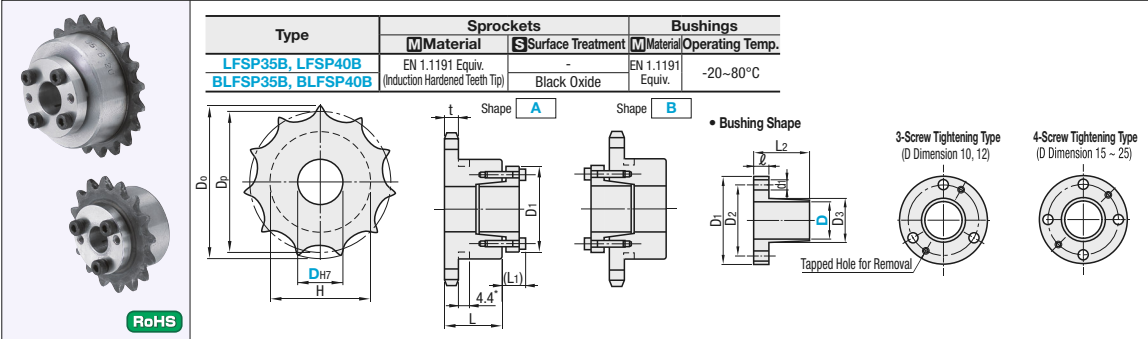


Keyless Sprockets

35B, 40B Series

■ **Features:** The strength of shafts is not deteriorated as machining to shafts is not required. Positioning is easy.



■ **35B Series** For Chains, see **P.1535.**

Part Number Type	Number of Teeth	Shaft Bore Dia. D _{H7}	Shape	D _p	D ₀	H	L	t	Unit Price	
									LFSP35B	BLFSP35B
LFSP35B BLFSP35B	12	10	A	36.80	41	30.5	20	4.3		
	13	10		39.80	44	32				
	14	10 12		42.81	47	32				
	15	10 12	B	45.81	51	35				
	16	10 12 15 16		48.82	54	37				
	18	12 15 16 17		54.85	60	44				
	20	12 15 16 17 18 20 22		60.89	66	50				

⚠ For sprockets with 12 teeth, A Shape only. Sprockets marked with * have grooves on hub O.D.

■ **40B Series** For Chains, see **P.1535.**

Part Number Type	Number of Teeth	Shaft Bore Dia. D _{H7}	Shape	D _p	D ₀	H	L	t	Unit Price	
									LFSP40B	BLFSP40B
LFSP40B BLFSP40B	12	12 15 16 17	A	49.07	55	40	22	7.2		
	13	12 15 16		53.07	59	37				
	14	12 15 16 17		57.07	63	42				
	15	12 15 16 17 18 20	B	61.08	67	46				
	16	15 16 17 18 20 22		65.10	71	50				
	17	15 16 17 18 20 22		69.12	76	54				
	18	15 16 17 18 20 22 25		73.14	80	57				
	19	15 16 17 18 20 22 25		77.16	84	62				
	20	15 16 17 18 20 22 25		81.18	88	67				

Sprockets marked with * have grooves on hub O.D.

■ Bushing Dimension/Performance Table

Shaft Bore Dia. D	D ₁	D ₂	D ₃	d ₁	(L ₁)	L ₂	ℓ	Maximum Allowable Torque N·m (kgf·m)	Allowable Thrust Load kN (kgf)	Screws		Screw Tightening Torque N·m (kgf·m)	Tapped Hole for Removal
										Qty.	Size		
10	30	22	12	4.5	10.5	16.5	5	39 (4.0)	5.34 (545)	3	M4x16	4.0 (0.41)	M4x2
12	32	24	14					48 (4.9)					
15	36	28	17.6					78 (7.95)					
16	37	29	18.6					83 (8.5)					
17	38	30	19.6	13	23	7		88 (9.0)	8.74 (895)	4	M5x20	8.3 (0.85)	M5x2
18	43	33	20.6					154 (15.7)					
20	46	36	23.4					171 (17.4)					
22	48	38	24.6					186 (19.16)					
25	52	42	28.4					216 (21.8)					

• Shaft tolerance g6 and shaft surface roughness Ra6.3 are standard.

• When there is keyway machining or D cut on the installed shaft, transmitting torque is reduced by approximately 15% or more.

⚠ In the event that transmissible torque exceeds values in the above table, shaft could slip, resulting in serious danger. Make sure that it is used within the allowable torque range.



■ Note on Installation

- Tighten the bushing screws after inserting the shaft.
(Bushing may deform if the screws are tightened before inserting the shaft.)
- Use torque wrench to tighten screws.
- Do not use tightening screws other than included.

■ Installation

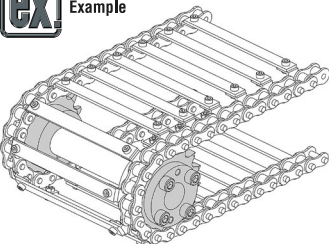
- ① Wipe off the shaft surface and lightly apply oil or grease.
(Do not use any oil or grease containing molybdenum type anti-friction agent.)
- ② Please completely wipe off sprockets and bushing contact surfaces also before lubricating with oil or grease. Please lubricate screw and seating surfaces in the same manner.
- ③ Sub-assemble Sprockets and bushing before the shaft is inserted.
(Do not tighten the screws on the bushing before inserting into shaft.)
- ④ After locating, tighten the lock screws using a torque wrench in the diagonal line order, beginning lightly (approx. 1/4 of the predetermined tightening torque).
- ⑤ Tighten the screws further to an increased torque (approximately 1/2 specified torque).
- ⑥ Tighten with the predetermined tightening torque.
- ⑦ Finally, tighten the screws to the listed torque values in a circumferential order.

■ Removal

- Be sure the system is completely shut down before starting work.
- Loosen the tightening screws in circumferential order.
- Insert a screw in a screw hole for removal and tighten evenly.
- Repeat "Installation" process for re-installation.



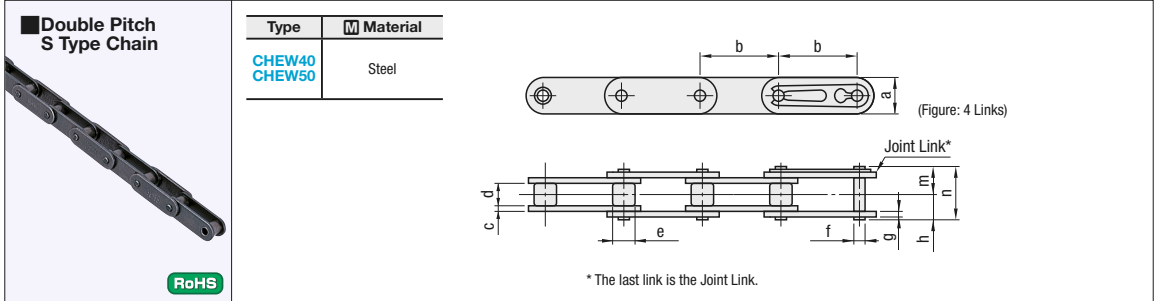
Example



[S Type Roller] Double Pitch Chains, Sprockets, Joint Links

2040B, 2050B Series

■ **Features:** Flat plate allows workpiece to be put directly on plate for conveyance.



Part Number	Number of Links (Specify Even Number)	Max. Allowable Tension (kN)	1 Unit (Number of Links)	Unit Price	Cutting Charge
CHEW40	4~	2.75	120 (Circumference Length 3,048mm)		
CHEW50	4~	4.41	96 (Circumference Length 3,048mm)		

■ Detailed Chain Dimension

Type	a	b	c	d	e	f	g	h	m	n
CHEW40	11.7	25.4	1.5	7.95	7.95	3.97	1.5	8.02	9.53	17.55
CHEW50	14.6	31.75	2	9.53	10.16	5.09	2	10.15	11.6	21.75

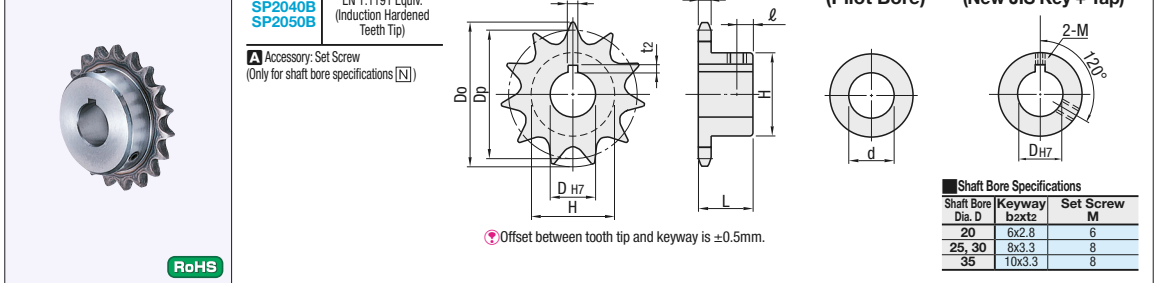


Ordering Example
Part Number - Number of Links
CHEW40 - 200

① Specify links by even numbers. The last link is the Joint Link.

② When the ordered number of links exceeds the given number of links per unit, the qty. of links per unit and the extra qty. of links are packaged separately.
Ex.) For CHEW40-300, 3 separate packages: 120 links x 2 units + 60 links

■ Double Pitch S Type Dedicated Sprocket



RoHS

Part Number Type	Allocated Number of Teeth	Shaft Bore Specs.	Shaft Bore Dia. N Specification (D _{H7})					Number of Operating Teeth	D _p	D ₀	Hub		X	ℓ	Mass (kg)	Unit Price		
			S Specification (D _{H7})	N Specification (D _{H7})	N Specification (D _{H7})	N Specification (D _{H7})	N Specification (D _{H7})				H	L				S Specification	N Spec. (In Stock)	N Spec. (Other than In Stock)
SP2040B	19	S	14	20*	25*	30	35	9 1/2	78.23	84	60				0.64			
	21		14	20	25	30	35	10 1/2	86.17	92	69				0.93		-	
	23		14	20	25	30	35	11 1/2	94.15	100	77				0.99		-	
	25		14	20*	25	30	35	12 1/2	102.14	108	63				1.06			
SP2050B	19	S	14	20	25*	30	35	9 1/2	97.78	105					1.1			
	21		14	20	25	30	35	10 1/2	107.72	115					1.62		-	
	23		16	20	25	30	35	11 1/2	117.68	125					1.74		-	
	25		16	20	25	30	35	12 1/2	127.67	135					1.87		-	



Ordering Example
Part Number - Bore Specification - Shaft Bore Dia.
SP2040B21 - N - 20

For double pitch chain idlers, see **P.1552.**

■ Double Pitch S Type Dedicated Joint Link



RoHS

Material: Steel

Part Number		Unit Price	Volume Discount Rate
Type	No.	1 ~ 20 Link(s)	21 ~ 50 Links
JNTWC (Steel)	40		
	50		

⚠ For orders larger than indicated quantity, please request a quotation.



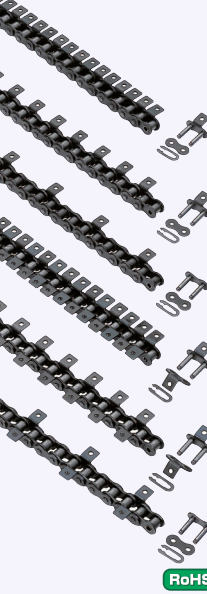
Ordering Example
Part Number
JNTWC40

Chains with Attachments, Joint Links

40, 50, 60, 80 Series

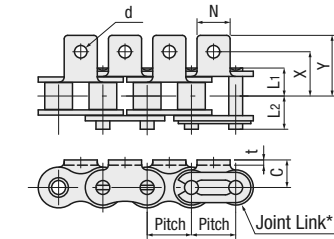
■ **Features:** Are standard chains with the Attachments and allow for conveyance of small workpieces, if desired.

Chains with Attachments Chains

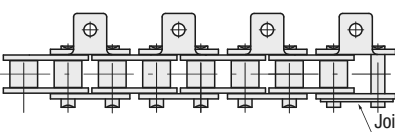


Attachment on One Side Type

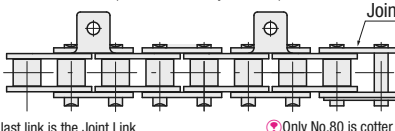
CHEL (Attachment on All Links)



CHEL (Attachment on Every Two Links)

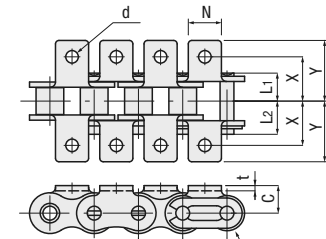


CHEL (Attachment on Every Four Links)

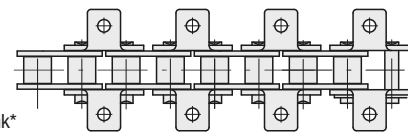


Attachment on Both Sides Type

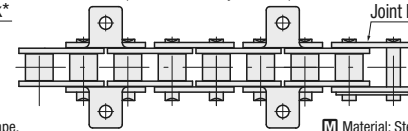
CHET (Attachment on All Links)



CHET (Attachment on Every Two Links)



CHET (Attachment on Every Four Links)



* The last link is the Joint Link.

Only No.80 is cotter pin shape.

M Material: Steel

Part Number			* Number of Links	Pitch	Pins		Plate	Attachment						Max. Allowable Tension kN (kgf)
Type	No.	Nominal			L ₁	L ₂	t	C	X	Y	N	d		
CHEL (One Side Type) CHET (Both Sides Type)	40	<div>A (All Links) B (Every Two Links) C (Every Four Links)</div>	4~	12.7	8.07	9.48	1.5	7.9	12.7	17.4	9.5	3.6	2.75 (280)	
	50		4~	15.875	10.17	11.63	2	10.3	15.9	22.3	12.7	5.2	4.41 (450)	
	60		4~	19.05	12.7	14.2	2.4	11.9	19.05	27.2	15.9	5.2	6.28 (640)	
	80		4~	25.4	16.15	19.25	3.2	15.9	25.4	35.2	19.1	6.8	10.69 (1090)	

* Use 2's multiples for "attachment on every link" and "attachment on every 2 links". Use 4's multiples for "attachment on every 4 links".

No.	Unit Price						Cutting Charge
	Attachment on One Side Type			Attachment on Both Sides Type			
	CH _{EL} □□A	CH _{EL} □□B	CH _{EL} □□C	CH _{ET} □□A	CH _{ET} □□B	CH _{ET} □□C	
Specified Number of Links	Multiple of 2	Multiple of 2	Multiple of 4	Multiple of 2	Multiple of 2	Multiple of 4	
40							
50							
60							
80							

Number of Links per Unit

Part Number	No.	Number of Links per Unit
CHEL	40	240 (Circumference Length 3,048mm)
CHET	50	192 (Circumference Length 3,048mm)
	60	160 (Circumference Length 3,048mm)
	80	120 (Circumference Length 3,048mm)

When the ordered number of links exceeds the given number of links per unit, the qty. of links per unit and the extra qty. of links are packaged separately.
Ex.) For CHEL50A-300, 2 separate packages: 192 links x 1 unit + 108 links

Ordering Example
Part Number - Number of Links
CHEL40A - 200

Chains with Attachments Joint Link



JNT-L

JNT-T

M Material: Steel

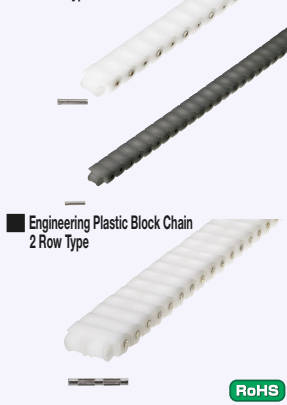
Ordering Example
Part Number
JNT-L40

Engineered Plastic Block Chains / Dedicated Sprockets

1 Row Type, 2 Row Type

■ **Features:** Use the products in environments where workpieces must not be tainted with chain oil or must not be damaged. Generally, they are used for conveying cans, etc.

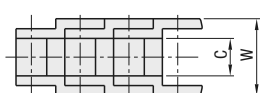
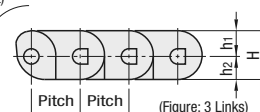
Engineering Plastic Block Chains 1 Row Type



Engineering Plastic Chain 2 Row Type

1 Row Type

CHEED (General Use)
CHEEC (Conductive)
CHEEH (Heat Resistant)
CHEEY (Chemical Resistant)

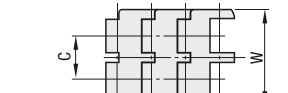
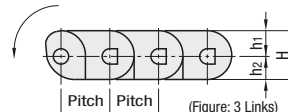


Chains only bend in the arrow direction but not in the opposite direction.

Part Number CHEEP60 is changed to CHEED60. Pin Shape: from Round to D.
Since the bending angle of chain is predetermined, specify the mating sprocket with the number of teeth: 14 or more.

2 Row Type

CHEE (General Use)
Select CHEES as Sprockets.



Chains only bend in the arrow direction but not in the opposite direction.

The pin shape of CHEE is changed from Round to D.

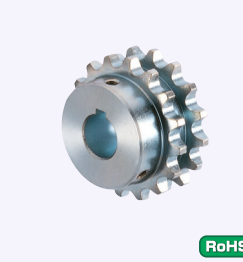
Part Number	Number of Links	Number of Rows	Usage	Color	Allowable Tension (N)	Allowable Chain Speed (m/min)	Coefficient of Sliding Friction μ_t	Reference Mass (kg/m)	Operating Temp. (°C)	Pitch	C	W	H	h1	h2	Number of Links per Unit	Unit Price
CHEED	40	4~	Single	General Use	441	60	0.25	0.32	-5~65	12.7	7.95	20	12.7	6.7	6	240 (Circumference Length 3,048mm)	1 Link Unit Price x Number of Links
	60				882					19.05	12.7	30	17.3	8.8	8.5	160 (Circumference Length 3,048mm)	
CHEEC	40				340					12.7	7.95	20	12.7	6.7	6	240 (Circumference Length 3,048mm)	
CHEEH	40				440					12.7	7.95	20	12.7	6.7	6	240 (Circumference Length 3,048mm)	
CHEEY	40	2 Rows	General Use	Heat Resistant	250	60	0.25	0.36	-20~80	12.7	7.95	20	12.7	6.7	6	240 (Circumference Length 3,048mm)	
CHEE	40			White	1270					12.7	14.4	32	12.7	6.4	6.3	240 (Circumference Length 3,048mm)	

When the ordered number of links exceeds the given number of links per unit, the qty. of links per unit and the extra qty. of links are packaged separately.
Ex.) For CHEE-300, 2 separate packages: 240 links x 1 unit + 60 links

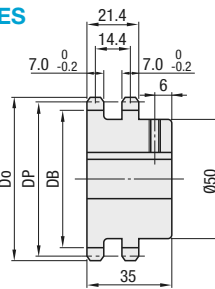


Ordering Example
Part Number - Number of Links
CHEED40 - 200
CHEE - 200

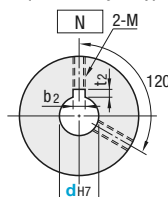
Sprocket for Engineering Plastic Block Chains - Double Strand



CHEES



Shaft Bore Specifications (New JIS Key + Tap)



Shaft Bore Dia. d	Keyway b x t	Set Screw M
20	6x2.8	6
25	8x3.3	8
30	8x3.3	8

M Material: EN 1.1191 Equiv.
S Surface Treatment: Bright Chromate Plating
A Accessory: Set Screw

Offset between tooth tip and keyway is ± 0.5 mm.

Part Number	Do	Dp	Root Dia. DB	Number of Teeth	Reference Mass (kg)	Unit Price
CHEES	20	68	65.1	16	0.6	
	25					
	30					

Ordering Example
Part Number
CHEES20

Resistance Against Chemicals and Oils

Chemical Name	CHEED	CHEEC	CHEEY
Acetone	○	○	×
Oil (Vegetable, Mineral)	○	○	○
Alcohol	○	○	○
Ammonia Water	○	○	○
Sodium Chloride	○	○	○
Hydrochloric Acid (2%)	×	×	○
Seawater	△	△	△
Oxygenated Water	×	○	○
Sodium Hydroxide (Sodium Hydroxide 2%)	○	○	○
Gasoline	○	○	○
Formic Acid	×	○	○
Formic Aldehyde	○	○	○
Citric Acid	△	○	○

Chemical Name	CHEED	CHEEC	CHEEY
Chromic Acid	×	△	△
Acetic Acid	×	○	○
Carbon Tetrachloride	○	○	○
Sodium Hypochlorite	×	×	○
Nitric Acid (5%)	×	○	○
Potassium Hydrate	○	○	○
Soap Solution	○	○	○
Lactic Acid	○	○	○
Paraffin	○	○	○
Benzene	○	○	○
Iodine	×	×	×
Sulfuric Acid	×	×	×
Phosphoric Acid (10%)	×	△	△

Resistance Against Foods

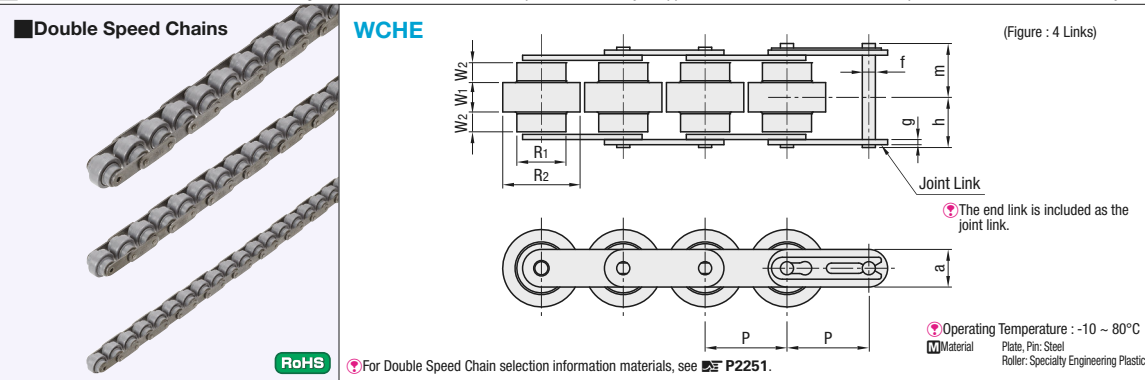
Chemical Name	CHEED	CHEEC	CHEEY
Whiskey	○	○	○
Milk	○	○	○
Vinegar	△	△	△
Soft Drinks	○	○	○
Beer	○	○	○
Fruit Juice	○	○	○
Water	○	○	○
Vegetable Juice	○	○	○
Wine	○	○	○

CHEEH is intended for use in dry environments and cannot be used in wet environments where water is splashed.

Double Speed Chains & Sprockets / Aluminum Extrusions / Return Guides

■Features: Mixed structure of Small and Large Diameter Rollers enables a workpiece to be conveyed approx. 2.5 times faster than the chain speed. Suitable for free flow conveyors.

■Double Speed Chains



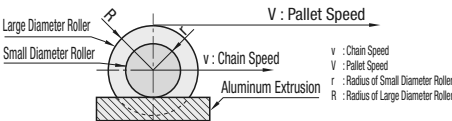
Part Number		Number of Links Specification (Specify Even Number)	Pitch	Roller				Plate		Pins			Max. Allowable Tension (kN)	Speed Multiplier	Approx. Mass kg/m	Unit Number of Links
Type	Nominal		P	R ₁	R ₂	W ₁	W ₂	a	g	f	h	m				
(Chain) WCHE	3	4~550	19.05	11.91	18.3	7.0	4.1	8.8	1.2	3.28	11.2	12.95	0.55	2.54	0.4	160 (Circumference Length 3,048mm)
	4	4~410	25.40	15.88	24.6	9.0	6.0	11.7	1.5	3.97	15.2	16.75	0.88	2.55	0.8	120 (Circumference Length 3,048mm)
	5	4~350	31.75	19.05	30.0	11.4	7.0	14.6	2.0	5.08	19.45	20.90	1.37	2.57	1.3	96 (Circumference Length 3,048mm)

Part Number Type	Nominal	Unit Price 1 ~ 2 pc(s).		Cutting Charge (+ Unit Price)
		Number of Links less than 1 Unit	Number of Links 1 Unit or More	
(Chain) WCHE	3	120 x Number of Links	100 x Number of Links	
	4	120 x Number of Links	100 x Number of Links	
	5	150 x Number of Links	130 x Number of Links	

⚠No cutting charge when placing orders by Unit Number of Links.

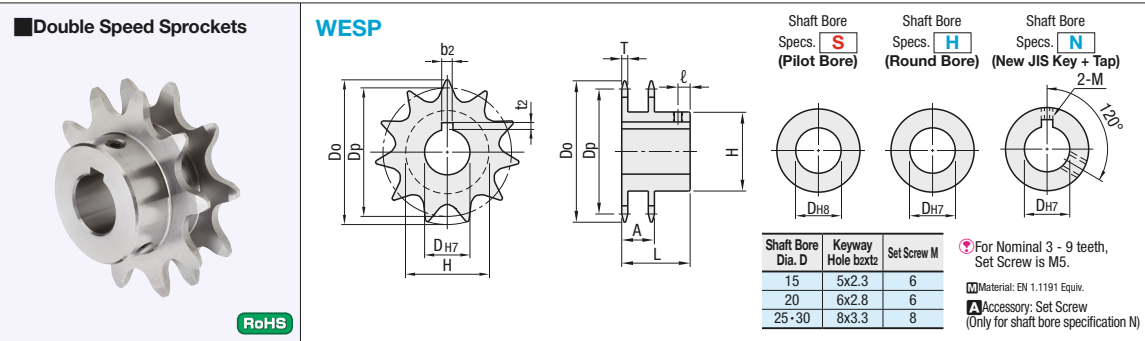
Ordering Example: Part Number - Number of Links
WCHE3 - 200

■Principle of the Double Speed Chains



When a chain runs at v speed, circumferential velocity of the small diameter roller is v.
At this time circumferential velocity of the large diameter roller becomes (R/r)·v due to ratio of radius.
Therefore, Pallet Speed V becomes a value that chain speed V and (R/r)·v are combined.
 $V = (R/r) \cdot v + v$
 $= (R/r + 1) \cdot v$
Since the ratio of radius of the large diameter roller and the small diameter roller is approximately 1.5:1
 $V = (1.5 + 1) \cdot v$
 $\approx 2.5v$

■Double Speed Sprockets

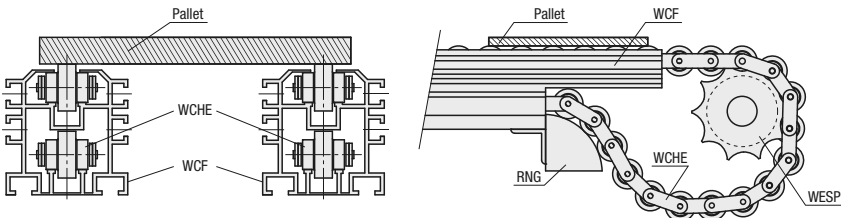


Part Number Type	Nominal	Number of Teeth	Shaft Bore Dia.			Dp	Do	T	H	L	l	A	Unit Price 1 ~ 10 pc(s).		
			Spec. Specification (Dh6)	Spec. Specification (Dh7)	Spec. Specification (Dh7)								Shaft Bore Spec. S	Shaft Bore Spec. H	Shaft Bore Spec. N
(Sprocket) WESP	3	9	14	15 20	15 20	55.70	63	3	33	22	4	15.3			
	4	10	14	15 20	15 20	61.65	68	3	37	25	5	15.3			
	5	10	19	20 25	20 25	82.20	93	4	52	40	8	21.5			
			24	25 30	25 30	102.75	117	5	66	45	9	27.0			

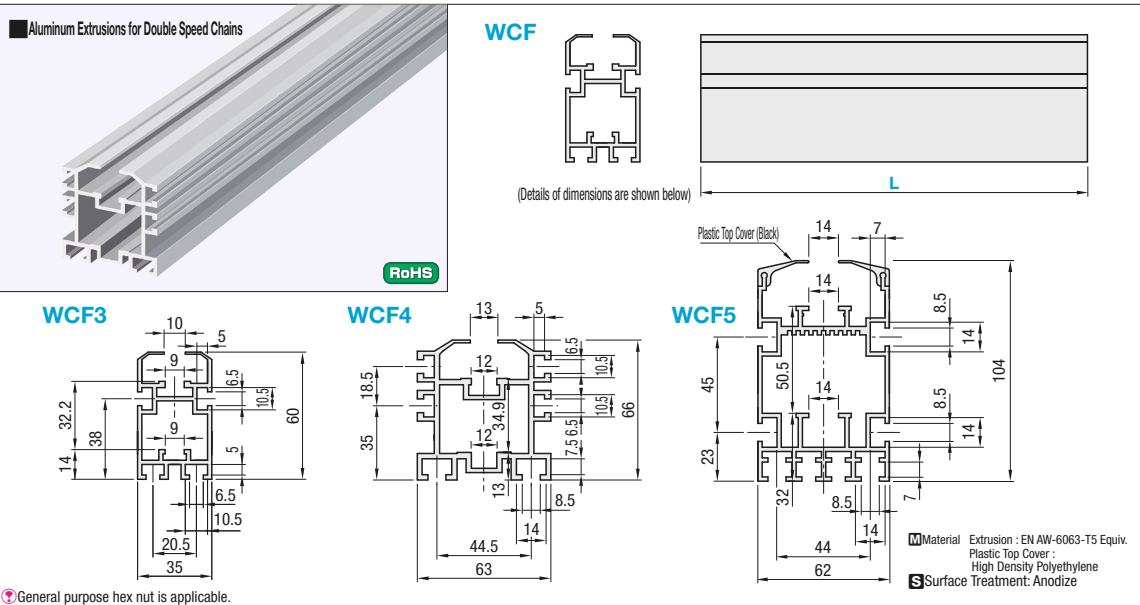
Ordering Example: Part Number - Number of Teeth - Shaft Bore Specifications, ID.
WESP3 - 10 - H15



Example



■Aluminum Extrusions for Double Speed Chains



⚠General purpose hex nut is applicable.

Part Number Type	Nominal	L 10mm Increment	Approx. Mass kg/m	Unit Price /m
WCF	3	500~3000	1.39	
	4		2.49	
	5		3.17	

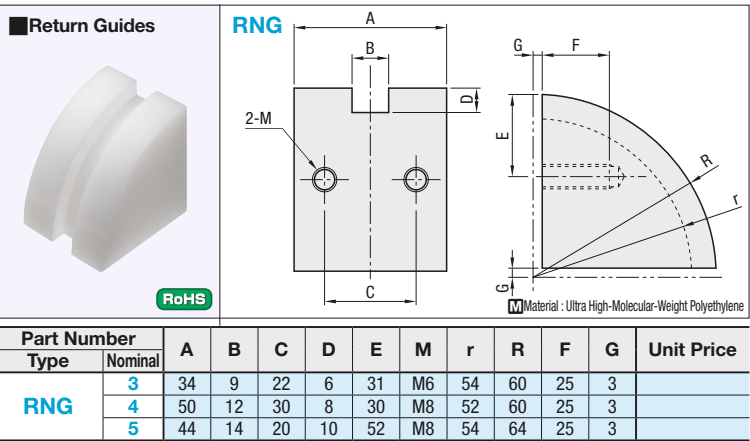
Ordering Example: Part Number - L
WCF3 - 1000



Alterations: Part Number - L - (FLC, FRC, YA, YB, ZA, ZB)
WCF3 - 1000 - FLC

Alterations Code	Extrusion Cut FLC·FRC		Counterbore on the Side Slots YA, YB, ZA, ZB	
	Spec.		Spec.	
	The extrusion ends are cut.		Adds counterbored holes for nuts on desired positions of the side slots.	
	FLC (for Driving Side) FRC (for Non-drive Side)		Use YA or YB as the code intended to specify the distance from the left end (on Plane Y) and ZA or ZB as the code intended to specify the distance from the right end (on Plane Z).	
	Ordering Example: ZYA50-ZB200		Ordering Code: ZYA50-ZB200	
	1mm Increment		Ordering Code: ZYA50-ZB200	
	⚠YA, ZA ≥ 10		⚠YA, ZA ≥ 10	
	⚠L-YA, L-ZA ≥ 10		⚠L-YB, L-ZB ≥ 10	
	⚠L-YB, L-ZB ≥ 10		⚠YB-YA, ZB-ZA ≥ 10	

■Return Guides



Ordering Example: Part Number
RNG3



Alterations: Part Number - (SET)
RNG3 - SET

Alterations

Code

Bracket Set

SET

Bracket set is shipped with Return Guide.

Ordering Code SET

Spec.

Technical drawing of a bracket set showing dimensions: F, G, L, S, P, Q, t, 2-d₁, and 2-d₂.

⚠Screws are not included

Material : A6063T5

Nominal	L	F	G	d ₁	d ₂	S	P	Q	t
3	34	6.75	6	6.5	6.5	25	18	17	3
4	60	7.75	15	8.5	8.5	30	20	17	3
5	62	9	21	8.5	8.5	35	24	20	4