Grooved Roller for Round Belt (Center-Symmetrical Groove Type)

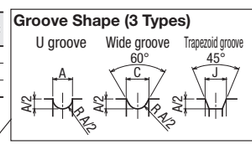
Set Screw Type

Features: Roller with center symmetrical round belt grooves that allows for flexible positioning. Type with shaft fixed by set screws.

Set Screw Type

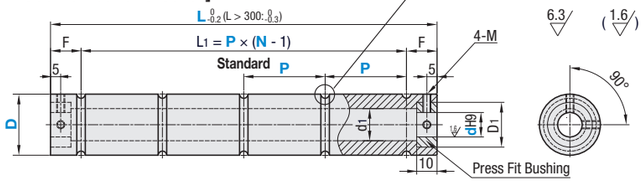
Type			Material		Surface Treatment
U groove	Wide groove	Trapezoid groove	Roller	Press Fit Bushing	
MRCUA	MRCWA	MRCDA	5000 Series Aluminum Alloy	5000 Series Aluminum Alloy	Clear Anodize
MRCUS	MRCWS	MRCDS	304 Stainless Steel	304 Stainless Steel	-
MRCUM	MRCWM	MRCDM	Carbon Steel	1045 Carbon Steel Equivalent	Electroless Nickel Plating

Groove Shape (3 Types)

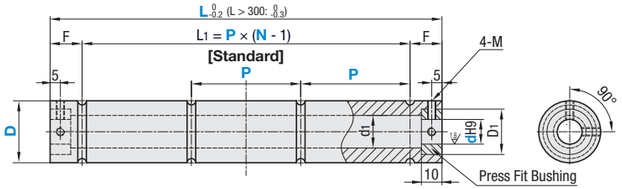


Round Belt Dia. A	C	J
2	2.3	2.2
3	3.5	3.2
4	4.6	4.3
5	5.8	5.4
6	6.9	6.5

[With Odd Number of Grooves]



[With Even Number of Grooves]



dH9 Dimensional Tolerance		
Over	Or Less	Dimensional Tolerance
3	6	+0.030 0
6	10	+0.036 0
10	18	+0.043 0
18	30	+0.052 0

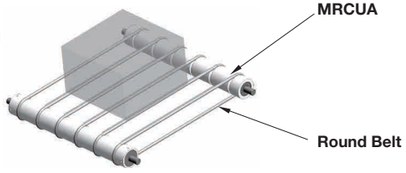
Part Number Type			D	dH9	Overall Length L 1 mm Increments	Groove Pitch P 1 mm Increments	Number of Grooves N	Belt Dia. (Ø) A	L_1	F	d_1 Aluminum Alloy	d_1 304 Stainless Steel	d_1 Carbon Steel	D_1	M
U groove	Wide groove	Trapezoid groove	20	6	50 to 200	P ≥ 10 However, F ≥ 15	N ≥ 2 However, F ≥ 15 ! Number of Grooves: Max. 30	2, 3	L_1 = P × (N - 1)	F ≥ 15 F = (L-L_1)/2	11	13	12	15	M4
				8											
			30	8				2, 3, 4			15	18	15.8	22	
				10											
MRCUA	MRCWA	MRCDA		12											
			40	12	50 to 300						17	22	22.7	33	M5
MRCUS	MRCWS	MRCDS		15				2, 3, 4, 5							
				20											M6
MRCUM	MRCWM	MRCDM		15	50 to 500						17	28	30	40	M5
			50	20							27				M6
				25				2, 3, 4, 5, 6							

!The overall length L should take into account the number of grooves, the groove pitch, and the distance from the end face. L = (2 × F) + L_1
!Number of grooves N is 2 ≤ N ≤ ([L - 2 × F]/10 [minimum pitch distance]) + 1
!The bushings at each end are press fit.
!A shaft tolerance of g6 is recommended.
!Set screws are not included.

Part Number Example

Part Number	-	d	-	L	-	P	-	N	-	A
MRCUA30	-	10	-	300	-	P50	-	N5	-	A3

Application Example



Type	D	Available Size L50 to 100	L101 to 150	L151 to 200	L201 to 250	L251 to 300	L301 to 350	L351 to 400	L401 to 450	L451 to 500
MRCUA	20	•	•	•	—	—	—	—	—	—
MRCWA	30	•	•	•	•	•	—	—	—	—
MRCDA (Aluminum Alloy)	40	•	•	•	•	•	•	•	•	•
	50	•	•	•	•	•	•	•	•	•
MRCUS	20	•	•	•	—	—	—	—	—	—
MRCWS	30	•	•	•	•	•	—	—	—	—
MRCDS (Stainless Steel)	40	•	•	•	•	•	•	•	•	•
	50	•	•	•	•	•	•	•	•	•
MRCUM	20	•	•	•	—	—	—	—	—	—
MRCWM	30	•	•	•	•	•	—	—	—	—
MRCDM (Carbon Steel)	40	•	•	•	•	•	•	•	•	•
	50	•	•	•	•	•	•	•	•	•

Rollers & Conveyor Components

Grooved Roller for Round Belt (Center-Symmetrical Groove Type)

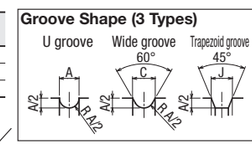
With Bearings

Features: Integrated-bearing type roller with center-symmetrical grooves for round belts, that allows flexible positioning.

With Bearings

Type			Material		Surface Treatment
U groove	Wide groove	Trapezoid groove	Roller	Bearings	
MRCBUA	MRCBWA	MRCBDA	5000 Series Aluminum Alloy	Bearing Steel	Clear Anodize
MRCBUS	MRCBWS	MRCBDS	304 Stainless Steel		-
MRCBUM	MRCBWM	MRCBDM	Carbon Steel		Electroless Nickel Plating

Groove Shape (3 Types)



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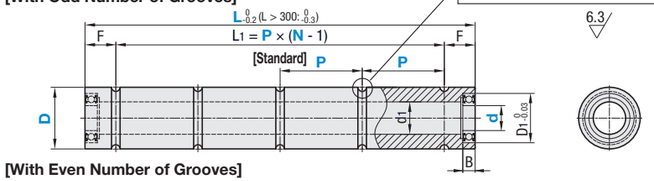
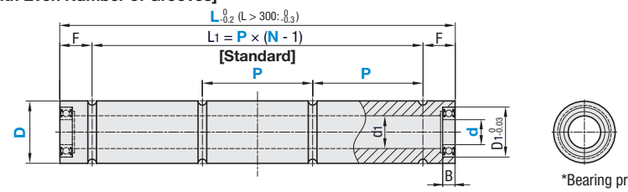
[With Odd Number of Grooves]



[With Even Number of Grooves]



*Bearing precision JIS B 1514-1 Class 0

Part Number Type			D	d	Overall Length L 1 mm Increments	Groove Pitch P 1 mm Increments	Number of Grooves N	Belt Dia. (Ø) A	L_1	F	D_1	B	d_1 Aluminum Alloy	d_1 304 Stainless Steel	d_1 Carbon Steel	Bearing No.
U groove	Wide groove	Trapezoid groove	20	6	50 to 200	P ≥ 10 However, F ≥ 10	N ≥ 2 However, F ≥ 15 ! Number of Grooves: Max. 30	2, 3	L_1 = P × (N - 1)	F ≥ 15 F = (L-L_1)/2	15	5	11	13	12	696ZZ
				8							16					688ZZ
			30	8	50 to 300			2, 3, 4			19	6	15	-	-	698ZZ
				8A							22	7	-	18	15.8	608ZZ
				10							22	6	15			6900ZZ
				12							24					6901ZZ
MRCBUA	MRCBWA	MRCBDA	40	8	50 to 300			2, 3, 4, 5			24	8	17	20	18.7	628ZZ
				10							26					6000ZZ
MRCBUS	MRCBWS	MRCBDS		12							24	6	17			6901ZZ
				15							28	7				6902ZZ
MRCBUM	MRCBWM	MRCBDM		20							32		22	22	22.7	6804ZZ
			50	10	50 to 500			2, 3, 4, 5, 6			30	9	17	22	18	6200ZZ
				12							28	8	22			6001ZZ
				15							28	7	17			6902ZZ
				20							37	9	27	28	30	6904ZZ
				25							42					6905ZZ

!The overall length L should take into account the number of grooves, the groove pitch, and the distance from the end face. L = (2 × F) + L_1
!Number of grooves N is 2 ≤ N ≤ ([L - 2 × F]/10 [minimum pitch distance]) + 1
!Relief is added to the end faces to prevent contact with the bearing inner ring.

Part Number Example

Part Number	-	d	-	L	-	P	-	N	-	A
MRCBUA30	-	8	-	300	-	P50	-	N5	-	A3

Part Number Alterations

Part Number	-	d	-	L	-	P	-	N	-	A	-	(SB)
MRCBUS30	-	8	-	300	-	P50	-	N5	-	A3	-	SB

Alterations	Code	Spec.
Change of bearing material	SB	Changes the bearing to stainless steel. Ordering Code SB

Type	D	Available Size L50 to 100	L101 to 150	L151 to 200	L201 to 250	L251 to 300	L301 to 350	L351 to 400	L401 to 450	L451 to 500
MRCBUA	20	•	•	•	—	—	—	—	—	—
MRCBWA	30	•	•	•	•	•	—	—	—	—
MRCBDA (Aluminum Alloy)	40	•	•	•	•	•	•	•	•	•
	50	•	•	•	•	•	•	•	•	•
MRCBUS	20	•	•	•	—	—	—	—	—	—
MRCBWS	30	•	•	•	•	•	—	—	—	—
MRCBDS (Stainless Steel)	40	•	•	•	•	•	•	•	•	•
	50	•	•	•	•	•	•	•	•	•
MRCBUM	20	•	•	•	—	—	—	—	—	—
MRCBWM	30	•	•	•	•	•	—	—	—	—
MRCBDM (Carbon Steel)	40	•	•	•	•	•	•	•	•	•
	50	•	•	•	•	•	•	•	•	•