

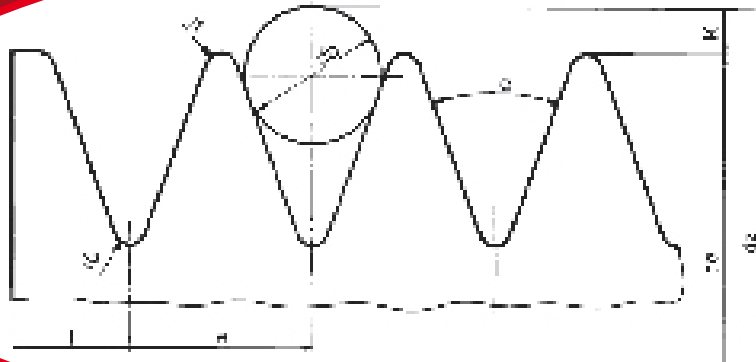


TYPES

Grooved pulleys designed for industrial transmissions are identified by reference to the dimensions and the groove pitch in the following types: **PPV-J – PPV-L**

PROFILE DIMENSIONS

The transverse profile dimensions of a grooved pulley are shown in the figure and in the table.



TABLE

TYPE	PPV-J	PPV-L
Grooves pitch e	2.34	4.70
Tolerance for e*	± 0.03	± 0.05
Sum of tolerances e**	± 0.30	± 0.30
Race angle a** ±0,5	40°	40°
rt min.	0.20	0.40
rb max	0.40	0.40
Diameter of the control sphere or roller db ± 0.01	1.50	3.50
2K** nominal	0.23	2.36
f min.	1.8	3.3

* = this tolerance applies to the distance between the axes of two consecutive grooves

** = the sum of all the tolerances "e" for all the races of each pulley must not exceed the value foreseen in the table

* = the axis of each groove must form a $90^\circ \pm 0.5^\circ$ angle with the pulley axis

** = K is not in relation to the pulley's nominal diameter but is measured from the position of the measurement sphere or roller.



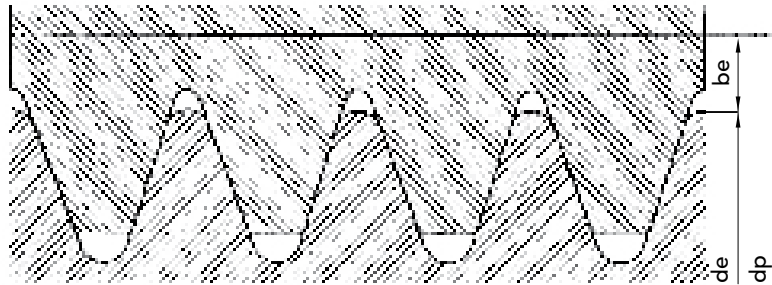
PITCH LINE DIAMETER

The position of a grooved belt in contact with the corresponding pulley is shown in cross-section in the figure.

The real pitch line diameter **dp** of a grooved pulley measured along the belt is slightly greater than the actual diameter **de** and the exact value depends on the type of belt used.

For the purposes of illustration, the table shows the value **be** normally adopted to calculate the transmission ratio.

In practice it is sufficient to use the actual diameter **de** to calculate the transmission ratio.



$$dp \approx de + 2be$$

TYPE	PPV-J	PPV-L
2 be	2	5

DESIGNATION

The designation includes the following details, in the order given: the "pulley" domination, the reference of the current standard, the number of grooves, the type and the actual diameter expressed in millimetres.

An example of the designation for a PPV-J type grooved pulley designed for industrial transmissions with 8 grooves and an actual diameter of 200mm

8 PPV-J 200

DEGREE OF FINISH OF THE GROOVES

The surface roughness of the grooves shall be Ra 3.2 in compliance with ISO 254.

MATERIALS

C45 UNI 7845

Pulleys are manufactured in steel.

BALANCING

UNI 4218 – ISO 1940

Pulleys prepared for a tapered bush are statically balanced within grade G.6.3.

It is possible to perform dynamic balancing, on request.

Dynamic balancing is essential for speeds exceeding 30 m/s.



DESIGN POWER CALCULATION

Make a note of the nominal power to be transmitted **P** (kw) (normally the nominal power of the electric motor), select the service factor **Co** based on the table and calculate the design power output **Pc** (kw) as follows: **Pc = Co x P**

Service factor (Co)

MOTOR TYPE

CLASS A

- Synchronous and asynchronous, squirrel cage, normal torque, alternating current motor.
- Shunt winding direct current motor
- Internal combustion engine (steady-state condition ³ 700 r.p.m.)
- Turbines

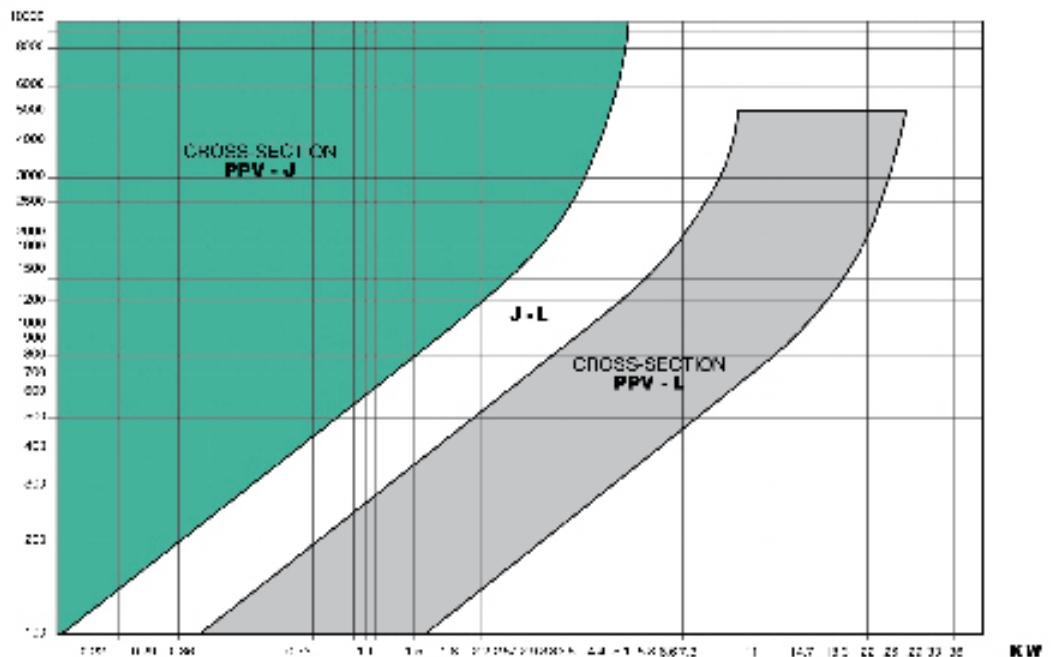
CLASS B

- Asynchronous, squirrel cage, high torque alternating current motor
- Compound winding direct current motor
- Internal combustion engine (steady-state condition ³ 700 r.p.m.)
- Clutches

TYPE OF MACHINE DRIVEN	Class A Motor			Class B Motor		
	Number of daily operating hours					
	<10	10÷16	>16	<10	<10÷16	>16
• Liquid mixers • Blowers • Extractors • Centrifuge fans • Lightweight conveyors	1	1.1	1.2	1.1	1.2	1.3
• Mixers designed for pasty products • Blenders • Generators • Laundry machines • Machine tools	1.1	1.2	1.3	1.2	1.3	1.4
• Rotary compressors • Rotary pumps • Sieves • Heavyweight conveyors • Spraying systems • Dynamo • Bakery machines • Printing machines • Wood working machines • Axial fans • Brick making machines	1.2	1.3	1.4	1.3	1.4	1.5
• Piston compressors • Piston pumps • Crushers • Bucket elevators • Elevators • Paper making machines • Mills • Hoists	1.4	1.5	1.6	1.5	1.6	1.8
• Grinding machines • Crushing machines • Drainage systems • Calenders and extruders for rubber and plastics	1.6	1.7	1.8	1.7	1.8	2

CROSS-SECTION SELECTION

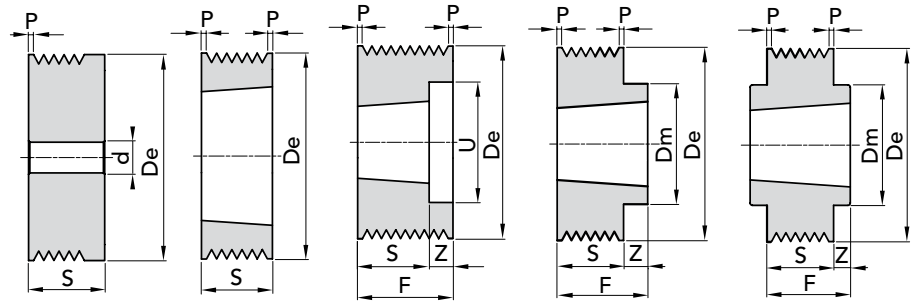
R.p.m. of smallest pulley The type of cross-section is selected by using the diagram shown below.





V-BELT PULLEYS PPV-J MICRO V DIMENSIONS

PPV-J TYPE



EXEC. 1

EXEC. 2

EXEC. 3

EXEC. 4

EXEC. 5

N° GROOVES		F±0.1
8	23	3.31
12	32.5	3.38
16	42	3.45

De	P. NUMBER	EXEC.	N° GROOVES	BUSHE	S	Z	Dm	U	d	WEIGHT Kg.
40	48108040	1	8	-	32	-	-	-	12	0,24
	48112040	1	12	-	41,5	-	-	-	12	0,31
	48116040	1	16	-	51	-	-	-	12	0,38
45	48108045	1	8	-	32	-	-	-	12	0,32
	48112045	1	12	-	41,5	-	-	-	12	0,41
	48116045	1	16	-	51	-	-	-	12	0,50
50	48108050	1	8	-	32	-	-	-	12	0,40
	48112050	1	12	-	41,5	-	-	-	12	0,52
	48116050	1	16	-	51	-	-	-	12	0,63
56	48108056	2	8	1108	23	-	-	-	-	0,39
	48112056	3	12	1108	32,5	9,5	-	40	-	0,65
	48116056	1	16	-	51	-	-	-	12	0,81
63	48108063	2	8	1108	23	-	-	-	-	0,50
	48112063	3	12	1108	23	9,5	-	46	-	0,39
	48116063	1	16	-	51	-	-	-	12	1,05
71	48108071	2	8	1108	23	-	-	-	-	0,64
	48112071	3	12	1108	23	9,5	-	46	-	0,57
	48116071	2	16	1215	42	-	-	55	-	0,63
75	48108075	2	8	1108	23	-	-	-	-	0,72
	48112075	3	12	1610	26	6,5	-	60	-	0,38
	48116075	3	16	1610	26	16	-	60	-	0,46
80	48108080	4	8	1610	26	3	70	-	-	0,41
	48112080	3	12	1610	26	6,5	-	60	-	0,52
	48116080	3	16	1610	26	16	-	60	-	0,64
85	48108085	4	8	1610	26	3	70	-	-	0,51
	48112085	3	12	1610	26	6,5	-	60	-	0,66
	48116085	3	16	1610	26	16	-	60	-	0,84
90	48108090	4	8	1610	26	3	70	-	-	0,62
	48112090	3	12	1610	26	6,5	-	74	-	0,76
	48116090	3	16	1610	26	16	-	74	-	0,87
95	48108095	4	8	1610	26	3	82	-	-	0,78
	48112095	3	12	1610	26	6,5	-	74	-	0,93
	48116095	3	16	1610	26	16	-	74	-	1,08
100	48108100	4	8	1610	26	3	82	-	-	0,9
	48112100	3	12	1610	26	6,5	-	74	-	1,1
	48116100	3	16	1610	26	16	-	74	-	1,32

De	P. NUMBER	EXEC.	N° GROOVES	BUSHE	S	Z	Dm	U	d	WEIGHT Kg.
106	48108106	4	8	1610	26	3	82	-	-	1,05
	48112106	3	12	1610	26	6,5	-	88	-	1,24
	48116106	3	16	1610	26	16	-	88	-	1,40
112	48108112	4	8	1610	26	3	90	-	-	1,25
	48112112	3	12	1610	26	6,5	-	88	-	1,47
	48116112	3	16	1610	26	16	-	88	-	1,70
118	48108118	4	8	1610	26	3	90	-	-	1,43
	48112118	3	12	2012	32	0,5	-	98	-	1,55
	48116118	3	16	2012	32	10	-	98	-	1,79
125	48108125	4	8	1610	26	3	90	-	-	1,64
	48112125	3	12	2012	32	0,5	-	98	-	1,90
	48116125	3	16	2012	32	10	-	98	-	2,18
132	48108132	4	8	1610	26	3	90	-	-	1,88
	48112132	3	12	2012	32	0,5	-	98	-	2,21
	48116132	3	16	2012	32	10	-	98	-	2,60
140	48108140	4	8	1610	26	3	90	-	-	1,60
	48112140	4	12	2517	45	12,5	120	-	-	7,10
	48116140	4	16	2517	45	3	120	-	-	9,60
160	48108160	5	8	2012	32	4,5	110	-	-	3,01
	48112160	4	12	2517	45	12,5	120	-	-	3,80
	48116160	4	16	2517	45	3	120	-	-	4,37
180	48108180	5	8	2012	32	4,5	110	-	-	3,92
	48112180	5	12	2517	45	6,25	120	-	-	5,03
	48116180	5	16	2517	45	1,5	120	-	-	5,97
200	48108200	5	8	2012	32	4,5	110	-	-	4,88
	48112200	5	12	2517	45	6,25	120	-	-	6,40
	48116200	5	16	2517	45	1,5	120	-	-	7,75
224	48108224	5	8	2012	32	4,5	110	-	-	6,17
	48112224	5	12	2517	45	6,25	120	-	-	8,29
	48116224	5	16	2517	45	1,5	120	-	-	10,10
250	48108250	5	8	2012	32	4,5	110	-	-	7,73
	48112250	5	12	2517	45	6,25	120	-	-	1,05
	48116250	5	16	2517	45	1,5	120	-	-	1,30

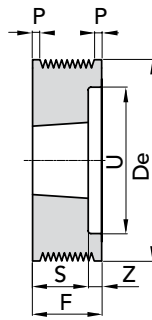
V-BELT PULLEYS PPV-J MICRO V DIMENSIONS



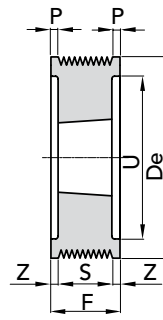
PPV-L TYPE

N° GROOVES
F±0.1

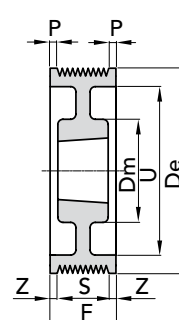
8	48	7.55
12	67	7.65
16	86	7.75



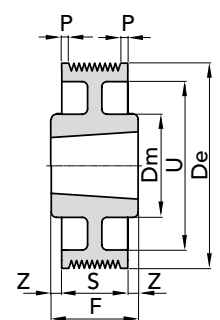
EXEC. 3



EXEC. 6



EXEC. 7



EXEC. 8

De	P. NUMBER	EXEC.	N° GROOVES	BUSHE	S	Z	Dm	U	WEIGHT Kg.	De	P. NUMBER	EXEC.	N° GROOVES	BUSHE	S	Z	Dm	U	WEIGHT Kg.
75	48208075	3	8	1210	26	22	-	56	0,66	140	48208140	3	8	2517	45	3	82	116	3,02
	48212075	3	12	1215	42	25	-	56	0,97		48212140	6	12	2517	45	11	-	116	3,55
80	48208080	3	8	1210	26	22	-	56	0,86	150	48212150	6	12	2517	45	11	-	126	4,30
	48212080	3	12	1215	42	25	-	56	1,25		48216150	6	16	2517	45	20,5	-	126	4,85
85	48208085	3	8	1210	26	22	-	61	1,00	160	48208160	3	8	2517	45	3	-	136	4,54
	48212085	3	12	1215	42	25	-	61	1,47		48212160	6	12	2517	45	11	-	136	5,12
	48216085	6	16	1215	42	22	-	61	1,76		48216160	6	16	3020	52	17	-	136	4,88
90	48208090	3	8	1610	26	22	-	66	1,01	170	48208170	3	8	2517	45	3	-	146	5,35
	48212090	3	12	1615	42	25	-	66	1,45		48212170	6	12	2517	45	11	-	146	6,03
	48216090	6	16	1615	42	22	-	66	1,78		48216170	6	16	3020	52	17	-	146	5,96
95	48208095	3	8	1610	26	22	-	71	1,16	180	48208180	7	8	2517	45	1,5	120	156	4,52
	48212095	3	12	1615	42	25	-	71	1,71		48212180	7	12	2517	45	11	120	156	5,34
	48216095	6	16	1615	42	22	-	71	2,02		48216180	6	16	3020	52	17	-	156	7,09
100	48208100	3	8	1610	26	22	-	76	1,31	200	48208200	7	8	2517	45	1,5	120	176	5,07
	48212100	3	12	2012	32	35	-	79	1,39		48212200	7	12	3020	52	7,5	146	176	6,99
	48216100	6	16	2012	32	27	-	79	1,69		48216200	7	16	3020	52	17	146	176	7,92
106	48208106	3	8	1610	26	22	-	82	1,53	224	48208224	7	8	2517	45	1,5	120	202	9,77
	48212106	3	12	2012	32	35	-	82	1,76		48212224	7	12	3020	52	7,5	146	202	11,0
	48216106	6	16	2012	32	27	-	82	2,12		48216224	7	16	3020	52	17	146	202	14,12
112	48208112	3	8	1610	26	22	-	88	1,75	250	48208250	8	8	3020	52	2	146	228	13,12
	48212112	3	12	2012	32	35	-	88	2,02		48212250	7	12	3020	52	7,5	146	228	15,60
	48216112	6	16	2012	32	27	-	88	2,42		48216250	8	16	3535	89	1,5	178	228	16,13
118	48208118	3	8	2012	32	16	-	94	1,88	280	48208280	8	8	3020	52	2	146	256	18,18
	48212118	6	12	2517	45	11	-	97	1,96		48212280	7	12	3020	52	7,5	146	256	21,75
	48216118	6	16	2517	45	20,5	-	97	2,31		48216280	8	16	3535	89	1,5	178	256	24,45
125	48208125	3	8	2012	32	16	-	101	2,22	315	48208315	8	8	3020	52	2	146	285	24,82
	48212125	6	12	2517	45	11	-	101	2,46		48212315	8	12	3535	89	11	178	285	42,64
	48216125	6	16	2517	45	20,5	-	101	2,92		48216315	8	16	3535	89	1,5	178	285	35,34
132	48208132	3	8	2012	32	16	-	108	2,54										
	48212132	6	12	2517	45	11	-	108	2,97										
	48216132	6	16	2517	45	20,5	-	108	3,44										