

Vertical Guide Rollers / Rollers with Oil Free Bushings

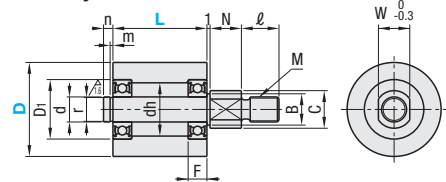
■Features: Preassembled rollers contribute to labor savings.

Vertical Guide Rollers

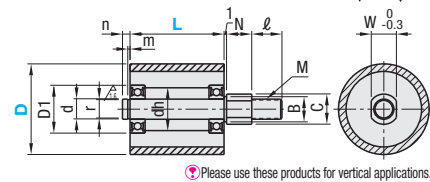


Type	Material				Surface Treatment		
	Roller	Shaft	Retaining Ring	Bearing	Roller	Shaft	Retaining Ring
TGRB	EN 1.1191 Equiv.	EN 1.1191 Equiv.	Spring Steel	Steel	Electroless Nickel Plating	Electroless Nickel Plating	-
TGRS	EN 1.4301 Equiv.	EN 1.4301 Equiv.	EN 1.4301 Equiv.		-	-	-
TGRA	Aluminum Alloy 5000 series	EN 1.1191 Equiv.	Spring Steel		Clear Anodize	Electroless Nickel Plating	-
TGRAU	EN AW-5052 Equiv.	EN 1.4301 Equiv.	EN 1.4301 Equiv.		Urethane Lining (Natural Color)	-	-
TGRSU	EN 1.4301 Equiv.	EN 1.4301 Equiv.	EN 1.4301 Equiv.		Shore A90	-	-

Core Only



Urethane Lined



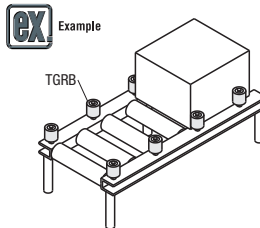
⚠ Please use these products for vertical applications.

Part Number		L Selection	N	d	ℓ	C	B	r	n	m	dh	D ₁	F	M (Coarse)	W	Used Bearing	Retaining Ring Standards		Unit Price																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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Core Only TGRB (EN 1.1191 Equiv.) TGRS (EN 1.4301 Equiv.) TGRA (Aluminum Alloy 5000 series)	Urethane TGRAU (Aluminum Alloy 5000 series) TGRSU (EN 1.4301 Equiv.)	20	20 25	10	6	9	10	8	5	2	0.7	10	15	5	6	8	696ZZ	E Type	No.5					-	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													

Ordering Example
Part Number - L
TGRB30 - 30
TGRSU30 - 50

Alterations
Part Number - L - (NC)
TGRB25 - 30 - NC15

Alteration	Code	Spec.
N Dimension Changes	NC	Ordering Code NC15 NC=1mm Increment 5≤NC≤30 ⚠ Dimensions other than N dim. will not change.



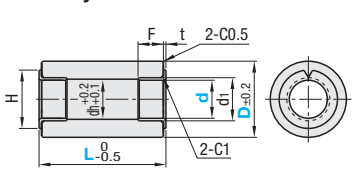
■Use of oil free bushings instead of bearings accomplished lower cost and space savings.

Rollers with Oil Free Bushings

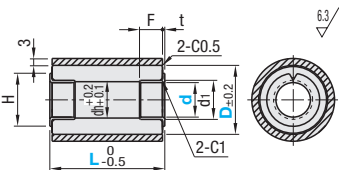


Type	Roller		Oil Free Bushings
	Material	Surface Treatment	
FRTA	EN AW-5052 Equiv.	Clear Anodize	Filler Added PTFE Layer Sintered Bronze Layer Steel-backed Metal Layer (EN 1.0330 Equiv.: Tin Plating)
FRTS	EN 1.4301 Equiv.	-	
FRTAU	EN AW-5052 Equiv.	Urethane Lining (Natural Color)	
FRTSU	EN 1.4301 Equiv.	Shore A90	

Core Only



Urethane Lined



Bushing Details

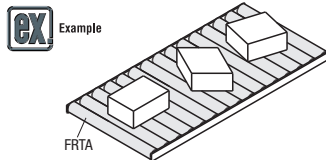
I.D.	d	Tolerance	F	d ₁	H
3	+0.062	0	5	4.6	7
5	+0.065	0	5	7	10
6	+0.065	0	8	8	12
8	+0.065	0	10	10	15
10	+0.065	0	10	12	18
12	+0.068	0	10	14	20
15	+0.068	0	10	17	23

⚠ For L20, oil free bushing F dim. will be 10 or less.

Part Number Type	D	d (I.D.) Selection	L Selection	t	Unit Price			
					FRTA	FRTS	FRTAU	FRTSU
Core Only FRTA (EN AW-5052 Equiv.) FRTS (EN 1.4301 Equiv.)	8	3	20' 25 30 40 50	0.8				
	10	5		1.0				
	12	5 6						
	15	6 8						
	18	8 10						
	20	10 12						
	25	10 12 15						
	30	10 12 15						
Urethane FRTAU (EN AW-5052 Equiv.) FRTSU (EN 1.4301 Equiv.)	8	3						
	10	5						
	12	5 6						
	15	6 8						
	18	8 10						
	20	10 12						
	25	10 12 15						
	30	10 12 15						

⚠ For Oil Free Bushing details, see P.378. ⚠ L20 cannot be selected for *d15.

Ordering Example
Part Number - d - L
FRTA10 - 5 - 30



Urethane Rollers / End Feed Rollers

With Side Through Holes

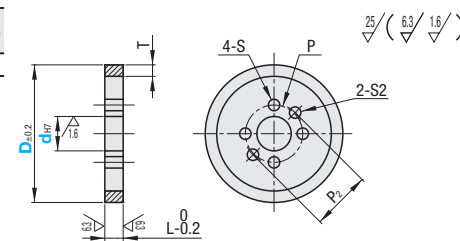
■Features: Can be used as a set with shaft collar shown on P.279, 281.

Urethane Rollers with Side Through Holes



Type	Material		Hardness
	Core	Lining	
ULSH	EN AW-5052 Equiv.	Urethane	A90

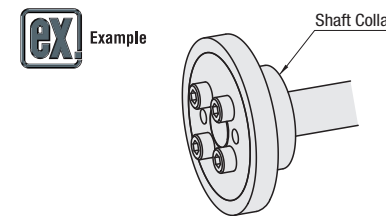
⚠ Urethane is baked on the outer circumference of the core material.



Part Number		d Selection	L	T	P	P2	S	S2	Unit Price	
Type	D									
ULSH	40	10	8	5	18	20	4.5	5.5		
		12			22	22	5.5	5.5		
	50	12			10	25			26	6.5
		15				32	34	5.5	5.5	
	60	15				25	26	6.5	6.5	
		20	32			34	5.5	5.5		
	70	15	10			25	26	6.5	6.5	
		20			32	34	5.5	5.5		
	80	20			37	38	6.5	6.5		
		25								

⚠ Shaft collar shown on P.281 may not be installable depending on the B size.

Ordering Example
Part Number - D - d
ULSH - 40 - 10



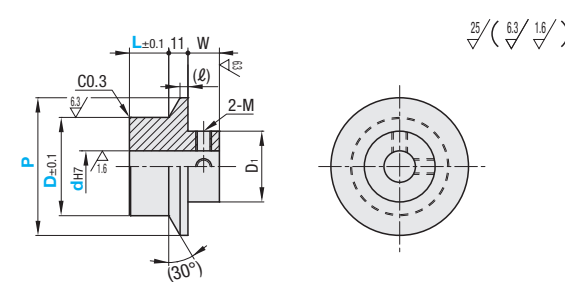
Alterations
Part Number - D - d - (MC)
ULSH - 40 - 10 - MC

Alteration Code	Tapping MC
Spec.	Change S to tapped hole
	S M
	4.5 M4
	5.5 M5
	6.5 M6
	Ordering Code MC

End Feed Rollers



Type	Material
MCRPOM	Polyacetal
MCRUPE	UHMWPE



Part Number Type	D	d	P	L 1mm Increment	W	ℓ	D ₁	M	Unit Price	
									MCRPOM	MCRUPE
MCRPOM MCRUPE	30	6 8 10 12	40 45 50 55 60	3-10	8	13-(P-D)/√3 (4.34~10.11)	d+20	4		
	35	6 8 10 12 15	45 50 55 60 65							
	40	8 10 12 15 20	50 55 60 65 70							
	45	10 12 15 20	55 60 65 70 75							
	50	12 15 20	60 65 70 75 80					5		
	55	15 20 30	65 70 75 80							
	60	15 20 30	70 75 80							
	60	15 20 30	70 75 80							

Ordering Example
Part Number - d - P - L
MCRPOM30 - 8 - 50 - 3

Example

