

Non-Backlash Timing Pulleys - S8M

Compatible with S2M type
from Mitsubishi Belting Ltd.
as well as Bando Chemical
Industries Ltd.

■ **Features:** Timing pulleys with significantly reduced backlash compared to the conventional pulleys.
Special timing belts are not required. Timing Belts **P1499**, **P1503**

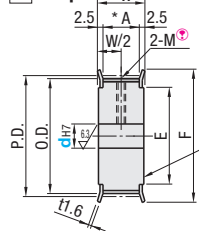
🔗 For e-Catalog non-standard products, see **P131**.

Type	Belt Width				Material ¹		Surface Treatment	Accessory ² Set Screws
	15mm S8M150	25mm S8M250	30mm S8M300	40mm S8M400	Pulley	Flange		
BLPA	●	●	●	●	Extra Super Duralumin Aluminum Alloy	Aluminum Alloy	Clear Anodize	SUS304
BLPK	●	●	●	●			Hard Clear Anodize ²	
BLPN	●	●	●	●			Electroless Nickel Plating	
BLPT	●	●	●	●	S45C Equivalent	SPCC	-	SCM435 (Black Oxide)
BLPM	●	●	●	●			Black Oxide	
BLPP	●	●	●	●			Electroless Nickel Plating	

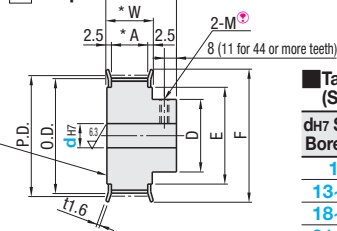
¹ Flange is already swaged, and set screws are included with for Shaft Bore Spec. P, N and C. ² The above material and accessory might be changed to the ones equivalent to the originals.
³ Hard Clear Anodize: Film Hardness 300HV -

• Pulley Shape

A Shape



B Shape



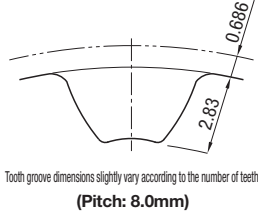
Tapped Hole Dimensions (Shaft Bore Specs.: P, N, C)

dh7 Shaft Bore I.D.	M (Coarse)	Accessory: Set Screw
12	M4	M4x3
13~17	M5	M5x4
18~30	M6	M6x5
31~45	M8	M8x6
46~70	M10	M10x8

Belt Nominal Width / Dimension

mm	Nominal			
	S8M150	S8M250	S8M300	S8M400
A	17.0	28.0	33.0	44.0
W	22.0	33.0	38.0	49.0
L Number of Teeth 18-40	37.0	48.0	53.0	64.0
L Number of Teeth 44-80	42.0	53.0	58.0	69.0

Standard Tooth Profile



Tooth groove dimensions slightly vary according to the number of teeth.

(Pitch: 8.0mm)

Aluminum flanges will have a thickness of 1.5.

Shaft Bore Specs. H (Round hole), V or F (Stepped Hole), Y (Both Sides Stepped Hole) and WB (Two-stepped Hole) do not have tapped holes.

Number of Teeth / Dimension

mm	Number of Teeth															
	18	19	20	21	22	24	25	26	28	30	32	34	36	38	40	44
P.D.	45.84	48.38	50.93	53.48	56.02	61.12	63.66	66.21	71.30	76.39	81.49	86.58	91.67	96.77	101.86	112.05
O.D.	44.46	47.01	49.56	52.10	54.65	59.74	62.29	64.84	69.93	75.02	80.12	85.21	90.30	95.39	100.49	110.67
D	32	35	36	40	41	46	48	51	55	60	63	70	75	80	85	90
F	52	55	58	61	61	67	70	74	80	87	87	95	99	104	111	119
E	36	40	40	45	45	50	56	58	60	67	67	75	80	84	90	100

Shaft Bore Specs.

Select shaft bore spec mark and each dim. from the table below. Surface treatment may not be applied to shaft bores.

H Round Hole	P Round Hole + Tap	N New JIS Keyway Bore + Tap	C Old JIS Keyway Bore + Tap	V Stepped Hole	F Stepped Hole (Counterbored Holes on the Hub Side)	Y Both Ends Stepped Hole	WB Two-stepped Hole
No tapped holes or set screws.	For A-Shape pulley, the screw holes are set at around 120° to keep away from peaks.	For Keyway Dimension Details, see P1413.	No tapped holes or set screws.	No tapped holes or set screws.	Applicable to Shape B only. No tapped holes or set screws.	Applicable to Shape A only. Shaft Bore Dia. d is +0.1 / 0. No tapped holes or set screws.	Applicable to Shape A only. No tapped holes or set screws.

Part Number			Pulley Shape	Pulley Shape																	
Type	Number of Teeth	Type Nominal Width		A												B					
				Shaft Bore Specs. "N": 1mm Increments "V": Selectable								Shaft Bore Specs. "N": 1mm Increments "V": Selectable									
				H Round Hole	P Round Hole + Tap	N, C Keyway + Tap	V Stepped Hole				Y Both Ends Stepped Hole "WB Two-stepped Hole				H Round Hole	P Round Hole + Tap	N, C Keyway + Tap	V, F Stepped Hole			
						V	Z	Z-d2	J (0.1mm Increment)	YB(d)	Q, R Q(P)-d2	S, T (0.1mm Increment)					V, F	Z	Z-d2	J (0.1mm Increment)	
Aluminum BLPA BLPK BLPN	18	S8M150	A	12-32	12-26	12-26	12-30	14-32		12-30	14-32		12-28	12-22	12-20	12-26	14-28				
	19			12-36	12-28	12-28	12-34	14-36		12-34	14-36		12-31	12-25	12-20	12-29	14-31				
	20			12-36	12-30	12-30	12-34	14-36		12-34	14-36		12-32	12-26	12-22	12-30	14-32				
	21			12-41	12-32	12-32	12-39	14-41		12-39	14-41		12-36	12-30	12-24	12-34	14-36				
	22			12-41	12-34	12-34	12-39	14-41		12-39	14-41		12-37	12-30	12-25	12-35	14-37				
	24	12-46	12-40	12-40	12-44	14-46		12-44	14-46		12-42	12-34	12-28	12-40	14-42						
	25	12-52	12-40	12-40	12-50	14-52		12-50	14-52		12-44	12-36	12-28	12-42	14-44						
	26	14-54	14-45	14-45	14-52	16-54		14-52	16-54		14-47	14-39	14-31	14-45	16-47						
	28	14-56	14-48	14-48	14-54	16-56		14-54	16-56		14-51	14-43	14-35	14-49	16-51						
	30	14-63	14-50	14-50	14-61	16-63		14-61	16-63	3.0±JsW-3.0	14-56	14-46	14-38	14-54	16-56				3.0±JsL-3.0		
Steel BLPT BLPM BLPP	32	S8M300	B	14-63	14-55	14-55	14-61	16-63		14-61	16-63		14-59	14-49	14-45	14-57	16-59				
	34			16-67	16-60	16-65	16-65	18-67		16-65	18-67		16-66	16-56	16-48	16-64	18-66				
	36			16-72	16-65	16-65	16-70	18-72		16-70	18-72		16-71	16-61	16-50	16-69	18-71				
	38			16-76	16-65	16-65	16-74	18-76		16-74	18-76		16-76	16-65	16-50	16-74	18-76				
	40			20-80	20-70	20-55	20-80	22-82		20-80	22-82		20-80	20-65	20-55	20-79	22-81				
	44	S8M400	B	20-85	20-70	20-55	20-85	22-92		20-85	22-92		20-80	20-70	20-55	20-84	22-86				
	48			20-85	20-70	20-55	20-85	22-95		20-85	22-95		20-85	20-70	20-55	20-85	22-95				
	50			20-85	20-70	20-55	20-85	22-95		20-85	22-95		20-85	20-70	20-55	20-85	22-95				
	54			20-85	20-70	20-55	20-85	22-95		20-85	22-95		20-85	20-70	20-55	20-85	22-95				
	60			20-85	20-70	20-55	20-85	22-95		20-85	22-95		20-85	20-70	20-55	20-85	22-95				

Shaft Bore Dia. 51~54 are not available for Shaft Bore Specs. N. Shaft Bore Dia. 13, 14, 17 or 21~55 are not available for Shaft Bore Specs. C.



Ordering Example

(Shaft Bore Specs.: H, P, N, C)

(Shaft Bore Specs.: V, F)

(Shaft Bore Specs.: Y, WB)

Part Number	Pulley Shape	Shaft Bore Specs., I.D.	Z	J	Q	R	S	T
BLPA40S8M150	A	N30						
BLPK60S8M400	B	F40	Z60	J25.0				
BLPA20S8M250	A	Y15	Q20	R23	S3	T15		

Number of Teeth	Body Price								Shaft Bore Machining Charge (Body Price +)
	BLPA (x1.0)	BLPK (x1.1)	BLPN (x1.2)	BLPT (x1.0)	BLPM (x1.05)	BLPP (x1.15)			
18	S8M150	S8M250	S8M300	S8M400	S8M150	S8M250	S8M300	S8M400	P Hole
19	Shape A	Shape B	Shape A	Shape B	Shape A	Shape B	Shape A	Shape B	N, C, V, F Hole
20									Y, WB Hole
21									
22									
24									
25									
26									
28									
30									
32									
34									
36									
38									
40									
44									
48									
50									
60									

Alterations	Set Screw Angle	No Flange Swaged	Single Flange	Flange Cut
Code	KC90	NFC	RFC, LFC	FC
Spec.	Changes an angle of set screw to 90. For A-Shape pulley, the screw holes are set at around 90° to keep away from peaks.	(Flange 2 pcs. Included) Ordering Code NFC	(Flange 1 pc. Included) Ordering Code RFC	Cut the flange O.D. in 0.5mm increment. Ordering Code FC17

Alterations	Retaining Ring Groove	Adds taper for retaining bearing	Hub Shortening	Tapped Hole Dimensions	Changes the length of the included set screws
Code	SRG	BTC	BC	TPC	SLH
Spec.	Retaining Ring Groove applicable to the shaft dia. of stepped hole is machined. Retaining Ring Groove Dim. P1413 (Specify SRG) 2.5~40.5mm 0.5mm Increments Application Notes Minimum Thickness: 2mm Applicable to Shaft Bore Specs. V and F only. Standards of retaining ring groove for Z dim. is applied. ns<J-SRG-m Ordering Code SRG7	Add taper for retaining bearing inner ring Ordering Code BTC12-TL3 Application Notes Applicable to Shape A only. Applicable to Shaft Bore Specs. H and P only. LT<L-W	Cuts the hub length in 0.5mm increment. Ordering Code BC6.5 Application Notes Shaft Bore Specs. H, V, F: 3<BC<L-W Shaft Bore Specs. P, N, C: M+3<BC<L-W Not available for Shape A.	Applicable to Shaft Bore Specs. P, N, C only. Ordering Code TPC5 Application Notes M TPC M4 M5 M5 M4, M6 M6 M5, M8 M8 M6, M10 M10 M8	Applicable to Shaft Bore Specs. P, N, C only. Ordering Code SLH10 Application Notes Set Screws SLH M4x3 5, 8 M5x4 6, 10 M6x5 10 M8x6 10, 12 M10x8 12, 15

Alterations	Add Side Holes			Conditions may vary depending on the shaft bore specs. P1414				
	Side Tapped Hole			Side Through Hole				
Code	QTC, QFC, QSC			KTC, KFC, KSC				
	Machines tapped hole on the side surface of hub side.			Machines through hole on the side surface.				
	Ordering CodeQTC28-M4 QI : C SelectionSpecify the hole position (P. C. D. dim.). IM SelectionM3, M4, M5, M6, M8 Application Notes Minimum Thickness: 2mm Formula P1414 Conditions may vary depending on the shaft bore specs. P1414			Ordering CodeKTC28-K4.5 KI : C SelectionSpecify the hole position (P. C. D. dim.). Code KK4.0 ~ 13.0 (0.5mm Increments) Application Notes Minimum Thickness: 2mm Formula P1414 Conditions may vary depending on the shaft bore specs. P1414			Ordering CodeZTC28-Z4 ZI : C SelectionSpecify the hole position (P. C. D. dim.). Z SelectionZM3, ZM4, ZM5, ZM6, ZM8 Application Notes Minimum Thickness: 2mm Formula P1414 Conditions may vary depending on the shaft bore specs. P1414	
Spec.	Mx2 (6 places) QSC (4 places) QFC (3 places) QTC 6-M 4-M 3-M			(6 places) KSC (4 places) KFC (3 places) KTC 6-K Through 4-K Through 3-K Through				
	(6 places) ZSC (4 places) ZFC (3 places) ZTC 6-ZM 4-ZM 3-ZM							
	For details, see Shaft Alteration Overview. P1414							