INTERPLANT STANDARD — STEEL INDUSTRY

IPSS	SPECIFICATION FOR PULLEYS FOR BELT CONVEYORS	IPSS : 2-03-007-88
	CORRESPONDING INDIAN STANDARD NOT AVAILABLE	

0. FOREWORD

0.1 Interplant standardization activity in steel industry is being pursued under the aegis of the Bureau of Indian Standards (BIS) and the Steel Authority of India Limited (SAIL). This Interplant Standard prepared by the Standards Committee on Conveyors, IPSS 2:3 was adopted by the Approval Committee on Design Parameters, IPSS 2, on 15 December 1988.

0.2 This Standard aims at achieving rationalization and standardization of pulleys for belt conveyors used in steel plants and other dimensions related to the pulleys and also provides the necessary guidance to the user, consultants and manufacturers for the selection, manufacture, testing and application of belting.

0.3 In the preparation of this standard, assistance has been derived from the following standards:

IS:1891(Part I) - 1978 Specification for rubber conveyor and elevator belting: Part I General purpose belting (second revision)

IS:8531-1986 Specification for pulleys for belt conveyors (first revision)

BS:2890-1973 Troughed belt conveyors for handling solid loose bulk materials incorporating belting

0.4 This standard is essentially futuristic in nature and as such the developments in technology have been incorporated in it, to the extent possible. Hence for new steel plants and in the expansion programmes of the existing steel plants, deviation from the stipulations of this standard is not desirable. However, if the present location in any existing steel plants so demands, the designer may deviate from the stipulations of this standard with respect to the dimensions, construction, etc, but only to the absolute necessary extent.

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1. SCOPE

1.1 This standard covers the requirements for pulley for belt conveyors used in steel plants.

1.2 It does not cover requirement for pulleys for portable and mobile belt conveyors.

Amendments Issued (*to be filled up by the user department*):			
No.	Date of Issue	No.	Date of Issue
1		3	
2		4	

UDC 621.85.051:621.867.2

2. TERMINOLOGY

2.1 For the purpose of this standard, the following definition in addition to those given in IS:4240-1984 'Glossary of conveyors terms and definitions (first revision)' shall apply.

2.2 Edge Clearance of Belts in Pulleys - It is the distance between the edge of the belt in its central position and the nearest edge of the pulley face.

3. TYPE OF PULLEYS

3.1 The pulleys shall be of the following types (see also Fig. 1):

a) **Type A** - Driving pulleys and pulleys exposed to high belt tension, for example, main driving pulleys on the head or the tail; discharge pulleys under full tension; loop pulleys in the tripper; and tail pulleys of the regenerative conveyors.

b) **Type B** - Pulleys in the return run under lower belt tension, for example, tail pulleys in the case of head driving; and take up and bend pulleys in takeup devices.

c) **Type C** - Pulleys having belt contact up to 30 deg, for example, snub pulleys.

3.2 The use of pulleys of diameters that are too small for the thickness of belting and type of fabric used may lead to ply separation and in extreme cases the actual fracture of the fabric. It is, therefore, recommended that pulley diameters should not be less than those given in Table 1.

4. PARAMETERS

4.1 The principal parameters and dimensions of pulleys shall be as given in Tables 2 to 15. These tables shall be read with Fig. 2.

5. MATERIALS

5.1 The different parts of the pulley shall be made using the materials indicated against each in Table 16.

5.2 Type A pulleys shall be stress relieved if fabricated by welding.

6. WELDING

6.1 The welding procedure shall conform to IS:823-1964 'Code of procedure for manual metal arc welding of mild steel' or IS:1323-1966 'Code of practice for oxyacetylene welding for structural work in mild steel (revised)'

7. PULLEY PROFILE

7.1 The pulley surface may have a flat or crowned profile. Unlagged drive pulleys shall be crowned. Unlagged tail pulleys shall also be crowned when required.

7.1.1 When rubber lagging is to be provided it is not recommended to crown the pulley.

7.1.2 Crowning shall be symmetrical about the middle of the pulley face width (where the nominal diameter shall be measured) and shall be 1 to 2 mm/300 mm of the pulley face width which is crowned.

7.1.3 Up to a face width of 1150 mm the crowning shall be symmetrical about the middle of the pulley face width and shall start from the centre. In case the pulley face is wider than 1150 mm the centre portion of the pulley shall be cylinderical and tapering shall be provided at the two ends. For this purpose the pulley face width shall be divided into approximately three equal portions.

7.1.4 All pulleys shall be statically balanced.

8. NOMINAL DIAMETER

8.1 The nominal diameter of the pulley shall be measured at the centre and shall not include the thickness of rubber lagging.

8.1.1 The diameters of pulleys shall be maintained within the tolerances given in Table 17.

8.1.2 The permissible out of roundness shall be ± 2 mm for pulleys up to and including 800 mm diameter and ± 3 mm for pulleys above 800 mm diameter.

8.1.3 The pulley face of fabricated pulleys shall be machined. The tolerance on finished pulley face width (prior to rubber lagging if any) shall be ± 6 mm.

9. LAGGING

9.1 The lagging shall be of rubber and it shall be vulcanised on to the pulley. The rubber shall be of 60 ± 5 shore - A hardness and 17 MPa (minimum) tensile strength and 400 percent (minimum) elongation at break.

9.1.1 The type of lagging shall be as follows:

a) **For driving pulleys** - diamond groove type (see Fig. 2).

b) **For non-driving pulleys** - plain type.

9.1.2 The minimum thickness of plain lagging shall be 6 mm (minimum) for pulleys up to 630 mm diameter and 10 mm (minimum) for pulleys above 630 mm diameter.

10. PLUMMER BLOCKS

10.1 The plummer block for mounting the pulley on to the frame shall be either 2-hole type or 4-hole type and shall conform to the dimensions given in Tables 2 to 15. For other requirements it shall generally conform to IPSS:1-01-026-86 'Specification for plummer blocks (under print)'.

11. COUPLING

11.1 The pulley shall be connnected to the motor through a gear type flexible couplings conforming to IPSS:1-01-005-86 'Specification for gear type flexible couplings'.

12. DESIGNATION

12.1 The pulley shall be designated with the following details:

a) Belt width in mm (see IPSS:2-03-006-87);

b) Whether driving or non-driving (DR/ND);

c) Nominal pulley diameter in mm;

d) Whether lagged or unlagged (L/U);

e) Shaft diameter at bearing in mm; and

f) Digits 0, 1 or 2 for indicating shaft extension for coupling mounting as follows:

0 - for shaft extending on neither side.
1 - for shaft extending on one side only.
2 - for shaft extending on both sides.

Example: The designation '650 DR 800 L 120-1' indicates a drive pulley for 650 mm wide belt having a 800 mm nominal diameter which is lagged and has a shaft of 120 mm diameter at bearing extending on one side only.

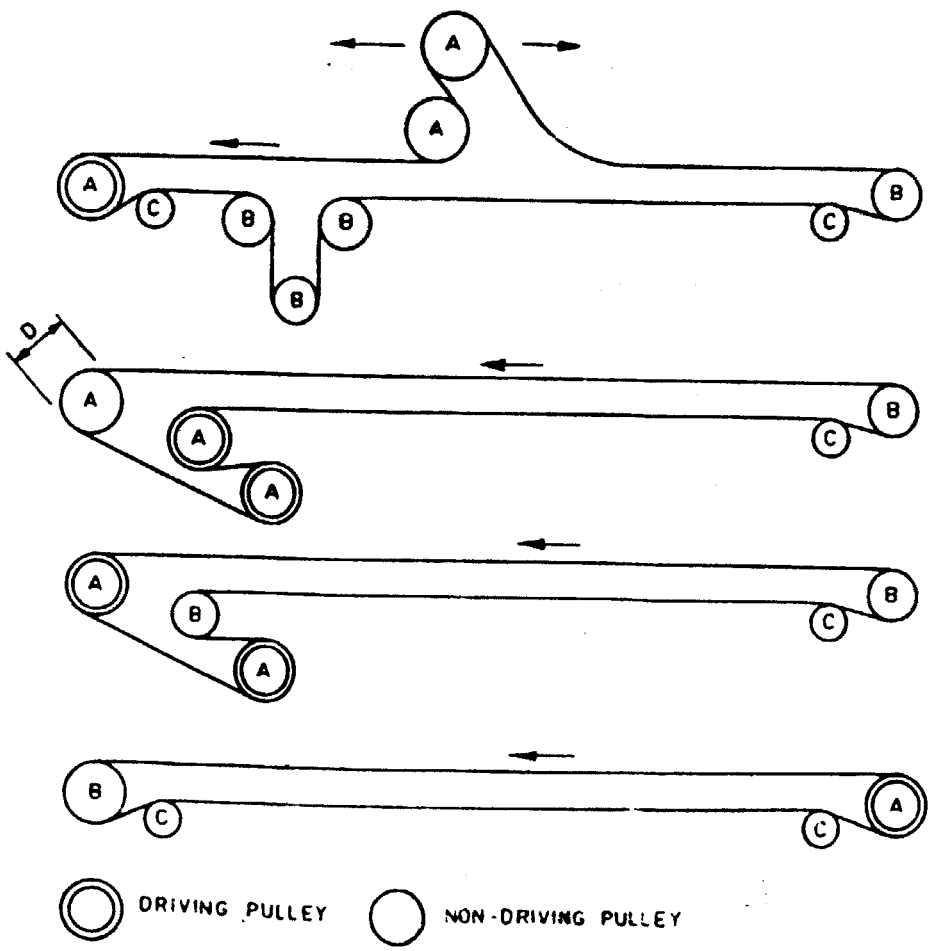


FIG.1 DIFFERENT TYPES OF PULLEYS IN A CONVEYOR SYSTEM.

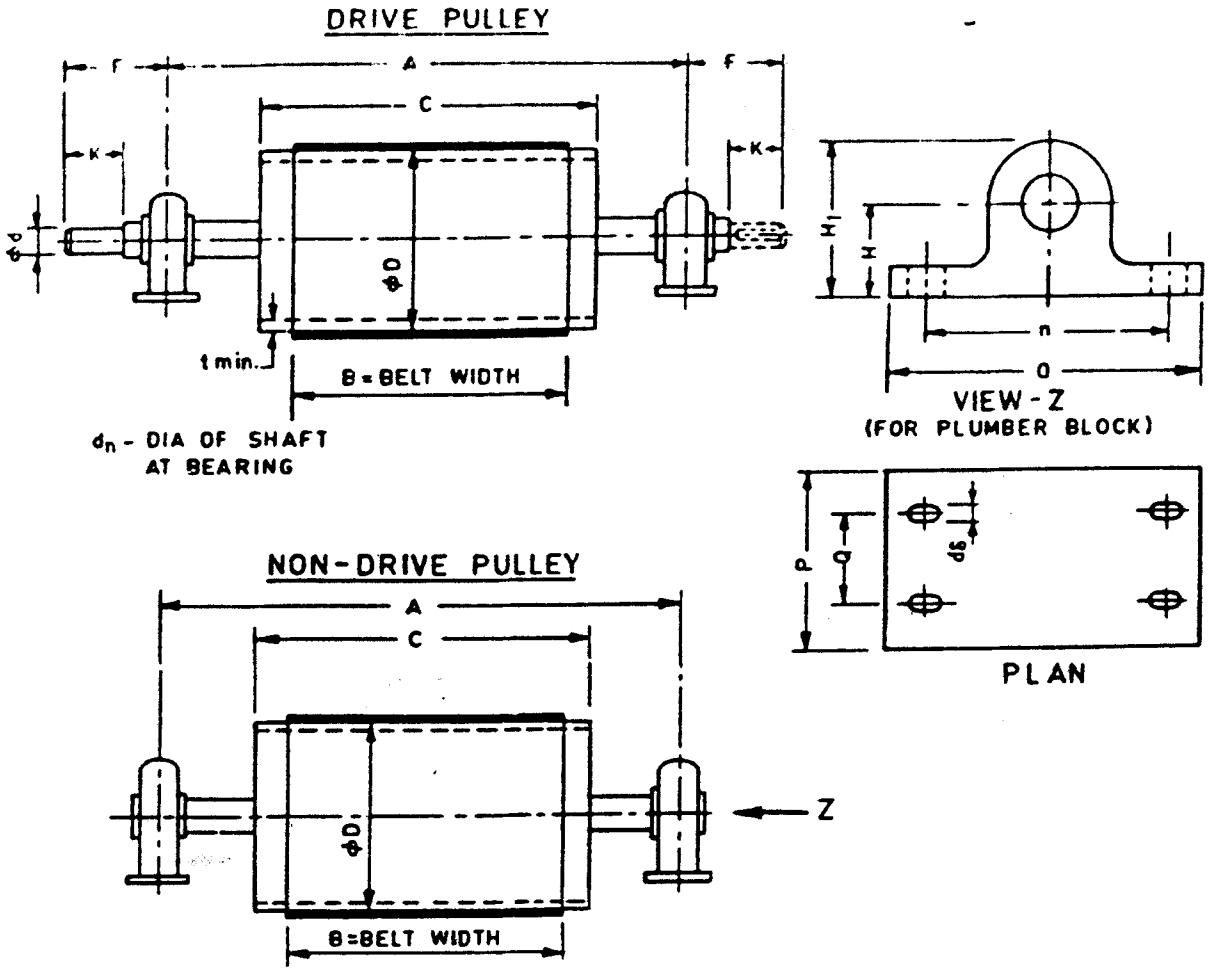
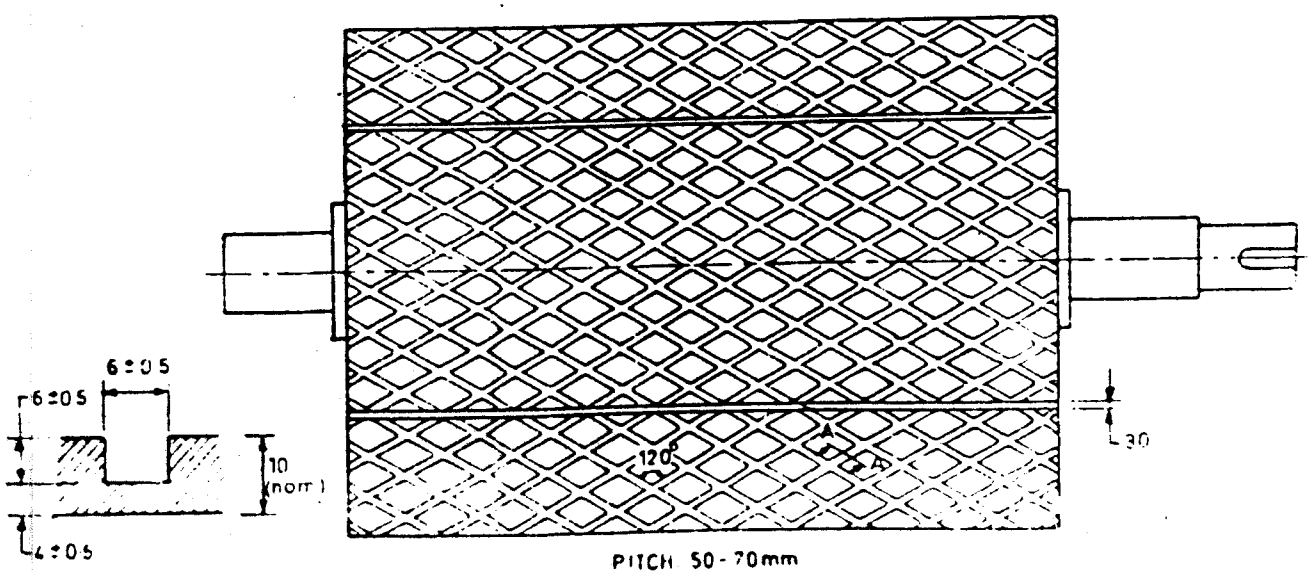


FIG.2 PRINCIPAL PARAMETERS AND DIMENSIONS OF PULLEYS



The groove can be rectangular or trapezoidal.

FIG 3 DIAMOND GROOVE PATTERN

TABLE 1 RECOMMENDED MINIMUM PULLEY DIAMETER
(Clause 3.2)

Carcass Thickness		Recommended Minimum Diameter for Percentage of the RMBT@ used										
Cotton* Warp		100 Percent Synthetic		Over 60 Up to 100%			Over 30 Up to 60%			Up to 30%		
		Warp		Type of Pulley			Type of Pulley			Type of Pulley		
From	To	From	To	A	B	C	A	B	C	A	B	C
	1.2		1.1	100	-	-	-	-	-	-	-	-
1.3	1.5	1.2	1.3	125	100	-	100	-	-	-	-	-
1.6	2.0	1.4	1.7	160	125	100	125	100	-	100	100	-
2.1	2.5	1.8	2.2	200	160	125	160	125	100	125	125	100
2.6	3.1	2.3	2.7	250	200	160	200	160	125	160	160	125
3.2	3.9	2.8	3.5	315	250	200	250	200	160	200	200	160
4.0	5.0	3.6	4.4	400	315	250	315	250	200	250	250	200
5.1	6.2	4.5	5.5	500	400	315	400	315	250	315	315	250
6.3	7.8	5.6	7.0	630	500	400	500	400	315	400	400	315
7.9	10.0	7.1	8.8	800	630	500	630	500	400	500	500	400
10.1	12.5	8.9	11.1	1 000	800	630	800	630	500	630	630	500
12.6	15.7	11.2	13.8	1 250	1 000	800	1 000	800	630	800	800	630
15.8	19.7	13.9	15.5	1 400	1 250	1 000	1 250	1 000	800	1 000	1 000	800
19.8	20.0	15.6	17.7	1 600	1 350	1 000	1 250	1 000	800	1 000	1 000	800
		17.8	20.0	1 800	1 400	1 250	1 400	1 250	1 000	1 250	1 250	1 000

* Valid for transition period of change from cotton fabric to synthetic fabric belting.
@ Recommended by Rubber Belt Manufacturers per belt supplier's catalogue

TABLE 2 DRIVING PULLEYS

(Clauses 4.1 & 10.1)

BELT WIDTH 500 mm
PULLEY FACE WIDTH 600 mm.

DESIGNATION	RATING (min.)		DIMENSIONS in mm														NO OF KEYS	RECOMMENDED BEARING SIZE
	TORQUE (N_f m)	LOAD/BRG (N_f)	D	d_n	A	d	d_s	K	H	H_1 (max)	n	O (max)	P (max)	Q	F	t (min.)		
500 D_R 315 L/U 60 x $\frac{1}{2}$	545	4865	315	60	950	55	M24	120	90	170	230	300	90	–	200	10	1	22213 CK
500 D_R 400 L/U 60 x $\frac{1}{2}$	690	5055	400															
500 D_R 500 L/U 80 x $\frac{1}{2}$	1715	10075	500	80	950	70	M24	145	120	230	290	360	120	–	250	10	1	22218 CK
500 D_R 630 L/U 80 x $\frac{1}{2}$	2130	10460	630															
500 D_R 500 L/U 100 x $\frac{1}{2}$	2575	14225	500	100	950	90	M24	185	135	260	350	420	160	90	300	10	2	22222 CK
500 D_R 630 L/U 100 x $\frac{1}{2}$	3205	14640	630															
500 D_R 800 L/U 100 x $\frac{1}{2}$	3565	13225	800															

Note: Read this Table with Fig 2

TABLE 3 DRIVING PULLEYS

(Clauses 4.1 & 10.1)

BELT WIDTH: 650 mm
PULLEY FACE WIDTH: 750 mm

DESIGNATION	RATING (min.)		DIMENSIONS in mm														KEYS NO. OFF	RECOMMENDED BEARING SIZE
	TORQUE (N-m)	LOAD/BRG (N_f)	D	d_n	A	d	d_s	K	H	H_1 (max.)	n	O (max.)	P (max.)	Q	F	t (min.)		
650 D_R 315 L 60 x $\frac{1}{2}$	375	3365	315	60	1100	55	M24	120	90	170	230	300	90	–	200	10	1	22213 CK
650 D_R 400 L 60 x $\frac{1}{2}$	460	3520	400															
650 D_R 400 L 80 x $\frac{1}{2}$	1375	9660	400	80	1100	70	M24	145	120	230	290	360	120	–	250	10	1	22218 CK
650 D_R 500 L 80 x $\frac{1}{2}$	1655	10180	500															
650 D_R 630 L 100 x $\frac{1}{2}$	2555	14240	500	100	1100	90	M24	185	135	260	350	420	160	90	300	10	2	22222 CK
650 D_R 630 L 100 x $\frac{1}{2}$	3175	14655	630															
650 D_R 800 L 100 x $\frac{1}{2}$	3995	14980	800															
650 D_R 630 L 125 x $\frac{1}{2}$	5645	25205	630	125	1100	115	M24	200	170	340	430	500	165	90	325	10	2	22228 CK
650 D_R 800 L 125 x $\frac{1}{2}$	6470	22910	800															

Note: Read this Table with Fig. 2

TABLE 4 DRIVING PULLEYS

(Clauses 4.1 & 10.1)

BELT WIDTH : 800 mm
PULLEY FACE WIDTH: 950 mm

DESIGNATION	RATING (min.)		DIMENSIONS in mm														KEYS NO OFF	RECOMMENDED BEARING SIZE
	TORQUE (Nf.m)	LOAD/BRG (N_f)	D	dn	A	d	d_6	K	H	H_1 (max)	n	O (max)	P (max)	Q	F	t (min)		
800 D_R 400 L/U 80 x $\frac{1}{2}$	990	7060	400	80	1300	70	M 24	145	120	230	290	360	120	-	250	10	1	22218 CK
800 D_R 500 L/U 80 x $\frac{1}{2}$	1235	7380	500															
800 D_R 500 L/U 100 x $\frac{1}{2}$	2500	14600	500	100	1300	90	M 24	185	135	260	350	420	160	90	300	10	2	22222 CK
800 D_R 630 L/U 100 x $\frac{1}{2}$	3165	14455	630															
800 D_R 800 L/U 100 x $\frac{1}{2}$	3945	14980	800															
800 D_R 630 L/U 125 x $\frac{1}{2}$	5620	24960	630	125	1300	115	M 24	200	170	340	430	500	160	90	325	10	2	22228 CK
800 D_R 800 L/U 125 x $\frac{1}{2}$	7035	25700	800															
800 D_R 800 L/U 140 x $\frac{1}{2}$	9375	33085	800	140	1300	130	M 24	220	180	350	440	540	180	100	350	10	2	22232 CK
800 D_R 1000 L/U 140 x $\frac{1}{2}$	10490	30890	1000															
800 D_R 800 L/U 160 x $\frac{1}{2}$	11160	39580	800	160	1300	150	M 24	250	190	370	450	550	200	110	400	12	2	23136 CK
800 D_R 1000 L/U 160 x $\frac{1}{2}$	13980	39400	1000															
800 D_R 1250 L/U 160 x $\frac{1}{2}$	17225	40500	1250															

Note: Read this Table with Fig. 2

TABLE 5 DRIVING PULLEYS

(Clauses 4.1 & 10.1)

BELT WIDTH : 1000 mm
PULLEY FACE WIDTH : 1150 mm

DESIGNATION	RATING (min.)		DIMENSIONS in mm														KEYS NO OFF	RECOMMENDED BEARING SIZE
	TORQUE (N_f-m)	LOAD/BRG (N_f)	D	dn	A	d	d_6	K	H	H_1 (max)	n	O (max)	P (max)	Q	F	t (min)		
1000 D_R 400 L/U 80 x $\frac{1}{2}$	755	5550	400	80	1500	70	M 24	145	120	230	290	360	120	-	250	12	1	22218 CK
1000 D_R 500 L/U 80 x $\frac{1}{2}$	945	5615	500															
1000 D_R 500 L/U 100 x $\frac{1}{2}$	2175	12640	500	100	1500	90	M 24	185	135	260	350	420	160	90	300	12	2	22222 CK
1000 D_R 630 L/U 100 x $\frac{1}{2}$	2740	13290	630															
1000 D_R 630 L/U 125 x $\frac{1}{2}$	5570	25075	630	125	1500	115	M 24	200	170	340	430	560	160	90	325	12	2	22228 CK
1000 D_R 800 L/U 125 x $\frac{1}{2}$	6955	25635	800															
1000 D_R 1000 L/U 125 x $\frac{1}{2}$	8610	26260	1000															
1000 D_R 800 L/U 140 x $\frac{1}{2}$	9225	33600	800	140	1500	130	M 24	220	180	350	440	540	180	100	350	12	2	22232 CK
1000 D_R 1000 L/U 140 x $\frac{1}{2}$	11510	33705	1000															
1000 D_R 800 L/U 160 x $\frac{1}{2}$			800	160	1500	150	M 24	250	190	370	450	550	200	110	400	12	2	23136 CK
1000 D_R 1000 L/U 160 x $\frac{1}{2}$	13860	40270	1000															
1000 D_R 1250 L/U 160 x $\frac{1}{2}$	17150	40050	1250															
1000 D_R 1000 L/U 200 x $\frac{1}{2}$	23955	65380	1000	200	1500	190	M 30	300	230	450	560	650	240	140	450	12	2	23144 CK
1000 D_R 1250 L/U 200 x $\frac{1}{2}$	29700	66965	1250															

Note: Read this Table with Fig 2

TABLE 6 DRIVING PULLEYS

(Clause 4.1 & 10.1)

BELT WIDTH: 1200 mm
PULLEY FACE WIDTH: 1400 mm

DESIGNATION	RATING (min.)		DIMENSIONS IN mm														KEYS NO OFF	RECOMMENDED BEARING SIZE
	TORQUE (N-m)	LOAD/BRG (N_f)	D	d_n	A	d	d_s	K	H	H_1 (max.)	n	O	P (max.)	Q	F	t (min.)		
1200 D_R 500 L/U 100 x ½	1450	8625	500	100	1850	90	M 24	185	135	260	350	420	160	90	300	12	2	22222 CK
1200 D_R 630 L/U 100 x ½	1830	8805	630															
1200 D_R 630 L/U 125 x ½	4265	19285	630	125	1850	115	M 24	200	170	340	430	500	160	90	325	12	2	22228 CK
1200 D_R 800 L U 125 x ½	5390	20245	800															
1200 D_R 630 L/U 140 x ½	6525	29250	630	140	1850	130	M 24	220	180	350	440	540	180	100	350	12	2	22232 CK
1200 D_R 800 L/U 140 x ½	8155	30150	800															
1200 D_R 1000 L/U 140 x ½	10105	30650	1000															
1200 D_R 800 L/U 160 x ½	10595	38450	800	160	1850	150	M 24	250	190	370	450	550	200	110	400	12	2	23136 CK
1200 D_R 1000 L/U 160 x ½	13225	38605	1000															
1200 D_R 1250 L/U 160 x ½	16235	39815	1250															
1200 D_R 800 L/U 200 x ½	18785	63435	800	200	1850	200	M 30	300	230	450	540	650	240	110	450	12	2	23144 CK
1200 D_R 1000 L/U 200 x ½	23210	64845	1000															
1200 D_R 1250 L/U 200 x ½	26675	60530	1250															
1200 D_R 1000 L/U 220 x ½	29630	81585	1000	220	1850	220	M 30	350	250	490	600	710	260	140	550	12	2	23148 CK
1200 D_R 1250 L/U 220 x ½	34390	77515	1250															

Note: Read this Table with Fig. 2

TABLE 7 DRIVING PULLEYS

(Clauses 4.1 & 10.1)

BELT WIDTH: 1400 mm
PULLEY FACE WIDTH: 1600 mm

DESIGNATION	RATING (min.)		DIMENSIONS IN mm														NO. OFF KEYS	RECOMMENDED BEARING SIZE
	TORQUE (N-m)	LOAD/BRG (N_f)	D	d_n	A	d	d_s	K	H	H_1 (max.)	n	O (max.)	P (max.)	Q	F	t (min.)		
1400 D_R 630 L/U 100 x ½	1540	7630	630	100	2050	90	M 24	185	135	260	350	420	160	90	300	12	2	22222 CK
1400 D_R 630 L/U 125 x ½	3545	17030	630	125	2050	115	M 24	200	170	340	430	500	160	90	325	12	2	22228 CK
1400 D_R 800 L/U 140 x ½	6895	25400	800	140	2050	130	M 24	220	180	350	440	540	180	100	350	12	2	22232 CK
1400 D_R 800 L/U 160 x ½	10575	38270	800	160	2050	150	M 24	250	190	370	450	550	200	110	400	12	2	23136 CK
1400 D_R 1000 L/U 160 x ½	12975	39405	1000															
1400 D_R 1250 L/U 160 x ½	16185	39540	1250															
1400 D_R 1000 L/U 200 x ½	23165	64510	1000	200	2050	190	M 30	300	230	450	540	650	240	140	450	12	2	23144 CK
1400 D_R 1250 L/U 200 x ½	28530	66145	1250															
1400 D_R 1000 L/U 220 x ½	29310	82165	1000	220	2050	210	M 30	350	250	490	600	710	260	150	550	12	2	23148 CK
1400 D_R 1250 L/U 220 x ½	36405	82920	1250															
1400 D_R 1450 L/U 220 x ½	39100	78985	1450															
1400 D_R 1600 L/U 220 x ½	43085	79145	1600															
1400 D_R 1250 L/U 240 x ½	44065	99260	1250	240	2050	230	M 36	400	270	530	650	780	280	160	600	12	2	23152 CK
1400 D_R 1450 L/U 240 x ½	50530	100815	1450															
1400 D_R 1600 L/U 240 x ½	55285	101960	1600															

Note: Read this Table with Fig. 2

TABLE 8 DRIVING PULLEYS

(Clauses 4.1 & 10.1)

BELT WIDTH: 1600 mm
PULLEY FACE WIDTH: 1800 mm

DESIGNATION	RATING (min.)		DIMENSIONS in mm														NO OF KEYS	RECOMMENDED BEARING SIZE
	TORQUE (N_t-m)	LOAD/BRG. (N)	D	d_R	A	C	d_S	K	H	H_1 (max)	n	O (max)	P (max)	Q	F	t (min)		
1600 D_R 630 L 100 x $\frac{1}{2}$	1330	6565	630	100	2250	90	M24	185	155	280	330	420	160	90	300	12	2	22222CK
1600 D_R 630 L 125 x $\frac{1}{2}$	3040	14575	630	125	2250	115	M24	200	170	340	430	500	160	90	325	12	2	22228CK
1600 D_R 800 L 140 x $\frac{1}{2}$	5695	22060	800	140	2250	130	M24	220	180	350	440	540	180	100	350	12	2	22232CK
1600 D_R 800 L 160 x $\frac{1}{2}$	9730	35125	800															
1600 D_R 1000 L 160 x $\frac{1}{2}$	12165	36810	1000	160	2250	150	M24	250	190	370	450	550	200	110	400	12	2	23136CK
1600 D_R 1250 L 160 x $\frac{1}{2}$	15205	37015	1250															
1600 D_R 1000 L 200 x $\frac{1}{2}$	22710	66120	1000	200	2250	190	M30	300	230	450	540	650	240	140	450	12	2	23144CK
1600 D_R 1250 L 200 x $\frac{1}{2}$	28470	65805	1250															
1600 D_R 1000 L 220 x $\frac{1}{2}$	29250	81740	1000															
1600 D_R 1250 L 220 x $\frac{1}{2}$	35935	83645	1250	220	2250	210	M30	350	250	490	600	710	260	150	550	12	2	23148CK
1600 D_R 1450 L 220 x $\frac{1}{2}$	41635	83780	1450															
1600 D_R 1600 L 220 x $\frac{1}{2}$	42650	79395	1600															
1600 D_R 1250 L 240 x $\frac{1}{2}$	46555	106100	1250															
1600 D_R 1450 L 240 x $\frac{1}{2}$	53755	108830	1450	240	2250	230	M36	400	270	530	650	780	280	160	600	12	2	23152CK
1600 D_R 1600 L 240 x $\frac{1}{2}$	55125	101240	1600															

Note: Read this Table with Fig. 2

TABLE 9 NON-DRIVING PULLEYS

(Clauses 4.1 & 10.1)

BELT WIDTH: 500 mm
PULLEY FACE WIDTH: 600 mm

DESIGNATION	RATING (min.)	DIMENSIONS in mm											RECOMMENDED BEARING SIZE
	LOAD/BRG. (N_t)	D	d_m	A	C_S	H	H_1 (max)	n	C (max)	P (max)	Q	t (min)	
500 N_D 315 L/U 60 x 0	4020	315											
500 N_D 400 L/U 60 x 0	4020	400	60	950	M24	90	170	230	300	90		8	22213 CK
500 N_D 500 L/U 60 x 0	4020	500											
500 N_D 400 L/U 80 x 0	10175	400											
500 N_D 500 L/U 80 x 0	10175	500	80	950	M24	120	230	290	360	120		8	22218 CK
500 N_D 630 L/U 80 x 0	10175	630											

Note Read this Table with Fig. 2

TABLE 10 NON-DRIVING PULLEYS

(Clauses 4.1 & 10.1)

BELT WIDTH 650 mm
PULLEY FACE WIDTH:750 mm

DESIGNATION	RATING (min.)	DIMENSIONS IN mm											RECOMMENDED BEARING SIZE
	LOAD/BRG (N_f)	D	d_n	A	d_s	H	H_1 (max.)	n	O (max.)	P (max.)	Q	t (min.)	
650 N_D 315 L/U 60×0	2790	315	60	1100	M24	90	170	230	300	90	–	8	22213 CK
650 N_D 400 L/U 60×0	2790	400											
650 N_D 400 L/U 80×0	8335	400	80	1100	M24	120	230	290	360	120	–	8	22218 CK
650 N_D 500 L/U 80×0	8335	500											
650 N_D 630 L/U 80×0	8335	630											
650 N_D 630 L/U 100×0	15045	630	100	1100	M24	135	260	350	420	160	90	8	22222 CK
650 N_D 800 L/U 100×0	15045	800											

TABLE 11 NON-DRIVING PULLEYS

(Clauses 4.1 & 10.1)

BELT WIDTH: 800 mm
PULLEY FACE WIDTH:950mm

DESIGNATION	RATING (min.)	DIMENSIONS IN mm											RECOMMENDED BEARING SIZE
	LOAD/BRG (N_f)	D	d_n	A	d_s	H	H_1 (max.)	n	O (max.)	P (max.)	Q	t (min.)	
800 N_D 400 L/U 60×0	1980	400	60	1300	M24	90	170	230	300	90	–	8	22213 CK
800 N_D 500 L/U 80×0	5770	500	80	1300	M24	120	230	290	360	120	–	8	22218 CK
800 N_D 630 L/U 100×0	13485	630	100	1300	M24	135	260	350	420	160	90	8	22222 CK
800 N_D 800 L/U 100×0	13485	800											
800 N_D 630 L/U 125×0	26410	630	125	1300	M24	170	340	430	500	160	90	8	22228 CK
800 N_D 800 L/U 125×0	26410	800											
800 N_D 800 L/U 140×0	34800	800	140	1300	M24	180	350	440	540	180	100	8	22232 CK
800 N_D 1000 L/U 140×0	34800	1000											

TABLE 12 NON-DRIVING PULLEYS

(Clauses 4.1 & 10.1)

BELT WIDTH: 1000 mm
PULLEY FACE WIDTH:1150 mm

DESIGNATION	RATING(min.)	DIMENSIONS IN mm											RECOMMENDED BEARING SIZE
	LOAD/BRG (N_f)	D	d_n	A	d_s	H	H_1 (max.)	n	O (max.)	P (max.)	Q	t (min)	
1000 N_D 400 L/U 60×0		400	60	1500	M24	90	170	230	300	90	–	10	22213 CK
1000 N_D 400 L/U 80×0	4410	400	80	1500	M24	120	230	290	360	120	–	10	22218 CK
1000 N_D 500 L/U 80×0	4410	500											
1000 N_D 500 L/U 100×0	10155	500	100	1500	M24	135	260	350	420	160	90	10	22222 CK
1000 N_D 630 L/U 100×0	10155	630											
1000 N_D 630 L/U 125×0	23715	630	125	1500	M24	170	340	430	500	160	90	10	22228 CK
1000 N_D 800 L/U 125×0	23715	800											
1000 N_D 630 L/U 140×0	34800	630	140	1500	M24	180	350	440	540	180	100	10	22232 CK
1000 N_D 800 L/U 140×0	34800	800											
1000 N_D 1000 L/U 140×0	34800	1000											
1000 N_D 800 L/U 160×0	44875	800	160	1500	M24	190	370	450	550	200	110	10	23136 CK
1000 N_D 1000 L/U 160×0	44875	1000											

Note: Read these Tables with Fig. 2

TABLE 13 NON-DRIVING PULLEYS

(Clauses 4-1 & 10-1)

BELT WIDTH: 1200 mm
PULLEY FACE WIDTH: 1400 mm

DESIGNATION	RATING (mm.) LOAD/BRG. (N_f)	DIMENSIONS IN mm											RECOMMENDED BEARING SIZE
		D	d_n	A	d_s	H	H_1 (max)	n	O (max)	P (max)	Q	t (min)	
1200 N_D 500 L/U 80 x O	2955	500	80	1850	M24	120	230	290	360	120	–	10	22218 CK
1200 N_D 500 L/U 100 x O	6780	500	100	1850	M24	135	260	350	420	160	90	10	22222 CK
1200 N_D 630 L/U 100 x O	6780	630											
1200 N_D 630 L/U 125 x O	15720	630	125	1850	M24	170	340	430	500	160	90	10	22228 CK
1200 N_D 800 L/U 125 x O	15720	800											
1200 N_D 630 L/U 140 x O	24210	630	140	1850	M24	180	350	440	540	180	100	10	22232 CK
1200 N_D 800 L/U 140 x O	24210	800											
1200 N_D 1000 L/U 140 x O	24210	1000											
1200 N_D 800 L/U 160 x O	39945	800	160	1850	M24	190	370	450	550	200	110	10	23136 CK
1200 N_D 1000 L/U 160 x O	39945	1000											
1200 N_D 800 L/U 200 x O	68945	800	200	1850	M30	230	450	540	650	240	140	10	23144 CK
1200 N_D 1000 L/U 200 x O	68945	1000											
1200 N_D 1250 L/U 200 x O	68945	1250											

Note: Read this Table with Fig 2

TABLE 14 NON-DRIVING PULLEYS

(Clauses 4-1 & 10-1)

BELT WIDTH: 1400 mm
PULLEY FACE WIDTH: 1600 mm

DESIGNATION	RATING (mm.) LOAD/BRG (N_f)	DIMENSIONS IN mm											RECOMMENDED BEARING SIZE
		D	d_n	A	d_s	H	H_1 (max)	r	O (max)	P (max)	Q	t (min)	
1400 N_D 630 L/U 80 x O	2500	630	80	2050	M24	120	230	290	360	120	–	10	22218 CK
1400 N_D 630 L/U 100 x O	5700	630	100	2050	M24	135	260	350	420	160	90	10	22222 CK
1400 N_D 800 L/U 100 x O	5700	800											
1400 N_D 630 L/U 125 x O	13120	630	125	2050	M24	170	340	430	500	160	90	10	22228 CK
1400 N_D 800 L/U 125 x O	13120	800											
1400 N_D 800 L/U 140 x O	20105	800	140	2050	M24	180	350	440	540	180	100	10	22232 CK
1400 N_D 1000 L/U 140 x O	20105	1000											
1400 N_D 800 L/U 160 x O	33365	800	160	2050	M24	190	370	450	550	200	110	10	23136 CK
1400 N_D 1000 L/U 160 x O	33365	1000											
1400 N_D 1000 L/U 200 x O	68945	1000	200	2050	M30	230	450	540	650	240	140	10	23144 CK
1400 N_D 1250 L/U 200 x O	68945	1250											
1400 N_D 1000 L/U 220 x O	88070	1000	220	2050	M30	250	490	600	710	260	150	10	23148 CK
1400 N_D 1250 L/U 220 x O	88070	1250											
1400 N_D 1450 L/U 220 x O	88070	1450											

Note: Read this Table with Fig 2

TABLE 15 NON-DRIVING PULLEYS

(Clauses 4.1 & 10.1)

BELT WIDTH : 1600 mm
PULLEY FACE WIDTH: 1800 mm

DESIGNATION	RATING (min.)	DIMENSIONS IN mm											RECOMMENDED BEARING SIZE
	LOAD/BRG (Nt)	D	d_n	A	d_δ	H	H_1 (max.)	n	C (max.)	P (max.)	Q	t (min.)	
1600 N_D 630 L/U 100 x O	49[illegible]	630	100	2250	M24	135	260	350	420	160	90	10	22222 CK
1600 N_D 630 L/U 125 x O	11260	630	125	2250	M24	170	340	430	500	160	90	10	22228 CK
1600 N_D 800 L/U 125 x O	11260	800											
1600 N_D 800 L/U 140 x O	17195	800	140	2250	M24	180	350	440	540	180	100	10	22232 CK
1600 N_D 1000 L/U 140 x O	17195	1000											
1600 N_D 800 L/U 160 x O	28385	800	160	2250	M24	190	370	450	550	200	110	10	23136 CK
1600 N_D 1000 L/U 160 x O	28385	1000											
1600 N_D 1000 L/U 200 x O	66115	1000	200	2250	M30	230	450	540	650	240	140	10	23144 CK
1600 N_D 1250 L/U 200 x O	66115	1250											
1600 N_D 1000 L/U 220 x O	88070	1000	220	2250	M30	250	490	600	710	260	150	10	23148 CK
1600 N_D 1250 L/U 220 x O	88070	1250											
1600 N_D 1450 L/U 220 x O	88070	1450											

Note: Read this Table with Fig.2

TABLE 16 MATERIALS FOR DIFFERENT PARTS OF PULLEYS
(Clause 5.1)

PART	MATERIAL
Pulley shell	Mild steel (if fabricated) conforming to IS:226-1975 Specification for structural steel (standard quality) (fifth revision)' or IS:2062-1980 'Specification for weldable structural steel (third revision)' or steel tubes conforming to one of the following standards: a) IS:1161-1979 'Specification for steel tubes for structural purposes (third revision)'. or b) IS:1239(Part I)-1979 'Specification for mild steel tubes; tubulars and other wrought steel fittings: (Part 1) mild steel tubes (fourth revision)'. or c) IS:3601-1984 'Specification for steel tubes for mechanical and general engineering purposes (first revision)'.
Pulley hub	Mild steel conforming to IS:226-1975 or cast steel conforming to IS:1030-1982 'Specification for carbon steel castings for general engineering purposes (third revision)' or class II forging conforming to IS:2004-1978 'Specification for carbon steel forgings for general engineering purposes (second revision)' or forging conforming to IS:2004 class II.
Diaphragm	Mild steel conforming to IS:226-1975
Pulley shaft	Steel C-45 as per IS:1570 (Part 3)-1979 'Schedules for wrought steels: Part 3 Carbon and carbon-manganese free cutting steels (first revision)' or class IV steel as per IS:1875-1978 'Specification for carbon steel billets, blooms, slabs and bars for forgings (fourth revision)

TABLE 17 TOLERANCES ON PULLEY DIAMETER
(Clause 8.1.1)

Diameter of Pulley	Face Width of Pulley	
	Up to and including 600 mm	Above 600 mm
Up to and including 630 mm	+10, -3 mm	+12, -3 mm
Above 630 mm	+12, -3 mm	+15, -3 mm