

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.

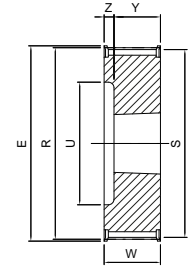
Dimensions of timing pulleys IMPERIAL PITCH - mounting taper bushing SER-SIT®



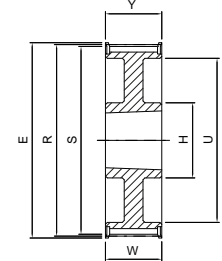
PBD ... H100

H

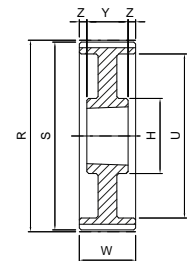
Code	Teeth nr.	Type	SER-SIT® Taper bushing	E [mm]	R [mm]	S [mm]	U [mm]	H [mm]	W [mm]	Y [mm]	Z [mm]	Flange	Material
PBD14H100	14	4	1108	64,0	56,60	55,23	37,0	-	31,0	22,0	9,0	with flanges	cast iron
PBD15H100	15	4	1108	66,5	60,64	59,27	37,0	-	31,0	22,0	9,0		
PBD16H100	16	4	1108	70,0	64,68	63,31	46,0	-	31,0	22,0	9,0		
PBD17H100	17	4	1210	75,0	68,72	67,35	46,0	-	31,0	25,0	6,0		
PBD18H100	18	4	1210	79,0	72,77	71,40	56,0	-	31,0	25,0	6,0		
PBD19H100	19	4	1210	82,5	76,81	75,44	56,0	-	31,0	25,0	6,0		
PBD20H100	20	4	1210	87,0	80,85	79,48	56,0	-	31,0	25,0	6,0		
PBD21H100	21	4	1210	91,0	84,89	83,52	62,0	-	32,0	25,0	7,0		
PBD22H100	22	4	1210	94,0	88,94	87,57	62,0	-	32,0	25,0	7,0		
PBD23H100	23	4	1610	97,0	92,98	91,61	71,0	-	32,0	25,0	7,0		
PBD24H100	24	4	1610	102,0	97,02	95,65	71,0	-	32,0	25,0	7,0		
PBD25H100	25	4	1610	106,0	101,06	99,69	78,0	-	32,0	25,0	7,0		
PBD26H100	26	4	1610	112,0	105,11	103,74	78,0	-	32,0	25,0	7,0		
PBD27H100	27	4	1610	115,0	109,15	107,78	86,0	-	32,0	25,0	7,0		
PBD28H100	28	4	1610	120,0	113,19	111,92	86,0	-	32,0	25,0	7,0		
PBD29H100	29	4	1610	120,0	117,23	115,86	95,0	-	32,0	25,0	7,0		
PBD30H100	30	4	1610	128,0	121,28	119,91	95,0	-	32,0	25,0	7,0		
PBD32H100	32	10	1610	135,0	129,36	127,99	110,0	82,0	32,0	25,0	7,0		
PBD33H100	33	7	1615	137,0	133,40	132,03	112,0	82,0	32,0	38,0	-		
PBD34H100	34	10	1610	142,0	137,45	136,08	112,0	82,0	32,0	25,0	7,0		
PBD35H100	35	10	1610	150,0	141,49	140,12	120,0	82,0	32,0	25,0	7,0		
PBD36H100	36	10	1610	150,0	145,53	144,16	120,0	82,0	32,0	25,0	7,0		
PBD38H100	38	10	1610	158,0	153,62	152,25	136,0	82,0	32,0	25,0	7,0		
PBD40H100	40	10	1610	168,0	161,70	160,33	136,0	82,0	32,0	25,0	7,0		
PBD44H100	44	7	2012	184,0	177,87	176,50	162,0	110,0	32,0	32,0	-		
PBD45H100	45	7	2012	192,0	181,91	180,54	162,0	110,0	32,0	32,0	-		
PBD48H100	48	7	2012	200,0	194,04	192,67	168,0	110,0	32,0	32,0	-		
PBD49H100	49	8A	2012	-	198,08	196,71	172,0	110,0	34,0	32,0	1,0		
PBD50H100	50	8A	2012	-	202,13	200,76	172,0	110,0	34,0	32,0	1,0		
PBD52H100	52	8A	2012	-	210,21	208,84	185,0	110,0	34,0	32,0	1,0		
PBD60H100	60	8A	2012	-	242,55	241,18	217,0	110,0	34,0	32,0	1,0		
PBD70H100	70	8B	2012	-	282,98	281,61	264,0	110,0	34,0	32,0	1,0		
PBD72H100	72	8B	2012	-	291,06	289,69	264,0	110,0	34,0	32,0	1,0		
PBD82H100	82	8B	2012	-	331,49	330,12	312,0	110,0	34,0	32,0	1,0		
PBD84H100	84	8B	2012	-	339,57	338,20	312,0	120,0	34,0	32,0	1,0		
PBD94H100	98	11B	2517	-	380,00	378,63	357,0	120,0	34,0	45,0	5,5		
PBD96H100	96	11B	2517	-	388,08	386,71	357,0	120,0	34,0	45,0	5,5		
PBD106H100	106	11B	2517	-	428,51	427,14	402,0	120,0	34,0	45,0	5,5		



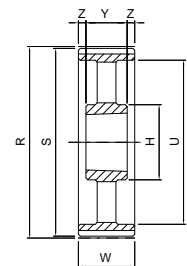
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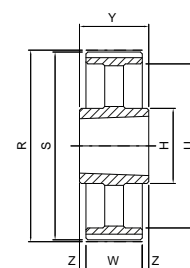
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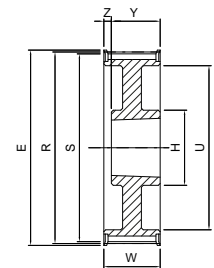
8A



8B



11B



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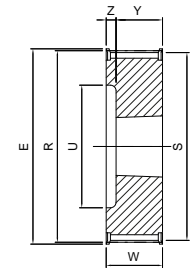
Dimensions of timing pulleys IMPERIAL PITCH - mounting taper bushing SER-SIT®



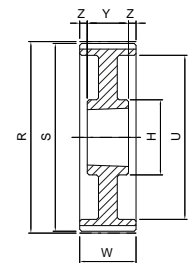
PBD ... H150

H

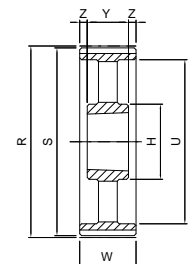
Code	Teeth nr.	Type	SER-SIT® Taper bushing	E [mm]	R [mm]	S [mm]	U [mm]	H [mm]	W [mm]	Y [mm]	Z [mm]	Flange	Material
PBD14H150	14	4	1108	64,0	56,60	55,23	37,0	-	45,0	22,0	23,0	with flanges	cast iron
PBD15H150	15	4	1108	66,5	60,64	59,27	37,0	-	45,0	22,0	23,0		
PBD16H150	16	4	1108	70,0	64,68	63,31	46,0	-	45,0	22,0	23,0		
PBD17H150	17	4	1210	75,0	68,72	67,35	46,0	-	45,0	25,0	20,0		
PBD18H150	18	4	1210	79,0	72,77	71,40	56,0	-	45,0	25,0	20,0		
PBD19H150	19	4	1210	82,5	76,81	75,44	56,0	-	45,0	25,0	20,0		
PBD20H150	20	4	1210	87,0	80,85	79,48	56,0	-	45,0	25,0	20,0		
PBD21H150	21	4	1210	91,0	84,89	83,52	67,0	-	45,0	25,0	20,0		
PBD22H150	22	4	1210	94,0	88,94	87,57	67,0	-	45,0	25,0	20,0		
PBD23H150	23	4	1610	97,0	92,98	91,61	71,0	-	45,0	25,0	20,0		
PBD24H150	24	4	1610	102,0	97,02	95,65	71,0	-	45,0	25,0	20,0		
PBD25H150	25	4	1610	106,0	101,06	99,69	78,0	-	45,0	25,0	20,0		
PBD26H150	26	4	1610	112,0	105,11	103,74	78,0	-	45,0	25,0	20,0		
PBD27H150	27	4	1610	115,0	109,15	107,78	86,0	-	45,0	25,0	20,0		
PBD28H150	28	4	1610	120,0	113,19	111,92	86,0	-	45,0	25,0	20,0		
PBD29H150	29	4	1610	120,0	117,23	115,86	95,0	-	45,0	25,0	20,0		
PBD30H150	30	4	1610	128,0	121,28	119,91	95,0	-	45,0	25,0	20,0		
PBD32H150	32	10	1610	135,0	129,36	127,99	110,0	82,0	45,0	25,0	20,0		
PBD33H150	33	10	1610	142,0	133,40	132,03	112,0	82,0	45,0	25,0	20,0		
PBD34H150	34	10	1610	142,0	137,45	136,08	112,0	82,0	45,0	25,0	20,0		
PBD35H150	35	10	1610	150,0	141,49	140,12	120,0	82,0	45,0	25,0	20,0		
PBD36H150	36	10	1610	150,0	145,53	144,16	120,0	82,0	45,0	25,0	20,0		
PBD38H150	38	10	1610	158,0	153,62	152,25	136,0	82,0	45,0	25,0	20,0		
PBD40H150	40	10	1610	168,0	161,70	160,33	136,0	82,0	45,0	25,0	20,0		
PBD44H150	44	10	2012	184,0	177,87	176,50	162,0	110,0	45,0	32,0	13,0		
PBD45H150	45	10	2012	192,0	181,91	180,54	162,0	110,0	45,0	32,0	13,0		
PBD48H150	48	10	2012	200,0	194,04	192,67	168,0	110,0	45,0	32,0	13,0		
PBD49H150	49	8A	2012	-	198,08	196,71	172,0	110,0	46,0	32,0	7,0		
PBD50H150	50	8A	2012	-	202,13	200,76	172,0	110,0	46,0	32,0	7,0		
PBD52H150	52	8A	2012	-	210,21	208,84	185,0	110,0	46,0	32,0	7,0		
PBD60H150	60	8B	2012	-	242,55	241,18	217,0	110,0	46,0	32,0	7,0		
PBD70H150	70	8B	2012	-	282,98	281,61	264,0	110,0	46,0	32,0	7,0		
PBD72H150	72	8B	2012	-	291,06	289,69	264,0	110,0	46,0	32,0	7,0		
PBD82H150	82	8B	2012	-	331,49	330,12	312,0	110,0	46,0	32,0	7,0		
PBD84H150	84	8B	2012	-	339,57	338,20	312,0	110,0	46,0	32,0	7,0		
PBD94H150	94	8B	2517	-	380,00	378,63	357,0	120,0	46,0	45,0	0,5		
PBD96H150	96	8B	2517	-	388,08	386,71	357,0	120,0	46,0	45,0	0,5		
PBD106H150	106	8B	2517	-	428,51	427,14	402,0	120,0	46,0	45,0	0,5		



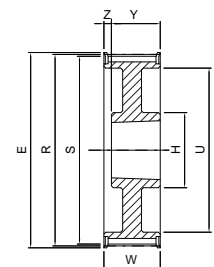
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8A



8B



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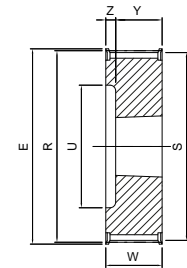
Dimensions of timing pulleys IMPERIAL PITCH - mounting taper bushing SER-SIT®



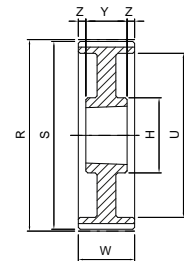
PBD ... H200

H

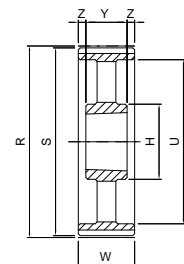
Code	Teeth nr.	Type	SER-SIT® Taper bushing	E [mm]	R [mm]	S [mm]	U [mm]	H [mm]	W [mm]	Y [mm]	Z [mm]	Flange	Material
PBD16H200	16	4	1108	70,0	64,68	63,31	46,0	-	58,0	22,0	36,0	with flanges	cast iron
PBD17H200	17	4	1210	75,0	68,72	67,35	52,0	-	58,0	25,0	33,0		
PBD18H200	18	4	1210	79,0	72,77	71,40	52,0	-	58,0	25,0	33,0		
PBD19H200	19	4	1610	82,5	76,81	75,44	56,0	-	58,0	25,0	33,0		
PBD20H200	20	4	1610	87,0	80,85	79,48	56,0	-	58,0	25,0	33,0		
PBD21H200	21	4	1610	91,0	84,89	83,52	67,0	-	58,0	25,0	33,0		
PBD22H200	22	4	1610	94,0	88,94	87,57	67,0	-	58,0	25,0	33,0		
PBD23H200	23	4	1610	97,0	92,98	91,61	71,0	-	58,0	25,0	33,0		
PBD24H200	24	4	1610	102,0	97,02	95,65	71,0	-	58,0	25,0	33,0		
PBD25H200	25	4	1610	106,0	101,06	99,69	78,0	-	58,0	25,0	33,0		
PBD26H200	26	4	1610	112,0	105,11	103,74	78,0	-	58,0	25,0	33,0		
PBD27H200	27	4	1610	115,0	109,15	107,78	86,0	-	58,0	25,0	33,0		
PBD28H200	28	4	1610	120,0	113,19	111,92	86,0	-	58,0	25,0	33,0		
PBD29H200	29	4	1610	120,0	117,23	115,86	95,0	-	58,0	25,0	33,0		
PBD30H200	30	4	1610	128,0	121,28	119,91	95,0	-	58,0	25,0	33,0		
PBD32H200	32	4	2012	135,0	129,36	127,99	106,0	-	58,0	32,0	26,0		
PBD33H200	33	4	2012	142,0	133,40	132,03	112,0	-	58,0	32,0	26,0		
PBD34H200	34	4	2012	142,0	137,45	136,08	112,0	-	58,0	32,0	26,0		
PBD35H200	35	10	2012	150,0	141,49	140,12	120,0	102,0	58,0	32,0	26,0		
PBD36H200	36	10	2012	150,0	145,53	144,16	120,0	102,0	58,0	32,0	26,0		
PBD38H200	38	10	2012	158,0	153,62	152,25	136,0	110,0	58,0	32,0	26,0		
PBD40H200	40	10	2012	168,0	161,70	160,33	136,0	110,0	58,0	32,0	26,0		
PBD44H200	44	10	2012	184,0	177,87	176,50	162,0	110,0	58,0	32,0	26,0		
PBD45H200	45	10	2012	192,0	181,91	180,54	162,0	110,0	58,0	32,0	26,0		
PBD48H200	48	10	2517	200,0	194,04	192,67	168,0	120,0	58,0	45,0	13,0		
PBD49H200	49	8A	2517	-	198,08	196,71	172,0	120,0	60,0	45,0	7,5		
PBD50H200	50	8A	2517	-	202,13	200,76	172,0	120,0	60,0	45,0	7,5		
PBD52H200	52	8A	2517	-	210,21	208,84	185,0	120,0	60,0	45,0	7,5		
PBD60H200	60	8B	2517	-	242,55	241,18	217,0	120,0	60,0	45,0	7,5		
PBD70H200	70	8B	2517	-	282,98	281,61	264,0	120,0	60,0	45,0	7,5		
PBD72H200	72	8B	2517	-	291,06	289,69	264,0	120,0	60,0	45,0	7,5		
PBD82H200	82	8B	2517	-	331,49	330,12	312,0	120,0	60,0	45,0	7,5		
PBD84H200	84	8B	2517	-	339,57	338,20	312,0	120,0	60,0	45,0	7,5		
PBD94H200	94	8B	2517	-	380,00	378,63	357,0	120,0	60,0	45,0	7,5		
PBD96H200	96	8B	2517	-	388,08	386,71	357,0	120,0	60,0	45,0	7,5		
PBD106H200	106	8B	2517	-	428,51	427,14	402,0	120,0	60,0	45,0	7,5		
PBD116H200	116	8B	2517	-	468,93	467,56	442,0	120,0	60,0	45,0	7,5		
PBD118H200	118	8B	2517	-	477,02	475,65	457,0	120,0	60,0	45,0	7,5		
PBD120H200	120	8B	2517	-	485,10	483,73	457,0	120,0	60,0	45,0	7,5		



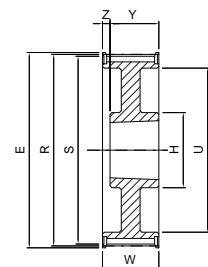
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8A



8B



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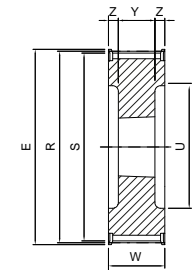
Dimensions of timing pulleys IMPERIAL PITCH - mounting taper bushing SER-SIT®



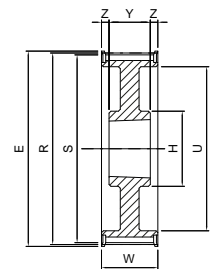
PBD ... H300

H

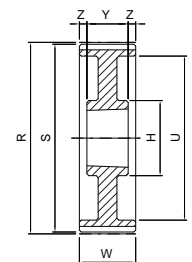
Code	Teeth nr.	Type	SER-SIT® Taper bushing	E [mm]	R [mm]	S [mm]	U [mm]	H [mm]	W [mm]	Y [mm]	Z [mm]	Flange	Material
PBD19H300	19	5	1215	82,5	76,81	75,44	56,0	-	84,0	38,0	23,0	with flanges	cast iron
PBD20H300	20	5	1615	87,0	80,85	79,48	62,0	-	84,0	38,0	23,0		
PBD21H300	21	5	1615	91,0	84,89	83,52	62,0	-	84,0	38,0	23,0		
PBD22H300	22	5	1615	94,0	88,94	87,57	62,0	-	84,0	38,0	23,0		
PBD23H300	23	5	1615	97,0	92,98	91,61	71,0	-	84,0	38,0	23,0		
PBD24H300	24	5	1615	102,0	97,02	95,65	71,0	-	84,0	38,0	23,0		
PBD25H300	25	5	1615	106,0	101,06	99,69	79,0	-	84,0	38,0	23,0		
PBD26H300	26	5	1615	112,0	105,11	103,74	79,0	-	84,0	38,0	23,0		
PBD27H300	27	5	2012	115,0	109,15	107,78	86,0	-	84,0	32,0	26,0		
PBD28H300	28	5	2012	120,0	113,19	111,92	86,0	-	84,0	32,0	26,0		
PBD29H300	29	5	2012	120,0	117,23	115,86	95,0	-	84,0	32,0	26,0		
PBD30H300	30	5	2012	128,0	121,28	119,91	95,0	-	84,0	32,0	26,0		
PBD32H300	32	5	2517	135,0	129,36	127,99	110,0	-	84,0	45,0	19,5		
PBD33H300	33	5	2517	142,0	133,40	132,03	112,0	-	84,0	45,0	19,5		
PBD34H300	34	5	2517	142,0	137,45	136,08	112,0	-	84,0	45,0	19,5		
PBD35H300	35	5	2517	150,0	141,49	140,12	120,0	-	84,0	45,0	19,5		
PBD36H300	36	5	2517	150,0	145,53	144,16	120,0	-	84,0	45,0	19,5		
PBD38H300	38	8	2517	158,0	153,62	152,25	136,0	120,0	84,0	45,0	19,5		
PBD40H300	40	8	2517	168,0	161,70	160,33	136,0	120,0	84,0	45,0	19,5		
PBD44H300	44	8	2517	184,0	177,87	176,50	162,0	120,0	86,0	45,0	20,5		
PBD45H300	45	8	2517	192,0	181,91	180,54	162,0	120,0	86,0	45,0	20,5		
PBD48H300	48	8	2517	200,0	194,04	192,67	168,0	120,0	86,0	45,0	20,5		
PBD49H300	49	8A	2517	-	198,08	196,71	172,0	120,0	86,0	45,0	20,5		
PBD50H300	50	8A	2517	-	202,13	200,76	172,0	120,0	86,0	45,0	20,5		
PBD52H300	52	8A	2517	-	210,21	208,84	185,0	120,0	86,0	45,0	20,5		
PBD60H300	60	8B	2517	-	242,55	241,18	223,0	120,0	86,0	45,0	20,5		
PBD70H300	70	8B	2517	-	282,98	281,61	264,0	120,0	86,0	45,0	20,5		
PBD72H300	72	8B	2517	-	291,06	289,69	264,0	120,0	86,0	45,0	20,5		
PBD82H300	82	8B	2517	-	331,49	330,12	312,0	120,0	86,0	45,0	20,5		
PBD84H300	84	8B	2517	-	339,57	338,20	312,0	120,0	86,0	45,0	20,5		
PBD94H300	94	8B	3030	-	380,00	378,63	357,0	146,0	86,0	76,0	5,0		
PBD96H300	96	8B	3030	-	388,08	386,71	357,0	146,0	86,0	76,0	5,0		
PBD106H300	106	8B	3030	-	428,51	427,14	402,0	146,0	86,0	76,0	5,0		
PBD116H300	116	8B	3030	-	468,93	467,56	442,0	146,0	86,0	76,0	5,0		
PBD118H300	118	8B	3030	-	477,02	475,65	457,0	146,0	86,0	76,0	5,0		
PBD120H300	120	8B	3030	-	485,10	483,73	457,0	146,0	86,0	76,0	5,0		



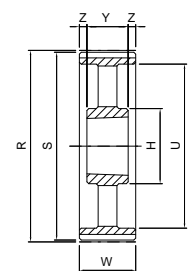
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8A



8B