803**	19.0	24.0	0.3	0.0080
	30.0	7.0	0.3	4,60	2,55	22.000	28.000	**61903**	19.0	28.0	0.3	0.1770
	35	8.0	0.3	5,73	3,22	20.000	24.000	**16003**	19.0	33.0	0.3	0.0320
	35	10.0	0.3	5,73	3,22	20.000	24.000	**6003**	19.0	33.0	0.3	0.0400
	40	12.0	0.6	9,26	4,82	28.000	21.000	**6203**	21.0	36.0	0.6	0.0730
	47	14.0	1.0	13,10	5,56	26.000	19.000	**6303**	23.0	41.0	1.0	0.1150



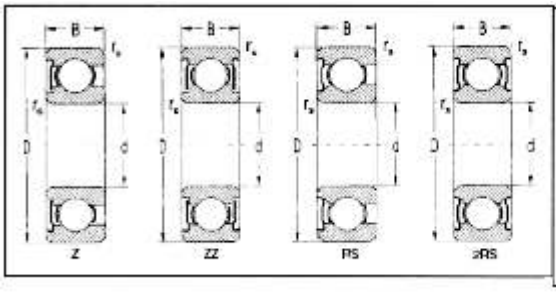
Medidas				Capac. Carga		Limite de Rotação		Rolamentos	Medidas			Massa
d	D	B	r_s	Dinam C	Estat Co	a graxa	a óleo	**Número**	d_a min	D_a max	r_a max	Peso
mm				KN		rpm			mm			Kg
	32	7.0	0.3	3,48	2,23	19.000	24.000	**61804**	22.0	30.0	0.3	0.0181
	37.0	9.0	0.3	6,38	3,65	18.000	22.000	**61904**	22.0	35.0	0.3	0.0377
20	42	8.0	0.3	9,37	4,97	17.000	20.000	**16004**	22.0	40.0	0.3	0.050
	42	12.0	0.6	9,37	4,97	17.000	20.000	**6004**	24.0	38.0	0.6	0.070
	47	14.0	1.0	12,77	6,55	15.000	18.000	**6204**	25.0	42.0	1.0	0.108
		15.0	1.1	15,89	7,81	14.000	17.000	**6304**	26.0	45.0	1.0	0.145
	44	12.0	0.6	9,40	5,10	17.000	20.000	**60/22**	26.0	40.0	0.6	0.0740
22	50	14.0	1.0	12,90	6,80	14.000	16.000	**62/22**	27.0	45.0	1.0	0.1170
	56	16.0	1.1	18,50	9,25	13.000	16.000	**63/22**	28.0	49.0	1.0	0.1770
	37	7.0	0.3	3,84	2,80	17.000	20.000	**61805**	27.0	35.0	0.3	0.0218
	42	9.0	0.3	7,32	4,56	16.000	19.000	**61905**	27.0	40.0	0.3	0.0433
	47	8.0	0.3	10,07	5,81	14.000	17.000	**16005**	27.0	43.0	0.3	0.530
25	47	12.0	0.6	10,07	5,81	14.000	17.000	**6005**	28.0	43.0	0.6	0.820
	52	15.0	1.0	14,29	7,94	12.600	15.000	**6205**	30.0	47.0	1.0	0.129
	62	17.0	1.1	21,12	10,81	11.000	13.000	**6305**	31.0	55.0	1.0	0.230
	80	21.0	1.5	36,00	19,20	9.400	11.000	**6405**	34.0	70.0	1.5	0.530
	52	12.0	0.6	10,70	6,63	14.000	16.000	**60/28**	32.0	48.0	0.6	0.1010
28	58	16.0	1.0	16,60	9,45	12.000	14.000	**62/28**	33.0	53.0	1.0	0.1740
	68	18.0	1.1	25,00	12,10	10.000	13.000	**63/28**	34.5	61.5	1.0	0.2920
	55	9.0	0.3	11,20	7,36	12.000	14.000	**16006**	32.0	53.0	0.3	0.087
	55	13.0	1.0	13,24	8,25	12.000	14.000	**6006**	34.0	50.0	1.0	0.119
30	62	16.0	1.0	19,44	11,19	11.000	13.000	**6206**	35.0	57.0	1.0	0.200
	72	19.0	1.1	29,70	16,78	10.000	12.000	**6306**	36.0	65.0	1.0	0.331
	90	23.0	1.5	43,00	23,70	8.400	10.000	**6406**	39.0	80.0	1.5	0.725
	58	13.0	1.0	13,30	8,40	12.000	14.000	**60/32**	37.0	53.0	1.0	0.1290
32	65	17.0	1.0	21,10	12,50	10.000	12.000	**62/32**	37.0	60.0	1.0	0.2310
	75	20.0	1.1	29,90	17,00	9.000	11.000	**63/32**	38.5	68.5	1.0	0.3920
	62	9.0	0.3	12,30	8,75	10.600	12.600	**16007**	37.0	60.0	0.3	0.111
	62	14.0	1.0	15,96	10,33	10.600	12.600	**6007**	39.5	57.0	1.0	0.154
35	72	17.0	1.1	25,66	15,20	9.400	11.000	**6207**	42.0	65.0	1.0	0.284
	80	21.0	1.5	33,37	19,30	8.400	10.000	**6307**	42.0	71.0	1.5	0.447
	100	25.0	1.5	55,20	31,00	7.500	8.900	**6407**	44.0	90.0	1.5	0.954
	68	9.0	0.3	12,67	9,62	9.400	11.000	**16008**	42.0	62.0	0.3	0.125
	68	15.0	1.0	16,82	11,50	9.400	11.000	**6008**	44.0	63.0	1.0	0.191
40	80	18.0	1.1	33,63	19,90	8.400	10.000	**6208**	47.0	73.0	1.0	0.349
	93	23.0	1.5	40,76	24,20	7.900	9.400	**6308**	47.0	81.0	1.3	0.625
	110	27.0	2.0	63,10	36,20	6.700	7.900	**6408**	50.0	97.0	2.0	1.123
	75	10.0	0.6	15,66	12,20	8.400	10.000	**16009**	49.0	71.0	1.0	0.170
	75	16.0	1.0	21,10	15,30	8.400	10.000	**6009**	49.0	70.0	1.0	0.241
45	85	19.0	1.1	32,68	20,30	7.900	9.400	**6209**	52.0	78.0	1.0	0.404
	100	25.0	1.5	52,80	31,70	7.100	8.400	**6309**	52.0	91.0	1.5	0.828
	120	29.0	2.0	76,50	44,70	6.000	7.100	**6409**	55.0	107.0	2.0	1.540



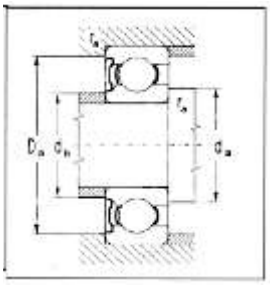
Medidas				Capac. Carga		Limite de Rotação		Rolamentos	Medidas			Massa
d	D	B	r_s	Dinam C	Estat Co	a graxa	a óleo	**Número**	d_a min	D_a max	r_a max	Peso
mm				KN		rpm			mm			Kg
	80	10.0	0.6	10,09	13,20	7.900	9.400	**16010**	54.0	76.0	0.6	0.188
	80	16.0	1.0	21,72	16,70	7.900	9.400	**6010**	54.0	75.0	1.0	0.260
50	90	20.0	1.1	35,06	23,30	7.100	8.400	**6210**	57.0	83.0	1.0	0.460
	110	27.0	2.0	61,75	37,80	6.300	7.500	**6310**	60.0	100.0	2.0	1.060
	130	31.0	2.1	87,40	52,10	5.600	6.700	**6410**	63.0	116.0	2.0	1.890
	90	11.0	0.6	19,30	26,20	7.100	8.400	**16011**	59.0	86.0	0.6	0.260
	90	18.0	1.1	28,22	21,40	7.100	8.400	**6011**	60.0	84.0	1.0	0.383
55	100	21.0	1.5	43,35	29,40	6.700	8.400	**6211**	62.0	91.0	1.5	0.597
	120	29.0	2.0	71,00	44,70	5.600	6.700	**6311**	65.0	110.0	2.0	1.380
	140	33.0	2.1	100,00	61,90	5.300	6.300	**6411**	68.0	126.0	2.0	2.290
	95	11.0	0.6	22,00	19,20	6.700	7.900	**16012**	64.0	91.0	0.6	0.285
	95	18.0	1.1	29,34	23,30	6.700	7.900	**6012**	65.0	88.0	1.0	0.410
60	110	22.0	1.5	52,85	35,80	6.000	7.100	**6212**	67.0	101.0	1.5	0.771
	130	31.0	2.1	81,50	52,10	5.300	6.300	**6312**	72.0	118.0	2.0	1.720
	150	35.0	2.1	110,00	69,40	4.700	5.600	**6412**	73.0	136.0	2.0	2.760
	100	11.0	0.6	21,20	19,60	6.300	7.500	**16013**	69.0	96.0	0.6	0.300
	100	18.0	1.1	30,50	25,10	6.300	7.500	**6013**	70.0	93.0	1.0	0.437
65	120	23.0	1.5	57,21	40,00	5.300	7.500	**6213**	72.0	111.0	1.5	0.993
	140	33.0	2.1	92,60	59,60	5.000	6.000	**6313**	76.0	128.0	2.0	2.100
	160	37.0	2.1	117,95	78,40	4.500	5.300	**6413**	78.0	146.0	2.0	3.280
	110	13.0	0.6	27,60	25,00	5.600	6.700	**16014**	74.0	106.0	0.6	0.433
	110	20.0	1.1	37,96	31,00	5.600	6.700	**6014**	75.0	103.0	1.0	0.604
70	125	24.0	1.5	62,00	44,00	5.300	6.300	**6214**	77.0	116.0	1.5	1.070
	150	35.0	2.1	104,00	63,00	4.700	5.600	**6314**	81.0	138.0	2.0	2.540
	180	42.0	3.0	144,00	104,00	4.000	4.700	**6414**	85.0	164.0	2.5	4.850
	115	13.0	0.6	28,70	26,60	5.300	6.300	**16015**	79.0	111.0	0.6	0.457
	115	20.0	1.1	39,75	33,20	5.300	6.300	**6015**	80.0	108.0	1.0	0.640
75	130	25.0	1.5	66,18	49,30	5.000	6.000	**6215**	82.0	122.0	1.5	1.180
	160	37.0	2.1	114,00	76,40	4.200	5.000	**6315**	86.0	148.0	2.0	3.060
	190	45.0	3.0	152,53	113,00	3.800	4.500	**6415**	90.0	174.0	2.5	5.740
	125	14.0	0.6	32,90	32,00	5.000	6.000	**16016**	84.0	121.0	0.6	0.597
	125	22.0	1.1	47,50	39,80	5.000	6.000	**6016**	85.0	118.0	1.0	0.845
80	140	26.0	2.0	72,20	52,00	4.700	5.600	**6216**	90.0	130.0	2.0	1.400
	170	39.0	2.1	122,85	86,30	4.000	4.700	**6316**	91.0	158.0	2.0	3.630
	200	48.0	3.0	163,57	125,00	3.500	4.200	**6416**	95.0	184.0	2.5	6.720
	130	14.0	0.6	34,10	33,00	4.700	5.600	**16017**	89.0	126.0	0.6	0.626
	130	22.0	1.1	49,79	43,00	4.700	5.600	**6017**	90.0	123.0	1.0	0.892
85	150	28.0	2.0	83,30	64,00	4.200	5.000	**6217**	95.0	140.0	2.0	1.800
	180	41.0	3.0	132,60	96,00	3.800	4.500	**6317**	98.0	166.0	2.5	4.200
	210	52.0	4.0	174,00	136,00	3.300	4.000	**6417**	105.0	190.0	3.0	7.880



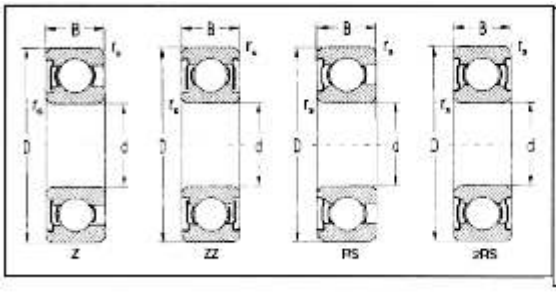
Medidas				Capac. Carga		Limite de Rotação		Rolamentos	Medidas			Massa
d	D	B	r_s	Dinam C	Estat Co	a graxa	a óleo	**Número**	d_a min	D_a max	r_a max	Peso
mm				KN		rpm			mm			Kg
90	140	24.0	1.5	59,00	49,00	4.500	5.300	**6018**	96.0	132.0	1.5	1.170
	160	30.0	2.0	96,00	71,00	4.000	4.700	**6218**	100.0	150.0	2.0	2.160
	190	43.0	3.0	144,00	108,00	3.500	4.200	**6318**	103.0	176.0	2.5	4.950
	225	54.0	4.0	192,00	158,00	3.200	3.800	**6418**	110.0	205.0	3.0	11.400
95	145	16.0	1.0	43,00	41,50	4.200	5.000	**16019**	100.0	140.0	1.0	0.89
	145	24.0	1.5	61,00	54,00	4.200	5.000	**6019**	102.0	137.0	1.5	1.22
	170	32.0	2.1	108,00	81,00	3.800	4.500	**6219**	107.0	158.0	2.0	2.60
	200	45.0	3.0	152,00	117,00	3.300	4.000	**6319**	109.0	186.0	2.5	5.72
100	150	16.0	1.0	44,00	43,00	4.200	5.000	**16020**	105.0	145.0	1.0	0.91
	150	24.0	1.5	60,00	52,00	4.200	5.000	**6020**	106.0	142.0	1.5	1.27
	180	34.0	2.1	123,00	92,60	3.500	4.200	**6220**	112.0	169.0	2.0	3.13
	215	47.0	3.0	174,00	141,00	3.200	3.800	**6320**	113.0	201.0	2.5	7.07
105	160	26.0	2.0	72,20	65,50	4.000	4.700	**6021**	113.0	151.0	2.0	1.59
	190	36.0	2.1	133,00	105,00	3.300	4.000	**6221**	117.0	178.0	2.0	3.74
	225	49.0	3.0	185,00	153,00	3.000	3.500	**6321**	119.0	211.0	2.5	8.00
110	170	19.0	1.0	58,00	56,00	3.800	4.500	**16022**	115.0	165.0	1.0	1.46
	170	28.0	2.0	82,50	72,00	3.800	4.500	**6022**	118.0	161.0	2.0	1.95
	200	38.0	2.1	144,00	117,00	3.200	3.800	**6222**	122.0	188.0	2.0	4.37
120	180	19.0	1.0	61,00	63,00	3.300	4.000	**16024**	125.0	175.0	1.0	1.80
	180	28.0	2.0	85,00	79,40	3.300	4.000	**6024**	128.0	171.0	2.0	2.10
	215	40.0	2.1	144,00	117,00	3.000	3.500	**6224**	132.0	203.0	2.0	5.15
130	200	33.0	2.0	107,00	99,70	3.200	3.800	**6026**	138.0	191.0	2.0	3.26
	230	40.0	3.0	153,00	133,00	2.800	3.300	**6226**	144.0	216.0	2.5	6.20
	280	58.0	4.0	229,00	216,00	2.200	2.800	**6326**	146.0	264.0	3.0	18,300
140	210	33.0	2.0	110,00	108,00	3.000	3.500	**6028**	148.0	200.0	2.0	3.39
	250	42.0	3.0	166,00	150,00	2.500	3.000	**6228**	154.0	236.0	2.5	7.56
	300	62.0	4.0	251,00	245,00	2.000	2.600	**6328**	156.0	284.0	3.0	22,000
150	225	35.0	2.1	126,00	126,00	2.700	3.200	**6030**	159.0	213.0	2.0	4,800
	270	45.0	3.0	190,00	182,00	2.200	2.700	**6230**	164.0	256.0	2.5	9,850
	320	65.0	4.0	276,00	285,00	1.900	2.400	**6330**	166.0	304.0	3.0	26,000
160	240	38	2.1	143,00	139,00	2.400	3.000	**6032**	171.0	229.0	2.0	6,410
	290	48	3.0	186,00	187,00	1.800	2.200	**6232**	173.0	277.0	2.5	14,600
	340	68	4.0	312,00	285,00	1.800	2.200	**6332**	176.0	324.0	3.0	29,000
170	260	42.0	2.1	168,00	172,00	2.200	2.700	**6034**	179.0	248.0	2.0	6,910
	310	52.0	4.0	212,00	224,00	1.900	2.400	**6234**	186.0	294.0	3.0	17,500
	360	72.0	4.0	312,00	340,00	1.700	2.000	**6334**	186.0	344.0	3.0	34,500



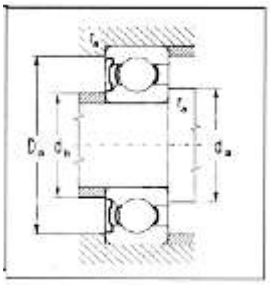
Medidas				Capac. Carga		Rolamentos			
d	D	B	r_s	Dinam C	Estat Co	Tipo Z	Tipo ZZ	Tipo RS	Tipo 2RS
mm				KN		**Número**			
3	10	4	0.15	0,490	0,216	**623Z**	**623ZZ**	**-**	**-**
4	13	5	0.20	0,900	0,414	**624Z**	**624ZZ**	**-**	**-**
	16	5	0.30	1,430	0,735	**634Z**	**634ZZ**	**-**	**-**
5	16	5	0.30	1,430	0,735	**625Z**	**625ZZ**	**-**	**-**
	19	6	0.30	2,210	1,160	**635Z**	**635ZZ**	**-**	**-**
6	19	6	0.30	2,120	1,160	**626Z**	**626ZZ**	**-**	**-**
7	19	6	0.30	2,200	1,160	**607Z**	**607ZZ**	**-**	**-**
	22	7	0.30	2,500	1,340	**627Z**	**627ZZ**	**-**	**-**
8	22	7	0.30	2,500	1,340	**608Z**	**608ZZ**	**608RS**	**608 2RS**
9	24	7	0.30	2,800	1,530	**609Z**	**609ZZ**	**609RS**	**609 2RS**
	26	8	0.30	3,550	1,930	**629Z**	**629ZZ**	**629RS**	**629 2RS**
10	26	8	0.30	3,910	1,960	**6000Z**	**6000ZZ**	**6000RS**	**6000 2RS**
	30	9	0.60	5,110	2,660	**6200Z**	**6200ZZ**	**6200RS**	**6200 2RS**
	35	11	0.60	6,810	3,410	**6300Z**	**6300ZZ**	**6300RS**	**6300 2RS**
12	28	8	0.30	4,500	2,240	**6001Z**	**6001ZZ**	**6001RS**	**6001 2RS**
	32	10	0.60	6,100	3,100	**6201Z**	**6201ZZ**	**6201RS**	**6201 2RS**
	37	12	1.00	8,580	4,220	**6301Z**	**6301ZZ**	**6301RS**	**6301 2RS**
15	32	9	0.30	5,210	2,820	**6002Z**	**6002ZZ**	**6002RS**	**6002 2RS**
	35	11	0.60	7,100	3,760	**6202Z**	**6202ZZ**	**6202RS**	**6202 2RS**
	42	13	1.00	10,400	5,410	**6302Z**	**6302ZZ**	**6302RS**	**6302 2RS**
17	35	10	0.30	5,730	3,220	**6003Z**	**6003ZZ**	**6003RS**	**9003 2RS**
	40	12	0.60	9,260	4,820	**6203Z**	**6203ZZ**	**6203RS**	**6203 2RS**
	47	14	1.00	13,100	6,560	**6303Z**	**6303ZZ**	**6303RS**	**6303 2RS**
20	42	12	0.60	9,440	5,010	**6004Z**	**6004ZZ**	**6004RS**	**6004 2RS**
	47	14	1.00	12,800	6,560	**6204Z**	**6204ZZ**	**6204RS**	**6204 2RS**
	52	15	1.10	16,000	7,940	**6304Z**	**6304ZZ**	**6304RS**	**6304 2RS**
25	47	12	0.60	10,000	5,840	**6005Z**	**6005ZZ**	**6005RS**	**6005 2RS**
	52	15	1.00	14,100	7,940	**6205Z**	**6205ZZ**	**6205RS**	**6205 2RS**
	62	17	1.10	20,700	11,100	**6305Z**	**6305ZZ**	**6305RS**	**6305 2RS**
28	52	12	0.60	10,700	6,630	**60/28Z**	**60/28ZZ**	**60/28RS**	**60/28 2RS**
	58	16	1.00	16,600	9,540	**62/28Z**	**62/28ZZ**	**62/28RS**	**62/28 2RS**
	68	18	1.10	25,000	12,100	**63/28Z**	**63/28ZZ**	**63/28RS**	**63/28 2RS**
30	55	13	1.00	13,250	8,250	**6006Z**	**6006ZZ**	**6006RS**	**6006 2RS**
	62	16	1.00	19,440	11,200	**6206Z**	**6206ZZ**	**6206RS**	**6206 2RS**
	72	19	1.10	20,700	15,700	**6306Z**	**6306ZZ**	**6306RS**	**6306 2RS**



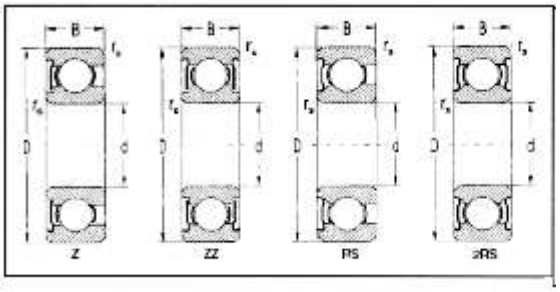
Limite de Rotação			Medidas					Massa
d	a graxa Z/ZZ	a graxa RS/2RS	a óleo Z	d_a max	d_b max	D_a max	r_a max	Peso
mm	rpm			mm				Kg
3	40.000	-	50.000	4.2	4.8	8.5	0.1	0.002
4	38.000	-	45.000	5.5	5.8	11.2	0.2	0.004
	35.000	-	42.000	6.2	6.5	13.4	0.3	0.005
5	35.000	-	42.000	7.0	7.0	14.0	0.3	0.006
	35.000	-	42.000	7.2	7.5	15.8	0.3	0.009
6	35.000	-	42.000	8.2	8.3	17.0	0.3	0.010
7	35.000	-	42.000	9.0	9.0	17.0	0.3	0.010
	35.000	-	42.000	9.2	9.8	19.5	0.3	0.012
8	35.000	24.000	42.000	10.0	10.0	20.0	0.3	0.015
9	35.000	24.000	42.000	11.0	12.0	22.0	0.3	0.018
	35.000	24.000	42.000	12.0	12.5	22.5	0.3	0.020
10	28.000	19.000	33.000	12.0	12.5	24.0	0.3	0.020
	25.000	17.000	30.000	14.0	14.4	26.0	0.6	0.032
	22.000	15.000	27.000	14.0	15.0	31.0	0.6	0.053
12	25.000	17.000	30.000	14.0	14.5	26.0	0.3	0.022
	22.000	15.000	27.000	16.0	16.5	28.0	0.6	0.037
	20.000	13.000	24.000	17.0	17.0	32.0	1.0	0.060
15	21.000	14.000	25.000	17.0	18.0	30.0	0.3	0.031
	20.000	13.000	24.000	19.0	19.5	31.0	0.6	0.045
	18.000	12.000	21.000	20.0	20.5	36.0	1.0	0.082
17	20.000	13.000	24.000	19.0	20.0	33.0	0.3	0.040
	18.000	12.000	21.000	21.0	21.4	36.0	0.6	0.065
	16.000	10.600	19.000	23.0	23.0	41.0	1.0	0.116
20	17.000	11.000	20.000	24.0	24.5	38.0	0.3	0.070
	15.000	10.000	18.000	25.0	25.5	42.0	0.6	0.108
	14.000	9.400	17.000	26.0	26.5	45.0	1.0	0.145
25	14.000	9.000	17.000	28.0	29.0	43.0	0.6	0.081
	12.500	8.500	15.000	30.0	30.5	47.0	1.0	0.128
	11.000	7.500	13.000	31.0	33.0	55.0	1.0	0.232
28	14.000	9.000	16.000	34.0	35.0	48.0	0.6	0.100
	12.000	8.000	14.000	35.0	36.0	53.0	1.0	0.170
	10.000	7.000	13.000	38.0	39.0	61.5	1.0	0.280
30	12.000	7.900	14.000	34.0	35.0	50.0	1.0	0.119
	11.000	7.500	13.000	35.0	36.7	57.0	1.0	0.201
	10.000	6.700	12.000	36.0	38.9	65.0	1.0	0.331



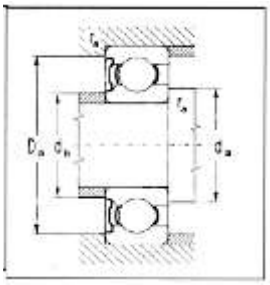
Medidas				Capac. Carga		Rolamentos			
d	D	B	r_s	Dinam C	Estat Co	Tipo Z	Tipo ZZ	Tipo RS	Tipo 2RS
mm				KN		**Número**			
	62	14	1.00	15,960	10,300	**6007Z**	**6007ZZ**	**6007RS**	**6007 2RS**
35	72	17	1.10	25,660	15,300	**6207Z**	**6207ZZ**	**6207RS**	**6207 2RS**
	80	21	1.50	33,370	19,300	**6307Z**	**6307ZZ**	**6307RS**	**6307 2RS**
	68	15	1.00	16,830	11,500	**6008Z**	**6008ZZ**	**6008RS**	**6008 2RS**
40	80	18	1.10	32,640	19,900	**6208Z**	**6208ZZ**	**6208RS**	**6208 2RS**
	90	23	1.50	40,760	24,100	**6308Z**	**6308ZZ**	**6308RS**	**6308 2RS**
	75	16	1.00	21,100	15,300	**6009Z**	**6009ZZ**	**6009RS**	**6009 2RS**
45	85	19	1.10	32,690	20,400	**6209Z**	**6209ZZ**	**6209RS**	**6209 2RS**
	100	25	1.50	52,810	31,700	**6309Z**	**6309ZZ**	**6309RS**	**6309 2RS**
50	80	16	1.00	21,720	16,700	**6010Z**	**6010ZZ**	**6010RS**	**6010 2RS**
	90	20	1.10	35,000	23,300	**6210Z**	**6210ZZ**	**6210RS**	**6210 2RS**
	110	27	2.00	62,000	37,800	**6310Z**	**6310ZZ**	**6310RS**	**6310 2RS**
55	90	18	1.10	28,300	21,400	**6011Z**	**6011ZZ**	**6011RS**	**6011 2RS**
	100	21	1.50	4,400	29,400	**6211Z**	**6211ZZ**	**6211RS**	**6211 2RS**
	120	29	2.00	71,000	44,700	**6311Z**	**6311ZZ**	**6311RS**	**6311 2RS**
	95	18	1.10	29,400	23,300	**6012Z**	**6012ZZ**	**6012RS**	**6012 2RS**
60	110	22	1.50	52,500	35,800	**6212Z**	**6212ZZ**	**6212RS**	**6212 2RS**
	130	31	2.10	81,200	52,100	**6312Z**	**6312ZZ**	**6312RS**	**6312 2RS**
	100	18	1.10	30,500	25,400	**6013Z**	**6013ZZ**	**6013RS**	**6013 2RS**
65	120	23	1.50	57,200	40,000	**6213Z**	**6213ZZ**	**6213RS**	**6213 2RS**
	140	33	2.10	92,600	59,600	**6313Z**	**6313ZZ**	**6313RS**	**6313 2RS**
	110	20	1.10	37,970	30,200	**6014Z**	**6014ZZ**	**6014RS**	**6014 2RS**
70	125	24	1.50	62,000	43,800	**6214Z**	**6214ZZ**	**6214RS**	**6214 2RS**
	150	35	2.10	104,000	68,100	**6314Z**	**6314ZZ**	**6314RS**	**6314 2RS**
	115	20	1.10	39,780	33,200	**6015Z**	**6015ZZ**	**6015RS**	**6015 2RS**
75	130	25	1.50	66,180	49,300	**6215Z**	**6215ZZ**	**6215RS**	**6215 2RS**
	160	37	2.10	104,000	76,400	**6315Z**	**6315ZZ**	**6315RS**	**6315 2RS**
	125	22	1.10	47,500	39,800	**6016Z**	**6016ZZ**	**6016RS**	**6016 2RS**
80	140	26	2.00	72,200	53,100	**6216Z**	**6216ZZ**	**6216RS**	**6216 2RS**
	170	39	2.10	122,850	86,300	**6316Z**	**6316ZZ**	**6316RS**	**6316 2RS**
	130	22	1.10	49,800	42,600	**6017Z**	**6017ZZ**	**6017RS**	**6017 2RS**
85	150	28	2.00	83,300	63,700	**6217Z**	**6217ZZ**	**6217RS**	**6217 2RS**
	180	41	3.00	132,600	96,000	**6317Z**	**6317ZZ**	**6317RS**	**6317 2RS**
	140	24	1.50	58,400	49,000	**6018Z**	**6018ZZ**	**6018RS**	**6018 2RS**
90	160	30	2.00	96,200	71,000	**6218Z**	**6218ZZ**	**6218RS**	**6218 2RS**
	190	43	3.00	143,000	104,000	**6318Z**	**6318ZZ**	**6318RS**	**6318 2RS**



Limite de Rotação				Medidas				Massa
d	a graxa Z/ZZ	a graxa RS/2RS	a óleo Z	d_a max	d_b max	D_a max	r_a max	Peso
mm	rpm			mm				Kg
35	10.500	7.100	12.600	39.5	39.5	57.0	1.0	0.154
	9.500	6.300	11.000	42.0	42.0	65.0	1.0	0.284
	8.500	5.600	10.000	42.0	44.0	71.0	1.5	0.447
40	9.500	6.300	11.000	44.0	46.0	63.0	1.0	0.191
	8.500	5.600	10.000	47.0	48.0	73.0	1.0	0.349
	8.000	4.700	9.400	47.0	50.6	81.0	1.5	0.625
45	8.500	5.600	10.000	49.0	51.5	70.0	1.0	0.241
	8.000	5.300	9.400	52.0	52.5	78.0	1.0	0.414
	7.100	4.700	8.400	52.0	56.0	91.0	1.5	0.828
50	8.000	4.300	9.400	54.0	56.5	75.0	1.0	0.260
	7.100	4.700	8.400	57.0	58.0	83.0	1.0	0.464
	6.300	4.200	7.500	60.0	61.8	100.0	2.0	1,060
55	7.100	4.700	8.400	60.0	62.5	84.0	1.0	0.383
	6.700	4.500	8.400	62.0	65.0	91.0	1.5	0.597
	5.600	3.800	6.700	65.0	67.0	110.0	2.0	1,380
60	6.700	4.500	7.900	65.0	68.0	88.0	1.0	0.411
	6.000	4.000	7.100	67.0	70.2	101.0	1.5	0.771
	5.300	3.500	6.300	72.0	75.0	118.0	2.0	1,720
65	6.300	4.200	7.500	70.0	73.0	93.0	1.0	0.437
	5.300	3.500	7.100	72.0	77.0	111.0	1.5	0.997
	5.000	3.300	6.600	76.0	78.0	128.0	2.0	2,100
70	5.600	3.800	7.600	75.0	78.0	103.0	1.0	0.604
	5.300	3.500	6.300	77.0	82.0	116.0	1.5	1,070
	4.700	3.200	5.600	81.0	85.0	138.0	2.0	2,540
75	5.300	3.500	6.300	80.0	83.0	108.0	1.0	0.640
	5.000	3.300	6.000	82.0	85.0	121.0	1.5	1,180
	4.200	2.800	5.000	91.0	99.0	158.0	2.0	3,620
80	5.000	3.300	6.000	85.0	90.0	118.0	1.0	3,060
	4.700	3.200	4.700	90.0	92.0	130.0	2.0	1,400
	4.000	4.500	4.700	91.0	99.0	158.0	2.0	3,620
85	4.700	6.000	5.600	90.0	95.0	123.0	1.0	0.892
	4.200	2.800	5.000	95.0	99.0	140.0	2.0	1,800
	3.800	4.300	4.500	98.0	103.0	166.0	2.5	4,260
90	4.500	3.000	5.300	97.0	100.0	132.0	1.5	1,170
	4.000	2.700	4.700	100.0	105.0	150.0	2.0	2,160
	3.400	2.500	4.200	103.0	108.0	176.0	2.5	5,150

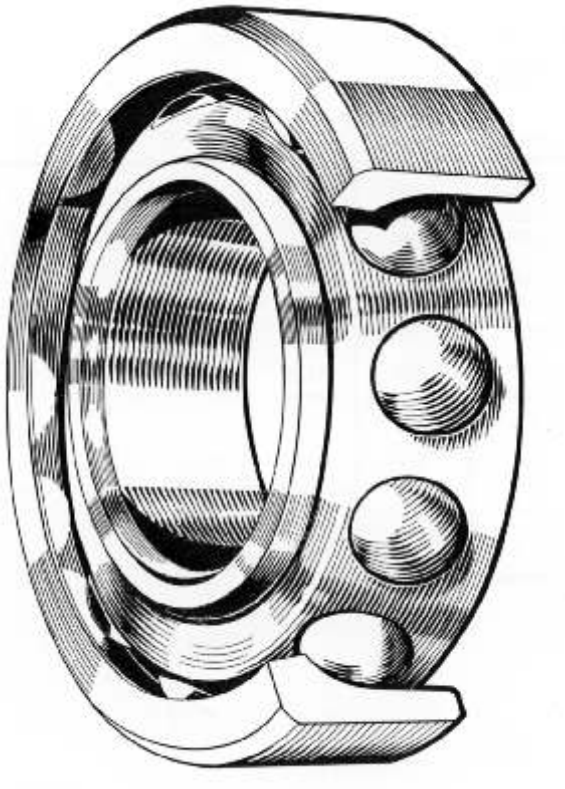


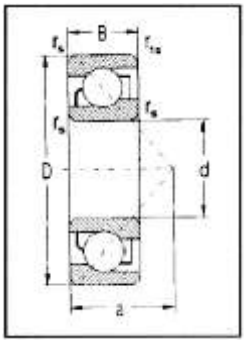
Medidas				Capac. Carga		Rolamentos			
d	D	B	r_s	Dinam C	Estat Co	Tipo Z	Tipo ZZ	Tipo RS	Tipo 2RS
mm				KN		**Número**			
100	150	24	1.50	60,000	54,000	**6020Z**	**6020ZZ**	**6020RS**	**6020 2RS**
	180	34	2.10	122,000	92,700	**6220Z**	**6220ZZ**	**6220RS**	**6220 2RS**
	215	47	3.00	173,000	140,000	**6320Z**	**6320ZZ**	**6320RS**	**6320 2RS**
105	160	26	2,00	69,800	61,200	**6021Z**	**6021ZZ**	**6021RS**	**6021 2RS**
	190	36	2,10	133,000	104,000	**6221Z**	**6221ZZ**	**6221RS**	**6221 2RS**
	225	49	3,00	182,000	153,000	**6321Z**	**6321ZZ**	**6321RS**	**6321 2RS**
110	170	28	2,00	75,100	67,300	**6022Z**	**6022ZZ**	**6022RS**	**6022 2RS**
	200	38	1,10	144,000	117,000	**6222Z**	**6222ZZ**	**6222RS**	**6222 2RS**
	240	50	3,00	203,000	180,000	**6322Z**	**6322ZZ**	**6322RS**	**6322 2RS**
120	180	28	2.00	85,000	79,400	**6024Z**	**6024ZZ**	**6024RS**	**6024 2RS**
	215	40	2.10	156,000	131,000	**6224Z**	**6224ZZ**	**6224RS**	**6224 2RS**
130	200	33	2.0	102,000	93,900	**6026Z**	**6026ZZ**	**6026RS**	**6026 2RS**
	230	40	3.0	156,000	132,000	**6226Z**	**6226ZZ**	**6226RS**	**6226 2RS**

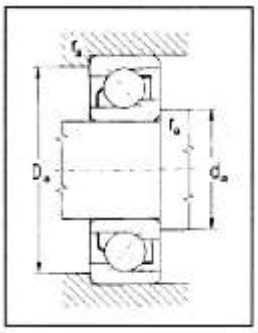


Limite de Rotação				Medidas				Massa
d	a graxa Z/ZZ	a graxa RS/2RS	a óleo Z	d_a max	d_b max	D_a max	r_a max	Peso
mm	rpm			mm				Kg
100	4.200	5.000	5.000	106.0	110.0	142.0	1.5	1,270
	3.400	2.400	4.000	111.0		169.0	2.0	3.150
	3.000	2.200	3.600	113.0		202.0	2.5	7.000
105	4.000	2.400	4.800	114.0		151.0	2.0	1,590
	3.200	2.200	3.800	116.0		179.0	2.0	3,700
	2.800	2.100	3.400	118.0		212.0	2.5	8,050
110	3.800	2.400	4.500	119.1		161.0	2.0	1,960
	3.000	2.000	3.600	121.0		189.0	2.0	4,450
	2.600	1.900	3.200	123.0		227.0	2.5	9,540
120	3.300	2.200	4.000	128.0	132.0	171.0	2.0	2,100
	2.800	1.900	3.400	131.0		204.0	2.0	5,260
130	3.200	2.000	3.800	139.0		191.0	2.0	3,150
	2.600	1.700	3.200	143.0		217.0	2.5	5,800

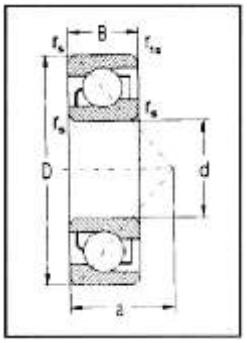
Rolamentos de uma carreira de esferas com contato angular

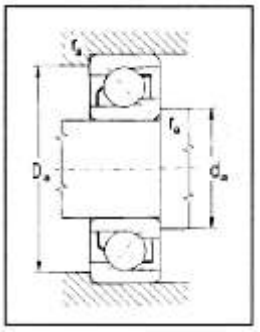






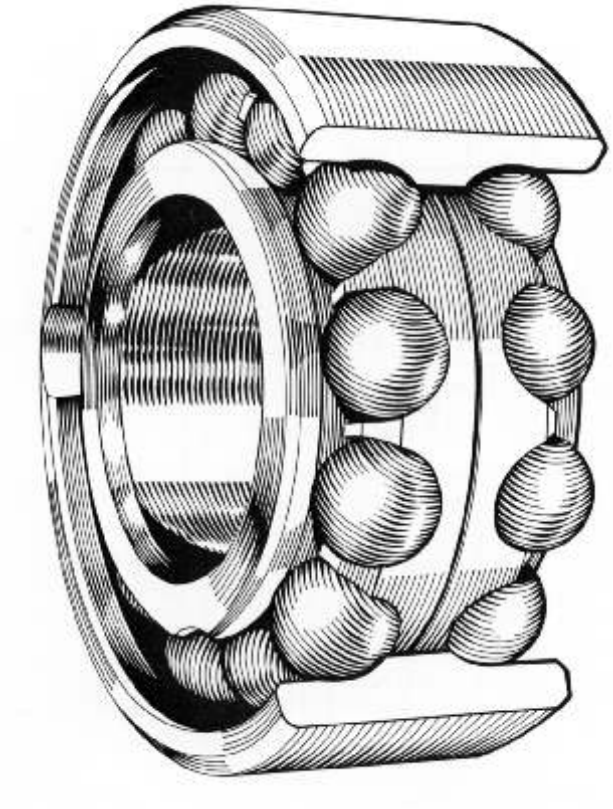
Medidas						Capac. Carga		Limite de Rotação		Rolamentos	Medidas			Massa
d	D	B	r_s min	r_{1s} min	a(40°)	Dinam C	Estat Co	a graxa	a óleo	**Número**	d_a min	D_a max	r_a max	Peso
mm						KN		mm			mm			Kg
10	26	8	0,30	0,15	6,40	5.300	2.490	33.000	46.000	**7000**	12,5	23,5	0,3	0,0220
	30	9	0,60	0,30	13,00	9.940	3.290	21.000	28.000	**7200**	14,5	25.5	0,6	0.0300
12	28	8	0,30	0,15	9,80	5.800	2.900	28.000	38.000	**7001**	14,5	25,5	0,3	0,0240
	32	10	0,60	0,30	14,00	7.500	3.760	19.000	26.000	**7201**	16,5	27.5	0,6	0.0370
15	32	9	0,30	0,15	11,30	6.100	3.450	24.000	32.000	**7002**	17,5	29,5	0,3	0,0340
	35	11	0,60	0,60	12,00	8.410	4.380	17.000	20.000	**7202**	19,0	31.0	0,6	0.0500
	42	13	1,00	0,60	18,00	13.100	6.560	14.000	17.000	**7302**	21,0	36.0	1,0	0.0800
17	35	10	0,30	0,15	12,50	6.400	3.800	22.000	30.000	**7003**	19,5	32,5	0,3	0,0400
	40	12	0,60	0,30	18,00	11.000	6.070	17.000	20.000	**7203**	21,0	36.0	0,6	0.0700
	47	14	1,00	0,60	20,00	16.200	8.250	12.600	15.000	**7303**	23,0	41.0	1,0	0.1070
20	42	12	0,60	0,30	14,90	10.800	6.600	18.000	24.000	**7004**	25,0	37,0	0,6	0,0670
	47	14	1,00	0,60	15,00	14.400	7.790	12.600	15.000	**7204**	25,0	42.0	1,0	0.1100
	52	15	1,10	0,60	23,00	18.800	10.400	13.000	16.000	**7304**	26,0	45.0	1,0	0.1430
25	47	12	0,60	0,30	16,00	11.400	7.500	16.000	21.000	**7005**	30,0	42,0	0,6	0,0760
	52	15	1,00	0,60	24,00	15.800	9.810	12.600	15.000	**7205**	30,0	47.0	1,0	0.1350
	62	17	1,10	0,60	27,00	24.280	14.700	9.400	11.000	**7305**	31,0	55.0	1,0	0.2400
30	55	13	1,00	0,60	19,00	14.000	10.000	13.000	17.000	**7006**	36,0	48,0	1,0	0,1150
	62	16	1,00	0,60	27,00	22.400	14.700	10.600	12.000	**7206**	36,0	56.0	1,0	0.2000
	72	19	1,10	0,60	30,60	30.800	19.200	8.000	11.000	**7306**	37,0	65,0	1,0	0,3500
35	62	14	1,00	0,60	21,20	18.200	13.300	11.500	15.000	**7007**	40,5	55,4	1,0	0,1520
	72	17	1,10	0,60	24,00	29.500	20.000	10.000	13.500	**7207**	41,6	64,5	1,0	0,2850
	80	21	1,50	1,00	35,00	33.900	24.200	7.100	8.400	**7307**	42,0	71.0	1,5	0.4800
40	68	15	1,10	0,60	14,50	20.500	16.000	14.000	19.500	**7008**	45,8	61,7	1,1	0,2100
	80	18	1,10	0,60	34,00	36.900	24.600	7.900	9.400	**7208**	47,0	73.0	1,0	0.3700
	90	23	1,50	1,00	27,00	48.200	33.500	6.300	7.500	**7308**	47,0	81.0	1,5	0.6600
45	75	16	1,10	0,60	16,00	24.200	19.200	13.500	18.000	**7009**	50,0	70,0	1,1	0,265
	85	19	1,10	0,60	25,50	39.800	29.300	6.300	7.500	**7209**	52,0	78.0	1,0	0.4250
	100	25	1,50	1,00	43,00	58.200	39.800	5.600	6.700	**7309**	52,0	91.0	1,5	0.8800
50	80	16	1,20	0,60	26,50	25.400	21.200	11.500	16.000	**7010**	55,7	73,8	1,1	0,2900
	90	20	1,10	0,60	27,00	41.400	32.200	6.000	7.100	**7210**	57,0	83.0	1,0	0.4800
	110	27	2,00	1,10	37,00	66.800	46.200	4.600	6.500	**7310**	59,0	98,0	2,0	1,1200

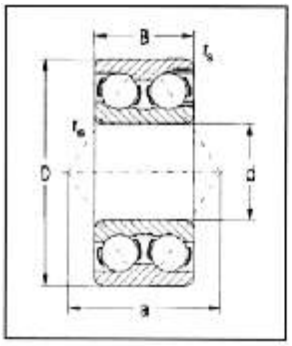


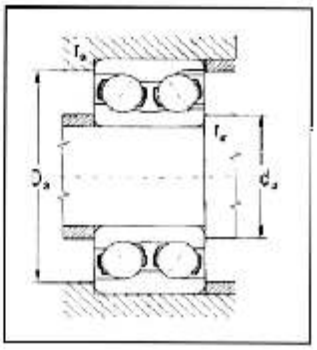


Medidas						Capac. Carga		Limite de Rotação		Rolamentos	Medidas			Massa
d	D	B	r_s min	r_{1s} min	a(40°)	Dinam C	Estat Co	a graxa	a óleo	**Número**	d_a min	D_a max	r_a max	Peso
mm						KN		mm			mm			Kg
55	90	18	1,20	0,70	29,00	32.000	27.000	7.200	10.500	**7011**	62,0	82,5	1,2	0,3900
	100	21	1,50	1,00	29,50	52.630	40.460	5.300	6.300	**7211**	62,0	91,0	1,5	0.6300
	120	29	2,00	1,00	51,00	78.740	56.380	4.700	5.600	**7311**	65,0	110,0	2,0	14.500
60	95	18	1,10	0,70	31,00	32.000	29.000	7.000	9.500	**7012**	66,0	88,0	1,0	0,4100
	110	22	1,50	1,00	32,00	63.400	50.630	5.000	6.000	**7212**	67,0	101,0	1,5	0.8000
	130	31	2,10	1,10	55,00	88.000	64.800	4.000	5.200	**7312**	70,0	115,0	2,0	1,7000
65	100	18	1,10	0,60	32,50	35.000	33.000	6.500	9.000	**7013**	71,0	93,0	1,0	0,4500
	120	23	1,50	1,00	34,00	70.800	59.600	4.500	5.300	**7213**	72,0	111,0	1,5	10.000
	140	33	2,10	1,10	41,00	110.000	84.100	4.000	4.700	**7313**	76,0	128,0	2,0	27.100
70	110	20	1,10	0,60	35,50	43.000	41.000	6.000	8.000	**7014**	76,0	102,0	1,0	0,6200
	125	24	1,50	1,00	53,00	64.900	57.300	4.200	5.000	**7214**	77,0	116,0	1,5	11.000
	150	35	2,10	1,10	44,50	123.000	96.200	3.800	4.500	**7314**	81,0	138,0	2,0	31.600
75	115	20	1,10	0,60	37,00	43.800	41.600	5.700	7.500	**7015**	81,0	106,0	1,0	0,6500
	130	25	1,50	1,00	56,00	71.000	61.900	4.200	5.000	**7215**	82,0	121,0	1,5	12.100
	160	37	2,10	1,10	68,00	127.620	96.420	3.300	4.000	**7315**	86,0	148,0	2,0	38.800
80	125	22	1,10	0,60	39,00	50,300	46,900	5.500	7.200	**7016**	87,0	118,0	1,0	0,855
	140	26	2,00	1,00	59,00	77,000	68,100	3.600	4.800	**7216**	90,0	130	2,0	1,500
	170	39	2,10	1,10	71,00	142,000	109,000	3.200	4.300	**7316**	92,0	158,0	2,0	3,810
85	150	28	2,00	1,00	63,00	82,000	73,600	3.400	4.500	**7217**	95,0	140,0	2,0	1,870
	180	41	3,00	1,10	76,00	146,000	122,000	3.000	4.000	**7317**	99,0	166,0	2,5	4,460
90	160	30	2,00	1,00	67,00	102,000	87,900	3.200	4.300	**7218**	100,0	150,0	2,0	2,250
	190	43	3,00	1,10	80,00	156,000	135,000	2.800	3.800	**7318**	104,0	176,0	2,5	5,220
95	170	32	2,10	1,10	71,50	124,000	108,000	3.000	4.000	**7219**	107,0	158,0	2,0	2,670
	200	45	3,00	1,10	84,00	178,000	163,000	2.600	3.600	**7319**	109,0	186,0	2,5	6,000
100	180	34	2,10	1,10	76,00	130,000	144,000	2.800	3.800	**7220**	112,0	168,0	2,0	3,290
	215	47	3,00	1,10	89,50	203,000	190,000	2.400	3.400	**7320**	114,0	201,0	2,5	7,320
105	190	36	2,10	1,10	80,00	148,000	137,000	2.600	3.600	**7221**	117,0	178,0	2,0	3,870
	225	49	3,00	1,10	93,50	212,000	208,000	2.200	3.200	**7321**	119,0	211,0	2,5	8,360
110	200	38	2,10	1,10	84,00	163,000	153,000	2.400	3.400	**7222**	122,0	188,0	2,0	4,540
	240	50	3,00	1,10	99,00	225,000	224,000	2.000	3.000	**7322**	124,0	226,0	2,5	9,800

Rolamentos de duas carreiras de esferas com contato angular

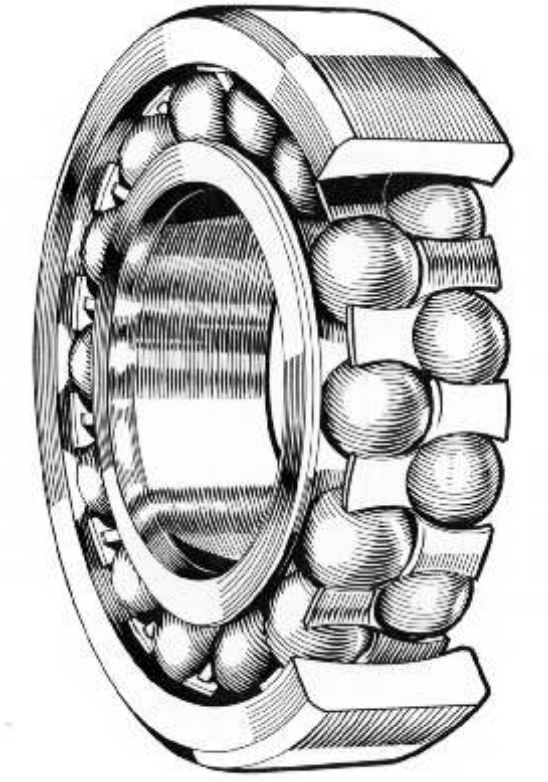


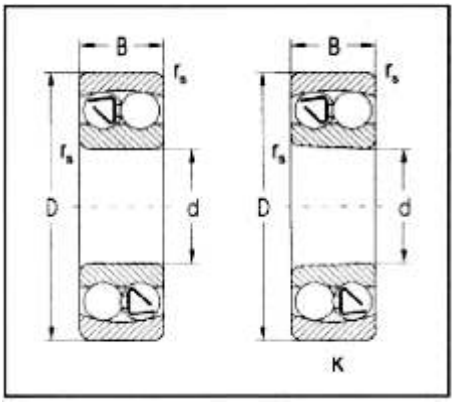




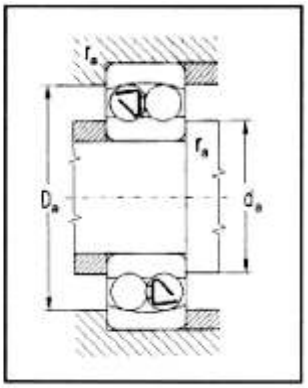
Medidas					Capac. de Carga		Limite de Rotação		Rolamentos	Medidas			Massa
d	D	B	r_s	a	Dinam C	Estat Co	a graxa	a óleo	**Número**	d_a min	D_a max	r_a max	Peso
mm					KN		rpm			mm			kg
10	30	14.3	0.60	20	8.410	5.840	16.000	19.000	**3200**	14	25	0.6	0.050
12	32	15.9	0.60	22	10.000	7.080	14.000	17.000	**3201**	16	27	0.6	0.060
15	35	15.9	0.60	23	9.440	7.500	13.000	16.000	**3202**	19	30	0.6	0.070
	42	19.0	1.00	27	15.800	11.900	10.600	12.600	**3302**	21	36	1.0	0.130
17	40	17.5	0.60	27	13.100	10.600	11.000	13.000	**3203**	21	35	0.6	0.100
	47	22.2	1.00	31	21.500	16.200	9.400	11.000	**3303**	23	41	1.0	0.190
20	47	20.6	1.00	31	18.100	15.000	9.400	11.000	**3204**	25	42	1.0	0.170
	52	22.2	1.10	34	21.500	18.500	8.400	10.000	**3304**	27	45	1.0	0.230
25	52	20.6	1.00	35	19.600	18.100	8.400	10.000	**3205**	30	46	1.0	0.190
	62	25.4	1.10	40	29.900	26.600	7.100	8.400	**3305**	32	55	1.0	0.370
30	62	23.8	1.00	41	28.200	27.100	7.100	8.400	**3206**	35	56	1.0	0.310
	72	30.2	1.10	47	39.800	36.200	6.000	7.100	**3306**	37	65	1.0	0.580
35	72	27.0	1.10	47	38.300	37.600	6.000	7.100	**3207**	41	65	1.0	0.480
	80	34.9	1.50	54	51.100	47.300	5.300	6.300	**3307**	44	71	1.5	0.780
40	80	30.2	1.10	52	43.800	43.800	5.300	6.300	**3208**	46	73	1.0	0.650
	90	36.5	1.50	58	54.000	59.600	4.700	5.600	**3308**	49	81	1.5	1.050
45	85	30.2	1.10	56	47.300	51.100	5.000	6.000	**3209**	51	78	1.0	0.700
	100	39.7	1.50	64	75.000	73.600	4.200	5.000	**3309**	54	91	1.5	1.410
50	90	30.2	1.10	59	54.100	58.400	4.500	5.300	**3210**	56	83	1.0	0.740
	110	44.4	2.00	73	90.900	96.200	3.800	4.500	**3310**	60	100	2.0	1.900
55	100	33.3	1.50	64	69.700	66.800	4.200	5.000	**3211**	62	91	1.5	1.050
	120	49.2	2.00	80	100.000	108.000	3.300	4.000	**3311**	65	110	2.0	2.480
60	110	36.5	1.50	71	75.000	85.800	3.800	4.500	**3212**	67	101	1.5	1.360
	130	54.0	2.10	86	117.000	128.000	3.200	3.800	**3312**	72	118	2.0	3.170
65	120	38.1	1.50	76	82.500	94.400	3.500	4.200	**3213**	72	111	1.5	1.760
	140	58.7	2.10	94	133.000	147.000	3.000	3.500	**3313**	77	128	2.0	4.010
70	125	39.7	1.50	81	79.400	98.100	3.200	3.800	**3214**	77	116	1.5	1.930
75	130	41.5	1.50	84	87.400	110.000	3.200	3.800	**3215**	82	121	1.5	2.080

Rolamentos oscilantes de esferas

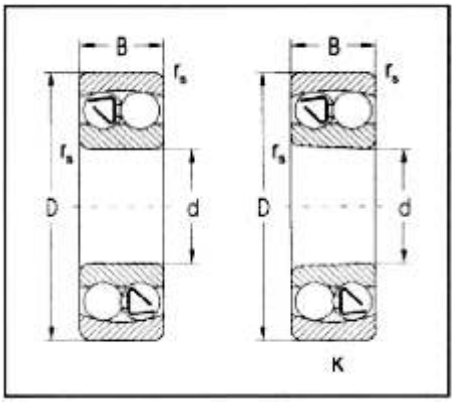




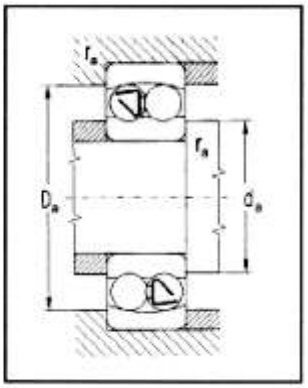
Medidas				Capac. de Carga		Limite de Rotação		Rolamentos	
d	D	B	r_s	Dinam C	Estat Co	a graxa	a óleo	**Número**	
mm				KN		rpm			
6	19	6.0	0.30	1.930	0.520	27.000	32.000	**126**	**-**
7	22	7.0	0.30	2.500	0,600	23.000	28.000	**127**	**-**
9	26	8.0	0.60	3.800	0.850	23.000	27.000	**129**	**-**
10	30	14.0	0.60	5.600	1.700	25.000	30.000	**2200**	**-**
12	32	10.0	0.60	4.300	1.460	24.000	28.000	**1201**	**-**
15	35	11.0	0.60	5.700	2.000	21.000	25.000	**1202**	**-**
	35	14.0	0.60	5.850	2.160	21.000	25.000	**2202**	**-**
17	40	12.0	0.60	7.930	2.030	17.000	20.000	**1203**	**-**
20	47	14.0	1.00	9.950	2.660	14.000	17.000	**1204**	**1204K**
25	52	15.0	1.00	12.100	3.350	12.600	15.000	**1205**	**1205K**
	52	18.0	1.00	12.400	3.480	12.600	15.000	**2205**	**2205K**
	62	24.0	1.10	24.200	6.560	10.000	12.000	**2305**	**2205K**
30	62	16.0	1.00	15.600	4.730	11.000	13.000	**1206**	**1206K**
	62	19.0	1.00	15.300	4.550	11.000	13.000	**2206**	**2206K**
	72	20.0	1.10	21.200	6.310	9.400	11.000	**1306**	**1306K**
	72	27.0	1.10	31.200	8.740	8.400	10.000	**2306**	**2306K**
35	72	17.0	1.10	15.900	5.110	9.400	11.000	**1207**	**1207K**
	72	23.0	1.10	21.600	6.680	9.400	11.000	**2207**	**2207K**
40	80	18.0	1.10	19.000	6.560	7.900	9.400	**1208**	**1208K**
	90	23.0	1.50	29.600	9.810	7.100	8.400	**1308**	**1308K**
	90	33.0	1.50	44.900	13.300	6.700	7.900	**2308**	**2308K**
45	85	19.0	1.10	21.600	7.360	7.500	8.900	**1209**	**1209K**
	85	23.0	1.10	23.400	8.100	7.500	8.900	**2209**	**2209K**
	100	25.0	1.50	37.700	12.800	6.300	7.500	**1309**	**1309K**
	100	36.0	1.50	54.000	16.500	6.000	7.100	**2309**	**2309K**
50	90	20.0	1.10	22.900	8.100	7.100	8.400	**1210**	**1210K**
	90	23.0	1.10	23.400	8.410	7.100	8.400	**2210**	**2210K**
	110	27.0	2.00	43.600	14.100	5.600	6.700	**1310**	**1310K**
55	100	21.0	1.50	26.500	10.000	6.300	7.500	**1211**	**1211K**
	100	25.0	1.50	26.500	10.000	6.300	7.500	**2211**	**2211K**
60	110	22.0	1.50	30.200	11.700	5.600	6.700	**1212**	**1212K**
	110	28.0	1.50	33.800	12.600	5.600	6.700	**2212**	**2212K**
	130	31.0	2.00	57.200	20.700	4.700	5.600	**1312**	**1312K**



Medidas				Massa		Buchas	Fatores			
d	d_a min	D_a max	r_a max	Peso (Kg)		Número	e	Y1	Y2	Yo
mm				Paralelo	Cônico					
6	8.2	17	0.3	0.009	-	-	0.340	1.900	2.900	2.000
7	9	20	0.3	0.012	-	-	0.360	2.300	3.100	2.200
9	13	22	0.6	0.020	-	-	0.380	2.400	3.100	2.200
10	14	26	0.6	0.047	-	-	0.650	1.000	1.500	1.000
12	16	18	0.6	0.040	-	-	0.340	1.900	2.900	2.000
15	19	31	0.6	0.049	-	-	0.330	1.900	2.900	2.000
	19	31	0.6	0.060	-	-	0.490	1.300	2.000	1.300
17	21	36	0.6	0.073	0.710		0.310	2.100	3.200	2.200
20	25	42	1.0	0.120	0.118	H204	0.270	2.300	3.600	2.400
25	30	47	1.0	0.141	0.138	H205	0.270	2.300	3.600	2.400
	30	47	1.0	0.163	0.158	H305	0.430	1.500	2.300	1.500
	31	55	1.0	0.335	0.327	H2305	0.470	1.300	2.100	1.400
30	35	57	1.0	0.220	0.216	H206	0.250	2.600	4.000	2.700
	35	57	1.0	0.260	0.254	H306	0.400	1.600	2.500	1.700
	36	65	1.0	0.387	0.381	H306	0.260	2.500	3.800	2.600
	36	65	1.0	0.500	0.489	H2306	0.440	1.400	2.200	1.500
35	42	65	1.0	0.323	0.317	H207	0.230	2.700	4.200	2.900
	42	65	1.0	0.403	0.396	H307	0.370	1.700	2.600	1.800
40	47	73	1.0	0.417	0.411	H208	0.220	2.900	4.400	3.000
	47	81	1.5	0.715	0.704	H308	0.240	2.600	4.100	2.700
	47	81	1.5	0.925	0.903	H2308	0.430	1.500	2.300	1.500
45	52	78	1.0	0.465	0.459	H209	0.210	3.000	4.600	3.100
	52	78	1.0	0.545	0.533	H309	0.310	2.100	3.200	2.200
	52	91	1.5	0.957	0.942	H309	0.250	2.500	3.900	2.700
	52	91	1.5	1.230	1.200	H2309	0.420	1.500	2.300	1.600
50	57	83	1.0	0.525	0.515	H210	0.200	3.100	4.900	3.300
	57	83	1.0	0.590	0.577	H310	0.290	2.200	3.400	2.300
	60	100	2.0	1.210	1.190	H310	0.240	2.700	4.100	2.800
55	62	91	1.5	0.705	0.693	H211	0.200	3.200	5.000	3.400
	62	91	1.5	0.810	0.792	H311	0.280	2.300	3.500	2.400
60	67	101	1.5	0.900	0.885	H212	0.190	3.400	5.300	3.600
	67	101	1.5	1.090	1.070	H312	0.280	2.300	3.500	2.400
	72	118	2.0	1.960	1.930	H312	0.230	2.800	4.300	2.900

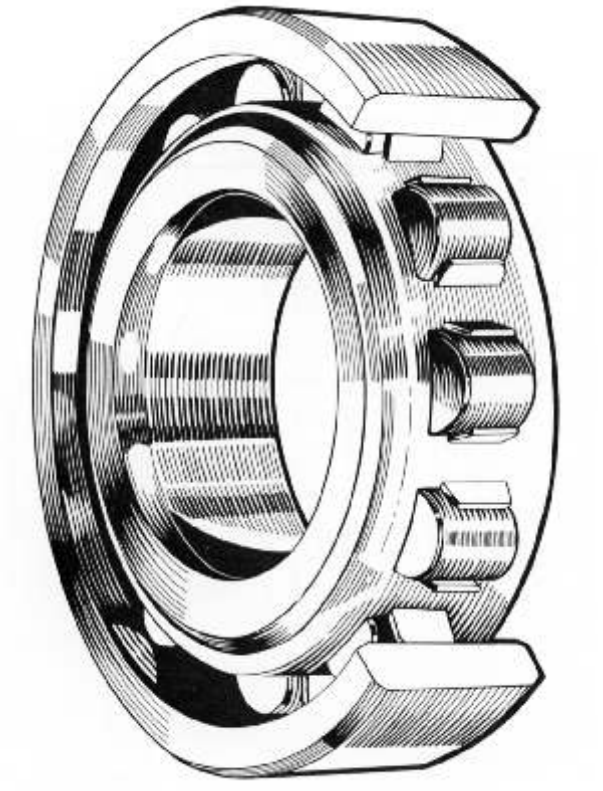


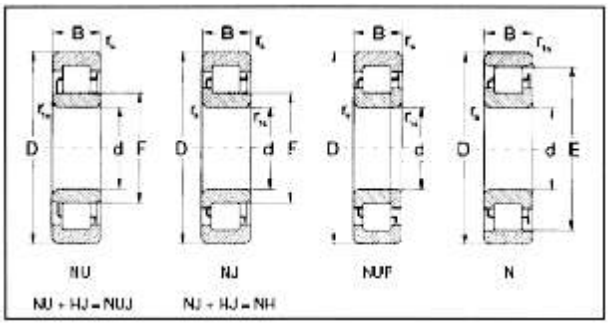
Medidas				Capac. de Carga		Limite de Rotação		Rolamentos	
d	D	B	r_s	Dinam C	Estat Co	a graxa	a óleo	**Número**	
mm				KN		rpm			
65	120	23	1.5	31.200	12.300	5,300	6,300	**1213**	**1213K**
	120	31	1.5	43.600	16.500	5,300	6,300	**2213**	**2213K**
70	125	31	1.5	44.200	17.100	5,000	6,000	**2214**	
	150	51	2.1	111.000	37.600	3,800	4,500	**2314**	
75	130	25	1.5	39.000	15.500	4,700	5,600	**1215**	**1215K**
	130	31	1.5	44.200	17.800	4,700	5,600	**2215**	**2215K**
	160	37	2.1	79.300	29.900	3,800	4,500	**1315**	**1315K**
	160	55	2.1	124.000	43.000	3,500	4,200	**2315**	**2315K**
80	140	26	2.0	39.700	16.800	4,500	5,300	**1216**	**1216K**
	140	33	2.0	48.800	20.000	4,500	5,300	**2216**	**2216K**
85	150	28	2.0	48.800	20.300	4,000	4,700	**1217**	**1217K**
	180	41	3.0	97.500	37.600	3,300	4,000	**1317**	**1317K**
	180	60	3.0	140.000	51.100	3,200	3,800	**2317**	**2317K**
90	160	30	2.0	57.200	23.300	3,800	4,500	**1218**	**1218K**
	160	40	2.0	70.200	28.700	3,800	4,500	**2218**	**2218K**
	190	64	3.0	153.000	57.300	3,000	3,500	**2318**	**2318K**
95	170	32	2.1	63.700	27.100	3,500	4,200	**1219**	**1219K**
	170	43	2.1	83.200	34.100	3,500	4,200	**2219**	**2219K**
	200	45	3.0	133.000	51.100	3,000	3,500	**1319**	**1319K**
	200	67	3.0	165.000	64.300	2,800	3,300	**2319**	**2319K**
100	180	34	2.1	68.900	29.300	3,300	4,000	**1220**	**1220K**
	180	46	2.1	97.500	40.600	3,300	4,000	**2220**	**2220K**
	215	47	3.0	143.000	58.400	2,800	3,300	**1320**	**1320K**
	215	73	3.0	190.000	77.900	2,700	3,200	**2320**	**2320K**
110	200	38	2.1	88.400	38.300	3,000	3,500	**1222**	**1222K**
	200	53	2.1	124.000	52.100	3,000	3,500	**2222**	**2222K**
	240	50	3.0	163.000	70.800	2,700	3,200	**1322**	**1322K**
	240	80	3.0	216.000	94.400	2,500	3,000	**2322**	**2322K**
120	215	42	2.1	119.000	52.100	2,800	3,300	**1224**	
130	230	46	3.0	126.000	59.600	2,700	3,200	**1226**	
140	250	50	3.0	159.000	72.200	2,500	3,000	**1228**	
150	270	54	3.0	171.000	85.800	2,400	2,800	**1230**	



Medidas				Massa		Buchas	Fatores			
d	d_a min	D_a max	r_a max	Peso (Kg)		Número	e	Y1	Y2	Yo
mm				Paralelo	Cônico					
65	72	111	1.5	1.150	1.130	H213	0.170	3.700	5.700	3.900
	72	11	1.5	1.460	1.430	H313	0.280	2.200	3.500	2.300
70	77	116	1.5	1.520	-	-	0.270	2.400	3.700	2.500
	81	138	2.0	3.900	-	-	0.380	1.700	2.600	1.800
75	82	121	1.5	1.360	1.340	H215	0.180	3.600	5.600	3.800
	82	121	1.5	1.620	1.580	H315	0.250	2.500	3.900	2.600
	86	148	2.0	3.560	3.510	H315	0.220	2.800	4.400	3.000
	86	148	2.0	4.720	4.610	H2315	0.380	1.700	2.600	1.700
80	90	130	2.0	1.670	1.640	H216	0.160	3.900	6.100	4.100
	90	130	2.0	2.010	1.970	H316	0.250	2.500	3.900	2.600
85	95	140	2.0	2.070	2.040	H217	0.170	3.700	5.700	3.900
	98	166	2.5	4.980	4.910	H317	0.220	2.900	4.500	3.000
	98	166	2.5	6.710	6.550	H2317	0.370	1.700	2.700	1.800
90	100	150	2.0	2.520	2.480	H218	0.170	3.800	5.800	3.900
	100	150	2.0	3.200	3.130	H318	0.270	2.400	3.600	2.500
	103	176	2.5	7.960	7.770	H2318	0.380	1.700	2.600	1.800
95	107	158	2.0	3.100	3.050	H219	0.170	3.700	5.700	3.900
	107	158	2.0	3.950	3.850	H319	0.270	2.400	3.600	2.500
	109	186	2.5	6.690	6.590	H319	0.230	2.800	4.300	2.900
	109	186	2.5	9.210	8.990	H2319	0.380	1.700	2.600	1.800
100	112	168	2.0	3.700	3.640	H220	0.170	3.600	5.600	3.800
	112	168	2.0	4.720	4.610	H320	0.270	2.400	3.600	2.500
	113	201	2.5	8.300	8,1900	H320	0.24	2.700	4.100	2.800
	113	201	2.5	11.700	11.400	H2320	0.380	1.700	2.600	1.700
110	122	188	2.0	5.150	5.070	H222	0.170	3.600	5.600	3.800
	122	188	2.0	6.840	6.680	H322	0.280	2.300	3.500	2.400
	124	226	2.5	11.800	11.700	H322	0.220	2.800	4.400	3.000
	124	226	2.5	17.300	16.900	H2322	0.370	1.700	2.700	1.800
120	120	203	2.0	6.750	-	-	0.190	3.300	5.100	3.400
130	144	216	2.5	8.300	-	-	0.190	3.300	5.000	3.400
140	154	236	2.5	10.900	-	-	0.200	3.100	4.800	3.300
150	164	256	2.5	13.800	-	-	0.190	3.200	5.000	3.400

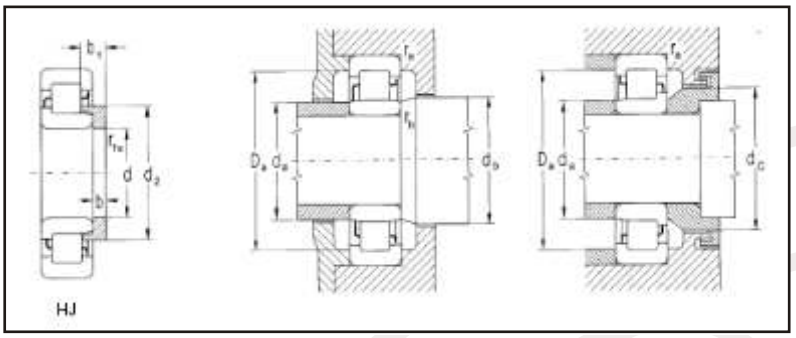
Rolamentos radiais de rolos cilíndricos



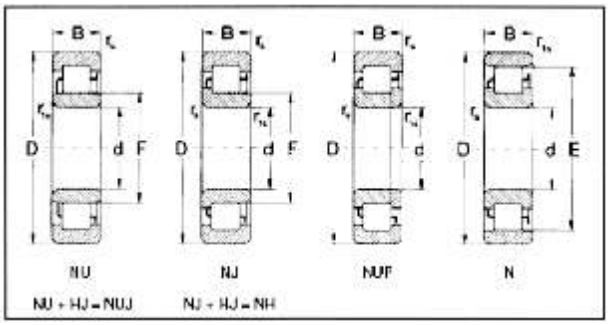


Rolamentos radiais de uma carreira de rolos cilíndricos

Medidas											Rolamentos				
d	D	B	r_s min	r_{1s} min	F	E	d_2 max	b	b_1	$s_{(1)}$	Tipos NU/NUJ	Tipos NJ/NH	Tipo NUP	Tipo N	Tipo NF
mm											**Número**				
20	47	14.0	1.00	0.6	27.0	40.0	30.0	3	6.75	1.4	**NU204**	**NJ204**	**NUP204**	**N204**	**NF204**
25	52	15.0	1.00	0.6	31.5	-	34.9	3	6.00	1.4	**NU205**	**NJ205**	**NUP205**	**N205**	
	52	18.0	1.00	0.6	31.5	-	-	-	-	1.6	**NU2205**	**NJ2205**	**NUP2205**		
	62	17.0	1.10	1.1	34.0	54.0	38.3	4	7.00	1.4	**NU305**	**NJ305**	**NUP305**	**N305**	**NF305**
	80	21.0	1.50	1.5	38.8	-	-	-	-	1.4	**NU405**	**NJ405**			
30	62	16.0	1.00	0.6	37.5	55.5	41.4	4	7.00	1.4	**NU206**	**NJ206**	**NUP206**	**N206**	**NF206**
	62	20.0	1.00	0.6	38.5	-	-	-	-	1.6	**NU2206**	**NJ2206**	**NUP2206**		
	72	19.0	1.10	1.1	40.5	-	45.1	5	8.50	1.4	**NU306**	**NJ306**	**NUP306**	**N306**	
	90	23.0	1.50	1.5	45.0	-	51.4	7	11.50	1.5	**NU406**	**NJ406**	**NUP406**		
35	72	17.0	1.10	0.6	44.0	-	48.3	4	7.00	1.4	**NU207**	**NJ207**	**NUP207**	**N207**	
	72	23.0	1.10	0.6	44.0	-	-	-	-	1.6	**NU2207**	**NJ2207**	**NUP2207**		
	80	21.0	1.50	1.1	46.2	-	51.2	6	9.50	1.4	**NU307**	**NJ307**	**NUP307**	**N307**	
	100	25.0	1.50	1.5	53.0	83.0	59.9	8	13.00	1.5	**NU407**	**NJ407**	**NUP407**	**N407**	**NF407**
40	80	18.0	1.10	1.1	49.5	-	54.1	5	8.50	1.4	**NU208**	**NJ208**	**NUP208**	**N208**	
	80	23.0	1.10	1.1	49.5	-	-	-	-	1.6	**NU2208**	**NJ2208**	**NUP2208**		
	90	23.0	1.50	1.5	52.0	80.0	57.7	7	11.00	1.4	**NU308**	**NJ308**	**NUP308**	**N308**	**NF308**
	90	33.0	1.50	1.5	52.0	-	-	-	-	2.9	**NU2308**	**NJ2308**	**NUP2308**		
	110	27.0	2.00	2.0	58.0	92.0	65.8	8	13.00	1.5	**NU408**	**NJ408**	**NUP408**	**N408**	**NF408**
45	85	19.0	1.1	1.1	54.50	-	59.1	5	8.50	1.4	**NU209**	**NJ209**	**NUP209**	**N209**	
	85	23.0	1.1	1.1	54.50	-	-	-	-	1.6	**NU2209**	**NJ2209**	**NUP2209**		
	100	25.0	1.5	1.5	58.50	-	64.6	7	11.50	1.4	**NU309**	**NJ309**	**NUP309**	**N309**	
	100	36.0	1.5	1.5	58.50	-	-	-	-	2.9	**NU2309**	**NJ2309**	**NUP2309**		
	120	29.0	2.0	2.0	64.50	100.5	72.8	8	13.50	1.5	**NU409**	**NJ409**	**NUP409**	**N409**	**NF409**
50	90	20.0	1.1	1.1	59.50	81.5	64.6	5	9.00	1.6	**NU210**	**NJ210**	**NUP210**	**N210**	**NF210**
	90	23.0	1.1	1.1	59.50	-	-	-	-	1.6	**NU2210**	**NJ2210**	**NUP2210**		
	110	27.0	2.0	2.0	65.00	97.0	71.4	8	13.00	1.5	**NU310**	**NJ310**	**NUP310**	**N310**	**NF310**
	110	40.0	2.0	2.0	65.0	-	-	-	-	3.0	**NU2310**	**NJ2310**	**NUP2310**		
	130	31.0	2.1	2.1	70.0	110.8	80.0	9	14.50	2.0	**NU410**	**NJ410**	**NUP410**	**N410**	**NF410**
55	100	21.0	1.5	1.1	66.0	-	71.0	6	9.50	1.6	**NU211**	**NJ211**	**NUP211**	**N211**	
	100	25.0	1.5	1.5	66.0	-	-	-	-	1.6	**NU2211**	**NJ2211**	**NUP2211**		
	120	29.0	2	2	70.5	106.5	77.7	9	14.00	1.5	**NU311**	**NJ311**	**NUP311**		**NF311**
	140	33.0	2.1	2.1	77.2	117.2	86.4	10	16.60	3.0	**NU411**	**NJ411**	**NUP411**	**N411**	**NF411**

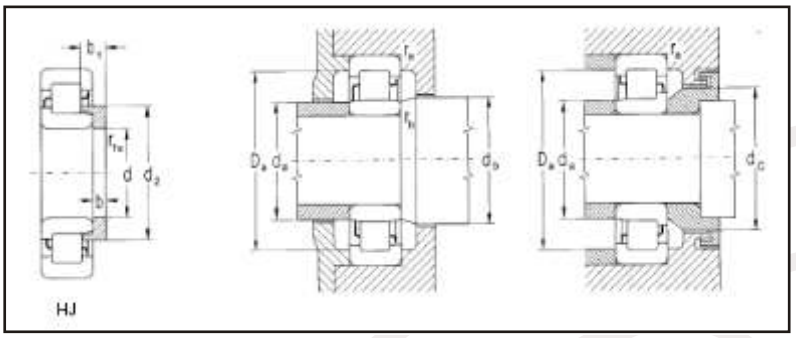


	Capac. Cargas		Limite de Rotação		Medidas							Peso	
d	Dinam C	Estat Co	a graxa	a óleo	d_a min	d_a max	d_b	**d_c**	D_a	r_a	r_b	Rols	Anel HJ
	KN		rpm		mm							Kg	
20	27,4	24,7	12.500	17.000	25	25.5	29	**32**	42	1.0	0.6	0.110	0.01
25	29,3	25,6	12.500	15.000	30	30	34	**37**	47	1.0	0.6	0.128	0.02
	34,8	34,6	12.000	14.000	30	30	34	**37**	47	1.0	0.6	0.500	-
	43,0	36,2	10.000	12.000	31	32	36	**39**	55	1.0	1.0	0.237	0.03
	43,8	34,1	8.500	10.000	32	38	39	**40**	73	1.0	1.0	0.565	-
30	39,1	35,5	10.500	12.500	35	37	40	**43**	57	1.0	0.6	0.198	0.03
	31,6	29,3	10.500	12.500	35	37	40	**44**	57	1.0	0.6	0.260	-
	53,1	46,4	8.500	10.000	36	37.5	43	**47**	65	1.0	1.0	0.357	0.04
	59,6	48,2	7.100	8.400	39	41	47	**53**	80	1.5	1.5	0.750	0.08
35	51,1	48,2	8.900	10.600	42	42	46	**50**	65	1.0	0.6	0.292	0.04
	64,3	64,2	8.900	10.600	42	42	46	**50**	65	1.0	0.6	0.385	-
	66,8	61,9	7.500	9.000	42	44	48	**53**	71	1.5	1.0	0.466	0.06
	75,0	64,3	6.300	7.500	49	52	55	**62**	90	1.5	1.5	1.000	0.13
40	54,1	50,1	7.900	9.500	47	47	51	**56**	73	1.0	1.0	0.380	0.05
	71,0	75,0	7.500	9.000	47	48	52	**56**	73	1.0	1.0	0.520	-
	84,1	77,9	6.700	8.000	47	50	54	**60**	81	1.5	1.5	0.829	0.08
	119,0	123,0	6.300	7.500	47	50	54	**60**	81	1.5	1.5	1.000	-
	92,6	79,4	5.600	6.700	50	55	60	**68**	97	2.0	2.0	1.300	0.14
45	61,9	60,7	7.500	9.000	52	53	57	**61**	78	1.0	1.0	0.450	0.05
	76,4	79,4	7.100	8.500	52	53	57	**61**	78	1.0	1.0	0.550	-
	102,0	98,0	6.000	7.000	52	56	60	**66**	91	1.5	1.5	0.890	0.10
	139,0	147,0	5.600	6.700	52	56	60	**66**	91	1.5	1.5	1.360	-
	104,0	90,9	5.300	6.300	55	62.7	66	**75**	107	2.0	2.0	1.650	0.18
50	64,3	65,6	6.700	8.000	57	57	61	**66**	83	1.0	1.0	0.490	0.06
	84,1	90,9	6.700	8.000	57	57	61	**66**	83	1.0	1.0	0.590	-
	117,0	114,0	5.300	6.300	60	63	67	**74**	100	2.0	2.0	1.130	0.14
	123,0	126,0	5.600	6.700	60	63	67	**74**	100	2.0	2.0	0.170	-
	139,0	114,0	4.700	5.600	63	68	73	**82**	116	2.0	2.0	2.000	0.23
55	85,8	91,0	6.300	7.500	62	64.5	68	**73**	91	1.5	1.0	0.660	0.08
	98,0	116,0	5.600	6.700	62	65	68	**73**	91	1.5	1.0	0.810	-
	137,0	142,0	4.700	5.600	65	67	72	**80**	110	2.0	2.0	1.900	-
	139,0	128,0	4.500	5.300	68	71	79	**88**	126	2.0	2.0	2.500	0.30

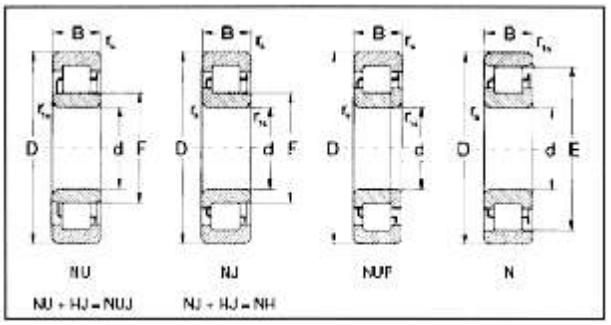


Rolamentos radiais de uma carreira de rolos cilíndricos

Medidas											Rolamentos				
d	D	B	r_s min	r_{1s} min	F	E	d_2 max	b	b_1	$s_{(1)}$	Tipos NU/NUJ	Tipos NJ/NH	Tipo NUP	Tipo N	Tipo NF
mm											**Número**				
	110	22.0	1.5	1.5	72.0	-	-	-	-	1.6	**NU212**	**NJ212**	**NUP212**	**N212**	
	110	28.0	1.5	1.5	72.0	-	-	-	-	1.6	**NU2212**	**NJ2212**	**NUP2212**		
60	130	31.0	2.1	2.1	77.0	113.0	85.3	9	15.50	1.5	**NU312**	**NJ312**	**NUP312**	**N312**	**NF312**
	130	46.0	2.1	2.1	77.0	-	-	-	-	4.5	**NU2312**	**NJ2312**	**NUP2312**		
	150	35.0	2.1	2.1	83.0	127.0	93.1	10	16.50	2.0	**NU412**	**NJ412**	**NUP412**	**N412**	**NF412**
	120	23.0	1.5	1.5	78.5	-	-	-	-	1.6	**NU213**	**NJ213**	**NUP213**	**N213**	
	120	31.0	1.5	1.5	79.6	-	-	-	-	1.6	**NU2213**	**NJ2213**	**NUP2213**		
65	140	33.0	2.1	2.1	82.5	124.5	90.7	10	15.50	1.5	**NU313**	**NJ313**	**NUP313**	**N313**	**NF313**
	140	48.0	2.1	2.1	82.5	-	-	-	-	4.5	**NU2313**	**NJ2313**	**NUP2313**		
	160	37.0	2.1	2.1	89.3	-	99.9	11	18.00	2.0	**NU413**	**NJ413**	**NUP413**		
	125	24.0	1.5	1.5	84.5	110.5	90.5	7	12.50	1.6	**NU214**	**NJ214**	**NUP214**	**N214**	**NF214**
	125	31.0	1.5	1.5	83.5	113.5	-	-	-	1.6	**NU2214**	**NJ2214**	**NUP2214**		
70	150	35.0	2.1	2.1	90.0	130.0	99.2	10	17.50	1.5	**NU314**	**NJ314**	**NUP314**	**N314**	**NF314**
	150	51.0	2.1	2.1	89.0	-	-	-	-	4.1	**NU2314**	**NJ2314**	**NUP2314**		
	180	42.0	3.0	3.0	100.0	152.0	112.0	12	20.00	2.0	**NU414**	**NJ414**	**NUP414**	**N414**	**NF414**
	130	25.0	1.5	1.5	88.5	-	-	-	-	1.6	**NU215**	**NJ215**	**NUP215**	**N215**	
	130	31.0	1.5	1.5	88.5	118.5	-	-	-	2.1	**NU2215**	**NJ2215**	**NUP2215**		
75	160	37.0	2.1	2.1	95.0	143.0	-	-	-	1.5	**NU315**	**NJ315**	**NUP315**	**N315**	**NF315**
	160	55.0	2.1	2.1	95.5	-	-	-	-	4.5	**NU2315**	**NJ2315**	**NUP2315**		
	190	45.0	3.0	2.0	104.5	160.5	117.0	13	21.50	2.0	**NU415**	**NJ415**	**NUP415**	**N415**	**NF415**
	125	22.0	1.1	1.0	91.5	-	-	-	-	1.2	**NU1016**				
	140	26.0	2.0	2.0	95.3	-	-	-	-	1.7	**NU216**	**NJ216**	**NUP216**	**N216**	
	140	33.0	2.0	2.0	95.3	-	-	-	-	2.5	**NU2216**	**NJ2216**	**NUP2216**		
80	170	39.0	2.1	2.1	101.0	-	-	-	-	0.6	**NU316**	**NJ316**	**NUP316**	**N316**	
	170	58.0	2.1	2.1	103.0	-	-	-	-	4.5	**NU2316**	**NJ2316**			
	200	48.0	3.0	3.0	110.0	170.0	123.8	13	22.00	2.0	**NU416**	**NJ416**	**NUP416**	**N416**	**NF416**
	130	22.0	1.1	1.1	96.5	-	-	-	-	2.0	**NU1017**				
	150	28.0	2.0	2.0	-	-	-	-	-	2.0	**NU217**	**NJ217**	**NUP217**	**N217**	
85	150	36.0	2.0	2.0	100.5	-	-	-	-	2.0	**NU2217**	**NJ2217**	**NUP2217**		
	180	41.0	3.0	3.0	108.0	160.0	-	-	-	2.0	**NU317**	**NJ317**	**NUP317**	**N317**	**NF317**
	210	52.0	4.0	4.0	113.0	-	127.7	14	24.00	2.5	**NU417**	**NJ417**	**NUP417**		

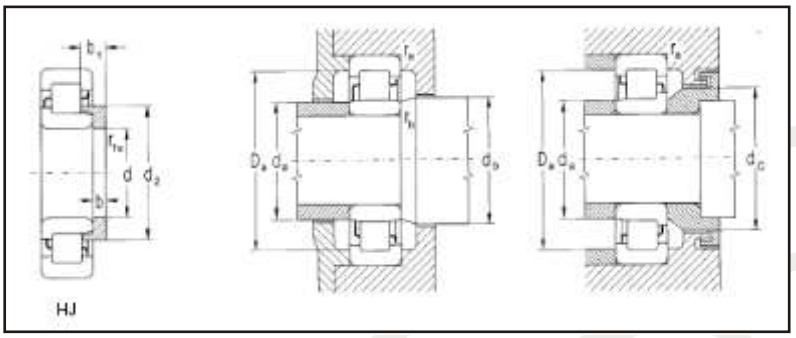


	Capac. Cargas		Limite de Rotação		Medidas							Peso	
d	Dinam C	Estat Co	a graxa	a óleo	d_a min	d_a max	d_b	**d_c**	D_a	r_a	r_b	Rols	Anel HJ
	KN		rpm		mm							Kg	
60	98,0	108,0	5.600	6.700	67	71	75	**80**	101	1.5	1.5	0.880	-
	133,0	161,0	5.300	6.300	69	69.5	74	**79**	101	1.5	1.5	1.170	-
	121,0	115,0	4.700	5.600	72	75	79	**87**	118	2.0	2.0	1.850	0.22
	168,0	175,0	4.700	5.600	72	75	79	**87**	118	2.0	2.0	2.700	-
	168,0	159,0	4.200	5.000	73	77	85	**95**	136	2.0	2.0	3.000	0.34
65	113,0	127,0	5.000	6.000	72	76	80	**86**	111	1.5	1.5	1.10	-
	149,0	180,0	4.700	5.600	72	76	80	**86**	111	1.5	1.5	1.50	-
	180,0	190,0	4.000	4.700	76	77	84	**93**	128	2.0	2.0	2.66	-
	247,0	288,0	4.000	4.700	76	77	84	**93**	128	2.0	2.0	3.46	-
	181,0	175,0	3.800	4.500	78	83	91	**101**	146	2.0	2.0	3.60	0.43
70	79,4	83,0	5.600	6.700	77	82	86	**92**	116	1.5	1.5	1.15	0.16
	162,0	205,0	4.500	5.300	77	82	86	**92**	116	1.5	1.5	1.53	-
	147,0	145,0	4.200	5.000	81	85	92	**101**	138	2.0	2.0	2.75	0.34
	282,0	310,0	3.800	4.500	81	84	91	**100**	138	2.0	2.0	4.21	-
	224,0	215,0	3.300	4.000	85	93	102	**114**	164	2.5	2.5	5.25	0.61
75	135,0	165,0	4.500	5.300	82	85	90	**96**	121	1.5	1.5	1.25	-
	168,0	220,0	4.500	5.300	82	85	90	**96**	121	1.5	1.5	1.62	-
	254,0	283,0	3.500	4.200	86	93	97	**107**	148	2.0	2.0	4.20	-
	266,0	287,0	3.800	4.500	86	93	97	**107**	148	2.0	2.0	4.85	-
	261,0	251,0	3.200	3.800	90	98	107	**119**	174	2.5	2.5	6.25	0.80
80	66,8	77,0	5.000	6.000	85	90	94	**-**	118	1.0	1.0	0.99	-
	139,1	167,0	4.200	5.000	90	92	97	**104**	130	2.0	2.0	1.64	-
	196,0	246,0	4.200	5.000	90	92	97	**104**	130	2.0	2.0	2.05	-
	251,0	275,0	3.300	4.000	99	97	105	**116**	158	2.0	2.0	4.10	-
	274,0	330,0	3.500	4.200	91	99	105	**116**	158	2.0	2.0	6.04	-
	299,0	295,0	3.000	3.500	95	105	112	**125**	184	2.5	2.5	7.30	0.80
85	71,0	90,0	4.700	5.600	90	95	99	**-**	123	1.0	1.0	1.05	-
	171,0	205,0	4.000	4.700	95	99	104	**111**	140	2.0	2.0	2.14	-
	220,0	260,0	3.800	4.500	95	98	103	**110**	140	2.0	2.0	2.52	-
	285,0	320,0	3.200	3.800	98	103	110	**121**	166	2.5	2.5	5.35	-
	362,0	360,0	3.000	3.500	105	108	115	**129**	190	3.0	3.0	8.70	0.89

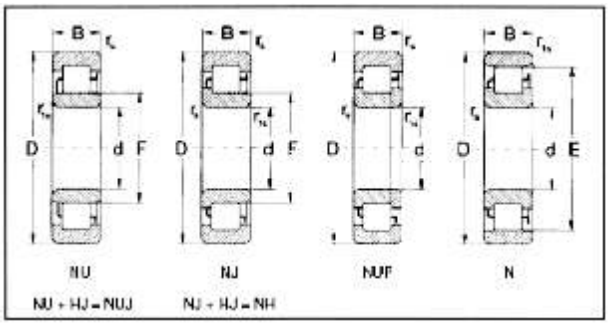


Rolamentos radiais de uma carreira de rolos cilíndricos

Medidas											Rolamentos				
d	D	B	r_s min	r_{1s} min	F	E	d_2 max	b	b_1	$s_{(1)}$	Tipos NU/NUJ	Tipos NJ/NH	Tipo NUP	Tipo N	Tipo NF
mm											Número				
90	160	30.0	2.0	2.0	107.0	-	-	-	-	2.0	NU218	NJ218	NUP218	N218	
	160	40.0	2.1	2.1	107.0	-	-	-	-	2.5	NU2218				
	190	43.0	3.0	3.0	113.5	-	124.2	12	18.50	2.0	NU318	NJ318	NUP318	N318	
	190	64.0	3.0	3.0	113.5	-	-	-	-	3.8	NU2318	NJ2318	NUP2318		
	225	54.0	4.0	4.0	123.5	-	139.1	14	24.00	2.5	NU418	NJ418	NUP418		
95	170	32.0	2.1	2.1	112.5	-	-	-	-	2.0	NU219	NJ219	NUP219	N219	
	170	43.0	2.1	2.1	112.5	-	-	-	-	3.0	NU2219	NJ2219	NUP2219		
	200	45.0	3.0	3.0	121.5	-	-	-	-	1.9	NU319	NJ319	NUP319	N319	
	240	55.0	4.0	4.0	133.5	-	-	-	-	2.5	NU419	NJ419	NUP419		
100	180	34.0	2.1	2.1	120.0	160.0	129.2	10	17.00	2.0	NU220	NJ220	NUP220	N220	NF220
	180	46.0	2.1	2.1	120.0	-	-	-	-	3.0	NU2220	NJ2220	NUP2220		
	215	47.0	3.0	3.0	129.5	185.5	142.4	13	22.50	2.0	NU320	NJ320	NUP320	N320	NF320
	215	73.0	3.0	3.0	127.5	-	-	-	-	4.9	NU2320	NJ2320	NUP2320		
	250	58.0	4.0	4.0	139.0	-	155.9	16	27.00	2.5	NU420	NJ420	NUP420		
105	190	36.0	2.1	2.1	126.0	174.0	-	-	-	2.0	NU221	NJ221	NUP221	N221	NF221
	225	49.0	3.0	3.0	135.0	195.0	148.8	13	22.50	4.5	NU321	NJ321	NUP321	N321	NF321
	260	60.0	4.0	4.0	144.5	-	162.0	16	27.00	2.5	NU421	NJ421	NUP421		
110	200	38.0	2.1	2.1	132.5	178.5	143.1	11	18.50	2.5	NU222	NJ222	NUP222	N222	NF222
	200	53.0	2.1	2.1	132.5	-	-	-	-	5.0	NU2222	NJ2222	NUP2222		
	240	50.0	3.0	3.0	143.0	-	-	-	-	2.9	NU322	NJ322	NUP322	N322	
	280	65.0	4.0	4.0	155.0	-	173.4	17	29.50	2.7	NU422	NJ422	NUP422		
120	180	28.0	2.0	1.1	135.0	-	-	-	-	2.0	NU1024				
	215	40.0	2.1	2.1	143.5	191.5	154.5	11	19.00	2.5	NU224	NJ224	NUP224	N224	NF224
	215	58.0	2.1	2.1	143.5	-	-	-	-	5.4	NU2224	NJ2224	NUP2224		
	260	55.0	3.0	3.0	154.0	-	170.5	14	23.50	2.7	NU324	NJ324	NUP324		
	260	86.0	3.0	3.0	154.0	-	-	-	-	6.4	NU2324	NJ2324	NUP2324		
	310	72.0	5.0	6.0	170.0	-	188.0	17	30.50	2.7	NU424	NJ424	NUP424		
130	200	33.0	2.0	1.1	148.0	-	-	-	-	2.0	NU1026				
	230	40.0	3.0	3.0	156.0	204.0	167.0	11	19.00	2.5	NU226	NJ226	NUP226	N226	NF226
	280	58.0	4.0	4.0	167.0	-	182.3	14	23.00	2.9	NU326	NJ326	NUP326		
140	250	42.0	3.0	3.0	169.0	221.0	181.0	11	19.00	2.5	NU228	NJ228	NUP228	N228	NF228
	300	62.0	4.0	4.0	180.0	-	198.4	15	26.00	2.7	NU328	NJ328	NUP328		
	300	62.0	4.0	4.0	180.0	-	-	-	-	9.2	NU2328	NJ2328	NUP2328		

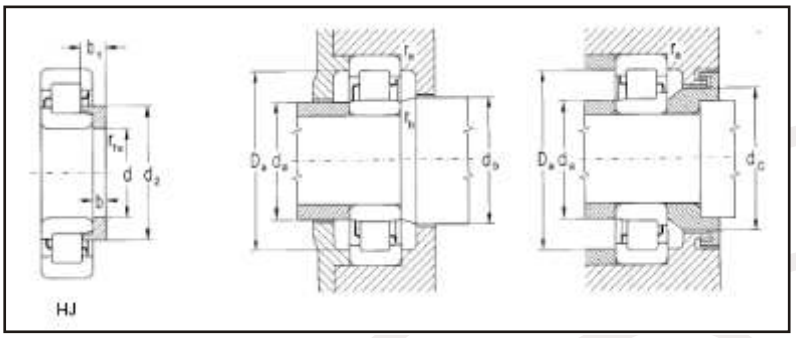


	Capac. Cargas		Limite de Rotação		Medidas							Peso	
d	Dinam C	Estat Co	a graxa	a óleo	d_a min	d_a max	d_b	**d_c**	D_a	r_a	r_b	Rols	Anel HJ
	KN		rpm		mm							Kg	
90	182,0	220,0	3.800	4.500	100	105	109	**117**	150	2.0	2.0	2.48	-
	204,0	260,0	3.500	4.200	100	105	109	**117**	150	2.0	2.0	3.30	-
	316,0	330,0	3.000	3.500	103	110	116	**127**	176	2.5	2.5	5.50	0.60
	430,0	525,0	2.800	3.300	103	111	117	**128**	176	2.5	2.5	8.20	-
	391,0	410,0	2.700	3.200	110	117	125	**140**	205	3.0	3.0	11.70	1.05
95	220,0	265,0	3.500	4.200	107	110	115	**123**	158	2.0	2.0	3.01	-
	286,0	370,0	3.300	4.000	107	111	116	**124**	158	2.0	2.0	4.05	-
	329,0	380,0	2.800	3.300	109	119	124	**135**	186	2.5	2.5	6.52	-
	430,0	448,0	2.500	3.000	115	125	136	**151**	220	3.0	3.0	13.50	-
100	178,0	205,0	3.500	4.200	112	117	122	**131**	168	2.0	2.0	3.40	0.45
	261,0	320,0	3.500	4.200	112	117	122	**131**	168	2.0	2.0	4.65	-
	299,0	310,0	2.800	3.300	113	125	132	**145**	201	2.0	2.0	7.70	0.91
	596,0	695,0	2.500	3.000	113	123	130	**144**	201	2.5	2.5	12.50	-
	473,0	500,0	2.400	2.800	120	130	141	**158**	230	3.0	3.0	14.00	1.55
105	286,0	350,0	3.100	3.800	117	122	129	**138**	178	2.0	2.0	4.17	-
	341,0	360,0	2.700	3.200	119	132	137	**150**	211	2.5	2.5	8.75	1.00
	531,0	560,0	2.200	2.700	125	135	147	**164**	240	3.0	3.0	19.00	1.65
110	237,0	270,0	3.200	3.800	122	125	135	**145**	188	2.0	2.0	4.65	0.62
	341,0	420,0	3.200	3.800	122	125	135	**145**	188	2.0	2.0	6.95	-
	447,0	490,0	2.400	2.800	124	135	145	**160**	226	2.5	2.5	11.00	-
	584,0	630,0	2.100	2.500	130	140	157	**175**	260	3.0	3.0	20.00	2.16
120	131,0	170,0	3.300	4.000	128	131	138	**-**	171	2.0	1.0	2.45	-
	261,0	300,0	3.000	3.500	132	138	146	**157**	203	2.0	2.0	5.65	0.72
	369,0	470,0	3.000	3.500	132	138	146	**157**	203	2.0	2.0	8.55	-
	447,0	470,0	2.400	2.800	134	145	156	**172**	246	2.5	2.5	13.00	1.40
	810,0	980,0	2.100	2.500	134	145	156	**172**	246	2.5	2.5	24.50	-
	736,0	810,0	1.900	2.200	144	155	172	**192**	286	4.0	4.0	28.00	2.60
130	162,0	200,0	3.200	3.800	138	143	151	**-**	191	2.0	1.0	3.75	-
	271,0	320,0	2.700	3.200	144	150	158	**169**	216	2.5	2.5	6.50	0.84
	619,0	695,0	2.000	2.400	148	155	169	**186**	262	3.0	3.0	17.00	1.65
140	310,0	370,0	2.500	3.000	154	160	171	**182**	236	2.5	2.5	8.25	1.00
	619,0	710,0	2.000	2.400	158	166	182	**198**	282	3.0	3.0	20.00	2.05
	909,0	1.230,0	2.000	2.400	158	166	182	**198**	282	3.0	3.0	36.70	-

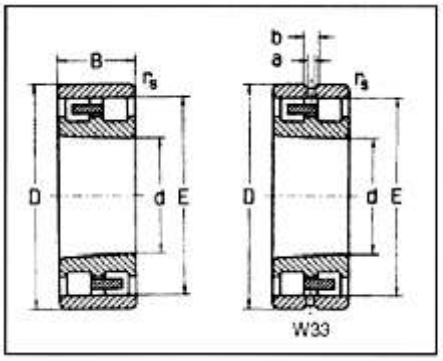


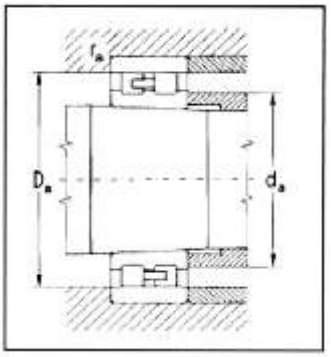
Rolamentos radiais de uma carreira de rolos cilíndricos

Medidas											Rolamentos				
d	D	B	r_s min	r_{1s} min	F	E	d_2 max	b	b_1	$s_{(1)}$	Tipos NU/NUJ	Tipos NJ/NH	Tipo NUP	Tipo N	Tipo NF
mm											Número				
150	225	35.0	2.1	1.5	169.5	-	-	-	-	2.0	NU1030				
	270	45.0	3.0	3.0	182.0	-	193.7	12	19.50	2.4	NU230	NJ230	NUP230		
	320	65.0	4.0	4.0	193.0	-	212.3	15	26.50	2.7	NU330	NJ330	NUP330		
160	290	48.0	3.00	3.0	195.0		207.4	12	20.00	2.5	NU232	NJ232	NUP232		
170	260	42.0	2.10	2.1	193.0		-	-	-	3.0	NU1034				
	310	52.0	4.00	4.0	207.0		228.8	12	20.00	2.9	NU234	NJ234	NUP234		
180	280	46.0	2.10	2.1	205.0		-	-	-	3.6	NU1036				
	320	52.0	4.00	4.0	217.0		230.8	12	20.00	2.9	NU236	NJ236	NUP236		
	320	86.0	4.00	4.0	218.0		230.5	12	29.00	6.9	NU2236	NJ2236	NUP2236		
200	310	51.0	2.10	2.1	229.0		-	-	-	4.2	NU1040	NJ1040			
	360	58.0	4.00	4.0	243.0		258.2	14	23.00	2.9	NU240	NJ240	NUP240		
220	340	56.0	3.00	3.0	250.0		-	-	-	4.1	NU1044				
240	360	56.0	3.00	3.0	270.0		-	-	-	4.1	NU1048	NJ248			
	440	72.0	5.00	5.0	295.0		-	-	-	4.0	NU248	NJ248			
	440	72.0	5.00	5.0	295.0		315.0	16	25.90	4.0	NUJ248	NH248			
260	400	65.0	4.00	4.0	296.0		-	-	-	2.0	NU1052	NUP1052			
	480	130.0	5.00	5.0	320.0		-	-	-	4.3	NU2252				
280	420	65.0	4.00	4.0	316.0		-	-	-	5.0	NU1056				
300	460	74.0	5.00	5.0	340.0		-	-	-	4.5	NU1060	NJ1060			
	460	74.0	5.00	5.0	340.0		357.6	19	36.00	4.5	NUJ1060	NH1060			
320	480	74.0	4.00	4.0	360.0		-	-	-	5.0	NU1064				
360	540	82.0	6.00	6.0	480.0		-	-	-	5.0	NU1072				
380	540	82.0	6.00	6.0	480.0		423.0	21	39.50	5.0		NH1072			
	560	82.0	5.00	5.0	425.0		-	-	-	6.0	NU1076				
400	600	90.0	5.00	5.0	450.0		470.0	19.6	42.60	5.0	NU1080	NJ1080			
	600	90.0	5.00	5.0	450.0		470.0	19.6	42.60	5.0	NUJ1080				
	600	148.0	5.00	5.0	450.0		-	-	-	5.0	NU3080				
	720	185.0	6.00	6.0	480.0		-	-	-	16.0	NU2280				
600	800	118.0	5.00	5.0	650.0		-	-	-	12.0	NU29/600		NUP29/600		
850	1120	155.0	8.00	8.0	925.0		-	-	-	15.0	NU29/850		NUP29/850		
900	1180	165.0	8.00	8.0	982.0		-	-	-	17.0	NU29/900		NUP29/900		
950	1250	175.0	10.00	10.0	1032.0		-	-	-	17.0	NU29/950		NUP29/950		
1000	1320	185.0	10.00	10.0	1090.0		-	-	-	17.0	NU29/1000		NUP29/1000		
1060	1400	195.0	10.00	10.0	1155.0		-	-	-	20.0	NU29/1060		NUP29/1060		
1180	1540	206.0	10.00	10.0	1280.0		-	-	-	21.0	NU29/1180		NUP29/1180		



	Capac. Cargas		Limite de Rotação		Medidas							Peso	
d	Dinam C	Estat Co	a graxa	a óleo	d_a min	d_a max	d_b	**d_c**	D_a	r_a	r_b	Rols	Anel HJ
	KN		rpm		mm							Kg	
150	192,0	250,0	2.700	3.200	159	165	173	**-**	213	2.0	1.5	4.85	-
	447,0	550,0	2.200	2.700	164	170	184	**196**	256	2.5	2.5	11.00	1.30
	681,0	780,0	1.900	2.200	168	185	195	**213**	302	3.0	3.0	27.00	2.37
160	511,0	630,0	2.000	2.400	174	180	197	**210**	276	2.5	2.5	14.7	1.50
170	276,0	375,0	2.200	2.700	179	190	197	**-**	248	2.0	2.0	7.9	-
	607,0	750,0	1.900	2.200	188	195	211	**223**	293	3.0	3.0	16.6	1.70
180	329,0	450,0	2.100	2.500	189	196	209	**-**	268	2.0	2.0	10.5	-
	631,0	795,0	1.800	2.100	198	207	220	**233**	302	3.0	3.0	19.5	1.80
	736,0	1.060,0	1.800	2.100	198	208	221	**233**	302	3.0	3.0	31.2	1.90
200	383,0	530,0	1.900	2.200	212	220	233	**-**	298	2.0	2.0	14.0	-
	779,0	1.000,0	1.500	1.800	218	227	246	**261**	342	3.0	3.0	28.4	2.70
220	501,0	695,0	1.700	2.000	234	240	254		326	2.5	2.5	18.5	-
240	531,0	765,0	1.600	1.900	254	260	275		346	2.5	2.5	20.0	-
	944,0	1.280,0	1.300	1.600	258	293	298	**316**	422	3.0	3.0	50.5	-
	944,0	1.280,0	1.300	1.600	258	293	298	**316**	422	3.0	3.0	50.5	4.68
260	643,0	960,0	1.400	1.700	278	280	300		382	3.0	3.0	29.0	-
	1760,0	2.900,0	1.100	1.400	280	309	324		460	4.0	4.0	90.0	-
280	681,0	1.020,0	1.300	1.600	296	311	320		404	3.0	3.0	32.5	-
300	891,0	1.310,0	1.200	1.400	318	325	344	**360**	442	3.0	3.0	43.6	-
	891,0	1.310,0	1.200	1.400	318	325	344	**360**	442	3.0	3.0	43.6	5.63
320	909,0	1.390,0	1.100	1.300	336	355	364		464	3.0	3.0	48.5	-
360	1076,0	1.750,0	950	1.100	382	390	410		518	4.0	4.0	67.5	-
380	1076,0	1.750,0	950	1.100	382	390	410	**427**	518	4.0	4.0	67.5	10.00
	1166,0	1.080,0	850	1.000	400	420	430		540	4.0	4.0	71.0	-
400	1470,0	2.330,0	840	1.000	422	435	455		578	4.0	4.0	89.0	10.50
	1470,0	2.330,0	840	1.000	422	435	455		578	4.0	4.0	89.0	-
	2255,0	4.900,0	500	910	422	435	456		578	4.0	4.0	150.5	-
	3410,0	5.960,0	710	840	426	460	485		694	5.0	5.0	350.0	-
600	2230,0	4.850,0	500	700	614	644	654	**675**	750	4.0	4.0	173.0	-
850	3760,0	8.700,0	380	450	878	920	930	**952**	1092	5.0	5.0	430.0	-
900	4220,0	9.800,0	300	400	928	977	987	**1011**	1152	5.0	5.0	500.0	-
950	4577,0	11.450,0	300	370	978	1027	1041	**1066**	1220	5.0	5.0	597.0	-
1000	4920,0	11.600,0	300	350	1036	1085	1095	**1122**	1284	6.0	6.0	720.0	-
1060	5410,0	12.800,0	280	330	1096	1150	1160	**1189**	1364	6.0	6.0	850.0	-
1180	6310,0	15.300,0	250	300	1216	1275	1285	**1316**	1504	6.0	6.0	1,050.0	-

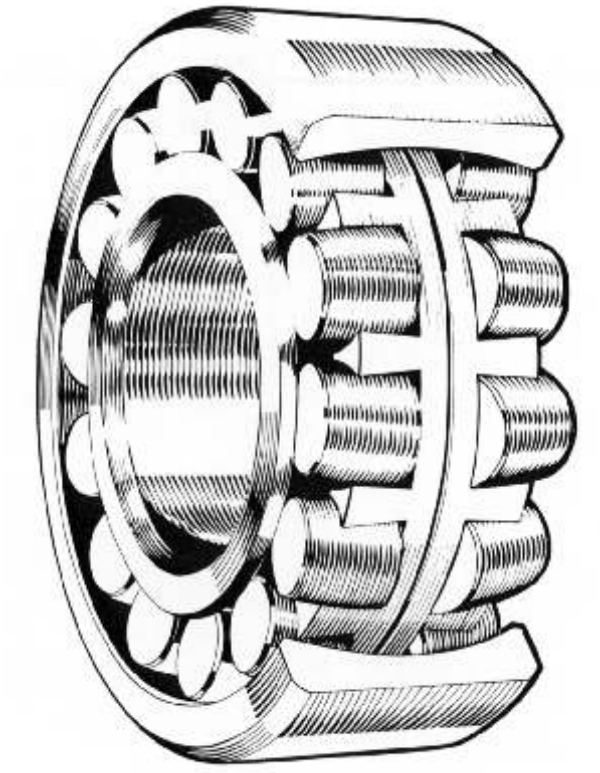


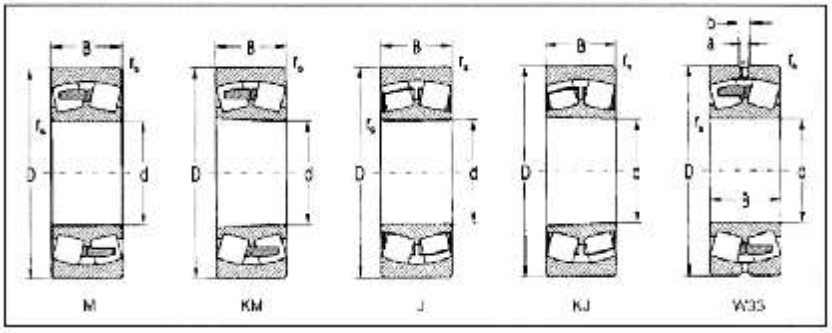


Rolamentos radiais de duas carreiras de rolos cilíndricos

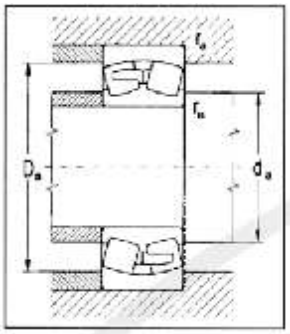
Medidas					Capac. Carga		Limite de Rotação		Rolamentos		Medidas			Massa/Peso	
d	D	B	r_s min	E	Dinam C	Estat Co	a graxa	a óleo	**Furo Cilíndrico**	**Furo Cônico**	d_a min	D_a max	r_a max	Furo Cilíndrico	Furo Cônico
mm					KN		rpm		**Número**		mm			Kg	
25	47	16	0,6	41,3	25,80	30,00	14.000	17.000	**NN3005**	**NN3005K**	29,0	42,0	0,6	0,130	0,126
30	55	19	1,0	48,5	30,00	35,00	12.000	14.000	**NN3006**	**NN3006K**	35,0	50,0	1,0	0,195	0,189
35	62	20	1,0	55,0	39,00	50,00	10.000	12.000	**NN3007**	**NN3007K**	40,0	56,0	1,0	0,247	0,240
40	68	21	1,0	61,0	42,50	55,00	8.500	10.000	**NN3008**	**NN3008K**	45,0	62,0	1,0	0,312	0,303
45	75	23	1,0	67,0	51,00	68,00	8.000	9.500	**NN3009**	**NN3009K**	50,0	69,0	1,0	0,400	0,392
50	80	23	1,0	72,0	53,00	72,00	7.500	9.000	**NN3010**	**NN3010K**	55,0	74,0	1,0	0,430	0,418
55	90	26	1,1	80,5	69,00	96,00	6.500	8.000	**NN3011**	**NN3011K**	61,0	83,0	1,0	0,640	0,625
60	95	26	1,1	86,0	73,00	105,00	6.400	7.500	**NN3012**	**NN3012K**	66,3	87,5	1,0	0,702	0,680
65	100	26	1,1	90,5	76,00	116,00	6.100	7.200	**NN3013**	**NN3013K**	71,2	93,1	1,0	0,750	0,732
70	110	30	1,1	100,0	97,00	147,00	5.500	6.600	**NN3014**	**NN3014K**	76,3	101,8	1,0	1,030	1,010
75	115	30	1,1	104,7	99,00	150,00	5.300	6.400	**NN3015**	**NN3015K**	81,6	106,9	1,0	1,120	1,090
80	125	34	1,1	112,9	118,00	185,00	4.900	6.100	**NN3016**	**NN3016K**	86,3	115,0	1,0	1,530	1,480
85	130	34	1,1	118,0	126,00	203,00	4.600	5.800	**NN3017**	**NN3017K**	91,4	119,8	1,0	1,620	1,550
90	140	37	1,5	127,0	145,00	230,00	4.500	5.200	**NN3018**	**NN3018K**	98,1	129,0	1,5	2,066	2,010
95	145	37	1,5	132,0	152,00	247,00	4.200	5.100	**NN3019**	**NN3019K**	103,2	133,9	1,5	2,158	2,090
100	150	37	1,5	137,0	158,00	266,00	4.100	5.000	**NN3020**	**NN3020K**	107,8	139,1	1,1	2,248	2,170
105	160	41	2,0	146,0	199,00	322,00	3.900	4.700	**NN3021**	**NN3021K**	114,1	148,2	2,0	2,853	2,770
110	170	45	2,0	155,0	230,00	376,00	3.500	4.400	**NN3022**	**NN3022K**	119,2	157,0	2,0	3,678	3,550
120	180	46	2,0	145,0	240,00	407,00	3.300	3.900	**NN3024**	**NN3024K**	129,0	166,9	2,0	4,020	3,850
130	200	52	2,0	181,0	285,00	475,00	3.150	3.700	**NN3026**	**NN3026K**	138,9	185,0	2,0	5,858	5,700
140	210	53	2,0	191,5	299,00	515,00	2.900	3.500	**NN3028**	**NN3028K**	149,1	195,1	2,0	6,420	6,180
150	225	56	2,0	205,0	337,00	588,00	2.700	3.300	**NN3030**	**NN3030K**	161,0	208,9	2,0	7,800	7,550

Rolamentos oscilantes de rolos esféricos

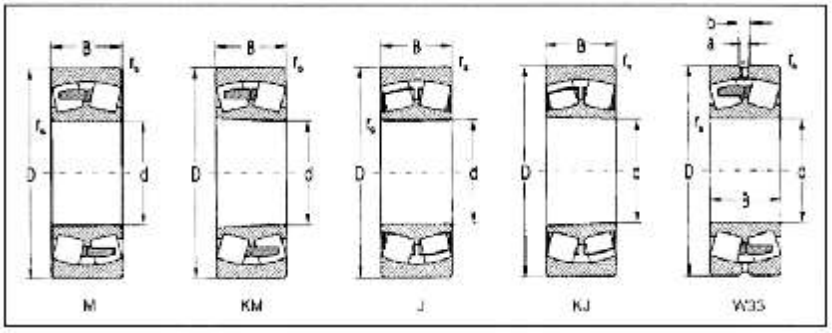




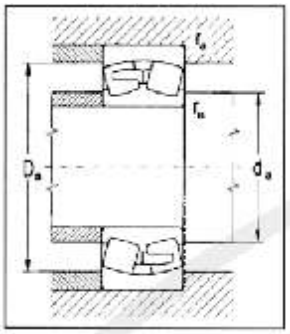
Medidas				Capac. Carga		Limite de Rotação		Rolamentos	
d	D	B	r_s min	Dinam C	Estat Co	a graxa	a óleo	Furo Cilíndrico	Furo Cônico
mm				KN		rpm		**Número**	
25	52	18	1.0	44	43	8.900	11.000	**22205**	**22205K**
	62	17	1.1	43	41	5.000	6.000	**21305**	**21305K**
30	62	20	1.0	58	61	7.500	9.500	**22206**	**22206K**
	72	19	1.1	55	54	4.500	6.000	**21306**	**21306K**
35	72	23	1.1	78	88	6.300	8.000	**22207**	**22207K**
	80	21	1.5	71	76	4.000	5.000	**21307**	**21307K**
40	80	23	1.1	90	100	6.000	7.500	**22208**	**22208K**
	90	23	1.5	87	92	8.500	9.000	**21308**	**21308K**
	90	33	1.5	100	108	4.000	4.700	**22308**	**22308K**
45	85	23	1.1	94	108	5.300	6.700	**22209**	**22209K**
	100	25	1.5	100	105	3.000	4.000	**21309**	**21309K**
	100	36	1.5	116	132	3.800	4.500	**22309**	**22309K**
50	90	23	1.1	101	118	5.000	6.300	**22210**	**22210K**
	110	27	2.0	116	125	2.700	3.600	**21310**	**21310K**
	110	40	2.0	156	180	3.300	4.000	**22310**	**22310K**
55	100	25	1.5	120	142	4.500	5.600	**22211**	**22211K**
	120	29	2.0	138	160	2.500	3.400	**21311**	**21311K**
	120	43	2.0	173	200	2.800	3.300	**22311**	**22311K**
60	110	28	1.5	140	174	4.000	5.000	**22212**	**22212K**
	130	31	2.1	160	190	2.400	3.200	**21312**	**21312K**
	130	46	2.1	232	263	2.800	3.600	**22312**	**22312K**
65	120	31	1.5	177	216	2.600	3.400	**22213**	**22213K**
	140	33	2.1	180	215	2.200	3.000	**21313**	**21313K**
	140	48	2.1	304	351	2.600	3.400	**22313**	**22313K**
70	125	31	1.5	189	239	3.600	4.500	**22214**	**22214K**
	150	35	2.1	215	255	2.000	2.600	**21314**	**21314K**
	150	51	2.1	316	370	2.400	3.000	**22314**	**22314K**
75	130	31	1.5	196	255	3.400	4.300	**22215**	**22215K**
	160	37	2.1	235	280	1.800	2.500	**21315**	**21315K**
	160	55	2.1	325	401	2.200	3.000	**22315**	**22315K**
80	140	33	2.0	224	295	3.200	4.000	**22216**	**22216K**
	170	39	2.1	260	315	1.700	2.300	**21316**	**21316K**
	170	58	2.1	380	458	2.000	2.800	**22316**	**22316K**



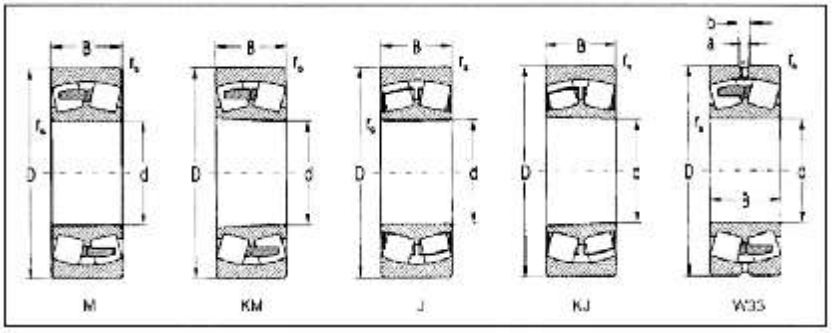
Medidas				Peso		Buchas			Fatores			
d	d_a min	D_a max	r_a max	Cilíndrico	K	Bucha	Arruela	Porca	e	y_1	y_2	y_0
mm				Kg		**Números**						
25	30	47	1.0	0.160	0.160	H305	-	KM5	0.34	2.00	3.00	2.00
	32	50	1.0	0.250	0.250				0.29	2.60	3.40	2.30
30	35	57	1.0	0.250	0.250	H306	-	KM6	0.31	2.10	3.20	2.10
	37	59	1.0	0.380	0.380				0.28	2.40	3.50	2.20
35	42	65	1.0	0.420	0.420	H307	-	KM7	0.31	2.20	3.30	2.10
	44	67	1.5	0.510	0.510				0.27	2.30	3.50	2.30
40	47	73	1.0	0.490	0.480	H308	AH308	KM9	0.27	2.50	3.70	2.40
	49	76	1.5	0.710	0.710				0.26	2.50	3.8	2.60
	47	81	1.5	1.030	0.980	H2308	AH2308	KM9	0.42	1.60	2.40	1.60
45	52	78	1.0	0.540	0.530	H309	AH309	KM10	0.26	2.60	3.90	2.60
	54	84	1.5	0.950	0.930				0.26	2.60	3.90	2.60
	52	91	1.5	1.400	1.370	H2309	AH2309	KM10	0.42	1.60	2.40	1.60
50	57	83	1.2	0.570	0.560	H310	AH310X	KM11	0.24	2.80	4.20	2.80
	60	93	2.0	1.300	1.270				0.26	2.70	3.8	2.70
	60	100	2.0	1.900	1.860	H2310	AH2310X	KM11	0.42	1.60	2.40	1.60
55	62	91	1.5	0.780	0.760	H311	AH311X	KM12	0.23	2.90	4.40	2.90
	65	102	2.0	1.620	1.600				0.25	2.70	4.00	2.60
	65	110	2.0	2.400	2.350	H2311	AH2311X	KM12	0.42	1.60	2.40	1.60
60	67	101	1.5	1.070	1.050	H312	AH312X	KM13	0.24	2.80	4.20	2.80
	72	112	2.0	2.000	1.980				0.25	2.60	4.00	2.60
	72	118	2.0	2.800	2.700	H2312	AH2312X	KM13	0.41	1.60	2.35	1.55
65	72	111	1.5	1.440	1.420	H313	AH313	KM15	0.24	2.90	4.20	2.80
	77	120	2.0	2.470	2.450				0.25	2.60	4.10	2.60
	76	128	2.0	3.500	3.400	H2313	AH2313	KM15	0.38	1.80	2.54	1.67
70	77	116	1.5	1.610	1.570	H314	AH314	KM16	0.23	2.93	4.23	2.79
	82	128	2.0	2.990	2.970				0.23	2.80	4.20	2.70
	81	138	2.0	4.200	4.100	H2314	AH2314X	KM16	0.37	1.80	2.60	1.72
75	82	121	1.5	1.700	1.660	H315	AH315	KM17	0.22	3.11	4.49	2.97
	87	136	2.0	3.600	3.580				0.23	2.80	4.20	2.70
	86	148	2.0	5.500	5.400	H2315	AH2315X	KM17	0.38	1.761	2.60	1.67
80	90	130	2.0	2.100	2.000	H316	AH316	KM18	0.21	3.20	4.62	3.05
	92	145	2.0	4.300	4.200				0.22	2.80	4.30	2.80
	91	158	2.0	6.400	6.200	H2316	AH2316X	KM18	0.37	1.84	2.766	1.755



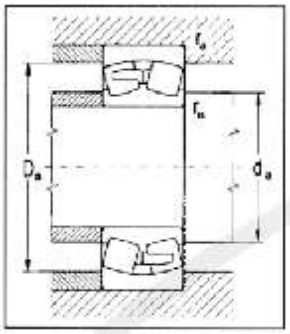
Medidas				Capac. Carga		Limite de Rotação		Rolamentos	
d	D	B	r_s min	Dinam C	Estat Co	a graxa	a óleo	Furo Cilíndrico	Furo Cônico
mm				KN		rpm		**Número**	
85	150	36	2.0	260	337	3.000	3.800	**22217**	**22217K**
	180	41	3.0	290	360	1.700	2.200	**21317**	**21317K**
	180	60	3.0	403	489	1.900	2.600	**22317**	**22317K**
90	160	40	2.0	308	406	2.600	3.400	**22218**	**22218K**
	160	52.4	2.0	326	452	1.900	2.600	**23218**	**23218K**
	190	43	3.0	320	400	1.500	2.100	**21318**	**21318K**
	190	64	3.0	465	566	1.800	2.400	**22318**	**22318K**
95	170	43	2.1	346	464	2.400	3.200	**22219**	**22219K**
	200	45	3.0	325	430	1.600	2.100	**21319**	**21319K**
	200	67	3.0	502	611	1.800	2.400	**22319**	**22319K**
100	150	37	2.0	190	294	2.400	3.200	**23020**	**23020K**
	165	52	2.0	340	510	1.600	2.100	**23120**	**23120K**
	165	65	2.0	382	580	1.500	2.000	**24120**	**24120K30**
	180	46	2.1	379	510	2.200	3.000	**22220**	**22220K**
	180	60.3	2.1	417	580	1.700	2.200	**23220**	**23220K**
	215	73	3.0	583	715	1.700	2.200	**22320**	**22320K**
110	170	45	2.0	267	407	2.200	3.000	**23022**	**23022K**
	180	56	2.0	393	609	1.900	2.600	**23122**	**23122K**
	180	69	2.0	460	750	1.500	2.000	**24122**	**24122K30**
	200	53	2.1	488	653	2.000	2.800	**22222**	**22222K**
	200	70	2.1	530	757	1.600	2.000	**23222**	**23222K**
	240	50	3.0	390	450	1.400	1.800	**21322**	**21322K**
	240	80	3.0	691	846	1.500	1.900	**22322**	**22322K**
120	180	46	2.0	322	542	2.000	2.800	**23024**	**23024K**
	180	60	2.0	390	700	1.500	2.000	**24024**	**24024K30**
	200	62	2.0	454	695	1.800	2.400	**23124**	**23124K**
	200	80	2.0	575	950	1.400	1.800	**24124**	**24124K30**
	215	58	2.1	553	775	1.900	2.600	**22224**	**22224K**
	215	76	2.1	594	858	1.500	1.900	**23224**	**23224K**
	260	86	3.0	808	1.000	1.400	1.700	**22324**	**22324K**



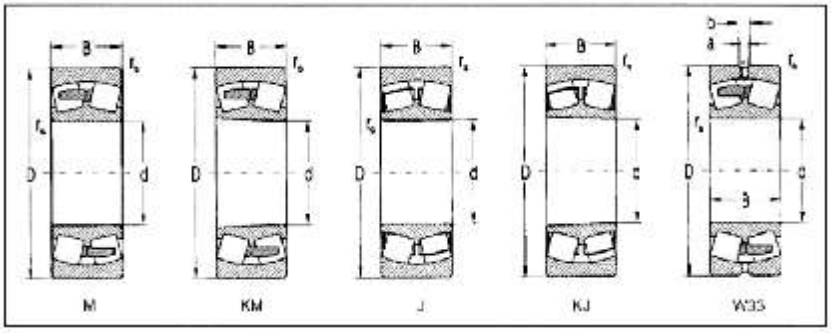
Medidas				Peso		Buchas			Fatores			
d	d_a min	D_a max	r_a max	Cilíndrico	K	Bucha	Arruela	Porca	e	y_1	y_2	y_0
mm				Kg		**Números**						
85	95	140	2.0	2.660	2.610	H317	AH317X	KM19	0.22	3.04	4.39	2.90
	99	154	2.5	5.200	5.100				0.23	3.00	4.30	2.90
	98	166	2.5	7.100	7.000	H2317	AH2317X	KM19	0.37	1.90	2.70	1.80
90	100	150	2.0	3.400	3.290	H318	AH318X	KM20	0.23	2.93	4.24	2.80
	100	150	2.0	4.700	4.570	H2318	AH3218X	KM20	0.33	2.00	3.00	2.00
	104	162	2.5	6.070	5.950				0.23	3.10	4.20	2.80
	103	176	2.5	8.500	8.400	H2318	AH2318X	KM20	0.37	1.80	2.60	1.70
95	107	158	2.0	4.170	4.080	H319	AH319X	KM21	0.23	2.90	4.20	2.77
	109	170	2.5	7.400	7.300				0.24	2.80	4.10	2.70
	109	186	2.5	10.300	10.100	H2319	AH2319X	KM21	0.37	1.80	2.70	1.80
100	115	135	2.0	2.600	-	-	-	-	0.24	2.80	4.00	2.60
	110	144	2.0	4.450	4.360				0.30	2.30	3.40	2.20
	110	142	2.0	5.600	5.480				0.37	1.80	2.70	1.80
	112	168	2.0	5.010	4.900	H320	AH320X	KM22	0.24	2.87	4.14	2.73
	112	168	2.0	6.900	6.700	H2320	AH3220X	KM22	0.35	1.90	2.90	1.90
	113	201	2.5	13.000	12.700	H2320	AH2320X	KM22	0.37	1.80	2.60	1.70
110	125	152	2.0	3.750	3.700	H322	AH3022X	KM22	0.26	2.60	3.70	2.50
	120	170	2.0	6.000	5.320	H3122	AH3122X	KM24	0.31	2.20	3.20	2.10
	120	154	2.0	7.000	6.900				0.36	1.90	2.80	1.80
	122	188	2.0	7.090	6.940	H322	AH3122X	KM24	0.25	2.74	3.96	2.61
	122	188	2.0	9.900	9.620	H2322	AH3222X	KM25	0.36	1.90	2.70	1.80
	124	207	2.5	11.600	11.400				0.22	2.90	3.9	2.90
	124	226	2.5	18.200	17.900	H2322	AH2322X	KM25	0.37	1.80	2.60	1.70
120	128	171	2.0	3.900	3.800	H3024	AH3024X	KM26	0.25	2.70	3.90	2.60
	130	158	2.0	5.450	5.300				0.32	2.10	3.20	2.10
	130	190	2.0	8.200	8.000	H3124	AH3124X	KM26	0.32	2.10	3.10	2.00
	130	170	2.0	10.400	10.200				0.37	1.80	2.70	1.80
	132	203	2.0	8.960	8.760	H3124	AH3124X	KM26	0.25	2.69	3.88	2.56
	132	203	2.0	12.300	11.900	H2324	AH3224X	KM27	0.36	1.90	2.70	1.80
	134	246	2.5	21.900	21.400	H2324	AH2324X	KM27	0.36	1.90	2.80	1.70



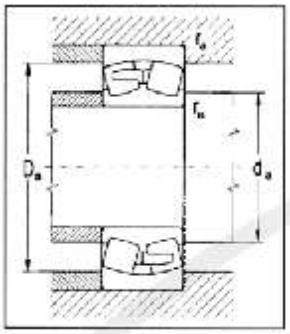
Medidas				Capac. Carga		Limite de Rotação		Rolamentos	
d	D	B	r_s min	Dinam C	Estat Co	a graxa	a óleo	Furo Cilíndrico	Furo Cônico
mm				KN		rpm		**Número**	
	200	52	2.0	393	633	1.900	2.600	**23026**	**23026K**
	200	69	2.0	490	860	1.400	1.800	**24026**	**24026K30**
	210	64	2.0	499	804	1.700	2.200	**23126**	**23126K**
130	210	80	2.0	590	1.000	1.200	1.600	**24126**	**24126K30**
	230	64	3.0	641	948	1.800	2.400	**22226**	**22226K**
	230	80	3.0	666	1.004	1.300	1.700	**23226**	**23226K**
	280	93	4.0	928	1.164	1.300	1.700	**22326**	**22326K**
	210	53	2.0	406	690	1.800	2.400	**23028**	**23028K**
	210	69	2.0	520	940	1.200	1.600	**24028**	**24028K30**
	225	68	2.1	567	921	1.600	2.000	**23128**	**23128K**
140	225	88	2.1	660	1.150	1.100	1.500	**24128**	**24128K30**
	250	68	3.0	747	1.080	1.700	2.200	**22228**	**22228K**
	250	88	3.0	790	1.170	1.200	1.600	**23228**	**23228K**
	300	102	4.0	1.030	1.330	1.100	1.500	**22328**	**22328K**
	225	56	2.1	442	748	1.700	2.200	**23030**	**23030K**
	225	75	2.1	580	1.070	1.100	1.400	**24030**	**24030K30**
	250	80	2.1	738	1.180	1.400	1.800	**23130**	**23130K**
150	250	100	2.1	880	1.500	1.000	1.300	**24130**	**24130K30**
	270	73	3.0	863	1.260	1.600	2.000	**22230**	**22230K**
	270	96	3.0	915	1.460	1.100	1.500	**23230**	**23230K**
	320	108	4.0	1.200	1.600	1.000	1.400	**22330**	**22330K**
	240	60	2.1	521	903	1.700	2.200	**23032**	**23032K30**
	240	80	2.1	670	1.250	1.000	1.300	**24032**	**24032K30**
	270	86	2.1	817	1.300	1.300	1.700	**23132**	**23132K**
160	270	109	2.1	1.030	1.750	950	1.200	**24132**	**24132K30**
	290	80	3.0	978	1.440	1.500	1.900	**22232**	**22232K**
	290	104	3.0	1.140	1.830	1.000	1.400	**23232**	**23232K**
	340	114	4.0	1.290	1.760	960	1.300	**22332**	**22332K**



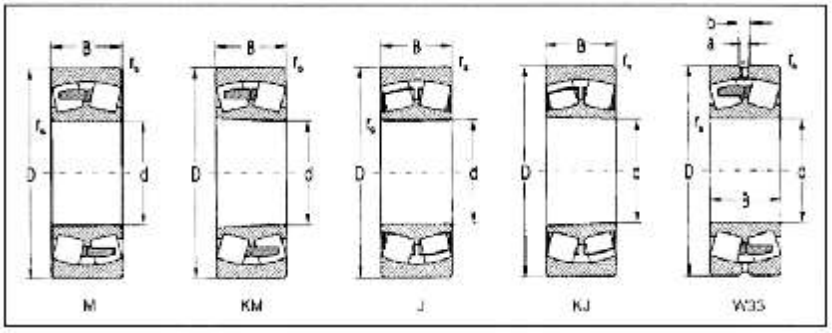
Medidas				Peso		Buchas			Fatores			
d	d_a min	D_a max	r_a max	Cilíndrico	K	Bucha	Arruela	Porca	e	y_1	y_2	y_0
mm				Kg		**Números**						
	138	191	2.0	5.740	5.560	H3026	AH3026X	KM28	0.26	2.60	3.80	2.50
	140	175	2.0	8.060	7.900				0.30	2.20	3.10	2.10
	140	200	2.0	9.100	8.820	H3126	AH3126X	KM28	0.30	2.20	3.10	2.10
130	140	180	2.0	11.100	10.950				0.34	1.80	2.80	1.80
	144	216	2.5	11.200	11.000	H3126	AH3126X	KM28	0.26	2.62	3.78	2.50
	144	216	2.5	15.000	14.400	H2326	AH3226X	KM29	0.36	1.90	2.70	1.70
	148	262	3.0	28.600	28.000	H2326	AH3226X	KM29	0.37	1.80	2.70	1.80
	148	200	2.0	6.870	6.660	H3028	AH3028X	KM30	0.25	2.70	3.90	2.60
	150	185	2.0	8.600	8.450				0.28	2.20	3.30	2.10
	152	213	2.0	10.800	10.500	H3128	AH3128X	KM30	0.30	2.20	3.20	2.10
140	152	193	2.0	13.300	13.150				0.34	1.80	2.80	1.80
	154	236	2.5	14.100	13.800	H3128	AH3128X	KM30	0.25	2.67	3.85	2.54
	154	236	2.5	19.200	18.600	H2328	AH3228X	KM31	0.36	1.90	2.70	1.80
	158	282	3.0	35.600	34.800	H2328	AH3228X	KM31	0.38	1.80	2.50	1.70
	159	213	2.0	8.250	8.100	H3030	AH3030X	KM32	0.25	2.70	4.00	2.60
	162	198	2.0	10.700	10.500				0.30	2.20	3.30	2.20
	162	238	2.0	16.600	16.100	H3130	AH3130X	KM33	0.32	2.10	3.10	2.00
150	162	212	2.0	20.500	20.300				0.37	1.70	2.50	1.60
	164	256	2.5	17.900	17.500	H3130	AH3130X	KM33	0.25	2.68	3.87	2.55
	164	256	2.5	23.900	23.200	H2330	AH3230X	KM33	0.35	1.90	2.90	1.80
	168	302	3.0	41.700	40.800	H2330	AH2330X	KM33	0.37	1.80	2.70	1.80
	169	228	2.0	10.300	10.000	H3032	AH3032	KM34	0.24	2.80	4.10	2.70
	172	212	2.0	13.000	12.800				0.30	2.20	3.30	2.10
	172	258	2.0	21.300	20.700	H3132	AH3132	KM36	0.32	2.10	3.10	2.00
160	172	229	2.0	26.300	26.100				0.38	1.70	2.60	1.70
	174	276	2.5	22.700	22.200	H3132	AH3132	KM36	0.26	2.62	3.78	2.50
	174	276	2.5	31.000	30.100	H2332	AH3232	KM36	0.36	1.90	2.80	1.80
	178	322	3.0	51.900	50.800	H2332	AH2332	KM36	0.38	1.80	2.60	1.70



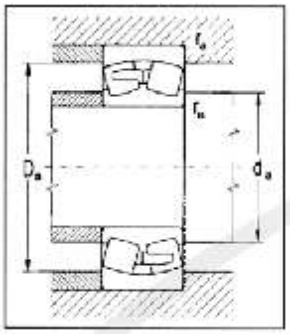
Medidas				Capac. Carga		Limite de Rotação		Rolamentos	
d	D	B	r_s min	Dinam C	Estat Co	a graxa	a óleo	Furo Cilíndrico	Furo Cônico
mm				KN		rpm		**Número**	
	260	67	2.1	647	1.110	1.600	2.000	**23034**	**23034K**
	260	90	2.1	840	1.580	1.100	1.400	**24034**	**24034K30**
	280	88	2.1	858	1.420	1.200	1.600	**23134**	**23134K**
170	280	109	2.1	1.080	1.860	1.000	1.200	**24134**	**24134K30**
	310	86	4.0	944	1.350	1.300	1.700	**22234**	**22234K**
	310	110	4.0	1.230	1.900	940	1.200	**23234**	**23234K**
	360	120	4.0	1.450	2.050	950	1.300	**22334**	**22334K**
	280	74	2.1	754	1.290	1.400	1.800	**23036**	**23036K**
	280	100	2.1	1.020	1.960	1.150	1.500	**24036**	**24036K30**
	300	96	3.0	996	1.620	1.000	1.500	**23136**	**23136K**
180	300	118	4.0	1.250	2.400	700	1.000	**24136**	**24136K30**
	320	86	4.0	966	1.430	1.000	1.300	**22236**	**22236K**
	320	112	4.0	1.350	2.170	900	1.200	**23236**	**23236K**
	380	126	4.0	1.580	2.200	900	1.200	**22336**	**22336K**
	290	75	2.1	788	1.380	1.300	1.700	**23038**	**23038K**
	290	100	2.1	1.070	2.060	1.100	1.400	**24038**	**24038K30**
	320	104	3.0	1.170	1.930	1.000	1.400	**23138**	**23138K**
190	340	92	4.0	1.070	1.600	1.200	1.600	**22238**	**22238K**
	340	120	4.0	1.550	2.500	850	1.100	**23238**	**23238K**
	400	132	5.0	1.840	2.670	850	1.100	**22338**	**22338K**
	310	82	2.1	900	1.600	1.200	1.600	**23040**	**23040K**
	310	109	2.1	1.200	2.150	1.050	1.300	**24040**	**24040K30**
	340	112	3.0	1.290	2.100	950	1.300	**23140**	**23140K**
200	340	140	3.0	1.560	2.650	800	1.000	**24140**	**24140K30**
	360	98	4.0	1.200	1.810	1.100	1.500	**22240**	**22240K**
	360	128	4.0	1.700	2.860	850	1.100	**23240**	**23240K**
	420	138	5.0	1.880	2.750	850	1.100	**22340**	**22340K**
	340	90	3.0	1.040	1.900	1.100	1.500	**23044**	**23044K**
	340	118	3.0	1.340	2.420	900	1.200	**24044**	**24044K30**
	370	120	4.0	1.531	2.586	900	1.200	**23144**	**23144K**
220	370	150	4.0	1.800	3.200	710	950	**24144**	**24144K30**
	400	108	4.0	1.400	2.120	950	1.300	**22244**	**22244K**
	400	144	4.0	2.160	3.550	750	950	**23244**	**23244K**
	460	145	5.0	2.180	3.250	750	950	**22344**	**22344K**



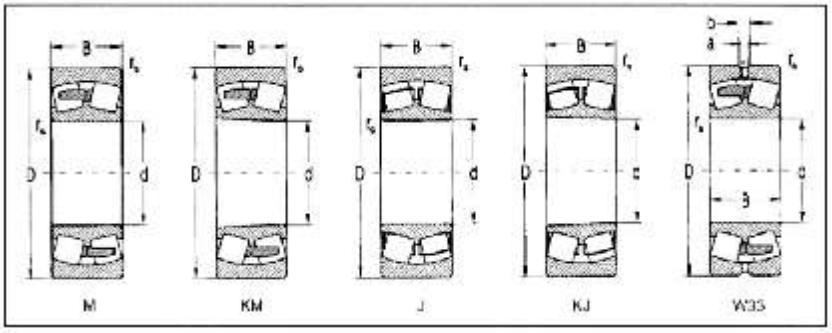
Medidas				Peso		Buchas			Fatores			
d	d_a min	D_a max	r_a max	Cilíndrico	K	Bucha	Arruela	Porca	e	y_1	y_2	y_0
mm				Kg		**Números**						
170	179	248	2.0	13.800	13.400	H3034	AH3034	KM36	0.25	2.70	3.80	2.60
	182	248	2.0	17.500	17.000	H24034	AH24034	KM36	0.32	2.10	3.10	2.10
	182	268	2.0	22.800	22.200	H3134	AH3134	KM38	0.32	2.10	3.10	2.10
	182	239	2.0	27.500	27.250				0.37	1.80	2.70	1.80
	188	293	3.0	30.000	29.400	H3134	AH3134	KM38	0.30	2.30	3.20	2.16
	188	292	3.0	37.700	36.700	H2334	AH3234	KM38	0.34	2.00	3.00	2.00
	188	342	3.0	59.200	58.200	H2334	AH2334	KM38	0.37	1.80	2.60	1.70
180	189	268	2.0	17.600	17.100	H3036	AH3036	KM38	0.26	2.60	3.70	2.50
	192	268	2.0	23.000	22.000	-	AH24036	KM38	0.34	2.00	2.90	1.90
	194	286	2.5	28.900	28.000	H3136	AH3136	KM40	0.32	2.10	2.90	2.00
	194	286	2.5	27.700	26.600	H3136	AH3136	KM40	0.37	1.80	2.70	1.80
	198	302	3.0	31.500	30.800	H3136	AH2236	KM40	0.29	2.40	3.50	2.30
	198	302	3.0	39.800	38.600	H2336	AH3236	KM40	0.31	2.20	3.20	2.10
	198	362	3.0	73.200	71.700	H2336	AH2336	KM40	0.37	1.80	2.60	1.70
190	202	278	2.0	18.800	18.300	H3038	AH3038	HML41T	0.25	2.70	3.80	2.50
	202	278	2.0	24.000	22.000	-	AH24038	KM40	0.32	2.10	3.10	2.10
	204	306	2.5	36.100	35.000	H3138	AH3138	HM42T	0.33	2.10	3.00	2.00
	208	322	3.0	38.400	37.700	H3138	AH2238	HM42T	0.29	2.30	3.30	2.20
	208	322	3.0	47.700	47.100	H2338	AH3238	HM42T	0.36	1.90	2.80	1.80
	212	378	4.0	84.100	82.900	H2338	AH2338	HM42T	0.36	1.90	2.80	1.90
200	212	298	2.0	23.800	23.400	H3040	AH3040	HML43T	0.25	2.70	4.00	2.70
	212	298	2.0	30.500	29.000	-	AH24040	HM42T	0.34	2.00	3.00	2.00
	214	326	2.5	44.000	42.700	H3140	AH3140	HM44T	0.33	2.00	3.00	2.00
	214	290	2.5	53.000	52.750				0.38	1.80	2.60	1.70
	218	342	3.0	46.000	45.100	H3140	AH2240	HM44T	0.29	2.30	3.30	2.20
	218	342	3.0	58.600	56.700	H2340	AH3240	HM44T	0.36	1.90	2.80	1.90
	222	398	4.0	99.000	97.000	H2340	AH2340	HM44T	0.36	1.90	2.70	1.80
220	234	326	2.5	26.600	25.700	H3044	AH3044	HML47T	0.26	2.60	3.90	2.50
	234	326	2.5	39.000	38.100	-	AH24044	HM46T	0.33	2.10	3.10	2.00
	238	352	3.0	56.800	55.200	H3144	AH3144	HM48T	0.33	2.00	3.00	2.00
	238	313	3.0	66.700	66.450				0.38	1.70	2.60	1.70
	238	382	3.0	63.000	61.000	H3144	AH2244	HM48T	0.29	2.40	3.40	2.20
	238	382	3.0	83.000	79.000	H2344	AH2344	HM48T	0.37	1.90	2.60	1.70
	242	438	4.0	125.000	122.000	H2344	AH2344	HM48T	0.35	1.90	2.80	1.80



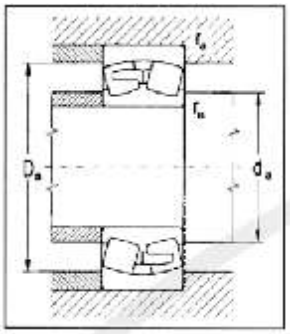
Medidas				Capac. Carga		Limite de Rotação		Rolamentos	
d	D	B	r_s min	Dinam C	Estat Co	a graxa	a óleo	Furo Cilíndrico	Furo Cônico
mm				KN		rpm		**Número**	
	360	92	3.0	1.080	1.990	1.000	1.400	**23048**	**23048K**
	360	118	3.0	1.500	2.990	800	1.000	**24048**	**24048K30**
	400	128	4.0	1.730	2.960	850	1.100	**23148**	**23148K**
240	400	160	4.0	2.100	3.800	650	850	**24148**	**24148K30**
	440	120	4.0	1.720	2.660	900	1.200	**22248**	**22248K**
	440	160	4.0	2.530	4.300	670	850	**23248**	**23248K**
	500	155	5.0	2.500	3.830	670	850	**22348**	**22348K**
	400	104	4.0	1.390	2.500	900	1.200	**23052**	**23052K**
	400	140	4.0	1.920	3.730	700	900	**24052**	**24052K30**
260	440	144	4.0	2.200	3.820	800	1.000	**23152**	**23152K**
	480	130	5.0	2.000	3.150	850	1.100	**22252**	**22252K**
	480	174	5.0	2.800	4.620	630	800	**23252**	**23252K**
	540	165	6.0	2.790	4.290	630	800	**22352**	**22352K**
	380	75	2.1	840	1.900	670	790	**23956**	
	420	106	4.0	1.490	2.800	850	1.100	**23056**	**23056K**
	420	140	4.0	2.080	3.650	700	900	**24056**	**24056K30**
280	460	146	5.0	2.240	4.040	750	950	**23156**	**23156K**
	500	130	5.0	2.060	3.320	800	1.000	**22256**	**22256K**
	500	176	5.0	2.920	4.960	600	750	**23256**	**23256K**
	580	175	6.0	3.430	5.190	600	750	**22356**	**22356K**
	460	118	4.0	1.830	3.340	800	1.000	**23060**	**23060K**
300	500	160	5.0	2.630	4.650	670	850	**23160**	**23160K**
	540	140	5.0	2.410	3.930	750	950	**22260**	**22260K**
	540	192	5.0	3.420	5.710	530	670	**23260**	**23260K**
	480	121	4.0	1.940	3.620	800	1.000	**23064**	**23064K**
320	540	176	5.0	3.100	5.570	630	800	**23164**	**23164K**
	580	150	5.0	2.720	4.470	670	850	**22264**	**22264K**
	580	208	5.0	3.960	6.690	500	630	**23264**	**23264K**
	520	133	5.0	2.320	4.330	700	900	**23068**	**23068K**
340	520	180	5.0	3.050	6.140	560	700	**24068**	**24068K30**
	580	190	5.0	3.500	6.230	600	750	**23168**	**23168K**
	620	224	6.0	4.530	7.770	430	530	**23268**	**23268K**
360	540	134	5.0	2.410	4.580	670	850	**23072**	**23072K**
	600	192	5.0	3.680	6.690	560	700	**23172**	**23172K**



Medidas				Peso		Buchas			Fatores			
d	d_a min	D_a max	r_a max	Cilíndrico	K	Bucha	Arruela	Porca	e	y_1	y_2	y_0
mm				Kg		**Números**						
240	254	346	2.5	28.900	27.800	H3048	AH3048	HML52T	0.25	2.80	4.20	2.80
	254	346	2.5	42.500	41.000	-	AH24048	HM50T	0.33	2.10	3.10	2.00
	258	382	3.0	68.700	66.700	H3148	AH3148	HM52T	0.32	2.10	3.00	1.90
	258	341	3.0	82.400	82.150				0.37	1.80	2.70	1.80
	258	422	3.0	85.000	83.200	H3148	AH2248	HM52T	0.29	2.30	3.40	2.30
	258	422	3.0	111.500	108.000	H2348	AH2348	HM52T	0.34	2.00	2.90	1.80
	262	478	4.0	159.000	156.000	H2348	AH2348	HM52T	0.34	1.90	2.80	1.80
260	278	382	3.0	37.500	36.100	H3052	AH3052	HML56T	0.25	2.70	4.00	2.70
	278	382	3.0	64.500	63.000	-	AH24052	HM54T	0.35	1.90	2.90	1.90
	278	422	3.0	90.500	87.800	H3152	AH3152	HM58T	0.33	2.00	3.10	2.00
	282	458	4.0	111.000	109.000	H3152	AH2252	HM58T	0.29	2.30	3.30	2.20
	282	458	4.0	147.000	142.000	H2352	AH2352	HM58T	0.38	1.80	2.60	1.70
	288	512	5.0	196.000	192.000	H2352	AH2352	HM58T	0.34	2.00	2.90	1.90
280	292	368	2.0	26.400		-	-	-	0.18	3.80	5.70	3.70
	298	402	3.0	54.500	52.900	H3056	AH3056	HML60T	0.25	2.70	3.90	2.60
	298	402	3.0	68.500	67.500	-	AH24056	HM58T	0.33	2.00	3.00	2.00
	302	438	4.0	102.800	99.000	H3156	AH3156	HM62T	0.32	2.10	3.00	2.00
	302	478	4.0	119.000	116.000	H3156	AH2256	HM62T	0.28	2.40	3.50	2.30
	302	478	4.0	157.000	152.000	H2356	AH2356	HM62T	0.36	1.90	2.60	1.80
	308	522	5.0	227.000	223.000	H2356	AH2356	HM62T	0.31	2.00	3.20	2.10
300	318	442	3.0	75.800	73.600	H3060	AH3060	HML64T	0.25	2.70	3.80	2.50
	322	478	4.0	133.600	129.500	H3160	AH3160	HM66T	0.32	2.10	3.10	2.00
	322	518	4.0	150.000	147.000	H3160	AH2260	HM66T	0.27	2.50	3.60	2.40
	322	518	4.0	200.000	195.000	H3260	AH3260	HM66T	0.37	1.80	2.70	1.80
320	338	462	3.0	81.200	78.800	H3064	AH3064	HML69T	0.25	2.70	4.00	2.60
	342	518	4.0	175.300	170.100	H3164	AH3164	HM70T	0.33	2.00	3.00	1.90
	342	558	4.0	187.000	181.000	H3164	AH2264	HM70T	0.27	2.50	3.60	2.30
	342	558	4.0	253.000	246.000	H3264	AH3264	HM70T	0.37	1.80	2.60	1.70
340	362	498	4.0	108.000	105.000	H3068	AH3068	HML73T	0.25	2.70	3.90	2.55
	362	498	4.0	140.000	138.000	H24068	AH24068	HM3072	0.33	2.00	3.00	2.00
	362	558	4.0	208.600	202.200	H3168	AH3168	HM74T	0.33	2.00	3.00	1.90
	368	592	5.0	313.000	304.000	H3268	AH3268	HM74T	0.37	1.80	2.60	1.70
360	382	518	4.0	114.000	111.000	H3072	AH3072	HML77T	0.24	2.80	4.00	2.70
	382	578	4.0	231.600	223.800	H3172	AH3172	HM80T	0.32	2.00	3.00	2.00

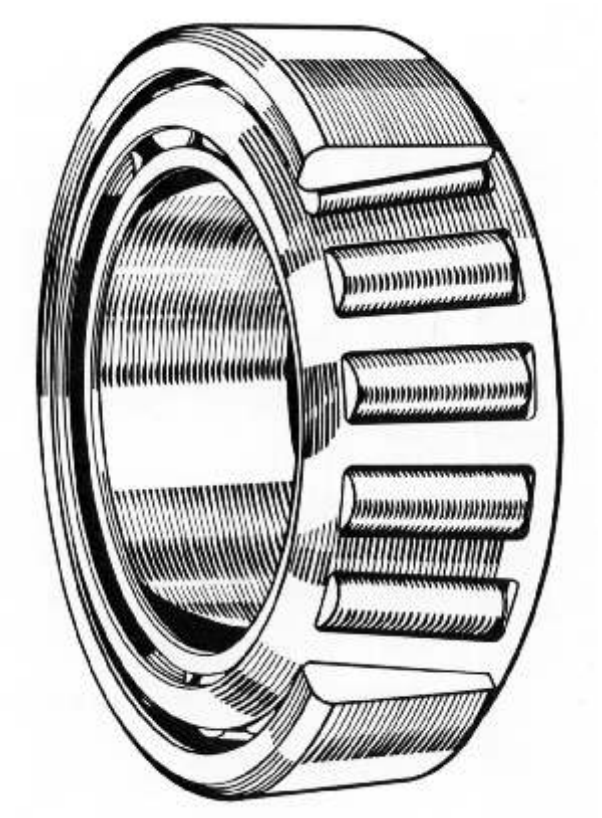


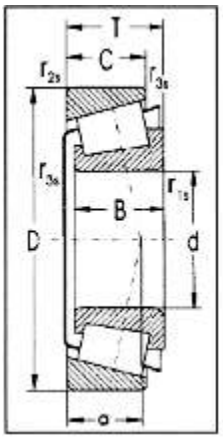
Medidas				Capac. Carga		Limite de Rotação		Rolamentos	
d	D	B	r_s min	Dinam C	Estat Co	a graxa	a óleo	Furo Cilíndrico	Furo Cônico
mm				KN		rpm		**Número**	
380	560	135	5.0	2.460	4.330	630	800	**23076**	**23076K**
	620	194	5.0	3.790	7.090	400	500	**23176**	**23176K**
	680	240	6.0	5.280	9.180	380	480	**23276**	**23276K**
400	600	148	5.0	2.930	5.650	600	750	**23080**	**23080K**
	600	200	5.0	3.740	7.790	450	560	**24080**	
	650	200	6.0	4.100	7.710	380	480	**23180**	**23180K**
	720	256	6.0	5.880	10.300	340	430	**23280**	**23280K**
420	620	150	5.0	3.000	6.000	450	560	**23084**	**23084K**
	700	224	6.0	5.020	9.590	360	450	**23184**	**23184K**
	760	272	6.0	6.520	11.180	320	400	**23284**	**23284K**
440	650	157	6.0	3.280	6.580	430	530	**23088**	**23088K**
	720	226	6.0	4.600	9.430	340	430	**23188**	**23188K**
	790	280	7.5	6.920	12.270	320	400	**23288**	**23288K**
460	680	163	6.0	3.560	7.180	400	500	**23092**	**23092K**
	760	240	7.5	5.800	11.160	320	400	**23192**	**23192K**
480	650	128	5.0	2.900	6.430	500	630	**23996**	
	790	248	7.5	6.160	12.000	300	380	**23196**	**23196K**
500	670	128	5.0	2.930	6.680	470	600	**239/500**	
	720	167	6.0	3.830	7.970	380	480	**230/500**	**230/500K**
	830	264	7.5	6.800	13.040	280	360	**231/500**	**231/500K**
530	780	185	6.0	4.470	9.310	340	430	**230/530**	**230/530K**
560	820	195	6.0	5.110	10.780	300	400	**230/560**	**230/560K**
600	870	200	6.0	5.560	11.630	300	380	**230/600**	**230/600K**
630	920	212	7.5	6.330	13.510	260	340	**230/630**	**230/630K**
800	1050	258	7.5	8.630	19.680	180	260	**230/800**	**230/800K**
850	1200	272	7.5	9.630	22.140	160	230	**230/850**	**230/850K**



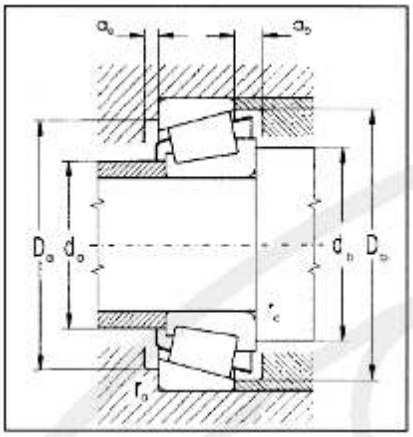
Medidas				Peso		Buchas			Fatores			
d	d_a min	D_a max	r_a max	Cilíndrico	K	Bucha	Arruela	Porca	e	y_1	y_2	y_0
mm				Kg		**Números**						
380	402	538	4.0	120.000	116.500	H3076	AH3076	HML82T	0.24	2.90	4.20	2.70
	402	598	2.0	244.400	236.500	H3176	AH3176	HM84T	0.31	2.10	3.10	2.10
	471	581	5.0	394.000	382.000	H3276	AH3276	HM84T	0.37	1.80	2.70	1.80
400	422	578	5.0	156.000	152.000	H3080	AH3080	HML86T	0.24	2.80	4.00	2.70
	422	578	5.0	205.000		-	-	-	0.30	2.30	3.40	2.20
	428	622	5.0	273.000	265.000	H3180	AH3180	HM88T	0.31	2.20	3.10	2.10
	428	692	5.0	476.000	463.000	H3280	AH3280	HM88T	0.37	1.80	2.70	1.75
420	442	598	4.0	164.000	159.000	H3084	AH3084	HML90T	0.24	2.90	4.30	2.80
	448	672	5.0	362.500	348.000	H3184	AH3184	HM92T	0.32	2.10	3.20	2.00
	525	649	5.0	535.000	520.000	H3284	AH3284	HM92T	0.36	1.70	2.70	1.80
440	468	622	5.0	188.000	182.000	H3088	AH3088X	HML94T	0.24	2.90	4.10	2.70
	468	692	5.0	390.200	378.700	H3188	AH3188X	HM96T	0.31	2.10	3.10	2.00
	476	754	6.0	613.000	595.000	H3288	AH3288X	HM96T	0.37	1.80	2.70	1.80
460	488	652	5.0	213.700	207.300	H3092	AH3092X	HML98T	0.23	2.90	4.20	2.80
	496	724	6.0	456.000	441.000	H3192	AH3192X	HM102T	0.32	2.10	3.00	2.00
480	502	628	4.0	130.000		-	-	-	0.17	3.90	5.80	3.80
	516	754	6.0	485.000	469.000	H3196	AH3196X	HM106	0.31	2.20	3.10	2.10
500	522	648	4.0	133.000		-	-	-	0.17	4.00	3.90	3.90
	528	692	5.0	236.000	228.000	H30/500	AH30/500X	HML108T	0.23	3.00	4.30	2.90
	536	794	6.0	570.000	550.000	H31/500	AH31/500X	HL110T	0.32	2.10	3.00	2.00
530	558	752	5.0	322.900	313.500	H30/530	AH30/530	HML112T	0.23	3.00	4.20	2.80
560	588	792	5.0	356.700	346.000	H30/560	AH30/560	HML118T	0.23	3.00	4.20	2.80
600	633	838	5.0	405.000	400.000	H30/600	AH30/600	HML126T	0.22	2.90	4.20	2.80
630	666	884	6.0	485.000	470.000	H30/630	AH30/630	HM30/630	0.22	3.00	4.50	2.90
800	836	1114	6.0	939.000	911.000	H30/800	AH30/800	HM30/800	0.22	3.10	4.50	3.00
850	886	1184	6.0	1.110.000	1.080.000	H30/850	AH30/850	HML180T	0.22	3.10	4.50	3.00

Rolamentos de rolos cônicos

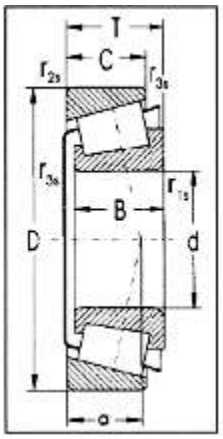




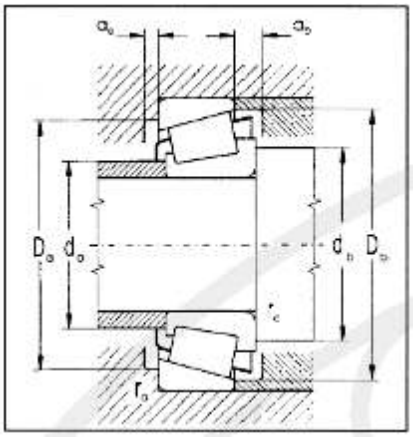
Medidas									Capac. Carga		Limite de Rotação		Rolamentos
d	D	B	C	T	r_1	r_2	r_3	a	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm									KN		rpm		
15	35	11	10.0	11.75	0.8	0.8	0.3	8	14.8	13.5	13,000	18,000	**30202**
	42	13	11.0	14.25	1.0	1.0	0.3	10	22.8	19.8	10,000	14,000	**30302**
17	40	12	11.0	13.25	1.0	1.0	0.3	10	16.8	16.5	11,000	15,000	**30203**
	47	14	12.0	15.25	1.0	1.0	0.3	11	25.1	22.8	10,000	13,000	**30303**
20	42	15	12.0	15.00	0.6	0.6	0.3	10	22.8	29.0	9,000	13,000	**32004X**
	47	14	12.0	15.25	1.0	1.0	0.3	11	25.1	26.1	8,900	12,000	**30204**
	52	15	13.0	16.25	1.5	1.5	0.6	11	30.4	29.9	8,400	11,000	**30304**
	52	15	11.0	16.25	1.5	1.5	0.6	16	31.2	30.6	8,100	10,500	**31304**
	52	21	18.0	22.25	1.5	1.5	0.6	13	43.8	45.5	8,400	11,000	**32304**
25	47	15	11.5	15.00	0.6	0.6	0.3	12	24.2	28.7	8,400	11,000	**32005X**
	52	15	13.0	16.25	1.0	1.0	0.3	12	29.9	33.5	7,500	10,000	**30205**
	62	17	15.0	18.25	1.5	1.5	0.6	13	43.8	42.1	6,900	9,200	**30305**
	62	17	13.0	18.25	1.5	1.5	0.6	20	36.2	39.1	6,700	8,900	**31305**
	62	24	20.0	25.25	1.5	1.5	0.6	15	57.3	60.7	6,700	8,900	**32305**
30	55	17	13.0	17.00	1.0	1.0	0.3	13	35.5	43.8	7,100	9,400	**32006X**
	62	16	14.0	17.25	1.0	1.0	0.3	14	40.6	44.7	6,700	8,900	**30206**
	62	20	17.0	21.25	1.0	1.0	0.3	15	50.1	59.6	6,700	8,900	**32206**
	72	19	16.0	20.75	1.5	1.5	0.6	15	53.1	53.1	5,600	7,500	**30306**
	72	19	14.0	20.75	1.5	1.5	0.6	23	46.4	50.1	5,300	7,100	**31306**
	72	27	23.0	28.75	1.5	1.5	0.6	20	76.4	85.8	5,600	7,500	**32306**
32	58	17	13.0	17.00	1.0	1.0	0.3	14	39.8	48.2	7,100	9,400	**320/32X**
35	62	18	14.0	18.00	1.0	1.0	0.3	15	43.0	53.1	6,300	8,400	**32007X**
	72	17	15.0	18.25	1.5	1.5	0.6	15	46.4	51.1	5,300	7,100	**30207**
	72	23	19.0	24.25	1.5	1.5	0.6	17	64.3	76.4	5,300	7,100	**32207**
	80	21	18.0	22.75	2.0	1.5	0.6	16	65.6	69.4	5,000	6,700	**30307**
	80	21	15.0	22.75	2.0	1.5	0.6	26	57.3	63.1	4,700	6,300	**31307**
	80	31	25.0	32.75	2.0	1.5	0.6	20	94.4	110.0	4,700	6,300	**32307**



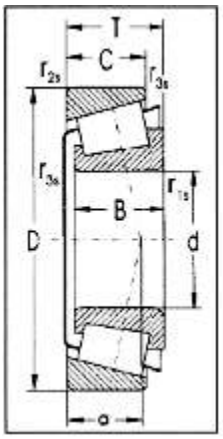
Medidas									Massa	Fatores		
d	d_a max	d_b min	D_a min	D_a max	D_b min	a_a min	a_b min	r_a max	Peso	e	Y	y_0
mm									Kg			
15	23	19	30	30	34	2	1.5	0.6	0.055	0.35	1.7	1.0
	24	22	36	36	38	2	3.0	1.0	0.098	0.29	2.1	1.2
17	23	23	34	34	37	2	2.0	1.0	0.081	0.35	1.7	1.0
	25	23	39	41	42	2	3.0	1.0	0.140	0.29	2.1	1.2
20	25	25	36	37	39	3	3.0	0.6	0.102	0.37	1.6	0.9
	26	26	39	41	43	2	3.0	1.0	0.132	0.35	1.7	1.0
	27	27	43	45	47	2	3.0	1.0	0.179	0.30	2.0	1.1
	26	26	43	45	46	2	3.0	1.0	0.170	0.65	1.1	0.5
	27	27	43	45	47	2	4.0	1.0	0.267	0.30	2.0	1.1
25	30	31	40.5	42	44	3	3.5	0.6	0.117	0.43	1.4	0.8
	31	31	43	46	48	2	3.0	1.0	0.167	0.37	1.6	0.9
	33	32	53	55	57	2	3.0	1.0	0.288	0.30	2.0	1.1
	33	32	46	55	59	2	5.0	1.0	0.271	0.83	0.7	0.4
	33	32	53	55	57	2	5.0	1.0	0.404	0.30	2.0	1.1
30	35	36	47.5	49	52	3	4.0	1.0	0.181	0.43	1.4	0.8
	37	36	52	56	57	2	3.0	1.0	0.252	0.37	1.6	0.9
	37	36	52	56	58.5	2	4.0	1.0	0.320	0.37	1.6	0.9
	38	37	61	65	66	2	4.5	1.0	0.419	0.32	1.9	1.1
	39	37	55	65	68	2	6.5	1.0	0.390	0.83	0.7	0.4
	38	37	61	65	66	2	5.5	1.0	0.628	0.32	1.9	1.1
32	38	38	50	52	55	3	4.0	1.0	0.196	0.45	1.3	0.7
35	40	41	54	56	59	4	4.0	1.0	0.243	0.45	1.3	0.7
	43	42	61	65	67	3	3.0	1.0	0.361	0.37	1.6	0.9
	43	42	61	65	68.5	3	5.0	1.0	0.480	0.37	1.6	0.9
	43	44	68	71	74	3	4.5	1.5	0.551	0.32	1.9	1.1
	43	44	61	71	76	3	7.5	1.5	0.520	0.83	0.7	0.4
	43	44	68	71	74	3	7.5	1.5	0.827	0.32	1.9	1.1



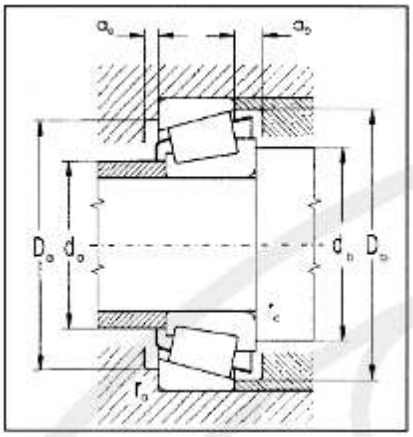
Medidas									Capac. Carga		Limite de Rotação		Rolamentos
d	D	B	C	T	r_1	r_2	r_3	a	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm									KN		rpm		
	68	19	14.5	19.00	1.0	1.0	0.3	15	48.2	64.3	5,300	7,100	**32008X**
	80	18	16.0	19.75	1.5	1.5	0.6	17	55.2	60.7	4,700	6,300	**30208**
	80	23	19.0	24.75	1.5	1.5	0.6	18	70.8	85.5	4,700	6,300	**32208**
	90	23	20.0	25.25	2.0	1.5	0.6	18	84.3	93.2	4,500	6,000	**30308**
40	90	23	20.0	25.25	2.0	1.5	0.6	19	82.5	94.4	4,500	6,000	**30308**
	90	23	17.0	25.25	2.0	1.5	0.6	29	76.4	85.8	4,000	5,300	**31308**
	90	33	27.0	35.25	2.0	1.5	0.6	22	114.0	141.0	4,200	5,600	**32308**
	90	33	27.0	35.25	2.0	1.5	0.6	27	104.2	136.6	4,100	5,400	**32308**
	90	33	27.0	35.25	2.0	1.5	0.6	27	104.0	144.0	4,200	5,600	**32308**
	75	20	15.5	20.00	1.0	1.0	0.3	17	57.3	79.4	4,700	6,300	**32009X**
	85	19	16.0	20.75	1.5	1.5	0.6	18	61.9	70.8	4,500	6,000	**30209**
	85	23	19.0	24.75	1.5	1.5	0.6	20	73.6	90.9	4,500	6,000	**32209**
45	100	25	22.0	27.25	2.0	1.5	0.6	21	107.0	118.0	4,000	5,300	**30309**
	100	25	22.0	27.25	2.0	1.5	0.6	21	104.0	117.0	4,000	5,300	**30309**
	100	25	18.0	27.25	2.0	1.5	0.6	32	92.6	104.0	3,800	5,000	**31309**
	100	36	30.0	38.25	2.0	1.5	0.6	25	144.0	181.0	3,800	5,000	**32309**
	100	36	30.0	38.25	2.0	1.5	0.6	31	131.0	174.0	3,800	5,000	**32309**
	80	20	15.5	20.00	1.0	1.0	0.3	18	59.6	87.4	4,500	6,000	**32010X**
	90	20	17.0	21.75	1.5	1.5	0.6	20	70.8	87.4	4,200	5,600	**30210**
	90	23	19.0	24.75	1.5	1.5	0.6	21	81.0	102.0	4,200	5,600	**32210**
50	110	27	23.0	29.25	2.5	2.0	0.6	23	121.0	141.0	3,800	5,000	**30310**
	110	27	19.0	29.25	2.5	2.0	0.6	35	102.0	114.0	3,300	4,500	**31310**
	110	40	33.0	42.25	2.5	2.0	0.6	27	174.0	224.0	3,300	4,500	**32310**
	110	40	33.0	42.25	2.5	2.0	0.6	33	147.0	215.0	3,200	4,400	**32310**
	90	23	17.5	23.00	1.5	1.5	0.6	20	76.4	108.0	4,000	5,300	**32011X**
	100	21	18.0	22.75	2.0	1.5	0.6	21	81.0	96.2	3,800	5,000	**30211**
55	100	25	21.0	26.75	2.0	1.5	0.6	22	102.0	128.0	3,800	5,000	**32211**
	120	29	25.0	31.50	2.5	2.0	0.6	25	136.0	162.0	3,300	4,500	**30311**
	120	29	21.0	31.50	2.5	2.0	0.6	38	117.0	136.0	3,000	4,000	**31311**
	120	43	35.0	45.50	2.5	2.0	0.6	29	200.0	256.0	3,300	4,500	**32311**



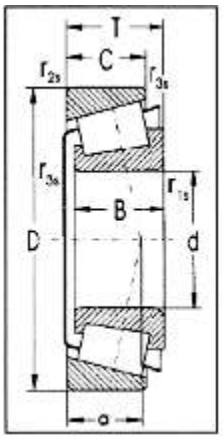
Medidas									Massa	Fatores		
d	d_a max	d_b min	D_a min	D_a max	D_b min	a_a min	a_b min	r_a max	Peso	e	Y	y_0
mm									Kg			
40	45	46	60	62	65	4	4.5	1.0	0.290	0.38	1.6	0.9
	48	47	68	73	75.5	3	3.5	1.0	0.452	0.37	1.6	0.9
	48	47	68	73	75	3	5.5	1.0	0.594	0.37	1.6	0.9
	50	49	76	81	82	3	5.0	1.5	0.773	0.35	1.7	1.0
	50	49	76	81	82	3	5.0	1.5	0.773	0.35	1.7	1.0
	50	49	70	81	86	3	8.0	1.5	0.776	0.83	0.7	0.4
	50	49	76	81	82	3	8.0	1.5	1.120	0.35	1.7	1.0
	50	49	70	81	85	4	8.0	1.5	1.110	0.54	1.1	0.6
	50	49	70	81	85	4	8.0	1.5	0.990	0.54	1.1	0.6
45	50	51	66	69	72	4	4.5	1.0	0.355	0.39	1.5	0.8
	53	52	73	78	80	3	4.5	1.0	0.527	0.41	1.5	0.8
	53	52	73	78	81.5	3	5.5	1.0	0.641	0.41	1.5	0.8
	56	54	85	91	92	3	5.0	1.5	1.040	0.35	1.7	1.0
	56	54	85	91	92	3	5.0	1.5	1.040	0.35	1.7	1.0
	55	54	78	91	95	3	9.0	1.5	1.030	0.83	0.7	0.4
	56	54	85	91	93	3	8.0	1.5	1.530	0.35	1.7	1.0
	55	54	76	91	94	5	8.0	1.5	1.540	0.54	1.1	0.6
50	55	56	71	74	77	4	4.5	1.0	0.395	0.42	1.4	0.8
	58	57	78	83	86.5	3	4.5	1.0	0.602	0.42	1.4	0.8
	58	57	78	83	85	3	5.5	1.0	0.667	0.42	1.4	0.8
	62	60	94	100	102	3	6.0	2.0	1.320	0.35	1.7	1.0
	61	60	85	100	104	3	10.0	1.0	1.290	0.83	0.7	0.4
	62	60	94	100	102	3	9.0	2.0	2.010	0.35	1.7	1.0
	62	60	83	100	103	5	9.0	2.0	1.990	0.54	1.1	0.6
55	61	62	80	83	86	4	5.5	1.0	0.592	0.41	1.5	0.8
	63	64	87	91	94	4	4.5	1.5	0.759	0.41	1.5	0.8
	63	64	87	91	95	4	5.5	1.5	0.915	0.41	1.5	0.8
	67	65	103	110	111	4	6.5	2.0	1.710	0.35	1.7	1.0
	67	65	92	110	113	4	10.5	2.0	1.630	0.83	0.7	0.4
	67	65	103	110	111	4	10.5	2.0	2.500	0.35	1.7	1.0



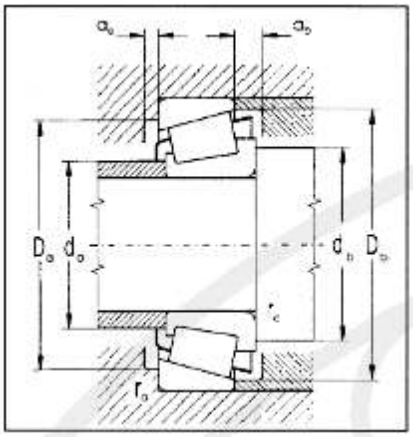
Medidas									Capac. Carga		Limite de Rotação		Rolamentos
d	D	B	C	T	r_1	r_2	r_3	a	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm									KN		rpm		
60	95	23	17.5	23.00	1.5	1.5	0.6	21	81.0	119.0	3,800	5,000	**32012X**
	110	22	19.0	23.75	2.0	1.5	0.6	22	94.4	117.0	3,300	4,500	**30212**
	110	28	24.0	29.75	2.0	1.5	0.6	25	126.0	162.0	3,300	4,500	**32212**
	130	31	26.0	33.50	3.0	2.5	1.0	26	162.0	188.0	3,000	4,000	**30312**
	130	31	22.0	33.50	3.0	2.5	1.0	41	136.0	158.0	2,800	3,800	**31312**
	130	46	37.0	48.50	3.0	2.5	1.0	31	228.0	299.0	2,800	3,800	**32312**
	130	46	37.0	48.50	3.0	2.5	1.0	39	200.0	293.0	2,500	3,300	**32312**
65	100	23	17.5	23.00	1.5	1.5	0.6	23	81.0	123.0	3,300	4,500	**32013X**
	110	34	26.5	34.00	1.5	1.5	0.6	26	136.0	207.0	3,800	5,300	**33113**
	120	23	20.0	24.75	2.0	1.5	0.6	24	112.0	136.0	3,000	4,000	**30213**
	120	31	27.0	32.75	2.0	1.5	0.6	28	150.0	200.0	3,000	4,000	**32213**
	120	41	32.0	41.00	2.0	1.5	0.6	30	191.0	267.0	3,000	4,000	**33213**
	140	33	28.0	36.00	3.0	2.5	1.0	28	185.0	220.0	2,800	3,800	**30313**
	140	33	23.0	36.00	3.0	2.5	1.0	44	150.0	178.0	2,800	3,800	**31313**
	140	48	39.0	51.00	3.0	2.5	1.0	33	261.0	331.0	2,800	3,800	**32313**
70	110	25	19.0	25.00	1.5	1.5	0.6	24	98.1	147.0	3,300	4,500	**32014X**
	125	24	21.0	26.25	2.0	1.5	0.6	26	121.0	153.0	3,000	4,000	**30214**
	125	31	27.0	33.25	2.0	1.5	0.6	29	155.0	203.0	2,800	3,800	**32214**
	150	35	30.0	38.00	3.0	2.5	1.0	30	211.0	251.0	2,700	3,500	**30314**
	150	35	25.0	38.00	3.0	2.5	1.0	47	178.0	211.0	2,700	3,500	**31314**
	150	51	42.0	54.00	3.0	2.5	1.0	36	293.0	398.0	2,700	3,500	**32314**
75	115	25	19.0	25.00	1.5	1.5	0.6	25	104.0	158.0	3,000	4,000	**32015X**
	130	25	22.0	27.25	2.0	1.5	0.6	28	128.0	165.0	2,800	3,800	**30215**
	130	31	27.0	33.25	2.0	1.5	0.6	30	162.0	220.0	2,800	3,800	**32215**
	130	41	31.0	41.00	2.0	1.5	0.6	32	196.0	299.0	2,800	3,800	**33215**
	160	37	31.0	40.00	3.0	2.5	1.0	32	242.0	287.0	2,500	3,300	**30315**
	160	55	45.0	58.00	3.0	2.5	1.0	38	341.0	464.0	2,400	3,200	**32315**
	160	55	45.0	58.00	3.0	2.5	1.0	47	304.0	464.0	2,000	2,700	**32315**



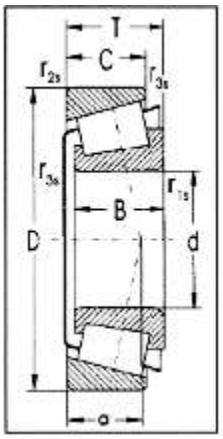
Medidas									Massa	Fatores		
d	d_a max	d_b min	D_a min	D_a max	D_b min	a_a min	a_b min	r_a max	Peso	e	Y	y_0
mm									Kg			
60	66	67	85	88	91	4	5.5	1.0	0.632	0.43	1.4	0.8
	69	69	95	101	105.5	4	4.5	1.5	0.967	41.00	1.5	0.8
	69	69	95	101	104	4	5.5	1.5	1.270	0.41	1.5	0.8
	73	72	112	118	120	4	7.5	2.0	2.090	0.35	1.7	1.0
	72	72	103	118	123	4	11.5	2.0	2.030	0.83	0.7	0.4
	73	72	112	118	120	4	11.5	2.0	3.070	0.35	1.7	1.0
	73	72	99	118	122	6	11.5	2.0	3.160	0.54	1.1	0.6
65	71	72	90	93	97	4	5.5	1.0	0.675	0.46	1.3	0.7
	74	72	96	103	106	6	7.5	1.0	1.300	0.39	1.5	0.8
	75	74	105	111	113	4	4.5	1.5	1.230	0.41	1.5	0.8
	75	74	105	111	115	4	5.5	1.5	1.660	0.41	1.5	0.8
	75	74	102	111	115	6	9.0	1.5	2.060	0.39	1.5	0.9
	80	77	121	128	130	4	8.0	2.0	2.550	0.35	1.7	1.0
	78	77	109	128	132	4	13.0	2.0	2.450	0.83	0.7	0.4
	80	77	121	128	130	4	12.0	2.0	3.770	0.35	1.7	1.0
70	77	77	98	103	105	5	6.0	1.5	0.893	0.44	1.4	0.8
	80	79	108	116	118	4	5.0	1.5	1.370	0.42	1.4	0.8
	80	79	108	116	119	4	6.0	1.5	1.730	0.42	1.4	0.8
	85	82	129	138	140	4	8.0	2.0	3.070	0.35	1.7	1.0
	83	82	118	138	141	4	13.0	2.0	3.010	0.83	0.7	0.4
	85	82	129	138	140	4	12.0	2.0	4.550	0.35	1.7	1.0
75	82	82	103	108	110	5	6.0	1.0	0.955	0.46	1.3	0.7
	85	84	113	121	124	4	5.0	1.5	1.470	0.44	1.4	0.8
	85	84	113	121	121	4	6.0	1.5	1.820	0.44	1.4	0.8
	85	84	111	121	125	6	10.0	1.5	2.300	0.43	1.4	0.8
	91	87	138	148	149	4	9.0	2.0	3.720	0.35	1.7	1.0
	91	87	138	148	149	4	13.0	2.0	5.620	0.35	1.7	1.0
	90	87	128	148	150	7	12.5	2.0	5.600	0.54	1.1	0.6



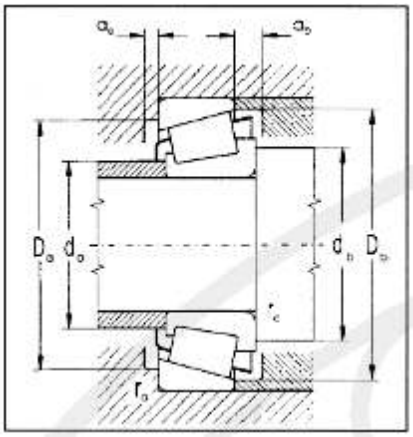
Medidas									Capac. Carga		Limite de Rotação		Rolamentos
d	D	B	C	T	r_1	r_2	r_3	a	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm									KN		rpm		
80	125	29	22.0	29.00	1.5	1.5	0.6	27	131.0	207.0	2,800	3,800	**32016X**
	130	37	29.0	37.00	2.0	1.5	0.6	31	190.0	300.0	3,200	4,200	**33116**
	140	26	22.0	28.25	2.5	2.0	0.6	29	144.0	178.0	2,800	3,800	**30216**
	140	33	28.0	35.25	2.5	2.0	0.6	32	181.0	251.0	2,800	3,800	**32216**
85	130	29	22.0	29.00	1.5	1.5	0.6	28	136.0	215.0	2,800	3,800	**32017X**
	130	36	29.5	36.00	1.5	1.5	0.6	26	195.0	319.0	3,000	4,000	**33017**
	150	28	24.0	30.50	2.5	2.0	0.6	30	181.0	207.0	2,700	3,500	**30217**
	150	36	30.0	38.50	2.5	2.0	0.6	34	212.4	290.2	2,400	3,300	**32217**
	150	36	30.0	38.50	2.5	2.0	0.6	34	237.0	293.0	2,700	3,500	**32217**
	150	49	37.0	49.00	2.5	2.0	0.6	37	278.0	418.0	2,200	3,200	**33217**
90	140	32	24.0	32.00	2.0	1.5	0.6	30	150.0	228.0	2,700	3,500	**32018X**
	140	39	32.5	39.00	2.0	1.5	0.6	28	223.0	370.0	2,800	3,800	**33018**
	150	45	35.0	45.00	2.5	2.0	0.6	36	265.0	420.0	2,800	3,800	**33118**
	160	30	26.0	32.50	2.5	2.0	0.6	31	185.0	242.0	2,400	3,200	**30218**
	160	40	34.0	42.50	2.5	2.0	0.6	37	251.0	355.0	2,400	3,200	**32218**
	190	43	30.0	46.50	4.0	3.0	1.0	59	301.0	366.0	1,700	2,400	**31318**
95	145	32	24.0	32.00	2.0	1.5	0.6	31	178.0	290.0	2,700	3,500	**32019X**
	145	39	32.5	39.00	2.0	1.5	0.6	29	228.0	385.0	2,700	3,500	**33019**
	170	32	27.0	34.50	3.0	2.5	1.0	33	237.0	308.0	2,700	3,500	**30219**
	170	43	37.0	45.50	3.0	2.5	1.0	38	310.0	437.0	2,700	3,500	**32219**
100	150	32	24.0	32.00	2.0	1.5	0.6	33	178.0	261.0	2,400	3,200	**32020X**
	150	39	32.5	39.00	2.0	1.5	0.6	29	234.0	400.0	2,500	3,300	**33020**
	180	34	29.0	37.00	3.0	2.5	1.0	37	266.0	346.0	2,500	3,300	**30220**
	180	46	39.0	49.00	3.0	2.5	1.0	41	348.0	496.0	2,500	3,300	**32220**
105	160	35	26.0	35.00	2.5	2.0	0.6	35	211.0	348.0	2,600	3,400	**32021X**
	160	43	34.0	43.00	2.5	2.0	0.6	31	260.0	445.0	2,400	3,200	**33021**
	190	36	30.0	39.00	3.0	2.5	1.0	37	293.0	387.0	2,400	3,200	**30221**
	190	50	43.0	53.00	3.0	2.5	1.0	44	393.0	570.0	2,400	3,200	**32221**



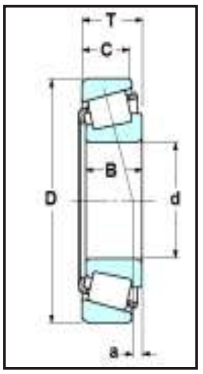
Medidas									Massa	Fatores		
d	d_a max	d_b min	D_a min	D_a max	D_b min	a_a min	a_b min	r_a max	Peso	e	Y	y_0
mm									Kg			
80	87	87	112	118	120	6	7.0	1.0	1.320	0.42	1.40	0.80
	89	89	114	121	126	6	8.0	1.5	1.930	0.42	1.40	0.80
	90	90	122	130	132	4	6.0	2.0	1.750	0.42	1.40	0.80
	90	90	122	130	134	4	7.0	2.0	2.290	0.42	1.40	0.80
85	92	92	117	123	125	6	7.0	1.0	1.410	0.44	1.40	0.70
	92	93	117	123	125	6	6.5	1.0	1.730	0.29	2.10	1.10
	96	95	132	140	141	5	6.0	2.0	2.140	0.42	1.40	0.80
	96	95	130	140	142	5	8.5	2.0	2.850	0.42	1.40	0.80
	96	95	130	140	142	5	8.5	2.0	2.850	0.42	1.40	0.80
	96	95	128	140	144	7	12.0	2.0	3.690	0.42	1.40	0.80
90	99	99	124	131	134	6	8.0	1.5	1.780	0.42	1.40	0.80
	99	99	124	131	135	6	6.5	1.5	2.250	0.27	2.20	1.20
	101	100	130	140	144	7	10.0	2.0	3.200	0.40	1.50	0.80
	102	100	138	150	150	5	6.0	2.0	2.710	0.42	1.40	0.80
	102	100	138	150	152	5	8.5	2.0	3.600	0.42	1.40	0.80
	109	104	151	176	179	6	16.5	3.0	5.420	0.83	0.73	0.40
95	105	104	130	136	139	6	8.0	1.5	1.870	0.44	1.40	0.80
	103	104	130	136	139	6	6.5	1.5	2.340	0.28	2.10	1.20
	107	110	148	158	159	5	7.0	2.0	3.160	0.42	1.40	0.80
	107	110	148	158	161	5	10.0	2.0	4.320	0.42	1.40	0.80
100	109	109	134	141	144	6	8.0	1.5	1.940	0.46	1.30	0.70
	109	110	134	141	144	6	6.5	1.5	2.470	0.28	2.10	1.10
	114	112	155	168	168	5	8.0	2.0	3.810	0.42	1.40	0.80
	114	112	155	168	171	5	10.0	2.0	5.210	0.42	1.40	0.80
105	116	115	143	150	154	6	9.0	2.0	2.510	0.44	1.40	0.70
	116	116	143	150	153	6	9.0	2.0	3.060	0.28	2.10	1.20
	120	117	163	178	178	8	9.0	2.0	4.940	0.42	1.40	0.80
	120	117	163	178	178	6	10.0	2.0	6.380	0.42	1.40	0.80



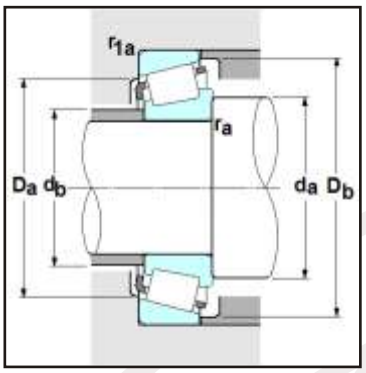
Medidas									Capac. Carga		Limite de Rotação		Rolamentos
d	D	B	C	T	r_1	r_2	r_3	a	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm									KN		rpm		
110	170	38	29.0	38.00	2.5	2.0	0.6	37	250.0	413.0	2,500	3,300	**32022X**
	170	47	37.0	47.00	2.5	2.0	0.6	33	300.0	520.0	2,200	3,000	**33022**
	200	38	32.0	41.00	3.0	2.5	1.0	39	304.0	402.0	1,800	2,500	**30222**
	200	53	46.0	56.00	3.0	2.5	1.0	46	433.0	630.0	2,200	3,000	**32222**
120	180	38	29.0	38.00	2.5	2.0	0.6	40	254.0	430.0	2,400	3,200	**32024X**
	215	40	34.0	43.50	3.0	2.5	1.0	43	339.0	452.0	1,600	2,200	**30224**
	215	58	50.0	61.50	3.0	2.5	1.0	52	484.0	727.0	1,900	3,000	**32224**
130	200	45	34.0	45.00	2.5	2.0	0.6	43	338.0	578.0	2,100	2,800	**32026X**
	230	40	34.0	43.75	4.0	3.0		46	379.0	499.0	1,500	2,000	**30226**
	230	64	54.0	67.75	4.0	3.0		57	506.0	796.0	1,500	2,000	**32226**
140	210	45	34.0	45.00	2.5	2.0	0.6	46	335.0	580.0	1,700	2,200	**32028AX**
	250	42	36.0	45.75	4.0	3.0		49	399.0	560.0	1,400	1,900	**30228**
	250	68	58.0	71.75	4.0	3.0		60	606.0	976.0	1,400	1,900	**32228**
150	270	45	38.0	49.00	4.0	3.0		52	431.0	628.0	1,300	1,800	**30230**
	270	73	60.0	77.00	4.0	3.0		65	752.0	1155.0	1,200	1,700	**32230**
170	310	52	43.0	57.00	5.0	4.0	1.5	61.4	690.0	995.0	1,020	1,450	**30234**
	310	86	71.0	91.00	5.0	4.0	1.5	76.0	946.0	1601.0	1,000	1,500	**32234**
180	320	52	43.0	57.00	5.0	4.0		63.0	586.0	875.0	1,000	1,500	**30236**
	320	86	71.0	91.00	5.0	4.0		79.0	975.0	1687.0	959	1,400	**32236**
190	340	55	46.0	60.00	5.0	4.0		65.0	672.0	990.0	950	1,400	**30238**
	340	92	75.0	97.00	5.0	4.0		82.0	1097.0	1879.0	900	1,300	**32238**
220	300	51	39.0	51.00	3.0	2.5	1.0	59	498.0	1016.0	930	1,330	**32944**
280	380	63.5	48.0	63.50	3.0	2.5	1.0	75	763.0	1624.0	700	1,000	**32956**
340	460	76	57.0	76.00	4.0	3.0	1.0	90.5	1064.0	2332.0	550	780	**32968**



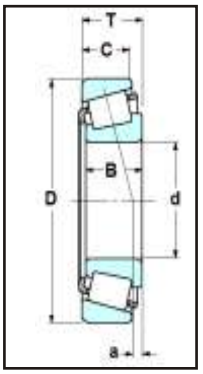
Medidas									Massa	Fatores		
d	d_a max	d_b min	D_a min	D_a max	D_b min	a_a min	a_b min	r_a max	Peso	e	Y	y_0
mm									Kg			
110	120	120	152	160	163	6	9.0	2.0	3.090	0.43	1.40	0.80
	121	121	150	159	160	6	10.0	2.0	3.870	0.29	2.10	1.20
	125	122	171	188	187	8	9.0	2.0	5.320	0.44	1.40	0.80
	125	122	171	188	190	6	10.0	2.0	7.560	0.44	1.40	0.80
120	130	130	162	170	173	6	9.0	2.0	3.320	0.46	1.30	0.70
	135	132	187	203	201	9	9.0	2.0	6.330	0.44	1.40	0.80
	135	132	184	203	204	9	11.5	2.0	9.420	0.44	1.40	0.80
130	140	140	178	190	192	8	11.0	2.0	5.050	0.44	1.40	0.80
	152	144	216	203	217	7	9.5	2.5	7.150	0.43	1.40	0.80
	146	144	216	193	219	7	13.5	2.5	11.300	0.43	1.40	0.80
140	150	150	186	200	202	8	11.0	2.0	5.260	0.46	1.30	0.70
	164	154	236	219	234	7	9.5	2.5	8.650	0.43	1.40	0.80
	159	154	236	210	238	8	13.5	2.5	14.400	0.43	1.40	0.80
150	175	164	256	234	250	9	11.0	2.5	11.000	0.43	1.40	0.80
	171	164	256	226	254	8	17.0	2.5	18.300	0.43	1.40	0.80
170	202	188	272	292	288	8	14.0	4.0	17.400	0.44	1.38	0.76
	196	188	292	259	294	10	20.0	3.0	28.500	0.43	1.40	0.80
180	211	198	302	278	297	9	14.0	3.0	20.000	0.46	1.30	0.70
	204	198	302	267	303	10	20.0	3.0	29.000	0.46	1.30	0.70
190	224	208	322	299	318	9	14.0	3.0	24.000	0.43	1.40	0.80
	216	208	322	286	323	10	22.0	3.0	36.000	0.43	1.40	0.80
220	235	232	277	288	293	9	14.0	2.5	10.500	0.43	1.41	0.78
280	299	292	349	368	371	8	15.0	2.5	20.300	0.43	1.39	0.76
340	363	354	422	446	449	15	21.0	3.0	35.600	0.44	1.37	0.75



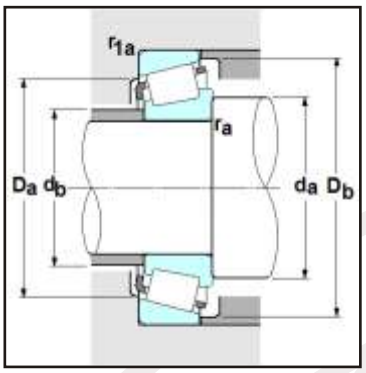
Medidas							Limite de Rotação		Rolamentos
d	D	T	B	C	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm					KN		rpm		
12.700	34.988	10.998	10.988	8.730	12.3	11.6	12 000	16 000	**A4050/A4138**
14.989	34.988	10.998	10.988	8.730	12.3	11.6	12 000	16 000	**A4059/A4138**
15.875	41.275	14.288	14.681	11.112	20.3	18.7	10 000	13 000	**03062/03162**
	42.862	14.288	14.288	9.525	17.6	17.5	8 700	12 000	**11590/11520**
	42.862	16.670	16.670	13.495	26.7	26.0	9 800	13 000	**17580/17520**
	47.000	14.381	14.381	11.112	24.0	24.2	8 600	11 000	**05062/05185**
	49.225	19.845	21.539	14.288	38.5	39.0	8 500	11 000	**09062/09195**
16.993	47.000	14.381	14.381	11.112	24.0	24.2	8 600	11 000	**05066/05185**
17.462	39.878	13.843	14.605	10.668	23.8	24.2	10 000	13 000	**LM11749/LM11710**
19.050	39.992	12.014	11.153	9.525	12.8	12.8	10 000	13 000	**A6075/A6157**
	45.237	15.494	16.637	12.065	28.3	28.6	8 900	12 000	**LM11949/LM11910**
	47.000	14.381	14.381	11.112	24.0	24.2	8 600	11 000	**05075/05185**
	49.225	18.034	19.050	14.288	38.5	39.0	8 500	11 000	**09067/09195**
	49.225	19.845	21.539	14.288	38.5	39.0	8 500	11 000	**09078/09195**
	49.225	21.209	19.050	17.462	38.5	39.0	8 500	11 000	**09067/09196**
	53.975	22.225	21.839	15.875	40.0	39.0	8 000	11 000	**21075/21212**
	56.896	19.368	19.837	15.875	42.5	46.5	7 200	9 600	**1775/1729**
19.987	47.000	14.381	14.381	11.112	24.0	24.2	8 600	11 000	**05079/05185**
20.000	50.005	13.495	14.260	9.525	26.0	27.9	7 500	10 000	**07079/07196**
20.625	49.225	19.845	21.539	14.288	38.5	39.0	8 500	11 000	**09081/09195**
20.638	49.225	19.845	19.845	15.875	37.5	39.0	8 200	11 000	**12580/12520**
21.430	50.005	17.526	18.288	13.970	38.0	39.0	8 000	11 000	**M12649/M12610**
21.986	45.974	15.494	16.637	12.065	29.6	34.0	8 400	11 000	**LM12749/LM12711**
22.225	50.005	13.495	14.260	9.525	26.0	27.9	7 500	10 000	**07087/07196**
	50.005	17.526	18.288	13.970	38.0	39.0	8 000	11 000	**M12648/M12610**
	52.388	19.368	20.168	14.288	40.5	43.0	7 600	10 000	**1380/1328**
	53.975	19.368	20.168	14.288	40.5	43.0	7 600	10 000	**1380/1329**
	56.896	19.368	19.837	15.875	42.5	46.5	7 200	9 600	**1755/1729**
	57.150	22.225	22.225	17.462	47.0	49.5	7 100	9 500	**1280/1220**
22.606	47.000	15.500	15.500	12.000	27.5	32.5	8 200	11 000	**LM72849/LM72810**
23.812	50.005	13.495	14.260	9.525	26.0	27.9	7 500	10 000	**07093/07196**
	50.292	14.224	14.732	10.668	28.8	34.0	7 400	9 900	**L44640/L44610**
	56.896	19.368	19.837	15.875	42.5	46.5	7 200	9 600	**1779/1729**
24.981	50.005	13.495	14.260	9.525	26.0	27.9	7 500	10 000	**07098/07196**



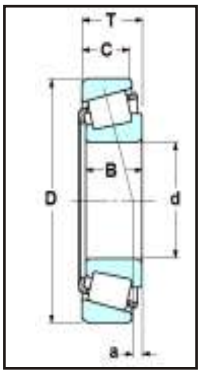
Medidas							Fatores			Massa
d	db	Da	Db	ra max	r1a max	a	e	Y2	Yo	Peso
mm										kg
12.700	17	29	32	1.3	1.3	2.5	0.45	1.32	0.73	0.053
14.989	19	29	32	0.8	1.3	2.5	0.45	1.32	0.73	0.049
15.875	20	34	37.5	1.3	2	5.4	0.31	1.93	1.06	0.092
	22.5	34.5	39.5	1.5	1.5	1.2	0.70	0.85	0.47	0.103
	21	36.5	39	1.5	1.5	5.8	0.33	1.81	1.00	0.122
	21	40.5	42.5	1.5	1.3	4.2	0.36	1.68	0.92	0.131
	21.5	42	44.5	0.8	1.3	9.4	0.27	2.26	1.24	0.203
16.993	22	40.5	42.5	1.5	1.3	4.2	0.36	1.68	0.92	0.127
17.462	21.5	34	37	1.3	1.3	5.3	0.29	2.10	1.15	0.084
19.050	23	34	37	1	1.3	1.5	0.53	1.14	0.63	0.065
	23.5	39.5	41.5	1.3	1.3	5.6	0.30	2.00	1.10	0.122
	23.5	40.5	42.5	1.3	1.3	4.2	0.36	1.68	0.92	0.121
	24	42	44.5	1.3	1.3	7.6	0.27	2.26	1.24	0.179
	24	42	44.5	1.3	1.3	9.4	0.27	2.26	1.24	0.188
	24	41.5	44.5	1.3	1.5	7.6	0.27	2.26	1.24	0.198
	26	43	50	1.5	2.3	5.6	0.59	1.02	0.56	0.248
	25	49	51	1.5	1.3	6.5	0.31	1.95	1.07	0.272
19.987	24	40.5	42.5	1.5	1.3	4.2	0.36	1.68	0.92	0.117
20.000	26	44.5	47	1.5	1	3.0	0.40	1.49	0.82	0.138
20.625	25.5	42	44.5	1.5	1.3	9.4	0.27	2.26	1.24	0.179
20.638	26	42.5	45.5	1.5	1.5	7.1	0.32	1.86	1.02	0.182
21.430	25.5	44	46	1.3	1.3	6.4	0.28	2.16	1.19	0.169
21.986	26	40	42.5	1.3	1.3	5.4	0.31	1.96	1.08	0.123
22.225	27	44.5	47	1.3	1	3.0	0.40	1.49	0.82	0.130
	26.5	44	46	1.3	1.3	6.4	0.28	2.16	1.19	0.165
	27	45	48.5	1.5	1.5	7.4	0.29	2.05	1.13	0.200
	27	46	49	1.5	1.5	7.4	0.29	2.05	1.13	0.215
	27.5	49	51	1.3	1.3	6.5	0.31	1.95	1.07	0.256
	29	49	52	0.8	1.5	7.1	0.35	1.73	0.95	0.286
22.606	28	40.5	44	1.5	1	3.0	0.47	1.27	0.70	0.125
23.812	28.5	44.5	47	1.5	1	3.0	0.40	1.49	0.82	0.123
	28.5	44.5	47	1.5	1.3	3.4	0.37	1.60	0.88	0.137
	28.5	49	51	0.8	1.3	6.5	0.31	1.95	1.07	0.247
24.981	29	44.5	47	1.5	1	3.0	0.40	1.49	0.82	0.118



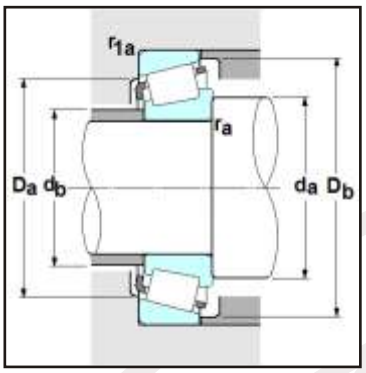
Medidas							Limite de Rotação		Rolamentos
d	D	T	B	C	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm					KN		rpm		
25.000	50.005	13.495	14.260	9.525	26.0	27.9	7 500	10 000	**07097/07196**
25.159	50.005	13.495	14.260	9.525	26.0	27.9	7 500	10 000	**07096/07196**
25.400	50.005	13.495	14.260	9.525	26.0	27.9	7 500	10 000	**07100/07196**
	50.005	13.495	14.260	9.525	26.0	27.9	7 500	10 000	**07100S/07196**
	50.292	14.224	14.732	10.668	28.8	34.0	7 400	9 900	**L44643/L44610**
	51.994	15.011	14.260	12.700	26.0	27.9	7 500	10 000	**07100/07204**
	56.896	19.368	19.837	15.875	42.5	46.5	7 200	9 600	**1780/1729**
	57.150	19.431	19.431	14.732	42.0	48.5	6 900	9 200	**M84548/M84510**
	61.912	19.050	20.638	14.288	46.5	54.0	6 100	8 200	**15101/15243**
	62.000	19.050	20.638	14.288	46.5	54.0	6 100	8 200	**15100/15245**
	62.000	19.050	20.638	14.288	46.5	54.0	6 100	8 200	**15102/15245**
	64.292	21.433	21.433	16.670	51.5	64.5	6 100	8 100	**M86643/M86610**
	65.088	22.225	21.463	15.875	47.0	50.5	5 700	7 600	**23100/23256**
	66.421	23.812	25.433	19.050	64.5	72.5	6 200	8 200	**2687/2631**
26.157	62.000	19.050	20.638	14.288	46.5	54.0	6 100	8 200	**15103/15245**
26.162	66.421	23.812	25.433	19.050	64.5	72.5	6 200	8 200	**2682/2631**
26.988	50.292	14.224	14.732	10.668	28.8	34.0	7 400	9 900	**L44649/L44610**
	60.325	19.842	17.462	15.875	39.5	45.5	6 700	8 900	**15580/15523**
	62.000	19.050	20.638	14.288	46.5	54.0	6 100	8 200	**15106/15245**
	66.421	23.812	25.433	19.050	64.5	72.5	6 200	8 200	**2688/2631**
28.575	56.896	19.845	19.355	15.875	40.5	44.5	6 700	8 900	**1985/1930**
	57.150	17.462	17.462	13.495	39.5	45.5	6 700	8 900	**15590/15520**
	58.738	19.050	19.355	15.080	40.5	44.5	6 700	8 900	**1985/1932**
	60.325	19.842	17.462	15.875	39.5	45.5	6 700	8 900	**15590/15523**
	60.325	19.845	19.355	15.875	40.5	44.5	6 700	8 900	**1985/1931**
	62.000	19.050	20.638	14.288	46.5	54.0	6 100	8 200	**15112/15245**
	64.292	21.433	21.433	16.670	51.5	64.5	6 100	8 100	**M86647/M86610**
	66.421	23.812	25.433	19.050	64.5	72.5	6 200	8 200	**2689/2631**
	68.262	22.225	22.225	17.462	57.0	67.0	5 800	7 700	**02474/02420**
	68.262	22.225	23.812	17.462	57.5	65.5	5 700	7 700	**2474/2420**
	69.850	23.812	25.357	19.050	69.0	81.5	5 700	7 600	**2578/2523**
	72.626	24.608	24.257	17.462	58.0	55.5	5 800	7 700	**41125/41286**
	73.025	22.225	22.225	17.462	56.5	68.0	5 300	7 000	**02872/02820**
29.000	50.292	14.224	14.732	10.668	28.0	35.5	7 200	9 600	**L45449/L45410**



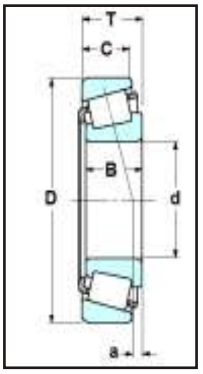
Medidas							Fatores			Massa
d	db	Da	Db	ra max	r1a max	a	e	Y2	Yo	Peso
mm										kg
25.000	29	44.5	47	1.5	1	3.0	0.40	1.49	0.82	0.118
25.159	29.5	44.5	47	1.5	1	3.0	0.40	1.49	0.82	0.117
25.400	29.5	44.5	47	1	1	3.0	0.40	1.49	0.82	0.117
	29.5	44.5	47	1.5	1	3.0	0.40	1.49	0.82	0.116
	29.5	44.5	47	1.3	1.3	3.4	0.37	1.60	0.88	0.130
	29.5	45	48	1	1.3	3.0	0.40	1.49	0.82	0.144
	30	49	51	0.8	1.3	6.5	0.31	1.95	1.07	0.238
	33	48.5	54	1.5	1.5	3.4	0.55	1.10	0.60	0.241
	31.5	54	58	0.8	2	6.0	0.35	1.71	0.94	0.300
	31.5	55	58	3.5	1.3	6.0	0.35	1.71	0.94	0.299
	31.5	55	58	1.5	1.3	6.0	0.35	1.71	0.94	0.301
	36.5	54	61	1.5	1.5	3.3	0.55	1.10	0.60	0.371
	34.5	53	63	1.5	1.5	2.0	0.73	0.82	0.45	0.360
	31.5	58	60	1.3	1.3	9.3	0.25	2.36	1.30	0.442
26.157	32.5	55	58	0.8	1.3	6.0	0.35	1.71	0.94	0.296
26.162	32	58	60	1.5	1.3	9.3	0.25	2.36	1.30	0.436
26.988	31	44.5	47	3.5	1.3	3.4	0.37	1.60	0.88	0.120
	32	51	54	3.5	1.5	5.0	0.35	1.73	0.95	0.260
	33	55	58	0.8	1.3	6.0	0.35	1.71	0.94	0.291
	33	58	60	1.5	1.3	9.3	0.25	2.36	1.30	0.429
28.575	33.5	51	54	0.8	0.8	6.7	0.33	1.82	1.00	0.217
	33.5	51	53	3.5	1.5	5.0	0.35	1.73	0.95	0.196
	33.5	52	54	0.8	1.3	5.9	0.33	1.82	1.00	0.230
	33.5	51	54	3.5	1.5	5.0	0.35	1.73	0.95	0.250
	33.5	52	55	0.8	1.3	5.9	0.33	1.82	1.00	0.255
	34	55	58	3.5	1.3	6.0	0.35	1.71	0.94	0.277
	38	54	61	1.5	1.5	3.3	0.55	1.10	0.60	0.348
	34	58	60	1.3	1.3	9.3	0.25	2.36	1.30	0.416
	36	59	63	0.8	1.5	5.2	0.42	1.44	0.79	0.409
	35	60	63	0.8	1.5	6.5	0.34	1.77	0.97	0.410
	35	61	64	2.3	1.3	9.1	0.27	2.19	1.21	0.483
	36.5	61	68	4.8	1.5	3.7	0.60	1.00	0.55	0.477
	37	62	68	0.8	3.3	3.9	0.45	1.32	0.73	0.480
29.000	33	44.5	48	3.5	1.3	3.5	0.37	1.62	0.89	0.113



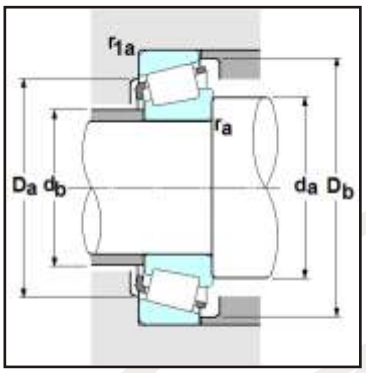
Medidas							Limite de Rotação		Rolamentos
d	D	T	B	C	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm					KN		rpm		
29.367	66.421	23.812	25.433	19.050	64.5	72.5	6 200	8 200	**2690/2631**
29.987	62.000	16.002	16.566	14.288	39.0	42.0	6 300	8 400	**17118/17244**
	62.000	19.050	20.638	14.288	46.5	54.0	6 100	8 200	**15117/15245**
30.000	69.012	19.845	19.583	15.875	48.5	58.0	5 600	7 400	**14117A/14276**
	72.000	29.370	27.783	23.020	72.0	97.0	5 400	7 100	**JHM88540/JHM88513**
30.112	62.000	19.050	20.638	14.288	46.5	54.0	6 100	8 200	**15116/15245**
30.162	62.000	16.002	16.566	14.288	39.0	42.0	6 300	8 400	**17119/17244**
	64.292	21.433	21.433	16.670	51.5	64.5	6 100	8 100	**M86649/M86610**
	69.850	23.812	25.357	19.050	69.0	81.5	5 700	7 600	**2558/2523**
	72.626	30.162	29.997	23.812	84.5	98.0	5 500	7 300	**3187/3120**
30.213	62.000	19.050	20.638	14.288	46.5	54.0	6 100	8 200	**15118/15245**
	62.000	19.050	20.638	14.288	46.5	54.0	6 100	8 200	**15119/15245**
	62.000	19.050	20.638	14.288	46.5	54.0	6 100	8 200	**15120/15245**
30.226	69.012	19.845	19.583	15.875	48.5	58.0	5 600	7 400	**14116/14274**
	69.012	19.845	19.583	15.875	48.5	58.0	5 600	7 400	**14116/14276**
31.750	59.131	15.875	16.764	11.811	34.5	41.0	6 300	8 400	**LM67048/LM67010**
	62.000	18.161	19.050	14.288	46.5	54.0	6 100	8 200	**15123/15245**
	62.000	19.050	20.638	14.288	46.5	54.0	6 100	8 200	**15125/15245**
	62.000	19.050	20.638	14.288	46.5	54.0	6 100	8 200	**15126/15245**
	66.421	25.400	25.357	20.638	69.0	81.5	5 700	7 600	**2580/2520**
	68.262	22.225	22.225	17.462	57.0	67.0	5 800	7 700	**02475/02420**
	68.262	22.225	22.225	17.462	57.0	67.0	5 800	7 700	**02476/02420**
	69.012	19.845	19.583	15.875	48.5	58.0	5 600	7 400	**14124/14276**
	69.012	19.845	19.583	15.875	48.5	58.0	5 600	7 400	**14125A/14276**
	69.850	23.812	25.357	19.050	69.0	81.5	5 700	7 600	**2580/2523**
	69.850	23.812	25.357	19.050	69.0	81.5	5 700	7 600	**2582/2523**
	72.626	30.162	29.997	23.812	84.5	98.0	5 500	7 300	**3188/3120**
	72.626	30.162	29.997	23.812	84.5	98.0	5 500	7 300	**3193/3120**
	73.025	22.225	22.225	17.462	56.5	68.0	5 300	7 000	**02875/02820**
	73.025	22.225	23.812	17.462	62.5	75.5	5 200	7 000	**2879/2820**
	73.025	29.370	27.783	23.020	72.0	97.0	5 400	7 100	**HM88542/HM88510**
	73.812	29.370	27.783	23.020	72.0	97.0	5 400	7 100	**HM88542/HM88512**
	76.200	29.370	28.575	23.020	78.0	105	5 100	6 800	**HM89440/HM89410**
	79.375	29.370	29.771	23.812	93.0	114	4 900	6 600	**3476/3420**



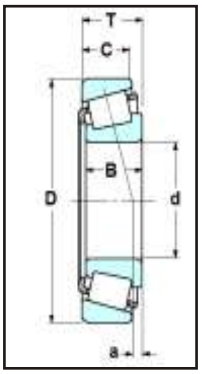
Medidas							Fatores			Massa
d	db	Da	Db	ra max	r1a max	a	e	Y2	Yo	Peso
mm										kg
29.367	35	58	60	3.5	1.3	9.3	0.25	2.36	1.30	0.406
29.987	34.5	54	57	1.5	1.5	3.3	0.38	1.57	0.86	0.228
	35	55	58	1.3	1.3	6.0	0.35	1.71	0.94	0.269
30.000	39.5	60	63	3.5	1.3	4.1	0.38	1.57	0.86	0.369
	42.5	58	69	1.3	3.3	6.0	0.55	1.10	0.60	0.619
30.112	35.5	55	58	0.8	1.3	6.0	0.35	1.71	0.94	0.268
30.162	34.5	54	57	1.5	1.5	3.3	0.38	1.57	0.86	0.226
	38	54	61	1.5	1.5	3.3	0.55	1.10	0.60	0.336
	36.5	61	64	2.3	1.3	9.1	0.27	2.19	1.21	0.468
	38.5	61	67	0.8	3.3	9.9	0.33	1.80	0.99	0.621
30.213	35.5	55	58	3.5	1.3	6.0	0.35	1.71	0.94	0.265
	35.5	55	58	1.5	1.3	6.0	0.35	1.71	0.94	0.267
	35.5	55	58	0.8	1.3	6.0	0.35	1.71	0.94	0.267
30.226	36.5	59	63	0.8	3.3	4.1	0.38	1.57	0.86	0.366
	36.5	60	63	0.8	1.3	4.1	0.38	1.57	0.86	0.370
31.750	36	52	56	*	1.3	2.8	0.41	1.46	0.80	0.182
	36.5	55	58	*	1.3	5.1	0.35	1.71	0.94	0.244
	36.5	55	58	3.5	1.3	6.0	0.35	1.71	0.94	0.253
	36.5	55	58	0.8	1.3	6.0	0.35	1.71	0.94	0.255
	37.5	57	62	0.8	3.3	9.1	0.27	2.19	1.21	0.409
	38.5	59	63	3.5	1.5	5.2	0.42	1.44	0.79	0.380
	38.5	59	63	0.8	1.5	5.2	0.42	1.44	0.79	0.383
	37.5	60	63	0.8	1.3	4.1	0.38	1.57	0.86	0.359
	37.5	60	63	3.5	1.3	4.1	0.38	1.57	0.86	0.356
	37.5	61	64	0.8	1.3	9.1	0.27	2.19	1.21	0.454
	37.5	61	64	3.5	1.3	9.1	0.27	2.19	1.21	0.451
	39.5	61	67	0.8	3.3	9.9	0.33	1.80	0.99	0.603
	39.5	61	67	3.5	3.3	9.9	0.33	1.80	0.99	0.601
	39.5	62	68	3.5	3.3	3.9	0.45	1.32	0.73	0.451
	38.5	63	68	0.8	3.3	5.5	0.37	1.63	0.90	0.465
	42.5	59	70	1.3	3.3	6.0	0.55	1.10	0.60	0.622
	42.5	60	70	1.3	3.3	6.0	0.55	1.10	0.60	0.638
	44.5	62	73	0.8	3.3	5.8	0.55	1.10	0.60	0.686
	41	67	74	1.3	3.3	8.7	0.37	1.64	0.90	0.767



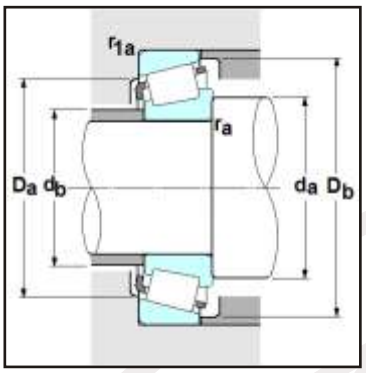
Medidas							Limite de Rotação		Rolamentos
d	D	T	B	C	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm					KN		rpm		
	68.262	22.225	22.225	17.462	56.5	71.0	5 700	7 500	**M88048/M88010**
	69.012	19.845	19.583	15.875	48.5	58.0	5 600	7 400	**14130/14276**
	69.850	23.812	25.357	19.050	69.0	81.5	5 700	7 600	**2585/2523**
	72.626	30.162	29.997	23.812	84.5	98.0	5 500	7 300	**3196/3120**
33.338	73.025	29.370	27.783	23.020	72.0	97.0	5 400	7 100	**HM88547/HM88510**
	76.200	23.812	25.654	19.050	73.0	90.5	5 100	6 800	**2785/2720**
	76.200	29.370	28.575	23.020	78.0	105	5 100	6 800	**HM89443/HM89410**
	76.200	29.370	28.575	23.020	78.0	105	5 100	6 800	**HM89444/HM89410**
	79.375	25.400	24.074	17.462	65.5	67.0	5 200	6 900	**43131/43312**
	65.088	18.034	18.288	13.970	46.5	56.0	5 700	7 600	**LM48548/LM48510**
	65.088	18.034	18.288	13.970	46.5	56.0	5 700	7 600	**LM48548A/LM48510**
	69.012	19.845	19.583	15.875	48.5	58.0	5 600	7 400	**14137A/14276**
	72.233	25.400	25.400	19.842	65.0	84.5	5 400	7 200	**HM88649/HM88610**
	72.238	20.638	20.638	15.875	48.0	58.5	5 300	7 000	**16137/16284**
	73.025	22.225	22.225	17.462	56.5	68.0	5 300	7 000	**02877/02820**
	73.025	22.225	22.225	17.462	56.5	68.0	5 300	7 000	**02878/02820**
	73.025	22.225	23.812	17.462	62.5	75.5	5 200	7 000	**2878/2820**
	73.025	23.812	24.608	19.050	71.0	85.0	5 300	7 100	**25877/25820**
34.925	73.025	23.812	24.608	19.050	71.0	85.0	5 300	7 100	**25877/25821**
	73.025	23.812	25.654	19.050	73.0	90.5	5 100	6 800	**2793/2735X**
	76.200	23.812	25.654	19.050	73.0	90.5	5 100	6 800	**2793/2720**
	76.200	23.812	25.654	19.050	73.0	90.5	5 100	6 800	**2793/2729**
	76.200	29.370	28.575	23.020	78.0	105.0	5 100	6 800	**HM89446/HM89410**
	76.200	29.370	28.575	23.812	80.5	97.0	5 100	6 800	**31593/31520**
	76.200	29.370	28.575	23.812	80.5	97.0	5 100	6 800	**31594/31520**
	79.375	29.370	29.771	23.812	93.0	114.0	4 900	6 600	**3478/3420**
	80.167	29.370	30.391	23.812	95.0	112.0	4 800	6 400	**3379/3320**
	85.725	30.162	30.162	23.812	105.0	132.0	4 500	6 000	**3872/3820**
34.976	69.012	19.845	19.583	15.875	48.5	58.0	5 600	7 400	**14139/14276**
	59.974	15.875	16.764	11.938	35.5	47.5	6 100	8 100	**L68149/L68111**
34.988	61.973	16.700	17.000	13.600	37.0	48.0	5 900	7 900	**LM78349A/LM78310A**
	61.973	18.000	17.000	15.000	37.0	48.0	5 900	7 900	**LM78349/LM78310C**
	70.000	24.000	23.500	19.000	62.0	78.0	5 500	7 300	**JS3549A/JS3510**
35.000	79.375	23.812	25.400	19.050	76.5	97.5	4 800	6 400	**26883/26822**
	80.000	21.000	22.403	17.826	68.0	75.0	4 700	6 300	**339/332**



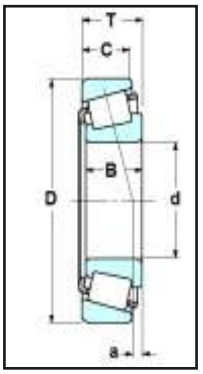
Medidas							Fatores			Massa
d	db	Da	Db	ra max	r1a max	a	e	Y2	Yo	Peso
mm										kg
33.338	41	58	65	0.8	1.5	2.9	0.55	1.10	0.60	0.378
	38.5	60	63	3.5	1.3	4.1	0.38	1.57	0.86	0.344
	39	61	64	3.5	1.3	9.1	0.27	2.19	1.21	0.435
	40.5	61	67	3.5	3.3	9.9	0.33	1.80	0.99	0.581
	42.5	59	70	0.8	3.3	6.0	0.55	1.10	0.60	0.604
	40	66	70	3.5	3.3	7.8	0.30	1.98	1.09	0.551
	44.5	62	73	0.8	3.3	5.8	0.55	1.10	0.60	0.668
	44.5	62	73	3.8	3.3	5.8	0.55	1.10	0.60	0.665
	42	67	74	3.5	1.5	1.4	0.67	0.90	0.49	0.568
34.925	40	58	61	*	1.3	3.7	0.38	1.59	0.88	0.249
	42	58	61	0.8	1.3	3.7	0.38	1.59	0.88	0.252
	40	60	63	1.5	1.3	4.1	0.38	1.57	0.86	0.333
	42.5	60	69	2.3	2.3	4.6	0.55	1.10	0.60	0.489
	40.5	63	67	3.5	1.3	4.2	0.40	1.49	0.82	0.385
	42	62	68	3.5	3.3	3.9	0.45	1.32	0.73	0.422
	42	62	68	0.8	3.3	3.9	0.45	1.32	0.73	0.425
	41	63	68	0.8	3.3	5.5	0.37	1.63	0.90	0.434
	40.5	64	68	1.5	2.3	8.1	0.29	2.07	1.14	0.471
	40.5	65	68	1.5	0.8	8.1	0.29	2.07	1.14	0.474
	41	66	69	0.8	0.8	7.8	0.30	1.98	1.09	0.485
	41	66	70	0.8	3.3	7.8	0.30	1.98	1.09	0.536
	41	68	70	0.8	0.8	7.8	0.30	1.98	1.09	0.541
	44.5	62	73	3.5	3.3	5.8	0.55	1.10	0.60	0.646
	43.5	64	72	3.5	3.3	7.8	0.40	1.49	0.82	0.625
	43.5	64	72	1.5	3.3	7.8	0.40	1.49	0.82	0.627
	43.5	67	74	3.5	3.3	8.7	0.37	1.64	0.90	0.725
	41.5	70	75	3.5	3.3	11.2	0.27	2.20	1.21	0.732
	46	73	81	3.5	3.3	8.1	0.40	1.49	0.82	0.897
34.976	40	60	63	1.3	1.3	4.1	0.38	1.57	0.86	0.333
34.988	39	53	56	*	1.3	2.5	0.42	1.44	0.79	0.179
	39.5	54	59	1.5	1.5	2.4	0.44	1.35	0.74	0.209
	40	56	59	*	1.5	2.4	0.44	1.35	0.74	0.218
35.000	42	60	67	2	1.5	3.6	0.55	1.10	0.60	0.420
	42	71	74	0.8	0.8	7.4	0.32	1.88	1.04	0.610
	41.5	73	75	0.8	1.3	6.6	0.27	2.20	1.21	0.534



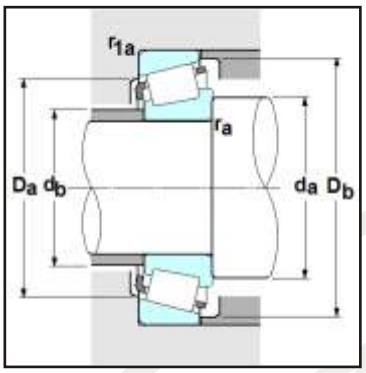
Medidas							Limite de Rotação		Rolamentos
d	D	T	B	C	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm					KN		rpm		
35.717	72.233	25.400	25.400	19.842	65.0	84.5	5 400	7 200	**HM88648/HM88610**
	72.626	25.400	25.400	19.842	65.0	84.5	5 400	7 200	**HM88648/HM88611AS**
36.487	73.025	23.812	24.608	19.050	71.0	85.0	5 300	7 100	**25880/25821**
	76.200	23.812	25.654	19.050	73.0	90.5	5 100	6 800	**2780/2720**
36.512	76.200	29.370	28.575	23.020	78.0	105.0	5 100	6 800	**HM89448/HM89410**
	76.200	29.370	28.575	23.020	78.0	105.0	5 100	6 800	**HM89449/HM89411**
	76.200	29.370	28.575	23.812	80.5	97.0	5 100	6 800	**31597/31520**
	79.375	29.370	28.829	22.664	86.5	104.0	5 000	6 600	**HM89249/HM89210**
	79.375	29.370	29.771	23.812	93.0	114.0	4 900	6 600	**3479/3420**
	88.500	25.400	23.698	17.462	70.5	78.0	4 000	5 300	**44143/44348**
38.000	63.000	17.000	17.000	13.500	38.5	52.5	5 700	7 600	**JL69349/JL69310**
38.100	63.500	12.700	11.908	9.525	25.9	33.5	5 500	7 300	**13889/13830**
	65.088	18.034	18.288	13.970	43.5	57.0	5 500	7 400	**LM29748/LM29710**
	69.012	19.050	19.050	15.083	47.5	59.5	5 300	7 100	**13685/13621**
	69.012	19.050	19.050	15.083	47.5	59.5	5 300	7 100	**13687/13621**
	71.438	15.875	16.520	11.908	43.5	51.0	5 400	7 200	**19150/19281**
	72.000	19.000	20.638	14.237	48.0	58.5	5 300	7 000	**16150/16282**
	76.200	20.638	20.940	15.507	55.5	63.0	5 000	6 700	**28150/28300**
	76.200	23.812	25.654	19.050	73.0	90.5	5 100	6 800	**2776/2720**
	76.200	23.812	25.654	19.050	73.0	90.5	5 100	6 800	**2788/2720**
	79.375	23.812	25.400	19.050	76.5	97.5	4 800	6 400	**26878/26822**
	79.375	29.370	29.771	23.812	93.0	114.0	4 900	6 600	**3490/3420**
	80.000	21.006	20.940	15.875	55.5	63.0	5 000	6 700	**28150/28315**
	80.035	24.608	23.698	18.512	67.0	82.5	4 800	6 400	**27880/27820**
	82.550	29.370	28.575	23.020	87.0	117.0	4 700	6 200	**HM801346/HM801310**
	82.931	23.812	25.400	19.050	76.0	98.0	4 500	6 000	**25572/25520**
	85.725	30.162	30.162	23.812	105.0	132.0	4 500	6 000	**3875/3820**
	87.312	30.162	30.886	23.812	94.0	117.0	4 400	5 900	**3580/3525**
	88.500	25.400	23.698	17.462	70.5	78.0	4 000	5 300	**44150/44348**
	88.500	26.988	29.083	22.225	95.5	107.0	4 600	6 100	**418/414**



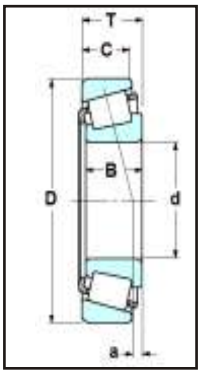
Medidas							Fatores			Massa
d	db	Da	Db	ra max	r1a max	a	e	Y2	Yo	Peso
mm										kg
35.717	43	60	69	3.5	2.3	4.6	0.55	1.10	0.60	0.478
	43	59	69	3.5	3.3	3.0	0.55	1.10	0.60	0.482
36.487	42	65	68	1.5	0.8	8.1	0.29	2.07	1.14	0.457
	42.5	66	70	1.5	3.3	7.8	0.30	1.98	1.09	0.518
36.512	44.5	62	73	0.8	3.3	5.8	0.55	1.10	0.60	0.629
	44.5	65	73	3.5	0.8	5.8	0.55	1.10	0.60	0.631
	44.5	64	72	3.5	3.3	7.8	0.40	1.49	0.82	0.605
	44	66	75	3.5	3.3	5.8	0.55	1.10	0.60	0.686
	44.5	67	74	0.8	3.3	8.7	0.37	1.64	0.90	0.707
	50	75	84	2.3	1.5	2.9	0.78	0.77	0.42	0.729
38.000	42.5	56	60	*	1.3	2.3	0.42	1.44	0.79	0.198
38.100	42.5	59	60	1.5	0.8	0.8	0.35	1.73	0.95	0.147
	42.5	59	62	*	1.3	4.3	0.33	1.80	0.99	0.233
	43	61	65	3.5	2.3	3.0	0.40	1.49	0.82	0.293
	43	61	65	2	2.3	3.0	0.40	1.49	0.82	0.296
	43	63	66	1.5	1	1.4	0.44	1.35	0.74	0.273
	43	63	67	3.5	1.5	4.2	0.40	1.49	0.82	0.331
	43.5	68	71	1.5	1.3	4.8	0.40	1.49	0.82	0.405
	43.5	66	70	4.3	3.3	7.8	0.30	1.98	1.09	0.495
	43.5	66	70	3.5	3.3	7.8	0.30	1.98	1.09	0.497
	44.5	71	74	0.8	0.8	7.4	0.32	1.88	1.04	0.574
	45.5	67	74	3.5	3.3	8.7	0.37	1.64	0.90	0.683
	43.5	69	73	1.5	1.5	4.8	0.40	1.49	0.82	0.467
	47	68	75	0.8	1.5	2.5	0.56	1.07	0.59	0.562
	49	68	78	0.8	3.3	4.7	0.55	1.10	0.60	0.767
	46	74	77	0.8	0.8	6.2	0.33	1.79	0.99	0.645
	48.5	73	81	0.8	3.3	8.1	0.40	1.49	0.82	0.857
	45.5	75	81	1.5	3.3	10.0	0.31	1.96	1.08	0.881
	51	75	84	2.3	1.5	-2.9	0.78	0.77	0.42	0.711
	44.5	77	80	3.5	1.5	9.1	0.26	2.28	1.25	0.840



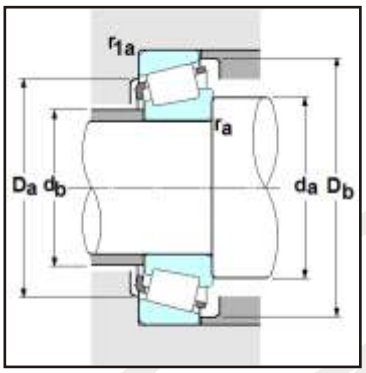
Medidas							Limite de Rotação		Rolamentos
d	D	T	B	C	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm					KN		rpm		
39.688	76.200	23.812	25.654	19.050	73.0	90.5	5 100	6 800	**2789/2720**
	77.534	29.370	30.391	23.812	95.0	112.0	4 800	6 400	**3382/3321**
	79.375	23.812	25.400	19.050	76.5	97.5	4 800	6 400	**26880/26822**
	80.035	29.370	30.391	23.812	95.0	112.0	4 800	6 400	**3382/3339**
	80.167	29.370	30.391	23.812	95.0	112.0	4 800	6 400	**3386/3320**
	88.500	25.400	23.698	17.462	70.5	78.0	4 000	5 300	**44158/44348**
40.000	76.200	20.638	20.940	15.507	55.5	63.0	5 000	6 700	**28158/28300**
	80.000	21.000	22.403	17.826	68.0	75.0	4 700	6 300	**344/332**
	85.000	20.638	21.692	17.462	69.5	79.5	4 400	5 800	**350A/354A**
	88.500	26.988	29.083	22.225	95.5	107.0	4 600	6 100	**420/414**
	107.950	36.512	36.957	28.575	141.0	177.0	3 600	4 800	**543/532X**
40.483	82.550	29.370	28.575	23.020	87.0	117.0	4 700	6 200	**HM801349/HM801310**
40.988	67.975	17.500	18.000	13.500	46.0	62.5	5 300	7 000	**LM300849/LM300811**
41.275	73.025	16.667	17.462	12.700	46.0	55.5	5 000	6 600	**18590/18520**
	73.431	19.558	19.812	14.732	56.0	69.5	5 000	6 600	**LM501349/LM501310**
	73.431	21.430	19.812	16.604	56.0	69.5	5 000	6 600	**LM501349/LM501314**
	76.200	18.009	17.384	14.288	42.5	51.5	4 900	6 500	**11162/11300**
	76.200	22.225	23.020	17.462	65.0	80.5	4 900	6 500	**24780/24720**
	76.200	25.400	25.400	20.638	76.5	97.5	4 800	6 400	**26882/26823**
	79.375	23.812	25.400	19.050	76.5	97.5	4 800	6 400	**26885/26822**
	80.000	18.009	17.384	14.288	42.5	51.5	4 900	6 500	**11162/11315**
	80.000	21.000	22.403	17.826	68.0	75.0	4 700	6 300	**336/332**
	80.000	23.812	25.400	19.050	76.5	97.5	4 800	6 400	**26882/26824**
	82.550	26.543	25.654	20.193	80.5	104.0	4 600	6 100	**M802048/M802011**
	85.725	30.162	30.162	23.812	105.0	132.0	4 500	6 000	**3880/3820**
	87.312	30.162	30.886	23.812	94.0	117.0	4 400	5 900	**3576/3525**
	88.900	30.162	29.370	23.020	93.5	125.0	4 300	5 800	**HM803145/HM803110**
	90.488	39.688	40.386	33.338	136.0	175.0	4 300	5 800	**4388/4335**
	92.075	26.195	23.812	16.670	72.5	81.5	3 800	5 000	**M903345/M903310**
	93.662	31.750	31.750	26.195	104.0	131.0	4 100	5 500	**46162/46368**
	95.250	30.162	29.370	23.020	109.0	147.0	4 000	5 300	**HM804840/HM804810**
	95.250	30.958	28.300	20.638	82.5	92.0	3 700	5 000	**53162/53375**
	95.250	30.958	28.575	22.225	96.0	116.0	3 700	4 900	**HM903245/HM903210**
42.070	90.488	39.688	40.386	33.338	136.0	175.0	4 300	5 800	**4395/4335**



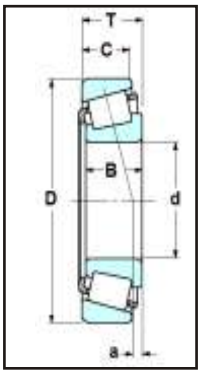
Medidas							Fatores			Massa
d	db	Da	Db	ra max	r1a max	a	e	Y2	Yo	Peso
mm										kg
39.688	45	66	70	3.5	3.3	7.8	0.30	1.98	1.09	0.477
	45.5	68	75	3.5	3.3	11.2	0.27	2.20	1.21	0.669
	45.5	71	74	1.5	0.8	7.4	0.32	1.88	1.04	0.554
	45.5	71	75	3.5	1.5	11.2	0.27	2.20	1.21	0.666
	45.5	70	75	0.8	3.3	11.2	0.27	2.20	1.21	0.668
	51	75	84	3.5	1.5	-2.91	0.78	0.77	0.42	0.691
40.000	45	68	71	1.5	1.3	4.8	0.40	1.49	0.82	0.386
	45.5	73	75	3.5	1.3	6.6	0.27	2.20	1.21	0.479
	46.5	77	80	0.8	1.3	5.1	0.31	1.96	1.08	0.562
	46	77	80	3.5	1.5	9.1	0.26	2.28	1.25	0.813
	50	94	100	3.5	3.3	12.3	0.30	2.02	1.11	1.770
40.483	49	68	78	3.5	3.3	4.7	0.55	1.10	0.60	0.731
40.988	45	61	65	*	1.5	3.6	0.35	1.72	0.95	0.239
41.275	46	66	69	3.5	1.5	2.9	0.35	1.71	0.94	0.281
	46.5	67	70	3.5	0.8	3.3	0.40	1.50	0.83	0.335
	46.5	66	70	3.5	0.8	3.3	0.40	1.50	0.83	0.355
	46.5	67	71	1.5	1.5	0.7	0.49	1.23	0.68	0.337
	47	68	72	3.5	0.8	4.5	0.39	1.53	0.84	0.432
	47	69	73	3.5	1.5	7.4	0.32	1.88	1.04	0.488
	47	71	74	0.8	0.8	7.4	0.32	1.88	1.04	0.535
	46.5	69	73	1.5	1.5	0.7	0.49	1.23	0.68	0.389
	46	73	75	0.8	1.3	6.6	0.27	2.20	1.21	0.468
	47	70	74	3.5	1.3	7.4	0.32	1.88	1.04	0.542
	51	70	79	3.5	3.3	3.2	0.55	1.10	0.60	0.642
	50	73	81	0.8	3.3	8.1	0.40	1.49	0.82	0.810
	48	75	81	0.8	3.3	10.0	0.31	1.96	1.08	0.834
	53	74	85	0.8	3.3	4.6	0.55	1.10	0.60	0.901
	51	77	85	3.5	3.3	15.0	0.28	2.11	1.16	1.250
	54	78	88	3.5	1.5	-3.6	0.83	0.72	0.40	0.758
	51	79	87	0.8	3.3	7.1	0.40	1.49	0.82	1.090
	54	81	91	3.5	3.3	3.7	0.55	1.10	0.60	1.080
	53	81	89	1.5	0.8	0.5	0.74	0.81	0.45	0.975
	54	81	91	3.5	0.8	-0.4	0.74	0.81	0.45	1.050
42.070	51	77	85	3.5	3.3	15.0	0.28	2.11	1.16	1.240



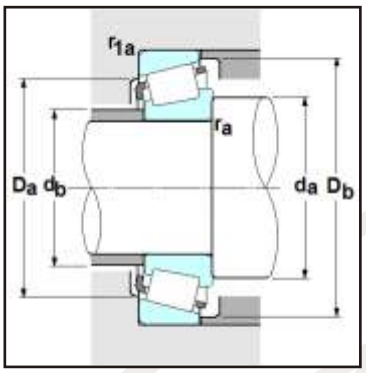
Medidas							Limite de Rotação		Rolamentos
d	D	T	B	C	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm					KN		rpm		
42.862	82.550	26.195	26.988	20.638	75.5	97.0	4 600	6 100	**22780/22720**
	82.931	23.812	25.400	19.050	76.0	98.0	4 500	6 000	**25578/25520**
	87.312	30.162	30.886	23.812	94.0	117.0	4 400	5 900	**3579/3525**
42.875	79.375	23.812	25.400	19.050	76.5	97.5	4 800	6 400	**26884/26822**
	82.931	23.812	25.400	19.050	76.0	98.0	4 500	6 000	**25577/25520**
44.450	76.992	17.462	17.145	11.908	44.0	54.0	4 700	6 300	**12175/12303**
	79.375	17.462	17.462	13.495	45.5	56.0	4 600	6 200	**18685/18620**
	82.931	23.812	25.400	19.050	76.0	98.0	4 500	6 000	**25580/25520**
	82.931	23.812	25.400	19.050	76.0	98.0	4 500	6 000	**25582/25520**
	84.138	30.162	30.886	23.812	94.0	117.0	4 400	5 900	**3578/3520**
	85.000	20.638	21.692	17.462	69.5	79.5	4 400	5 800	**355/354A**
	87.312	30.162	30.886	23.812	94.0	117.0	4 400	5 900	**3578/3525**
	88.900	30.162	29.370	23.020	93.5	125.0	4 300	5 800	**HM803149/HM803110**
	93.264	30.162	30.302	23.812	102.0	134.0	4 000	5 300	**3782/3720**
	93.662	31.750	31.750	26.195	103.0	131.0	4 100	5 500	**46175/46368**
	95.250	27.783	28.575	22.225	107.0	139.0	3 900	5 200	**33885/33821**
	95.250	27.783	29.900	22.225	108.0	129.0	4 200	5 600	**438/432**
	95.250	30.162	29.370	23.020	109.0	147.0	4 000	5 300	**HM804842/HM804810**
	95.250	30.958	28.300	20.638	82.5	92.0	3 700	5 000	**53177/53375**
	95.250	30.958	28.575	22.225	96.0	116.0	3 700	4 900	**HM903249/HM903210**
	101.600	34.925	36.068	26.988	135.0	165.0	3 800	5 000	**527/522**
	104.775	30.162	29.317	24.605	115.0	148.0	3 500	4 700	**460/453X**
	104.775	30.162	30.958	23.812	130.0	169.0	3 500	4 700	**45280/45220**
	104.775	36.512	36.512	28.575	138.0	189.0	3 600	4 800	**HM807040/HM807010**
	111.125	30.162	26.909	20.638	104.0	136.0	3 200	4 200	**55175C/55437**
	111.125	30.162	26.909	20.638	104.0	136.0	3 200	4 200	**55176C/55437**
	127.000	50.800	52.388	41.275	250.0	320.0	3 200	4 300	**6277/6220**
44.983	82.931	23.812	25.400	19.050	76.0	98.0	4 500	6 000	**25584/25520**
	93.264	30.162	30.302	23.812	102.0	134.0	4 000	5 300	**3776/3720**
45.000	85.000	20.638	21.692	17.462	69.5	79.5	4 400	5 800	**358/354A**
	88.900	20.638	22.225	16.513	76.5	90.5	4 100	5 500	**367/362A**
45.237	87.312	30.162	30.886	23.812	94.0	117.0	4 400	5 900	**3586/3525**
45.242	73.431	19.558	19.812	15.748	54.0	76.0	4 800	6 400	**LM102949/LM102910**
	77.788	19.842	19.842	15.080	57.5	73.5	4 600	6 200	**LM603049/LM603011**



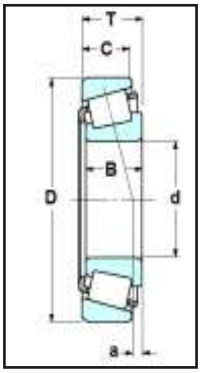
Medidas							Fatores			Massa
d	db	Da	Db	ra max	r1a max	a	e	Y2	Yo	Peso
mm										kg
42.862	50	71	77	3.5	3.3	6.4	0.40	1.49	0.82	0.617
	49.5	74	77	2.3	0.8	6.2	0.33	1.79	0.99	0.584
	49.5	75	81	3.5	3.3	10.0	0.31	1.96	1.08	0.805
42.875	48.5	71	74	3.5	0.8	7.4	0.32	1.88	1.04	0.510
	49	74	77	3.5	0.8	6.2	0.33	1.79	0.99	0.581
44.450	49.5	68	73	1.5	1.5	-0.21	0.51	1.19	0.65	0.308
	49.5	71	74	2.8	1.5	2.2	0.37	1.60	0.88	0.345
	50	74	77	3.5	0.8	6.2	0.33	1.79	0.99	0.560
	50	74	77	5	0.8	6.2	0.33	1.79	0.99	0.556
	51	74	80	3.5	3.3	10.0	0.31	1.96	1.08	0.699
	50	77	80	2.3	1.3	5.1	0.31	1.96	1.08	0.511
	51	75	81	3.5	3.3	10.0	0.31	1.96	1.08	0.779
	53	74	85	3.5	3.3	4.6	0.55	1.10	0.60	0.849
	52	82	88	3.5	3.3	8.3	0.34	1.77	0.97	0.961
	54	79	87	0.8	3.3	7.1	0.40	1.49	0.82	1.040
	53	85	90	0.8	2.3	8.0	0.33	1.82	1.00	0.987
	51	83	87	3.5	2.3	9.2	0.28	2.11	1.16	0.953
	57	81	91	0.8	3.3	3.7	0.55	1.10	0.60	1.040
	53	81	89	3.5	0.8	0.5	0.74	0.81	0.45	0.925
	54	81	91	3.5	0.8	-0.41	0.74	0.81	0.45	1.000
	53	89	95	3.5	3.3	12.9	0.29	2.10	1.16	1.370
	54	92	98	3.5	3.3	7.1	0.34	1.79	0.98	1.290
	54	93	99	0.8	3.3	7.9	0.33	1.80	0.99	1.350
	59	89	100	3.5	3.3	7.4	0.49	1.23	0.68	1.620
	64	92	105	3.5	3.3	-7.4	0.88	0.68	0.37	1.450
	65	92	105	0.8	3.3	-7.4	0.88	0.68	0.37	1.090
	60	108	117	3.5	3.3	19.5	0.30	2.01	1.11	3.580
44.983	51	74	77	1.5	0.8	6.2	0.33	1.79	0.99	0.555
	53	82	88	3.5	3.3	8.3	0.34	1.77	0.97	0.952
45.000	50	77	80	1.5	1.3	5.1	0.31	1.96	1.08	0.505
	51	81	84	2	1.3	4.0	0.32	1.88	1.03	0.595
45.237	52	75	81	3.5	3.3	10.0	0.31	1.96	1.08	0.765
45.242	50	68	70	3.5	0.8	4.7	0.31	1.97	1.08	0.307
	50	71	74	3.5	0.8	2.2	0.43	1.41	0.77	0.372



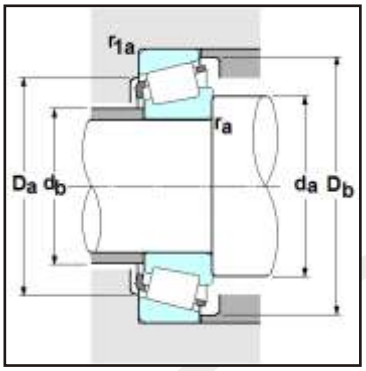
Medidas							Limite de Rotação		Rolamentos
d	D	T	B	C	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm					KN		rpm		
45.618	82.550	23.812	25.400	19.050	76.0	98.0	4 500	6 000	**25590/25519**
	82.931	23.812	25.400	19.050	76.0	98.0	4 500	6 000	**25590/25520**
	83.058	23.876	25.400	19.114	76.0	98.0	4 500	6 000	**25590/25522**
	85.000	23.812	25.400	19.050	76.0	98.0	4 500	6 000	**25590/25526**
45.987	74.976	18.000	18.000	14.000	51.0	71.0	4 700	6 300	**LM503349A/LM503310**
46.038	79.375	17.462	17.462	13.495	45.5	56.0	4 600	6 200	**18690/18620**
	82.931	23.812	25.400	19.050	76.0	98.0	4 500	6 000	**25592/25520**
	85.000	20.638	21.692	17.462	69.5	79.5	4 400	5 800	**359A/354A**
	85.000	25.400	25.608	20.638	79.0	104.0	4 400	5 800	**2984/2924**
	90.119	23.000	21.692	21.808	69.5	79.5	4 400	5 800	**359S/352**
	93.264	30.162	30.302	23.812	102.0	134.0	4 000	5 300	**3777/3720**
	95.250	27.783	29.900	22.225	108.0	129.0	4 200	5 600	**436/432**
47.625	88.900	20.638	22.225	16.513	76.5	90.5	4 100	5 500	**369A/362A**
	88.900	25.400	25.400	19.050	82.0	101.0	4 200	5 600	**M804048/M804010**
	93.264	30.162	30.302	23.812	102.0	134.0	4 000	5 300	**3778/3720**
	95.250	30.162	29.370	23.020	109.0	147.0	4 000	5 300	**HM804846/HM804810**
	96.838	21.000	21.946	15.875	78.0	96.5	3 700	5 000	**386A/382A**
	101.600	34.925	36.068	26.988	135.0	165.0	3 800	5 000	**528/522**
	104.775	30.162	29.317	24.605	115.0	148.0	3 500	4 700	**463/453X**
	104.775	30.162	30.958	23.812	130.0	169.0	3 500	4 700	**45282/45220**
	111.125	30.162	26.909	20.638	104.0	136.0	3 200	4 200	**55187C/55437**
	123.825	36.512	32.791	25.400	154.0	188.0	2 900	3 900	**72188C/72487**
48.412	95.250	30.162	29.370	23.020	109.0	147.0	4 000	5 300	**HM804848/HM804810**
	95.250	30.162	29.370	23.020	109.0	147.0	4 000	5 300	**HM804849/HM804810**
49.212	93.264	30.162	30.302	23.812	102.0	134.0	4 000	5 300	**3781/3720**
	103.188	43.658	44.475	36.512	174.0	232.0	3 800	5 000	**5395/5335**
	104.775	36.512	36.512	28.575	138.0	189.0	3 600	4 800	**HM807044/HM807010**
	114.300	44.450	44.450	34.925	186.0	225.0	3 600	4 800	**65390/65320**
	114.300	44.450	44.450	36.068	203.0	261.0	3 500	4 700	**HH506348/HH506310**
49.987	82.550	21.590	22.225	16.510	69.5	94.0	4 300	5 700	**LM104947A /LM104911**
	92.075	24.608	25.400	19.845	83.5	116.0	4 000	5 300	**28579/28521**
	114.300	44.450	44.450	36.068	203.0	261.0	3 500	4 700	**HH506349/HH506310**



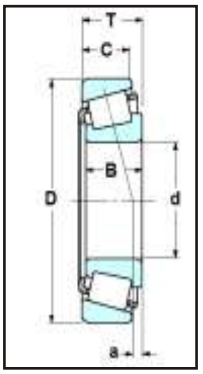
Medidas							Fatores			Massa
d	db	Da	Db	ra max	r1a max	a	e	Y2	Yo	Peso
mm										kg
45.618	51	73	77	3.5	2	6.2	0.33	1.79	0.99	0.534
	51	74	77	3.5	0.8	6.2	0.33	1.79	0.99	0.543
	51	73	77	3.5	2	6.2	0.33	1.79	0.99	0.545
	51	74	78	3.5	2.3	6.2	0.33	1.79	0.99	0.581
45.987	51	67	71	-	1.5	1.9	0.40	1.49	0.82	0.296
46.038	51	71	74	2.8	1.5	2.2	0.37	1.60	0.88	0.329
	52	74	77	3.5	0.8	6.2	0.33	1.79	0.99	0.538
	51	77	80	3.5	1.3	5.1	0.31	1.96	1.08	0.489
	52	76	80	3.5	1.3	6.4	0.35	1.73	0.95	0.615
	51	78	82	2.3	2.3	5.1	0.31	1.96	1.08	0.651
	53	82	88	3.5	3.3	8.3	0.34	1.77	0.97	0.934
	52	83	87	3.5	2.3	9.2	0.28	2.11	1.16	0.927
47.625	53	81	84	3.5	1.3	4.0	0.32	1.88	1.03	0.559
	56	77	85	0.8	3.3	1.7	0.55	1.10	0.60	0.662
	55	82	88	6.4	3.3	8.3	0.34	1.77	0.97	0.898
	57	81	91	3.5	3.3	3.7	0.55	1.10	0.60	0.978
	55	89	92	0.8	0.8	3.1	0.35	1.69	0.93	0.720
	55	89	95	3.5	3.3	12.9	0.29	2.10	1.16	1.300
	56	92	98	4.8	3.3	7.1	0.34	1.79	0.98	1.240
	57	93	99	3.5	3.3	7.9	0.33	1.80	0.99	1.290
	62	92	105	3.5	3.3	-7.41	0.88	0.68	0.37	1.400
	67	102	116	0.8	3.3	1.51	0.74	0.81	0.45	2.160
48.412	57	81	91	2.3	3.3	3.7	0.55	1.10	0.60	0.967
	57	81	91	3.5	3.3	3.7	0.55	1.10	0.60	0.964
49.212	56	82	88	3.5	3.3	8.3	0.34	1.77	0.97	0.877
	60	89	97	3.5	3.3	16.1	0.30	2.02	1.11	1.750
	63	89	100	3.5	3.3	7.4	0.49	1.23	0.68	1.520
	60	97	107	3.5	3.3	12.5	0.43	1.39	0.77	2.230
	61	97	107	3.5	3.3	13.3	0.40	1.49	0.82	2.330
49.987	55	75	78	0.5	1.3	5.8	0.31	1.97	1.08	0.434
	56	83	87	2.3	0.8	4.6	0.38	1.59	0.87	0.718
	61	97	107	3.5	3.3	13.3	0.40	1.49	0.82	2.270



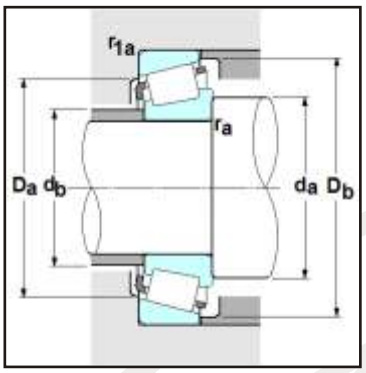
Medidas							Limite de Rotação		Rolamentos
d	D	T	B	C	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm					KN		rpm		
50.000	82.000	21.500	21.500	17.000	69.5	94.0	4 300	5 700	**JLM104948/JLM104910**
	84.000	22.000	22.000	17.500	69.5	94.5	4 300	5 700	**JLM704649/JLM704610**
	88.900	20.638	22.225	16.513	76.5	90.5	4 100	5 500	**365/362A**
	88.900	20.638	22.225	16.513	76.5	90.5	4 100	5 500	**366/362A**
	90.000	28.000	28.000	23.000	106.0	141.0	4 100	5 400	**JM205149/JM205110**
	105.000	37.000	36.000	29.000	138.0	189.0	3 600	4 800	**JHM807045/JHM807012**
	110.000	22.000	21.996	18.824	89.5	120.0	3 200	4 300	**396/394A**
50.800	82.550	21.590	22.225	16.510	69.5	94.0	4 300	5 700	**LM104949/LM104911**
	85.000	17.462	17.462	13.495	49.5	65.0	4 200	5 600	**18790/18720**
	88.900	17.462	17.462	13.495	49.5	65.0	4 200	5 600	**18790/18724**
	88.900	20.638	22.225	16.513	76.5	90.5	4 100	5 500	**368/362A**
	88.900	20.638	22.225	16.513	76.5	90.5	4 100	5 500	**370A/362A**
	90.000	20.000	22.225	15.875	76.5	90.5	4 100	5 500	**368A/362**
	92.075	24.608	25.400	19.845	83.5	116.0	4 000	5 300	**28580/28521**
	93.264	30.162	30.302	23.812	102.0	134.0	4 000	5 300	**3775/3720**
	93.264	30.162	30.302	23.812	102.0	134.0	4 000	5 300	**3780/3720**
	95.250	27.783	28.575	22.225	107.0	139.0	3 900	5 200	**33889/33821**
	95.250	30.162	30.302	23.812	102.0	134.0	4 000	5 300	**3780/3726**
	96.838	21.000	21.946	15.875	78.0	96.5	3 700	5 000	**385A/382A**
	97.630	24.608	24.608	19.446	88.5	128.0	3 700	4 900	**28678/28622**
	98.425	30.162	30.302	23.812	102.0	134.0	4 000	5 300	**3780/3732**
	101.600	31.750	31.750	25.400	110.0	136.0	3 700	5 000	**49585/49520**
	101.600	34.925	36.068	26.988	135.0	165.0	3 800	5 000	**529/522**
	104.775	30.162	29.317	24.605	115.0	148.0	3 500	4 700	**455/453X**
	104.775	30.162	30.958	23.812	130.0	169.0	3 500	4 700	**45284/45220**
	104.775	36.512	36.512	28.575	138.0	189.0	3 600	4 800	**HM807046/HM807010**
	104.775	36.512	36.512	28.575	143.0	178.0	3 700	4 900	**59200/59412**
	107.950	36.512	36.957	28.575	141.0	177.0	3 600	4 800	**537/532X**
	111.125	30.162	28.575	20.638	104.0	136.0	3 200	4 200	**HM907643/HM907614**
	112.712	30.162	26.909	20.638	104.0	136.0	3 200	4 200	**55200C/55443**
	112.712	30.162	30.048	23.812	119.0	174.0	3 200	4 300	**3975/3920**
	112.712	30.162	30.162	23.812	138.0	195.0	3 200	4 200	**39575/39520**
	117.475	33.338	31.750	23.812	130.0	153.0	3 300	4 400	**66200/66462**
	120.650	41.275	41.275	31.750	172.0	213.0	3 300	4 400	**619/612**
	123.825	36.512	32.791	25.400	154.0	188.0	2 900	3 900	**72200C/72487**
	123.825	38.100	36.678	30.162	158.0	216.0	3 000	4 100	**555/552A**



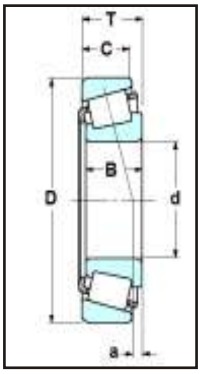
Medidas							Fatores			Massa
d	db	Da	Db	ra max	r1a max	a	e	Y2	Yo	Peso
mm										kg
50.000	55	76	78	3	0.5	5.4	0.31	1.97	1.08	0.420
	56	76	80	3.5	1.5	2.3	0.44	1.37	0.75	0.466
	55	81	84	2	1.3	4.0	0.32	1.88	1.03	0.530
	55	81	84	2.3	1.3	4.0	0.32	1.88	1.03	0.529
	57	80	85	3	2.5	7.4	0.33	1.82	1.00	0.752
	63	90	100	3	2.5	7.5	0.49	1.23	0.68	1.520
	60	101	104	0.8	1.3	0.7	0.40	1.49	0.82	1.060
50.800	55	75	78	3.5	1.3	5.8	0.31	1.97	1.08	0.419
	56	77	80	3.5	1.5	0.8	0.41	1.48	0.81	0.374
	56	78	82	3.5	1.3	0.8	0.41	1.48	0.81	0.431
	56	81	84	1.5	1.3	4.0	0.32	1.88	1.03	0.519
	56	81	84	5	1.3	4.0	0.32	1.88	1.03	0.511
	56	81	84	3.5	2	4.0	0.32	1.88	1.03	0.525
	57	83	87	3.5	0.8	4.6	0.38	1.59	0.87	0.703
	58	82	88	0.8	3.3	8.3	0.34	1.77	0.97	0.852
	58	82	88	3.5	3.3	8.3	0.34	1.77	0.97	0.848
	58	85	90	3.5	2.3	8.0	0.33	1.82	1.00	0.876
	58	83	89	3.5	3.3	8.3	0.34	1.77	0.97	0.903
	60	89	92	2.3	0.8	3.1	0.35	1.69	0.93	0.676
	58	88	92	3.5	0.8	3.3	0.40	1.49	0.82	0.852
	58	84	90	3.5	3.3	8.3	0.34	1.77	0.97	0.993
	59	88	96	3.5	3.3	7.1	0.40	1.50	0.82	1.130
	58	89	95	0.8	3.3	12.9	0.29	2.10	1.16	1.240
	59	92	98	0.8	3.3	7.1	0.34	1.79	0.98	1.190
	59	93	99	6.4	3.3	7.9	0.33	1.80	0.99	1.220
	63	89	100	3.5	3.3	7.4	0.49	1.23	0.68	1.490
	61	92	99	3.5	3.3	9.6	0.40	1.49	0.82	1.440
	59	94	100	3.5	3.3	12.3	0.30	2.02	1.11	1.550
	65	91	105	3.5	3.3	-7.21	0.88	0.68	0.37	1.360
	65	92	106	3.5	3.3	-7.41	0.88	0.68	0.37	1.340
	61	99	106	3.5	3.3	4.5	0.40	1.49	0.82	1.530
	61	101	107	3.5	3.3	6.6	0.34	1.77	0.97	1.540
	65	100	111	3.5	3.3	0.4	0.63	0.96	0.53	1.670
	61	105	110	3.5	3.3	14.4	0.31	1.91	1.05	2.300
	67	102	116	3.5	3.3	-1.51	0.74	0.81	0.45	2.100
	62	109	116	2.3	3.3	9.4	0.35	1.73	0.95	2.340



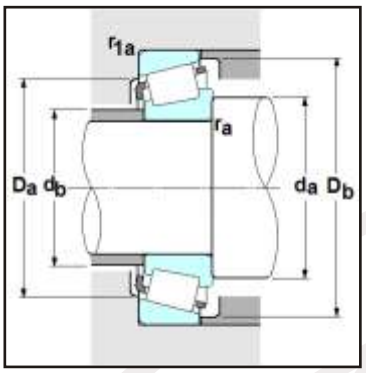
Medidas							Limite de Rotação		Rolamentos
d	D	T	B	C	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm					KN		rpm		
51.592	88.900	20.638	22.225	16.513	76.5	90.5	4 100	5 500	**368S/362A**
52.388	92.075	24.608	25.400	19.845	83.5	116.0	4 000	5 300	**28584/28521**
	93.264	30.162	30.302	23.812	102.0	134.0	4 000	5 300	**3767/3720**
	95.250	27.783	28.575	22.225	107.0	139.0	3 900	5 200	**33890/33821**
53.975	88.900	19.050	19.050	13.492	61.0	82.5	4 000	5 300	**LM806649/LM806610**
	95.250	27.783	28.575	22.225	107.0	139.0	3 900	5 200	**33895/33822**
	96.838	21.000	21.946	15.875	78.0	96.5	3 700	5 000	**389A/382A**
	104.775	30.162	30.958	23.812	130.0	169.0	3 500	4 700	**45287/45220**
	104.775	36.512	36.512	28.575	138.0	189.0	3 600	4 800	**HM807049/HM807010**
	107.950	36.512	36.957	28.575	141.0	177.0	3 600	4 800	**539/532X**
	120.650	41.275	41.275	31.750	172.0	213.0	3 300	4 400	**621/612**
	122.238	33.338	31.750	23.812	134.0	163.0	3 100	4 200	**66584/66520**
	122.238	43.658	43.764	36.512	194.0	283.0	3 100	4 100	**5578/5535**
	123.825	36.512	32.791	25.400	154.0	188.0	2 900	3 900	**72212C/72487**
	123.825	38.100	36.678	30.162	158.0	216.0	3 000	4 100	**557S/552A**
	130.175	36.512	33.338	23.812	156.0	186.0	2 700	3 600	**HM911242/HM911210**
	140.030	36.512	33.236	23.520	171.0	212.0	2 600	3 400	**78214C/78551**
54.488	104.775	36.512	36.512	28.575	138.0	189.0	3 600	4 800	**HM807048/HM807010**
55.000	90.000	23.000	23.000	18.500	77.5	109.0	3 900	5 300	**JLM506849/JLM506810**
55.000	95.000	29.000	29.000	23.500	107.0	144.0	3 800	5 100	**JM207049/JM207010**
	96.838	21.000	21.946	15.875	78.0	96.5	3 700	5 000	**385/382A**
	110.000	39.000	39.000	32.000	173.0	219.0	3 500	4 600	**JH307749/JH307710**
55.562	97.630	24.608	24.608	19.446	88.5	128.0	3 700	4 900	**28680/28622**
	123.825	36.512	32.791	25.400	154.0	188.0	2 900	3 900	**72218C/72487**
	127.000	36.512	36.512	26.988	163.0	228.0	2 900	3 800	**HM813840/HM813810**
55.575	96.838	21.000	21.946	15.875	78.0	96.5	3 700	5 000	**389/382A**



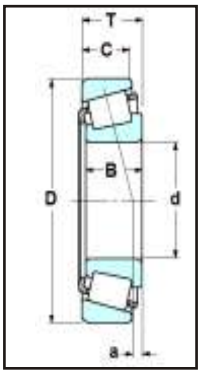
Medidas							Fatores			Massa
d	db	Da	Db	ra max	r1a max	a	e	Y2	Yo	Peso
mm										kg
51.592	56	81	84	2	1.3	4.0	0.32	1.88	1.03	0.507
52.388	58	83	87	3.5	0.8	4.6	0.38	1.59	0.87	0.677
	59	82	88	2.3	3.3	8.3	0.34	1.77	0.97	0.819
	59	85	90	1.5	2.3	8.0	0.33	1.82	1.00	0.851
53.975	60	80	85	2.3	2	-2.21	0.55	1.10	0.60	0.437
	60	86	90	1.5	0.8	8.0	0.33	1.82	1.00	0.824
	60	89	92	0.8	0.8	3.1	0.35	1.69	0.93	0.633
	62	93	99	0.8	3.3	7.9	0.33	1.80	0.99	1.170
	63	89	100	3.5	3.3	7.4	0.49	1.23	0.68	1.410
	61	94	100	3.5	3.3	12.3	0.30	2.02	1.11	1.470
	63	105	110	3.5	3.3	14.4	0.31	1.91	1.05	2.210
	68	105	116	3.5	3.3	-1.81	0.67	0.90	0.50	1.790
	67	106	116	3.5	3.3	13.3	0.36	1.67	0.92	2.640
	67	102	116	3.5	3.3	-1.51	0.74	0.81	0.45	2.030
	65	109	116	3.5	3.3	9.4	0.35	1.73	0.95	2.260
	74	109	124	3.5	3.3	-5.21	0.82	0.73	0.40	2.270
	77	117	132	0.8	2.3	-8.51	0.87	0.69	0.38	2.770
54.488	63	89	100	3.5	3.3	7.4	0.49	1.23	0.68	1.400
55.000	61	82	86	1.5	0.5	2.8	0.40	1.49	0.82	0.558
55.000	62	85	91	1.5	2.5	7.6	0.33	1.79	0.99	0.820
	61	89	92	2.3	0.8	3.1	0.35	1.69	0.93	0.616
	64	97	104	3	2.5	11.7	0.35	1.73	0.95	1.710
55.562	62	88	92	3.5	0.8	3.3	0.40	1.49	0.82	0.774
	67	102	116	3.5	3.3	-1.51	0.74	0.81	0.45	1.990
	70	111	121	3.5	3.3	3.7	0.50	1.20	0.66	2.340
55.575	61	89	92	2.3	0.8	3.1	0.35	1.69	0.93	0.608



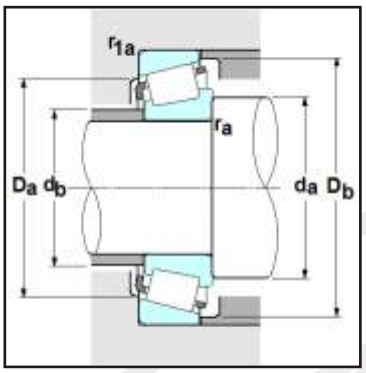
Medidas							Limite de Rotação		Rolamentos
d	D	T	B	C	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm					KN		rpm		
57.150	96.838	21.000	21.946	15.875	78.0	96.5	3 700	5 000	**387/382A**
	96.838	21.000	21.946	15.875	78.0	96.5	3 700	5 000	**387A/382A**
	96.838	21.000	21.946	15.875	78.0	96.5	3 700	5 000	**387AS/382A**
	96.838	21.000	21.946	15.875	78.0	96.5	3 700	5 000	**387S/382A**
	97.630	24.608	24.608	19.446	88.5	128.0	3 700	4 900	**28682/28622**
	104.775	30.162	29.317	24.605	115.0	148.0	3 500	4 700	**462/453X**
	104.775	30.162	29.317	24.605	115.0	148.0	3 500	4 700	**469/453X**
	104.775	30.162	30.958	23.812	130.0	169.0	3 500	4 700	**45289/45220**
	107.950	27.783	29.317	22.225	115.0	148.0	3 500	4 700	**469/453A**
	110.000	22.000	21.996	18.824	89.5	120.0	3 200	4 300	**390/394A**
	110.000	27.795	29.317	27.000	115.0	148.0	3 500	4 700	**469/454**
	112.712	30.162	30.048	23.812	119.0	174.0	3 200	4 300	**3979/3920**
	112.712	30.162	30.162	23.812	138.0	195.0	3 200	4 200	**39580/39520**
	112.712	30.162	30.162	23.812	138.0	195.0	3 200	4 200	**39581/39520**
	117.475	30.162	30.162	23.812	117.0	175.0	3 000	4 000	**33225/33462**
	117.475	33.338	31.750	23.812	130.0	153.0	3 300	4 400	**66225/66462**
	120.650	41.275	41.275	31.750	172.0	213.0	3 300	4 400	**623/612**
	123.825	36.512	32.791	25.400	154.0	188.0	2 900	3 900	**72225C/72487**
	123.825	38.100	36.678	30.162	158.0	216.0	3 000	4 100	**555S/552A**
	140.030	36.512	33.236	23.520	171.0	212.0	2 600	3 400	**78225/78551**
57.531	96.838	21.000	21.946	15.875	78.0	96.5	3 700	5 000	**388A/382A**
59.972	122.238	33.338	31.750	23.812	134.0	163.0	3 100	4 200	**66589/66520**
59.987	146.050	41.275	39.688	25.400	199.0	234.0	2 400	3 200	**H913840/H913810**
60.000	95.000	24.000	24.000	19.000	83.0	122.0	3 700	4 900	**JLM508748/JLM508710**
	107.950	25.400	25.400	19.050	91.5	140.0	9 350	4 300	**29580/29520**
	110.000	22.000	21.996	18.824	89.5	120.0	3 200	4 300	**397/394A**
	130.000	34.100	30.924	22.650	156.0	186.0	2 700	3 600	**JHM911244/JHM911211**
60.325	100.000	25.400	25.400	19.845	90.5	134.0	3 500	4 700	**28985/28921**
	112.712	30.162	30.048	23.812	119.0	174.0	3 200	4 300	**3980/3920**
	122.238	38.100	38.354	29.718	1870	244.0	3 100	4 100	**HM212044/HM212011**
	122.238	43.658	43.764	36.512	194.0	283.0	3 100	4 100	**5583/5535**
	123.825	38.100	36.678	30.162	158.0	216.0	3 000	4 100	**558/552A**
	127.000	36.512	36.512	26.988	163.0	228.0	2 900	3 800	**HM813841/HM813810**
	127.000	44.450	44.450	34.925	203.0	263.0	3 100	4 200	**65237/65500**
	130.175	36.512	33.338	23.812	156.0	186.0	2 700	3 600	**HM911245/HM911210**



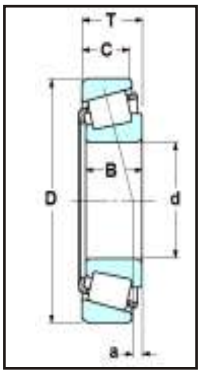
Medidas							Fatores			Massa
d	db	Da	Db	ra max	r1a max	a	e	Y2	Yo	Peso
mm										kg
57.150	62	89	92	2.3	0.8	3.1	0.35	1.69	0.93	0.583
	62	89	92	3.5	0.8	3.1	0.35	1.69	0.93	0.581
	62	89	92	5	0.8	3.1	0.35	1.69	0.93	0.576
	62	89	92	0.8	0.8	3.1	0.35	1.69	0.93	0.585
	63	88	92	3.5	0.8	3.3	0.40	1.49	0.82	0.747
	63	92	98	2.3	3.3	7.1	0.34	1.79	0.98	1.060
	63	92	98	3.5	3.3	7.1	0.34	1.79	0.98	1.060
	65	93	99	0.8	3.3	7.9	0.33	1.80	0.99	1.100
	63	97	100	3.5	0.8	7.1	0.34	1.79	0.98	1.110
	66	101	104	2.3	1.3	0.7	0.40	1.49	0.82	0.954
	63	96	100	3.5	2	7.1	0.34	1.79	0.98	1.240
	66	99	106	3.5	3.3	4.5	0.40	1.49	0.82	1.400
	66	101	107	3.5	3.3	6.6	0.34	1.77	0.97	1.410
	66	101	107	8	3.3	6.6	0.34	1.77	0.97	1.400
	68	104	112	3.5	3.3	2.6	0.44	1.38	0.76	1.580
	69	100	111	3.5	3.3	0.4	0.63	0.96	0.53	1.540
	66	105	110	3.5	3.3	14.4	0.31	1.91	1.05	2.120
	67	102	116	3.5	3.3	-1.51	0.74	0.81	0.45	1.960
	67	109	116	3.5	3.3	9.4	0.35	1.73	0.95	2.180
	77	117	132	3.5	2.3	-8.51	0.87	0.69	0.38	2.690
57.531	63	89	92	3.5	0.8	3.1	0.35	1.69	0.93	0.575
59.972	73	105	116	0.8	3.3	-1.81	0.67	0.90	0.50	1.660
59.987	82	124	138	3.5	3.3	-4.31	0.78	0.77	0.42	3.220
60.000	66	85	91	5	2.5	3.0	0.40	1.49	0.82	0.606
	68	96	103	3.5	3.3	0.6	0.46	1.31	0.72	0.992
	68	101	104	0.8	1.3	0.7	0.40	1.49	0.82	0.910
	74	109	123	3.5	3.3	-7.61	0.82	0.73	0.40	2.010
60.325	67	89	96	3.5	3.3	2.5	0.43	1.41	0.78	0.772
	68	99	106	3.5	3.3	4.5	0.40	1.49	0.82	1.330
	70	108	116	8	3.3	11.1	0.34	1.78	0.98	2.020
	72	106	116	3.5	3.3	13.3	0.36	1.67	0.92	2.440
	69	109	116	2.3	3.3	9.4	0.35	1.73	0.95	2.100
	73	111	121	3.5	3.3	3.7	0.50	1.20	0.66	2.210
	71	107	119	3.5	3.3	9.3	0.49	1.23	0.68	2.650
	74	109	124	5	3.3	-5.21	0.82	0.73	0.40	2.120



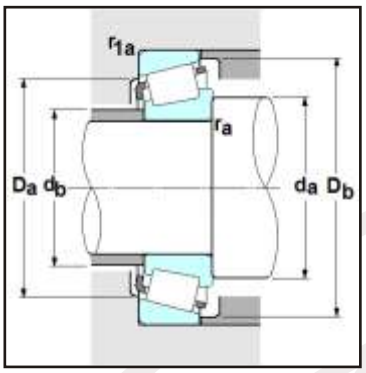
Medidas							Limite de Rotação		Rolamentos
d	D	T	B	C	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm					KN		rpm		
61.912	110.000	22.000	21.996	18.824	89.5	120.0	3 200	4 300	**392/394A**
	136.525	46.038	46.038	36.512	224.0	355.0	2 600	3 500	**H715334/H715311**
	146.050	41.275	39.688	25.400	199.0	234.0	2 400	3 200	**H913842/H913810**
61.976	101.600	24.608	24.608	19.845	90.5	134.0	3 500	4 700	**28990/28920**
62.738	101.600	25.400	25.400	19.845	90.5	134.0	3 500	4 700	**28995/28920**
63.500	94.458	19.050	19.050	15.083	60.5	103.0	3 600	4 800	**L610549/L610510**
	107.950	25.400	25.400	19.050	91.5	140.0	3 200	4 300	**29585/29520**
	107.950	25.400	25.400	19.050	91.5	140.0	3 200	4 300	**29586/29520**
	110.000	22.000	21.996	18.824	89.5	120.0	3 200	4 300	**390A/394A**
	110.000	25.400	25.400	19.050	91.5	140.0	3 200	4 300	**29585/29521**
	112.712	30.162	30.048	23.812	119.0	174.0	3 200	4 300	**3982/3920**
	112.712	30.162	30.162	23.812	138.0	195.0	3 200	4 200	**39585/39520**
	120.000	29.794	29.007	24.237	128.0	177.0	3 000	4 000	**477/472**
	120.000	29.794	29.007	24.237	128.0	177.0	3 000	4 000	**483/472**
	122.238	38.100	38.354	29.718	187.0	244.0	3 100	4 100	**HM212046/HM212011**
	122.238	43.658	43.764	36.512	194.0	283.0	3 100	4 100	**5584/5535**
	123.825	38.100	36.678	30.162	158.0	216.0	3 000	4 100	**559/552A**
	127.000	36.512	36.170	28.575	163.0	229.0	2 900	3 800	**565/563**
	127.000	36.512	36.512	26.988	163.0	228.0	2 900	3 800	**HM813842/HM813810**
	136.525	41.275	41.275	31.750	194.0	262.0	2 800	3 800	**639/632**
	140.030	36.512	33.236	23.520	171.0	212.0	2 600	3 400	**78250/78551**
65.000	105.000	24.000	23.000	18.500	85.0	117.0	3 300	4 500	**JLM710949/JLM710910**
	110.000	28.000	28.000	22.500	119.0	174.0	3 200	4 300	**JM511946/JM511910**
	120.000	39.000	38.500	32.000	185.0	248.0	3 100	4 100	**JH211749/JH211710**
65.088	135.755	53.975	56.007	44.450	278.0	380.0	2 900	3 800	**6379/6320**



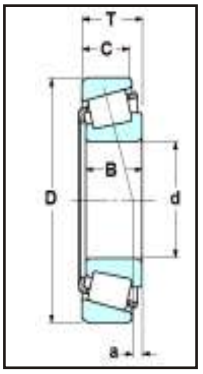
Medidas							Fatores			Massa
d	db	Da	Db	ra max	r1a max	a	e	Y2	Yo	Peso
mm										kg
61.912	69	101	104	0.8	1.3	0.7	0.40	1.49	0.82	0.879
	79	118	132	3.5	3.3	8.7	0.47	1.27	0.70	3.470
	82	124	138	3.5	3.3	-4.31	0.78	0.77	0.42	3.170
61.976	68	90	97	2	3.3	1.7	0.43	1.41	0.78	0.768
62.738	69	90	97	3.5	3.3	2.5	0.43	1.41	0.78	0.764
63.500	69	86	91	1.5	1.5	-0.61	0.42	1.41	0.78	0.449
	71	96	103	3.5	3.3	0.6	0.46	1.31	0.72	0.924
	71	96	103	1.5	3.3	0.6	0.46	1.31	0.72	0.929
	70	101	104	1.5	1.3	0.7	0.40	1.49	0.82	0.851
	71	99	104	3.5	1.3	0.6	0.46	1.31	0.72	0.982
	71	99	106	3.5	3.3	4.5	0.40	1.49	0.82	1.260
	71	101	107	3.5	3.3	6.6	0.34	1.77	0.97	1.270
	72	107	114	0.8	2	3.9	0.38	1.56	0.86	1.490
	72	107	114	3.5	2	3.9	0.38	1.56	0.86	1.480
	73	108	116	3.5	3.3	11.1	0.34	1.78	0.98	1.950
	75	106	116	3.5	3.3	13.3	0.36	1.67	0.92	2.340
	72	109	116	3.5	3.3	9.4	0.35	1.73	0.95	2.010
	73	112	120	3.5	3.3	8.3	0.36	1.65	0.91	2.110
	76	111	121	3.5	3.3	3.7	0.50	1.20	0.66	2.120
	74	118	125	3.5	3.3	11.4	0.36	1.66	0.91	2.850
	79	117	132	2.3	2.3	-8.51	0.87	0.69	0.38	2.540
65.000	71	96	101	3	1	0.3	0.45	1.32	0.73	0.742
	72	99	105	3	2.5	3.4	0.40	1.49	0.82	1.080
	74	107	114	3	2.5	10.9	0.34	1.78	0.98	1.900
65.088	77	117	126	3.5	3.3	18.8	0.32	1.85	1.02	3.710



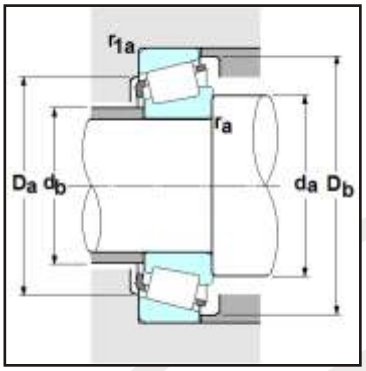
Medidas							Limite de Rotação		Rolamentos
d	D	T	B	C	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm					KN		rpm		
66.675	103.213	17.602	17.602	11.989	60.0	78.0	3 300	4 400	**L812148/L812111**
	107.950	25.400	25.400	19.050	91.5	140.0	3 200	4 300	**29590/29520**
	110.000	22.000	21.996	18.824	89.5	120.0	3 200	4 300	**395A/394A**
	112.712	30.162	30.048	23.812	119.0	174.0	3 200	4 300	**3984/3925**
	112.712	30.162	30.048	23.812	119.0	174.0	3 200	4 300	**3994/3920**
	112.712	30.162	30.162	23.812	138.0	195.0	3 200	4 200	**39590/39520**
	122.238	38.100	38.354	29.718	187.0	244.0	3 100	4 100	**HM212049/HM212010**
	123.825	38.100	36.678	30.162	158.0	216.0	3 000	4 100	**560/552A**
	127.000	36.512	36.512	26.988	163.0	228.0	2 900	3 800	**HM813844/HM813810**
	130.175	41.275	41.275	31.750	194.0	262.0	2 800	3 800	**641/633**
	135.755	53.975	56.007	44.450	278.0	380.0	2 900	3 800	**6386/6320**
	136.525	41.275	41.275	31.750	194.0	262.0	2 800	3 800	**641/632**
	136.525	41.275	41.275	31.750	226.0	293.0	2 700	3 700	**H414242/H414210**
68.262	110.000	22.000	21.996	18.824	89.5	120.0	3 200	4 300	**399A/394A**
	120.000	29.794	29.007	24.237	128.0	177.0	3 000	4 000	**480/472**
	123.825	38.100	36.678	30.162	158.0	216.0	3 000	4 100	**560S/552A**
	136.525	41.275	41.275	31.750	2260	293.0	2 700	3 700	**H414245/H414210**
	136.525	46.038	46.038	36.512	224.0	355.0	2 600	3 500	**H715343/H715311**
69.850	112.712	25.400	25.400	19.050	95.5	151.0	3 100	4 100	**29675/29620**
	117.475	30.162	30.162	23.812	117.0	175.0	3 000	4 000	**33275/33462**
	120.000	29.794	29.007	24.237	128.0	177.0	3 000	4 000	**482/472**
	120.000	32.545	32.545	26.195	147.0	214.0	3 000	4 000	**47487/47420**
	120.650	25.400	25.400	19.050	95.5	151.0	3 100	4 100	**29675/29630**
	127.000	36.512	36.170	28.575	163.0	229.0	2 900	3 800	**566/563**
	136.525	41.275	41.275	31.750	194.0	262.0	2 800	3 800	**643/632**
	146.050	41.275	41.275	31.750	206.0	295.0	2 500	3 300	**655/653**
	150.089	44.450	46.672	36.512	261.0	360.0	2 400	3 200	**745A/742**
	168.275	53.975	56.363	41.275	340.0	460.0	2 200	3 000	**835/832**
69.952	121.442	24.608	23.012	17.462	91.0	127.0	2 900	3 800	**34274/34478**
70.000	110.000	26.000	25.000	20.500	97.0	150.0	3 200	4 200	**JLM813049/JLM813010**
	115.000	29.000	29.000	23.000	124.0	171.0	3 100	4 100	**JM612949/JM612910**
	120.000	29.794	29.007	24.237	128.0	177.0	3 000	4 000	**484/472**
	150.000	41.275	39.688	25.400	199.0	234.0	2 400	3 200	**JH913848/JH913811**



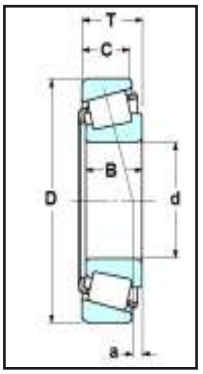
Medidas							Fatores			Massa
d	db	Da	Db	ra max	r1a max	a	e	Y2	Yo	Peso
mm										kg
66.675	72	96	99	1.5	0.8	-3.71	0.49	1.23	0.68	0.480
	73	96	103	3.5	3.3	0.6	0.46	1.31	0.72	0.860
	73	101	104	0.8	1.3	0.7	0.40	1.49	0.82	0.796
	74	101	106	3.5	0.8	4.5	0.40	1.49	0.82	1.190
	74	99	106	5.5	3.3	4.5	0.40	1.49	0.82	1.180
	74	101	107	3.5	3.3	6.6	0.34	1.77	0.97	1.190
	75	110	116	3.5	1.5	11.1	0.34	1.78	0.98	1.860
	75	109	116	3.5	3.3	9.4	0.35	1.73	0.95	1.920
	78	111	121	3.5	3.3	3.7	0.50	1.20	0.66	2.030
	77	116	124	3.5	3.3	11.4	0.36	1.66	0.91	2.410
	77	117	126	4.3	3.3	18.8	0.32	1.85	1.02	3.640
	77	118	125	3.5	3.3	11.4	0.36	1.66	0.91	2.740
	81	121	129	3.5	3.3	11.0	0.36	1.67	0.92	2.750
68.262	74	101	104	2.3	1.3	0.7	0.40	1.49	0.82	0.764
	75	107	114	3.5	2	3.9	0.38	1.56	0.86	1.370
	76	109	116	3.5	3.3	9.4	0.35	1.73	0.95	1.870
	82	121	129	3.5	3.3	11.0	0.36	1.67	0.92	2.700
	84	118	132	3.5	3.3	8.7	0.47	1.27	0.70	3.240
69.850	77	101	109	1.5	3.3	-0.91	0.49	1.23	0.68	0.949
	77	104	112	3.5	3.3	2.6	0.44	1.38	0.76	1.280
	77	107	114	3.5	2	3.9	0.38	1.56	0.86	1.330
	78	107	114	3.5	3.3	6.1	0.36	1.67	0.92	1.470
	77	104	113	1.5	3.3	-0.91	0.49	1.23	0.68	1.170
	78	112	120	3.5	3.3	8.3	0.36	1.65	0.91	1.920
	80	118	125	3.5	3.3	11.4	0.36	1.66	0.91	2.630
	82	131	139	3.5	3.3	8.0	0.41	1.47	0.81	3.280
	82	134	142	3.5	3.3	12.0	0.33	1.84	1.01	3.920
	84	149	155	3.5	3.3	18.5	0.30	2.00	1.10	6.130
69.952	78	110	116	2	2	-1.21	0.45	1.33	0.73	1.110
70.000	77	98	105	1	2.5	-0.31	0.49	1.23	0.68	0.889
	77	103	110	3	2.5	2.5	0.43	1.39	0.77	1.130
	77	107	114	2	2	3.9	0.38	1.56	0.86	1.330
	82	126	146	2	3.3	-4.31	0.78	0.77	0.42	3.080



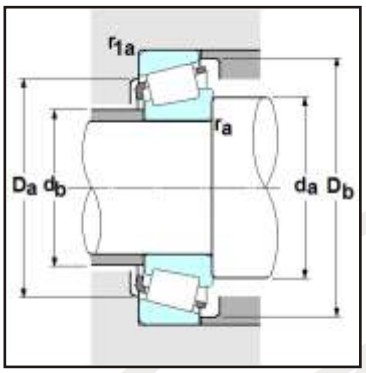
Medidas							Limite de Rotação		Rolamentos
d	D	T	B	C	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm					KN		rpm		
71.438	117.475	30.162	30.162	23.812	117.0	175.0	3 000	4 000	**33281/33462**
	120.000	32.545	32.545	26.195	147.0	214.0	3 000	4 000	**47490/47420**
	127.000	36.512	36.170	28.575	163.0	229.0	2 900	3 800	**567A/563**
	136.525	41.275	41.275	31.750	194.0	262.0	2 800	3 800	**644/632**
	136.525	41.275	41.275	31.750	226.0	293.0	2 700	3 700	**H414249/H414210**
	136.525	46.038	46.038	36.512	224.0	355.0	2 600	3 500	**H715345/H715311**
73.025	112.712	25.400	25.400	19.050	95.5	151.0	3 100	4 100	**29685/29620**
	117.475	30.162	30.162	23.812	117.0	175.0	3 000	4 000	**33287/33462**
	127.000	36.512	36.170	28.575	1630	229.0	2 900	3 800	**567/563**
	139.992	36.512	36.098	28.575	178.0	265.0	2 600	3 400	**576/572**
	149.225	53.975	54.229	44.450	287.0	410.0	2 500	3 400	**6460/6420**
	150.089	44.450	46.672	36.512	261.0	360.0	2 400	3 200	**744/742**
73.817	112.712	25.400	25.400	19.050	95.5	151.0	3 100	4 100	**29688/29620**
	127.000	36.512	36.170	28.575	163.0	229.0	2 900	3 800	**568/563**
74.612	139.992	36.512	36.098	28.575	178.0	265.0	2 600	3 400	**577/572**
75.000	115.000	25.000	25.000	19.000	94.5	143.0	3 000	4 000	**JLM714149/JLM714110**
	120.000	31.000	29.500	25.000	131.0	197.0	2 900	3 900	**JM714249/JM714210**
	145.000	51.000	51.000	42.000	287.0	410.0	2 500	3 400	**JH415647/JH415610**
76.200	109.538	19.050	19.050	15.083	63.0	115.0	3 100	4 100	**L814749/L814710**
	121.442	24.608	23.012	17.462	91.0	127.0	2 900	3 800	**34300/34478**
	121.442	24.608	23.012	17.462	91.0	127.0	2 900	3 800	**34301/34478**
	127.000	30.162	31.000	22.225	135.0	194.0	2 800	3 700	**42687/42620**
	133.350	33.338	33.338	26.195	153.0	235.0	2 600	3 500	**47678/47620**
	133.350	39.688	39.688	32.545	177.0	305.0	2 600	3 500	**HM516442/HM516410**
	135.733	44.450	46.100	34.925	211.0	330.0	2 700	3 500	**5760/5735**
	136.525	30.162	29.769	22.225	129.0	189.0	2 600	3 500	**495A/493**
	139.992	36.512	36.098	28.575	178.0	265.0	2 600	3 400	**575/572**
	139.992	36.512	36.098	28.575	178.0	265.0	2 600	3 400	**575S/572**
	146.050	41.275	41.275	31.750	206.0	295.0	2 500	3 300	**659/653**
	149.225	53.975	54.229	44.450	287.0	410.0	2 500	3 400	**6461A/6420**
	150.089	44.450	46.672	36.512	261.0	360.0	2 400	3 200	**748S/742**
	149.225	53.975	54.229	44.450	287.0	410.0	2 500	3 400	**6461/6420**
	161.925	53.975	55.100	42.862	310.0	460.0	2 300	3 000	**6576/6535**
	180.975	53.975	53.183	35.720	325.0	415.0	1 900	2 600	**H917840/H917810**
	190.500	57.150	57.531	46.038	445.0	610.0	1 900	2 600	**HH221430/HH221410**



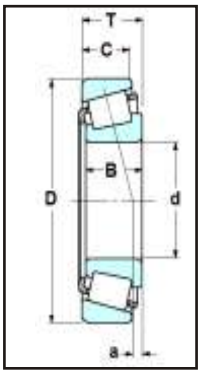
Medidas							Fatores			Massa
d	db	Da	Db	ra max	r1a max	a	e	Y2	Yo	Peso
mm										kg
71.438	79	104	112	3.5	3.3	2.6	0.44	1.38	0.76	1.240
	79	107	114	3.5	3.3	6.1	0.36	1.67	0.92	1.420
	80	112	120	3.5	3.3	8.3	0.36	1.65	0.91	1.870
	81	118	125	3.5	3.3	11.4	0.36	1.66	0.91	2.570
	83	121	129	3.5	3.3	11.0	0.36	1.67	0.92	2.580
	87	118	132	3.5	3.3	8.7	0.47	1.27	0.70	3.110
73.025	80	101	109	3.5	3.3	-0.91	0.49	1.23	0.68	0.873
	80	104	112	3.5	3.3	2.6	0.44	1.38	0.76	1.190
	81	112	120	3.5	3.3	8.3	0.36	1.65	0.91	1.820
	83	125	133	3.5	3.3	5.5	0.40	1.49	0.82	2.530
	87	129	140	3.5	3.3	14.8	0.36	1.66	0.91	4.420
	85	134	142	3.5	3.3	12.0	0.33	1.84	1.01	3.790
73.817	80	101	109	1.5	3.3	-0.91	0.49	1.23	0.68	0.860
	82	112	120	0.8	3.3	8.3	0.36	1.65	0.91	1.800
74.612	85	125	133	3.5	3.3	5.5	0.40	1.49	0.82	2.480
75.000	81	104	110	3	2.5	-0.31	0.46	1.31	0.72	0.875
	83	108	115	3	2.5	1.9	0.44	1.35	0.74	1.290
	89	129	139	3	2.5	14.1	0.36	1.66	0.91	3.810
76.200	82	100	105	1.5	1.5	-5.01	0.5	1.20	0.66	0.579
	83	110	116	2	2	-1.21	0.45	1.33	0.73	0.982
	83	110	116	3.5	2	-1.21	0.45	1.33	0.73	0.977
	84	114	121	3.5	3.3	2.8	0.42	1.43	0.79	1.460
	85	119	128	6.4	3.3	3.9	0.40	1.48	0.82	1.920
	87	118	128	3.5	3.3	7.5	0.40	1.49	0.82	2.430
	88	119	130	3.5	3.3	11.0	0.41	1.48	0.81	2.750
	86	122	130	3.5	3.3	0.7	0.44	1.35	0.74	1.830
	86	125	133	3.5	3.3	5.5	0.40	1.49	0.82	2.430
	86	125	133	6.8	3.3	5.5	0.40	1.49	0.82	2.410
	87	131	139	3.5	3.3	8.0	0.41	1.47	0.81	3.040
	89	129	140	9.7	3.3	14.8	0.36	1.66	0.91	4.230
	87	134	142	3.5	3.3	12.0	0.33	1.84	1.01	3.660
	89	129	140	3.5	3.3	14.8	0.36	1.66	0.91	4.260
	92	141	154	3.5	3.3	12.8	0.40	1.50	0.82	5.440
	100	152	170	3.5	3.3	-0.51	0.73	0.82	0.45	6.570
	95	171	179	3.5	3.3	14.4	0.33	1.79	0.99	8.690



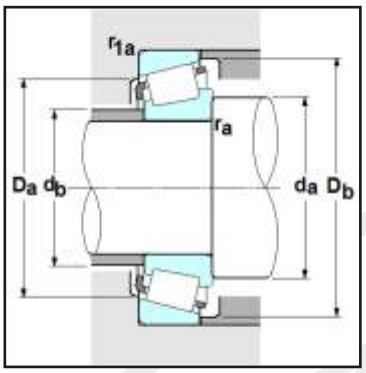
Medidas							Limite de Rotação		Rolamentos
d	D	T	B	C	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm					KN		rpm		
77.788	117.475	25.400	25.400	19.050	99.5	162.0	2 900	3 900	**LM814849/LM814810**
	121.442	24.608	23.012	17.462	91.0	127.0	2 900	3 800	**34306/34478**
	127.000	30.162	31.000	22.225	135.0	194.0	2 800	3 700	**42690/42620**
	136.525	30.162	29.769	22.225	129.0	189.0	2 600	3 500	**495AS/493**
	136.525	46.038	46.038	36.512	224.0	355.0	2 600	3 500	**H715348/H715311**
79.375	146.050	41.275	41.275	31.750	206.0	295.0	2 500	3 300	**661/653**
	161.925	47.625	48.260	38.100	270.0	385.0	2 300	3 100	**756A/752**
	190.500	57.150	57.531	46.038	445.0	610.0	1 900	2 600	**HH221431/HH221410**
80.000	130.000	35.000	34.000	28.500	166.0	249.0	2 700	3 600	**JM515649/JM515610**
80.962	133.350	33.338	33.338	26.195	153.0	235.0	2 600	3 500	**47681/47620**
	136.525	30.162	29.769	22.225	129.0	189.0	2 600	3 500	**496/493**
	139.992	36.512	36.098	28.575	178.0	265.0	2 600	3 400	**581/572**
	150.089	44.450	46.672	36.512	261.0	360.0	2 400	3 200	**740/742**
82.550	125.412	25.400	25.400	19.845	102.0	163.0	2 700	3 600	**27687/27620**
	133.350	33.338	33.338	26.195	153.0	235.0	2 600	3 500	**47686/47620**
	133.350	39.688	39.688	32.545	177.0	305.0	2 600	3 500	**HM516448/HM516410**
	136.525	30.162	29.769	22.225	129.0	189.0	2 600	3 500	**495/493**
	139.992	36.512	36.098	28.575	178.0	265.0	2 600	3 400	**580/572**
	139.992	36.512	36.098	28.575	178.0	265.0	2 600	3 400	**582/572**
	146.050	41.275	41.275	31.750	206.0	295.0	2 500	3 300	**663/653**
	150.089	44.450	46.672	36.512	261.0	360.0	2 400	3 200	**749A/742**
	152.400	39.688	36.322	30.162	180.0	279.0	2 300	3 100	**595/592A**
	152.400	41.275	41.275	31.750	206.0	295.0	2 500	3 300	**663/652**
	161.925	47.625	48.260	38.100	270.0	385.0	2 300	3 100	**757/752**
	161.925	53.975	55.100	42.862	310.0	460.0	2 300	3 000	**6559C/6535**
	168.275	53.975	56.363	41.275	340.0	460.0	2 200	3 000	**842/832**
83.345	125.412	25.400	25.400	19.845	102.0	163.0	2 700	3 600	**27689/27620**
	125.412	25.400	25.400	19.845	102.0	163.0	2 700	3 600	**27690/27620**
	125.412	25.400	25.400	19.845	102.0	163.0	2 700	3 600	**27691/27620**
84.138	136.525	30.162	29.769	22.225	129.0	189.0	2 600	3 500	**498/493**
85.000	130.000	30.000	29.000	24.000	135.0	214.0	2 600	3 500	**JM716648/JM716610**
	140.000	39.000	38.000	31.500	197.0	297.0	2 500	3 400	**JHM516849/JHM516810**
85.026	150.089	44.450	46.672	36.512	261.0	360.0	2 400	3 200	**749/742**



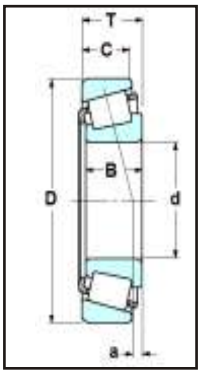
Medidas							Fatores			Massa
d	db	Da	Db	ra max	r1a max	a	e	Y2	Yo	Peso
mm										kg
77.788	85	105	113	3.5	3.3	-2.31	0.51	1.18	0.65	0.932
	84	110	116	3.5	2	-1.21	0.45	1.33	0.73	0.943
	85	114	121	3.5	3.3	2.8	0.42	1.43	0.79	1.410
	87	122	130	3.5	3.3	0.7	0.44	1.35	0.74	1.780
	88	118	132	3.5	3.3	8.7	0.47	1.27	0.70	2.840
79.375	90	131	139	3.5	3.3	8.0	0.41	1.47	0.81	2.910
	91	144	150	8	3.3	12.0	0.34	1.76	0.97	4.550
	97	171	179	3.5	3.3	14.4	0.33	1.79	0.99	8.520
80.000	88	117	125	3	2.5	4.9	0.39	1.54	0.85	1.730
80.962	89	119	128	3.5	3.3	3.9	0.40	1.48	0.82	1.780
	89	122	130	3.5	3.3	0.7	0.44	1.35	0.74	1.690
	90	125	133	3.5	3.3	5.5	0.40	1.49	0.82	2.260
	91	134	142	5	3.3	12.0	0.33	1.84	1.01	3.430
82.550	89	115	120	3.5	1.5	-0.61	0.42	1.44	0.79	1.070
	90	119	128	3.5	3.3	3.9	0.40	1.48	0.82	1.720
	92	118	128	6.8	3.3	7.5	0.40	1.49	0.82	2.160
	90	122	130	3.5	3.3	0.7	0.44	1.35	0.74	1.640
	91	125	133	3.5	3.3	5.5	0.40	1.49	0.82	2.200
	91	125	133	6.8	3.3	5.5	0.40	1.49	0.82	2.190
	92	131	139	3.5	3.3	8.0	0.41	1.47	0.81	2.780
	93	134	142	3.5	3.3	12.0	0.33	1.84	1.01	3.370
	93	135	144	3.5	3.3	2.6	0.44	1.36	0.75	3.020
	92	134	141	3.5	3.3	8.0	0.41	1.47	0.81	3.150
	94	144	150	3.5	3.3	12.0	0.34	1.76	0.97	4.420
	98	141	154	3.5	3.3	12.8	0.40	1.50	0.82	5.090
	94	149	155	3.5	3.3	18.5	0.30	2.00	1.10	5.460
83.345	90	115	120	0.8	1.5	-0.61	0.42	1.44	0.79	1.060
	90	115	120	3.5	1.5	-0.61	0.42	1.44	0.79	1.050
	90	115	120	6.4	1.5	-0.61	0.42	1.44	0.79	1.040
84.138	91	122	130	3.5	3.3	0.7	0.44	1.35	0.74	1.600
85.000	92	117	125	6	2.5	0.2	0.44	1.35	0.74	1.370
	94	125	134	3	2.5	5.9	0.41	1.47	0.81	2.300
85.026	95	134	142	3.5	3.3	12.0	0.33	1.84	1.01	3.250



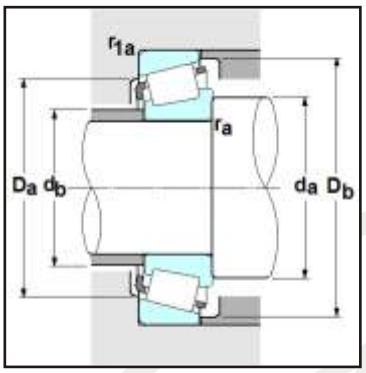
Medidas							Limite de Rotação		Rolamentos
d	D	T	B	C	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm					KN		rpm		
85.725	133.350	30.162	29.769	22.225	129.0	189.0	2 600	3 500	**497/492A**
	142.138	42.862	42.862	34.133	216.0	350.0	2 500	3 300	**HM617049/HM617010**
	146.050	41.275	41.275	31.750	206.0	295.0	2 500	3 300	**665/653**
	152.400	39.688	36.322	30.162	180.0	279.0	2 300	3 100	**596/592A**
	161.925	47.625	48.260	38.100	270.0	385.0	2 300	3 100	**758/752**
87.960	148.430	28.575	28.971	21.433	138.0	215.0	2 300	3 100	**42346/42584**
88.900	121.442	15.083	15.083	11.112	56.5	88.0	2 700	3 600	**LL217849/LL217810**
	123.825	20.638	20.638	16.670	80.0	141.0	2 700	3 500	**L217849/L217810**
	148.430	28.575	28.971	21.433	138.0	215.0	2 300	3 100	**42350/42584**
	152.400	39.688	36.322	30.162	180.0	279.0	2 300	3 100	**593/592A**
	161.925	47.625	48.260	38.100	270.0	385.0	2 300	3 100	**759/752**
	161.925	53.975	55.100	42.862	310.0	460.0	2 300	3 000	**6580/6535**
	168.275	53.975	56.363	41.275	340.0	460.0	2 200	3 000	**850/832**
89.974	146.975	40.000	40.000	32.500	227.0	340.0	2 400	3 200	**HM218248/HM218210**
90.000	145.000	35.000	34.000	27.000	189.0	279.0	2 400	3 200	**JM718149/JM718110**
	155.000	44.000	44.000	35.500	270.0	385.0	2 300	3 100	**JHM318448/JHM318410**
	190.000	50.800	46.038	31.750	281.0	365.0	1 800	2 400	**J90354/J90748**
90.488	161.925	47.625	48.260	38.100	270.0	385.0	2 300	3 100	**760/752**
92.075	146.050	33.338	34.925	26.195	163.0	266.0	2 400	3 100	**47890/47820**
	152.400	39.688	36.322	30.162	180.0	279.0	2 300	3 100	**598A/592A**
	168.275	41.275	41.275	30.162	222.0	340.0	2 100	2 800	**681/672**
93.662	148.430	28.575	28.971	21.433	138.0	215.0	2 300	3 100	**42368/42584**
95.000	150.000	35.000	34.000	27.000	180.0	279.0	2 300	3 100	**JM719149/JM719113**
95.250	130.175	20.638	21.433	16.670	81.0	147.0	2 500	3 300	**L319249/L319210**
	146.050	33.338	34.925	26.195	163.0	266.0	2 400	3 100	**47896/47820**
	147.638	35.717	36.322	26.192	180.0	279.0	2 300	3 100	**594A/592XE**
	148.430	28.575	28.971	21.433	138.0	215.0	2 300	3 100	**42375/42584**
	152.400	39.688	36.322	30.162	180.0	279.0	2 300	3 100	**594/592A**
	157.162	36.512	36.116	26.195	188.0	305.0	2 200	2 900	**52375/52618**
	168.275	41.275	41.275	30.162	222.0	340.0	2 100	2 800	**683/672**
	190.500	57.150	57.531	46.038	445.0	610.0	1 900	2 600	**HH221440/HH221410**
96.838	148.430	28.575	28.971	21.433	138.0	215.0	2 300	3 100	**42381/42584**
	188.912	50.800	46.038	31.750	281.0	365.0	1 800	2 400	**90381/90744**



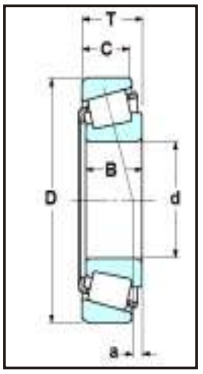
Medidas							Fatores			Massa
d	db	Da	Db	ra max	r1a max	a	e	Y2	Yo	Peso
mm										kg
85.725	93	120	128	3.5	3.3	0.7	0.44	1.35	0.74	1.430
	95	125	137	4.8	3.3	6.9	0.43	1.39	0.76	2.690
	95	131	139	3.5	3.3	8.0	0.41	1.47	0.81	2.650
	96	135	144	3.5	3.3	2.6	0.44	1.36	0.75	2.900
	97	144	150	3.5	3.3	12.0	0.34	1.76	0.97	4.260
87.960	98	134	142	3	3	-3.01	0.49	1.22	0.67	1.990
88.900	94	115	117	1.5	1.5	-2.91	0.33	1.81	1.00	0.452
	94	116	119	1.5	1.5	-0.71	0.33	1.82	1.00	0.737
	98	134	142	3	3	-3.01	0.49	1.22	0.67	1.960
	98	135	144	3.5	3.3	2.6	0.44	1.36	0.75	2.780
	99	144	150	3.5	3.3	12.0	0.34	1.76	0.97	4.090
	102	141	154	3.5	3.3	12.8	0.40	1.50	0.82	4.730
	100	149	155	3.5	3.3	18.5	0.30	2.00	1.10	5.080
89.974	99	133	141	7	3.5	8.6	0.33	1.80	0.99	2.550
90.000	99	131	139	3	2.5	2.0	0.44	1.35	0.74	2.140
	100	140	148	3	2.5	10.1	0.34	1.76	0.97	3.320
	112	162	179	3.5	3.3	-12.91	0.87	0.69	0.38	6.320
90.488	101	144	150	3.5	3.3	12.0	0.34	1.76	0.97	4.010
92.075	101	131	140	3.5	3.3	0.6	0.45	1.34	0.74	2.080
	101	135	144	6.4	3.3	2.6	0.44	1.36	0.75	2.630
	104	149	160	3.5	3.3	3.0	0.47	1.28	0.70	3.870
93.662	102	134	142	3	3	-3.01	0.49	1.22	0.67	1.800
95.000	104	135	143	3	2.5	1.7	0.44	1.36	0.75	2.190
95.250	101	122	125	1.5	1.5	-1.01	0.35	1.72	0.95	0.789
	103	131	140	3.5	3.3	0.6	0.45	1.34	0.74	1.950
	104	135	142	5	0.8	2.6	0.44	1.36	0.75	2.090
	103	134	142	3	3	-3.01	0.49	1.22	0.67	1.750
	104	135	144	3.5	3.3	2.6	0.44	1.36	0.75	2.510
	105	142	152	3.5	3.3	0.6	0.47	1.26	0.69	2.760
	106	149	160	3.5	3.3	3.0	0.47	1.28	0.70	3.720
	110	171	179	8	3.3	14.4	0.33	1.79	0.99	7.500
96.838	104	134	142	3.5	3	-3.01	0.49	1.22	0.67	1.690
	113	161	179	3.5	3.3	-12.9	0.87	0.69	0.38	5.670



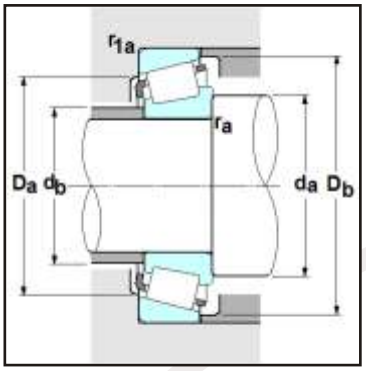
Medidas							Limite de Rotação		Rolamentos
d	D	T	B	C	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm					KN		rpm		
98.425	157.162	36.512	36.116	26.195	188.0	305.0	2 200	2 900	**52387/52618**
	168.275	41.275	41.275	30.162	222.0	340.0	2 100	2 800	**685/672**
99.974	212.725	66.675	66.675	53.975	575.0	810.0	1 700	2 300	**HH224334/HH224310**
100.000	155.000	36.000	35.000	28.000	192.0	310.0	2 200	2 900	**JM720249/JM720210**
100.012	157.162	36.512	36.116	26.195	188.0	305.0	2 200	2 900	**52393/52618**
101.600	157.162	36.512	36.116	26.195	188.0	305.0	2 200	2 900	**52400/52618**
	168.275	41.275	41.275	30.162	222.0	340.0	2 100	2 800	**687/672**
	180.975	47.625	48.006	38.100	285.0	4300	2 000	2 700	**780/772**
	190.500	57.150	57.531	44.450	380.0	555.0	2 000	2 600	**861/854**
	190.500	57.150	57.531	46.038	445.0	610.0	1 900	2 600	**HH221449/HH221410**
	190.500	57.150	57.531	46.038	445.0	610.0	1 900	2 600	**HH221449A/HH221410**
	212.725	66.675	66.675	53.975	475.0	695.0	1 800	2 300	**941/932**
	212.725	66.675	66.675	53.975	575.0	810.0	1 700	2 300	**HH224335/HH224310**
104.775	180.975	47.625	48.006	38.100	285.0	430.0	2 000	2 700	**782/772**
107.950	158.750	23.020	21.438	15.875	102.0	166.0	2 100	2 800	**37425/37625**
	159.987	34.925	34.925	26.988	167.0	320.0	2 100	2 800	**LM522546/LM522510**
	165.100	36.512	36.512	26.988	191.0	315.0	2 100	2 700	**56425/56650**
	212.725	66.675	66.675	53.975	475.0	695.0	1 800	2 300	**936/932**
109.538	158.750	23.020	21.438	15.875	102.0	166.0	2 100	2 800	**37431/37625**
109.987	159.987	34.925	34.925	26.988	167.0	320.0	2 100	2 800	**LM522548/LM522510**
109.992	177.800	41.275	41.275	30.162	232.0	375.0	1 900	2 600	**64433/64700**
110.000	165.000	35.000	35.000	26.500	191.0	315.0	2 100	2 700	**JM822049/JM822010**
	180.000	47.000	46.000	38.000	305.0	480.0	1 900	2 600	**JHM522649/JHM522610**
111.125	214.312	55.562	52.388	39.688	405.0	560.0	1 500	2 000	**H924045/H924010**
114.300	177.800	41.275	41.275	30.162	232.0	375.0	1 900	2 600	**64450/64700**
	180.975	34.925	31.750	25.400	169.0	245.0	1 900	2 500	**68450/68712**
	212.725	66.675	66.675	53.975	4750	695.0	1 800	2 300	**938/932**
	212.725	66.675	66.675	53.975	575.0	810.0	1 700	2 300	**HH224346/HH224310**
	228.600	53.975	49.428	38.100	430.0	620.0	1 400	1 900	**HM926740/HM926710**
115.087	190.500	47.625	49.212	34.925	300.0	475.0	1 800	2 500	**71453/71750**
117.475	180.975	34.925	31.750	25.400	169.0	245.0	1 900	2 500	**68462/68712**
120.000	170.000	25.400	25.400	19.050	127.0	210.0	2 000	2 600	**JL724348/JL724314**
120.650	234.950	63.500	63.500	49.212	525.0	825.0	1 500	2 000	**95475/95925**
123.825	182.562	39.688	38.100	33.338	224.0	435.0	1 800	2 400	**48286/48220**



Medidas							Fatores			Massa
d	db	Da	Db	ra max	r1a max	a	e	Y2	Yo	Peso
mm										kg
98.425	108	142	152	3.5	3.3	0.6	0.47	1.26	0.69	2.620
	109	149	160	3.5	3.3	3.0	0.47	1.28	0.70	3.560
99.974	120	192	202	3.5	3.3	18.9	0.33	1.84	1.01	11.500
100.000	109	140	149	3	2.5	-0.31	0.47	1.27	0.70	2.400
100.012	109	142	152	3.5	3.3	0.6	0.47	1.26	0.69	2.550
101.600	111	142	152	3.5	3.3	0.6	0.47	1.26	0.69	2.480
	112	149	160	3.5	3.3	3.0	0.47	1.28	0.70	3.400
	113	161	168	3.5	3.3	8.1	0.39	1.56	0.86	5.110
	114	170	174	8	3.3	15.3	0.33	1.79	0.99	7.000
	116	171	179	8	3.3	14.4	0.33	1.79	0.99	7.060
	116	171	179	3.5	3.3	14.4	0.33	1.79	0.99	7.060
	117	187	193	7	3.3	19.7	0.33	1.84	1.01	11.200
	121	192	202	7	3.3	18.9	0.33	1.84	1.01	11.300
104.775	116	161	168	3.5	3.3	8.1	0.39	1.56	0.86	4.920
107.950	115	143	152	3.5	3.3	-14.01	0.61	0.99	0.54	1.370
	116	146	154	3.5	3.3	1.4	0.40	1.49	0.82	2.370
	117	149	159	3.5	3.3	-2.01	0.5	1.21	0.66	2.690
	122	187	193	8	3.3	19.7	0.33	1.84	1.01	10.700
109.538	116	143	152	3.5	3.3	-14.01	0.61	0.99	0.54	1.330
109.987	118	146	154	8	3.3	1.4	0.40	1.49	0.82	2.240
109.992	121	160	172	3.5	3.3	-1.11	0.52	1.16	0.64	3.770
110.000	119	149	159	3	2.5	-3.01	0.5	1.21	0.66	2.520
	122	162	172	3	2.5	6.0	0.41	1.48	0.81	4.610
111.125	131	186	205	3.5	3.3	-6.81	0.67	0.89	0.49	8.180
114.300	125	160	172	3.5	3.3	-1.11	0.52	1.16	0.64	3.520
	123	163	172	3.5	3.3	-5.41	0.5	1.21	0.66	2.930
	128	187	193	7	3.3	19.7	0.33	1.84	1.01	10.100
	131	192	202	7	3.3	18.9	0.33	1.84	1.01	10.200
	142	200	219	3.5	3.3	-13.51	0.74	0.81	0.45	9.760
115.087	126	171	181	3.5	3.3	6.7	0.42	1.44	0.79	5.110
117.475	125	163	172	3.5	3.3	-5.41	0.5	1.21	0.66	2.780
120.000	127	156	163	3.3	3.3	-7.91	0.46	1.31	0.72	1.670
120.650	137	209	217	6.4	3.3	14.0	0.37	1.62	0.89	12.600
123.825	133	168	176	3.5	3.3	5.7	0.31	1.97	1.08	3.520

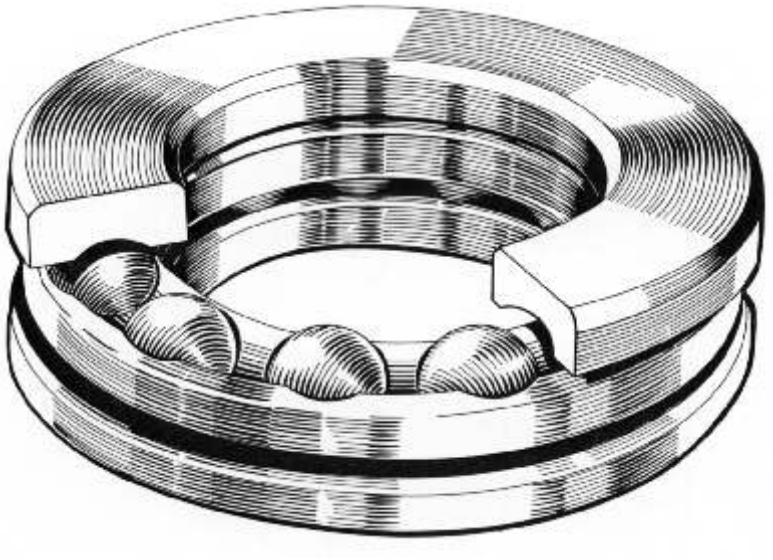


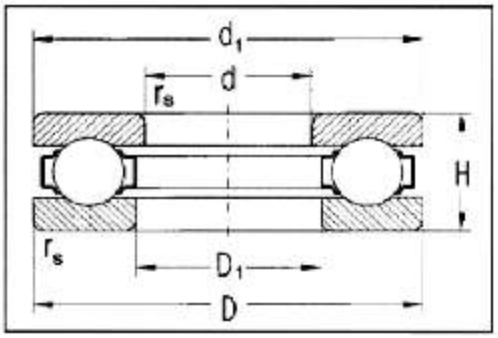
Medidas							Limite de Rotação		Rolamentos
d	D	T	B	C	Dinam C	Estat Co	a graxa	a óleo	**Número**
mm					KN		rpm		
127.000	182.562	39.688	38.100	33.338	224.0	435.0	1 800	2 400	**48290/48220**
	196.850	46.038	46.038	38.100	310.0	550.0	1 700	2 200	**67388/67322**
	215.900	47.625	47.625	34.925	320.0	540.0	1 600	2 100	**74500/74850**
	228.600	53.975	49.428	38.100	320.0	445.0	1 400	1 900	**97500/97900**
	228.600	53.975	49.428	38.100	430.0	620.0	1 400	1 900	**HM926747/HM926710**
	230.000	63.500	63.500	49.212	525.0	825.0	1 500	2 000	**95500/95905**
	254.000	77.788	82.550	61.912	740.0	1 070.0	1 400	1 900	**HH228349/HH228310**
128.588	206.375	47.625	47.625	34.925	315.0	520.0	1 700	2 200	**799/792**
130.175	196.850	46.038	46.038	38.100	310.0	550.0	1 700	2 200	**67389/67322**
	206.375	47.625	47.625	34.925	315.0	520.0	1 700	2 200	**799A/792**
133.350	177.008	25.400	26.195	20.638	126.0	259.0	1 800	2 400	**L327249/L327210**
	190.500	39.688	39.688	33.338	236.0	475.0	1 700	2 300	**48385/48320**
	196.850	46.038	46.038	38.100	310.0	550.0	1 700	2 200	**67390/67322**
	196.850	46.038	46.038	38.100	310.0	550.0	1 700	2 200	**67391/67322**
	215.900	47.625	47.625	34.925	320.0	540.0	1 600	2 100	**74525/74850**
	234.950	63.500	63.500	49.212	525.0	825.0	1 500	2 000	**95525/95925**
136.525	190.500	39.688	39.688	33.338	236.0	475.0	1 700	2 300	**48393/48320**
	228.600	57.150	57.150	44.450	445.0	735.0	1 500	2 000	**896/892**
139.700	215.900	47.625	47.625	34.925	320.0	540.0	1 600	2 100	**74550/74850**
	228.600	57.150	57.150	44.450	445.0	735.0	1 500	2 000	**898/892**
	254.000	66.675	66.675	47.625	550.0	910.0	1 400	1 800	**99550/99100**
142.875	200.025	41.275	39.688	34.130	239.0	490.0	1 600	2 100	**48684/48620**
	200.025	41.275	39.688	34.130	239.0	490.0	1 600	2 100	**48685/48620**
146.050	193.675	28.575	28.575	23.020	165.0	340.0	1 600	2 200	**36690/36620**
	254.000	66.675	66.675	47.625	550.0	910.0	1 400	1 800	**99575/99100**
152.400	192.088	25.000	24.000	19.000	130.0	261.0	1 600	2 100	**L630349/L630310**
	222.250	46.830	46.830	34.925	315.0	585.0	1 500	2 000	**M231648/M231610**
158.750	205.583	23.812	23.812	18.258	126.0	247.0	1 500	2 000	**L432349/L432310**
	225.425	41.275	39.688	33.338	254.0	555.0	1 400	1 900	**46780/46720**
165.100	225.425	41.275	39.688	33.338	254.0	555.0	1 400	1 900	**46790/46720**
170.000	230.000	39.000	38.000	31.000	282.0	520.0	1 400	1 800	**JHM534149/JHM534110**
177.800	227.012	30.162	30.162	23.020	181.0	415.0	1 300	1 800	**36990/36920**
	247.650	47.625	47.625	38.100	340.0	690.0	1 300	1 700	**67790/67720**
180.000	250.000	47.000	45.000	37.000	370.0	710.0	1 300	1 700	**JM736149/JM736110**
190.000	260.000	46.000	44.000	36.500	365.0	720.0	1 200	1 600	**JM738249/JM738210**
196.850	241.300	23.812	23.017	17.462	160.0	330.0	1 200	1 600	**LL639249/LL639210**

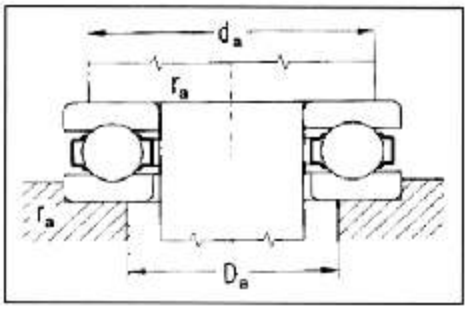


Medidas							Fatores			Massa
d	db	Da	Db	ra max	r1a max	a	e	Y2	Yo	Peso
mm										kg
127.000	135	168	176	3.5	3.3	5.7	0.31	1.97	1.08	3.330
	138	180	189	3.5	3.3	6.3	0.34	1.74	0.96	5.100
	141	196	208	3.5	3.3	-2.21	0.49	1.23	0.68	7.050
	144	197	213	3.5	3.3	-13.41	0.74	0.81	0.45	8.430
	143	200	219	3.5	3.3	-13.51	0.74	0.81	0.45	8.830
	142	207	217	6.4	3.3	14.0	0.37	1.62	0.89	12.900
	148	223	234	9.7	6.4	23.4	0.32	1.87	1.03	19.500
128.588	140	186	198	3.3	3.3	1.9	0.46	1.31	0.72	5.770
130.175	141	180	189	3.5	3.3	6.3	0.34	1.74	0.96	4.870
	142	186	198	3.5	3.3	1.9	0.46	1.31	0.72	5.650
133.350	140	167	171	1.5	1.5	-3.71	0.35	1.72	0.95	1.700
	142	177	184	3.5	3.3	4.0	0.32	1.87	1.03	3.640
	143	180	189	3.5	3.3	6.3	0.34	1.74	0.96	4.630
	143	180	189	8	3.3	6.3	0.34	1.74	0.96	4.590
	146	196	208	3.5	3.3	-2.21	0.49	1.23	0.68	6.560
	148	209	217	9.7	3.3	14.0	0.37	1.62	0.89	11.300
136.525	144	177	184	3.5	3.3	4.0	0.32	1.87	1.03	3.430
	150	205	216	3.5	3.3	6.0	0.42	1.43	0.78	9.070
139.700	151	196	208	3.5	3.3	-2.21	0.49	1.23	0.68	6.050
	153	205	216	3.5	3.3	6.0	0.42	1.43	0.78	8.760
	156	227	238	7	3.3	12.1	0.41	1.47	0.81	14.300
142.875	151	185	193	8	3.3	3.1	0.34	1.78	0.98	3.850
	151	185	193	3.5	3.3	3.1	0.34	1.78	0.98	3.890
146.050	153	182	188	1.5	1.5	-5.01	0.37	1.63	0.90	2.270
	162	227	238	7	3.3	12.1	0.41	1.47	0.81	13.500
152.400	158	183	187	2	2	-10.01	0.42	1.44	0.79	1.530
	163	207	213	8	1.5	5.9	0.33	1.8	0.99	5.720
158.750	166	195	199	1.5	1.5	-9.81	0.37	1.61	0.88	1.890
	169	209	218	3.5	3.3	-2.61	0.38	1.57	0.86	5.200
165.100	174	209	218	3.5	3.3	-2.61	0.38	1.57	0.86	4.690
170.000	178	217	224	3	2.5	-4.71	0.38	1.57	0.86	4.370
177.800	186	214	221	1.5	1.5	-12.91	0.44	1.36	0.75	2.920
	188	229	240	3.5	3.3	-4.81	0.44	1.36	0.75	6.570
180.000	190	232	243	3	2.5	-9.01	0.48	1.25	0.69	6.760
190.000	200	242	252	3	2.5	-10.91	0.48	1.26	0.69	6.850
196.850	203	232	236	1.5	1.5	-17.31	0.42	1.44	0.79	2.070

Rolamentos axiais de esferas





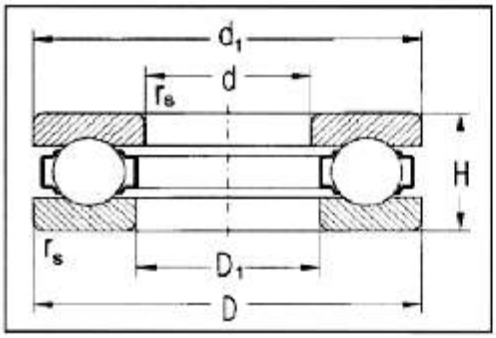


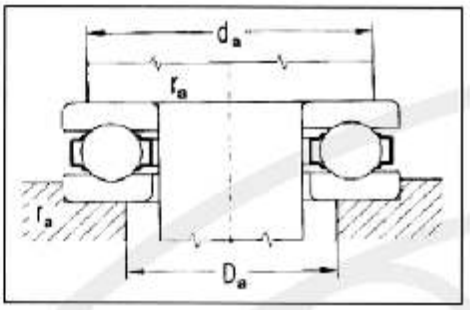
$F_{a.min} = M(n_{max}/1000)^2$

$F_{a.min}$ = Carga Axial Mín.
n_{max} = rotação máx.
M = Fator de Carga

Rolamentos axiais de esferas com escora simples

Medidas						Capac. Carga		Limite de Rotação		Rolamentos	Medidas			Massa	Fatores
d	D	d_1	D_1	H	r_s	Dinam C	Estat Co	a graxa	a óleo	**Número**	d_a min	D_a max	r_a max	Peso	Fator de carga axial
mm						KN		rpm			mm			Kg	max
10	24	24	11	9	0.3	10.0	9.09	7,900	10,600	**51100**	19	15	0.3	0.02	0.001
12	26	26	13	9	0.3	10.4	10.40	7,500	10,000	**51101**	21	17	0.3	0.02	0.002
15	28	28	16	9	0.3	10.6	11.90	7,100	9,400	**51102**	23	20	0.3	0.02	0.002
	32	13	17	12	0.6	15.8	16.50	6,000	7,900	**51202**	25	22	0.6	0.05	0.004
17	30	30	18	9	0.3	11.4	14.40	7,100	9,400	**51103**	25	22	0.3	0.03	0.003
	35	35	19	12	0.6	16.2	18.80	5,600	7,500	**51203**	28	24	0.6	0.05	0.004
20	35	35	21	10	0.3	15.0	19.60	6,300	8,400	**51104**	29	26	0.3	0.04	0.004
	40	40	22	14	0.6	22.4	26.10	5,000	6,700	**51204**	32	28	0.6	0.08	0.008
25	42	42	26	11	0.6	18.1	27.10	5,300	7,100	**51105**	35	32	0.6	0.06	0.006
	47	47	27	15	0.6	27.6	36.20	4,500	6,000	**51205**	38	34	0.6	0.12	0.015
	52	52	27	18	1.0	35.5	42.20	3,800	5,000	**51305**	41	36	1.0	0.18	0.020
	60	60	27	24	1.0	55.2	55.20	3,200	4,200	**51405**	46	39	1.0	0.34	0.035
30	47	47	32	11	0.6	18.8	31.60	5,000	6,700	**51106**	40	37	0.6	0.07	0.008
	52	52	32	16	0.6	29.3	43.80	4,000	5,300	**51206**	43	39	0.6	0.14	0.018
	60	60	32	21	1.0	43.0	55.20	3,300	4,500	**51306**	48	42	1.0	0.27	0.030
	70	70	32	28	1.0	72.2	81.00	2,700	3,500	**51406**	54	46	1.0	0.53	0.085
35	52	52	37	12	0.6	20.0	38.30	4,700	6,300	**51107**	45	42	0.6	0.08	0.012
	62	62	37	18	1.0	39.1	58.40	3,500	4,700	**51207**	51	46	1.0	0.22	0.032
	68	68	37	24	1.0	55.2	73.60	2,800	3,800	**51307**	55	48	1.0	0.39	0.050
	80	80	37	32	1.1	87.4	100.00	2,200	3,000	**51407**	62	53	1.0	0.79	0.120
40	60	60	42	13	0.6	27.1	51.10	4,200	5,600	**51108**	52	48	0.6	0.12	0.018
	68	68	42	19	1.0	43.8	70.80	3,200	4,200	**51208**	57	51	1.0	0.27	0.047
	78	78	42	26	1.0	69.4	94.40	2,700	3,500	**51308**	63	55	1.0	0.55	0.095
	90	90	42	36	1.1	120.0	133.00	2,000	2,700	**51408**	70	60	1.0	1.14	0.190
45	65	65	47	14	0.6	27.6	57.30	4,000	5,300	**51109**	57	53	0.6	0.15	0.025
	73	73	47	20	1.0	46.4	81.00	3,000	4,000	**51209**	62	56	1.0	0.32	0.060
	85	85	47	28	1.0	79.4	117.00	2,400	3,200	**51309**	69	61	1.0	0.69	0.130
	100	100	47	39	1.1	131.0	158.00	1,900	2,500	**51409**	78	67	1.0	1.47	0.350
50	70	70	52	14	0.6	28.7	63.10	3,800	5,000	**51110**	62	58	0.6	0.16	0.035
	78	78	52	22	1.0	47.3	87.40	2,800	3,800	**51210**	67	61	1.0	0.39	0.082



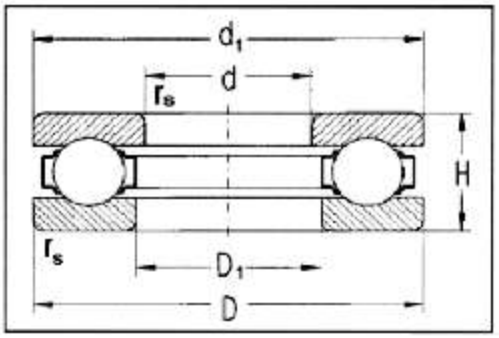


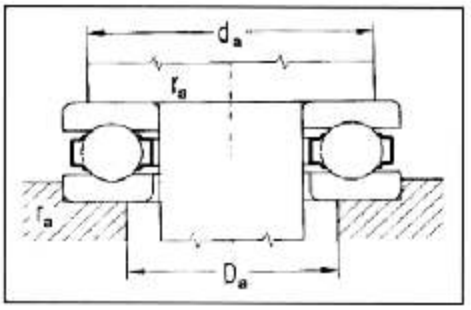
$F_{a.min} = M(n_{max}/1000)^2$

$F_{a.min}$ = Carga Axial Mín.
n_{max} = rotação máx.
M = Fator de Carga

Rolamentos axiais de esferas com escora simples

Medidas						Capac. Carga		Limite de Rotação		Rolamentos	Medidas			Massa	Fatores
d	D	d_1	D_1	H	r_s	Dinam C	Estat Co	a graxa	a óleo	**Número**	d_a min	D_a max	r_a max	Peso	Fator de carga axial
mm						KN		rpm			mm			Kg	max
55	78	78	57	16	0.6	34.8	77.90	3,300	4,500	**51111**	69	64	0.6	0.24	0.040
	90	90	57	25	1.0	69.4	123.00	2,500	3,300	**51211**	76	69	1.0	0.61	0.110
	105	105	57	35	1.1	119.0	174.00	1,900	2,500	**51311**	85	75	1.0	1.34	0.270
	120	120	57	48	1.5	207.0	251.00	1,600	2,100	**51411**	94	81	1.5	2.64	0.650
60	85	85	62	17	1.0	41.4	94.40	3,200	4,200	**51112**	75	70	1.0	0.29	0.066
	110	110	62	35	1.1	123.0	192.00	1,900	2,500	**51312**	90	80	1.0	1.43	0.350
65	100	100	67	27	1.0	75.0	150.00	2,400	3,200	**51213**	86	79	1.0	0.77	0.170
	115	115	67	36	1.1	128.0	211.00	1,800	2,400	**51313**	95	85	1.0	1.57	0.450
70	95	95	72	18	1.0	43.0	110.00	2,800	3,800	**51114**	85	80	1.0	0.36	0.110
	105	105	72	27	1.0	76.4	162.00	2,200	3,000	**51214**	91	84	1.0	0.81	0.210
	125	125	72	40	1.1	147.0	251.00	1,700	2,200	**51314**	103	92	1.0	2.06	0.540
	150	150	73	60	2.0	251.0	369.00	1,200	1,600	**51414**	118	102	2.0	5.48	1.600
75	100	100	77	19	1.0	43.8	119.0	2700	3500	**51115**	90	85	1.0	0.42	0.12
	110	110	77	27	1.0	77.9	171.0	2200	3000	**51215**	96	89	1.0	0.86	0.27
	135	135	77	44	1.5	185.0	310.0	1600	2100	**51315**	111	99	1.5	2.68	0.76
80	105	105	82	19	1.0	44.7	123.0	2700	3500	**51116**	95	90	1.0	0.43	0.15
	115	115	82	28	1.0	79.4	181.0	2000	2700	**51216**	101	94	1.0	0.95	0.35
	170	170	83	68	2.1	316.0	482.0	890	1200	**51416**	133	117	2.0	7.97	2.70
85	110	110	87	19	1.0	45.5	133.0	2700	3500	**51117**	100	95	1.0	0.46	0.18
	125	125	88	31	1.0	96.2	215.0	1900	2700	**51217**	109	101	1.0	1.29	0.43
	150	150	88	49	1.5	224.0	376.0	1300	1800	**51317**	123	111	1.5	3.66	1.20
90	120	120	92	22	1.0	59.9	165.0	2200	3000	**51118**	108	102	1.0	0.68	0.26
	155	155	93	50	1.5	233.0	406.0	1100	1500	**51318**	129	116	1.5	3.88	1.50
	190	187	93	77	2.1	383.0	619.0	790	1060	**51418**	149	131	2.0	11.20	4.10
100	135	135	102	25	1.0	85.8	228.0	2000	2700	**51120**	121	114	1.0	0.99	0.34
	170	170	103	55	1.5	251.0	464.0	1060	1400	**51320**	142	128	1.5	5.11	2.00
	210	205	103	85	3.0	447.0	779.0	750	1000	**51420**	165	145	2.5	15.00	6.20
110	145	145	112	25	1.0	87.4	251.0	1900	2500	**51122**	131	124	1.0	1.08	0.42
	190	187	113	63	2.0	304.0	584.0	890	1200	**51322**	158	142	2.0	7.87	2.80
	230	225	113	95	3.0	492.0	909.0	670	890	**51422**	181	159	2.5	20.20	9.00
120	155	155	122	25	1.0	89.1	271.0	1600	2100	**51124**	141	134	1.0	1.16	0.53
	210	205	123	70	2.1	348.0	708.0	790	1060	**51324**	173	157	2.0	10.90	4.10
	250	245	123	102	4.0	531.0	1,040.0	630	840	**51424**	197	173	3.0	25.50	13.00



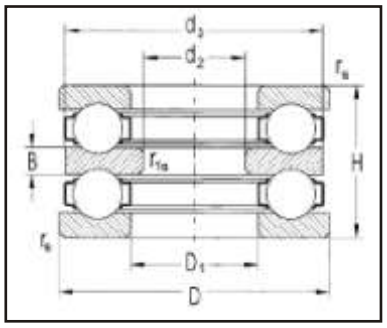


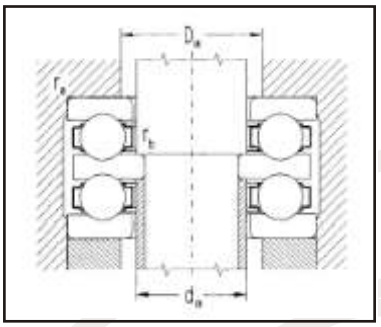
$F_{a.min} = M(n_{max}/1000)^2$

$F_{a.min}$ = Carga Axial Mín.
n_{max} = rotação máx.
M = Fator de Carga

Rolamentos axiais de esferas com escora simples

Medidas						Capac. Carga		Limite de Rotação		Rolamentos	Medidas			Massa	Fatores
d	D	d_1	D_1	H	r_s	Dinam C	Estat Co	a graxa	a óleo	**Número**	d_a min	D_a max	r_a max	Peso	Fator de carga axial
mm						KN		rpm			mm			Kg	max
	170	170	132	30	1.0	119.0	355.0	1400	1900	**51126**	154	146	1.0	1.87	0.65
130	225	220	134	75	2.1	369.0	779.0	750	1000	**51326**	186	169	2.0	13.30	6.20
	270	265	134	110	4.0	631.0	1,280.0	560	750	**51426**	213	187	3.0	32.00	18.00
140	240	235	144	80	2.1	414.0	962.0	710	940	**51328**	199	181	2.0	15.90	8.00
150	190	188	152	31	1.0	123.0	398.0	1300	1800	**51130**	174	166	1.0	2.20	0.95
160	200	198	162	31	1.0	126	422	1,300	1,800	**51132**	184	176	1.0	2.33	1.20
	225	222	163	51	1.5	276	722	890	1,200	**51232**	199	186	1.5	6.67	3.20
170	215	213	172	34	1.1	158	511	1,200	1,600	**51134**	197	188	1.0	3.31	1.50
	240	237	173	55	1.5	282	750	840	1,100	**51234**	212	198	1.5	8.28	4.60
180	225	222	185	34	1.1	165	562	1,100	1,500	**51136**	207	198	1.0	3.48	1.90
	250	247	183	56	1.5	304	858	840	1,100	**51236**	222	208	1.5	8.85	5.50
190	240	237	193	37	1.1	188	656	1,060	1,400	**51138**	220	210	1.0	4.06	2.40
	270	267	194	62	2.0	355	1,02	750	1,000	**51238**	238	222	2.0	11.90	7.50
200	250	247	203	37	1.1	185	631	1,060	1,400	**51140**	230	220	1.0	4.24	3.10
	280	277	204	62	2.0	355	1,02	750	1,000	**51240**	248	232	2.0	12.40	9.50
220	270	267	223	37	1.1	192	722	1,000	1,300	**51144**	250	240	1.0	4.62	4.60
240	300	297	243	45	1.5	261	926	840	1,100	**51148**	276	264	1.5	7.55	6.50
300	420	415	304	95	3.0	588	2,255	500	670	**51260**	372	348	2.5	43.10	40.00
320	440	435	325	95	3.0	614	2,495	470	630	**51264**	392	368	2.5	45.50	48.00
340	420	416	344	64	2.0	419	1,78	600	790	**51168**	388	372	2.0	20.30	19.00
360	440	436	364	65	2.0	430	1,885	560	750	**51172**	408	392	2.0	21.80	22.00
	500	495	365	110	5.0	727	3,264	400	530	**51272**	443	417	3.0	70.60	90.00
400	480	476	404	65	3.0	446	2,141	530	710	**51180**	448	432	2.0	23.60	28.00
420	500	495	424	65	2.0	460	2,255	530	710	**51184**	470	450	2.0	25.00	30.00
1000	1180	1175	1005	140	5.0	1,377	11,595	210	280	**511/1000**	1110	1070	4.0	270.00	720.00





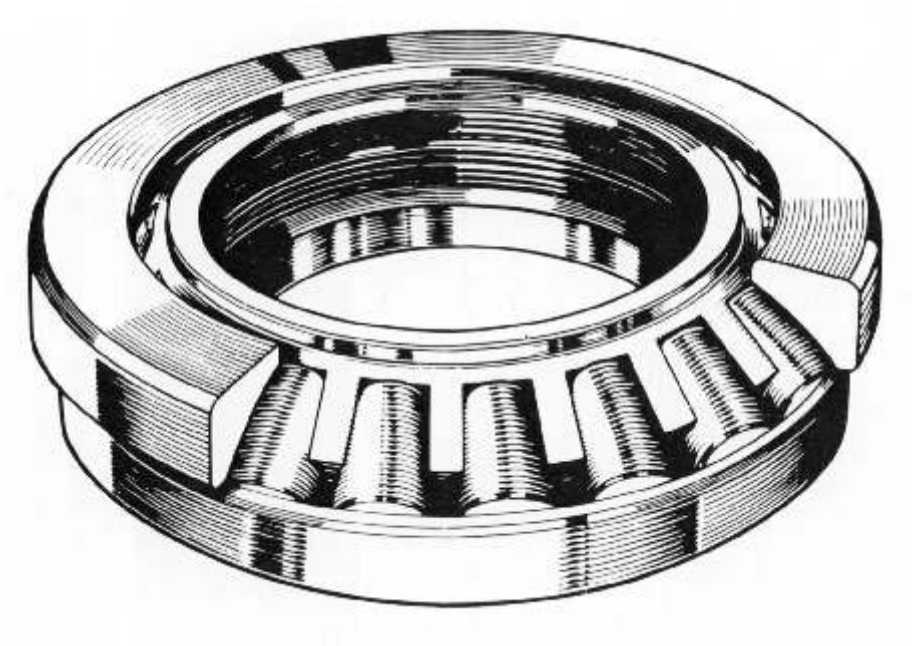
$F_{a.min} = M(n_{max}/1000)^2$

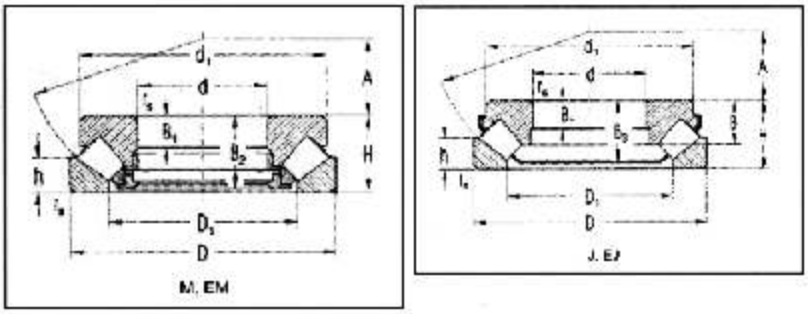
$F_{a.min}$ = Carga Axial Mín.
n_{max} = rotação máx.
M = Fator de Carga

Rolamentos axiais de esferas com escora dupla

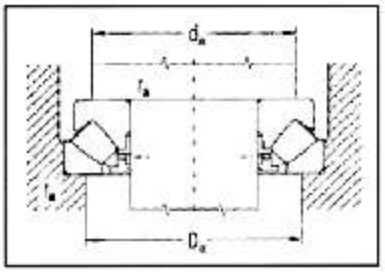
Medidas								Capac. Carga		Limite de Rotação		Rolamentos	Medidas				Massa	Fator de Carga Axial
d_2	D	d_3	D_1	H	B	r_s min	r_{1s} min	Dinam C	Estat Co	a graxa	a óleo	**Número**	d_a min	D_a max	r_a max	r_b max	Peso	
mm								KN		rpm			mm				Kg	Min.
10	32	32.0	17	22	5	0.6	0.3	15.8	16.5	6,000	7,900	**52202**	15	22	0.6	0.3	0.08	0.004
15	40	40.0	22	26	6	0.6	0.3	22.4	26.1	5,000	6,700	**52204**	20	28	0.6	0.3	0.15	0.008
	60	60.0	27	45	11	1.0	0.6	55.2	55.2	3,200	4,200	**52405**	25	39	1.0	0.6	0.63	0.035
20	47	47.0	27	28	7	0.6	0.3	27.6	36.2	4,500	6,000	**52205**	25	34	0.6	0.3	0.23	0.015
	52	52.0	27	34	8	1.0	0.3	35.5	42.2	3,800	5,000	**52305**	25	36	1.0	0.3	0.33	0.020
	70	70.0	32	52	12	1.0	0.6	72.2	81.0	2,700	3,500	**52406**	30	46	1.0	0.6	1.00	0.085
25	52	52.0	32	29	7	0.6	0.3	29.3	43.8	4,000	5,300	**52206**	30	39	0.6	0.3	0.27	0.018
	60	60.0	32	38	9	1.0	0.3	43.0	55.2	3,300	4,500	**52306**	30	42	1.0	3.0	0.49	0.030
	80	80.0	37	59	14	1.1	0.6	87.4	100.0	2,200	3,000	**52407**	35	53	1.0	0.6	1.44	0.120
30	62	62.0	37	34	8	1.0	0.3	39.1	58.4	3,500	4,700	**52207**	35	46	1.0	0.3	0.42	0.032
	68	68.0	37	44	10	1.0	0.3	55.2	73.6	2,800	3,800	**52307**	35	48	1.0	0.3	0.71	0.050
	68	68.0	42	36	9	1.0	0.6	43.8	70.8	3,200	4,200	**52208**	40	51	1.0	0.6	0.54	0.047
	78	78.0	42	49	12	1.0	0.6	69.4	94.4	2,700	3,500	**52308**	40	55	1.0	0.6	1.06	0.095
	90	90.0	42	65	15	1.1	0.6	112.0	133.0	2,000	2,700	**52408**	40	60	1.0	0.6	2.03	0.190
35	73	73.0	47	37	9	1.0	0.6	46.4	81.0	3,000	4,000	**52209**	45	56	1.0	0.6	0.62	0.060
	85	85.0	47	52	12	1.0	0.6	79.4	117.0	2,400	3,200	**52309**	45	61	1.0	0.6	1.29	0.130
	100	100.0	47	72	17	1.1	0.6	131.0	158.0	1,900	2,500	**52409**	45	67	1.0	0.6	2.71	0.350
40	78	78.0	52	39	9	1.0	0.6	47.3	87.4	2,800	3,800	**52210**	50	61	1.0	0.6	0.71	0.082
45	90	90.0	57	45	10	1.0	0.6	69.4	123.0	2,500	3,300	**52211**	55	69	1.0	0.6	1.12	0.110
	105	105.0	57	64	15	1.1	0.6	91.5	174.0	1,900	2,500	**52311**	55	75	1.0	0.6	2.51	0.270
	120	120.0	57	87	20	1.5	0.6	156.0	251.0	1,600	2,100	**52411**	55	81	1.5	0.6	4.70	0.650
50	110	110.0	62	64	15	1.1	0.6	95.0	192.0	1,900	2,500	**52312**	60	80	1.0	0.6	2.68	0.350
55	100	100.0	67	47	10	1.0	0.6	75.0	150.0	2,400	3,200	**52213**	65	79	1.0	0.6	1.36	0.170
	115	115.0	67	65	15	1.1	0.6	128.0	211.0	1,800	2,400	**52313**	65	85	1.0	0.6	2.90	0.450
	105	105.0	72	47	10	1.0	1.0	76.4	162.0	2,200	3,000	**52214**	70	84	1.0	0.6	1.48	0.210
	125	125.0	72	72	16	1.1	1.0	147.0	251.0	1,700	2,200	**52314**	70	92	1.0	1.0	3.90	0.540
	150	150.0	73	107	24	2.0	1.0	251.0	369.0	1,200	1,600	**52414**	70	102	2.0	1.0	9.71	1.600
60	110	110.0	77	47	10	1.0	1.0	77.9	171.0	2,200	3,000	**52215**	75	89	1.0	1.0	1.57	0.270
	135	135.0	77	79	18	1.5	1.0	185.0	310.0	1,600	2,100	**52315**	75	99	1.5	1.0	4.83	0.760
65	115	115.0	82	48	10	1.0	1.0	79.4	181.0	2,000	2,700	**52216**	80	95	1.0	1.0	1.69	0.350
	170	170.0	83	120	27	2.1	1.0	316.0	482.0	890	1,200	**52416**	80	117	2.0	1.0	14.50	2.700
70	125	125.0	88	55	12	1.0	1.0	96.2	215.0	1,900	2,500	**52217**	85	101	1.0	1.0	2.34	0.430
	150	150.0	88	87	19	1.5	1.0	224.0	376.0	1,300	1,800	**52317**	85	111	1.5	1.0	6.43	1.200
	190	189.5	93	135	30	2.1	1.1	383.0	619.0	790	1,060	**52418**	90	131	2.0	1.0	19.60	4.100
75	155	155.0	93	88	19	1.5	1.0	233.0	406.0	1,100	1,500	**52318**	90	116	1.5	1.0	6.60	1.500
100	210	209.5	123	123	27	2.1	1.1	348.0	708.0	790	1,060	**52324**	120	157	2.0	1.0	17.20	4.100
140	225	224.5	163	90	20	1.5	1.1	276.0	722.0	890	1,200	**52232**	160	186	1.5	1.0	12.60	3.200

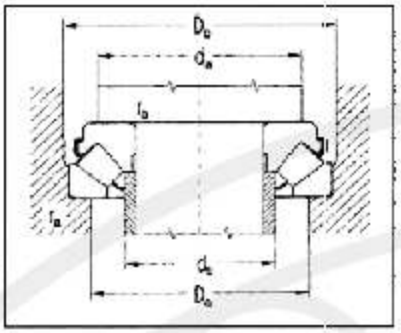
Rolamentos axiais oscilantes de rolos esféricos





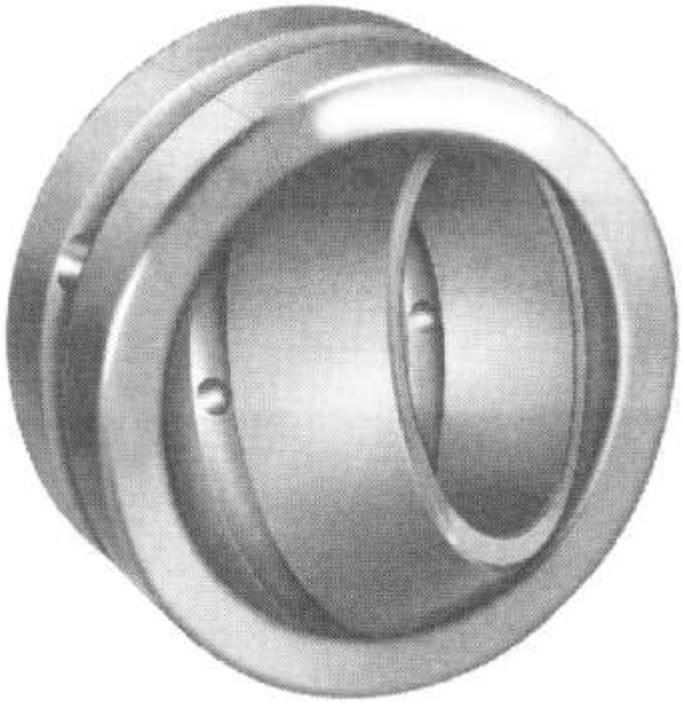
Medidas										Capac. Carga		Limite de Rotação	Rolamentos
d	D	H	d_1	D_1	B	B_1	h	A	r_s min	Dinam C	Estat Co	a óleo	**Número**
mm										KN		rpm	
60	130	42	118	88.0	28.0	15.0	20	38	1.5	287	809	2.400	**29412**
65	140	45	128	96.5	30.0	16.0	21	42	2.0	340	973	2.200	**29413**
70	150	48	137	102.0	32.0	17.0	23	44	2.0	371	1.071	2.000	**29414**
75	160	51	146	109.0	34.5	18.0	24	47	2.0	429	1.254	2.000	**29415**
80	170	54	155	116.0	36.0	19.0	24	50	2.1	464	1.367	1.900	**29416**
85	150	39	135	111.0	25.0	14.0	19	50	1.5	342	1.050	2.500	**29317**
	180	58	164	125.0	38.0	21.0	28	54	2.1	527	1.570	1.800	**29417**
90	155	39	140	115.0	25.0	14.0	19	52	1.5	353	1.080	2.500	**29318**
	190	60	174	130.0	-	22.0	29	56	2.1	578	1.784	1.700	**29418**
100	210	67	193	144.5	-	24.0	32	62	3.0	705	2.172	1.500	**29420**
110	190	48	176	143.0	31.0	16.0	23	64	2.0	442	1.415	1.600	**29322**
	230	73	212	160.0	-	26.0	35	69	3.0	817	2.600	1.400	**29422**
120	210	54	194	157.5	-	18.0	26	70	2.1	560	1.830	1.400	**29324**
	250	78	229	172.0	-	29.0	37	74	4.0	934	2.997	1.300	**29424**
130	225	58	205	170.0	37.0	19.0	28	76	2.1	628	2.071	1.300	**29326**
	270	85	247	188.0	55.5	31.0	41	81	4.0	1.090	3.540	1.200	**29426**
140	240	60	219	183.0	-	20.0	29	82	2.1	675	2.310	1.300	**29328**
	280	85	257	197.5	-	31.0	41	86	4.0	1.130	3.750	1.200	**29428**
150	250	60	229	193.0	-	20.0	29	87	2.1	697	2.425	1.200	**29330**
	300	90	276	211.5	-	32.0	44	92	4.0	1.280	4.270	1.100	**29430**
160	270	67	248	207.0	-	23.0	32	92	3.0	807	2.810	1.100	**29332**
	320	95	306	226.0	-	34.0	45	99	5.0	1.460	4.810	1.000	**29432**
170	280	67	258	215.0	-	23.0	32	96	3.0	833	2.950	1.100	**29334**
	340	103	324	240.0	-	37.0	50	104	5.0	1.630	5.380	940	**29434**
180	300	73	277	231.0	-	25.0	35	103	3.0	984	3.530	1.000	**29336**
	360	109	342	255.0	-	39.0	52	110	5.0	1.800	6.010	890	**29436**

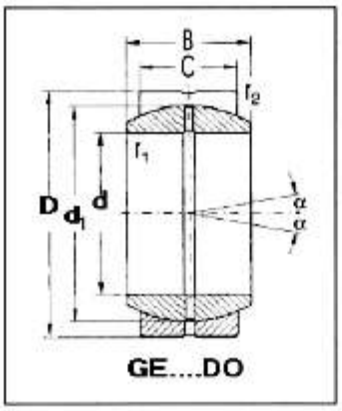


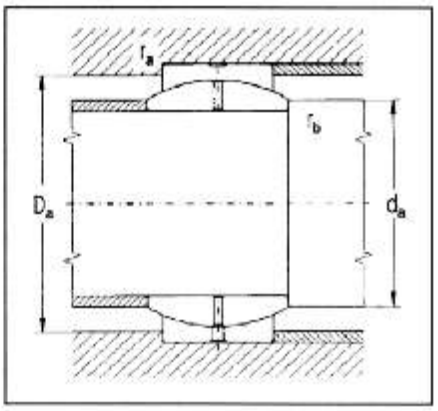


Medidas				Massa		Fator
d	d_a min	D_a max	r_a max	Peso com M	Peso com J	Fator de carga axial mínimo
mm				Kg		Min
60	90	109	1.5	2.600	2.470	0.08
65	100	118	2.0	3.300	3.220	0.10
70	105	126	2.0	4.000	3.980	0.14
75	115	134	2.0	4.900	4.740	0.18
80	120	141	2.0	5.800	5.570	0.25
85	115	129	1.5		3.100	0,16
	130	153	2.0	6.900	6.640	0.30
90	118	135	1.5		3,250	0.21
	135	161	2.0	8.100	-	0.37
100	150	178	2.5	11.800	-	0.60
110	145	165	2.0	5.500	5.400	0.25
	165	196	2.5	14.500	-	0.80
120	160	184	2.0	7.600	-	0.36
	180	212	3.0	18.100	-	1.10
130	170	198	2.0	9.300	8.650	0.52
	195	229	3.0	22.500	21.800	1.60
140	185	211	2.0	11.000	-	0.68
	205	239	3.0	24.200	-	2.00
150	195	222	2.0	11.500	-	0.90
	220	257	3.0	29.400	-	2.50
160	210	239	2.5	15.200	-	1.10
	230	274	4.0	35.500	-	3.00
170	220	248	2.5	16.000	-	1.40
	245	291	4.0	43.700	-	3.80
180	235	266	2.5	20.300	-	1.60
	260	307	4.0	52.000	-	4.70

Rótulas

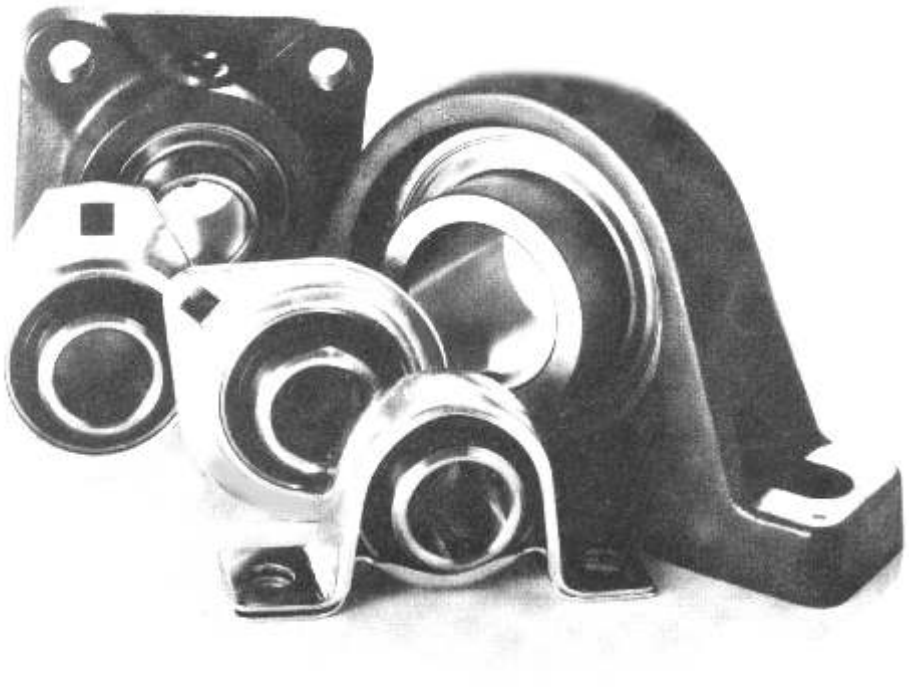


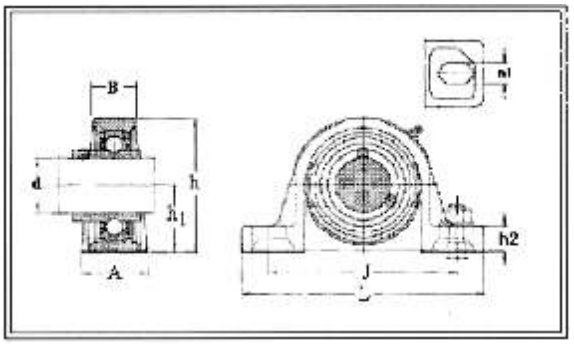




Medidas							Ângulo	Folga Radial Normal		Capac. Carga		Rótula	Massa	Medidas					
d	D	B	C	d_1	r_1 min	r_2 min	a	min	max	Dinam C	Estat Co	**Número**	Peso	d_a min	d_a max	D_a max	D_a min	r_a max	r_a min
mm							Graus	mm		KN			Kg	mm					
15	26	12	9	22	0.6	0.6	8º	0,040	0,082	17	85	**GE15DO**	0.025	18	18	23	21	0.6	0.5
20	35	16	12	29	0.6	0.6	9º	0,040	0,082	30	146	**GE20DO**	0.061	23	24	31	28	0.3	0.5
25	42	20	16	35.5	0.6	0.6	7º	0,050	0,100	48	240	**GE25DO**	0,110	28	29	36	33	0.6	0.5
30	47	22	18	40.7	0.6	0.6	6º	0,050	0,100	62	310	**GE30DO**	0,140	33	34	43	38	0.6	0.5
35	55	25	20	47	0.6	1.0	6º	0,050	0,100	80	400	**GE35DO**	0,220	39	40	50	44	0.8	0.6
40	62	28	22	53	0.6	1.0	7º	0,060	0,120	100	500	**GE40DO**	0,300	44	45	57	50	0.8	0.6
45	68	32	25	60	0.6	1.0	7º	0,060	0,120	127	640	**GE45DO**	0,400	49	50	63	56	0.8	0.6
50	75	35	28	66	0.6	1.0	6º	0,060	0,120	156	780	**GE50DO**	0,540	54	56	70	61	0.8	0.6
60	90	44	36	80	1.0	1.0	6º	0,060	0,120	245	1220	**GE60DO**	1,000	64	66	85	74	1.0	1.0

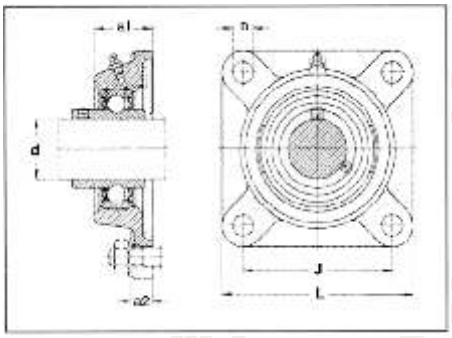
Mancais Monobloco





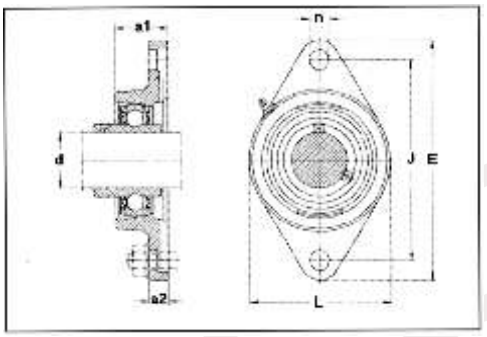
Tipo pedestal

Eixo	Medidas								Massa	Mancal	Parafuso
d	A	B	h	h_1	h_2	n_1	J	L	Peso		
mm									kg	**Número**	Diâmetro
20	32	19	64	33,3	14,5	11	97,25	130	0,390	**P204**	10
25	36	21	70	36,5	14,5	11	102,5	130	0,450	**P205**	10
30	40	25	82	42,9	17	14	117,5	158	0,730	**P206**	12
35	45	27	93	47,6	19	14	130	163	1,050	**P207**	12
40	48	30	99	49,2	19	14	138,25	179	1,090	**P208**	12
45	48	32	107	54	21,5	14	149,65	192	1,400	**P209**	12
50	54	34	115	57,2	21,5	18	158	200	1,700	**P210**	16
55	60	35	124,5	63,5	22,5	18	176	222	1,980	**P211**	16
60	60	42	140	69,9	25	18	190	240	2,950	**P212**	16



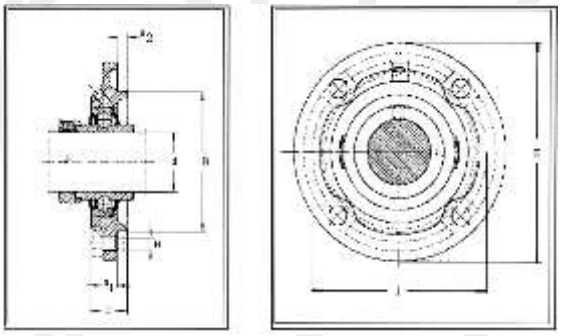
Tipo flange quadrada

Eixo	Medidas					Massa	Mancal
d	L	a_1	a_2	J	n	Peso	
mm						kg	**Número**
20	86	29	10	63,5	11,5	0,45	**F204**
25	95	29	11	70	11,5	0,57	**F205**
30	108	29	12	82,5	11,5	0,78	**F206**
35	118	30,5	12,5	92	14	0,92	**F207**
40	130	34,5	13	101,5	14	1,280	**F208**
45	137	35	13	105	14	1,450	**F209**
50	143	39	13	111	18	1,530	**F210**
55	162	43,5	15	130	18	2,100	**F211**
60	175	46	16	143	18	2,900	**F212**



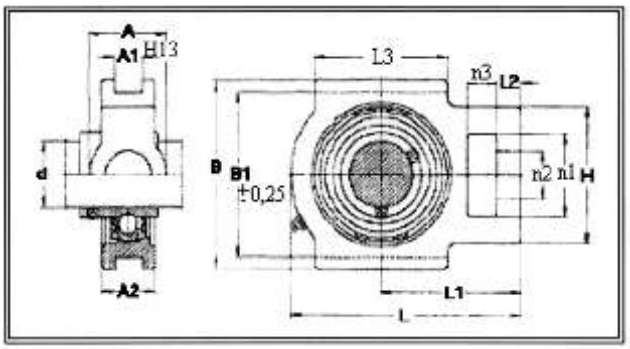
Tipo flange oval

Eixo	Medidas						Massa	Mancal
d	L	E	J	a_1	a_2	n	Peso	
	mm						kg	**Número**
20	61	112	90,0	28,0	10	11,5	0,320	**FL204**
25	70	124	99,0	29,0	11	11,5	0,370	**FL205**
30	80	142	116,5	29,0	12	11,5	0,500	**FL206**
35	92	155	130,0	30,5	12,5	14,0	0,640	**FL207**
40	105	172	143,5	34,5	13	14,0	0,920	**FL208**
45	111	180	148,5	35,0	13	14,0	1,000	**FL209**
50	116	190	157,0	39,0	13	18,0	1,200	**FL210**



Tipo flange redonda

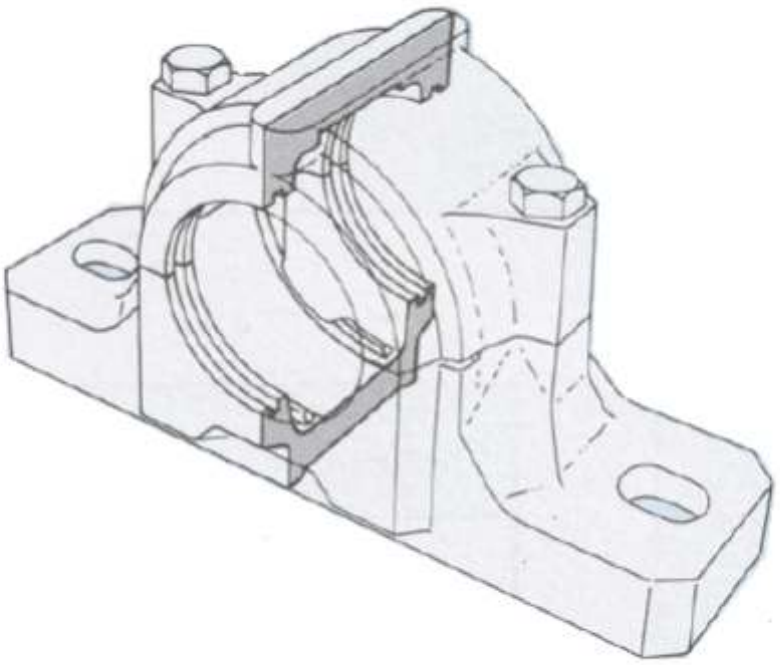
Eixo	Medidas							Massa	Mancal
d	E	J	C	B(h8)	a_1	a_2	N	Peso	
	mm							kg	**Número**
25	115	92	22,0	75	9,0	3	9,0	0,57	**FC205**
30	127	105	22,5	85	9,5	3	9,0	0,72	**FC206**
35	135	110	22,5	90	10,0	4	11,5	0,75	**FC207**
40	145	120	26,0	100	11,5	4	11,5	0,98	**FC208**
45	155	130	26,5	105	12,0	4	14,0	1,25	**FC209**
50	165	136	27,5	115	13,0	4	14,0	1,48	**FC210**

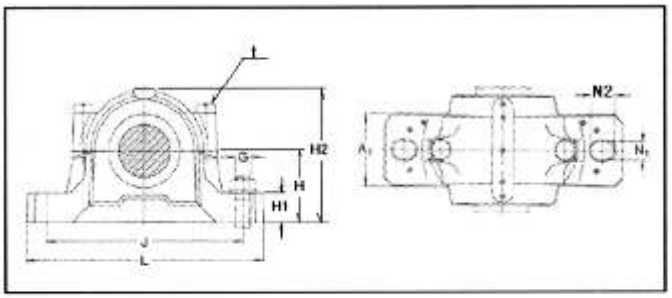


Tipo tensor

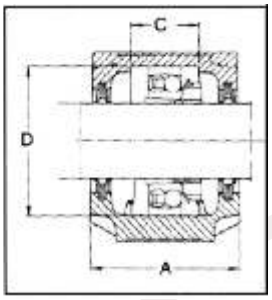
Eixo	Medidas												Massa	Mancal
d	L	A_1	A_2	L_1	L_2	L_3	B	B_1	n_1	n_2	n_3	H	Peso	
	mm												kg	**Número**
20	94,5	12	25	60	9	50	90	76	32	19	18	51	0,67	**T204**
25	98,5	12	25	62	10	50	90	76	32	19	18	51	0,66	**T205**
30	114,5	12	25	70	10	57	102	89	36,5	22	18	56	0,86	**T206**
35	131,5	12	30	80	13	63	102	89	36,5	22	18	64	1,25	**T207**
40	141,0	16	35	88	16	82	115	102	49	29	20	82	1,78	**T208**
45	141,0	16	35	88	16	82	115	102	49	29	20	82	1,80	**T209**
50	148,0	16	35	90	16	85	115	102	49	29	20	83	1,65	**T210**

Mancais Bipartidos

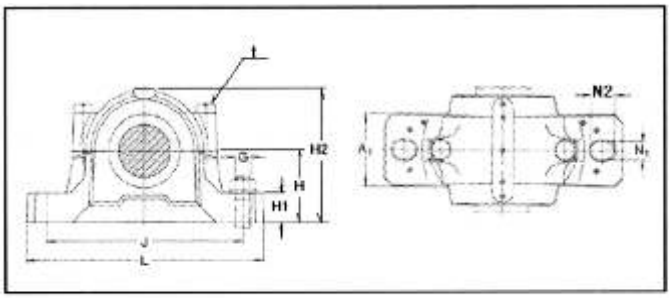




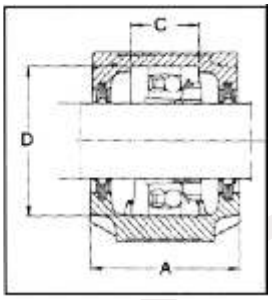
Eixo	Mancal	Medidas												Massa
		D	J	L	H	H_1	H_2	A	A_1	N_1	N_2	C	G	Peso
mm	**Número**	mm												Kg
20	**SN505**	52	130	165	40	22	75	67	46	15	20	25	M12	1,100
	SN605	62	150	185	50	22	90	80	52	15	20	32	M12	1,600
	SNH505	52	130	165	40	22	75	67	46	15	20	25	M12	1,450
	SNH605	62	150	185	50	22	90	77	52	15	20	32	M12	2,100
25	**SN506**	62	150	185	50	22	90	77	52	15	20	32	M12	1,700
	SN606	72	150	185	50	22	95	82	52	15	20	34	M12	1,800
	SNH506	62	150	185	50	22	89	77	52	15	20	32	M12	2,000
	SNH607	72	150	185	50	22	93	82	52	15	20	34	M12	2,100
30	**SN507**	72	150	185	50	22	95	82	52	15	20	34	M12	1,900
	SN607	80	170	205	60	25	110	90	60	15	20	39	M12	2,600
	SNH507	72	150	185	50	22	93	82	52	15	20	34	M12	2,100
	SNH607	80	170	205	60	25	107	85	60	15	20	39	M12	2,650
35	**SN508**	80	170	205	60	25	110	85	60	15	20	39	M12	2,600
	SN608	90	170	205	60	25	115	95	60	15	20	41	M12	2,900
	SNH508	80	170	205	60	25	107	85	60	15	20	39	M12	2,650
	SNH608	90	170	205	60	25	113	90	60	15	20	41	M12	3,000



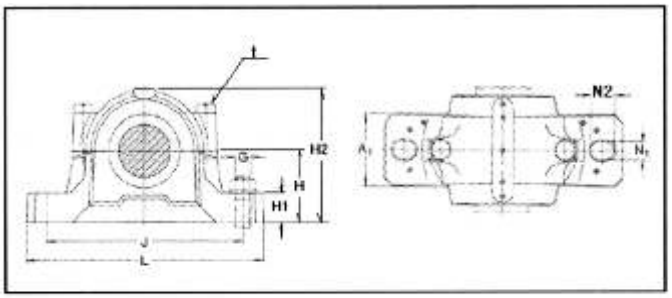
Eixo	Acessórios					
	Rolamentos		Bucha	Anel de Bloqueio		Vedação
mm	Números				Qtd/pcs	Tipo
20	1205K		H205	FR62X5	2	Feltro
	2205K	22205K	H305	FR52X7	1	
	1305K	21305K	H305	FR62X8,5	2	Feltro
	2305K		H2305	FR62X10	1	
	1205K		H205	FR52X5	2	TA, TG, TC
	2205K	22205K	H305	FR52X7	1	
	1305K		H305	FR62X7,5	2	TA, TG, TC
	2305K		H2305	FR62X4	2	
25	1206K		H206	FR62X7	2	Feltro
	2206K	22206K	H306	FR62X10	1	
	1306K	21306K	H306	FR72X9	2	Feltro
	2306K		H2306	FR72X10	1	
	1206K		H206	FR62X8	2	TA, TG, TC
	2206K	22206K	H306	FR62X6	2	
	1306K		H306	FR72X7,5	2	TA, TG, TC
	2306K		H2306	FR72X7	1	
30	1207K		H207	FR72X8	2	Feltro
	2207K	22207K	H307	FR72X10	1	
	1307K	21307K	H307	FR80X10	2	Feltro
	2307K		H2307	FR80X10	1	
	1207K		H207	FR72X8,5	2	TA, TG, TC
	2207K	22207K	H307	FR72X5,5	2	
	1307K		H307	FR80X9	2	TA, TG, TC
	2307K		H2307	FR80X4	2	
35	1208K		H208	FR80X7,5	2	Feltro
	2208K	22208K	H308	FR80X10	1	
	1308K	21308K	H308	FR90X10	2	Feltro
	2308K	22308K	H2308	FR90X10	1	
	1208K		H208	FR80X10,5	2	TA, TG, TC
	2208K	22208K	H308	FR80X8	2	
	1308K	21308K	H308	FR90X9	2	TA, TG, TC
	2308K	22308K	H2308	FR90X4	2	



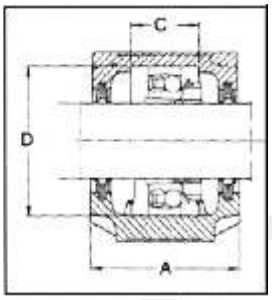
Eixo	Mancal	Medidas												Massa
		D	J	L	H	H_1	H_2	A	A_1	N_1	N_2	C	G	Peso
mm	**Número**	mm												Kg
40	**SN509**	85	170	205	60	25	112	85	60	15	20	30	M12	2,800
	SN609	100	210	255	70	28	130	105	70	18	24	44	M16	4,100
	SNH509	85	170	205	60	25	109	85	60	15	20	30	M12	3,000
	SNH609	100	210	255	70	28	127	95	70	18	24	44	M16	4,250
45	**SN510**	90	170	205	60	25	115	90	60	15	20	41	M12	3,100
	SN610	110	210	255	70	30	135	105	70	18	24	48	M16	4,700
	SNH510	90	170	205	60	25	113	90	60	15	20	41	M12	3,000
	SNH610	110	210	255	70	30	133	105	70	18	24	48	M16	5,250
50	**SN511**	100	210	255	70	28	130	95	70	18	24	44	M16	4,500
	SN611	120	230	275	80	30	150	120	80	18	24	51	M16	5,800
	SNH511	100	210	255	70	28	127	95	70	18	24	44	M16	4,250
	SNH611	120	230	275	80	30	148	110	80	18	24	51	M16	6,300
55	**SN512**	110	210	255	70	30	135	105	70	18	24	48	M16	5,100
	SN612	130	230	280	80	30	155	125	80	18	24	56	M16	6,500
	SNH512	110	210	255	70	30	133	105	70	18	24	48	M16	5,300
	SNH612	130	230	280	80	30	154	115	80	18	24	56	M16	6,900



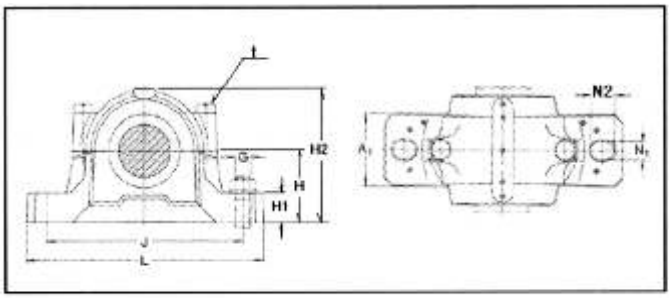
Eixo	Acessórios					
	Rolamentos		Bucha	Anel de Bloqueio		Vedação
mm	Números				Qtd/pcs	Tipo
40	1209K		H209	FR85X6	2	Feltro
	2209K	22209K	H309	FR85X8	1	
	1309K	21309K	H309	FR100X10,5	2	Feltro
	2309K	22309K	H2309	FR100X10	1	
	1209K		H209	FR85X5,5	2	TA, TG, TC
	2209K	22209K	H309	FR85X3,5	2	
	1309K	21309K	H309	FR100X9,5	2	TA, TG, TC
	2309K	22309K	H2309	FR100X4	2	
45	1210K		H210	FR90X6,5	2	Feltro
	2210K	22210K	H310	FR90X10	1	
	1310K	21310K	H310	FR110X11,5	2	Feltro
	2310K	22310K	H2310	FR110X10	1	
	1210K		H210	FR90X10,5	2	TA, TG, TC
	2210K	22210K	H310	FR90X9	2	
	1310K	21310K	H310	FR110X10,5	2	TA, TG, TC
	2310K	22310K	H2310	FR110X4	2	
50	1211K		H211	FR100X6	2	Feltro
	2211K	22211K	H311	FR100X8	1	
	1311K	21311K	H311	FR120X12	2	Feltro
	2311K	22311K	H2311	FR120X10	1	
	1211K		H211	FR100X11,5	2	TA, TG, TC
	2211K	22211K	H311	FR100X9,5	2	
	1311K	21311K	H311	FR120X11	2	TA, TG, TC
	2311K	22311K	H2311	FR120X4	2	
55	1212K		H212	FR110X8	2	Feltro
	2212K	22212K	H312	FR110X10	1	
	1312K	21312K	H312	FR130X12,5	2	Feltro
	2312K	22312K	H2312	FR130X10	1	
	1212K		H212	FR110X13	2	TA, TG, TC
	2212K	22212K	H312	FR110X10	2	
	1312K	21312K	H312	FR130X12,5	2	TA, TG, TC
	2312K	22312K	H2312	FR130X5	2	



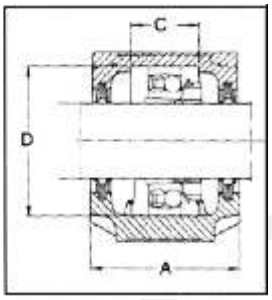
Eixo	Mancal	Medidas												Massa
		D	J	L	H	H_1	H_2	A	A_1	N_1	N_2	C	G	Peso
mm	Número	mm												Kg
60	SN513	120	230	275	80	30	150	110	80	18	24	51	M16	5,600
	SN613	140	260	315	95	32	175	130	90	22	27	58	M20	8,700
	SNH513	120	230	275	80	30	148	110	80	18	24	51	M16	6,300
	SNH613	140	260	315	95	32	175	120	90	22	28	58	M20	9,400
65	SN515	130	230	280	80	30	155	115	80	18	24	56	M16	7,100
	SN615	160	290	345	100	35	195	140	100	22	28	65	M20	11,300
	SNH515	130	230	280	80	30	154	115	80	18	24	56	M16	6,900
	SNH615	160	290	345	100	35	193	140	100	22	28	65	M20	12,600
70	SN516	140	260	315	95	32	175	120	90	22	28	58	M20	9,100
	SN616	170	290	345	112	35	212	145	100	22	28	68	M20	12,600
	SNH516	140	260	315	95	32	175	120	90	22	28	58	M20	9,400
	SNH616	170	290	345	112	35	210	145	100	22	28	68	M20	13,500
75	SN517	150	260	320	95	32	185	125	90	22	28	61	M20	10,100
	SN617	180	320	380	112	40	218	155	110	26	32	70	M24	15,100
	SNH517	150	260	320	95	32	183	125	90	22	28	61	M20	9,600
	SNH617	180	320	380	112	40	215	160	110	26	32	70	M24	16,500



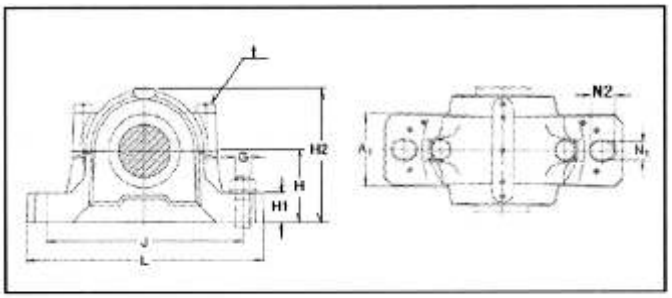
Eixo	Acessórios					
	Rolamentos		Bucha	Anel de Bloqueio		Vedação
mm	Números				Qtd/pcs	Tipo
60	1213K		H213	FR120X10	2	Feltro
	2213K	22213K	H313	FR120X12	1	
	1313K	21313K	H313	FR140X12,5	2	Feltro
	2313K	22313K	H2313	FR140X10	1	
	1213K		H213	FR120X14	2	TA, TG, TC
	2213K	22213K	H313	FR120X10	2	
	1313K	21313K	H313	FR140X12,5	2	TA, TG, TC
	2313K	22313K	H2313	FR140X5	2	
65	1215K		H215	FR130X8	2	Feltro
	2215K	22215K	H315	FR130X10	1	
	1315K	21315K	H315	FR160X14	2	Feltro
	2315K	22315K	H2315	FR160X10	1	
	1215K		H215	FR130X15,5	2	TA, TG, TC
	2215K	22215K	H315	FR130X12,5	2	
	1315K	21315K	H315	FR160X14	2	TA, TG, TC
	2315K	22315K	H2315	FR160X5	2	
70	1216K		H216	FR140X8,5	2	Feltro
	2216K	22216K	H316	FR140X10	1	
	1316K	21316K	H316	FR170X14,5	2	Feltro
	2316K	22316K	H2316	FR170X10	1	
	1216K		H216	FR140X16	2	TA, TG, TC
	2216K	22216K	H316	FR140X12,5	2	
	1316K	21316K	H316	FR170X14,5	2	TA, TG, TC
	2316K	22316K	H2316	FR170X5	2	
75	1217K		H217	FR150X9	2	Feltro
	2217K	22217K	H317	FR150X10	1	
	1317K	21317K	H317	FR180X14,5	2	Feltro
	2317K	22317K	H2317	FR180X10	1	
	1217K		H217	FR150X16,5	2	TA, TG, TC
	2217K	22217K	H317	FR150X12,5	2	
	1317K	21317K	H317	FR180X14,5	2	TA, TG, TC
	2317K	22317K	H2317	FR180X5	2	



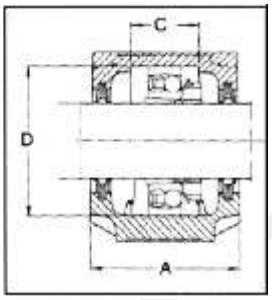
Eixo	Mancal	Medidas												Massa
		D	J	L	H	H_1	H_2	A	A_1	N_1	N_2	C	G	Peso
mm	Número	mm												Kg
80	SN518	160	290	345	100	35	195	145	100	22	28	65	M20	13,100
	SN618	190	320	380	112	40	225	160	110	26	32	74	M24	19,100
	SNH518	160	290	345	100	35	193	140	100	22	28	65	M20	12,600
	SNH618	190	320	380	112	40	229	155	110	26	32	74	M24	16,700
85	SN519	170	290	345	112	35	210	140	100	22	28	68	M20	15,100
	SN619	200	350	410	125	45	245	170	120	26	32	80	M24	22,100
	SNH519	170	290	345	112	35	210	145	100	22	28	68	M20	13,500
	SNH619	200	350	410	125	45	239	175	120	26	32	80	M24	22,500
90	SN520	180	320	380	112	40	218	160	110	26	32	70	M24	18,500
	SN620	215	350	410	140	45	270	175	120	26	32	86	M24	25,100
	SNH520	180	320	380	112	40	215	160	110	26	32	70	M24	16,700
	SNH620	215	350	410	140	45	271	185	120	26	32	86	M24	27,500



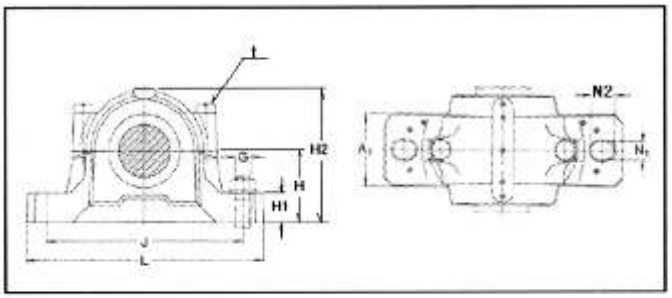
Eixo	Acessórios					
	Rolamentos		Bucha	Anel de Bloqueio		Vedação
mm	Números				Qtd/pcs	Tipo
80	1218K		H218	FR160X16,5	2	Feltro
	2218K	22218K	H318	FR160X11,2	2	
	23218K		H2318	FR160X10	1	
	1318K	21318K	H318	FR190X15,5	2	
	2318K	22318K	H2318	FR190X10	1	
	1218K		H218	FR160X17,5	2	TA, TG, TC
	2218K	22218K	H318	FR160X12,5	2	
	23218K		H2318	FR160X6,25	2	
	1318K	21318K	H318	FR190X15,5	2	TA, TG, TC
	2318K	22318K	H2318	FR190X5	2	
85	1219K		H219	FR170X10,5	2	Feltro
	2219K	22219K	H319	FR170X10	1	
	1319K	21319K	H319	FR200X16	2	Feltro
	2319K	22319K	H2319	FR200X10	1	
	1219K		H219	FR170X18	2	TA, TG, TC
	2219K	22219K	H319	FR170X12,5	2	
	1319K	21319K	H319	FR200X17,5	2	TA, TG, TC
	2319K	22319K	H2319	FR200X6,5	2	
90	1220K		H220	FR180X18,1	2	Feltro
	2220K	22220K	H320	FR180X12,1	2	
	23220K		H2320	FR180X10	1	
	1320K	21320K	H320	FR215X18	2	Feltro
	2320K	22320K	H2320	FR215X10	1	
	1220K		H220	FR180X18	2	TA, TG, TC
	2220K	22220K	H320	FR180X12	2	
	23220K		H2320	FR180X4,85	2	
	1320K	21320K	H320	FR215X19,5	2	TA, TG, TC
	2320K	22320K	H2320	FR215X6,5	2	



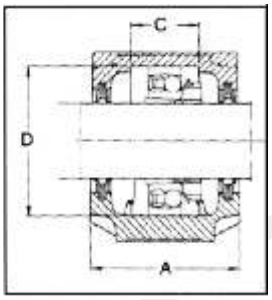
Eixo	Mancal	Medidas												Massa
		D	J	L	H	H_1	H_2	A	A_1	N_1	N_2	C	G	Peso
mm	**Número**	mm												Kg
100	**SN3122**	180	320	380	112	40	218	155	110	26	32	66	M24	18,100
	SN522	200	350	410	125	45	240	175	120	26	32	80	M24	20,100
	SN622	240	390	450	150	50	300	190	130	28	36	90	M24	32,100
	SNH522	200	250	410	125	45	239	175	120	26	32	80	M24	22,500
	SNH622	240	390	450	150	50	298	185	130	28	35	90	M24	34,600
110	**SN3024**	180	320	380	112	40	218	150	110	26	32	56	M24	16,100
	SN3124	200	350	410	125	45	245	165	120	26	32	72	M24	20,100
	SN524	215	350	410	140	45	270	185	120	26	32	86	M24	24,500
	SN624	260	450	530	160	60	320	200	160	33	42	96	M30	48,100
	SNH524	215	350	410	140	45	271	185	120	26	32	86	M24	27,500
	SNH624	260	450	530	160	60	321	190	160	35	42	98	M30	41,800
115	**SN3026**	200	350	410	125	45	240	160	120	26	32	62	M24	19,100
	SN3126	210	350	410	140	45	270	170	120	26	32	74	M24	26,100
	SN526	230	380	445	150	50	290	190	130	28	35	90	M24	30,100
	SN626	280	470	550	170	60	340	210	160	35	42	103	M30	56,100
	SNH526	230	380	445	150	50	290	190	130	28	35	90	M24	34,600
	SNH626	280	470	550	170	60	344	205	160	35	42	106	M30	47,600
125	**SN3028**	210	350	410	140	45	270	170	120	26	32	63	M24	25,100
	SN3128	225	380	445	150	50	290	180	130	28	36	78	M24	32,100
	SN528	250	420	500	150	50	305	205	150	35	42	98	M30	38,100
	SN628	300	520	610	180	65	365	235	170	35	45	112	M30	72,100
	SNH528	250	420	500	150	50	302	205	150	35	42	98	M30	41,800
	SNH628	300	520	620	180	65	366	215	170	35	42	114	M30	54,500



Eixo	Acessórios					
	Rolamentos		Bucha	Anel de Bloqueio		Vedação
mm	Números				Qtd/pcs	Tipo
100	23122K		H3122	FR180X10	1	Feltro
	1222K		H222	FR200X21	2	Feltro
	2222K	22222K	H322	FR200X13,5	2	
	23222K		H2322	FR200X10	1	
	1322K	21322K	H322	FR240X20	2	Feltro
	2322K	22322K	H2322	FR240X10	1	
	1222K		H222	FR200X21	2	TA, TG, TC
	2222K	22222K	H322	FR200X13,5	2	
	23222K		H2322	FR200X5,1	2	
	1322K	21322K	H322	FR240X20	2	TA, TG, TC
	2322K	22322K	H2322	FR240X5	2	
110	23024K		H3024	FR180X10	1	Feltro
	23124K		H3124	FR200X10	1	Feltro
	22224K		H3124	FR215X14	2	Feltro
	23224K		H2324	FR215X10	1	
	22324K		H2324	FR260X10	1	Feltro
	22224K		H3124	FR215X14	2	TA, TG, TC
	23224K		H2324	FR215X5	2	
	22324K		H2324	FR260X6	2	TA, TG, TC
115	23026K		H3026	FR200X10	1	Feltro
	23126K		H3126	FR210X10	1	Feltro
	22226K		H3126	FR230X13	2	Feltro
	23226K		H2326	FR230X10	1	
	22326K		H2326	FR280X10	1	Feltro
	22226K		H3126	FR230X13	2	TA, TG, TC
	23226K		H2326	FR230X5	2	
	22326K		H2326	FR280X6,5	2	TA, TG, TC
125	23028K		H3028	FR210X10	1	Feltro
	23128K		H3128	FR225X10	1	Feltro
	22228K		H3128	FR250X15	2	Feltro
	23228K		H2328	FR250X10	1	
	22328K		H2328	FR300X10	1	Feltro
	22228K		H3128	FR250X15	2	TA, TG, TC
	23228K		H2328	FR250X5	2	
	22328K		H2328	FR300X6	2	TA, TG, TC



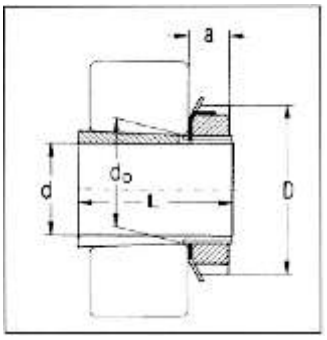
Eixo	Mancal	Medidas												Massa
		D	J	L	H	H_1	H_2	A	A_1	N_1	N_2	C	G	Peso
mm	**Número**	mm												Kg
135	**SN3030**	225	380	445	150	50	290	175	130	28	35	66	M24	29,100
	SN3130	250	420	500	150	50	305	200	150	35	42	90	M30	38,100
	SN530	270	450	530	160	60	325	220	160	35	42	106	M30	46,100
	SN630	320	560	650	190	65	385	245	180	35	45	118	M30	98,100
	SNH530	270	450	530	160	60	323	220	160	35	42	106	M30	47,600
	SNH630	320	560	650	190	65	386	225	180	35	42	118	M30	53,500
140	**SN3032**	240	390	450	150	50	300	190	130	28	35	70	M24	32,100
	SN3132	270	450	530	160	60	325	215	160	35	42	96	M30	48,100
	SN532	290	470	530	170	60	345	235	160	35	42	114	M30	50,100
	SN632	340	580	680	200	70	405	255	190	42	50	124	M36	115,100
	SNH532	290	470	550	170	60	344	235	160	35	42	114	M30	54,500
	SNH632	340	580	680	200	70	406	235	190	42	50	124	M36	70,000



Eixo	Acessórios					
	Rolamentos		Bucha	Anel de Bloqueio		Vedação
mm	Números				Qtd/pcs	Tipo
135	23030K		H3030	FR225X10	1	Feltro
	23130K		H3130	FR250X10	1	Feltro
	22230K		H3130	FR270X16,5	2	Feltro
	23230K		H2330	FR270X10	1	
	22320K		H2330	FR320X10	1	Feltro
	22230K		H3130	FR270X16,5	2	TA, TG, TC
	23230K		H2330	FR270X5	2	
	22330K		H2330	FR320X5	2	TA, TG, TC
140	23032K		H3032	FR240X10	1	Feltro
	23132K		H3132	FR270X10	1	Feltro
	22232K		H3132	FR290X17	2	Feltro
	23232K		H2332	FR290X10	1	
	22332K		H2332	FR340X10	1	Feltro
	22232K		H3132	FR290X17	2	TA, TG, TC
	23232K		H2332	FR290X5	2	
	22332K		H2332	FR340X5	2	TA, TG, TC

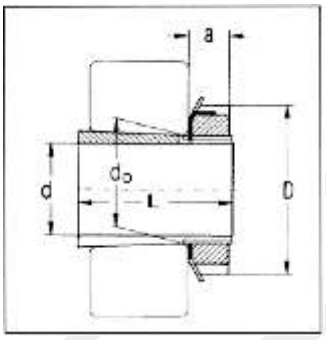
Buchas, Porcas, Arruelas





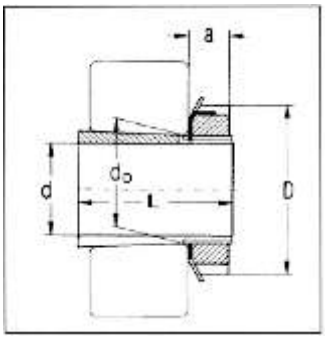
Buchas de montagem

Medidas					Especificação				
d	d_o	D	L	a	**Buchas**	Rosca	Peso	Porca	Arruela
mm					**Número**		Kg	Número	
20 mm	25	38	26	8	**H205**	M25x1.5	0.070	KM5	MB5
	25	38	29	8	**H305**	M25x1.5	0.075	KM5	MB5
	25	38	35	8	**H2305**	M25x1.5	0.087	KM5	MB5
25 mm	30	45	27	8	**H206**	M30x1.5	0.099	KM6	MB6
	30	45	31	8	**H306**	M30x1.5	0.109	KM6	MB6
	30	45	38	8	**H2306**	M30x1.5	0.126	KM6	MB6
15/16 pol	30	45	31	8	**HA306**	M30x1.5	0.110	KM6	MB6
	30	45	38	8	**HA2306**	M30x1.5	0.130	KM6	MB6
1 pol	30	45	31	8	**HE306**	M30x1.5	0.110	KM6	MB6
	30	45	38	8	**HE2306**	M30x1.5	0.130	KM6	MB6
30 mm	35	52	29	9	**H207**	M35x1.5	0.125	KM7	MB7
	35	52	35	9	**H307**	M35x1.5	0.142	KM7	MB7
	35	52	43	9	**H2307**	M35x1.5	0.165	KM7	MB7
1 3/16 pol	35	52	35	9	**HA307**	M35x1.5	0.140	KM7	MB7
	35	52	43	9	**HA2307**	M35x1.5	0.170	KM7	MB7
1 1/4 pol	35	52	35	9	**HE307**	M35x1.5	0.140	KM7	MB7
35 mm	40	58	31	10	**H208**	M40x1.5	0.174	KM8	MB8
	40	58	36	10	**H308**	M40x1.5	0.189	KM8	MB8
	40	58	46	10	**H2308**	M40x1.5	0.224	KM8	MB8
40 mm	45	65	33	11	**H209**	M45x1.5	0.227	KM9	MB9
	45	65	39	11	**H309**	M45x1.5	0.248	KM9	MB9
	45	65	50	11	**H2309**	M45x1.5	0.280	KM9	MB9
1 7/16 pol	45	65	39	11	**HA309**	M45x1.5	0.250	KM9	MB9
	45	65	50	11	**HA2309**	M45x1.5	0.280	KM9	MB9
1 1/2 pol	45	65	39	11	**HE309**	M45x1.5	0.250	KM9	MB9
	45	65	50	11	**HE2309**	M45x1.5	0.280	KM9	MB9
45 mm	50	70	35	12	**H210**	M50x1.5	0.274	KM10	MB10
	50	70	42	12	**H310**	M50x1.5	0.303	KM10	MB10
	50	70	55	12	**H2310**	M50x1.5	0.362	KM10	MB10
1 11/16 pol	50	70	42	12	**HA310**	M50x1.5	0.300	KM10	MB10
	50	70	55	12	**HA2310**	M50x1.5	0.360	KM10	MB10
1 3/4 pol	50	70	42	12	**HE310**	M50x1.5	0.300	KM10	MB10



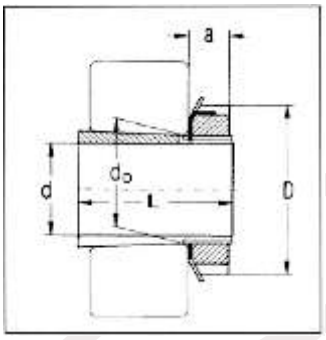
Buchas de montagem

Medidas					Especificação				
d	d_o	D	L	a	**Buchas**	Rosca	Peso	Porca	Arruela
mm					**Número**		Kg	Número	
50 mm	55	75	37	12	**H211**	M55x2	0.308	KM11	MB11
	55	75	45	12	**H311**	M55x2	0.345	KM11	MB11
	55	75	59	12	**H2311**	M55x2	0.420	KM11	MB11
1 15/16 pol	55	75	45	12	**HA311**	M55x2	0.350	KM11	MB11
	55	75	59	12	**HA2311**	M55x2	0.420	KM11	MB11
2 pol	55	75	45	12	**HE311**	M55x2	0.350	KM11	MB11
	55	75	59	12	**HE2311**	M55x2	0.420	KM11	MB11
55 mm	60	80	38	13	**H212**	M60x2	0.346	KM12	MB12
	60	80	47	13	**H312**	M60x2	0.394	KM12	MB12
	60	80	62	13	**H2312**	M60x2	0.481	KM12	MB12
60 mm	65	85	40	14	**H213**	M65x2	0.401	KM13	MB13
	65	85	50	14	**H313**	M65x2	0.458	KM13	MB13
	65	85	65	14	**H2313**	M65x2	0.557	KM13	MB13
1 3/16 pol	65	85	50	14	**HA313**	M65x2	0.460	KM13	MB13
	65	85	65	14	**HA2313**	M65x2	0.560	KM13	MB13
2 1/4 pol	65	85	50	14	**HE313**	M65x2	0.460	KM13	MB13
65 mm	75	98	43	15	**H215**	M75x2	0.707	KM15	MB15
	75	98	55	15	**H315**	M75x2	0.831	KM15	MB15
	75	98	73	15	**H2315**	M75x2	1.050	KM15	MB15
2 7/16 pol	75	98	55	15	**HA315**	M75x2	0.830	KM15	MB15
	75	98	73	15	**HA2315**	M75x2	1.050	KM15	MB15
2 1/2 pol	75	98	55	15	**HE315**	M75x2	0.830	KM15	MB15
	75	98	73	15	**HE2315**	M75x2	1.050	KM15	MB15
70 mm	80	105	45	17	**H216**	M80x2	0.882	KM16	MB16
	80	105	59	17	**H316**	M80x2	1.030	KM16	MB16
	80	105	78	17	**H2316**	M80x2	1.280	KM16	MB16
2 11/16 pol	80	105	59	17	**HA316**	M80x2	1.030	KM16	MB16
	80	105	78	17	**HA2316**	M80x2	1.280	KM16	MB16
2 3/4 pol	80	105	59	17	**HE316**	M80x2	1.030	KM16	MB16
75 mm	85	110	50	18	**H217**	M85x2	1.020	KM17	MB17
	85	110	63	18	**H317**	M85x2	1.180	KM17	MB17
	85	110	82	18	**H2317**	M85x2	1.450	KM17	MB17



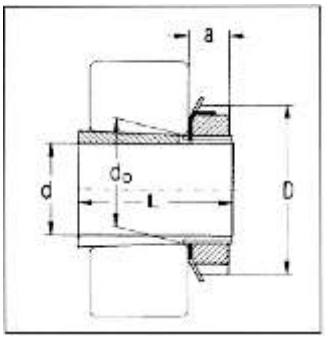
Buchas de montagem

Medidas					Especificação				
d	d_o	D	L	a	**Buchas**	Rosca	Peso	Porca	Arruela
mm					**Número**		Kg	Número	
2 15/16 pol	85	110	63	18	**HA317**	M85x2	1.180	KM17	MB17
	85	110	82	18	**HA2317**	M85x2	1.450	KM17	MB17
3 pol	85	110	63	18	**HE317**	M85x2	1.180	KM17	MB17
	85	110	82	18	**HE2317**	M85x2	1.450	KM17	MB17
80 mm	90	120	52	18	**H218**	M90x2	1.19	KM18	MB18
	90	120	65	18	**H318**	M90x2	1.37	KM18	MB18
	90	120	86	18	**H2318**	M90x2	1.69	KM18	MB18
3 3/16 pol	90	120	65	18	**HA318**	M90x2	1.37	KM18	MB18
	90	120	86	18	**HA2318**	M90x2	1.69	KM18	MB18
3 1/4 pol	90	120	65	18	**HE318**	M90x2	1.37	KM18	MB18
85 mm	95	125	55	19	**H219**	M95x2	1.37	KM19	MB19
	95	125	68	19	**H319**	M95x2	1.56	KM19	MB19
	95	125	90	19	**H2319**	M95x2	1.92	KM19	MB19
90 mm	100	130	58	20	**H220**	M100x2	1.49	KM20	MB20
	100	130	71	20	**H320**	M100x2	1.69	KM20	MB20
	100	130	97	20	**H2320**	M100x2	2.15	KM20	MB20
3 7/16 pol	100	130	71	20	**HA320**	M100x2	1.69	KM20	MB20
	100	130	97	20	**HA2320**	M100x2	2.15	KM20	MB20
3 1/2 pol	100	130	71	20	**HE320**	M100x2	1.69	KM20	MB20
	100	130	97	20	**HE2320**	M100x2	2.15	KM20	MB20
100 mm	110	145	63	21	**H222**	M110x2	1.93	KM22	MB22
	110	145	77	21	**H322**	M110x2	2.18	KM22	MB22
	110	145	81	21	**H3122**	M110x2	2.25	KM22	MB22
	110	145	105	21	**H2322**	M110x2	2.74	KM22	MB22
3 15/16 pol	110	145	77	21	**HA322**	M110x2	2.18	KM22	MB22
	110	145	81	21	**HA3122**	M110x2	2.25	KM22	MB22
	110	145	105	21	**HA2322**	M110x2	2.74	KM22	MB22
4 pol	110	145	77	21	**HE322**	M110x2	2.18	KM22	MB22
	110	145	105	21	**HE2322**	M110x2	2.74	KM22	MB22
110 mm	120	145	72	22	**H3024**	M120x2	1.93	KM24	MB24
	120	155	88	22	**H3124**	M120x2	2.64	KM24	MB24
	120	155	112	22	**H2324**	M120x2	3.19	KM24	MB24



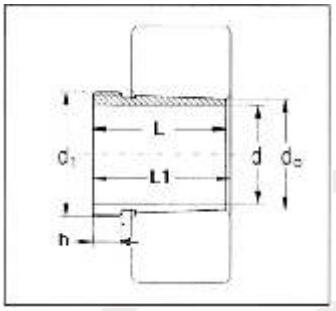
Buchas de montagem

Medidas					Especificação				
d	d_o	D	L	a	**Buchas**	Rosca	Peso	Porca	Arruela
mm					**Número**		Kg	Número	
115 mm	130	155	80	23	**H3026**	M130x2	2.85	KM26	MB26
	130	165	92	23	**H3126**	M130x2	3.66	KM26	MB26
	130	165	121	23	**H2326**	M130x2	4.60	KM26	MB26
4 7/16 pol	130	155	80	23	**HA3026**	M130x2	2.85	KML26	MB26
	130	165	92	23	**HA3126**	M130x2	3.66	KM26	MB26
	130	165	121	23	**HA2326**	M130x2	4.60	KM26	MB26
125 mm	140	165	82	24	**H3028**	M140x2	3.16	KML28	MB28
	140	180	97	24	**H3128**	M140x2	4.34	KM28	MB28
	140	180	131	24	**H2328**	M140x2	5.55	KM28	MB28
4 15/16 pol	140	165	82	24	**HA3028**	M140x2	3.16	KML28	MB28
	140	180	97	24	**HA3128**	M140x2	4.34	KM28	MB28
	140	180	131	24	**HA2328**	M140x2	5.55	KM28	MB28
5 pol	140	165	82	24	**HE3028**	M140x2	3.16	KML28	MB28
	140	180	97	24	**HE3128**	M140x2	4.34	KM28	MB28
	140	180	131	24	**HE2328**	M140x2	5.55	KM28	MB28
135 mm	150	180	87	26	**H3030**	M150x2	3.89	KML30	MB30
	150	195	111	26	**H3130**	M150x2	5.52	KM30	MB30
	150	195	139	26	**H2330**	M150x2	6.63	KM30	MB30
5 3/16 pol	150	180	87	26	**HA3030**	M150x2	3.89	KML30	MB30
	150	195	139	26	**HA2330**	M150x2	6.63	KM30	MB30
140 mm	160	190	93	28	**H3032**	M160x2	5.21	KML32	MB32
	160	210	119	28	**H3132**	M160x2	7.67	KM32	MB32
	160	210	147	28	**H2332**	M160x2	9.14	KM32	MB32
5 7/16 pol	160	190	93	28	**HA3032**	M160x3	5.21	KML32	MB32
	160	210	147	28	**HA2332**	M160x3	9.14	KM32	MB32
5 1/2 pol	160	210	119	28	**HE3132**	M160x2	7.67	KM32	MB32
150 mm	170	200	101	29	**H3034**	M170x3	5.99	KML34	MB34
	170	220	122	29	**H3134**	M170x3	8.36	KM34	MB34
	170	220	154	29	**H2334**	M170x3	10.20	KM34	MB34
5 15/16 pol	170	200	101	29	**HA3034**	M170x3	5.99	KML34	MB34
	170	220	122	29	**HA3134**	M170x3	8.36	KM34	MB34
	170	220	154	29	**HA2334**	M170x3	10.20	KM34	MB34



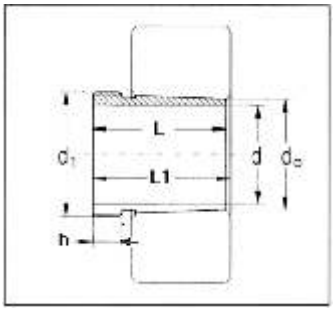
Buchas de montagem

Medidas					Especificação				
d	d_o	D	L	a	**Buchas**	Rosca	Peso	Porca	Arruela
mm					**Número**		Kg	Número	
6 pol	170	200	101	29	**HE3034**	M170x3	5.99	KML34	MB34
	170	220	122	29	**HE3134**	M170x3	8.36	KM34	MB34
160 mm	180	210	109	30	**H3036**	M180x3	6.83	KML36	MB36
	180	230	131	30	**H3136**	M180x3	9.50	KM36	MB36
	180	230	161	30	**H2336**	M180x3	11.30	KM36	MB36
6 7/16 pol	180	210	109	30	**HA3036**	M180x3	6.83	KML36	MB36
	180	230	131	30	**HA3136**	M180x3	9.50	KM36	MB36
	180	230	161	30	**HA2336**	M180x3	11.30	KM36	MB36
170 mm	190	220	112	31	**H3038**	M190x3	7.45	KML38	MB38
	190	240	141	31	**H3138**	M190x3	10.80	KM38	MB38
	190	240	169	31	**H2338**	M190x3	12.60	KM38	MB38
6 15/16 pol	190	220	112	31	**HA3038**	M190x3	7.45	KML38	MB38
	190	240	169	31	**HA2338**	M190x3	12.60	KM38	MB38
180 mm	200	240	120	32	**H3040**	M200x3	9.19	KML40	MB40
	200	250	150	32	**H3140**	M200x3	12.10	KM40	MB40
	200	250	176	32	**H2340**	M200x3	13.90	KM40	MB40
7 3/16 pol	200	240	120	32	**HA3040**	M200x3	9.19	KML40	MB40
7 pol	200	250	176	32	**HE2340**	M200x3	13.90	KM40	MB40
7 15/16 pol	220	260	126	30	**HA3044**	M220x3	10.50	KML44	MB44
	220	280	161	35	**HA3144**	M220x3	15.00	KM44	MB44
	220	280	186	35	**HA2344**	M220x3	17.00	KM44	MB44



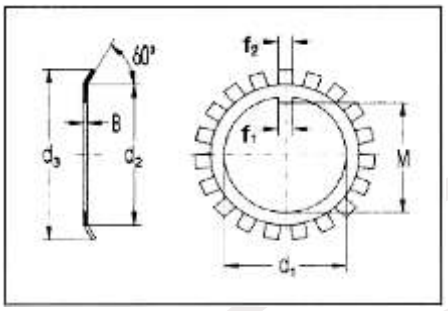
Buchas de desmontagem

Medidas					Especificação		
d	d_o	d_1	L	h	**Buchas**	Porca	Peso
mm					**Número**		Kg
35	40	M45x1.5	30	6	**AH308**	KM9	0.093
	40	M45x1.5	40	7	**AH2308**	KM9	0.129
40	45	M50x1.5	32	6	**AH309**	KM10	0.112
	45	M50x1.5	44	7	**AH2309**	KM10	0.163
45	50	M55x2	35	7	**AH310X**	KM11	0.138
	50	M55x2	50	8	**AH2310X**	KM11	0.236
50	55	M60x2	40	8	**AH312X**	KM13	0.194
	55	M60x2	54	9	**AH2311X**	KM12	0.257
55	60	M65x2	40	8	**AH312X**	KM13	0.194
	60	M65x2	57	10	**AH2312X**	KM13	0.299
60	65	M72x2	42	8	**AH313**	KM15	0.256
	65	M75x2	61	11	**AH2313**	KM15	0.399
65	70	M80x2	44	8	**AH314**	KM16	0.290
	70	M80x2	65	12	**AH2314X**	KM16	0.466
70	75	M85x2	46	8	**AH315**	KM17	0.326
	75	M85x2	69	12	**AH2315X**	KM17	0.536
75	80	M90x2	48	8	**AH316**	KM18	0.367
	80	M90x2	72	12	**AH2316X**	KM18	0.602
80	85	M95x2	52	9	**AH317X**	KM19	0.431
	85	M95x2	75	13	**AH2317X**	KM19	0.676
85	90	M100x2	53	9	**AH318X**	KM20	0.465
	90	M100x2	63	10	**AH2318X**	KM20	0.578
	90	M100x2	80	14	**AH2318X**	KM20	0.777
90	95	M105x2	57	10	**AH319X**	KM21	0.537
	95	M105x2	85	15	**AH2319X**	KM21	0.888
95	100	M110x2	59	10	**AH302X**	KM22	0.586
	100	M110x2	75	12	**AH3220X**	KM22	0.768
	100	M110x2	90	15	**AH2320X**	KM22	1.000
100	110	M125x2	68	11	**AH3122**	KM25	1.280
105	110	M120x2	68	11	**AH3122X**	KM24	0.786
	110	M125x2	82	12	**AH3222X**	KM25	1.060
	110	M125x2	98	16	**AH2322X**	KM25	1.350



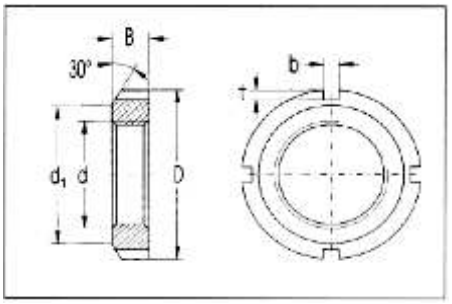
Buchas de desmontagem

Medidas					Especificação		
d	d_o	d_1	L	h	**Buchas**	Porca	Peso
mm					**Número**		Kg
110	120	M140x2	75	12	**AH3124**	KM28	1.670
	120	M140x2	105	17	**AH2324**	KM28	2.470
115	120	M130x2	60	13	**AH3024X**	KM26	0.737
	120	M130x2	75	12	**AH3124X**	KM26	0.948
	120	M135x2	90	14	**AH3224X**	KM27	1.310
	120	M135x2	105	17	**AH2324X**	KM27	1.610
125	130	M140x2	67	14	**AH3026X**	KM28	0.907
	130	M140x2	78	12	**AH3126X**	KM28	1.080
	130	M145x2	98	15	**AH3236X**	KM29	1.580
	130	M145x2	115	19	**AH2326X**	KM29	1.970
135	140	M150x2	68	14	**AH3028X**	KM30	0.996
	140	M150x2	83	14	**AH3128X**	KM30	1.260
	140	M155x3	104	15	**AH3228X**	KM31	1.810
	140	M155x3	125	20	**AH2328X**	KM31	2.340
145	150	M160x3	72	15	**AH3030X**	KM32	1.120
	150	M165x3	96	15	**AH3130X**	KM33	1.750
	150	M165x3	114	18	**AH3230X**	KM33	2.210
	150	M165x3	135	24	**AH2330X**	KM33	2.790
150	160	M170x3	77	16	**AH3032**	KM34	2.010
	160	M180x3	103	16	**AH3132**	KM36	3.180
	160	M180x3	124	20	**AH3232**	KM36	4.020
	160	M180x3	140	24	**AH2332**	KM36	4.690
160	170	M180x3	85	17	**AH3034**	KM36	2.400
	170	M190x3	104	16	**AH3134**	KM38	3.410
	170	M190x3	134	24	**AH3234**	KM38	3.410
	170	M190x3	146	24	**AH2334**	KM38	5.230
170	180	M190x3	92	17	**AH3036**	KM38	2.800
	180	M200x3	116	19	**AH3136**	KM40	4.160
	180	M200x3	105	17	**AH2236**	KM40	3.670
	180	M200x3	140	24	**AH3236**	KM40	5.290
	180	M200x3	154	26	**AH2336**	KM40	5.940



Arruelas

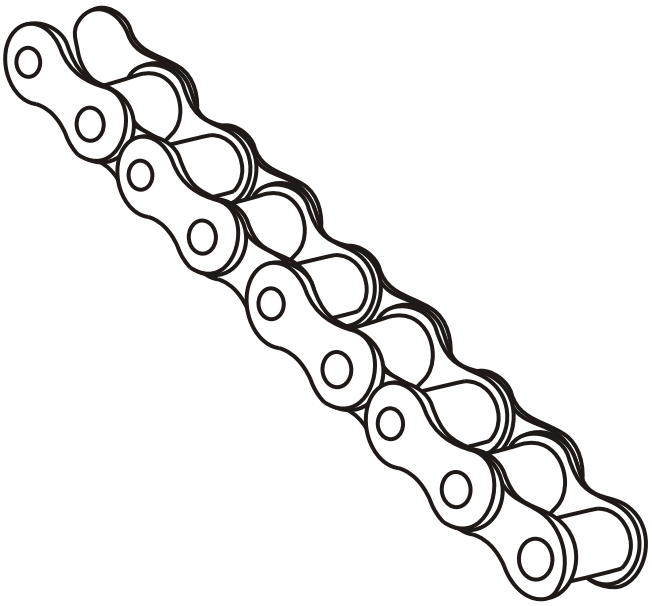
Medidas							Especificação	
d_1	d_2	d_3	B	f_1	f_2	M	**Arruela**	Peso
mm							**Número**	Kg
15	21	28	1	4	4	13.5	**MB2**	0.26
17	24	32	1	4	4	15.5	**MB3**	0.32
20	26	36	1	4	4	18.5	**MB4**	0.35
25	32	42	1.25	5	5	23.0	**MB5**	0.64
30	28	49	1.25	5	5	27.5	**MB6**	0.78
35	44	57	1.25	6	5	32.5	**MB7**	1.04
40	50	62	1.25	6	6	37.5	**MB8**	1.23
45	56	69	1.25	6	6	42.5	**MB9**	1.52
50	61	74	1.25	6	6	47.5	**MB10**	1.60
55	67	81	1.5	8	7	52.5	**MB11**	1.96
60	73	86	1.5	8	7	57.5	**MB12**	2.53
65	79	92	1.5	8	7	62.2	**MB13**	2.90
70	85	98	1.5	8	8	66.5	**MB14**	3.34
75	90	104	1.5	8	8	71.5	**MB15**	3.56
80	95	112	1.8	10	8	76.5	**MB16**	4.64
85	102	119	1.8	10	8	81.5	**MB17**	5.24
90	108	126	1.8	10	10	86.5	**MB18**	6.23
95	113	133	1.8	10	10	91.5	**MB19**	6.70
100	120	140	1.8	12	10	96.5	**MB20**	7.65
105	126	145	1.8	12	12	100.5	**MB21**	8.26
110	133	154	1.8	12	12	105.5	**MB22**	9.40
115	137	159	2	12	12	110.5	**MB23**	10.80
120	138	164	2	14	12	115.0	**MB24**	10.50
125	148	170	2	14	12	120.0	**MB25**	11.80
130	149	175	2	14	12	125.0	**MB26**	11.30
135	160	185	2	14	14	130.0	**MB27**	14.40
140	160	192	2	16	14	135.0	**MB28**	14.20
150	171	205	2	16	14	145.0	**MB30**	15.50
160	182	217	2.5	18	16	154.0	**MB32**	22.20
170	193	232	2.5	18	16	164.0	**MB34**	24.70
180	203	242	2.5	20	18	174.0	**MB36**	16.80
190	214	252	2.5	20	18	184.0	**MB38**	27.80
200	226	262	2.5	20	18	194.0	**MB40**	29.30

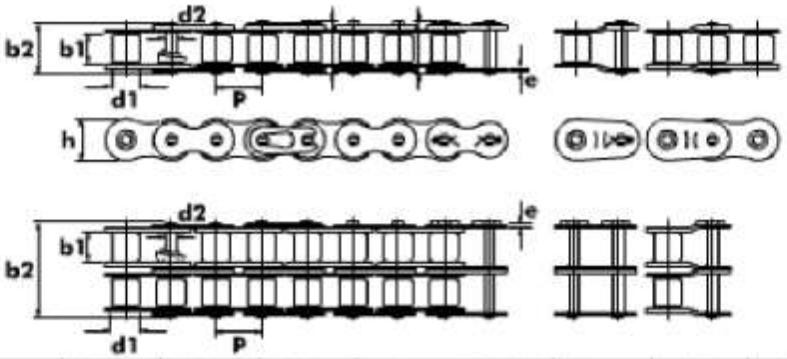


Porcas

Medidas						Especificação		
d	D	d1	B	b	t	**Porca**	Arruela	Peso
mm						**Número**	Indicada	Kg
M25x1.5	38	32	7	5	2.000	**KM5**	MB5	0.025
M30x1.5	45	38	7	5	2.000	**KM6**	MB6	0.043
M35x1.5	52	44	8	5	2.000	**KM7**	MB7	0.053
M40x1.5	58	50	9	6	2.500	**KM8**	MB8	0.085
M45x1.5	65	56	10	6	2.500	**KM9**	MB9	0.120
M50x1.5	70	61	11	6	2.500	**KM10**	MB10	0.150
M55x2	75	67	11	7	3.000	**KM11**	MB11	0.160
M60x2	80	73	11	7	3.000	**KM12**	MB12	0.170
M65x2	85	79	12	7	3.000	**KM13**	MB13	0.200
M70x2	92	85	12	8	3.500	**KM14**	MB14	0.240
M75x2	98	90	13	8	3.500	**KM15**	MB15	0.290
M80x2	105	95	15	8	3.500	**KM16**	MB16	0.400
M85x2	110	102	16	8	3.500	**KM17**	MB17	0.450
M90x2	120	108	16	10	4.000	**KM18**	MB18	0.560
M95x2	125	113	17	10	4.000	**KM19**	MB19	0.660
M100x2	130	120	18	10	4.000	**KM20**	MB20	0.700
M105x2	140	126	18	12	5.000	**KM21**	MB21	0.840
M110x2	145	133	19	12	5.000	**KM22**	MB22	0.970
M115x2	150	137	19	12	5.000	**KM23**	MB23	1.010
M120x2	155	138	20	12	5.000	**KM24**	MB24	1.080
M125x2	160	148	21	12	5.000	**KM25**	MB25	1.190
M130x2	165	149	21	12	6.000	**KM26**	MB26	1.250
M140x2	180	160	22	14	6.000	**KM28**	MB28	1.600
M150x2	195	171	24	14	6.000	**KM30**	MB30	2.030
M160x3	210	182	25	16	7.000	**KM32**	MB32	2.590
M170x3	220	193	26	16	7.000	**KM34**	MB34	2.800
M180x3	230	203	27	18	8.000	**KM36**	MB36	3.070
M190x3	240	214	28	18	8.000	**KM38**	MB38	3.390
M200x3	250	226	29	18	8.000	**KM40**	MB40	3.690

Correntes



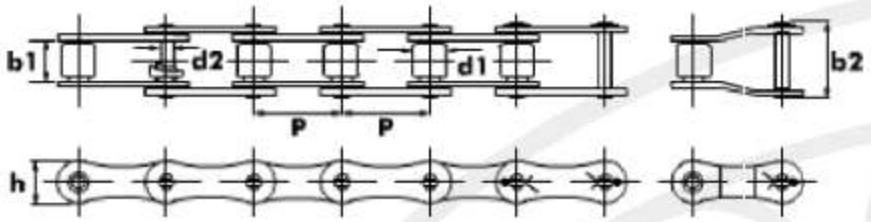


Referência GBR	Passo pol	Passo mm	Distância entre Placas b1 mm	Diám. do Rolo máx. d1 mm	Diám. do Pino máx. d2 mm	Largura Total b2 máx. REBITADO	Largura Total b2 máx. CONTRA-PINADO	Espes. da Placa e mm	Altura da Placa máx h mm	Carga de Ruptura kgf	Carga de trabalho máx. kgf	Peso kg/m
40-1	1/2	12,70	7,92	7,92	3,96	16,70	18,50	1,52	12,06	1410	258	0,59
40-2						31,70	32,70			2820	438	1,16
50-1	5/8	15,88	9,52	10,16	5,08	21,00	22,70	2,03	15,08	2220	422	1,04
50-2						38,80	40,70			4440	717	2,08
60-1	3/4	19,05	12,70	11,91	5,94	25,50	28,00	2,39	18,09	3180	558	1,55
60-2						48,10	50,70			6360	947	3,05
80-1	1	25,40	15,87	15,87	7,92	32,50	36,20	3,17	24,13	5670	1027	2,71
80-2						62,00	66,40			11340	1746	5,36
100-1	1.1/4	31,75	19,05	19,05	9,52	40,10	45,20	3,96	30,16	8850	1538	3,95
100-2						76,30	81,40			17700	2614	7,89
120-1	1.1/2	38,10	25,40	22,22	11,10	50,00	55,30	4,75	36,19	12700	2194	5,69
120-2						95,50	120,00			25400	3728	11,45
140-1	1.3/4	44,45	25,40	25,40	12,70	53,70	59,10	5,56	42,22	17240	3005	7,32
140-2						102,60	109,40			34480	5108	13,45
160-1	2	50,80	31,75	28,57	14,27	64,50	69,60	6,35	48,26	22680	3478	10,04
160-2						124,10	130,50			45360	5912	20,13

Correntes de Rolo, Standard – Norma ISO

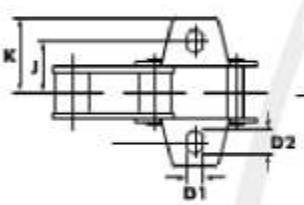
Referência GBR	Passo pol	Passo mm	Distância entre Placas b1 mm	Diám. do Rolo máx. d1 mm	Diám. do Pino máx. d2 mm	Largura Total b2 máx. REBITADO	Largura Total b2 máx. CONTRA-PINADO	Espes. da Placa e mm	Altura da Placa máx h mm	Carga de Ruptura kgf	Carga de trabalho máx. kgf	Peso kg/m
08B-1	1/2	12,70	7,75	8,51	4,45	17,00	20,90	1,50	11,81	1780	258	0,69
08B-2						31,00	34,90			3110	438	1,36
10B-1	5/8	15,88	10,16	10,16	5,08	21,80	25,90	1,70	14,73	2220	422	0,88
10B-2						39,90	44,00			4450	717	1,73
12B-1	3/4	19,05	12,07	12,07	5,72	22,70	27,30	1,80	16,13	2890	558	1,21
12B-2						42,20	46,80			5780	947	2,40
16B-1	1	25,40	15,87	15,87	8,28	36,10	41,50	3,14	21,08	4230	1027	2,62
16B-2						68,00	73,40			8010	1746	5,21
20B-1	1.1/4	31,75	19,05	19,05	10,19	43,20	49,30	4,70	26,42	6450	1538	3,39
20B-2						79,70	85,80			12900	2614	6,74
24B-1	1.1/2	38,10	25,40	25,40	14,55	53,40	60,00	5,80	33,40	9790	2194	6,62
24B-2						101,80	108,40			19570	3728	13,18

Correntes agrícolas, de rolos – Normas ISO e ABNT



Referência GBR	Passo P mm	Diâmetro do Rolo máx d1 mm	Entre Placas mín. b1 mm	Diâmetro do Pino máx. d2 mm	Altura de Placas máx. h mm	Largura Total máx. b2 mm	Carga de Ruptura kgf	Peso kg/m
S32	29,21	11,43	15,88	4,43	12,30	28,70	820	0,73
S45	41,40	15,20	22,23	5,72	16,70	40,00	1.820	1,29
S55	41,40	17,78	22,23	5,72	16,70	40,00	1.820	1,49

Aditamentos para correntes agrícolas

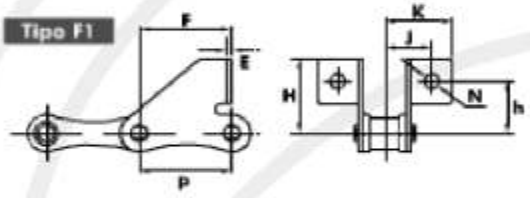


Tipo K1



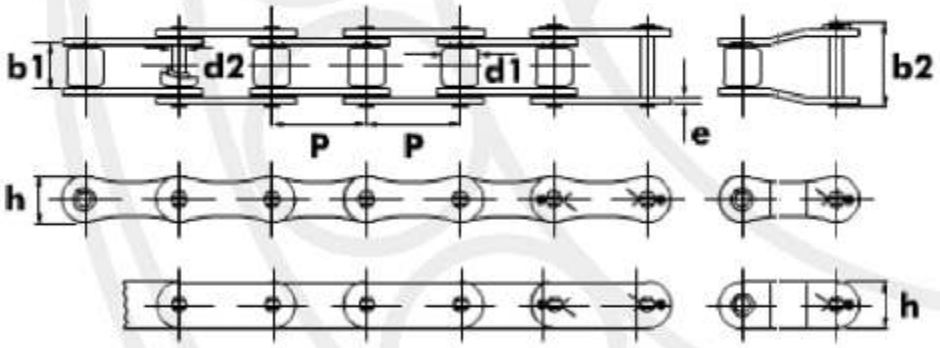
Referência GBR	P	J	K	H	D1	D2	E
S45	41,40	27,00	37,75	11,40	8,40	12,60	2,40
S55	41,40	27,00	37,75	11,40	8,40	12,60	2,40

Tipo F1



Referência GBR	P	J	K	H	h	N	E	F
S45	41,40	29,00	42,70	32,00	20,50	6,70	2,40	33,40
S55	41,40	29,00	42,70	32,00	20,50	6,70	2,40	33,40

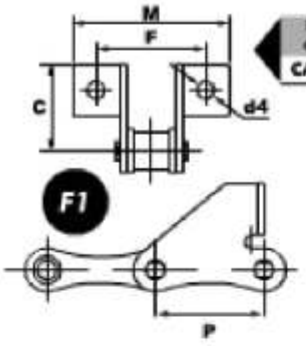
Correntes agrícolas, de rolos



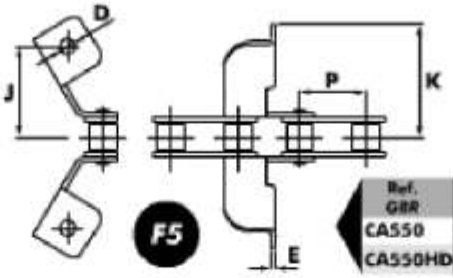
Referência GBR	Passo P mm	Diâmetro do Rolo máx d1 mm	Entre Placas mín. b1 mm	Diâmetro do Pino máx. d2 mm	Altura de Placas máx. h mm	Largura Total máx. b2 mm	Espessura das Placas máx. e mm	Carga de Ruptura kgf	Peso kg/m
A550	41,40	16,66	19,81	7,13	19,30	38,00	2,67	3.860	1,57
CA550	41,40	16,66	19,81	7,13	19,30	38,00	2,67	3.860	1,86
CA555	41,40	16,66	13,00	7,13	19,30	32,00	3,00	3.860	2,09
A557	41,40	17,78	20,60	8,00	23,10	37,00	3,00	4.600	2,46
CA557	41,40	17,78	20,60	8,00	23,10	37,00	3,00	4.600	2,60

Nota prefixo **A**, com placas oitavadas e prefixo **CA**, com placas retas.

Aditamentos para Correntes A550, CA550 e CA555

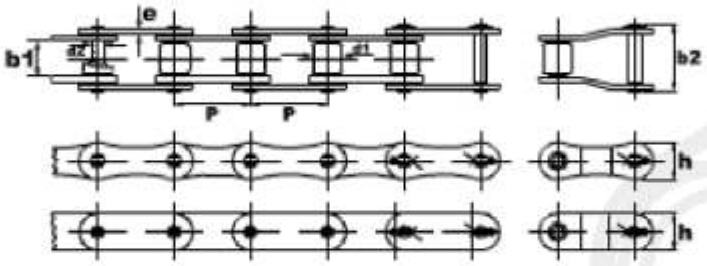


Ref. GBR	P	J	K	H	h	N	E	F
CA550	41,40	29,00	41,20	32,00	20,50	6,70	2,67	33,18



Ref. GBR	P	J	K	H	D	E
CA550	41,40	39,70	49,20	31,80	6,70	2,67
CA550HD	41,40	39,70	49,20	31,80	9,90	3,00

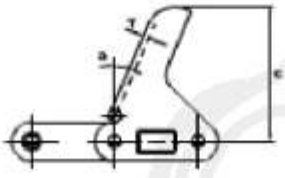
Correntes de Passo Duplo



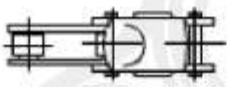
Referência GBR	Passo P mm	Diâmetro do Rolo máx d1 mm	Entre Placas mín. b1 mm	Diâmetro do Pino máx. d2 mm	Altura de Placas máx. h mm	Largura Total máx. b2 mm	Espes. das Placas e mm	Carga de Ruptura kgf	Peso kg/m
2040	25,40	7,90	7,94	3,96	11,60	18,50	1,50	1.410	0,42
2050	31,75	10,16	9,53	5,08	15,09	22,70	2,00	2.220	0,65
CA2050	31,75	10,16	9,53	5,08	15,09	22,70	2,00	2.220	0,86
CA2060	38,10	11,91	12,70	5,94	18,08	28,00	2,40	3.180	1,18
CA2060H	38,10	11,91	12,70	5,94	18,08	31,70	3,10	3.180	1,41

Aditamentos para Correntes de Passo Duplo

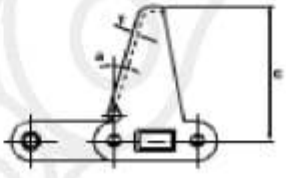
CA2060H



C6E

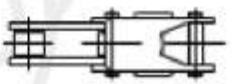


P	H	V	M	E	R
38,10	63,50	30,70	26,60	3,00	22°30



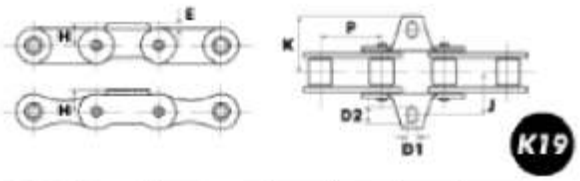
CA2060H

C5E



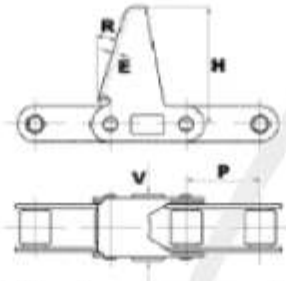
P	H	V	M	N	G	E	R
38,10	57,20	30,70	26,70	8,50	30,00	3,00	22°30

Aditamentos para correntes A550, CA550 e CA555



K19

Ref. GBR	P	J	K	H	D1	D2	E
A550	41,40	25,40	35,50	12,70	8,30	11,00	2,67
CA550	41,40	25,40	35,50	12,70	8,30	11,00	2,67



C11E

Ref. GBR	P	H	V	E	R
A550	41,40	63,50	37,00	2,67	17°
CA550	41,40	63,50	37,00	2,67	17°

Alicate de desmontar correntes

Alicate n 1 1/2" a 3/4" (ASA 40 a 60)

Alicate n 2 3/4" a 1.1/4" (ASA 60 a 100)

Modo de utilização

1 Para abrir as garras, pressionar os dois cabos. Escolher o elo a ser aberto e posicionar o alicate aberto.



2 Para retirar o pino, torcer o cabo superior no sentido horário, até a saída.

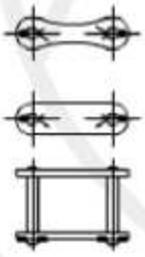


Localização das Esteiras e Elevadores

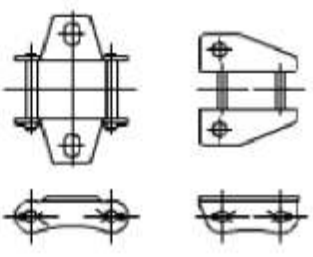


Elos de emenda

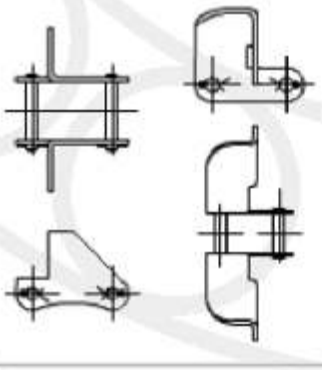
EMENDA SIMPLES



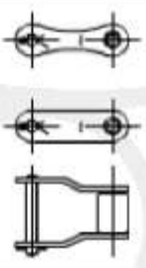
EMENDAS TIPO K1, K19 e K39



EMENDAS TIPO F1, F5 e F17



REDUÇÃO SIMPLES




GBR
ROLAMENTOS
CORRENTES