



V-BELTS

Rubber V-belts



MEGADYNE

INTRODUCTION TO V-BELTS

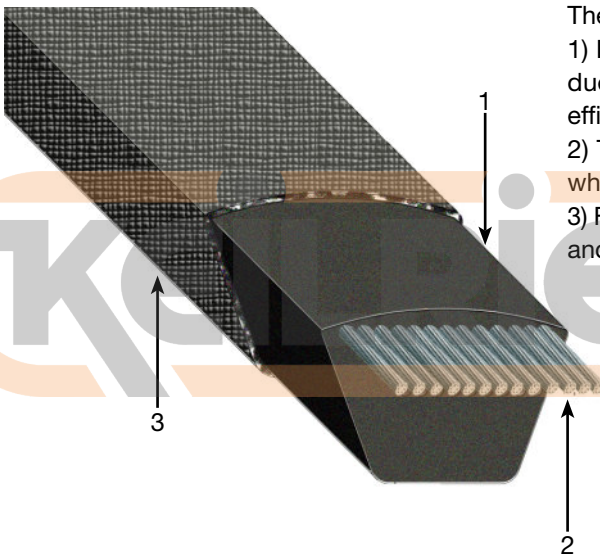


Megadyne V-belts have been used for decades in the most different industries and applications, offering drive solutions to customers all over the world.

Applied technology guarantees such a dimensional precision in V-belts which allows them to be suitable for multiple transmissions. This dimensional stability continues also during belt use.

The variety of belt sizes available allows the application of Megadyne V-belt in a wide range of drive applications, such as:

- machine tools
- industrial washing machines
- textile machines
- continuous paper machines
- high power mills
- stone crushers



The main V-belt components are:

- 1) Belt body made of a special rubber compound which provides, due to its excellent mechanical characteristics, high transmission efficiency and assures a minimum rubber wear off;
- 2) Tensile member consisting in high-strength low-stretch cords, which grant length stability over the belt life time;
- 3) Fabric jacket or cover made of fabric, protecting the tensile member and permitting the use of back side idler.

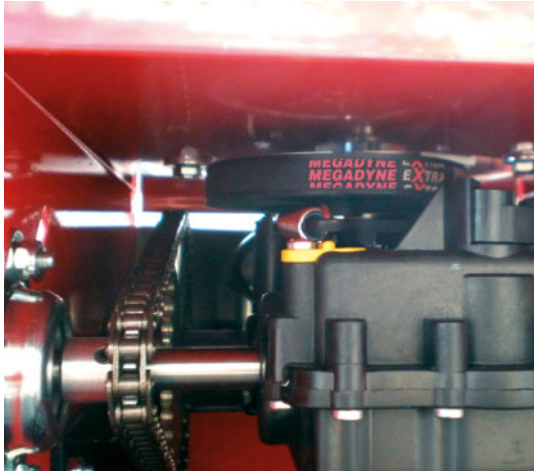
MECHANICAL AND CHEMICAL FEATURES

- smooth starting and running
- wide range of driven speed
- low maintenance
- high efficiency
- extremely wide horsepower ranges
- dampen vibration between driver and driven pulleys
- silent operations
- long life service
- easy installation
- reduction in drive dimension
- working temperature range from -30°C to $+80/90^{\circ}\text{C}$ (see details in family pages)
- oil and heat resistance
- antistatic properties

MEGAMATCH **MEGA MATCH**

All V-belts carrying the MEGA MATCH logo are made and supplied according to the matching set tolerances and limits indicated by the relevant international standards (ISO, RMA, etc)

INTRODUCTION TO V-BELTS



WRAPPED BELTS

EXTRA

Extra belts were designed to offer durable and reliable performances on light and medium-duty drives. They represent an affordable solution for transmission systems of all industrial sectors.

OLEOSTATIC

Oleostatic rubber belts are developed with high resistant tensile elements, they are characterised by high performances, length stability during belts life, conductivity, oil and heat resistance. They are particularly suitable for centrifugal pumps, compressor, tool machines, generators, high power mills and stone mills.

OLEOSTATIC GOLD

Different materials and design features, together with an improved production process, have led to the development of a new class of higher rated wrapped V-belts. The new OLEOSTATIC GOLD V-belts products family can operate in a wide range of industrial applications, within a large spread of load capacities and speeds — offering rated performance from 100 to 8,000 RPM and power capability from 1 to 400 kW, meanwhile granting large cost advantages for the end users.



Oleostatic Gold structure:

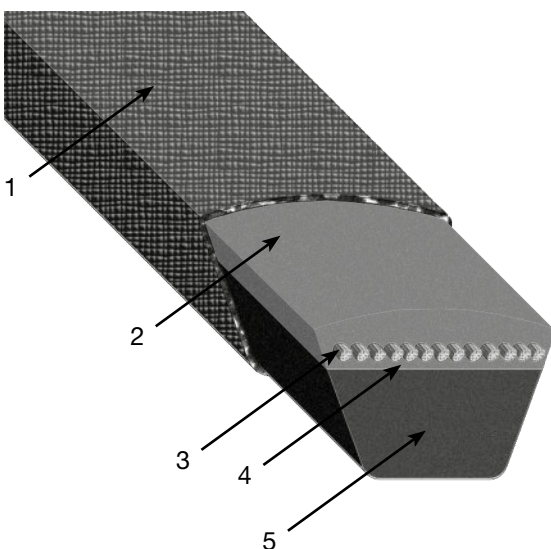
- 1) FABRIC: Double cover ply - CR Dip.

A reinforced, double fabric cover is plied around the belt to protect it against contamination and moisture. Its increased flexibility allows the belt to bend more easily around the smallest pulleys with far less strain on the fabric, while assuring a smoother running drive.

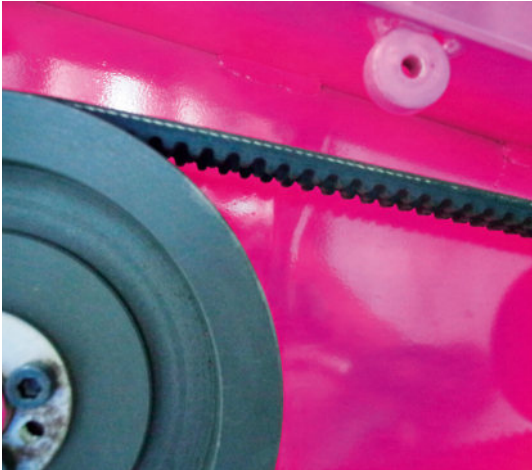
- 2) TOP CUSHION: SBR compound + Fibers
- 3) TENSILE CORD: H.T. Polyester

The tensile section is made up of a multiple number of high-strength, low elongation polyester cords, completely embedded in the adhesion layers, to enhance resistance to tension and flex-fatigue. Each cord is individually and specially coated to secure a long-lasting bond with the surrounding rubber and to grant a longer operational lifetime. In addition the belt requires significantly less retensioning and take-up due to its cord's consistent length stability. Longer belt life means less frequent replacement, less downtime and lower maintenance costs.

- 4) BOTTOM CUSHION: SBR compound + Fibers
- 5) BODY COMPOUND: Polychloroprene (CR) based



INTRODUCTION TO V-BELTS



RAW EDGE

LINEA-X

These belts have been specifically developed to run where small pulleys diameters and high transmission ratios put a limit to the use of wrapped belts of the same section.

Compared to wrapped belts, the LINEA-X family offers important improvements, like specific compounds and special production technology. In particular the transverse orientation of the fibers improves the cord support capacity of the body section and reinforces its transverse rigidity, while maintaining, (due to the cogged profile and the precision-ground sidewalls) the highest longitudinal flexibility and running stability. These characteristics guarantee an excellent structure with advantages such as: high transmission ratios, improved grip and resistance to continuous bending.



LINEA GOLD

The NEW generation of raw edge belts

New materials, advanced design features and an innovative production process has led MEGADYNE to develop a new generation of raw edge V-belt drives that outperform, in a wide range of industrial applications, all the previous drives equipped with standard raw edge belts, granting large cost advantages for the end users and greater design flexibility for the engineers. The belt has a narrow cross section and a raw edge construction, based on a new EPDM rubber compound which can withstand chemically aggressive environments, ageing, ozone, UV and heat.

Linea Gold structure:

1) BACKSIDE FABRIC

A textile fabric is plied on the belt backside to protect it against contamination and moisture.

Its flexibility gives the belt excellent reversed bending properties when backside idlers are used and protects the belt against wear.

2) ADHESION LAYERS

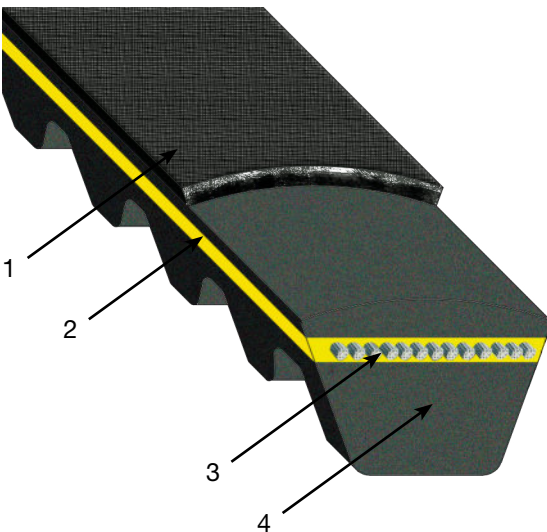
An innovative, colored, EPDM compound located immediately above and below the belt cords, guarantees the best possible bonding with the under cord body material.

3) TENSILE CORD

The tensile section is made up of a multiple number of high-strength, low elongation polyester tensile cords which are completely embedded in the adhesion layers and vulcanized as one solid unit to enhance resistance to tensile and flex-fatigue forces. On request, for special extreme requirements, aramid or glassfibre cords are also available.

4) BODY COMPOUND

A newly developed EPDM compound, with high-performance fibers embodied in the rubber matrix, provides to the belt with superior abrasion and wear resistance. The transversal orientation of the fibers improves the cord support capacity of the body section and reinforces its transversal rigidity, while maintaining, in connection with the cogged profile and the precision-ground sidewalls, the utmost longitudinal flexibility and running stability.



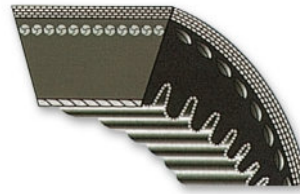


SECTIONS

- Z E
- A 20
- B 25
- C 45
- D 50

Classical wrapped V-belts

(Extra - Oleostatic - Oleostatic Gold)



SECTIONS

- AX
- BX
- CX

Classical raw edge V-belts

(Linea Gold)



SECTIONS

- SPZ
- SPA
- SPB
- SPC

Narrow wrapped V-belts DIN

(Extra - Oleostatic Gold)



SECTIONS

- XPZ
- XPA
- XPB
- XPC

Narrow raw edge V-belts DIN

(Linea-X - Linea Gold)



SECTIONS

- 3V
- 5V
- 8V

Narrow wrapped V-belts RMA

(Oleostatic)



SECTIONS

- | | |
|-------|-------|
| 13x6 | 36x12 |
| 17x6 | 37x10 |
| 21x7 | 42x13 |
| 22x8 | 47x13 |
| 26x8 | 52x16 |
| 28x8 | 55x16 |
| 30x10 | 65x20 |
| 32x10 | 70x20 |

Variable speed V-belts

(Varisect)



SECTIONS

- XDV2-38
- XDV2-48
- XDV2-58

Xtra Duty V-belts

(XDV2)



SECTIONS

- AA
- BB
- CC

Double V-belts

(Esaflex)

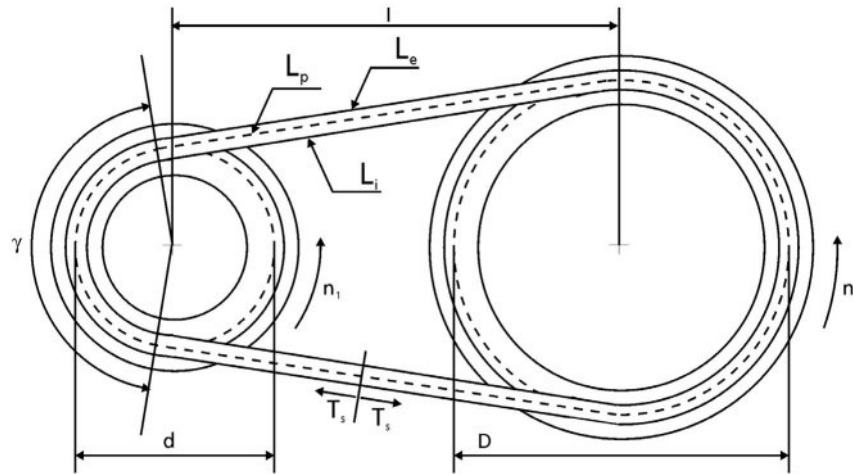


SECTIONS

- | | |
|------|------|
| RA | RSPC |
| RB | R3V |
| RC | R5V |
| RSPZ | R8V |
| RSPA | R3VX |
| RSPB | R5VX |

Banded V-belts

(Pluriband)



Symbol	Unit	Definition	Symbol	Unit	Definition
C_γ		correction factor C_γ	L_p	mm	pitch length (effective)
C_L		correction factor C_L	n_1	RPM	speed of smaller pulley (faster)
C_c		correction factor C_c	n_2	RPM	speed of bigger pulley (slower)
d	mm	pitch diameter of smaller pulley	P	kW	power to be transmitted
D	mm	pitch diameter of bigger pulley	P_a	kW	actual power of the transmission
l	mm	theoretical center distance	P_b	kW	basic performance of a single belt
l_e	mm	effective center distance	P_c	kW	corrected power
i		transmission ratio	P_d	kW	difference to P_b due to $K \neq 1$
L'	mm	calculated pitch length	Q		number of belts
L_e	mm	external length ($L_p + \Delta$)	T_s	N	static belt tension
L_i	mm	internal length ($L_p - \Delta$)	v	m/s	peripheral belt speed
			γ	°	arc of contact

BELT SECTION

Necessary data for selection of the belt section:

P = power to be transmitted in kW

n_1 = speed in RPM of the smaller pulley

n_2 = speed in RPM of the bigger pulley

It is necessary to correct the power P by a coefficient C_c (see table 1 page 6) which considers into account the actual operating conditions.

Corrected power P_c is given by:

$$P_c = P \cdot C_c$$

The graphs gives a guiding criterion for the section of the belt.

TRANSMISSION RATIO

Transmission ratio is calculated as follows:

$$i = \frac{n_1}{n_2} = \frac{D}{d}$$

where D is the pitch diameter of larger pulley and d is the pitch diameter of the smaller pulley.

TECHNICAL CALCULATION

Peripheral speed of the belts is determined by

$$v = \frac{d \cdot n_1}{19100}$$

If the drive being calculated is of the V/flat type (one V pulley and one flat pulley) it is necessary to find the corresponding pitch diameter of the flat pulley.

The pitch diameter of the flat faced pulley is obtained by increasing its external diameter by the amount in millimetres shown in the following table:

Z	A	B	C	D	E	19	20	25
8	10	14	20	24	33	16	15	19

PITCH LENGTH OF THE BELT AND CORRECT CENTER DISTANCE

Whenever the shaft center distance l is not predetermined by the layout of the drive, the optimum distance may be chosen as follows:

$$1 < i < 3 \quad l \geq \frac{(i+1) \cdot d}{2} + d$$

$$i > 3 \quad l \geq D$$

The pitch length is determined by:

$$L' = 2 \cdot l + 1,57 \cdot (D+d) + \frac{(D-d)^2}{4l}$$

From the list of belt sizes, should be selected the belt pitch length L_p nearest to the value of L' above calculated. Since $L' \neq L_p$ the center distance " l " may be varied by subtracting half $L' - L_p$. Therefore the effective center distance of the drive will be:

$$l_e = l - \frac{(L' - L_p)}{2}$$

NUMBER OF BELTS

The basic performance P_b is the power which a single belt transmits under the following conditions:

- $i = 1$

This configuration corresponds to 180° arc of contact belt on both pulleys;

- $i \neq 1$

The difference of kW-rating P_d is the power which the belt transmits in excess of P_b because $i \neq 1$ in service conditions. The actual kW-rating P_a is the power which the belt transmits in operating conditions and is obtained by means of:

$$P_a = (P_b + P_d) \times C_g \times C_L$$

Table 4 (see belt family pages) gives the values of P_b according to RPM and d (smaller diameter) and the values of P_d according to RPM and i .

Table 2 (bottom of this page) and 3 (see belt family pages) give values of the coefficients C_γ and C_L taking into account the operating conditions.

The arc of contact γ of the belt on the smaller pulley is determined by:

$$\gamma = 180^\circ - 57 \cdot \frac{D-d}{l_e}$$

The number of belts Q necessary for the transmission of the power P_c is determined by:

$$Q = \frac{P_c}{P_a}$$

The number of belts actually is obtained in general by rounding up Q to the next highest whole number.

TABLE 1 - TYPE OF MOTOR

Applications	Drivers					
	(1)			(2)		
	Daily operating hours					
	0-8 ⁽¹⁾	8-16 ⁽¹⁾	16-24 ⁽¹⁾	0-8 ⁽²⁾	8-16 ⁽²⁾	16-24 ⁽²⁾
Light use Centrifugal pumps and compressors, belt conveyors, (light materials) fans and pumps up to 7,5 kW.	1,1	1,1	1,2	1,1	1,2	1,3
Normal use Shears for steel sheet presses, belt and chain conveyors, (heavy material) sifters, generator sets, machine tools, kneading machines, industrial washing machines, printing presses, fans and pumps over 7,5 kW.	1,1	1,2	1,3	1,2	1,3	1,4
Heavy use Hammer mills, piston compressors, belt conveyors for heavy loads, lifters, textile machines, continuous paper machines, piston and dredging pumps, ripping saws.	1,2	1,3	1,4	1,4	1,5	1,6
Extra heavy use High power mills, stone crushers, calendars, mixer, cranes, diggers, dredgers.	1,3	1,4	1,5	1,5	1,6	1,8

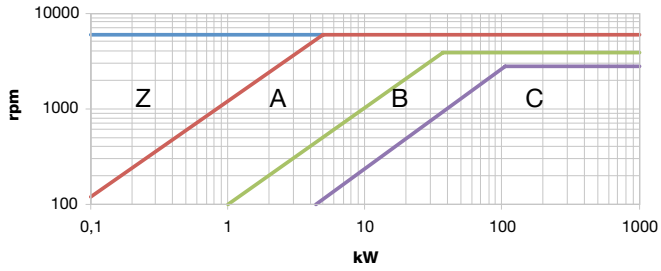
TABLE 2 - Correction factor C_γ (T/T=V/V drives; T/P=V/Flat drives; γ =arc of contact on the smaller pulley)

γ	180°	175°	170°	165°	160°	155°	150°	145°	140°	135°	130°	125°	120°	115°	110°	105°	100°	90°
C_γ T/T	1	0,99	0,98	0,96	0,95	0,93	0,92	0,90	0,89	0,87	0,86	0,84	0,82	0,80	0,78	0,76	0,74	0,69
C_γ T/P	0,75	0,76	0,77	0,79	0,80	0,81	0,82	0,83	0,84	0,85	0,86	0,84	0,82	0,80	0,78	0,76	0,74	0,69

WRAPPED V-BELTS SELECTION CHARTS

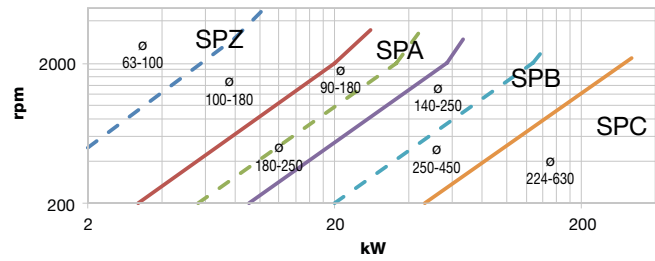
Classical wrapped V-belts

EXTRA

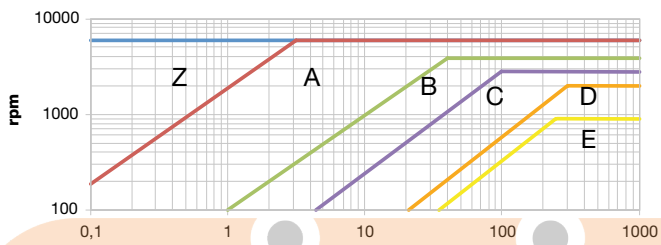


Narrow wrapped V-belts DIN

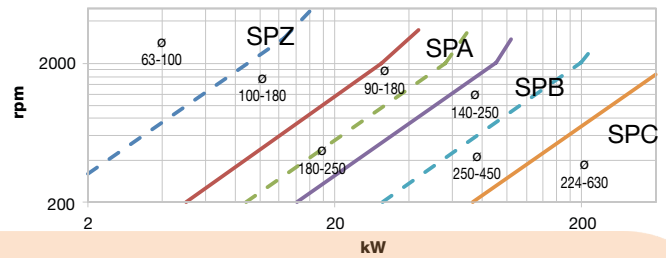
EXTRA



OLEOSTATIC GOLD

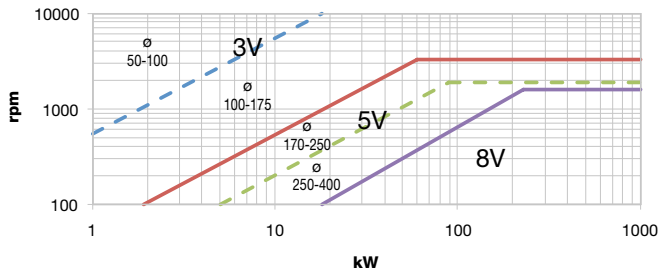


OLEOSTATIC GOLD

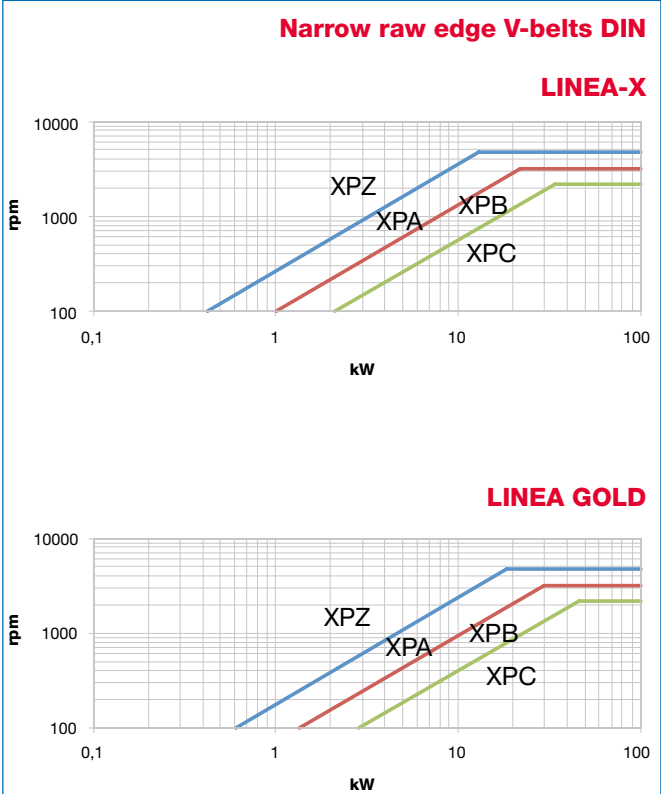
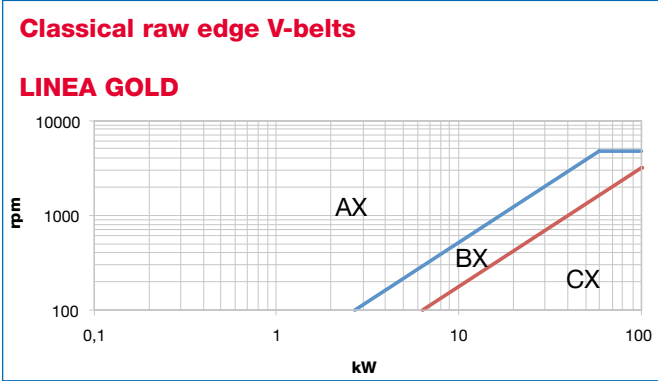


Narrow wrapped V-belts RMA

OLEOSTATIC



RAW EDGE V-BELTS SELECTION CHARTS



CALCULATION EXAMPLE

EXAMPLE

$P = 22 \text{ kW}$

$n_1 = 1200 \text{ RPM}$

$n_2 = 660 \text{ RPM}$

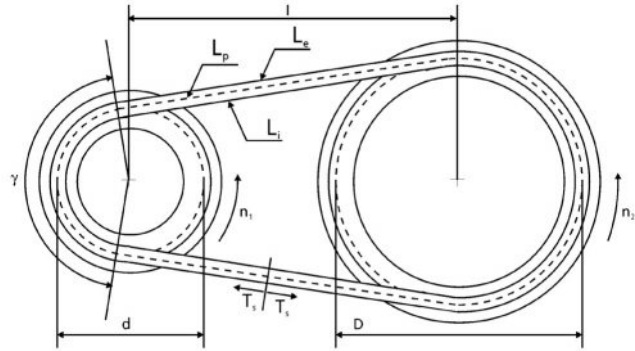
Textile machine operating 12 hours a day

Type of motor: ac electric motor, normal torque

The correction coefficient is 1,3 (see table 1)

The corrected power is:

$$P_c = 22 \cdot 1,3 = 28,6 \text{ kW}$$



BELT SELECTION

From selection charts, for $P_c = 28,6$ and $n_1 = 1200 \text{ RPM}$ it is appropriate to choose section B.

TRANSMISSION RATIO

The transmission ratio can be calculated as follows:

$$i = \frac{n_1}{n_2} = \frac{1200}{660} = 1,82$$

Considering diameter $d = 250 \text{ mm}$ for the smaller pulley, the pitch diameter of the larger pulley is:

$$D = i \cdot d = 1,82 \cdot 250 = 455 \text{ mm}$$

Peripheral speed of the belts is determined by

$$v = \frac{d \cdot n_1}{19100}; v = \frac{0,052 \cdot 250 \cdot 1200}{19100} = 15,7 \text{ m/s}$$

BELT PITCH LENGTH AND CORRECT CENTER DISTANCE

For $i = 1,82$ (i.e. $1 < i < 3$) the center distance is given by:

$$l \geq \frac{(i+1) \cdot d}{4} + d \quad \text{so} \quad l = 610 \text{ mm}$$

The pitch length of the belt is determined by:

$$L' = 2 \cdot l + 1,57 \cdot (D+d) + \frac{(D-d)^2}{4 \cdot l};$$

$$L' = 2 \cdot 610 + 1,57 \cdot (455+250) + \frac{(455-250)^2}{4 \cdot 610} = 2344 \text{ mm}$$

From the list of belt sizes (see table on belt family pages), should be selected the belt pitch length L_p nearest to the value of L' previously calculated.

The center distance "l" may be varied by subtracting half $L' - L_p$. Therefore the effective centre distance of the drive will be:

$$l_e = l - \frac{L' - L_p}{2}$$

Having selected **Oleostatic Gold B 91** ($L_p = 2355 \text{ mm}$), the actual shaft center distance is calculated by:

$$l_e = 610 - \frac{2344 - 2355}{2} = 615,5 \text{ mm}$$

From table 4 of B section (d=250 mm; 1200 RPM; K=1,82):

$$P_b = 11,57 \text{ kW}$$

$$P_d = 0,48 \text{ kW}$$

The arc of contact γ of the belt on the smaller pulley is determined by:

$$\gamma = 180^\circ - 57 \cdot \frac{D-d}{l_e} = 180^\circ - 57 \cdot \frac{455-250}{616} \cong 161^\circ$$

From table 2 for $\gamma = 161^\circ$

$$C_\gamma = 0,95$$

From table 3, pag 19 for **Oleostatic Gold B 91** belt

$$C_L = 1,00$$

Therefore:

$$P_a = (11,57+0,48) \cdot 0,95 \cdot 1,00 = 11,45 \text{ kW}$$

The number of belts Q necessary for transmission of the power P_c is established by:

$$Q = \frac{P_c}{P_a} = \frac{28,6}{11,45} = 2,5$$

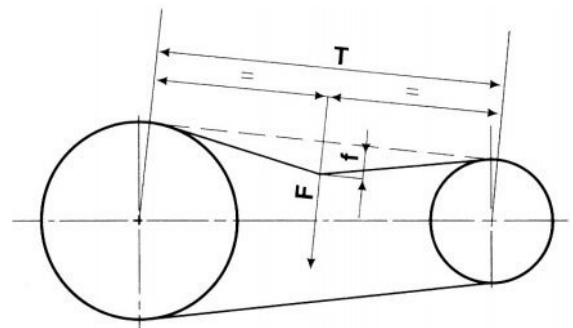
Round up to 3 belts **Oleostatic Gold B 91**.

BELT TENSIONING RECOMMENDATION

The correct belt assembling tension is given by:

$$T_s = 500 \cdot \frac{2,5 - C_\alpha}{C_\alpha} \cdot \frac{P_c}{Q \cdot v} + m \cdot v^2$$

Symbol	Unit	Definition
C_α		arc correction factor
m	kg/m	belt linear mass (see belt family page)
P_c	kW	corrected power
Q		number of belts
T_s	N/strand	static belt tension
v	m/s	peripheral belt speed
α	°	arc of contact



Arc correction factor:

α [°]	180	174	169	163	157	151	145	139	133	127	120	113	106	99	91	83
C_α	1,00	0,98	0,97	0,96	0,94	0,93	0,91	0,89	0,87	0,85	0,82	0,80	0,77	0,73	0,70	0,65

LENGTH MEASURING AND GROOVE PULLEYS

BELT LENGTH MEASURING

The first and easiest way for measuring the V-belt length is by placing the belt on a flat surface, giving the belt a circular shape and finally measuring the internal length L_i by means of a measuring tape. Adding Δ_i and after Δ_e (see belt families pages) to this length, it's possible to calculate respectively L_p and L_e .

This measuring way is not very precise, even if practically easy and feasible with a tape only.

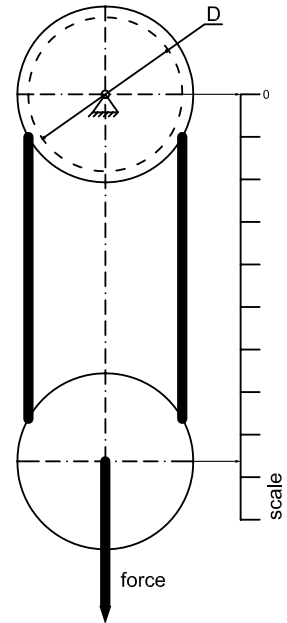
The correct way for measuring the V-belt length is by means of pulleys and dynamometer. The belt is put on 2 pulleys, specific for the family and size of the belt and having the same pitch diameter. One is fixed while the second can move on a linear graduated scale. Depending on the belt, a certain force is applied to the second pulley in order to put the complete system under tension. The correct force is tabled the relevant standards referring to the belt family.

To stabilize the system, at least 3 rotations of the pulleys are required.

The pitch length L_p is given by the pulleys pitch diameter D and center distance a in the formula:

$$L_p = 2 a * \pi_D$$

Subtracting Δ_i and adding Δ_e (see belt families pages) it's possible to calculate respectively L_i and L_e .



GROOVE PULLEYS

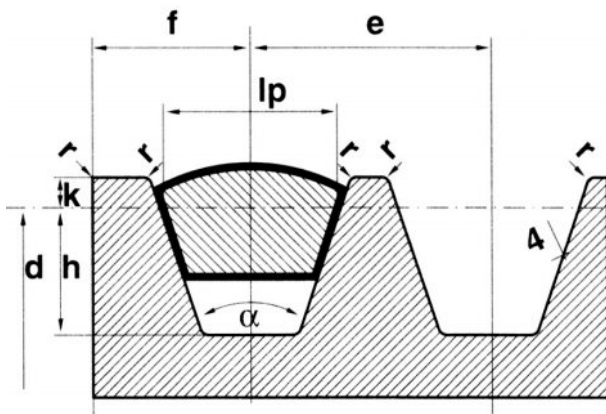
Groove pulleys for V-belts must be manufactured with care and be made of good quality steel or engineering cast iron. It is most important that the flanks of the grooves shall be perfectly smooth and show no visible sign of machining, that all sharp corners of the grooves shall be rounded off and chamfered and that the external diameter of the face shall be constant overall.

All pulleys must also be statically balanced.

Dynamic balancing is required for speeds over 30 m/second.

Profile and dimension of pulley should be in accordance to DIN 2211, BS 3790, ISO, RMA depending on the belt relevant standard.

In the drawing are shown the main characteristics and dimensions of groove pulleys for V-belts (example referring to Oleostatic belts).



- lp** = pitch width
- k** = minimum height of groove above the pitch line
- h** = minimum depth of groove below the pitch line
- α** = groove angle
- d** = pitch diameter
- e** = distance between the axes of the sections of two grooves
- f** = distance between the axis of the section of the outer groove and the rim of the pulley

LENGTH MEASURING AND GROOVE PULLEYS

The use of idlers in V-belt drives is not recommended.

However, due to particular drive requirements and limitations, use of idlers may be absolutely necessary.

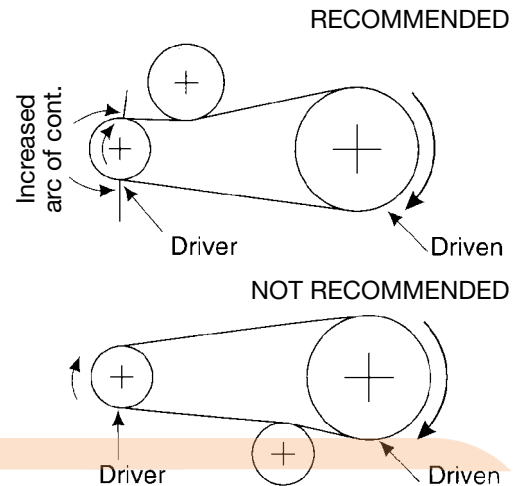
For using idlers, requirements are as follows:

1. Providing take-up for fixed center drives.
2. Turning corners (as in mule pulley drives).
3. Breaking up long spans where belt whip may be a problem.
4. Maintaining tension, when idler is spring-loaded or weighted.

A power correction (see below) is required.

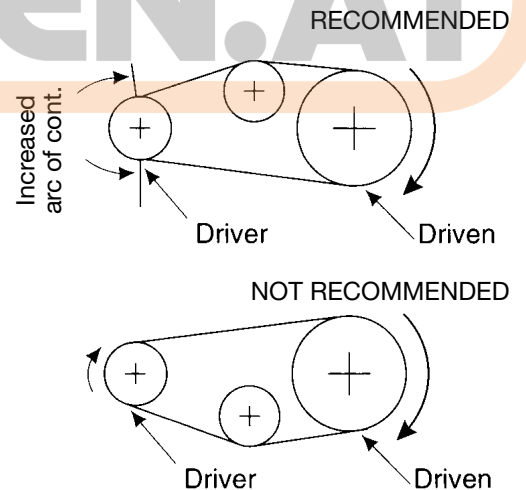
OUTSIDE IDLER

1. An outside idler should be at least one and one-third times as large as the smallest pulley on the drive, unless drive has unusually large pulleys.
2. An outside idler must be flat and without any crown.
3. To find the face width of a flat idler (between flanges if flanged) add 1 ½ times the nominal belt top width to the face width of the grooved pulley used.
4. An outside idler pulley should be located as close as possible to the preceding pulley. This is because V-belts move back and forth slightly on a flat pulley and locating it as far away from the next pulley minimizes the possibility of the belt entering that pulley in a misaligned condition.
5. Idler pulleys should be located only on the slack side of a drive.



INSIDE IDLER

1. An inside idler will decrease the arc of contact.
2. An inside idler should be at least as large as the smallest pulley on the drive, unless the drive has unusually large pulleys.
3. An inside idler should better be a grooved pulley. In alternative, flat pulleys can be used.
4. A grooved inside idler pulley may be located anywhere along the span, preferably so that it gives nearly equal arcs of contact on the two adjacent pulleys.
5. Idler pulleys should be located only on the slack side of a drive.



RATED POWER CORRECTION

Because idlers impose an additional bending stress point on the V-belt, the transmittable power is reduced.

The smaller the idler diameter, the greater the bending stress, which results in a greater reduction in rated power and belt life.

To compensate this loss, the design power of the drive must be increased.

The following table gives the approximate correction factors according to the number of pulleys in the drive.

The normal power rating should be multiplied by this factor.

No. of pulleys in drive	2	3 (one idler)	4 (two idlers)
Rating Correction Factor	1,00	0,90	0,80

Note:

As stated, the above listed factors are only approximate values and apply only when idler diameters and their location is in accordance with the above recommendations.

STORAGE MAINTENANCE AND USEFUL ADVICES

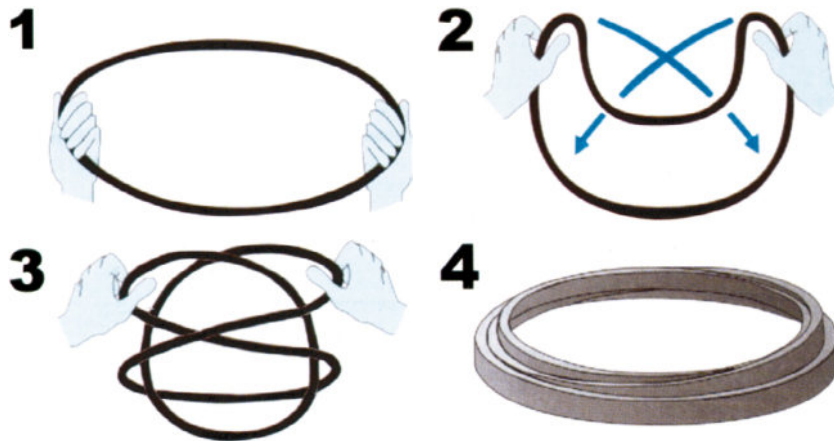
HOW TO STORE BELTS

In order to store V-Belts correctly, it is advisable to hang them on “saddles” or on large-diameter tubular brackets. This diameter should be at least ten times the height of belts cross section.

Long belts can be stacked to save space, provided that they are correctly coiled (see figures).

Short belts can be stored on shelves, but be aware that stacks should not be more than 300 mm high, as the bottom belts may be otherwise deformed.

Finally, hooks and nails are unsuitable for suspending the belts.



CONDITIONS OF STORAGE

Rubber V-belts can be stored for several years without causing any performance or reliability loss.

For a correct storage, some prescription have to be taken into account.

- Environment

The storage premises should be cool, dry and well ventilated but not draughty.

- Temperature

Storage temperature should be within +5 and +30°C.

Lower temperatures causes stiffening in the belt but are accepted in the storage. In order to avoid damages in the start-up, it becomes necessary to heat the belt up to around 20° before making it run on the machine.

Higher temperatures due to heating are to be avoided. Distance from heating sources should be at least 1 meter.

- Light

Belts should be protected from light, especially direct sunlight and artificial light with high ultraviolet rays (neon light).

- Ozone

Equipments generating ozone, like high voltage electrical machines or fluorescent light sources, should not be installed in the storage.

Also combustion gases and vapours, that can cause ozone, should be avoided.

- Chemicals

Flammable materials, lubricants, acids and any other aggressive material should not be kept in the storage. Belts elastomers may be affected or even irreparably damaged by such agents.

CLEANING

Never clean V-belts. If you need, for any reason, to clean belts use a dry towel or one soaked with a glycerine/alcohol mixture in the ratio 1:10. Other solvents such as petrol or benzene must not be used.

Sharp-edged objects must not be used for cleaning V-belts.

To ensure a long service life and high performances, it is important to design correctly the application and to take care of correct installation, maintenance and storage of the belt.

A drive must be designed in such a way to make proper provision for both installation and tensioning of the V-belts. For this purpose a take-up device is necessary; a slide adjuster on the motor is recommended to simplify installation and permit optimum tensioning.

Table 5 (see belt family pages) provides minimum variation of center distance permitted for installation and tensioning of the belts.

x	=	Take up allowance
y	=	Installation allowance
l	=	Center distance

Furthermore, the following rules must always be observed:

- 1) check the alignment of the drive pulleys;
- 2) make sure that the flanks of the grooves are clean;
- 3) adjust the tensioner to stretch the belts sufficiently;
- 4) check the tension (see following section);
- 5) check correct diameter for tensioning pulley;
- 6) protect belt from oil and other chemicals;
- 7) when installing belts, slack off tensioner and avoid using tools or implements which may damage the belts.

Pulleys with large diameters increase belt life. They must be statically balanced up to the speed of 30 m/s and dynamically balanced over this value.

TENSIONING SYSTEM

The satisfactory performance of a transmission equipped with V-belts depends on the correct fitting tension. It is therefore necessary to proceed in the following way, using the slide adjuster:

Belt tension control by deflection method

The approximate relation among deflection force, belt deflection and belt tension is given by:

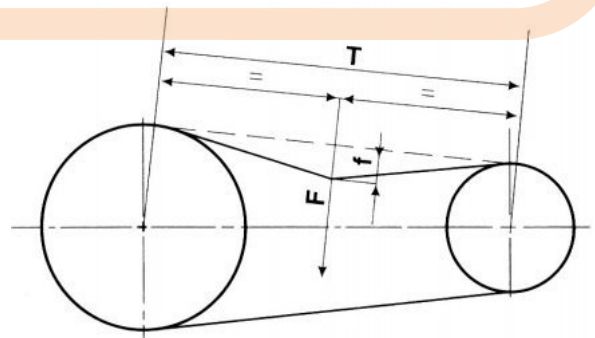
$$T_s \approx \frac{f \cdot t}{4 \cdot f}$$

Imposing a belt deflection

$$f = \frac{t}{64}$$

the deflection force should be in the range

$$F_{\min} \approx F' = \frac{T_s}{16} \quad F_{\max} \approx F'' = \frac{1,5 \cdot T_s}{16}$$



where:

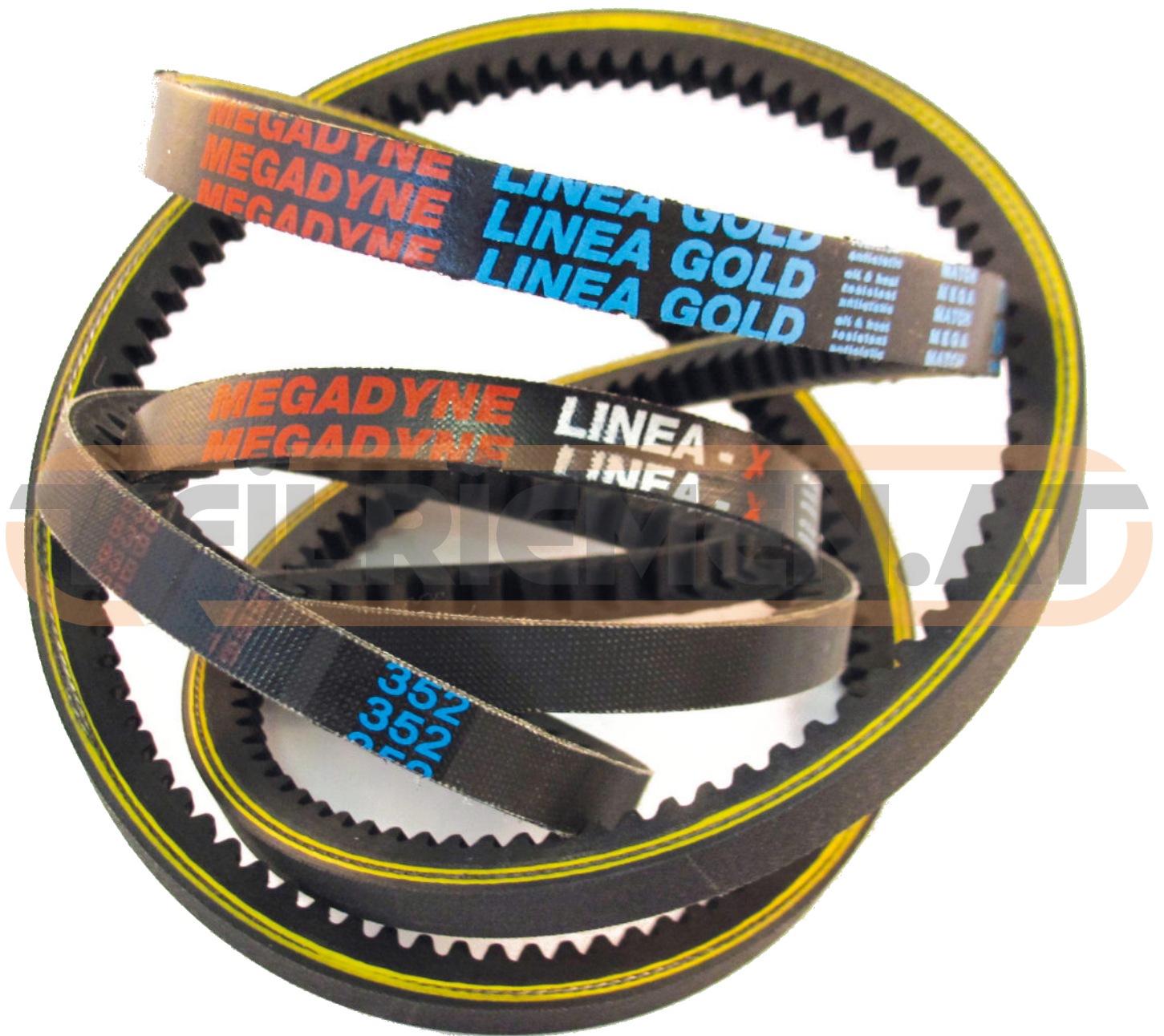
Symbol	Unit	Definition
F	N	perpendicular deflection force
f	mm	belt deflection
t	mm	free span length
T_s	N/strand	static belt tension (see page 9)

Belt tension control by vibration method

$$\text{Belt vibration frequency: } F_r^2 = \frac{T_s}{4 \cdot m \cdot t^2}$$

Symbol	Unit	Definition
F_r	Hz	natural frequency of belt
m	kg/m	specific belt mass
t	m	free span length
T_s	N/strand	static belt tension (see page 9)

NARROW RAW EDGE V-BELTS DIN



NARROW RAW EDGE V-BELTS DIN Linea-X - Linea Gold

BELT CHARACTERISTICS

section	XPZ	XPA	XPB	XPC
a (mm)	9,7	12,7	16,3	22
s (mm)	8	10	13	18
external length - pitch length = Δe (mm)	13	18	22	30
weight (gr/m)	73	122	200	355
min. pulley diam. (mm)	56	80	112	180
working temperature	-30°C / +80°C / -40°C / +110°C			
relevant standards	DIN 7753 - ISO 4184			
relevant antistatic standard	ISO 1813			
materials	EPDM compound - CR blend - polyester cord			

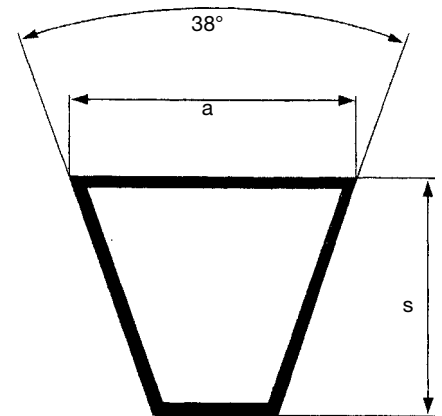


TABLE 3 - CORRECTION FACTOR C_L according to type and length of the belt

	512	630	710	732	800	900	1000	1120	1250	1400	1600	1800	2000	2240	2500	2800	3150	3550
XPZ	0,82	0,83	0,85	0,86	0,87	0,89	0,91	0,93	0,95	0,98	1,00	1,02	1,04	1,06	1,08	1,10	1,13	1,15
XPA				0,81	0,82	0,84	0,86	0,88	0,90	0,92	0,94	0,96	0,98	1,00	1,02	1,04	1,06	1,08
XPB									0,85	0,87	0,89	0,91	0,93	0,94	0,96	0,98	1,01	1,03
XPC													0,85	0,86	0,88	0,90	0,91	0,93

TABLE 5 - INSTALLATION AND TAKE UP ALLOWANCE

L (mm)	Y (mm)				X (mm)
	XPZ	XPA	XPB	XPC	
512 / 670	15	15			10
670 / 1000	15	20			14
1000 / 1250	20	20			18
1250 / 1800	20	25	30		23
1800 / 2240	25	25	30	40	28
2240 / 3000	25	30	35	45	36
3000 / 3500	30	30	40	45	44

NARROW RAW EDGE V-BELTS DIN



Linea-X XPZ SECTION

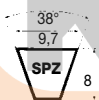
Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)
XPZ512	525	XPZ787	800	XPZ987	1000	XPZ1162	1175	XPZ1400	1413	XPZ1650	1663	XPZ2120	2133
XPZ562	575	XPZ800	813	XPZ1000	1013	XPZ1180	1193	XPZ1412	1425	XPZ1662	1675	XPZ2160	2173
XPZ587	600	XPZ812	825	XPZ1012	1025	XPZ1187	1200	XPZ1420	1433	XPZ1700	1713	XPZ2240	2253
XPZ607	620	XPZ837	850	XPZ1021	1034	XPZ1202	1215	XPZ1437	1450	XPZ1737	1726	XPZ2280	2293
XPZ612	625	XPZ850	863	XPZ1024	1037	XPZ1212	1225	XPZ1462	1475	XPZ1750	1763	XPZ2360	2373
XPZ630	643	XPZ852	865	XPZ1030	1043	XPZ1237	1250	XPZ1470	1483	XPZ1762	1775	XPZ2410	2423
XPZ637	650	XPZ862	875	XPZ1037	1050	XPZ1250	1263	XPZ1487	1500	XPZ1800	1813	XPZ2500	2513
XPZ662	675	XPZ875	888	XPZ1047	1060	XPZ1262	1275	XPZ1500	1513	XPZ1812	1825	XPZ2540	2553
XPZ670	683	XPZ887	900	XPZ1050	1163	XPZ1270	1283	XPZ1512	1525	XPZ1850	1863	XPZ2650	2663
XPZ687	700	XPZ900	913	XPZ1060	1073	XPZ1280	1293	XPZ1520	1533	XPZ1862	1875	XPZ2690	2703
XPZ710	723	XPZ912	925	XPZ1062	1075	XPZ1287	1300	XPZ1537	1550	XPZ1887	1900	XPZ2800	2813
XPZ722	735	XPZ925	938	XPZ1077	1090	XPZ1312	1325	XPZ1550	1563	XPZ1900	1913	XPZ2840	2853
XPZ730	743	XPZ937	950	XPZ1080	1093	XPZ1320	1333	XPZ1562	1575	XPZ1937	1950	XPZ3000	3013
XPZ737	750	XPZ940	953	XPZ1087	1100	XPZ1327	1340	XPZ1587	1600	XPZ1950	1963	XPZ3150	3163
XPZ750	763	XPZ950	963	XPZ1112	1125	XPZ1337	1350	XPZ1600	1613	XPZ2000	2013	XPZ3170	3183
XPZ762	775	XPZ962	975	XPZ1120	1133	XPZ1362	1375	XPZ1612	1625	XPZ2030	2043	XPZ3350	3363
XPZ772	785	XPZ975	988	XPZ1137	1150	XPZ1387	1400	XPZ1637	1650	XPZ2037	2050	XPZ3550	3563

TABLE 4 - P_b (kW) referred to Ø (mm)

RPM / Ø	56	60	63	67	71	80	90	100	112	125	132	140
100	0.10	0.12	0.13	0.14	0.16	0.19	0.23	0.27	0.32	0.37	0.39	0.43
200	0.19	0.22	0.24	0.27	0.30	0.37	0.44	0.52	0.61	0.70	0.75	0.81
500	0.41	0.48	0.54	0.61	0.68	0.84	1.02	1.20	1.41	1.64	1.76	1.90
700	0.55	0.65	0.72	0.82	0.92	1.14	1.39	1.63	1.92	2.23	2.40	2.58
900	0.68	0.81	0.90	1.03	1.15	1.43	1.74	2.05	2.41	2.80	3.01	3.25
1.000	0.74	0.88	0.99	1.13	1.26	1.57	1.91	2.25	2.65	3.09	3.32	3.58
1.400	0.99	1.18	1.32	1.51	1.70	2.12	2.59	3.05	3.59	4.18	4.49	4.85
1.500	1.04	1.25	1.40	1.60	1.80	2.25	2.75	3.24	3.82	4.45	4.78	5.16
1.700	1.16	1.39	1.56	1.78	2.01	2.52	3.07	3.62	4.27	4.97	5.34	5.76
1.800	1.21	1.45	1.64	1.87	2.11	2.64	3.23	3.81	4.49	5.22	5.61	6.05
2.500	1.58	1.91	2.15	2.47	2.79	3.51	4.29	5.06	5.97	6.93	7.43	8.00
2.900	1.78	2.15	2.43	2.80	3.16	3.97	4.86	5.73	6.75	7.82	8.39	9.02
3.000	1.82	2.21	2.49	2.87	3.25	4.09	5.00	5.89	6.94	8.04	8.62	9.26
3.500	2.05	2.49	2.82	3.25	3.68	4.63	5.67	6.67	7.84	9.06	9.69	10.39
3.600	2.09	2.55	2.88	3.32	3.76	4.74	5.79	6.82	8.01	9.25	9.89	10.60
4.000	2.26	2.76	3.12	3.61	4.09	5.15	6.29	7.39	8.67	9.97	10.65	
4.500	2.46	3.00	3.41	3.94	4.46	5.62	6.86	8.05	9.41	10.78	11.47*	
5.000	2.64	3.23	3.67	4.25	4.81	6.06	7.39	8.64	10.06	11.46*	12.15*	

P_a (kW) referred to i

RPM / i	1,00/1,01	1,02/1,05	1,06/1,26	1,27/1,57	over 1,57
100	0.00	0.00	0.01	0.01	0.01
200	0.00	0.00	0.02	0.02	0.03
500	0.00	0.01	0.04	0.06	0.07
700	0.00	0.01	0.06	0.08	0.10
900	0.00	0.01	0.07	0.10	0.12
1.000	0.00	0.01	0.08	0.11	0.14
1.400	0.00	0.02	0.11	0.16	0.19
1.500	0.00	0.02	0.12	0.17	0.21
1.700	0.00	0.02	0.14	0.19	0.24
1.800	0.00	0.02	0.14	0.21	0.25
2.500	0.00	0.03	0.20	0.29	0.35
2.900	0.00	0.04	0.23	0.33	0.40
3.000	0.00	0.04	0.24	0.34	0.42
3.500	0.00	0.04	0.28	0.40	0.49
3.600	0.00	0.04	0.29	0.41	0.50
4.000	0.00	0.05	0.32	0.46	0.55
4.500	0.00	0.06	0.36	0.52	0.62
5.000	0.00	0.06	0.40	0.57	0.69



Linea Gold XPZ SECTION

Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)
XPZ512	525	XPZ787	800	XPZ1000	1013	XPZ1180	1193	XPZ1412	1425	XPZ1662	1675	XPZ2160	2173
XPZ562	575	XPZ800	813	XPZ1021	1034	XPZ1187	1200	XPZ1420	1433	XPZ1700	1713	XPZ2240	2253
XPZ587	600	XPZ812	825	XPZ1012	1025	XPZ1202	1215	XPZ1437	1450	XPZ1737	1726	XPZ2280	2293
XPZ607	620	XPZ837	850	XPZ1024	1037	XPZ1212	1225	XPZ1462	1475	XPZ1750	1763	XPZ2360	2373
XPZ612	625	XPZ850	863	XPZ1030	1043	XPZ1237	1250	XPZ1470	1483	XPZ1762	1775	XPZ2410	2423
XPZ630	643	XPZ852	865	XPZ1037	1050	XPZ1250	1263	XPZ1487	1500	XPZ1800	1813	XPZ2500	2513
XPZ637	650	XPZ862	875	XPZ1047	1060	XPZ1262	1275	XPZ1500	1513	XPZ1812	1825	XPZ2540	2553
XPZ662	675	XPZ875	888	XPZ1060	1073	XPZ1270	1283	XPZ1512	1525	XPZ1850	1863	XPZ2650	2663
XPZ670	683	XPZ887	900	XPZ1062	1075	XPZ1280	1293	XPZ1520	1533	XPZ1862	1875	XPZ2690	2703
XPZ687	700	XPZ900	913	XPZ1077	1090	XPZ1287	1300	XPZ1537	1550	XPZ1887	1900	XPZ2800	2813
XPZ710	723	XPZ912	925	XPZ1080	1093	XPZ1312	1325	XPZ1550	1563	XPZ1900	1913	XPZ2840	2853
XPZ722	735	XPZ925	938	XPZ1087	1100	XPZ1320	1333	XPZ1562	1575	XPZ1937	1950	XPZ3000	3013
XPZ730	743	XPZ937	950	XPZ1112	1125	XPZ1327	1340	XPZ1587	1600	XPZ1950	1963	XPZ3150	3163
XPZ737	750	XPZ940	953	XPZ1120	1133	XPZ1337	1350	XPZ1600	1613	XPZ2000	2013	XPZ3170	3183
XPZ750	763	XPZ950	963	XPZ1137	1150	XPZ1362	1375	XPZ1612	1625	XPZ2030	2043	XPZ3350	3363
XPZ762	775	XPZ962	975	XPZ1150	1163	XPZ1387	1400	XPZ1637	1650	XPZ2037	2050	XPZ3550	3563
XPZ772	785	XPZ975	988	XPZ1162	1175	XPZ1400	1413	XPZ1650	1663	XPZ2120	2133		

TABLE 4 - P_b (kW) referred to Ø (mm)

RPM / Ø	56	60	63	67	71	80	90	100	112	125	132	140
100	0.13	0.16	0.17	0.19	0.21	0.26	0.32	0.37	0.43	0.50	0.54	0.58
200	0.25	0.29	0.32	0.37	0.41	0.50	0.61	0.71	0.83	0.97	1.04	1.12
500	0.57	0.67	0.74	0.85	0.95	1.17	1.42	1.67	1.96	2.28	2.45	2.65
700	0.77	0.90	1.01	1.15	1.29	1.60	1.94	2.28	2.69	3.12	3.36	3.63
900	0.95	1.13	1.26	1.44	1.62	2.01	2.45	2.88	3.39	3.94	4.24	4.58
1.000	1.05	1.24	1.39	1.58	1.78	2.21	2.69	3.17	3.74	4.35	4.67	5.04
1.400	1.40	1.67	1.87	2.14	2.41	3.00	3.66	4.31	5.08	5.91	6.35	6.85
1.500	1.49	1.78	1.99	2.28	2.56	3.20	3.90	4.59	5.41	6.29	6.76	7.29
1.700	1.66	1.98	2.22	2.54	2.86	3.58	4.36	5.14	6.05	7.04	7.56	8.15
1.800	1.74	2.08	2.34	2.68	3.01	3.76	4.59	5.40	6.37	7.40	7.95	8.57
2.500	2.30	2.76	3.10	3.56	4.01	5.02	6.12	7.20	8.46	9.80	10.50	11.29
2.900	2.59	3.12	3.51	4.03	4.54	5.69	6.93	8.15	9.56	11.04	11.82	12.68
3.000	2.66	3.20	3.61	4.14	4.67	5.85	7.13	8.38	9.83	11.34	12.12	13.00
3.500	3.00	3.63	4.09	4.70	5.30	6.63	8.07	9.46	11.06	12.70	13.55	14.47
3.600	3.07	3.71	4.18	4.80	5.42	6.78	8.25	9.66	11.29	12.95	13.80	14.73
4.000	3.32	4.02	4.53	5.21	5.88	7.35	8.93	10.44	12.15	13.87	14.74	15.68
4.500	3.62	4.38	4.94	5.69	6.42	8.01	9.71	11.30	13.08	14.83	15.68*	16.58*
5.000	3.88	4.71	5.32	6.12	6.90	8.61	10.39	12.04	13.84	15.55*	16.35*	

P_a (kW) referred to i

RPM / i	1,00/1,01	1,02/1,05	1,06/1,26	1,27/1,57	over 1,57
100	0.00	0.00	0.01	0.01	0.01
200	0.00	0.00	0.02	0.02	0.03
500	0.00	0.01	0.04	0.06	0.07
700	0.00	0.01	0.06	0.08	0.10
900	0.00	0.01	0.07	0.10	0.12
1.000	0.00	0.01	0.08	0.11	0.14
1.400	0.00	0.02	0.11	0.16	0.19
1.500	0.00	0.02	0.12	0.17	0.21
1.700	0.00	0.02	0.14	0.20	0.24
1.800	0.00	0.02	0.14	0.21	0.25
2.500	0.00	0.03	0.20	0.29	0.35

NARROW RAW EDGE V-BELTS DIN



Linea-X XPA SECTION

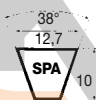
Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)
XPA667	685	XPA950	968	XPA1157	1175	XPA1382	1400	XPA1650	1668	XPA1982	2000	XPA2582	2600
XPA682	700	XPA957	975	XPA1162	1180	XPA1400	1418	XPA1657	1675	XPA2000	2018	XPA2607	2625
XPA732	750	XPA965	983	XPA1180	1198	XPA1407	1425	XPA1682	1700	XPA2032	2050	XPA2632	2650
XPA757	775	XPA969	987	XPA1182	1200	XPA1420	1438	XPA1700	1718	XPA2057	2075	XPA2650	2668
XPA765	783	XPA982	1000	XPA1207	1225	XPA1432	1450	XPA1732	1750	XPA2082	2100	XPA2682	2700
XPA782	800	XPA1000	1018	XPA1215	1233	XPA1450	1468	XPA1750	1768	XPA2120	2138	XPA2732	2750
XPA800	818	XPA1007	1025	XPA1232	1250	XPA1457	1475	XPA1757	1775	XPA2160	2178	XPA2782	2800
XPA807	825	XPA1032	1050	XPA1250	1268	XPA1482	1500	XPA1782	1800	XPA2182	2200	XPA2800	2818
XPA832	850	XPA1057	1075	XPA1257	1275	XPA1500	1518	XPA1800	1818	XPA2240	2258	XPA3000	3018
XPA850	868	XPA1060	1078	XPA1272	1290	XPA1507	1525	XPA1832	1850	XPA2282	2300	XPA3150	3168
XPA857	875	XPA1082	1100	XPA1282	1300	XPA1532	1550	XPA1850	1868	XPA2300	2318	XPA3350	3368
XPA882	900	XPA1107	1125	XPA1307	1325	XPA1557	1575	XPA1882	1900	XPA2360	2378	XPA3550	3568
XPA900	918	XPA1120	1138	XPA1320	1338	XPA1582	1600	XPA1900	1918	XPA2432	2450	XPA3750	3768
XPA907	925	XPA1132	1150	XPA1332	1350	XPA1600	1618	XPA1932	1950	XPA2482	2500	XPA4000	4018
XPA925	943	XPA1140	1158	XPA1357	1375	XPA1607	1625	XPA1950	1968	XPA2500	2518	XPA4250	4268
XPA932	950	XPA1150	1168	XPA1367	1385	XPA1632	1650	XPA1957	1975	XPA2532	2550	XPA4500	4518

TABLE 4 - P_b (kW) referred to Ø (mm)

RPM / Ø	80	85	90	95	100	106	112	125	140	160	180	200
100	0,25	0,28	0,31	0,34	0,37	0,41	0,45	0,53	0,63	0,75	0,87	1,00
200	0,45	0,51	0,58	0,64	0,70	0,77	0,85	1,00	1,18	1,42	1,66	1,90
500	1,00	1,15	1,29	1,44	1,58	1,76	1,93	2,30	2,73	3,29	3,85	4,40
700	1,33	1,53	1,73	1,93	2,13	2,37	2,60	3,11	3,69	4,46	5,23	5,98
900	1,65	1,90	2,15	2,40	2,65	2,95	3,25	3,89	4,63	5,60	6,55	7,50
1.000	1,80	2,08	2,35	2,63	2,91	3,24	3,57	4,28	5,08	6,15	7,20	8,24
1.400	2,37	2,76	3,13	3,51	3,89	4,34	4,79	5,75	6,84	8,28	9,70	11,09
1.500	2,51	2,92	3,32	3,72	4,13	4,60	5,08	6,10	7,27	8,80	10,30	11,78
1.700	2,78	3,23	3,69	4,14	4,59	5,12	5,66	6,80	8,10	9,80	11,47	13,11
1.800	2,91	3,39	3,87	4,34	4,82	5,38	5,94	7,14	8,51	10,29	12,04	13,75
2.500	3,77	4,41	5,05	5,69	6,32	7,07	7,81	9,40	11,19	13,51	15,74	17,89
2.900	4,21	4,95	5,67	6,39	7,11	7,96	8,80	10,58	12,59	15,16	17,61	19,93*
3.000	4,32	5,07	5,82	6,56	7,30	8,17	9,03	10,87	12,92	15,55	18,04	20,40*
3.500	4,82	5,68	6,53	7,37	8,20	9,19	10,16	12,21	14,48	17,35	20,02*	
3.600	4,92	5,80	6,67	7,53	8,38	9,38	10,37	12,46	14,77	17,68*	20,37*	
4.000	5,28	6,24	7,18	8,11	9,03	10,11	11,18	13,41	15,86	18,89*		
4.500	5,69	6,73	7,76	8,78	9,77	10,94	12,09	14,46	17,03*			
5.000	6,04	7,17	8,28	9,36	10,42	11,67	12,87	15,36*				

P_d (kW) referred to i

RPM / i	1,00/1,01	1,02/1,05	1,06/1,26	1,27/1,57	over 1,57
100	0,00	0,00	0,02	0,03	0,03
200	0,00	0,01	0,04	0,05	0,06
500	0,00	0,01	0,09	0,13	0,16
700	0,00	0,02	0,13	0,18	0,22
900	0,00	0,03	0,16	0,23	0,28
1.000	0,00	0,03	0,18	0,26	0,31
1.400	0,00	0,04	0,25	0,36	0,44
1.500	0,00	0,04	0,27	0,39	0,47
1.700	0,00	0,05	0,30	0,44	0,53
1.800	0,00	0,05	0,32	0,46	0,56
2.500	0,00	0,07	0,45	0,64	0,78
2.900	0,00	0,08	0,52	0,75	0,90
3.000	0,00	0,08	0,54	0,77	0,93
3.500	0,00	0,10	0,63	0,90	1,09
3.600	0,00	0,10	0,64	0,93	1,12
4.000	0,00	0,11	0,72	1,03	1,24
4.500	0,00	0,13	0,81	1,16	1,40
5.000	0,00	0,14	0,90	1,29	1,56



Linea Gold XPA SECTION

Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)
XPA667	685	XPA950	968	XPA1157	1175	XPA1382	1400	XPA1650	1668	XPA1982	2000	XPA2582	2600
XPA682	700	XPA957	975	XPA1162	1180	XPA1400	1418	XPA1657	1675	XPA2000	2018	XPA2607	2625
XPA732	750	XPA965	983	XPA1180	1198	XPA1407	1425	XPA1682	1700	XPA2032	2050	XPA2632	2650
XPA757	775	XPA969	987	XPA1182	1200	XPA1420	1438	XPA1700	1718	XPA2057	2075	XPA2650	2668
XPA765	783	XPA982	1000	XPA1207	1225	XPA1432	1450	XPA1732	1750	XPA2082	2100	XPA2682	2700
XPA782	800	XPA1000	1018	XPA1215	1233	XPA1450	1468	XPA1750	1768	XPA2120	2138	XPA2732	2750
XPA800	818	XPA1007	1025	XPA1232	1250	XPA1457	1475	XPA1757	1775	XPA2160	2178	XPA2782	2800
XPA807	825	XPA1032	1050	XPA1250	1268	XPA1482	1500	XPA1782	1800	XPA2182	2200	XPA2800	2818
XPA832	850	XPA1057	1075	XPA1257	1275	XPA1500	1518	XPA1800	1818	XPA2240	2258	XPA3000	3018
XPA850	868	XPA1060	1078	XPA1272	1290	XPA1507	1525	XPA1832	1850	XPA2282	2300	XPA3150	3168
XPA857	875	XPA1082	1100	XPA1282	1300	XPA1532	1550	XPA1850	1868	XPA2300	2318	XPA3350	3368
XPA882	900	XPA1107	1125	XPA1307	1325	XPA1557	1575	XPA1882	1900	XPA2360	2378	XPA3550	3568
XPA900	918	XPA1120	1138	XPA1320	1338	XPA1582	1600	XPA1900	1918	XPA2432	2450	XPA3750	3768
XPA907	925	XPA1132	1150	XPA1332	1350	XPA1600	1618	XPA1932	1950	XPA2482	2500	XPA4000	4018
XPA925	943	XPA1140	1158	XPA1357	1375	XPA1607	1625	XPA1950	1968	XPA2500	2518	XPA4250	4268
XPA932	950	XPA1150	1168	XPA1367	1385	XPA1632	1650	XPA1957	1975	XPA2532	2550	XPA4500	4518

TABLE 4 - P_b (kW) referred to Ø (mm)

RPM / Ø	80	85	90	95	100	106	112	125	140	160	180	200
100	0,31	0,35	0,39	0,43	0,47	0,52	0,57	0,67	0,80	0,96	1,11	1,27
200	0,57	0,65	0,73	0,81	0,89	0,99	1,08	1,28	1,52	1,83	2,14	2,44
500	1,30	1,49	1,68	1,87	2,06	2,29	2,51	3,00	3,56	4,30	5,03	5,76
700	1,75	2,01	2,27	2,54	2,80	3,11	3,42	4,08	4,85	5,86	6,87	7,86
900	2,18	2,51	2,85	3,18	3,51	3,90	4,29	5,14	6,10	7,38	8,65	9,90
1.000	2,39	2,76	3,13	3,49	3,85	4,29	4,72	5,65	6,72	8,13	9,52	10,89
1.400	3,20	3,70	4,20	4,70	5,20	5,79	6,38	7,65	9,09	10,99	12,96	14,69
1.500	3,39	3,93	4,46	4,99	5,52	6,15	6,78	8,13	9,67	11,68	13,66	15,60
1.700	3,77	4,37	4,97	5,57	6,16	6,87	7,57	9,08	10,79	13,03	15,22	17,36
1.800	3,96	4,59	5,22	5,85	6,47	7,21	7,95	9,54	11,34	13,69	15,98	18,20
2.500	5,18	6,03	6,87	7,71	8,54	9,53	10,51	12,59	14,93	17,93	20,80	23,51
2.900	5,82	6,79	7,74	8,69	9,63	10,74	11,84	14,17	16,76	20,05	23,13	25,99*
3.000	5,97	6,97	7,95	8,93	9,89	11,03	12,16	14,54	17,19	20,54	23,66	26,53*
3.500	6,70	7,83	8,94	10,04	11,12	12,40	13,65	16,29	19,17	22,74	25,96*	
3.600	6,83	7,99	9,12	10,25	11,35	12,65	13,93	16,61	19,53	23,13*	26,35*	
4.000	7,35	8,60	9,83	11,03	12,22	13,61	14,97	17,80	20,84	24,49*		
4.500	7,92	9,28	10,61	11,91	13,18	14,67	16,11	19,06	22,15*			
5.000	8,41	9,86	11,28	12,66	13,99	15,54	17,03	20,03*				

P_d (kW) referred to i

RPM / i	1,00/1,01	1,02/1,05	1,06/1,26	1,27/1,57	over 1,57
100	0,00	0,00	0,02	0,03	0,03
200	0,00	0,01	0,04	0,05	0,06
500	0,00	0,01	0,09	0,13	0,16
700	0,00	0,02	0,13	0,18	0,22
900	0,00	0,03	0,16	0,23	0,28
1.000	0,00	0,03	0,18	0,26	0,31
1.400	0,00	0,04	0,25	0,36	0,44
1.500	0,00	0,04	0,27	0,39	0,47
1.700	0,00	0,05	0,30	0,44	0,53
1.800	0,00	0,05	0,32	0,46	0,56
2.500	0,00	0,07	0,45	0,64	0,78
2.900	0,00	0,08	0,52	0,75	0,90
3.000	0,00	0,08	0,54	0,77	0,93
3.500	0,00	0,10	0,63	0,90	1,09
3.600	0,00	0,10	0,64	0,93	1,12
4.000	0,00	0,11	0,72	1,03	1,24
4.500	0,00	0,13	0,81	1,16	1,40
5.000	0,00	0,14	0,90	1,29	1,56

* Belt speed is greater than 30 m/s then

NARROW RAW EDGE V-BELTS DIN



Linea-X XPB SECTION

Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)
XPB1250	1272	XPB1550	1572	XPB1850	1872	XPB2180	2202	XPB2580	2602	XPB3150	3172	XPB4250	4272
XPB1260	1282	XPB1590	1612	XPB1900	1922	XPB2240	2262	XPB2650	2672	XPB3170	3192	XPB4500	4522
XPB1320	1342	XPB1600	1622	XPB1950	1972	XPB2280	2302	XPB2680	2702	XPB3340	3362	XPB4560	4582
XPB1340	1362	XPB1650	1672	XPB1970	1982	XPB2300	2322	XPB2800	2822	XPB3350	3372	XPB4750	4772
XPB1400	1422	XPB1690	1712	XPB2000	2022	XPB2360	2382	XPB2840	2862	XPB3550	3572	XPB5000	5022
XPB1410	1432	XPB1700	1722	XPB2020	2042	XPB2410	2432	XPB2900	2922	XPB3750	3772		
XPB1450	1472	XPB1710	1732	XPB2060	2082	XPB2430	2452	XPB2990	3012	XPB3800	3822		
XPB1500	1522	XPB1750	1772	XPB2120	2142	XPB2500	2522	XPB3000	3022	XPB4000	4022		
XPB1510	1532	XPB1800	1822	XPB2150	2172	XPB2530	2552	XPB3070	3092	XPB4060	4082		

TABLE 4 - P_b (kW) referred to Ø (mm)

RPM / Ø	112	118	125	132	140	160	180	200	224	250	265	280
100	0,57	0,63	0,70	0,77	0,85	1,06	1,26	1,46	1,70	1,95	2,10	2,25
200	1,04	1,16	1,30	1,44	1,60	1,99	2,37	2,76	3,22	3,71	3,99	4,27
500	2,32	2,60	2,93	3,25	3,63	4,55	5,46	6,37	7,44	8,60	9,27	9,93
700	3,10	3,48	3,93	4,38	4,88	6,14	7,39	8,63	10,09	11,67	12,57	13,47
900	3,84	4,32	4,89	5,45	6,09	7,68	9,24	10,80	12,64	14,61	15,74	16,85
1.000	4,19	4,73	5,35	5,97	6,67	8,42	10,15	11,85	13,88	16,04	17,27	18,49
1.400	5,54	6,27	7,12	7,96	8,91	11,28	13,60	15,89	18,59	21,45	23,07	24,66
1.500	5,86	6,64	7,54	8,43	9,45	11,96	14,43	16,85	19,70	22,72	24,42	26,10
1.700	6,48	7,35	8,36	9,36	10,49	13,29	16,03	18,72	21,86	25,17	27,03	28,85
1.800	6,79	7,70	8,76	9,81	11,00	13,93	16,81	19,62	22,90	26,34	28,27	30,16
2.500	8,73	9,94	11,34	12,73	14,29	18,11	21,79	25,33	29,37	33,48*	35,72*	
2.900	9,71	11,08	12,65	14,21	15,95	20,19	24,23	28,06*	32,36*			
3.000	9,94	11,35	12,96	14,55	16,34	20,68	24,79	28,68*				
3.500	11,00	12,57	14,37	16,14	18,12	22,86	27,28*					
3.600	11,19	12,79	14,63	16,43	18,45	23,25*	27,71*					
4.000	11,88	13,60	15,57	17,48	19,61	24,63*						
4.500	12,59	14,43	16,52	18,54*	20,77*							
5.000	13,10	15,04*	17,22*	19,31*								

P_a (kW) referred to i

RPM / i	1,00/1,01	1,02/1,05	1,06/1,26	1,27/1,57	over 1,57
100	0,00	0,01	0,04	0,06	0,07
200	0,00	0,01	0,08	0,11	0,14
500	0,00	0,03	0,20	0,28	0,34
700	0,00	0,04	0,27	0,39	0,47
900	0,00	0,05	0,35	0,50	0,61
1.000	0,00	0,06	0,39	0,56	0,68
1.400	0,00	0,09	0,55	0,78	0,95
1.500	0,00	0,09	0,59	0,84	1,02
1.700	0,00	0,10	0,66	0,95	1,15
1.800	0,00	0,11	0,70	1,01	1,22
2.500	0,00	0,15	0,98	1,40	1,69
2.900	0,00	0,18	1,13	1,62	1,97
3.000	0,00	0,18	1,17	1,68	2,03
3.500	0,00	0,21	1,37	1,96	2,37
3.600	0,00	0,22	1,40	2,02	2,44
4.000	0,00	0,24	1,56	2,24	2,71
4.500	0,00	0,27	1,76	2,52	3,05
5.000	0,00	0,31	1,95	2,80	3,39



Linea Gold XPB SECTION

Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)
XPB1250	1272	XPB1550	1672	XPB1850	1872	XPB2180	2202	XPB2580	2602	XPB3150	3172	XPB4250	4272
XPB1260	1282	XPB1590	1612	XPB1900	1922	XPB2240	2262	XPB2650	2672	XPB3170	3192	XPB4500	4522
XPB1320	1342	XPB1600	1622	XPB1950	1972	XPB2280	2302	XPB2680	2702	XPB3340	3362	XPB4560	4582
XPB1340	1362	XPB1650	1672	XPB1970	1982	XPB2300	2322	XPB2800	2822	XPB3350	3372	XPB4750	4772
XPB1400	1422	XPB1690	1712	XPB2000	2022	XPB2360	2382	XPB2840	2862	XPB3550	3572	XPB5000	5022
XPB1410	1432	XPB1700	1722	XPB2020	2042	XPB2410	2432	XPB2900	2922	XPB3750	3772		
XPB1450	1472	XPB1710	1732	XPB2060	2082	XPB2430	2452	XPB2990	3012	XPB3800	3822		
XPB1500	1522	XPB1750	1772	XPB2120	2142	XPB2500	2522	XPB3000	3022	XPB4000	4022		
XPB1510	1532	XPB1800	1822	XPB2150	2172	XPB2530	2552	XPB3070	3092	XPB4060	4082		

TABLE 4 - P_b (kW) referred to Ø (mm)

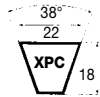
RPM / Ø	112	118	125	132	140	160	180	200	224	250	265	280
100	0,73	0,81	0,90	0,99	1,10	1,37	1,63	1,89	2,21	2,54	2,74	2,93
200	1,36	1,52	1,70	1,88	2,09	2,60	3,11	3,62	4,23	4,88	5,26	5,63
500	3,10	3,47	3,91	4,34	4,83	6,06	7,29	8,50	9,95	11,50	12,40	13,29
700	4,18	4,69	5,29	5,89	6,57	8,26	9,93	11,60	13,58	15,70	16,92	18,14
900	5,21	5,87	6,62	7,38	8,24	10,38	12,49	14,59	17,09	19,76	21,29	22,81
1.000	5,72	6,44	7,28	8,11	9,06	11,41	13,75	16,06	18,80	21,74	23,41	25,07
1.400	7,66	8,64	9,78	10,92	12,21	15,42	18,58	21,69	25,37	29,27	31,49	33,67
1.500	8,12	9,17	10,39	11,60	12,98	16,38	19,74	23,04	26,94	31,06	33,40	35,70
1.700	9,03	10,21	11,57	12,93	14,47	18,27	22,00	25,67	29,97	34,51	37,07	39,57
1.800	9,48	10,71	12,15	13,57	15,19	19,19	23,11	26,95	31,44	36,17	38,82	41,42
2.500	12,39	14,04	15,94	17,83	19,97	25,20	30,25	35,12	40,70	46,40*	49,51*	
2.900	13,89	15,76	17,91	20,03	22,43	28,25	33,82	39,11*	45,08*			
3.000	14,25	16,16	18,37	20,55	23,01	28,97	34,65	40,03*				
3.500	15,91	18,07	20,55	22,98	25,70	32,25	38,37*					
3.600	16,22	18,42	20,95	23,42	26,20	32,84*	39,02*					
4.000	17,36	19,73	22,43	25,08	28,02	34,98*						
4.500	18,59	21,13	24,01	26,82	29,91*							
5.000	19,56	22,24*	25,26*	28,17*								

P_a (kW) referred to i

RPM / i	1,00/1,01	1,02/1,05	1,06/1,26	1,27/1,57	over 1,57
100	0,00	0,01	0,04	0,06	0,07
200	0,00	0,01	0,08	0,11	0,14
500	0,00	0,03	0,20	0,28	0,34
700	0,00	0,04	0,27	0,39	0,47
900	0,00	0,05	0,35	0,50	0,61
1.000	0,00	0,06	0,39	0,56	0,68
1.400	0,00	0,09	0,55	0,78	0,95
1.500	0,00	0,09	0,59	0,84	1,02
1.700	0,00	0,10	0,66	0,95	1,15
1.800	0,00	0,11	0,70	1,01	1,22
2.500	0,00	0,15	0,98	1,40	1,69
2.900	0,00	0,18	1,13	1,62	1,97
3.000	0,00	0,18	1,17	1,68	2,03
3.500	0,00	0,21	1,37	1,96	2,37
3.600	0,00	0,22	1,40	2,02	2,44
4.000	0,00	0,24	1,56	2,24	2,71
4.500	0,00	0,27	1,76	2,52	3,05
5.000	0,00	0,31	1,95	2,80	3,39

* Belt speed is greater than 30 m/s then is necessary to use dynamically balanced pulleys. A reduction in belt life can be expected. Suggested a smaller section.

NARROW RAW EDGE V-BELTS DIN



Linea-X XPC SECTION

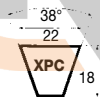
Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)
XPC2000	2030	XPC2360	2390	XPC2800	2830	XPC3350	3380	XPC4000	4030	XPC4750	4780
XPC2120	2150	XPC2500	2530	XPC3000	3030	XPC3550	3580	XPC4250	4280	XPC5000	5030
XPC2240	2270	XPC2650	2680	XPC3150	3180	XPC3750	3780	XPC4500	4530		

TABLE 4 - P_b (kW) referred to Ø (mm)

RPM / Ø	180	200	224	250	280	315	335	400	500	560	630	710
100	1,47	1,76	2,10	2,47	2,90	3,40	3,68	4,60	6,01	6,86	7,83	8,95
200	2,86	3,43	4,10	4,84	5,68	6,66	7,22	9,02	11,79	13,43	15,35	17,52
300	4,22	5,06	6,07	7,15	8,40	9,85	10,68	13,35	17,43	19,85	22,66	25,83
400	5,56	6,67	8,00	9,43	11,08	12,99	14,08	17,60	22,94	26,10	29,74	33,84
500	6,88	8,25	9,90	11,68	13,72	16,08	17,43	21,76	28,31	32,16	36,57	41,50
600	8,18	9,82	11,78	13,90	16,32	19,12	20,72	25,83	33,51	38,00	43,10	48,75
700	9,46	11,36	13,64	16,08	18,88	22,11	23,94	29,80	38,54	43,59	49,29	55,51
900	11,98	14,39	17,26	20,34	23,85	27,89	30,17	37,40	47,96	53,91	60,45	67,32
1.000	13,22	15,87	19,03	22,42	26,27	30,68	33,17	41,01	52,30	58,57	65,32	
1.400	17,97	21,56	25,80	30,30	35,35	41,05	44,20	53,86				
1.500	19,11	22,92	27,40	32,15	37,46	43,41	46,69	56,62				
1.700	21,32	25,54	30,49	35,68	41,44	47,82	51,28					
1.800	22,39	26,81	31,97	37,36	43,32	49,85	53,37					
2.000	24,45	29,23	34,78	40,53	46,80	53,55						
2.500	29,12	34,65	40,91	47,20								
2.900	32,28	38,19	44,73									
3.000	32,98	38,96										
3.500	35,89											

P_d (kW) referred to i

RPM / i	1,00/1,01	1,02/1,05	1,06/1,26	1,27/1,57	over 1,57
100	0,00	0,01	0,07	0,10	0,12
200	0,00	0,02	0,14	0,20	0,25
300	0,00	0,03	0,21	0,30	0,37
400	0,00	0,04	0,28	0,41	0,49
500	0,00	0,06	0,35	0,51	0,61
600	0,00	0,07	0,42	0,61	0,74
700	0,00	0,08	0,49	0,71	0,86
900	0,00	0,10	0,64	0,91	1,10
1.000	0,00	0,11	0,71	1,01	1,23
1.400	0,00	0,15	0,99	1,42	1,72
1.500	0,00	0,17	1,06	1,52	1,84
1.700	0,00	0,19	1,20	1,72	2,08
1.800	0,00	0,20	1,27	1,82	2,21
2.000	0,00	0,22	1,41	2,03	2,45
2.500	0,00	0,28	1,76	2,53	3,07
2.900	0,00	0,32	2,05	2,94	3,56
3.000	0,00	0,33	2,12	3,04	3,68
3.500	0,00	0,39	2,47	3,55	4,29



Linea Gold XPC SECTION

Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)	Code	External length LE (mm)
XPC2000	2030	XPC2360	2390	XPC2800	2830	XPC3350	3380	XPC4000	4030	XPC4750	4780
XPC2120	2150	XPC2500	2530	XPC3000	3030	XPC3550	3580	XPC4250	4280	XPC5000	5030
XPC2240	2270	XPC2650	2680	XPC3150	3180	XPC3750	3780	XPC4500	4530		

TABLE 4 - P_b (kW) referred to Ø (mm)

RPM / Ø	180	200	224	250	280	315	335	400	500	560	630	710
100	1,84	2,26	2,76	3,31	3,93	4,66	5,08	6,43	8,50	9,74	11,18	12,82
200	3,60	4,43	5,42	6,50	7,74	9,18	10,00	12,66	16,73	19,16	21,98	25,19
300	5,32	6,56	8,04	9,64	11,48	13,62	14,83	18,78	24,78	28,35	32,48	37,15
400	7,02	8,66	10,62	12,73	15,16	17,98	19,59	24,77	32,63	37,26	42,60	48,59
500	8,70	10,73	13,16	15,78	18,79	22,27	24,25	30,62	40,22	45,84	52,26	59,38
600	10,35	12,77	15,66	18,78	22,35	26,48	28,82	36,32	47,53	54,02	61,36	69,38
700	11,98	14,78	18,13	21,73	25,84	30,59	33,27	41,84	54,50	61,74	69,80	78,46
900	15,16	18,71	22,93	27,45	32,59	38,49	41,80	52,24	67,23	75,49	84,34	93,27
1.000	16,71	20,62	25,26	30,21	35,84	42,25	45,84	57,08	72,90	81,40	90,22	
1.400	22,59	27,83	33,99	40,49	47,73	55,79	60,20	73,39				
1.500	23,97	29,51	36,01	42,83	50,39	58,74	63,26	76,58				
1.700	26,61	32,72	39,82	47,20	55,27	64,02	68,66					
1.800	27,86	34,23	41,60	49,22	57,48	66,32	70,95					
2.000	30,23	37,06	44,90	52,89	61,38	70,21						
2.500	35,21	42,88	51,38	59,61								
2.900	38,08	46,02	54,44									
3.000	38,63	46,56										
3.500	40,19											

P_d (kW) referred to i

RPM / i	1,00/1,01	1,02/1,05	1,06/1,26	1,27/1,57	over 1,57
100	0,00	0,01	0,07	0,10	0,12
200	0,00	0,02	0,14	0,20	0,25
300	0,00	0,03	0,21	0,30	0,37
400	0,00	0,04	0,28	0,41	0,49
500	0,00	0,06	0,35	0,51	0,61
600	0,00	0,07	0,42	0,61	0,74
700	0,00	0,08	0,49	0,71	0,86
900	0,00	0,10	0,64	0,91	1,10
1.000	0,00	0,11	0,71	1,01	1,23
1.400	0,00	0,15	0,99	1,42	1,72
1.500	0,00	0,17	1,06	1,52	1,84
1.700	0,00	0,19	1,20	1,72	2,08
1.800	0,00	0,20	1,27	1,82	2,21
2.000	0,00	0,22	1,41	2,03	2,45
2.500	0,00	0,28	1,76	2,53	3,07
2.900	0,00	0,32	2,05	2,94	3,56
3.000	0,00	0,33	2,12	3,04	3,68
3.500	0,00	0,39	2,47	3,55	4,29

DATA SHEET FOR CALCULATION

CUSTOMER DATA

Date ____/____/____

Company Name _____
 Address _____ Zip Code _____
 City _____ State _____ Country _____
 Customer Name/Surname _____
 Office _____ Tel. _____ Fax _____
 e-mail _____

Application field _____

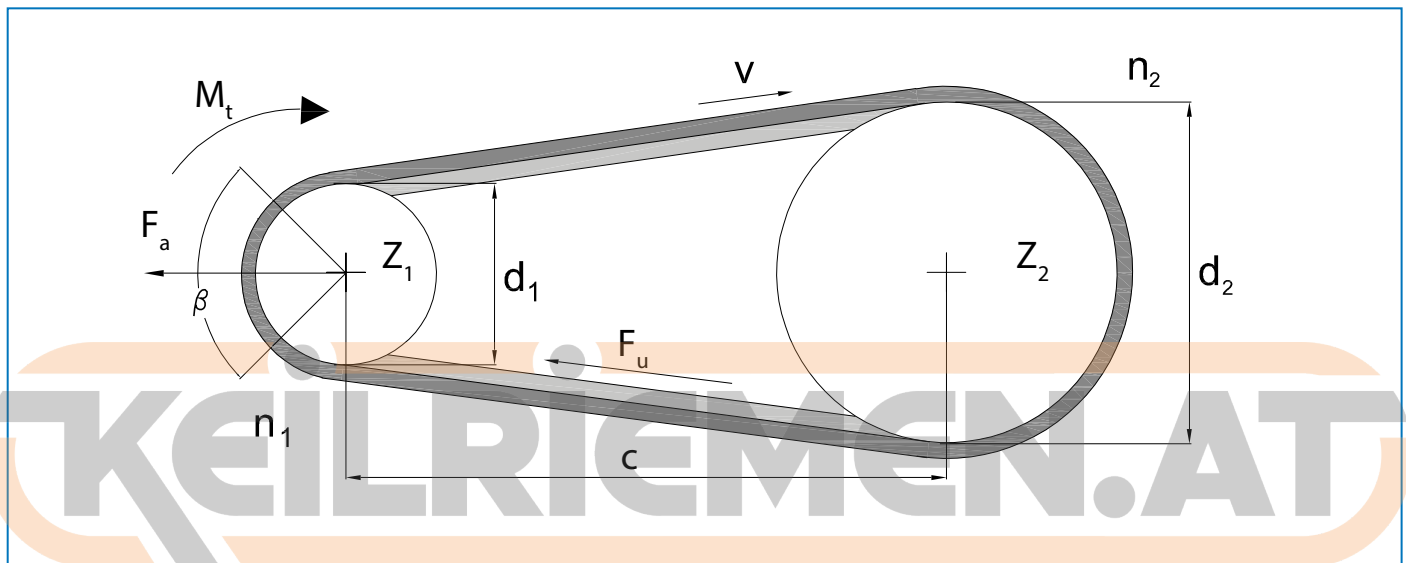
Volume: _____

 New

 Existing*

*Please enclose to this request all the details of the existing application (competitor's belt, current data, etc..)

POWER TRANSMISSION TRANSMISSION LAYOUT



If layout is different please sketch it below

DRIVE INFORMATION

MOTOR:

AC DC Soft Start Inverter
 Power: _____
 Speed: _____
 Torque: _____
 Acceleration: _____
 Working time: < 8h From 8h up to 16h >16h

APPLICATION:

Driver pulley diameter: _____
 Driven pulley diameter: _____
 Center distance: _____
 Minimum safety factor required: _____
 Are there any size limitation? Yes No
 (if yes please indicate):
 diameter (min. and/or max.): _____
 width (min. and/or max.): _____
 center distance: (min. and/or max.) _____