

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.

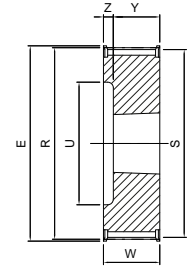
Dimensions of timing pulleys IMPERIAL PITCH - mounting taper bushing SER-SIT®



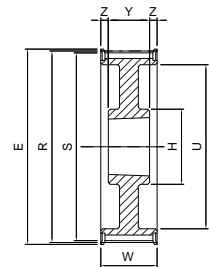
PBD ... XH200

XH

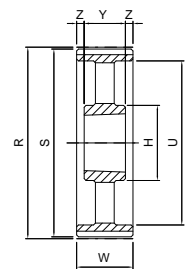
Code	Teeth nr.	Type	SER-SIT® Taper bushing	E [mm]	R [mm]	S [mm]	U [mm]	H [mm]	W [mm]	Y [mm]	Z [mm]	Flange	Material
PBD18XH200	18	4	2517	134,0	127,34	124,55	95,0	-	64,0	45,0	19,0	with flanges	cast iron
PBD19XH200	19	4	2517	142,0	134,41	131,62	101,0	-	64,0	45,0	19,0		
PBD20XH200	20	4	2517	150,0	141,49	138,70	101,0	-	64,0	45,0	19,0		
PBD21XH200	21	4	2517	158,0	148,56	145,77	115,0	-	64,0	45,0	19,0		
PBD22XH200	22	4	2517	166,0	155,64	152,85	115,0	-	64,0	45,0	19,0		
PBD24XH200	24	4	2517	177,0	169,79	167,00	129,0	-	64,0	45,0	19,0		
PBD25XH200	25	4	2517	186,0	176,86	174,07	143,0	-	64,0	45,0	19,0		
PBD26XH200	26	4	2517	191,0	183,94	181,15	143,0	-	64,0	45,0	19,0		
PBD27XH200	27	8	2517	200,0	191,01	188,22	157,0	120,0	64,0	45,0	9,5		
PBD28XH200	28	8	2517	209,0	198,08	195,29	157,0	120,0	64,0	45,0	9,5		
PBD30XH200	30	8	2517	216,0	212,23	209,44	180,0	120,0	64,0	45,0	9,5		
PBD32XH200	32	8	2517	232,0	226,38	223,59	195,0	120,0	64,0	45,0	9,5		
PBD34XH200	34	8	2517	261,0	240,53	237,74	208,0	120,0	64,0	45,0	9,5		
PBD38XH200	38	8	2517	274,0	268,83	266,03	234,0	120,0	64,0	45,0	9,5		
PBD40XH200	40	8	3020	288,0	282,98	280,19	242,0	146,0	64,0	51,0	6,5		
PBD46XH200	46	8B	3020	-	325,42	322,63	285,0	146,0	64,0	51,0	6,5		
PBD48XH200	48	8B	3020	-	339,57	336,78	299,0	146,0	64,0	51,0	6,5		
PBD58XH200	58	8B	3020	-	410,32	407,52	370,0	146,0	64,0	51,0	6,5		
PBD60XH200	60	11B	3535	-	424,47	421,68	384,0	178,0	64,0	89,0	12,5		
PBD70XH200	70	11B	3535	-	495,21	492,42	455,0	178,0	64,0	89,0	12,5		
PBD72XH200	72	11B	3535	-	509,36	506,57	469,0	178,0	64,0	89,0	12,5		
PBD78XH200	78	11B	3535	-	551,80	549,01	511,0	178,0	64,0	89,0	12,5		
PBD80XH200	80	11B	3535	-	565,95	563,16	525,0	178,0	64,0	89,0	12,5		
PBD82XH200	82	11B	3535	-	580,10	577,31	539,0	178,0	64,0	89,0	12,5		
PBD84XH200	84	11B	3535	-	594,25	591,46	554,0	178,0	64,0	89,0	12,5		



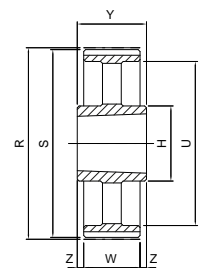
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8



8B



11B

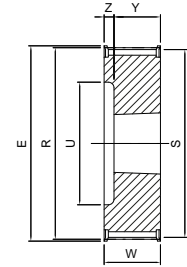
Dimensions of timing pulleys IMPERIAL PITCH - mounting taper bushing SER-SIT®



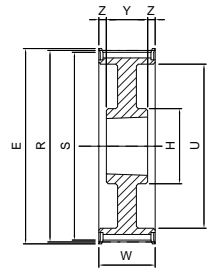
PBD ... XH300

XH

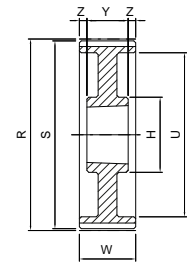
Code	Teeth nr.	Type	SER-SIT® Taper bushing	E [mm]	R [mm]	S [mm]	U [mm]	H [mm]	W [mm]	Y [mm]	Z [mm]	Flange	Material
PBD18XH300	18	4	2517	134,0	127,34	124,55	95,0	-	90,0	45,0	45,0	with flanges	cast iron
PBD19XH300	19	4	2517	142,0	134,41	131,62	95,0	-	90,0	45,0	45,0		
PBD20XH300	20	4	2517	150,0	141,49	138,70	101,0	-	90,0	45,0	45,0		
PBD21XH300	21	4	2517	158,0	148,56	145,77	115,0	-	90,0	45,0	45,0		
PBD22XH300	22	4	2517	166,0	155,64	152,85	115,0	-	90,0	45,0	45,0		
PBD24XH300	24	4	2517	177,0	169,79	167,00	129,0	-	90,0	45,0	45,0		
PBD25XH300	25	4	2517	186,0	176,86	174,07	143,0	-	90,0	45,0	45,0		
PBD26XH300	26	4	2517	191,0	183,94	181,15	143,0	-	90,0	45,0	45,0		
PBD27XH300	27	10	3020	200,0	191,01	188,22	157,0	146,0	90,0	51,0	39,0		
PBD28XH300	28	10	3020	209,0	198,08	195,29	157,0	146,0	90,0	51,0	39,0		
PBD30XH300	30	10	3020	216,0	212,23	209,44	172,0	146,0	90,0	51,0	39,0		
PBD32XH300	32	10	3020	232,0	226,38	223,59	186,0	146,0	90,0	51,0	39,0		
PBD34XH300	34	10	3020	261,0	240,53	237,74	200,0	146,0	90,0	51,0	39,0		
PBD38XH300	38	10	3020	274,0	268,83	266,03	228,0	146,0	90,0	51,0	39,0		
PBD40XH300	40	8	3020	288,0	282,98	280,19	245,0	146,0	90,0	51,0	19,5		
PBD46XH300	46	8A	3020	-	325,42	322,63	285,0	146,0	90,0	51,0	19,5		
PBD48XH300	48	8A	3020	-	339,57	336,78	299,0	146,0	90,0	51,0	19,5		
PBD58XH300	58	8A	3535	-	410,32	407,52	370,0	178,0	90,0	89,0	0,5		
PBD60XH300	60	8A	3535	-	424,47	421,68	384,0	178,0	90,0	89,0	0,5		
PBD70XH300	70	8B	3535	-	495,21	492,42	455,0	178,0	90,0	89,0	0,5		
PBD72XH300	72	8B	3535	-	509,36	506,57	469,0	178,0	90,0	89,0	0,5		
PBD78XH300	78	8B	3535	-	551,80	549,01	511,0	178,0	90,0	89,0	0,5		
PBD80XH300	80	8B	3535	-	565,95	563,16	525,0	178,0	90,0	89,0	0,5		
PBD82XH300	82	8B	3535	-	580,10	577,31	539,0	178,0	90,0	89,0	0,5		
PBD84XH300	84	11B	4040	-	594,25	591,46	554,0	215,0	90,0	102,0	6,0		



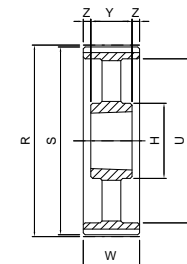
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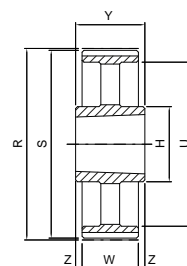
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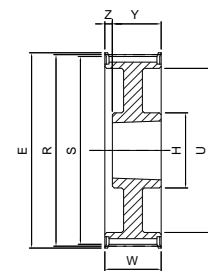
8A



8B



11B



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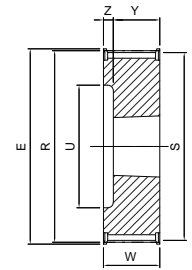
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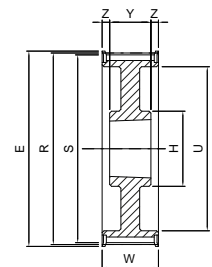
PBD ... XH400

XH

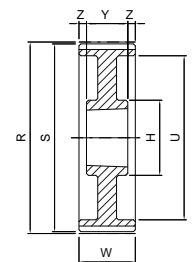
Code	Teeth nr.	Type	SER-SIT® Taper bushing	E [mm]	R [mm]	S [mm]	U [mm]	H [mm]	W [mm]	Y [mm]	Z [mm]	Flange	Material
PBD18XH400	18	4	2517	134,0	127,34	124,55	95,0	-	119,0	45,0	74,0	with flanges	cast iron
PBD19XH400	19	4	2517	142,0	134,41	131,62	95,0	-	119,0	45,0	74,0		
PBD20XH400	20	4	2517	150,0	141,49	138,70	101,0	-	119,0	45,0	74,0		
PBD21XH400	21	4	2517	158,0	148,56	145,77	115,0	-	119,0	45,0	74,0		
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PBD24XH400	24	4	3020	177,0	169,79	167,00	129,0	-	119,0	51,0	68,0		
PBD25XH400	25	4	3020	186,0	176,86	174,07	143,0	-	119,0	51,0	68,0		
PBD26XH400	26	4	3020	191,0	183,94	181,15	143,0	-	119,0	51,0	68,0		
PBD27XH400	27	4	3020	200,0	191,01	188,22	157,0	-	119,0	51,0	68,0		
PBD28XH400	28	4	3020	209,0	198,08	195,29	157,0	-	119,0	51,0	68,0		
PBD30XH400	30	10	3020	216,0	212,23	209,44	172,0	146,0	119,0	51,0	68,0		
PBD32XH400	32	10	3020	232,0	226,38	223,59	186,0	146,0	119,0	51,0	68,0		
PBD34XH400	34	10	3020	261,0	240,53	237,74	200,0	146,0	119,0	51,0	68,0		
PBD38XH400	38	10	3020	274,0	268,83	266,03	228,0	146,0	119,0	51,0	68,0		
PBD40XH400	40	8	3535	288,0	282,98	280,19	242,0	178,0	119,0	89,0	15,0		
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PBD70XH400	70	8B	4040	-	495,21	492,42	455,0	215,0	119,0	102,0	8,5		
PBD72XH400	72	8B	4040	-	509,36	506,57	469,0	215,0	119,0	102,0	8,5		
PBD78XH400	78	8B	4040	-	551,80	549,01	511,0	215,0	119,0	102,0	8,5		
PBD80XH400	80	8B	4040	-	565,95	563,16	525,0	215,0	119,0	102,0	8,5		
PBD82XH400	82	8B	4040	-	580,10	577,31	539,0	215,0	119,0	102,0	8,5		
PBD84XH400	84	8B	4040	-	594,25	591,46	554,0	215,0	119,0	102,0	8,5		



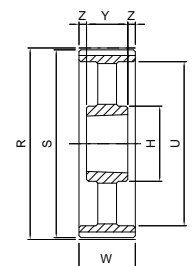
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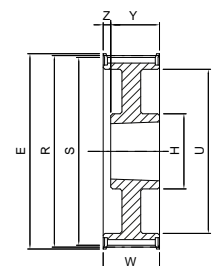
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8A



8B



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