SIT timing pulleys - IMPERIAL PITCH

Timing pulleys IMPERIAL PITCH are available with solid hub execution and for assembly with SER-SIT® taper bushing.
These types of pulleys are available in a wide range of pitches and teeth number.

Solid hub
Material: aluminum/cast iron/steel.
Finishing: black manganese phosphating (aluminum is not treated).

Pitch:
- **XL**
- **L**
- **H**
- **XH**
- **XXH**

For mounting taper bushing SER-SIT®
Material: cast iron.
Finishing: black manganese phosphating.

Pitch:
- **L**
- **H**
- **XH**

Special executions

Upon request, SIT is able to design and manufacture any type of pulley based on customer requirements.
For peripheral speed exceeding 33 m/s it is strongly recommended to use steel as material of construction.

$$\text{peripheral speed [m/s]} = \frac{\text{pulley diameter [mm]} \cdot \text{rpm}}{19100}$$

In order to reduce the system weight, the pulleys can be manufactured from light metals; in this case the lifetime will be reduced when compared to the standard because the nylon belt coating has a slightly abrasive effect. This disadvantage can be reduced with a high thickness anodization coating of the teeth.

Flanged pulleys

Timing belts, when in motion, have a slight lateral displacement. It is therefore necessary to use at least one flanged pulley to prevent the belt jumping out of the pulley.
Usually, in order to reduce the costs, the flanged pulley is the one with the smaller diameter.
In any case, when the distance of the axes is greater than 8 times the diameter of the small pulley, or when the transmission is working on shafts arranged in a position that is not horizontal, both pulleys have to be flanged.

TOLERANCES

Pulley diameter tolerances

External diameter [mm]	Tolerances [mm]
up to 25,4	-0,05 +0,00
from 25,5 to 50,8	-0,08 +0,00
from 50,9 to 102	-0,10 +0,00
from 103 to 178	-0,13 +0,00
from 179 to 305	-0,15 +0,00
from 306 to 509	-0,18 +0,00
from 510 to 761	-0,20 +0,00
from 762 to 1015	-0,23 +0,00
more than 1016	-0,25 +0,00

Radial circular runout

External diameter [mm]	Measured total eccentricity [mm]
up to 203,2	0,13
more than 203,2	add 0,013 for any 25,4 of diameter

Cylindricity tolerance

Pulley width	Tolerances
for any 100 mm	0,1 mm without exceeding the external diameter tolerance

Protective coating

All (steel and cast iron) pulleys are treated with a black manganese phosphating process that gives greater resistance against oxidizing agents. This treatment does not modify the profile or the dimensions of the pulleys.
On request SIT can provide a wide range of special coating, related to the customer specific needs or environmental critical conditions.

Note
Due to a constant improvement of our products, technical data of the pulleys may be subject to changes.

Dimensions of timing pulleys IMPERIAL PITCH - mounting taper bushing SER-SIT®

Pitches L - H - XH

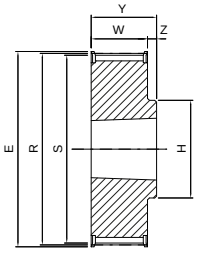
Part Number **PBD 40 L 050**

- IMPERIAL PITCH timing pulley - mounting taper bushing
- Number of teeth
- Pitch
- Belt width in inches x 100

PBD ... L050

L

Code	Teeth nr.	Type	SER-SIT® Taper bushing	E [mm]	R [mm]	S [mm]	U [mm]	H [mm]	W [mm]	Y [mm]	Z [mm]	Flange	Material
PBD18L050	18	2	1108	60,0	54,57	53,81	-	47,0	19,0	22,0	3,0	with flanges	cast iron
PBD19L050	19	2	1108	64,0	57,61	56,84	-	47,0	19,0	22,0	3,0		
PBD20L050	20	2	1108	66,5	60,64	59,88	-	48,0	19,0	22,0	3,0		
PBD21L050	21	2	1108	70,0	63,67	62,91	-	48,0	19,0	22,0	3,0		
PBD22L050	22	2	1108	75,0	68,70	65,94	-	51,0	19,0	22,0	3,0		
PBD23L050	23	2	1108	79,0	69,73	68,97	-	51,0	19,0	22,0	3,0		
PBD24L050	24	2	1108	79,0	72,77	72,01	-	58,0	19,0	22,0	3,0		
PBD25L050	25	2	1108	82,5	75,80	75,04	-	58,0	19,0	22,0	3,0		
PBD26L050	26	2	1108	86,0	78,83	78,07	-	58,0	19,0	22,0	3,0		
PBD27L050	27	2	1108	86,0	81,86	81,10	-	58,0	19,0	22,0	3,0		
PBD28L050	28	2	1108	91,0	84,89	84,13	-	58,0	19,0	22,0	3,0		
PBD29L050	29	2	1108	94,0	87,93	87,16	-	58,0	19,0	22,0	3,0		
PBD30L050	30	2	1108	97,0	90,96	90,20	-	58,0	19,0	22,0	3,0		
PBD32L050	32	2	1108	102,0	97,02	96,26	-	58,0	19,0	22,0	3,0		
PBD33L050	33	2	1108	106,0	100,05	99,29	-	58,0	19,0	22,0	3,0		
PBD34L050	34	2	1108	112,0	103,08	103,32	-	58,0	19,0	22,0	3,0		
PBD35L050	35	9	1108	112,0	106,12	105,35	84,0	58,0	19,0	22,0	3,0		
PBD36L050	36	9	1108	115,0	109,15	108,39	84,0	58,0	19,0	22,0	3,0		
PBD40L050	40	2	1610	128,0	121,28	120,52	-	90,0	19,0	25,0	6,0		
PBD41L050	41	2	1610	128,0	124,31	123,55	-	90,0	19,0	25,0	6,0		
PBD42L050	42	9	1610	142,0	127,34	126,58	110,0	90,0	19,0	25,0	6,0		
PBD44L050	44	9	1610	142,0	133,40	132,64	110,0	90,0	19,0	25,0	6,0		
PBD45L050	45	9	1610	142,0	136,44	135,67	118,0	90,0	19,0	25,0	6,0		
PBD47L050	47	9	1610	150,0	142,50	141,74	126,0	90,0	19,0	25,0	6,0		
PBD48L050	48	9	1610	150,0	145,53	144,77	126,0	90,0	19,0	25,0	6,0		
PBD49L050	49	9A	1610	-	148,56	147,80	132,0	90,0	19,0	25,0	6,0	without flanges	
PBD50L050	50	9A	1610	-	151,60	150,83	132,0	90,0	19,0	25,0	6,0		
PBD52L050	52	9A	1610	-	157,66	156,90	138,0	90,0	19,0	25,0	6,0		
PBD56L050	56	9A	1610	-	169,79	169,02	152,0	90,0	19,0	25,0	6,0		
PBD57L050	57	9A	1610	-	172,82	172,06	152,0	90,0	19,0	25,0	6,0		
PBD60L050	60	11A	1610	-	181,91	181,15	162,0	90,0	19,0	25,0	3,0		
PBD65L050	65	11B	1610	-	197,07	196,31	178,0	90,0	19,0	25,0	3,0		
PBD66L050	66	11B	1610	-	200,11	199,34	178,0	90,0	19,0	25,0	3,0		
PBD72L050	72	11B	1610	-	218,30	217,54	199,0	90,0	19,0	25,0	3,0		
PBD84L050	84	11B	1610	-	254,68	253,92	235,0	90,0	19,0	25,0	3,0		
PBD90L050	90	11B	1610	-	272,87	272,11	253,0	90,0	19,0	25,0	3,0		
PBD96L050	96	11B	2012	-	291,06	290,30	270,0	110,0	19,0	32,0	6,5		
PBD120L050	120	11B	2012	-	363,07	344,00	344,0	110,0	19,0	32,0	6,5		



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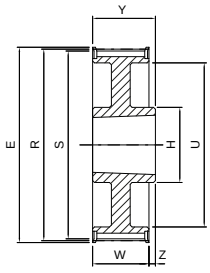

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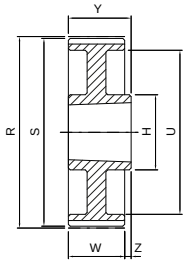

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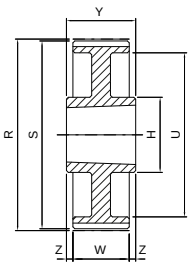

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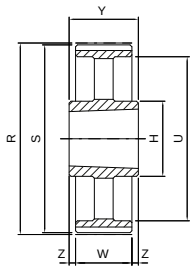


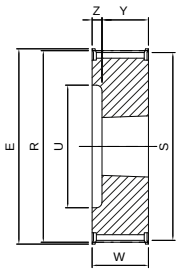
11B

Dimensions of timing pulleys IMPERIAL PITCH - mounting taper bushing SER-SIT®

PBD ... L075

L

Code	Teeth nr.	Type	SER-SIT® Taper bushing	E [mm]	R [mm]	S [mm]	U [mm]	H [mm]	W [mm]	Y [mm]	Z [mm]	Flange	Material
PBD18L075	18	4	1108	60,0	54,57	53,81	38,0	-	25,0	22,0	3,0	with flanges	cast iron
PBD19L075	19	4	1108	64,0	57,61	56,84	38,0	-	25,0	22,0	3,0		
PBD20L075	20	4	1108	66,5	60,64	59,88	46,0	-	25,0	22,0	3,0		
PBD21L075	21	4	1108	70,0	63,67	62,91	46,0	-	25,0	22,0	3,0		
PBD22L075	22	4	1108	75,0	68,70	65,94	46,0	-	25,0	22,0	3,0		
PBD23L075	23	4	1108	79,0	69,73	68,97	46,0	-	25,0	22,0	3,0		
PBD24L075	24	4	1108	79,0	72,77	72,01	53,0	-	25,0	22,0	3,0		
PBD25L075	25	4	1108	82,5	75,80	75,04	53,0	-	25,0	22,0	3,0		
PBD26L075	26	4	1108	86,0	78,83	78,07	60,0	-	25,0	22,0	3,0		
PBD27L075	27	4	1108	86,0	81,86	81,10	60,0	-	25,0	22,0	3,0		
PBD28L075	28	4	1108	91,0	84,89	84,13	65,0	-	25,0	22,0	3,0		
PBD29L075	29	4	1108	94,0	87,93	87,16	65,0	-	25,0	22,0	3,0		
PBD30L075	30	4	1108	97,0	90,96	90,20	68,0	-	25,0	22,0	3,0		
PBD32L075	32	4	1108	102,0	97,02	96,26	76,0	-	25,0	22,0	3,0		
PBD33L075	33	4	1108	106,0	100,05	99,29	83,0	-	25,0	22,0	3,0		
PBD34L075	34	4	1108	112,0	103,08	102,32	85,0	-	25,0	22,0	3,0		
PBD35L075	35	6	1610	112,0	106,12	105,35	-	-	25,0	25,0	-		
PBD36L075	36	6	1610	115,0	109,15	108,39	-	-	25,0	25,0	-		
PBD40L075	40	6	1610	128,0	121,28	120,52	-	-	25,0	25,0	-		
PBD41L075	41	6	1610	128,0	124,31	123,55	-	-	25,0	25,0	-		
PBD42L075	42	7	1610	142,0	127,34	126,58	110,0	90,0	25,0	25,0	-		
PBD44L075	44	7	1610	142,0	133,40	132,64	110,0	90,0	25,0	25,0	-		
PBD45L075	45	7	1610	142,0	136,44	135,67	118,0	90,0	25,0	25,0	-		
PBD47L075	47	7	1610	150,0	142,50	141,74	126,0	90,0	25,0	25,0	-		
PBD48L075	48	7	1610	150,0	145,53	144,77	126,0	90,0	25,0	25,0	-		
PBD49L075	49	7A	1610	-	148,56	147,80	132,0	90,0	25,0	25,0	-	without flanges	
PBD50L075	50	7A	1610	-	151,60	150,83	132,0	90,0	25,0	25,0	-		
PBD52L075	52	7A	1610	-	157,66	156,90	138,0	90,0	25,0	25,0	-		
PBD56L075	56	7A	1610	-	169,79	169,02	152,0	90,0	25,0	25,0	-		
PBD57L075	57	7A	1610	-	172,82	172,06	152,0	90,0	25,0	25,0	-		
PBD60L075	60	7A	1610	-	181,91	181,15	162,0	90,0	25,0	25,0	-		
PBD65L075	65	7A	1610	-	197,07	196,31	178,0	90,0	25,0	25,0	-		
PBD66L075	66	7A	1610	-	200,11	199,34	178,0	90,0	25,0	25,0	-		
PBD72L075	72	7B	1610	-	218,30	217,54	199,0	90,0	25,0	25,0	-		
PBD84L075	84	11B	2012	-	254,68	253,92	235,0	110,0	25,0	32,0	3,5		
PBD90L075	90	11B	2012	-	272,87	272,11	253,0	110,0	25,0	32,0	3,5		
PBD96L075	96	11B	2012	-	291,06	290,30	270,0	110,0	25,0	32,0	3,5		
PBD120L075	120	11B	2012	-	363,83	363,07	344,0	110,0	25,0	32,0	3,5		



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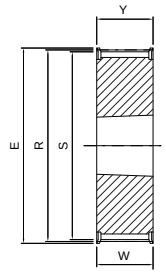

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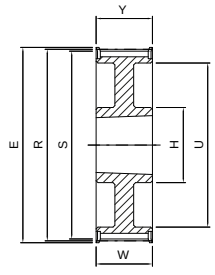

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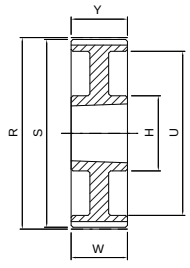

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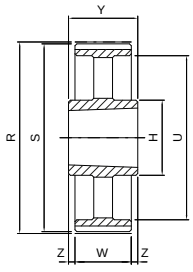

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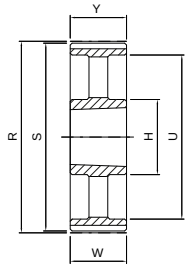


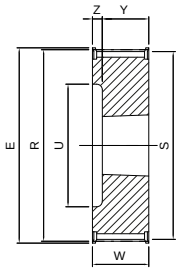
7B

Dimensions of timing pulleys IMPERIAL PITCH - mounting taper bushing SER-SIT®

PBD ... L100

L

Code	Teeth nr.	Type	SER-SIT® Taper bushing	E [mm]	R [mm]	S [mm]	U [mm]	H [mm]	W [mm]	Y [mm]	Z [mm]	Flange	Material
PBD18L100	18	4	1108	60,0	54,57	53,81	38,0	-	32,0	22,0	10,0	with flanges	cast iron
PBD19L100	19	4	1108	64,0	57,61	56,84	38,0	-	32,0	22,0	10,0		
PBD20L100	20	4	1108	66,5	60,64	59,88	46,0	-	32,0	22,0	10,0		
PBD21L100	21	4	1108	70,0	63,67	62,91	46,0	-	32,0	22,0	10,0		
PBD22L100	22	4	1108	75,0	68,70	65,94	46,0	-	32,0	22,0	10,0		
PBD23L100	23	4	1108	79,0	69,73	68,97	46,0	-	32,0	22,0	10,0		
PBD24L100	24	4	1108	79,0	72,77	72,01	53,0	-	32,0	22,0	10,0		
PBD25L100	25	4	1108	82,5	75,80	75,04	53,0	-	32,0	22,0	10,0		
PBD26L100	26	4	1108	86,0	78,83	78,07	60,0	-	32,0	22,0	10,0		
PBD27L100	27	4	1108	86,0	81,86	81,10	60,0	-	32,0	22,0	10,0		
PBD28L100	28	4	1108	91,0	84,89	84,13	65,0	-	32,0	22,0	10,0		
PBD29L100	29	4	1210	94,0	87,93	87,16	68,0	-	32,0	25,0	7,0		
PBD30L100	30	4	1210	97,0	90,96	90,20	68,0	-	32,0	25,0	7,0		
PBD32L100	32	4	1210	102,0	97,02	96,26	76,0	-	32,0	25,0	7,0		
PBD33L100	33	4	1610	106,0	100,05	99,29	83,0	-	32,0	25,0	7,0		
PBD34L100	34	4	1610	112,0	103,08	102,32	85,0	-	32,0	25,0	7,0		
PBD35L100	35	4	1610	112,0	106,12	105,35	85,0	-	32,0	25,0	7,0		
PBD36L100	36	4	1610	115,0	109,15	108,39	85,0	-	32,0	25,0	7,0		
PBD40L100	40	4	1610	128,0	121,28	120,52	100,0	-	32,0	25,0	7,0		
PBD41L100	41	4	1610	128,0	124,31	123,55	100,0	-	32,0	25,0	7,0		
PBD42L100	42	10	1610	142,0	127,34	126,58	110,0	90,0	32,0	25,0	7,0		
PBD44L100	44	10	1610	142,0	133,40	132,64	110,0	90,0	32,0	25,0	7,0		
PBD45L100	45	10	1610	142,0	136,44	135,67	118,0	90,0	32,0	25,0	7,0		
PBD47L100	47	10	1610	150,0	142,50	141,74	126,0	90,0	32,0	25,0	7,0		
PBD48L100	48	10	1610	150,0	145,53	144,77	126,0	90,0	32,0	25,0	7,0		
PBD49L100	49	10A	1610	-	148,56	147,80	132,0	90,0	32,0	25,0	7,0	without flanges	
PBD50L100	50	10A	1610	-	151,60	150,83	132,0	90,0	32,0	25,0	7,0		
PBD52L100	52	10A	1610	-	157,66	156,90	138,0	90,0	32,0	25,0	7,0		
PBD56L100	56	10A	1610	-	169,79	169,02	152,0	90,0	32,0	25,0	7,0		
PBD57L100	57	10A	1610	-	172,82	172,06	152,0	90,0	32,0	25,0	7,0		
PBD60L100	60	8A	1610	-	181,91	181,15	162,0	90,0	32,0	25,0	3,5		
PBD65L100	65	8A	1610	-	197,07	196,31	178,0	90,0	32,0	25,0	3,5		
PBD66L100	66	8A	1610	-	200,11	199,34	178,0	90,0	32,0	25,0	3,5		
PBD72L100	72	7A	2012	-	218,30	217,54	199,0	110,0	32,0	32,0	-		
PBD84L100	84	7B	2012	-	254,68	253,92	235,0	110,0	32,0	32,0	-		
PBD90L100	90	7B	2012	-	272,87	272,11	253,0	110,0	32,0	32,0	-		
PBD96L100	96	7B	2012	-	291,06	290,30	270,0	110,0	32,0	32,0	-		
PBD120L100	120	7B	2012	-	363,83	363,07	344,0	110,0	32,0	32,0	-		



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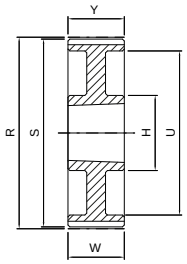

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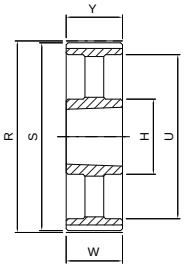
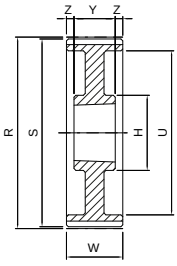
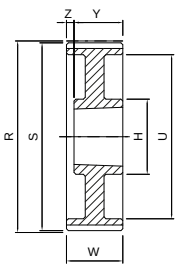


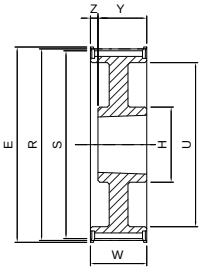
7B



8A



10A



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