

CONTI® V-belts



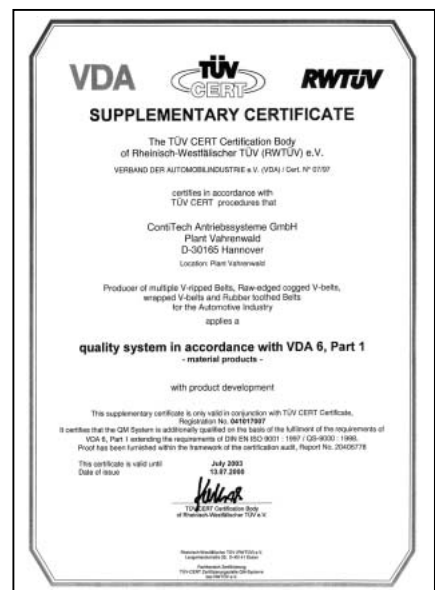
ContiTech
Specialist in rubber
and plastics technology

The ContiTech Division is a development partner and original equipment manufacturer for many branches of industry: with high-grade functional parts, components and systems. It is part of the Continental AG with 8 business units specialising in rubber and plastics technology and utilising their common know-how.

That's what the ContiTech brand is all about.

CONTITECH 

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Survey of products

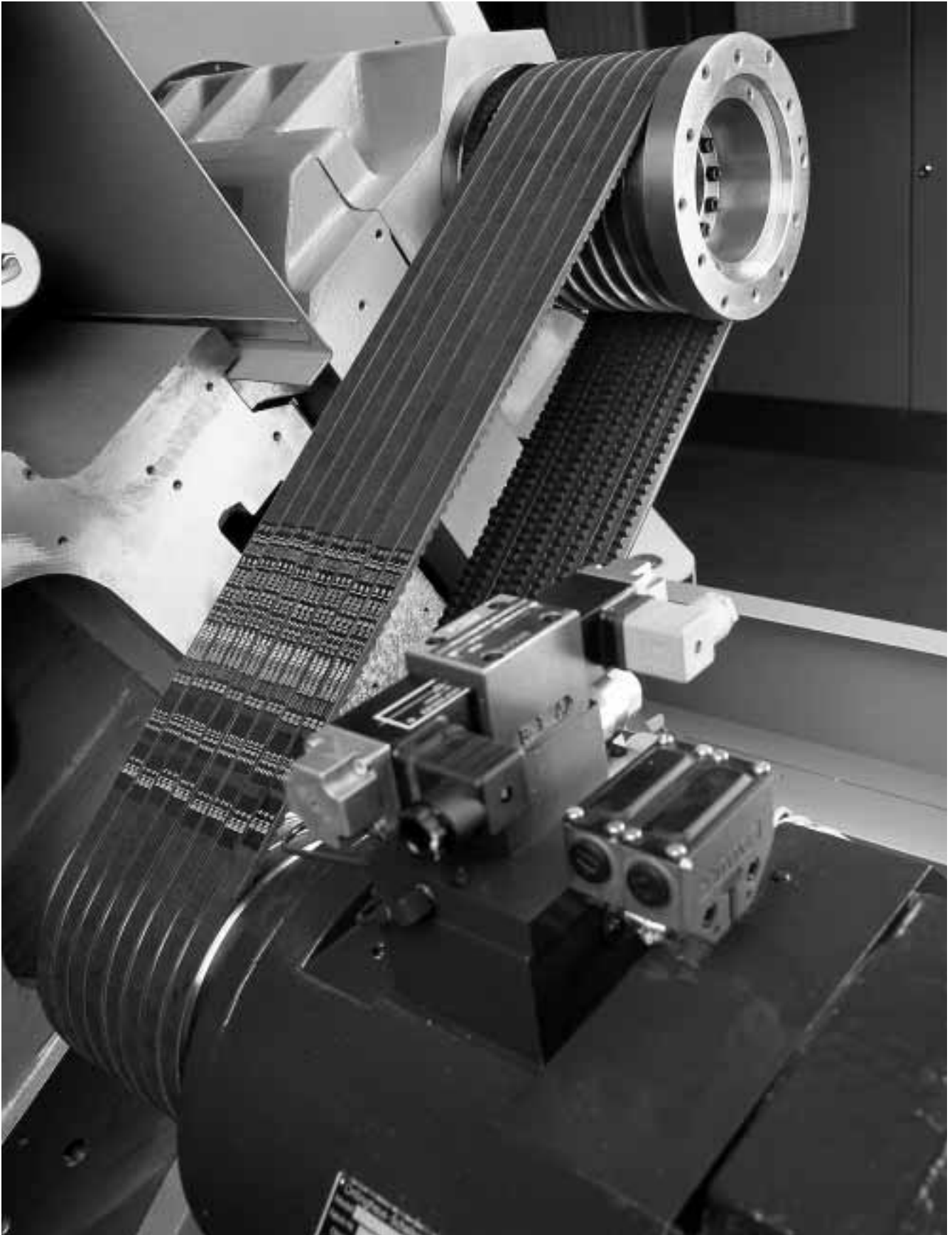
General data

CONTI FO®-Z heavy-duty
cogged raw edge V-belts

CONTI ULTRAFLEX®
narrow-section wrapped V-belts

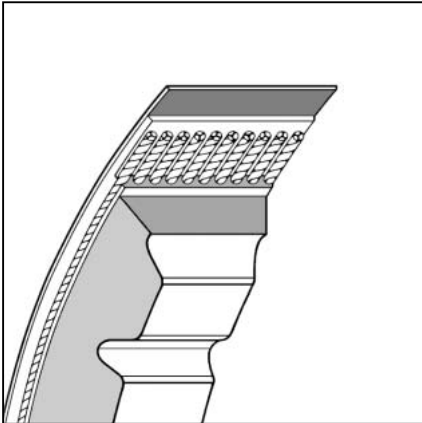
CONTI MULTIFLEX®
classical-section wrapped V-belts

Product identification



*Matched-length CONTI FO®-Z heavy-duty
cogged raw edge V-belts on a CNC-machine
in a processing centre*

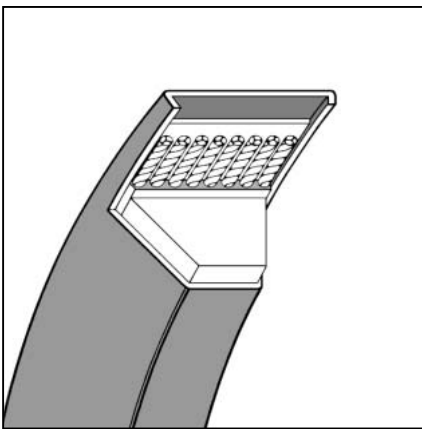
Survey of products



CONTI FO[®]-Z **heavy-duty cogged raw edge V-belts**

CONTI FO[®]-Z heavy-duty cogged raw edge V-belts to DIN standard 7753 part 1 and DIN standard 2215 meet the most stringent demands of modern drive technology.

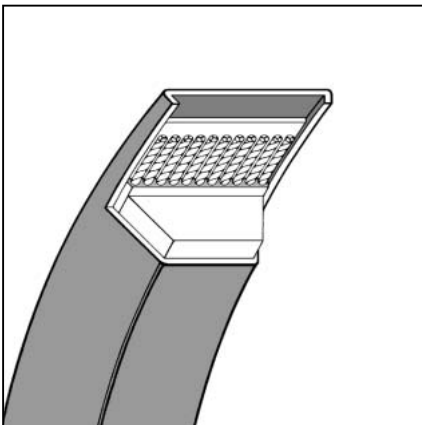
They are manufactured in a raw edge finish by a new production process. Their construction and the materials used in them permit extremely high power transmissions with compact drives.



CONTI ULTRAFLEX[®] **narrow-section wrapped V-belts**

CONTI ULTRAFLEX[®] narrow-section wrapped V-belts to DIN standard 7753 part 1 and B.S. 3790 are used on drives in all spheres of mechanical engineering.

Their sections are dimensioned to permit economic solutions with space saving constructions. Multi grooved drives with MATCHED SET V-belts – i. e. belts of precisely equal length can be used for higher performances.



CONTI MULTIFLEX[®] **classical-section wrapped V-belts**

CONTI MULTIFLEX[®] classical-section wrapped V-belts to DIN standard 2215 and B.S. 3790 are designed for a industrial applications from precision engineering to heavy machine construction.

9 different sections including international standard sections A to E, together with highly developed elastomers and tension members, provide power transmission products for universal application.

Other belts in our product range

CONTI-V MULTIRIB® multiple V-ribbed belt for small pulley diameters and large transmission ratios

CONTI VARIDUR® variable speed cogged raw edge belt for continuous speed adjustment under high stress.

CONTI VARIFLEX® variable speed cogged raw edge belt for continuous speed adjustment in mechanical engineering.

CONTI AGRIDUR® variable speed cogged raw edge belt for continuous speed adjustment in agricultural machinery.

CONTI SYNCHROFORCE® and SYNCHROBELT® double toothed timing belt.

CONTI SYNCHROFORCE® CXA III and **CXP III** the new generation of heavy duty timing belts.

CONTI SYNCHROBELT® HTD Synchronous Drive Belt for compact synchronous drives with high transmission ratios.

CONTI SYNCHROBELT® STD Synchronous Drive Belt for synchronous drives with smooth-running properties.

CONTI SYNCHROBELT® Synchronous Drive Belt for synchronous drives in precision and mechanical engineering

CONTI® SYNCHRODRIVE Synchronous Drive Belt for synchronous conveying systems and linear drives.

General data

ContiTech V-belts are based on decades of experience in production and practical application. Any new knowledge gained in the sphere of power transmission technology is evaluated through constant research and development work and is then applied to production, materials selection and quality assurance.

Construction

ContiTech V-belts are made from high-grade materials, the most suitable material for the specific application being selected for elastomer compounds, tension members and fabric jackets. They are produced on purpose-built equipment, using optimum conditions to produce quality products.

The high standard is ensured by constant quality control procedures in all stages of production

Properties

ContiTech V-belts have been purpose-designed for their specific requirements. They meet the demands of modern technology for maximum operating reliability and economic efficiency.

Matched sets

In a single high precision process and using state of the art technology, matched sets of V-belts are manufactured in exactly the same length. On multi-belt drives their even load distribution ensures high power transmission capacity and their long service life ensures good cost-effectiveness. They are low-stretch, smooth running, and the tension stays constant.

With these properties there are no restrictions on putting together sets of matched-length belts. Ordering and warehousing procedures are simplified as all V-belts can be used for single-belt or multi-belt drives. Belts do not have to be ordered in bundles.

CONTI FO®-Z, CONTI ULTRAFLEX® and CONTI MULTIFLEX® are supplied in bulk for lengths from 1000 mm. The standard lengths allow immediate availability and hence economic inventory levels at the user.

In the event of a failure of a single V-belt on a multi groove drive, all belts are to be replaced by matched-length belts.

Standard properties

All ContiTech V-belts have certain properties as standard features:

Moderate resistance to oil

Oil or grease acting on the belt briefly and only occasionally has no effect on efficiency and service life. Tests at up to 70°C on V-belts that have been exposed completely to ASTM oils have shown that they have a high resistance to hydrocarbon oils.

The wide range of oils and especially of additives available on the market prevents any general claim being made with respect to oil resistance.

Constant exposure to lubricating oils or grease and to cooling oils and cutting oils invariably results in swelling and disintegrations and consequently in reduced efficiency.

Resistance to extreme temperatures

Ambient temperatures of between -30°C and +80°C are permissible for CONTI FO®-Z heavy-duty cogged raw edge V-belts; temperatures of between -55°C and +70°C are permissible for wrapped belts. When the drive system is commissioned at a low temperature, the full flexibility of the V-belt is only attained after some flexing. Temperatures in excess of those stated result in a reduced running period due to hardening.

Antistatic properties

Wrapped V-belts made by ContiTech in compliance with DIN 2215 and 7753 Part 1 have antistatic properties as per ISO 1813 and are marked EL.

The antistatic properties ensure that electrostatic charges are conducted away safely to prevent any risk of sparking. So ContiTech wrapped V-belts may be used in areas where the ignition of flammable gas or gas/air/dust mixtures could cause an explosion. However, all machines must be properly earthed.

Resistance to dust

The surface of heavy-duty V-belts type CONTI FO®-Z, or alternatively the fabric jacket, are highly abrasion resistant. Their abrasion resistance is especially relevant when they are subjected to the effects of dirt, grit etc., e.g. in cement works, in agriculture and in mining.

Suitable for tropical climates

Tests in a standard damp heat atmosphere as per DIN 50017 have shown that ContiTech V-belts can be used unreservedly in tropical regions.

Special-duty types

ContiTech V-belts are also available in a range of special-duty types. Possible applications are listed in the product description of each individual type.

Minimum order quantities and prices of made-to-order products are quoted on request.

MONTAN: ContiTech V-belts of the MONTAN type are approved by the State Mining Board (LOBA) of North Rhine-Westphalia for use in underground mining and in aboveground environments with fire and/or explosion hazards. The approval registration number is LOBA NW 18.43.21-55-25 dated 30.10.1981. The V-belts concerned are listed in Table 1 on the following page.

This approval constitutes a representation that ContiTech V-belts in MONTAN special-duty version fulfill stringent specifications relating to fire, electricity and health hazards and are suitable for use below ground and in above-ground environments with fire and/or explosion hazards.

LOBA-approved CONTI® V-belts

Table 1

CONTI ULTRAFLEX® MONTAN narrow-section wrapped V-belts to DIN 7753 part 1 and B.S. 3790		CONTI MULTIFLEX® MONTAN classical-section wrapped V-belts to DIN 2215 and B.S. 3790	
Section	Pitch length L_w up to	Section	Pitch length L_i up to
SPZ	3550 mm	10/Z	2800 mm
SPA	4500 mm	13/A	4250 mm
SPB	8000 mm	17/B	6300 mm
SPC	10000 mm	20/-	9500 mm
		22/C	8000 mm
		25/-	10000 mm
		32/D	10000 mm
		40/E	10000 mm

These ContiTech V-belts can be marked on request with the word MONTAN.

LR: extra smooth-running, e.g. for machine tools.

ContiTech V-belts in LR special-duty type offer maximum running smoothness. They are used above all in machine tools, whose drives must run smoothly and with minimum oscillation. LR V-belts are manufactured by a special technique, and their performance is tested dynamically on test equipment.

CONTI FO®-Z heavy-duty cogged raw edge V-belts of standard production run extra smoothly owing to the manufacturing technique. One great advantage of CONTI FO®-Z heavy-duty cogged raw edge V belts is that their edges can be ground to improve their running smoothness.

CONTI FO®-Z heavy-duty cogged raw edge V-belts have moulded cogs as a standard feature.

36: for drives with counter-flexing, e.g. jockey pulleys.

ContiTech V-belts of type CONTI ULTRAFLEX® from section SPA onwards and type CONTI MULTIFLEX® from section 13/A onwards can be supplied in special-duty type "36". The tension member of these V-belts is approximately half way up the belt. They can be used for applications with counter-flexing. V-belts that can be tensioned only with an external jockey pulley require this modified position of the tension member as opposed to the standard version.

VF: with reinforced tension member for high torque drives.

ContiTech V-belts in special-duty type VF are designed for special drives with high torques. They have a reinforced tension member. ContiTech application engineers are pleased to give advice on drive design for this special-duty type.

Product range

Sections

ContiTech V-belts comply with DIN, B.S. and ISO standards. They are internationally interchangeable.

Tables for the individual types of V-belt list the sections available together with their dimensions.

Lengths

ContiTech V-belts are supplied in standard lengths. There are furthermore production facilities for a wide range of intermediate lengths.

The lengths available are listed on pages 14, 17 and 21.

The lengths are designated for the various belt types (table 2), as shown below.

Length destination

Table 2

Type of V-belt	Designation
CONTI FO [®] -Z heavy-duty cogged raw edge V-belt	Datum length L_w
CONTI ULTRAFLEX [®] narrow-section wrapped V-belt	Datum length L_w
CONTI MULTIFLEX [®] classical-section wrapped V-belt	Inside length L_i

Designation

The full designation of the individual types of V-belt is explained in the product descriptions. Precise designations exclude the possibility of mistakes and misunderstandings when orders are handled.

Drive calculation

Drives with ContiTech V-belts are designed in accordance with well known principles and methods. These are set out in the chapter on "Calculation of V-belts drives".

The V-belt dimensions required for calculation are listed in the "Dimensional Data" tables for the individual types.

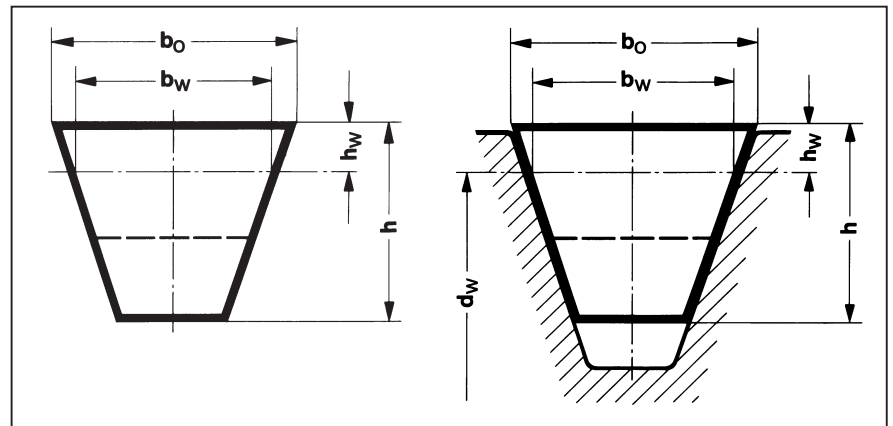
The power ratings for ContiTech V-belts are in line with latest developments.

ContiTech application engineers are pleased to give advice on complex drive problems and series applications. In house computer programs for drive calculation permit optimum drive design to be attained in a short time (cf. page 70).

V-belt pulleys

V-belt pulleys are standardized to DIN 2211, DIN 2217 and B.S. 3790 specifications. Special information on individual types of V-belt or special applications is given in the product description of the specific type.

CONTI FO[®]-Z heavy-duty cogged raw edge V-belts



Belt dimensions

Fig. 1

Dimensional data

Table 3

Standard		DIN 2215/ISO 4184			DIN 7753 Part 1/ISO 4184			
Belt section	DIN symbol B.S./ISO symbol	5	6	8	XPZ SPZ	XPA SPA	XPB SPB	XPC SPC
Top belt width $b_o \approx$	mm	5	6	8	10	13	16.5	22
Pitch width b_w	mm	4.2	5.3	6.7	8.5	11.0	14.0	19.0
Height of belt $h \approx$	mm	3	4	5	8	9	13	17
Pitch height $h_w \approx$	mm	1.3	1.6	2.0	2.0	2.8	3.5	4.8
Min. pulley pitch diameter $d_w \text{ min}^{1)}$	mm	16	20	31.5	50	63	100	160
Max. flexing frequency $f_{B \text{ max}}$	s ⁻¹	120	120	120	120	120	120	120
Max. belt speed v_{max}	m/s	50	50	50	50	50	50	50
Weight per metre	kg/m	0.015	0.023	0.041	0.072	0.112	0.192	0.370
Range of pitch length $L_w^{2)}$								
from	mm	171	285	171	590	590	1250	2000
to	mm	611	865	611	3550	3550	3550	3550
Length differential value from L_w $\Delta L = L_w - L_i$	mm	11	15	19	–	–	–	–

¹⁾ d_w corresponds to the datum diameter d_f ²⁾ L_w corresponds to the datum length L_d

CONTI FO[®]-Z heavy-duty cogged V-belts are manufactured in a raw edge type. They are the culmination or consistent advances in V-belt technology. New designs and improved materials ensure great flexibility in the longitudinal direction and excellent transverse rigidity. So these belts meet the demanding requirements of modern power transmission systems and open up new applications for this type of V-belt in all areas of mechanical engineering.

Designation

CONTI FO[®]-Z heavy-duty V-belt XPZ 1400 L_w stands for a raw edge, cogged, narrow-section V-belt in accordance with DIN 7753 Part 1 that has section XPZ and pitch length 1400 mm and CONTI FO[®]-Z heavy-duty V-belt 6 x 450 stands for a raw edge, cogged, classical-section V-belt in accordance with DIN 2215 that has section 6 and inside length 450 mm.

Construction

CONTI FO®-Z heavy-duty cogged V-belts are manufactured as raw edge belts with no fabric jacket. The high quality of this type of V-belt is guaranteed by an optimum combination of production technology and high-grade materials for the tension member and for the elastomer compounds.

The tension member consists of high-strength, low-elongation polyester cord that was purpose-developed for CONTI FO®-Z heavy duty cogged raw edge V-belts. It develops an extra high bonding level with the surrounding elastomer compound, the "cushion compound". The driving forces are absorbed in the belt section by friction transmission and transferred to the tension member via the base rubber and cushion compound. New bonding systems have been developed by Conti-Tech in order to compensate for the significant difference between the two moduli of elasticity.

Polychloroprene-based elastomer compounds and special purpose components make CONTI FO®-Z heavy-duty cogged raw edge V-belts an outstandingly high-grade transmission product.

The base rubber consists of an elastomer/fibre compound with the fibres running in a transverse direction. This means that the base rubber is extra flexible in the longitudinal direction and has flexural strength in the transverse direction.

The flexing properties are also enhanced considerably by the moulded cog construction.

Properties

CONTI FO®-Z heavy-duty cogged raw edge V-belts have a top-width-to-height ratio of approx. 1.2 for narrow-section V-belts and of approx. 1.6 for classical-section V-belts.

CONTI FO®-Z heavy duty cogged raw edge V-belts of sections XPZ, XPA, XPB and XPC are series-manufactured in matched lengths (see page 6). There are no restrictions on putting together sets.

The belt design permits compact, space-saving drive systems and provides new solutions to drive related problems in all branches of engineering.

High power transmission capacity

The fibres, positioned transverse to the direction of belt travel in the base rubber, give these belts outstanding transverse rigidity, with a consequent marked improvement in the slip/power properties in comparison with conventional wrapped V-belts. The power ratings of CONTI FO®-Z heavy-duty cogged raw edge V-belts are considerably higher than those of any other type.

Outstanding flexibility

The flexibility of the purpose-developed base rubber is enhanced by the moulded cog construction. This reduces bending stress and heat build-up, with a consequent increase in service life. It furthermore permits the use of smaller pulley diameters.

Low elongation

Materials, construction and the manufacturing process ensure a low initial stretch (attained after an operating period of approx 20 minutes). After this brief running in phase, CONTI FO®-Z heavy-duty cogged raw edge V belts are virtually stable in length and offer a considerable reduction in maintenance.

Outstanding running smoothness

The homogeneous construction and the production technology result in V-belts with outstanding running properties. The running smoothness can be enhanced decisively by grinding.

Increased resistance to high temperatures

The use of polychloroprene based elastomer compounds permits higher ambient temperatures of up to +80°C. At the same time the moulded cog construction offers a larger surface area and better ventilation. Heat buildup is reduced and heat dissipation improved.

These properties of CONTI FO®-Z heavy-duty cogged raw edge V-belts permit application

- with very small pulley diameters
- at high motor speeds
- with high power transmission
- at high belt speeds
- in high ambient temperatures

The use of extra small pulley diameters enables conventional multi-stage drives to be replaced by single stage constructions.

High power ratings and outstanding flexibility permit compact drive systems to be designed by cutting down the number of V-belts in one set or reducing the pulley diameter.

CONTI FO®-Z heavy-duty cogged raw edge V-belts have the following standard features:

- resistance to oil
- suitable for temperatures from –30°C to 80°C
- antistatic properties
- resistance to dust
- suitable for tropical climates

Special-duty types

LR: extra smooth running, e.g. for machine tools.

Explanations on standard properties and special-duty types are given in the section on “General data” (page 6)

Product range

CONTI FO®-Z heavy-duty cogged raw edge V-belts are manufactured in sections 5/-, 6/Y and 8/- to DIN standard 2215 and in sections XPZ, XPA, XPB and XPC to DIN standard 7753 part 1.

V-belts in sections 10/Z, 13/A, 17/B and 22/C can also be supplied on request as CONTI FO®-Z heavy-duty cogged raw edge V-belts. Details on available types and drive system designs on application to ContiTech.

CONTI FO®-Z heavy-duty cogged raw edge V-belts comply in their sections with ISO 4184

CONTI FO®-Z heavy-duty cogged raw edge V-belts to DIN 2215 standards are designated by the inside length L_i , and those to DIN 7753 part 1 standards by the pitch length L_w .

Available lengths are listed in table 4 (page 14).

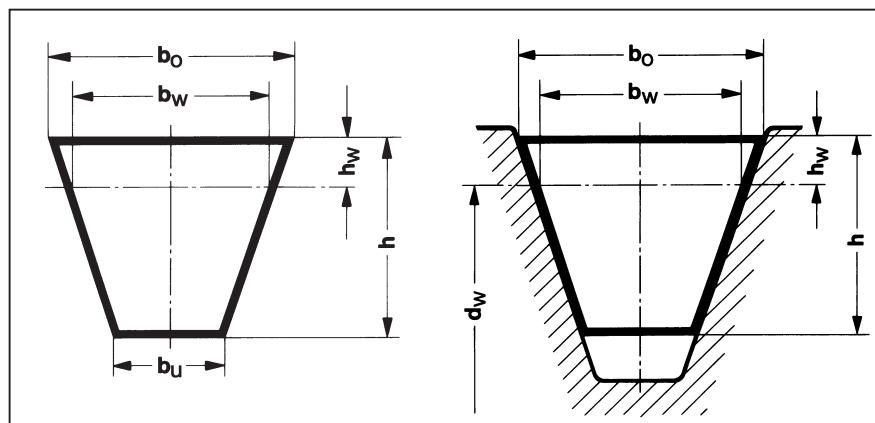
Drive calculation

Drives with CONTI FO®-Z heavy duty cogged raw edge V-belts are designed in accordance with the data set out in the chapter on “Calculation of V-belt drives”. The calculation method is in line with internationally recognized principles.

The pitch length L_w is used for calculation of belts of all sections. For sections 5/-, 6/Y and 8/- the difference between the pitch length L_w and the inside length L_i is given for each section by a nominal length differential value ΔL (cf. dimensional data, table 3).

ContiTech application engineers are pleased to give advice on complex drive problems and series applications.

CONTI ULTRAFLEX® narrow-section wrapped V-belts



Belt dimensions

Fig. 2

Dimensional data

Table 5

Belt section	DIN symbol B.S./ISO symbol	SPZ	SPA	SPB	SPC
		SPZ	SPA	SPB	SPC
Top belt width $b_o \approx$	mm	9.7	12.7	16.3	22.0
Pitch width b_w	mm	8.5	11.0	14.0	19.0
Bottom belt width b_u	mm	4.0	5.6	7.1	9.3
Height of belt $h \approx$	mm	8	10	13	18
Pitch height $h_w \approx$	mm	2.0	2.8	3.5	4.8
Min. pulley pitch diameter $d_{w \min}^{1)}$	mm	63	90	140	224
Max. flexing frequency $f_{B \max}$	s ⁻¹	100	100	100	100
Max. belt speed v_{\max}	m/s	40	40	40	40
Weight per metre	kg/m	0.073	0.100	0.178	0.380
Range of pitch length $L_w^{2)}$					
from	mm	512	647	1250	2000
to	mm	3550	4500	8000	12250
Length differential value from L_w $\Delta L = L_a - L_w$	mm	13	18	22	30

¹⁾ d_w corresponds to the datum diameter d_d

²⁾ L_w corresponds to the datum length L_d

CONTI ULTRAFLEX® narrow-section wrapped V-belts complying with B.S. 3790 and DIN standard 7753 part 1 are used in demanding drive systems in all spheres of mechanical engineering. High power transmission capacity and economic efficiency coupled with a long service life are the result of long-term development and extensive practical experience. The high quality standard of this power transmission product is guaranteed by sophisticated testing equipment and test conditions.

Designation

CONTI ULTRAFLEX® SPZ 1400 stands for CONTI ULTRAFLEX® narrow-section wrapped V-belts in section SPZ with pitch length 1400 mm. It complies with DIN 7753 Part 1.

Construction

CONTI ULTRAFLEX® narrow-section wrapped V-belts are manufactured with fabric jackets and high strength, low-stretch polyester load-bearing members.

Properties

CONTI ULTRAFLEX® narrow section wrapped V-belts with their top width: height ratio of ≈ 1.2 guarantee high power transmission capacities with space saving drive systems, so that they are used for a wide range of applications in power transmission technology.

CONTI ULTRAFLEX® narrow-section wrapped V-belts in sections SPZ, SPA, SPB and SPC are series-manufactured in matched sets for pitch lengths L_w from 1000 mm (see page 6). There are no restrictions on putting together sets.

For new drives, consideration should be given to the possibility of using CONTI FO®-Z heavy-duty cogged raw edge V-belts.

CONTI ULTRAFLEX® narrow-section wrapped V-belts have the following standard features:

- moderate resistance to oil
- suitable for temperatures from -55°C to 70°C
- antistatic properties
- resistance to dust
- suitable for tropical climates

Special-duty types

MONTAN: approved for mining application by the State Mining Authority (LOBA).

LR: extra smooth running, e.g. for machine tools.

36: for drives with counter-flexing, e.g. jockey pulleys, from section SPA onwards.

VF: with reinforced tension member for high driving forces.

Explanations on standard properties and special-duty types are given in the section on "General data" (page 6).

Product range

CONTI ULTRAFLEX® narrow-section wrapped V-belts are manufactured in 4 sections to DIN standard 7753 part 1 for the mechanical engineering industry. Sections SPZ, SPA, SPB, SPC comply with B.S. 3790 and ISO 4184 and are used internationally.

CONTI ULTRAFLEX® narrow-section wrapped V-belts are designated according to the pitch length L_w . They are supplied in a range designed to meet practical requirements.

Drive calculation

Drives with CONTI ULTRAFLEX® narrow section wrapped V-belts are designed in accordance with the data set out in the chapter on "Calculation of V-belt drives". The calculation method is in line with internationally recognized principles.

The pitch length L_w is used for calculation. The difference between pitch length and readily measurable outside length L_a is given for each section by a fixed length differential value ΔL (cf. dimensional data, table 5).

The power ratings of CONTI ULTRAFLEX® narrow-section wrapped V-belts are in line with state-of-the-art technological development.

ContiTech application engineers are pleased to give advice on complex drive problems and series applications.

V-belt pulleys

CONTI ULTRAFLEX® narrow-section wrapped V-belts are designed for pulleys complying with DIN standard 2211.

Details are given in the chapter on “V-belt pulleys” (page 22).

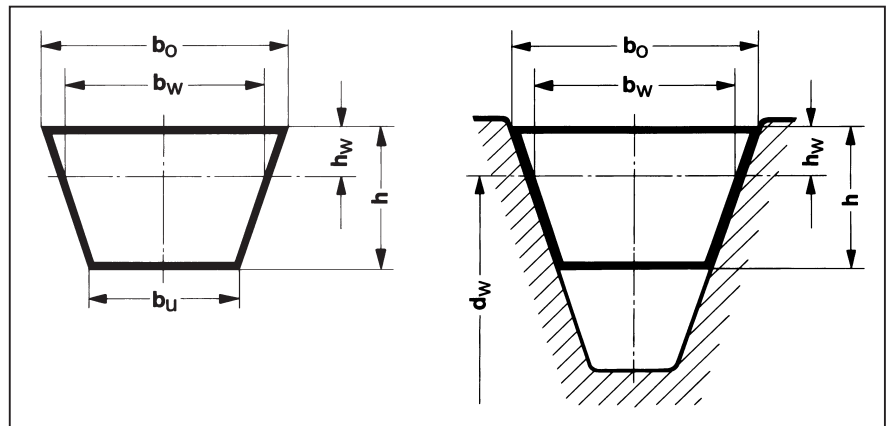
Length available for CONTI ULTRAFLEX® narrow-section wrapped V-belts

Table 6

Section SPZ		Section SPA		Section SPB		Section SPC					
Datum length L_d (mm)	Datum length L_d (mm)	Datum length L_d (mm)	Datum length L_d (mm)	Datum length L_d (mm)	Datum length L_d (mm)	Datum length L_d (mm)	Datum length L_d (mm)				
512	957	1347	2000	647	1225	1757	2582	1250	3170	2000	5300
562	962	1362	2037	707	1232	1782	2607	1320	3250	2120	5600
587	967	1387	2087	732	1250	1800	2632	1340	3350	2240	6000
612	970	1400	2120	757	1257	1807	2650	1360	3450	2340	6300
630	987	1412	2137	782	1272	1832	2682	1400	3550	2360	6700
637	994	1420	2160	800	1282	1857	2732	1410	3750	2500	7100
662	1000	1437	2187	807	1300	1882	2782	1450	3800	2650	7500
670	1012	1462	2240	832	1307	1900	2800	1472	3870	2800	8000
672	1024	1487	2262	850	1320	1907	2832	1500	4000	3000	8500
677	1037	1500	2280	857	1332	1932	2847	1600	4060	3150	9000
687	1047	1512	2287	882	1357	1957	2882	1700	4250	3350	9500
697	1060	1520	2360	900	1367	1982	2932	1778	4310	3550	10000
710	1077	1537	2410	907	1375	2000	2982	1800	4500	3750	10600
722	1087	1562	2437	925	1382	2032	3000	1860	4560	4000	11200
737	1112	1587	2487	932	1400	2057	3032	1900	4620	4250	12000
750	1120	1600	2500	950	1407	2082	3082	1950	4750	4500	12250
758	1127	1612	2540	957	1425	2120	3150	2000	4820	4750	12500
762	1137	1637	2637	967	1432	2132	3182	2020	4842	5000	
772	1147	1650	2650	982	1457	2182	3282	2098	5000		
787	1162	1662	2663	1000	1482	2207	3350	2120	5058		
800	1171	1687	2800	1007	1500	2227	3550	2150	5070		
812	1180	1700	2840	1032	1507	2232	3650	2240	5300		
825	1187	1712	3000	1042	1525	2240	3750	2264	5380		
837	1202	1737	3150	1057	1532	2282	4000	2280	5600		
850	1212	1762	3170	1060	1557	2300	4250	2310	5680		
862	1222	1778	3350	1082	1582	2307	4500	2360	6000		
875	1237	1800	3550	1100	1600	2332		2391	6300		
887	1250	1812		1107	1607	2357		2410	6340		
900	1262	1837		1120	1632	2360		2430	6500		
912	1270	1850		1127	1657	2382		2500	6700		
922	1287	1862		1132	1675	2432		2518	7100		
927	1312	1887		1157	1682	2475		2530	7500		
937	1320	1900		1175	1700	2482		2650	8000		
947	1330	1937		1180	1707	2500		2680			
950	1337	1987		1207	1732	2532		2800			
								2840			
								2900			
								2990			
								3000			
								3070			
								3150			

The datum length L_d according to ISO 4184 comply the pitch length L_w according to DIN 7753

CONTI MULTIFLEX® classical-section wrapped V-belts



Belt dimensions

Fig. 3

Dimensional data

Table 7

Belt section	DIN symbol B.S./ISO symbol	8	10	13	17	20	22	25	32	40
		–	Z	A	B	–	C	–	D	E
Top belt width $b_o \approx$	mm	8	10	13	17	20	22	25	32	40
Pitch width b_w	mm	6.7	8.5	11.0	14.0	17.0	19.0	21.0	27.0	32.0
Bottom belt width $b_u \approx$	mm	4.6	5.9	7.5	9.4	11.4	12.4	14.0	18.3	22.8
Height of belt $h \approx$	mm	5	6	8	11	12.5	14	16	20	25
Pitch height $h_w \approx$	mm	2.0	2.5	3.3	4.2	4.8	5.7	6.3	8.1	12.0
Min. pulley pitch diameter $d_{w \min}$	mm	35.5	45	71	112	140	180	224	315	450
Max. flexing frequency $f_{B \max}$	s ⁻¹	60	60	60	60	60	60	60	60	60
Max. belt speed v_{\max}	m/s	30	30	30	30	30	30	30	30	30
Weight per metre	kg/m	0.040	0.060	0.105	0.170	0.240	0.300	0.430	0.630	0.970
Range of pitch length L_w										
from	mm	549	472	590	658	948	1142	1461	2075	5082
to	mm	1269	2522	5030	7143	6048	8052	9061	12575	11282
Length differential value from L_w $\Delta L = L_w - L_i$	mm	19	22	30	43	48	52	61	75	82

CONTI MULTIFLEX® classical-section wrapped V-belts, complying with B.S. 3790 and DIN Standard 2215 are designed for all industrial applications from precision engineering to heavy machine construction. Sophisticated production methods and high-grade materials result in a power transmission product that offers maximum operating reliability even under critical conditions.

Designation

CONTI MULTIFLEX® 17 x 2000 L_i stands for a CONTI MULTIFLEX® classical-section wrapped V-belt in section 17/B with inside length 2000 mm. It complies with DIN 2215.

Construction

CONTI MULTIFLEX® classical-section wrapped V-belts are supplied with fabric jackets.

Properties

CONTI MULTIFLEX® classical-section wrapped V-belts are ideal for tough operating conditions on account of their top width: height ratio of = 1.6. They can also be used to advantage in V-flat drives. The smaller section belts are especially suitable for precision engineering.

CONTI MULTIFLEX® classical-section wrapped V-belts in sections 10/Z, 13/A, 17/B, 20/-, 22/C, 25/-, 32/D and 40/E are series-manufactured in matched sets for inside lengths from 1000 mm (see page 6). There are no restrictions on putting together sets.

New drive systems can frequently be designed more efficiently with space-saving CONTI FO®-Z heavy-duty cogged raw edge V-belts.

CONTI MULTIFLEX® V-belts have the following standard features:

- moderate resistance to oil
- suitable for temperatures from –55°C to 70 °C
- antistatic properties
- resistance to dust
- suitable for tropical climates

Special-duty types

MONTAN: approved for mining application by the State Mining Authority (LOBA)

LR: extra smooth running, e.g. for machine tools

36: for drives with counter-flexing, e.g. jockey pulleys, from section 13/A onwards.

VF: with reinforced tension member for high torque drives. Explanations on standard properties and special-duty types are given in the section on “General data” (page 6).

Product range

CONTI MULTIFLEX® classical-section wrapped V-belts are standardized to DIN 2215 specifications. They also comply with B.S. 3790 and ISO 4184. The product range comprises 9 sections. Sections 5/- and 6/Y, which were previously produced in a wrapped version, have been superseded by higher-grade CONTI FO®-Z heavy-duty cogged raw edge V-belts (page 11).

CONTI MULTIFLEX® classical-section wrapped V-belts are designated with the inside length L_i . They are supplied in a range designed to meet practical requirements.

Available standard lengths are listed in table 8 (page 21).

Drive calculation

Drives with CONTI MULTIFLEX® classical-section wrapped V-belts are designed in accordance with the data set out in the chapter on “Calculation of V-belt drives”. The calculation method is in line with internationally recognized principles.

The pitch length L_w , that is required for calculation is given for each section by a fixed length differential value ΔL (cf. dimensional data, table 7)

The power ratings of CONTI MULTIFLEX® classical-section wrapped V-belts are in line with state-of-the-art technological development and exceed the values laid down in DIN standard 2218 and B.S. 3790.

ContiTech application engineers are pleased to give advice without obligation on complex drive problems and series applications.

V-belt pulleys

CONTI MULTIFLEX® classical-section wrapped V-belts are designed for pulleys complying with DIN 2217 or DIN 2211 and B.S. 3790.

Details are given in the chapter on “V-belt pulleys” (page 23).

Length available for CONTI MULTIFLEX® classical-section wrapped V-belts

Table 8

Section 8/-		Section 10/Z				Section 13/A					
Inside length L_i (mm)	Datum length L_d (mm)	Inside length L_i (mm)	Datum length L_d (mm)	Inside length L_i (mm)	Datum length L_d (mm)	Inside length L_i (mm)	Datum length L_d (mm)	Inside length L_i (mm)	Datum length L_d (mm)	Inside length L_i (mm)	Datum length L_d (mm)
530	549	450	472	1080	1100	1750	1770	560	590	1120	1150
560	579	475	497	1105	1127	1780	1800	580	610	1143	1173
580	599	500	522	1120	1142	1800	1822	600	630	1168	1198
600	619	520	542	1150	1172	1830	1850	630	660	1180	1210
630	649	530	552	1170	1192	1850	1870	655	685	1200	1230
670	689	560	582	1180	1202	1900	1922	670	700	1220	1250
680	699	575	597	1194	1220	1975	2000	690	720	1250	1280
700	719	600	622	1215	1240	2000	2022	710	740	1270	1300
710	729	630	652	1230	1252	2080	2102	730	760	1300	1330
750	769	670	692	1250	1272	2120	2142	750	780	1320	1350
760	779	710	732	1270	1292	2240	2262	767	790	1346	1376
800	819	730	752	1300	1322	2360	2382	780	810	1372	1402
830	849	750	772	1320	1342	2500	2522	787	818	1400	1430
850	869	775	797	1346	1368			800	830	1422	1452
875	894	800	822	1371	1393			813	843	1448	1478
900	919	820	842	1400	1422			825	855	1475	1505
950	969	850	872	1450	1472			838	868	1500	1530
1000	1019	865	890	1475	1500			850	880	1525	1555
1020	1039	875	897	1500	1522			855	880	1550	1580
1050	1069	900	922	1525	1547			875	905	1575	1605
1200	1219	950	972	1550	1572			889	919	1600	1630
1250	1269	980	1002	1600	1622			900	930	1625	1655
		1000	1022	1626	1650			914	944	1651	1681
		1016	1040	1651	1673			925	955	1676	1706
		1030	1052	1680	1700			950	980	1700	1730
		1041	1060	1700	1722			965	995	1725	1755
		1060	1082	1730	1752			975	1005	1750	1780
								1000	1030	1780	1810
								1016	1046	1800	1830
								1030	1060	1825	1855
								1041	1071	1854	1884
								1060	1090	1880	1910
								1075	1105	1900	1930
								1090	1120	1930	1960
								1105	1135	1956	1986

The datum length L_d according to ISO 4184 comply the pitch length L_w according to DIN 7753

Length available for CONTI MULTIFLEX® classical-section wrapped V-belts

Table 8

Section 13/A		Section 17/B				Section 20/-					
Inside length L_i (mm)	Datum length L_d (mm)	Inside length L_i (mm)	Datum length L_d (mm)	Inside length L_i (mm)	Datum length L_d (mm)	Inside length L_i (mm)	Datum length L_d (mm)	Inside length L_i (mm)	Datum length L_d (mm)	Inside length L_i (mm)	Datum length L_d (mm)
1980	2010	615	658	1400	1443	2465	2500	4166	4210	900	948
2000	2030	650	690	1422	1465	2500	2543	4200	4243	1000	1048
2010	2060	670	713	1450	1493	2515	2560	4250	4293	1060	1108
2030	2060	686	725	1470	1513	2540	2583	4267	4310	1120	1168
2040	2080	710	753	1500	1543	2565	2610	4318	4360	1180	1228
2057	2087	725	765	1525	1568	2600	2643	4394	4437	1215	1263
2083	2110	750	793	1550	1593	2616	2660	4450	4493	1250	1298
2100	2130	762	800	1575	1618	2650	2693	4500	4543	1275	1323
2120	2150	775	818	1600	1643	2667	2710	4572	4615	1320	1368
2134	2160	800	843	1625	1668	2700	2743	4699	4740	1400	1448
2150	2180	825	868	1650	1693	2750	2793	4750	4793	1450	1498
2184	2220	838	880	1676	1719	2769	2810	4877	4920	1500	1548
2200	2230	850	893	1700	1743	2800	2843	4953	5000	1600	1648
2240	2270	875	918	1725	1768	2820	2860	5000	5043	1660	1708
2261	2290	889	930	1750	1793	2840	2883	5100	5140	1700	1748
2285	2315	900	943	1761	1804	2900	2940	5300	5343	1900	1948
2311	2340	925	968	1775	1818	2921	2960	5334	5370	1950	1998
2337	2370	950	993	1800	1843	2950	2993	5500	5540	2000	2048
2360	2390	965	1000	1829	1870	3000	3043	5600	5643	2060	2108
2388	2420	975	1018	1850	1893	3050	3093	5740	5780	2120	2168
2413	2400	1000	1043	1880	1923	3100	3140	6000	6043	2240	2288
2435	2465	1017	1060	1900	1943	3150	3193	6045	6070	2360	2408
2475	2505	1030	1073	1930	1973	3175	3220	6096	6240	2500	2548
2500	2530	1040	1080	1950	1993	3200	3243	6300	6343	2650	2698
2540	2570	1050	1090	1981	2020	3250	3293	6500	6540	2800	2848
2591	2620	1060	1103	2000	2043	3302	3345	6700	6743	3000	3048
2650	2680	1075	1118	2030	2070	3350	3393	7000	7043	3150	3198
2667	2700	1090	1133	2060	2103	3378	3420	7100	7143	3350	3398
2730	2760	1120	1163	2083	2126	3404	3450	8382	8430	3550	3598
2743	2770	1150	1193	2108	2151	3450	3493	8763	8810	3750	3798
2800	2830	1175	1218	2120	2163	3505	3550			4000	4048
2840	2870	1180	1228	2134	2180	3550	3593			4250	4298
2946	2980	1200	1243	2160	2203	3581	3620			4500	4548
3000	3030	1215	1258	2184	2230	3600	3650			5000	5048
3050	3080	1225	1268	2200	2243	3658	3701			5300	5348
3150	3180	1250	1293	2240	2283	3700	3743			5500	5548
3250	3280	1270	1313	2261	2304	3750	3793			5600	5648
3302	3330	1300	1343	2286	2329	3810	3850			6000	6048
3350	3380	1320	1363	2300	2343	3850	3893			7100	7148
3404	3440	1335	1375	2337	2380	3861	3900			8000	8048
3454	3490	1350	1393	2360	2403	3950	3993				
3550	3580	1360	1400	2400	2443	4000	4043				
3650	3690	1372	1415	2450	2493	4115	4160				
3750	3780										
3886	3920										
3912	3940										
4000	4030										
4250	4280										
4470	4500										
4750	4780										
5000	5030										

The datum length L_d according to ISO 4184 comply the pitch length L_w according to DIN 7753

Length available for CONTI MULTIFLEX® classical-section wrapped V-belts

Table 8

Section 22/C				Section 22/C		Section 25/-		Section 32/D			
Inside length L_i (mm)	Datum length L_d (mm)	Inside length L_i (mm)	Datum length L_d (mm)	Inside length L_i (mm)	Datum length L_d (mm)	Inside length L_i (mm)	Datum length L_d (mm)	Inside length L_i (mm)	Datum length L_d (mm)	Inside length L_i (mm)	Datum length L_d (mm)
1090	1150	2685	2740	6096	6148	1400	1461	2000	2075	8760	8840
1200	1260	2750	2800	6200	6250	1500	1561	2120	2200	9000	9075
1220	1275	2800	2852	6300	6352	1700	1761	2360	2435	9093	9170
1250	1302	2819	2880	6350	6400	1800	1861	2500	2575	9500	9575
1270	1320	2840	2992	6700	6752	1900	1961	2650	2725	9754	9839
1295	1350	2900	2952	6807	6860	1950	2211	2670	2740	9906	9980
1320	1372	2950	3000	6858	6910	2000	2061	2800	2875	10617	10700
1350	1410	2965	3030	7010	7060	2050	2111	3000	3075	10000	10075
1400	1452	3000	3052	7100	7152	2120	2181	3048	3123	10700	10780
1425	1480	3030	3080	7500	7552	2200	2261	3150	3225	11200	11275
1450	1510	3050	3102	7569	7520	2240	2301	3250	3330	12141	12220
1475	1530	3099	3150	7650	7700	2450	2511	3350	3425	12500	12575
1500	1552	3150	3202	8000	8052	2500	2561	3550	3625	13460	13540
1524	1576	3200	3252	8382	8430	2540	2601	3425	3500		
1550	1600	3250	3302	8765	8820	2650	2711	3450	3530		
1600	1652	3302	3360	9144	9200	2800	2861	3658	3730		
1650	1700	3350	3402			3000	3061	3750	3825		
1676	1730	3404	3460			3150	3211	3810	3890		
1700	1752	3454	3506			3250	3311	3910	3990		
1727	1780	3505	3560			3350	3411	3940	4020		
1750	1810	3550	3602			3550	3611	4000	4075	5000	5082
1778	1830	3607	3660			3750	3811	4075	4160	5600	5682
1800	1852	3658	3710			4000	4061	4115	4190	7100	7182
1829	1880	3700	3760			4250	4311	4250	4325	8000	8082
1854	1910	3750	3802			4500	4561	4394	4470	9000	9082
1880	1940	3850	3920			4750	4811	4500	4575	10000	10082
1900	1952	3912	3960			5000	5061	4572	4650	11200	11282
1930	1980	4000	4052			5300	5361	4620	4700		
1956	2010	4020	4080			5600	5661	4750	4825		
1981	2030	4064	4120			6000	6061	4826	4900		
2000	2052	4115	4167			6300	6361	4953	5030		
2032	2090	4216	4270			6700	6761	5000	5075		
2057	2109	4250	4302			7100	7161	5182	5260		
2120	2172	4390	4450			7500	7561	5258	5330		
2135	2190	4500	4552			8000	8061	5300	5375		
2159	2211	4540	4600			8500	8561	5330	5400		
2184	2240	4572	4624			9000	9061	5600	5675		
2240	2292	4699	4750					5715	5790		
2261	2320	4750	4802					5791	5670		
2286	2338	4826	4880					5850	5939		
2360	2412	4953	5005					6000	6075		
2388	2440	5000	5052					6045	6120		
2413	2465	5131	5180					6096	6171		
2438	2490	5182	5240					6300	6375		
2450	2502	5300	5352					6700	6775		
2464	2520	5334	5386					6807	6890		
2500	2552	5500	5550					7100	7175		
2525	2577	5600	5652					7417	4790		
2540	2600	5639	5690					7500	7575		
2560	2620	5700	5750					7569	7650		
2591	2643	5715	5770					7620	7700		
2616	2670	5800	5850					8000	8075		
2642	2700	6000	6052					8382	8460		
2670	2722	6045	6100					8500	8575		

Section 40/E	
Inside length L_i (mm)	Datum length L_d (mm)
5000	5082
5600	5682
7100	7182
8000	8082
9000	9082
10000	10082
11200	11282

The datum length L_d according to ISO 4184 comply the pitch length L_w according to DIN 7753

Selection

Pulleys for narrow-section and
classical-section V-belts

Application

Deep-groove pulleys

V-belt pulleys



Matched-length CONTI FO® heavy-duty cogged raw edge V-belts running on a ventilator drive

V-belt pulleys

The efficiency of a V-belt drive is influenced by the pulleys, which are standardized to B.S. 3790 and to DIN 2211 and DIN 2217 specifications.

These standard specifications are in line with the corresponding ISO standards.

V-belt pulleys are manufactured mainly from cast iron GG-20 or from other materials to customers' specifications in different constructions, e.g. one part or two part and as solid pulleys, bushed pulleys or spoked pulleys. Customers manufacturing their own pulleys should ensure that they comply with standard specifications.

Selection

- Select standardized pulley diameters if possible. The first column of the "Power Rating" tables (page 43 to 62) lists pulley pitch diameters of the small pulley d_{wk} selected from the range of standardized pulley diameters. Details are given in table 2 of DIN standard 2211 part 1 and DIN standard 2217 part 1 respectively, as well as in B.S. 2790.
- Minimum pulley diameter should be adhered to. Pulley diameters below the recommended dimensions affect the service life of the V-belt and consequently the economic efficiency of the drive.
- Select pulley diameter as large as possible. Large pulley diameters have a positive effect on the service life of the V-belt. The maximum belt speed should not, however, be exceeded. Cost-effectiveness should be checked in each individual case.
- Use balanced pulleys complying with DIN standard 2211 part 1 and B.S. 3790. In general, quality index Q 16 to VDI standard 2060 applies to statically balanced pulleys
 - at $v = 30 \text{ m/s}$ für $d_w > 400 \text{ mm}$ or
 - at $n = 1500 \text{ min}^{-1}$ für $d_w \leq 400 \text{ mm}$.The pulley is balanced without a key way on a smooth mandrel. Balancing can be performed to VDI standard 2060 with a key way but no key, either statically or dynamically. Quality index Q 6.3 for dynamic balancing is recommended if $V > 30 \text{ m/s}$ or the pitch diameter: pulley face width ratio, that is $d_w : b_2 < 4$ for $V > 20 \text{ m/s}$.
- Use correct groove section. V-belts must not run on the base of the groove, as this causes irreparable damage to the belt within a short time. The only exception to this rule is the V-flat drive.
- Allow for the correct groove angle. The groove angle depends on the pitch diameter of the pulley. The values listed in standard specifications are based on practical experience.

Application

- Pulleys must be clean and free of burr. They must be correctly aligned.
- Damaged pulleys, e.g. pulleys with damage caused by uneven wear, should be replaced without delay.

Further information is given in the chapter on “Installation and Maintenance”, page 75.

Pulleys for narrow-section and classical-section V-belts

Pulleys for narrow-section CONTI FO[®]-Z heavy-duty cogged raw edge V-belts and for CONTI ULTRAFLEX[®] narrow-section wrapped V-belts comply with DIN standard 2211 and B.S. 3790. Pulleys for classical-section CONTI FO[®]-Z heavy-duty cogged raw edge V-belts and for CONTI MULTIFLEX[®] classical-section wrapped V-belts in metric sections comply with DIN standard 2217.

The groove sections for single and multi-groove pulleys are illustrated in figs. 4 and 5; the groove dimensions are listed in tables 9 and 10.

Deep-groove pulleys

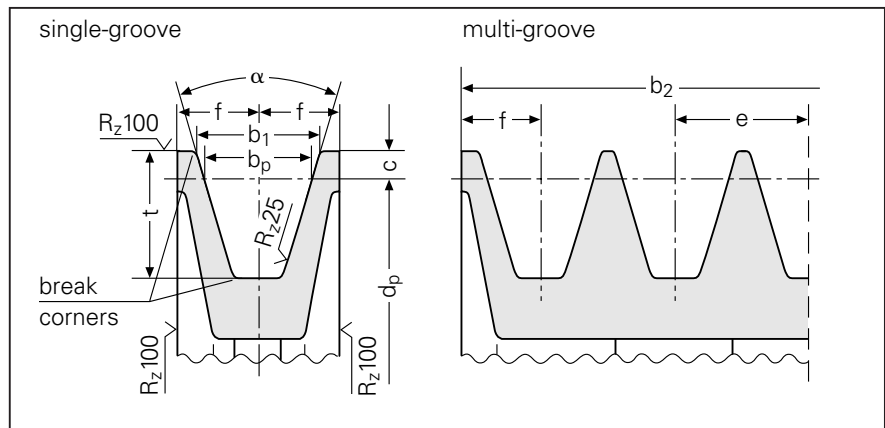
Deep-groove pulleys have extended grooves to provide a greater top groove width and groove depth. This enhances running properties considerably under special operating conditions. The belt runs more smoothly onto the pulley and is less susceptible to twisting and to slipping off the pulley.

Deep-groove pulleys are used to advantage

- as idler pulleys
- with vertical shafts
- with twisted drives
- with strongly oscillating drives.

The groove sections of one-groove and multi-groove deep-groove pulleys are shown in fig. 6 and the dimensions are given in table 11.

V-belt pulleys complying with B.S. 3790 and DIN standard 2211 Part 1 for CONTI FO® heavy-duty cogged raw edge V-belts and CONTI ULTRAFLEX® narrow-section wrapped V-belts



Groove section

Fig. 4

Dimensions (in mm)

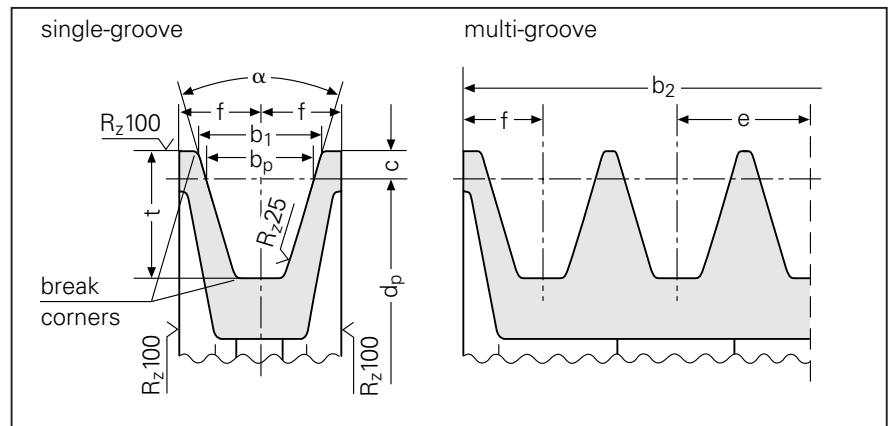
Table 9

Belt section to DIN 7753 part 1 and B.S. 3790	DIN symbol B.S./ISO symbol	XPZ/SPZ SPZ	XPA/SPA SPA	XPB/SPB SPB	XPC/SPC SPC
Belt section to DIN 2215 and B.S. 3790	DIN symbol B.S./ISO symbol	10 Z	13 A	17 B	22 C
Pitch width ¹⁾	b_w	8.5	11.0	14.0	19.0
Top groove width	$b_1 \approx$	9.7	12.7	16.3	22.0
	c	2.0	2.8	3.5	4.8
Groove spacing	e	12 ± 0.3	15 ± 0.3	19.0 ± 0.4	25.5 ± 0.5
	f	8 ± 0.6	10 ± 0.6	12.5 ± 0.8	17.0 ± 1.0
Groove depth	t	$11^{+0.6}_0$	$14^{+0.6}_0$	$18^{+0.6}_0$	$24^{+0.6}_0$
α	34° for pitch diameter ²⁾ 38°	$d_w \leq 80$	≤ 118	≤ 190	≤ 315
		$d_w > 80$	> 118	> 190	> 315
Tolerance for $\alpha = 34^\circ\text{--}38^\circ$		$\pm 1^\circ$	$\pm 1^\circ$	$\pm 1^\circ$	$\pm 30'$
Pulley face width b_2 for number of grooves z $b_2 = (z - 1) \cdot e + 2 \cdot f$	1	16	20	25	34
	2	28	35	44	59.5
	3	40	50	63	85
	4	52	65	82	110.5
	5	64	80	101	136
	6	76	95	120	161.5
	7	88	110	139	187
	8	100	125	158	212.5
	9	112	140	177	238
	10	124	155	196	263.5
	11	136	170	215	289
	12	148	185	234	314.5

1) b_w corresponds to the datum width b_r

2) d_w corresponds to the datum diameter d_r

V-belt pulleys complying with DIN standard 2217 Part 1 for CONTI FO®-Z heavy-duty cogged raw edge V-belts and CONTI MULTIFLEX® classical-section wrapped V-belts



Groove section

Fig. 5

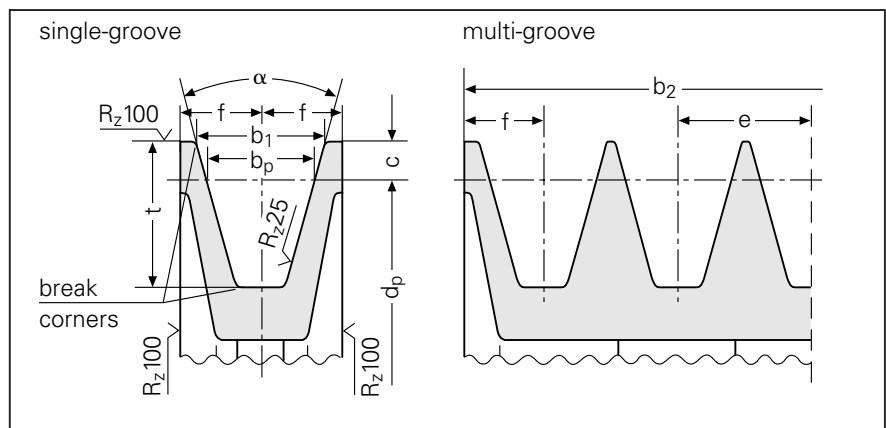
Dimensions (in mm)

Table 10

Belt section to DIN 7715	DIN symbol B.S./ISO symbol	5	6	(8)	10	13	17	(20)	22	(25)	32	40
		-	Y	-	Z	A	B	-	C	-	D	E
Alternative section DIN 2211 Part 1 and B.S. 3790		-	-	-	SPZ XPZ	SPA XPA	SPB XPB	-	SPC XPC	-	-	-
Pitch width	b_w	4.2	5.3	6.7	8.5	11.0	14.0	17.0	19.0	21.0	27.0	32.0
Top groove width	$b_1 \approx$	5.0	6.3	8.0				20.0		25.0	32.0	40.0
	c	1.3	1.6	2.0				5.1		6.3	8.1	12.0
Groove spacing	e	6 ± 0.3	8 ± 0.3	10 ± 0.3				23 ± 0.4		29 ± 0.5	37 ± 0.6	44 ± 0.3
	f	5 ± 0.5	6 ± 0.5	7 ± 0.6				15 ± 0.8		19 ± 1	24 ± 2	29 ± 2
Groove depth	t	$6^{+0.6}_0$	$7^{+0.6}_0$	$9^{+0.6}_0$				$18^{+0.6}_0$		$22^{+0.6}_0$	$28^{+0.6}_0$	$33^{+0.6}_0$
α	32°	d_w	≤ 50	≤ 63	≤ 75	Pulleys for narrow-section V-belts (DIN 2211 Part 1 and B.S. 3790) must be used for drives with these sections.		-		-	-	-
	34°		-	-	-		≤ 250	≤ 355	-	-		
	36°		50	63	75		-	-	≤ 500	≤ 630		
	38°		-	-	-		> 250	> 355	> 500	> 630		
Tolerance for $\alpha = 34^\circ - 38^\circ$			$\pm 1^\circ$	$\pm 1^\circ$	$\pm 1^\circ$			$\pm 1^\circ$		$\pm 30'$	$\pm 30'$	$\pm 30'$
Pulley face width b_2 for number of grooves z $b_2 = (z - 1) \cdot e + 2 \cdot f$	1	10	12	14				30	Cf. columns SPZ SPA SPB	38	48	58
	2	16	20	24				53		67	85	102.5
	3	22	28	34				76		96	122	147
	4	28	36	44				99		125	159	191.5
	5	34	44	54				122		154	196	236
	6	40	52	64				145		183	233	280.5
	7		60	74				168		212	270	325
	8			84				191		241	307	369.5
	9							214		270	344	414
	10							237		299	381	458.5
	11							260		328	418	503
	12							283		357	455	547.5

Sections in brackets should not be used for new constructions.

Deep-groove Pulleys



Groove section

Fig. 6

Dimensions (in mm)

Table 11

Belt section tp DIN 7753 part 1 and B.S. 3790		DIN symbol B.S./ISO symbol	XPZ/SPZ SPZ	XPA/SPA SPA	XPB/SPB SPB	XPC/SPC SPC	
Belt section to DIN 2215 and B.S. 3790		DIN symbol B.S./ISO symbol	10 Z	13 A	17 B	22 C	
Pitch width	b_w		8.5	11.0	14.0	19.0	
Increased groove width $b_1 \approx$	$\alpha = 34^\circ$		11.0	15.0	18.9	26.3	
		$\alpha = 38^\circ$	11.3	15.4	19.5	27.3	
	c		4.0	6.5	8.0	12.0	
Groove spacing	e		14 ± 0.3	18 ± 0.3	23 ± 0.4	31 ± 0.5	
	f		9.0 ± 0.6	11.5 ± 0.6	14.5 ± 0.8	20.0 ± 1.0	
Increased groove depth	t_{min}		13.0	18.0	22.5	31.5	
α	34°	for pitch diameter narrow-section V-belts DIN 7753 part 1	d_w	63 to 80	90 to 118	140 to 190	224 to 315
	38°		d_w	> 80	> 118	> 190	> 315
α	34°	for pitch diameter classical-section V-belts DIN 2215	d_w	50 to 80	71 to 118	112 to 190	180 to 315
	38°		d_w	> 80	> 118	> 190	> 315
Tolerance for $\alpha = 34^\circ-38^\circ$				$\pm 1^\circ$	$\pm 1^\circ$	$\pm 1^\circ$	$\pm 30'$
Pulleys for b_2 for number of grooves z $b_2 = (z - 1) \cdot e + 2 \cdot f$	1		18	23	29	40	
	2		32	41	52	71	
	3		46	59	75	102	
	4		60	77	98	133	
	5		74	95	121	164	
	6		88	113	144	195	
	7		102	131	167	226	
	8		116	149	190	257	
	9		130	167	213	288	
	10		144	185	236	319	
	11		158	203	259	350	
	12		172	221	282	381	

Minimum pulley diameter must be adhered to.
Not to be used for banded V-belts.

Calculation of V-belt drives

Symbols, units, terms

Design data
Power ratings P_R for:
CONTI FO[®]-Z
CONTI ULTRAFLEX[®]
CONTI MULTIFLEX[®]

Example of calculation
Two-pulley drive

Example of calculation
V-flat drive

ContiTech calculation service



*CONTI FO[®]-Z heavy-duty cogged raw edge V-belts
on a machine tool*

Calculation of V-belts drives

The calculation refers to drives equipped with CONTI FO®-Z, CONTI ULTRAFLEX® and CONTI MULTIFLEX®. The calculation method is in line with internationally recognized principles.

ContiTech engineering specialists will be pleased to give advice without obligation on complex drive problems and series applications.

Drives can also be calculated and optimum solutions obtained by means of computer programs.

Symbols, units, terms

Symbol	Unit	Term
a	mm	Centre distance
a_{\max}	mm	Max. permissible centre distance
a_{\min}	mm	Min. permissible centre distance
A	cm ²	Area of belt in contact with pulley in V-flat drives
b_u	mm	Bottom width of belt for determining area of belt in contact with pulley in V-flat drives
c_1		Arc of contact factor
c_2		Service factor
c_{2er}		Calculated service factor
c_3		Belt length correction factor
d_g	mm	Diameter of flat pulley in V-flat drives
d_w	mm	Pitch diameter of V-belt pulley
d_{w1}	mm	Pitch diameter of driving pulley
d_{w2}	mm	Pitch diameter of driven pulley
d_{wg}	mm	Pitch diameter of large pulley
d_{wk}	mm	Pitch diameter of small pulley
d_z	mm	Allowance for determining pitch diameter in V-flat drives
f_B	s ⁻¹	Belt flex frequency
F	N	Static belt tension
F_{dyn}	N	Dynamic axle load
F_e	N	Belt tension test force
F_u	N	Effective pull
F_v	N	Axle load
h	mm	Height of belt
i		Transmission ratio
k		Number of pulleys in a drive
k_1		Belt tension factor
k_2		Centrifugal force factor
L_a	mm	Outside length (reference length) of belt
L_e	mm	Reference length of belt
L_f	mm	Free span length
L_i	mm	Inside length of belt
L_w	mm	Pitch length of belt
n_1	min ⁻¹	Speed of driving pulley
n_2	min ⁻¹	Speed of driven pulley
n_g	min ⁻¹	Speed of large pulley
n_k	min ⁻¹	Speed of small pulley

Symbol	Unit	Term
p_{Fu}	N/cm ²	Tensioning capacity at pulley in V-flat drives
P	kW	Power to be transmitted
P_R	kW	Power rating per belt
t_e	mm	Belt tension test deflection
v	m/s	Belt speed
x	mm	Positive centre adjustment for take up
y	mm	Positive centre adjustment for belt installation
z		Number of belts required
z_{er}	mm	Calculated number of belts required
α	° (Grad)	Angle of side inclination $\alpha = 90 - \frac{\beta}{2}$
β	° (Grad)	Arc of contact around small pulley

Design data

The enclosed design data contains the data, formulae and tables required for calculation of V-belt drives. Values that can be easily computed by means of the given formulae are not included in the tables.

Arc of contact factor c_1

For smaller arcs of contact, the arc of contact factor c_1 corrects the power rating P_R . The corresponding values are listed in the "Power rating" tables for an arc of contact $\beta = 180^\circ$ around the small pulley.

$$c_1 = \frac{1}{4} \left[1 - 5 \left(- \frac{\beta}{180} \right) \right]$$

Arc of contact factor c_1

Table 12

$\frac{d_{bg} - d_{bk}}{a}$	Arc of contact β ° (degrees)	Arc of contact factor c_1
0	180	1.00
0.05	177	0.99
0.10	174	0.99
0.15	171	0.98
0.20	169	0.97
0.25	166	0.97
0.30	163	0.96
0.35	160	0.95
0.40	157	0.94
0.45	154	0.94
0.50	151	0.93
0.55	148	0.92
0.60	145	0.91
0.65	142	0.90
0.70	139	0.89
0.75	136	0.88
0.80	133	0.87
0.85	130	0.86
0.90	127	0.85
0.95	123	0.83
1.00	120	0.82
1.05	117	0.81
1.10	113	0.80
1.15	110	0.78
1.20	106	0.77
1.25	103	0.75
1.30	99	0.73
1.35	95	0.72
1.40	91	0.70
1.45	87	0.68

Service factor c_2

The service factor c_2 takes into account the daily service period and the type of drive units and driven machines. The values stated are recommended values and should be increased in special cases, e.g. for drives with a high starting torque, a high starting frequency, high dynamic loading or acceleration.

ContiTech application engineers will be pleased to give advice in cases of doubt.

Service factor c_2

Table 13

	Types of driven machines	Types of driving units: Single-phase and three phase AC motors with normal torque (up to 2 x rated torque), e.g. synchronous and single-phase motors with split-phase starting, three-phase AC motors with full-voltage, star-delta or slip-ring starter; DC shunt-wound motors; internal combustion engines and turbines with $n > 600 \text{ min}^{-1}$			Single-phase and three-phase AC motors with high torque (above 2 x rated torque), DC series-wound and compound-wound motors; internal combustion engines and turbines with $n < 600 \text{ min}^{-1}$.		
		Daily operating period			Daily operating period		
		10 hours or less	over 10 to 16 hours inclusive	over 16 hours	10 hours or less	over 10 to 16 hours inclusive	over 16 hours
Light-duty	Centrifugal pumps and compressors light-duty conveyor belts, fans and pumps up to 7.5 kW.	1	1.1	1.2	1.1	1.2	1.3
Medium-duty	Plate shears, presses, heavy-duty chain conveyors and conveyor belts, oscillating screens, generators and existers, automatic kneaders, machine tools (turning and grinding machines), laundry machines, printing machines, fans and pumps over 7.5 kW	1.1	1.2	1.3	1.2	1.3	1.4
Heavy-duty	Grinding gear, reciprocating piston compressors, heavy-duty overshot loaders and reciprocating conveyors (worm conveyors, apron conveyors, bucket elevators, shovel loaders), elevators, briquetting presses, textile machines, paper-making machines, piston pumps, dredging pumps, reciprocating saws, hammer mills.	1.2	1.3	1.4	1.4	1.5	1.6
Extra heavy-duty	heavy-duty grinding gear, rock crushers, calenders, mixers, winches, cranes, excavators.	1.3	1.4	1.5	1.5	1.6	1.8

Length correction factor c_3

The length correction factor c_3 takes into account the number of flexing cycles as a function of belt length.

The c_3 values are listed on pages 41 to 60 together with the power ratings and the standard lengths available for each belt type and section.

Selecting the belt section

Figs. 7 to 11 are designed to help the customer/design engineer select the most suitable V-belt, using the power to be transmitted by the V-belt drive P , corrected by the service factor c_2 , and the speed of the small pulley. Each section is identified by its own colour.

The approximate power transmission capacity of each V-belt can be read off as a function of pitch diameter and speed of the small pulley. The section with the highest power transmission capacity should be selected.

In the borderline area of two sections it is advisable to design the drive system with the next section downwards if the pulley diameters are identical.

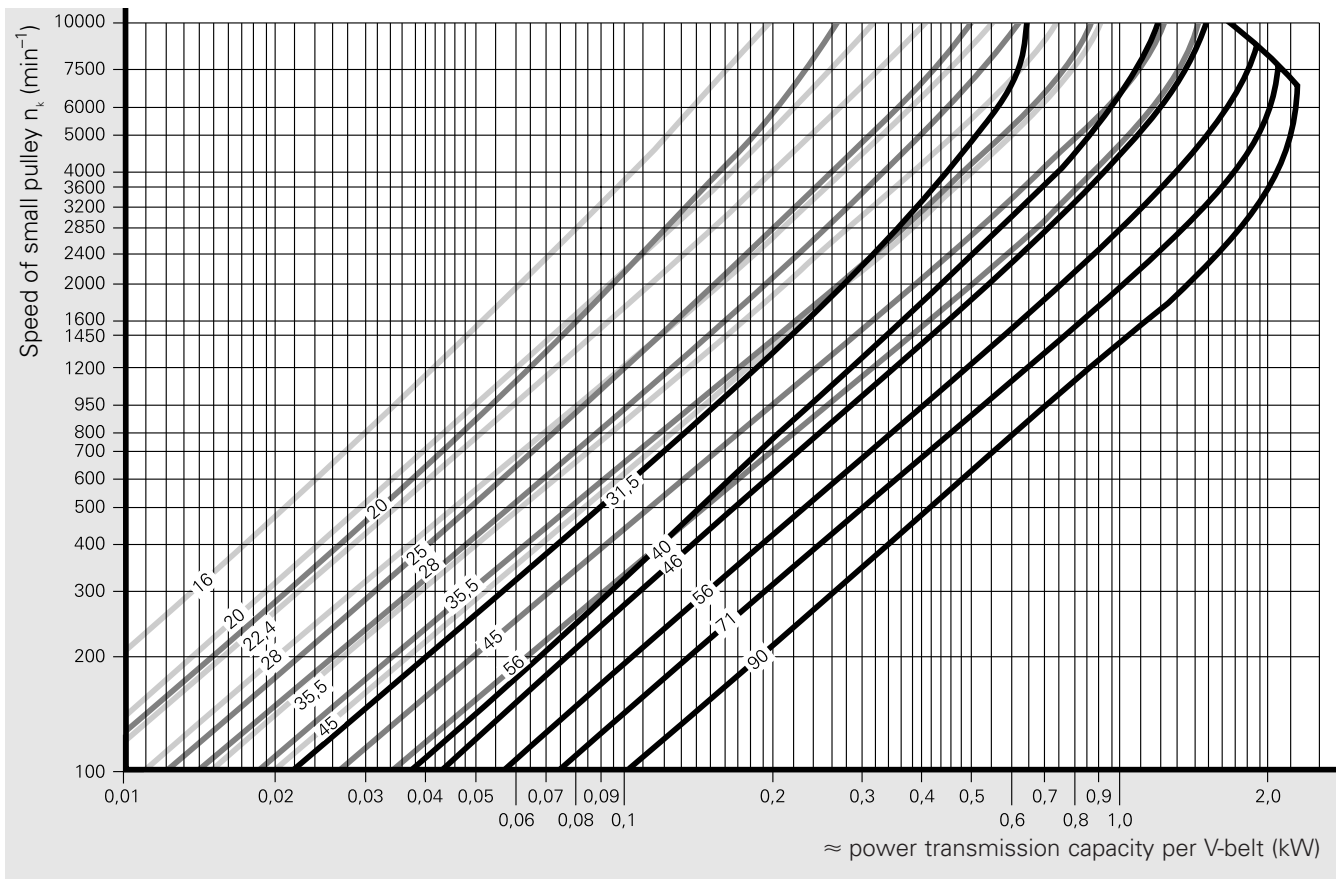
The precise power transmission capacity cannot be read from these charts. Subsequent calculation using the corresponding formulae and tables is essential.

Selection of the largest possible pulley diameter permits optimum power utilization and economic efficiency. The maximum permissible belt speeds for each section must be taken into account.

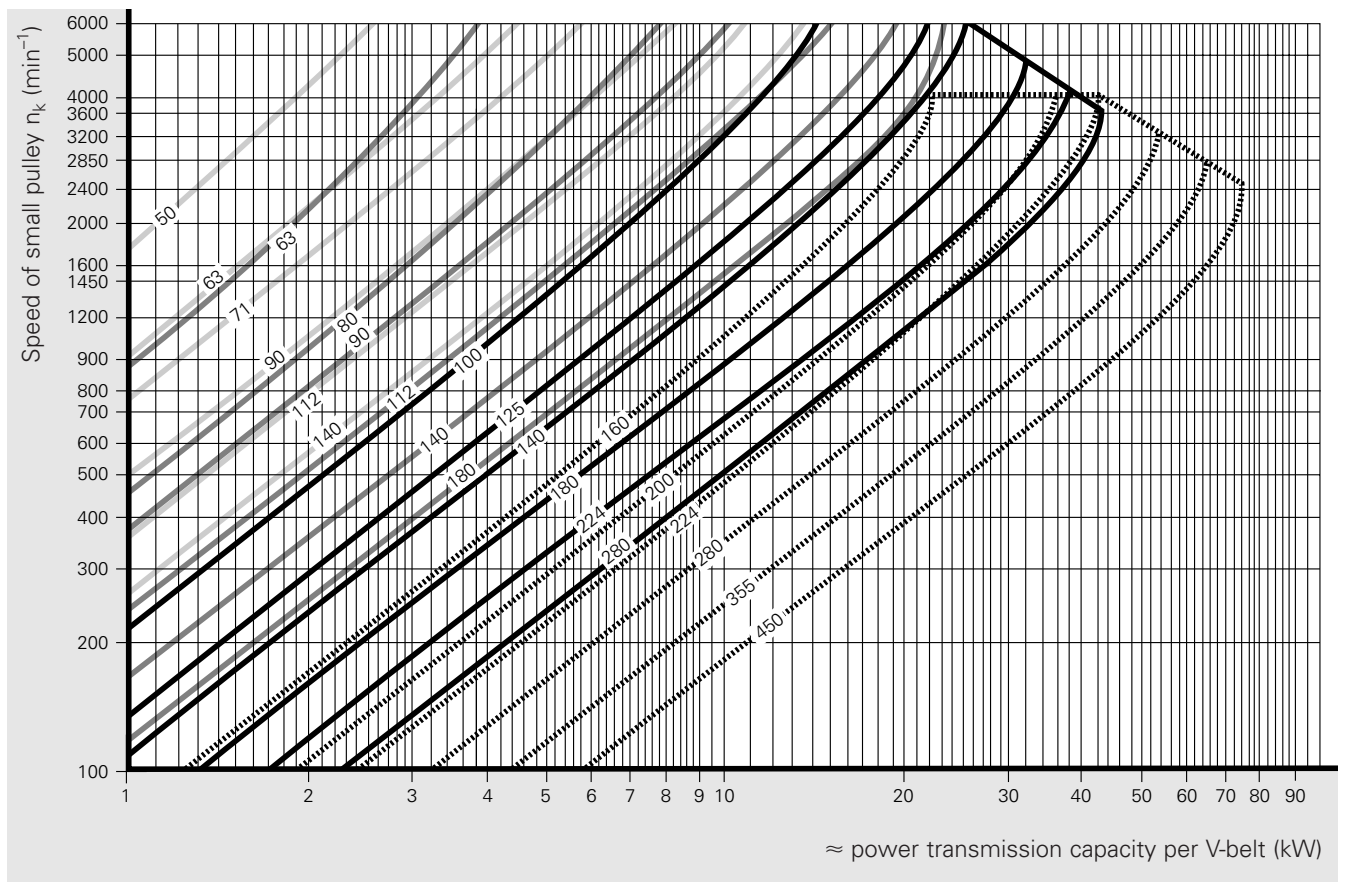
CONTI FO[®]-Z heavy-duty cogged raw edge V-belts are recommended for new constructions in the mechanical engineering industry, owing to their economic efficiency and low structural volume.

CONTI FO[®]-Z heavy-duty cogged raw edge V-belts 5 — 6 — 8 —

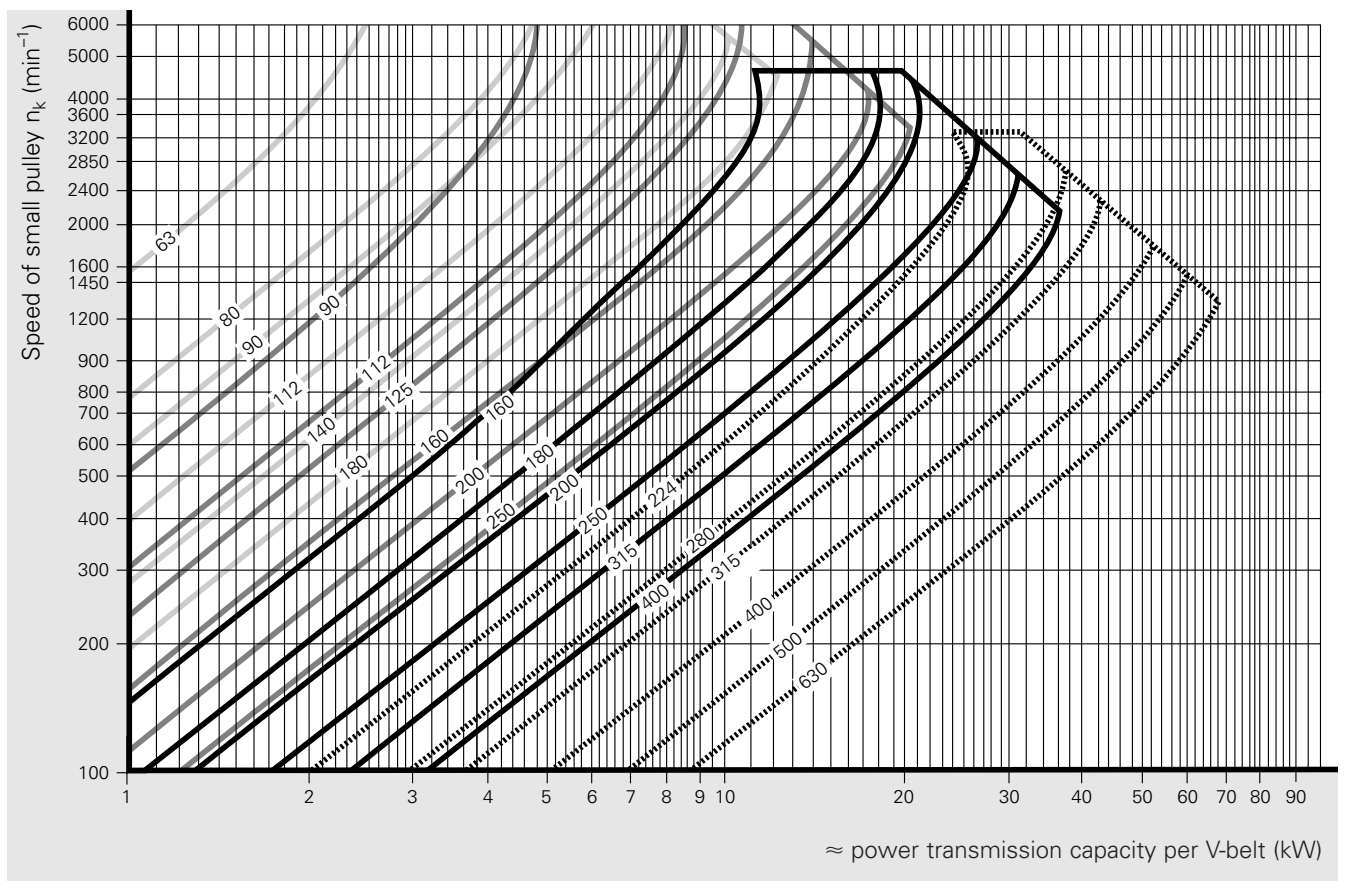
Fig. 7



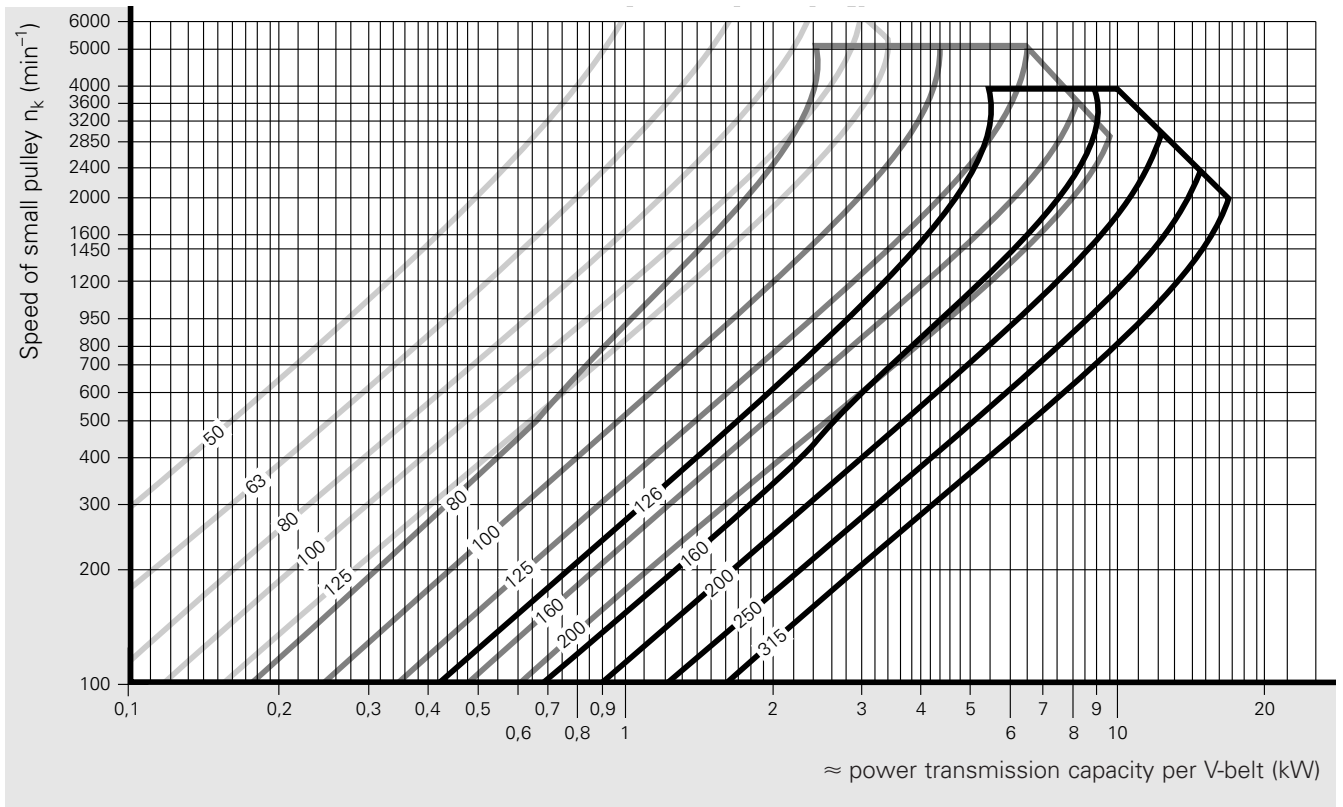
CONTI FO[®]-Z heavy-duty cogged raw edge V-belts XPZ — XPA — XPB — XPC Fig. 8



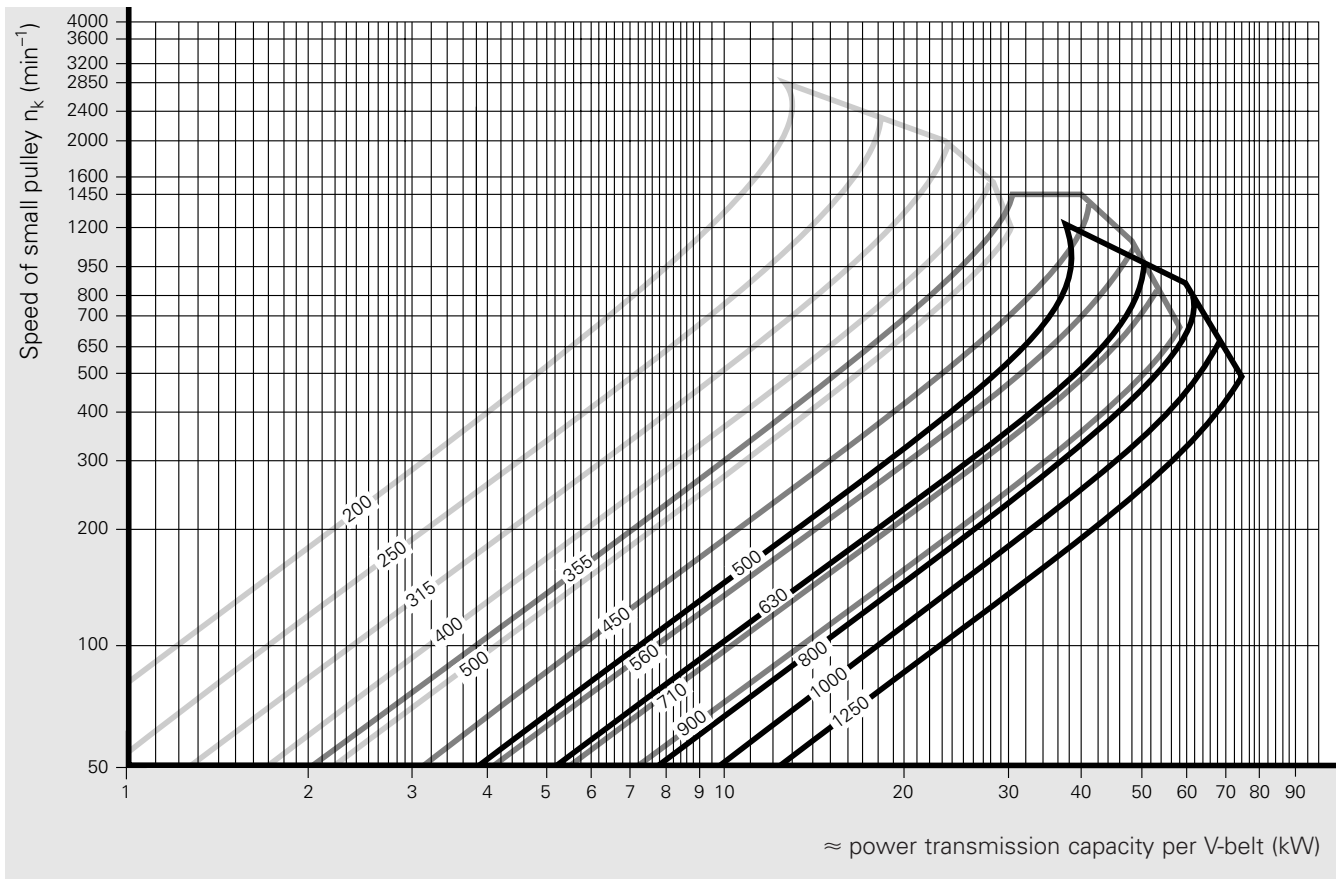
CONTI ULTRAFLEX[®] narrow-section wrapped V-belts SPZ — SPA — SPB — SPC Fig. 9



CONTI MULTIFLEX® classical-section wrapped V-belts 10/Z — 13/A — 17/B — Fig. 10



CONTI MULTIFLEX® classical-section wrapped V-belts 22/C — 32/D — 40/E — Fig. 11



Centre distance a

The centre distance a is calculated using the following formula:

$$a = \frac{1}{4} \cdot \left(L_w - \frac{d_{wg} + d_{wk}}{2} \cdot \pi \right) + \frac{1}{4} \cdot \sqrt{\left(L_w - \frac{d_{wg} + d_{wk}}{2} \cdot \pi \right)^2 - 2 \cdot (d_{wg} - d_{wk})^2} \quad \text{mm}$$

The following applies if the transmission ratio $i = 1$:

$$a = \frac{L_w - \pi \cdot d_{wk}}{2} \quad \text{mm}$$

The following formula is recommended for selecting the centre distance in new constructions:

$$0,7 \cdot (d_{wg} + d_{wk}) \leq a \leq 2 \cdot (d_{wg} + d_{wk}) \quad \text{mm}$$

Deviations are feasible to allow for structural requirements.

Pitch length L_w

The pitch length L_w of the V-belt for a 2-pulley drive is approximately:

$$L_w \approx 2 \cdot a + \frac{\pi}{2} \cdot (d_{wg} + d_{wk}) + \frac{(d_{wg} - d_{wk})^2}{4 \cdot a} \quad \text{mm}$$

and precisely:

$$L_w = 2 \cdot a \cdot \sin \frac{\beta}{2} + \frac{\pi}{2} \cdot (d_{wg} + d_{wk}) + \frac{\pi}{180} \cdot \left(90 - \frac{\beta}{2} \right) \cdot (d_{wg} - d_{wk}) \quad \text{mm}$$

The pitch length L_w is converted to other lengths with the length differential values ΔL . These values are listed in the dimensional data (tables 3, 5, 7, pages 11, 15, 18) for the different belt types and sections.

Arc of contact β

The arc of contact β around the small pulley is:

$$\beta = 2 \cdot \arccos \left(\frac{d_{wg} - d_{wk}}{2 \cdot a} \right) \quad \text{°(degrees)}$$

The following is an approximate formula for arc contact $\beta > 110^\circ$:

$$\beta \approx 180 - 60 \cdot \left(\frac{d_{wg} - d_{wk}}{a} \right) \quad \text{°(degrees)}$$

Positive centre adjustment x/negative centre adjustment y

The positive centre adjustment x is required for takeup, and negative centre adjustment y for installation of the belt.

The positive centre adjustment x for CONTI FO®-Z heavy-duty cogged raw edge V-belts is

$$x = \frac{0.01 \cdot L_w}{\sin \frac{\beta}{2}} \text{ mm}$$

and for conventional wrapped V-belts:

$$x = \frac{0.015 \cdot L_w}{\sin \frac{\beta}{2}} \text{ mm}$$

The negative centre adjustment y is

$$y = \frac{0.005 \cdot L_w + \pi \cdot h \cdot \frac{\beta}{360}}{\sin \frac{\beta}{2}} \text{ mm}$$

Belt speed v

The belt speed v is calculated from the diameter d_w in mm and the speed n in min⁻¹ of the pulley:

$$v = \frac{\pi \cdot d_w \cdot n}{60 \cdot 10^3} \text{ m/s}$$

Account must be taken of the max. recommended speeds for the various types of V-belt (cf. dimensional data, tables 3, 5, 7, pages 11, 15, 18).

Fig. 27 (page 80) facilitates determination of the belt speed.

Belt flex frequency f_B

The belt flex frequency f_B is calculated from the belt speed v in m/s, the number of pulleys k and the pitch length L_w in mm:

$$f_B = \frac{10^3 \cdot v \cdot k}{L_w} \text{ s}^{-1}$$

The max. belt flex frequency should not exceed the values listed in the dimensional data (tables 3, 5, 7, pages 11, 15, 18).

Number of belts z

The number of belts z_{er} is calculated from the power to be transmitted P and factors c₁, c₂ and c₃

$$z_{er} = \frac{P \cdot c_2}{P_R \cdot c_1 \cdot c_3}$$

The number of belts actually used z is obtained in general by rounding up z_{er} to the next highest whole number.

When rounding up, check whether the service factor c₂ is still adequate.

ContiTech application engineers will be pleased to give advice in cases of doubt.

Axle load F_v

The axle load F_v is, as in all friction transmission drives, a decisive criterion for the efficiency and the service life of a V-belt drive.

- Insufficient belt tension results in inadequate power transmission, reduced efficiency and premature belt damage due to slip.
- Excessive belt tension leads to high specific surface pressure, a risk of cross flexing, increased flexing stress and increased strain on the tension members with consequent premature fractures and elongation.
Excessive V-belt tension also results frequently in damage to shaft bearings.

For this reason the belt tension required for the specific load must be determined and adhered to as closely as possible on installation.

Calculation

The axle load for two-pulley drives can be calculated from:

$$F_v = (k_1 \cdot F_u + 2 \cdot k_2 \cdot v_2 \cdot z) \cdot \sin \frac{\beta}{2} \quad \text{N}$$

The dynamic wave loading needed for dimensioning purposes is derived from:

$$F_{\text{dyn}} = k_1 \cdot F_u \cdot \sin \frac{\beta}{2} \quad \text{N}$$

whereby:

$$F_u = \frac{P \cdot 10^3}{v} \quad \text{N}$$

z is here the number of single belts in a set.

The belt tension factor k_1 must be applied in line with the specific service conditions (table 14, page 40).

Belt tension factor k_1

Table 14

β ° (degrees)	Service conditions		
	Light-duty drives Constant load	Medium load	Heavy-duty drives High dynamic lading High starting fequency
180	1.50	1.70	1.90
175	1.53	1.73	1.93
170	1.56	1.76	1.96
165	1.59	1.79	1.99
160	1.63	1.83	2.03
155	1.67	1.87	2.07
150	1.71	1.91	2.11
145	1.75	1.95	2.15
140	1.80	2.00	2.20
135	1.85	2.05	2.25
130	1.91	2.11	2.31
125	1.97	2.17	2.37
120	2.04	2.24	2.44
115	2.11	2.31	2.51
110	2.19	2.39	2.59
105	2.28	2.48	2.68
100	2.38	2.58	2.78
95	3.49	2.69	2.89
90	3.62	2.82	3.02

The centrifugal force factor k_2 is given in table 15.

Centrifugal force factor k_2

Table 15

CONTI FO®-Z heavy-duty cogged raw edge V-belts

Section	5/-	6/Y	8/-	XPZ	XPA	XPB	XPC
Centrifugal force factor k_2	0.015	0.023	0.041	0.072	0.112	0.192	0.370

CONTI ULTRAFLEX® narrow-section wrapped V-belts

Section	SPZ	SPA	SPB	SPC
Centrifugal force factor k_2	0.073	0.100	0.178	0.380

CONTI MULTIFLEX® classical-section wrapped V-belts

Section	8/-	10/Z	13/A	17/B	20/-	22/C	25/-	32/D	40/E
Centrifugal force factor k_2	0.040	0.060	0.105	0.170	0.240	0.300	0.430	0.630	0.970

For the setting of the belt tension, the static belt tension F must first be determined:

$$F = \frac{F_v}{2 \cdot z \cdot \sin \frac{\beta}{2}} \text{ N}$$

The static belt tension F is also given in table 59 (cf. V-belt maintenance, page 78). This table is of advantage particularly in the maintenance of existing drives.

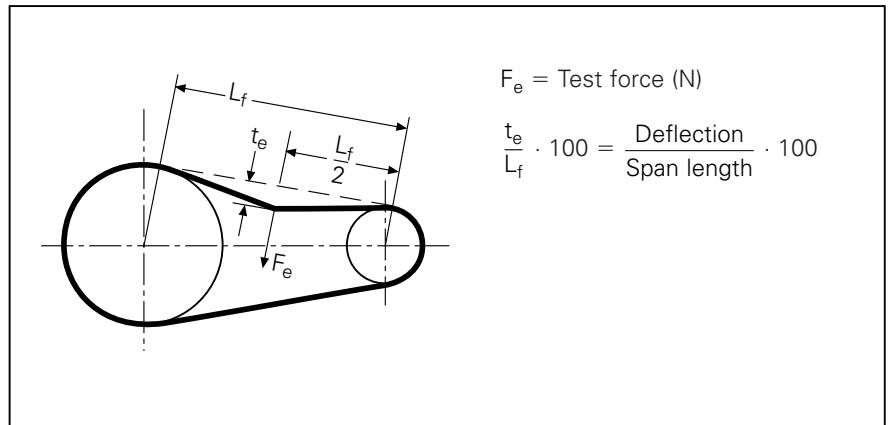
Controlling the belt tension

The determined static belt tension F can be set in accordance with figs. 14 to 17. Please refer to the example calculation for two-pulley drives (page 63).



V-belt tension gauge

Fig. 13



Deflection t_e

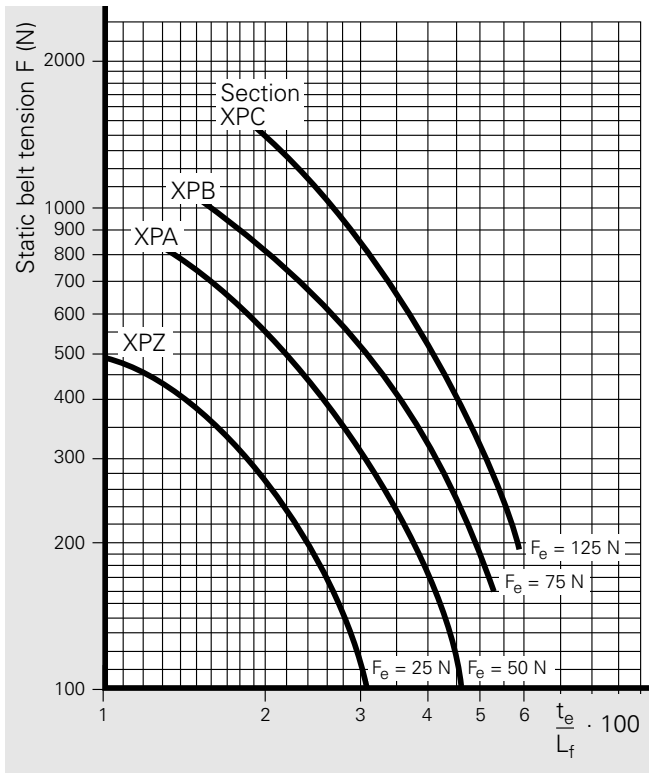
Fig. 12

Measurement of the belt tension is facilitated by appropriate gauges, e.g. the ContiTech V-belt tension gauge (fig. 13). This gauge is used to measure the belt deflection that is derived from the calculated axle load F_v .

Further information on practical application is given in the chapter on "Installation, maintenance and storage of V-belts".

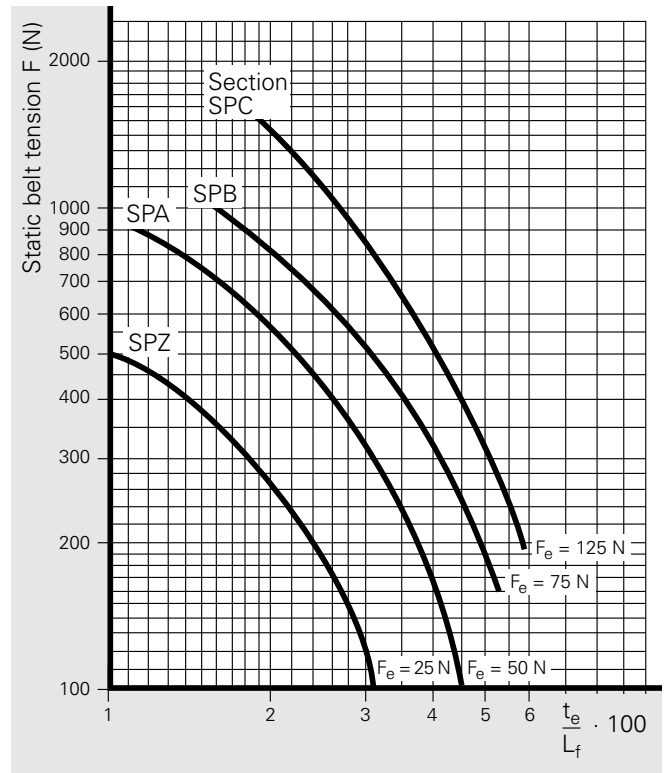
Belt tension graphs for CONTI FO®-Z heavy duty cogged raw edge V-belts

Fig. 14



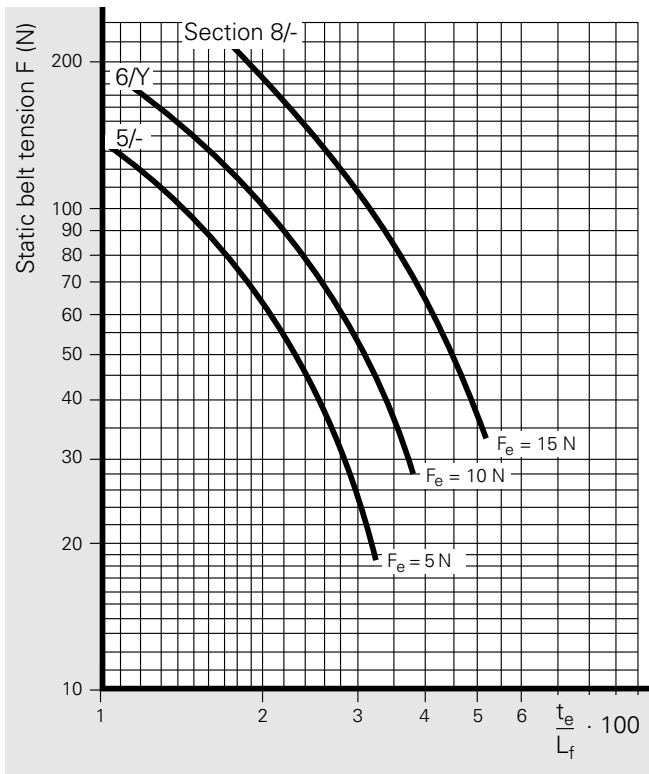
Belt tension graphs for CONTI ULTRAFLEX® narrow-section wrapped V-belts

Fig. 15



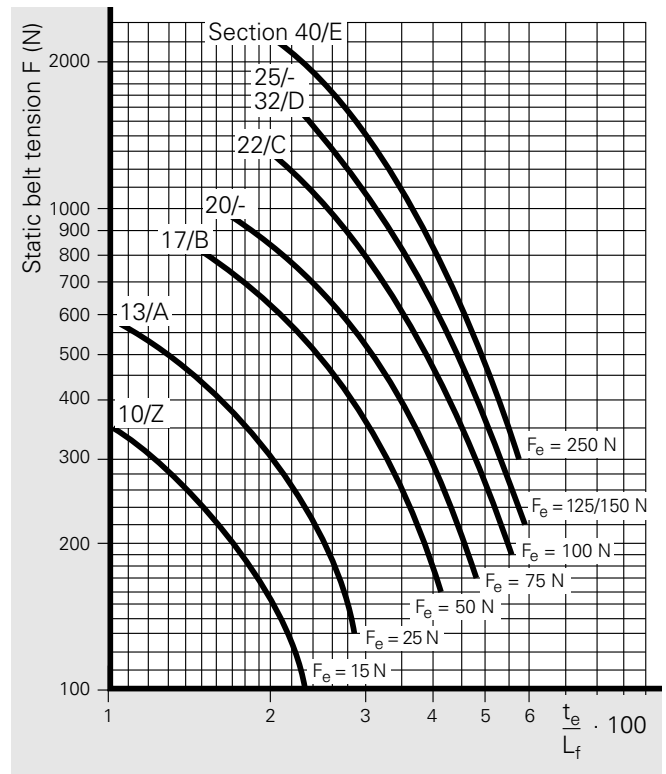
Belt tension graphs for CONTI FO®-Z V-belts

Fig. 16



Belt tension graphs for CONTI MULTIFLEX® classical-section wrapped V-belts

Fig. 17



CONTI FO[®]-Z 5/-

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk}, transmission ratio i, small pulley speed n_k and pitch length L_w = 311 mm.
Min. pulley diameter d_{b min} = 16 mm.

CONTI FO[®]-Z 5/-

Table 16

d _{wk} (mm)	i or 1:i	Speed of small pulley n _k (min ⁻¹)																	
		200	400	700	800	950	1200	1450	1600	2000	2400	2850	3200	3600	4500	6000	8000	10000	12000
16.0	1.00	0.01	0.02	0.03	0.03	0.03	0.04	0.04	0.05	0.06	0.06	0.07	0.08	0.09	0.10	0.12	0.15	0.17	0.18
	1.05	0.01	0.02	0.03	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.08	0.09	0.11	0.13	0.15	0.17	0.19
	1.20	0.01	0.02	0.03	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.14	0.17	0.19	0.21
	1.50	0.01	0.02	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.07	0.08	0.09	0.10	0.12	0.15	0.18	0.20	0.22
	3.00	0.01	0.02	0.03	0.03	0.04	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.10	0.12	0.15	0.19	0.21	0.24
18.0	1.00	0.01	0.02	0.03	0.04	0.04	0.05	0.06	0.06	0.07	0.08	0.10	0.10	0.11	0.14	0.17	0.20	0.23	0.25
	1.05	0.01	0.02	0.03	0.04	0.04	0.05	0.06	0.06	0.07	0.09	0.10	0.11	0.12	0.14	0.17	0.21	0.24	0.26
	1.20	0.01	0.02	0.03	0.04	0.04	0.05	0.06	0.06	0.08	0.09	0.10	0.11	0.12	0.15	0.18	0.22	0.25	0.28
	1.50	0.01	0.02	0.03	0.04	0.04	0.05	0.06	0.07	0.08	0.09	0.11	0.12	0.13	0.15	0.19	0.23	0.27	0.28
	3.00	0.01	0.02	0.03	0.04	0.04	0.05	0.06	0.07	0.08	0.10	0.11	0.12	0.13	0.16	0.19	0.24	0.28	0.31
20.0	1.00	0.01	0.02	0.04	0.04	0.05	0.06	0.07	0.07	0.09	0.10	0.12	0.13	0.14	0.17	0.21	0.26	0.29	0.32
	1.05	0.01	0.02	0.04	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.12	0.13	0.15	0.17	0.21	0.26	0.30	0.33
	1.20	0.01	0.02	0.04	0.04	0.05	0.06	0.07	0.08	0.09	0.11	0.12	0.14	0.15	0.18	0.22	0.28	0.32	0.36
	1.50	0.01	0.03	0.04	0.04	0.05	0.06	0.07	0.08	0.10	0.11	0.13	0.14	0.16	0.19	0.23	0.29	0.33	0.37
	3.00	0.01	0.03	0.04	0.05	0.05	0.06	0.08	0.08	0.10	0.11	0.13	0.14	0.17	0.19	0.24	0.29	0.34	0.38
22.4	1.00	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.11	0.12	0.14	0.16	0.17	0.21	0.26	0.32	0.36	0.40
	1.05	0.02	0.03	0.05	0.05	0.06	0.07	0.08	0.09	0.11	0.13	0.15	0.16	0.18	0.21	0.26	0.32	0.37	0.40
	1.20	0.02	0.03	0.05	0.05	0.06	0.07	0.09	0.09	0.11	0.13	0.15	0.17	0.18	0.22	0.27	0.34	0.39	0.43
	1.50	0.02	0.03	0.05	0.05	0.06	0.08	0.09	0.10	0.12	0.13	0.15	0.17	0.19	0.22	0.28	0.35	0.40	0.44
	3.00	0.02	0.03	0.05	0.05	0.06	0.08	0.09	0.10	0.12	0.14	0.16	0.17	0.19	0.23	0.29	0.35	0.41	0.46
25.0	1.00	0.02	0.03	0.05	0.06	0.07	0.08	0.10	0.10	0.13	0.15	0.17	0.19	0.21	0.25	0.31	0.38	0.44	0.48
	1.05	0.02	0.03	0.05	0.06	0.07	0.08	0.10	0.11	0.13	0.15	0.17	0.19	0.21	0.25	0.33	0.39	0.45	0.49
	1.20	0.02	0.03	0.05	0.06	0.07	0.09	0.10	0.11	0.13	0.16	0.18	0.20	0.22	0.26	0.33	0.40	0.46	0.51
	1.50	0.02	0.03	0.06	0.06	0.07	0.09	0.10	0.11	0.13	0.16	0.18	0.20	0.22	0.27	0.33	0.41	0.48	0.52
	3.00	0.02	0.03	0.06	0.06	0.07	0.09	0.10	0.11	0.13	0.16	0.19	0.20	0.22	0.27	0.34	0.42	0.49	0.53
28.0	1.00	0.02	0.04	0.06	0.07	0.08	0.10	0.12	0.13	0.15	0.18	0.20	0.22	0.25	0.30	0.37	0.45	0.52	0.56
	1.05	0.02	0.04	0.06	0.07	0.08	0.10	0.12	0.13	0.15	0.18	0.21	0.23	0.25	0.30	0.37	0.46	0.53	0.57
	1.20	0.02	0.04	0.06	0.07	0.08	0.10	0.12	0.13	0.16	0.18	0.21	0.23	0.26	0.31	0.38	0.47	0.54	0.59
	1.50	0.02	0.04	0.06	0.07	0.08	0.10	0.12	0.13	0.16	0.19	0.21	0.24	0.26	0.31	0.39	0.48	0.56	0.61
	3.00	0.02	0.04	0.07	0.07	0.08	0.10	0.12	0.13	0.16	0.19	0.22	0.24	0.26	0.32	0.40	0.49	0.57	0.62
31.5	1.00	0.02	0.04	0.07	0.08	0.09	0.11	0.14	0.15	0.18	0.21	0.24	0.26	0.29	0.35	0.44	0.53	0.60	0.65
	1.05	0.02	0.04	0.07	0.08	0.09	0.12	0.14	0.15	0.18	0.21	0.24	0.27	0.29	0.35	0.44	0.54	0.61	0.66
	1.20	0.02	0.05	0.07	0.08	0.10	0.12	0.14	0.15	0.18	0.21	0.25	0.27	0.30	0.36	0.45	0.55	0.63	0.68
	1.50	0.03	0.05	0.07	0.08	0.10	0.12	0.14	0.15	0.19	0.22	0.25	0.28	0.31	0.37	0.46	0.56	0.64	0.69
	3.00	0.03	0.05	0.08	0.08	0.10	0.12	0.14	0.15	0.19	0.22	0.25	0.28	0.31	0.37	0.46	0.57	0.65	0.70
35.5	1.00	0.03	0.05	0.08	0.09	0.11	0.13	0.16	0.17	0.21	0.24	0.28	0.31	0.34	0.41	0.51	0.62	0.69	0.73
	1.05	0.03	0.05	0.08	0.09	0.11	0.13	0.16	0.17	0.21	0.25	0.28	0.31	0.34	0.41	0.51	0.62	0.70	0.74
	1.20	0.03	0.05	0.09	0.10	0.11	0.14	0.16	0.18	0.21	0.25	0.29	0.32	0.35	0.42	0.52	0.64	0.72	0.76
	1.50	0.03	0.05	0.09	0.10	0.11	0.14	0.16	0.18	0.22	0.25	0.29	0.32	0.36	0.43	0.53	0.65	0.73	0.77
	3.00	0.03	0.05	0.09	0.10	0.11	0.14	0.16	0.18	0.22	0.25	0.29	0.33	0.36	0.43	0.54	0.66	0.74	0.78
40.0	1.00	0.03	0.06	0.10	0.11	0.13	0.16	0.18	0.20	0.24	0.28	0.33	0.36	0.40	0.47	0.59	0.71	0.78	0.79
	1.05	0.03	0.06	0.10	0.11	0.13	0.16	0.18	0.20	0.24	0.28	0.33	0.36	0.40	0.48	0.59	0.71	0.79	0.80
	1.20	0.03	0.06	0.10	0.11	0.13	0.16	0.19	0.20	0.25	0.29	0.33	0.37	0.41	0.49	0.60	0.73	0.80	0.82
	1.50	0.03	0.06	0.10	0.11	0.13	0.16	0.19	0.21	0.25	0.29	0.34	0.37	0.41	0.49	0.61	0.74	0.82	0.84
	3.00	0.03	0.06	0.10	0.11	0.13	0.16	0.19	0.21	0.25	0.29	0.34	0.38	0.41	0.50	0.62	0.74	0.83	0.85
45.0	1.00	0.04	0.07	0.11	0.13	0.15	0.18	0.21	0.23	0.28	0.33	0.38	0.41	0.46	0.54	0.67	0.79	0.85	0.83
	1.05	0.04	0.07	0.11	0.13	0.15	0.18	0.21	0.23	0.28	0.33	0.38	0.42	0.46	0.55	0.68	0.80	0.86	0.85
	1.20	0.04	0.07	0.11	0.13	0.15	0.18	0.21	0.23	0.28	0.33	0.38	0.42	0.47	0.55	0.69	0.81	0.88	0.86
	1.50	0.04	0.07	0.11	0.13	0.15	0.18	0.22	0.24	0.29	0.34	0.39	0.43	0.47	0.56	0.69	0.82	0.89	0.88
	3.00	0.04	0.07	0.11	0.13	0.15	0.18	0.22	0.24	0.29	0.34	0.39	0.43	0.47	0.57	0.70	0.83	0.90	0.89
V _{max}	m/s																		

Belt length correction factor c₃

Table 17

L _w mm	171	191	211	281	291	311	326	333	346	351	363	386	411	436	461	541	571	611
c ₃	0.87	0.90	0.92	0.98	0.99	1.00	1.01	1.01	1.02	1.03	1.03	1.05	1.06	1.07	1.09	1.12	1.13	1.15

CONTI FO®-Z 6/Y

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk}, transmission ratio i, small pulley speed n_k and pitch length L_w = 315 mm.

Min. pulley diameter d_{b min} = 20 mm.

CONTI FO®-Z 6/Y

Table 18

d _{wk} (mm)	i or 1:i	Speed of small pulley n _k (min ⁻¹)																	
		200	400	700	800	950	1200	1450	1600	2000	2400	2850	3200	3600	4500	6000	8000	10000	12000
20.0	1.00	0.01	0.03	0.04	0.04	0.05	0.06	0.07	0.07	0.09	0.10	0.11	0.12	0.13	0.15	0.17	0.20	0.21	0.21
	1.05	0.02	0.03	0.04	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.15	0.18	0.21	0.23	0.23
	1.20	0.02	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.10	0.11	0.12	0.13	0.14	0.17	0.20	0.24	0.26	0.27
	1.50	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.08	0.10	0.11	0.13	0.14	0.15	0.18	0.22	0.26	0.28	0.30
	3.00	0.02	0.03	0.05	0.05	0.06	0.07	0.08	0.09	0.10	0.12	0.14	0.15	0.16	0.19	0.23	0.27	0.30	0.32
22.4	1.00	0.02	0.03	0.05	0.06	0.06	0.08	0.09	0.10	0.11	0.13	0.15	0.16	0.17	0.20	0.25	0.29	0.32	0.33
	1.05	0.02	0.03	0.05	0.06	0.07	0.08	0.09	0.10	0.12	0.13	0.15	0.17	0.18	0.21	0.26	0.30	0.33	0.35
	1.20	0.02	0.03	0.05	0.06	0.07	0.08	0.10	0.10	0.12	0.14	0.16	0.18	0.19	0.23	0.28	0.33	0.37	0.39
	1.50	0.02	0.04	0.06	0.06	0.07	0.09	0.10	0.11	0.13	0.15	0.17	0.18	0.20	0.24	0.29	0.35	0.39	0.42
	3.00	0.02	0.04	0.06	0.06	0.07	0.09	0.10	0.11	0.13	0.15	0.17	0.19	0.21	0.25	0.30	0.36	0.41	0.44
25.0	1.00	0.02	0.04	0.06	0.07	0.08	0.10	0.11	0.12	0.14	0.17	0.19	0.21	0.23	0.27	0.32	0.39	0.43	0.45
	1.05	0.02	0.04	0.06	0.07	0.08	0.10	0.11	0.12	0.15	0.17	0.19	0.21	0.23	0.27	0.33	0.40	0.45	0.47
	1.20	0.02	0.04	0.07	0.07	0.08	0.10	0.12	0.13	0.15	0.18	0.20	0.22	0.24	0.29	0.35	0.43	0.48	0.51
	1.50	0.02	0.04	0.07	0.07	0.09	0.10	0.12	0.13	0.16	0.18	0.21	0.23	0.25	0.30	0.37	0.45	0.51	0.54
	3.00	0.02	0.04	0.07	0.08	0.09	0.11	0.12	0.14	0.16	0.19	0.22	0.24	0.26	0.31	0.38	0.46	0.52	0.57
28.0	1.00	0.03	0.05	0.08	0.08	0.10	0.12	0.14	0.15	0.18	0.21	0.24	0.26	0.28	0.34	0.41	0.50	0.55	0.59
	1.05	0.03	0.05	0.08	0.09	0.10	0.12	0.14	0.15	0.18	0.21	0.24	0.26	0.29	0.34	0.42	0.51	0.57	0.61
	1.20	0.03	0.05	0.08	0.09	0.10	0.12	0.14	0.16	0.19	0.22	0.25	0.27	0.30	0.36	0.44	0.54	0.60	0.65
	1.50	0.03	0.05	0.08	0.09	0.10	0.13	0.15	0.16	0.19	0.22	0.26	0.28	0.31	0.37	0.46	0.56	0.63	0.68
	3.00	0.03	0.05	0.08	0.09	0.11	0.13	0.15	0.16	0.20	0.23	0.26	0.29	0.32	0.38	0.47	0.57	0.65	0.70
31.5	1.00	0.03	0.06	0.09	0.10	0.12	0.14	0.17	0.18	0.22	0.25	0.29	0.32	0.35	0.42	0.51	0.62	0.69	0.73
	1.05	0.03	0.06	0.09	0.10	0.12	0.14	0.17	0.18	0.22	0.26	0.29	0.32	0.36	0.42	0.52	0.63	0.71	0.75
	1.20	0.03	0.06	0.09	0.11	0.12	0.15	0.17	0.19	0.23	0.26	0.30	0.33	0.37	0.44	0.54	0.66	0.74	0.79
	1.50	0.03	0.06	0.10	0.11	0.12	0.15	0.18	0.19	0.23	0.27	0.31	0.34	0.38	0.45	0.56	0.68	0.77	0.82
	3.00	0.03	0.06	0.10	0.11	0.13	0.15	0.18	0.20	0.24	0.27	0.32	0.35	0.38	0.46	0.57	0.69	0.78	0.84
35.5	1.00	0.04	0.07	0.11	0.12	0.14	0.17	0.20	0.22	0.26	0.30	0.35	0.39	0.42	0.50	0.62	0.75	0.83	0.86
	1.05	0.04	0.07	0.11	0.12	0.14	0.17	0.20	0.22	0.27	0.31	0.36	0.39	0.43	0.51	0.63	0.76	0.85	0.88
	1.20	0.04	0.07	0.11	0.12	0.14	0.18	0.21	0.23	0.27	0.32	0.36	0.40	0.44	0.53	0.65	0.79	0.88	0.92
	1.50	0.04	0.07	0.11	0.13	0.15	0.18	0.21	0.23	0.28	0.32	0.37	0.41	0.45	0.54	0.67	0.81	0.91	0.95
	3.00	0.04	0.07	0.11	0.13	0.15	0.18	0.21	0.23	0.28	0.33	0.38	0.42	0.46	0.55	0.68	0.82	0.93	0.98
40.0	1.00	0.04	0.08	0.13	0.14	0.17	0.20	0.24	0.26	0.31	0.36	0.42	0.46	0.51	0.60	0.74	0.89	0.97	0.99
	1.05	0.04	0.08	0.13	0.14	0.17	0.20	0.24	0.26	0.31	0.37	0.42	0.47	0.51	0.61	0.75	0.90	0.99	1.01
	1.20	0.04	0.08	0.13	0.15	0.17	0.21	0.24	0.27	0.32	0.37	0.43	0.48	0.52	0.62	0.77	0.93	1.02	1.05
	1.50	0.04	0.08	0.13	0.15	0.17	0.21	0.25	0.27	0.33	0.38	0.44	0.48	0.53	0.64	0.79	0.95	1.05	1.08
	3.00	0.04	0.08	0.13	0.15	0.17	0.21	0.25	0.27	0.33	0.39	0.45	0.49	0.54	0.64	0.80	0.96	1.07	1.10
45.0	1.00	0.05	0.09	0.15	0.17	0.19	0.24	0.28	0.30	0.37	0.43	0.49	0.54	0.60	0.71	0.87	1.03	1.11	1.09
	1.05	0.05	0.09	0.15	0.17	0.19	0.24	0.28	0.31	0.37	0.43	0.50	0.55	0.60	0.72	0.88	1.04	1.12	1.11
	1.20	0.05	0.09	0.15	0.17	0.20	0.24	0.29	0.31	0.38	0.44	0.51	0.56	0.61	0.73	0.90	1.07	1.16	1.15
	1.50	0.05	0.09	0.15	0.17	0.20	0.25	0.29	0.31	0.38	0.44	0.51	0.57	0.62	0.74	0.92	1.09	1.18	1.18
	3.00	0.05	0.09	0.15	0.17	0.20	0.25	0.29	0.32	0.38	0.45	0.52	0.57	0.63	0.75	0.93	1.10	1.20	1.20
50.0	1.00	0.06	0.10	0.17	0.19	0.22	0.27	0.32	0.35	0.42	0.49	0.56	0.62	0.68	0.81	0.99	1.15	1.21	1.14
	1.05	0.06	0.10	0.17	0.19	0.22	0.27	0.32	0.35	0.42	0.49	0.57	0.63	0.69	0.82	1.00	1.17	1.23	1.16
	1.20	0.06	0.11	0.17	0.19	0.23	0.28	0.33	0.35	0.43	0.50	0.58	0.64	0.70	0.83	1.02	1.19	1.26	1.20
	1.50	0.06	0.11	0.17	0.20	0.23	0.28	0.33	0.36	0.43	0.51	0.59	0.64	0.71	0.84	1.04	1.21	1.29	1.23
	3.00	0.06	0.11	0.18	0.20	0.23	0.28	0.33	0.36	0.44	0.51	0.59	0.65	0.72	0.85	1.05	1.23	1.30	1.25
56.0	1.00	0.06	0.12	0.19	0.22	0.25	0.31	0.37	0.40	0.48	0.56	0.65	0.71	0.78	0.93	1.13	1.28	1.30	1.13
	1.05	0.06	0.12	0.20	0.22	0.26	0.31	0.37	0.40	0.49	0.57	0.65	0.72	0.79	0.94	1.14	1.30	1.31	1.15
	1.20	0.07	0.12	0.20	0.22	0.26	0.32	0.37	0.41	0.49	0.58	0.66	0.73	0.80	0.95	1.15	1.32	1.35	1.19
	1.50	0.07	0.12	0.20	0.22	0.26	0.32	0.38	0.41	0.50	0.58	0.67	0.74	0.81	0.96	1.17	1.34	1.37	1.22
	3.00	0.07	0.12	0.20	0.23	0.26	0.32	0.38	0.41	0.50	0.59	0.68	0.74	0.82	0.97	1.18	1.36	1.39	1.25
v _{max}	m/s																		

Belt length correction factor c₃

Table 19

L _w	mm	215	255	265	285	295	315	330	350	367	390	415	440	465	510	545	575	615	865
c ₃		0.92	0.95	0.96	0.98	0.99	1.00	1.01	1.02	1.03	1.05	1.06	1.07	1.09	1.11	1.12	1.13	1.15	1.23

CONTI FO®-Z 8/-

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk}, transmission ratio i, small pulley speed n_k and pitch length L_w = 579 mm.

Min. pulley diameter d_{b min} = 31.5 mm.

CONTI FO®-Z 8/-

Table 20

d _{wk} (mm)	i or 1:i	Speed of small pulley n _k (min ⁻¹)																	
		200	400	700	800	950	1200	1450	1600	2000	2400	2850	3200	3600	4000	5000	6000	7000	8000
31.5	1.00	0.04	0.07	0.10	0.11	0.13	0.15	0.18	0.19	0.22	0.25	0.28	0.30	0.32	0.34	0.38	0.41	0.42	0.42
	1.05	0.04	0.07	0.11	0.12	0.13	0.16	0.18	0.20	0.23	0.26	0.29	0.31	0.34	0.36	0.40	0.43	0.45	0.46
	1.20	0.04	0.07	0.11	0.13	0.14	0.17	0.20	0.21	0.25	0.28	0.32	0.34	0.37	0.40	0.45	0.49	0.52	0.53
	1.50	0.04	0.08	0.12	0.13	0.15	0.18	0.21	0.22	0.26	0.30	0.34	0.37	0.40	0.43	0.49	0.53	0.57	0.59
	3.00	0.04	0.08	0.12	0.14	0.16	0.19	0.22	0.23	0.27	0.31	0.35	0.38	0.42	0.45	0.51	0.57	0.61	0.63
35.5	1.00	0.05	0.09	0.14	0.15	0.17	0.21	0.24	0.26	0.30	0.35	0.39	0.42	0.46	0.49	0.56	0.61	0.65	0.67
	1.05	0.05	0.09	0.14	0.15	0.18	0.21	0.25	0.27	0.31	0.36	0.41	0.44	0.48	0.51	0.58	0.64	0.68	0.70
	1.20	0.05	0.09	0.15	0.16	0.19	0.22	0.26	0.28	0.33	0.38	0.43	0.47	0.51	0.55	0.63	0.70	0.75	0.78
	1.50	0.05	0.10	0.15	0.17	0.19	0.23	0.27	0.29	0.35	0.40	0.45	0.49	0.54	0.58	0.67	0.74	0.80	0.84
	3.00	0.06	0.10	0.15	0.17	0.20	0.24	0.28	0.30	0.36	0.41	0.47	0.51	0.55	0.60	0.69	0.77	0.83	0.88
40.0	1.00	0.06	0.11	0.17	0.19	0.22	0.27	0.31	0.33	0.40	0.46	0.52	0.56	0.61	0.66	0.76	0.84	0.89	0.93
	1.05	0.06	0.11	0.18	0.20	0.22	0.27	0.32	0.34	0.41	0.47	0.53	0.58	0.63	0.68	0.78	0.87	0.93	0.96
	1.20	0.06	0.11	0.18	0.20	0.23	0.28	0.33	0.36	0.42	0.49	0.56	0.61	0.66	0.71	0.83	0.92	0.99	1.04
	1.50	0.07	0.12	0.19	0.21	0.24	0.29	0.34	0.37	0.44	0.51	0.58	0.63	0.69	0.74	0.86	0.97	1.04	1.10
	3.00	0.07	0.12	0.19	0.21	0.25	0.30	0.35	0.38	0.45	0.52	0.59	0.65	0.71	0.76	0.89	1.00	1.08	1.14
45.0	1.00	0.07	0.13	0.21	0.24	0.27	0.33	0.38	0.42	0.50	0.57	0.65	0.71	0.78	0.84	0.97	1.07	1.15	1.19
	1.05	0.07	0.13	0.21	0.24	0.28	0.34	0.39	0.42	0.51	0.59	0.67	0.73	0.80	0.86	0.99	1.10	1.18	1.23
	1.20	0.08	0.14	0.22	0.25	0.29	0.35	0.40	0.44	0.53	0.61	0.69	0.76	0.83	0.89	1.04	1.16	1.25	1.30
	1.50	0.08	0.14	0.23	0.25	0.29	0.36	0.42	0.45	0.54	0.63	0.72	0.78	0.86	0.92	1.08	1.20	1.30	1.36
	3.00	0.08	0.14	0.23	0.26	0.30	0.36	0.42	0.46	0.55	0.64	0.73	0.80	0.87	0.94	1.10	1.23	1.33	1.40
50.0	1.00	0.09	0.16	0.25	0.28	0.32	0.39	0.46	0.50	0.60	0.69	0.79	0.86	0.94	1.01	1.17	1.30	1.38	1.43
	1.05	0.09	0.16	0.25	0.28	0.33	0.40	0.47	0.51	0.61	0.70	0.80	0.88	0.96	1.03	1.20	1.33	1.42	1.46
	1.20	0.09	0.16	0.26	0.29	0.34	0.41	0.48	0.52	0.62	0.72	0.83	0.91	0.99	1.07	1.24	1.38	1.48	1.54
	1.50	0.09	0.16	0.27	0.30	0.34	0.42	0.49	0.53	0.64	0.74	0.85	0.93	1.02	1.10	1.28	1.43	1.53	1.60
	3.00	0.09	0.17	0.27	0.30	0.35	0.42	0.50	0.54	0.65	0.75	0.87	0.95	1.04	1.12	1.31	1.46	1.57	1.64
56.0	1.00	0.10	0.18	0.30	0.33	0.38	0.47	0.55	0.59	0.71	0.83	0.95	1.04	1.13	1.22	1.41	1.55	1.64	1.67
	1.05	0.10	0.19	0.30	0.34	0.39	0.47	0.56	0.60	0.72	0.84	0.96	1.05	1.15	1.24	1.43	1.58	1.67	1.71
	1.20	0.10	0.19	0.31	0.34	0.40	0.48	0.57	0.62	0.74	0.86	0.99	1.08	1.18	1.27	1.48	1.63	1.74	1.78
	1.50	0.11	0.19	0.31	0.35	0.40	0.49	0.58	0.63	0.76	0.88	1.01	1.10	1.21	1.30	1.51	1.68	1.79	1.84
	3.00	0.11	0.19	0.32	0.35	0.41	0.50	0.59	0.64	0.77	0.89	1.02	1.12	1.23	1.32	1.54	1.71	1.83	1.89
63.0	1.00	0.12	0.22	0.35	0.39	0.45	0.55	0.65	0.71	0.85	0.99	1.13	1.23	1.34	1.45	1.66	1.82	1.90	1.90
	1.05	0.12	0.22	0.35	0.40	0.46	0.56	0.66	0.71	0.86	1.00	1.14	1.25	1.36	1.47	1.69	1.85	1.93	1.94
	1.20	0.12	0.22	0.36	0.40	0.47	0.57	0.67	0.73	0.88	1.02	1.17	1.28	1.39	1.50	1.73	1.90	2.00	2.01
	1.50	0.12	0.22	0.37	0.41	0.48	0.58	0.68	0.74	0.89	1.04	1.19	1.30	1.42	1.53	1.77	1.95	2.05	2.07
	3.00	0.12	0.23	0.37	0.41	0.48	0.59	0.69	0.75	0.90	1.05	1.20	1.32	1.44	1.55	1.80	1.98	2.09	2.11
71.0	1.00	0.14	0.25	0.41	0.46	0.53	0.65	0.77	0.83	1.00	1.16	1.33	1.45	1.58	1.70	1.93	2.08	2.14	2.07
	1.05	0.14	0.25	0.41	0.46	0.54	0.66	0.77	0.84	1.01	1.17	1.34	1.46	1.60	1.71	1.96	2.11	2.17	2.11
	1.20	0.14	0.26	0.42	0.47	0.55	0.67	0.79	0.85	1.03	1.19	1.37	1.49	1.63	1.75	2.00	2.17	2.23	2.19
	1.50	0.14	0.26	0.43	0.48	0.55	0.68	0.80	0.87	1.04	1.21	1.39	1.52	1.66	1.78	2.04	2.21	2.29	2.24
	3.00	0.14	0.26	0.43	0.48	0.56	0.68	0.80	0.87	1.05	1.22	1.40	1.53	1.67	1.80	2.07	2.24	2.32	2.29
80.0	1.00	0.16	0.29	0.48	0.54	0.62	0.76	0.89	0.97	1.17	1.35	1.55	1.68	1.83	1.96	2.20	2.33	2.32	2.15
	1.05	0.16	0.29	0.48	0.54	0.63	0.77	0.90	0.98	1.18	1.36	1.56	1.70	1.85	1.98	2.23	2.36	2.35	2.19
	1.20	0.16	0.30	0.49	0.55	0.64	0.78	0.91	0.99	1.20	1.39	1.59	1.73	1.88	2.01	2.27	2.42	2.42	2.26
	1.50	0.16	0.30	0.49	0.55	0.64	0.79	0.92	1.01	1.21	1.40	1.61	1.75	1.91	2.04	2.31	2.46	2.47	2.32
	3.00	0.16	0.30	0.50	0.56	0.65	0.79	0.93	1.01	1.22	1.42	1.62	1.77	1.92	2.06	2.34	2.49	2.51	2.36
90.0	1.00	0.18	0.34	0.55	0.62	0.72	0.88	1.03	1.12	1.35	1.56	1.78	1.93	2.09	2.22	2.46	2.53	2.41	2.06
	1.05	0.18	0.34	0.55	0.62	0.72	0.89	1.04	1.13	1.36	1.57	1.79	1.95	2.10	2.24	2.49	2.56	2.44	2.10
	1.20	0.19	0.34	0.56	0.63	0.73	0.90	1.05	1.14	1.38	1.59	1.82	1.98	2.14	2.28	2.53	2.62	2.51	2.18
	1.50	0.19	0.35	0.57	0.64	0.74	0.91	1.06	1.16	1.39	1.61	1.84	2.00	2.16	2.31	2.57	2.66	2.56	2.23
	3.00	0.19	0.35	0.57	0.64	0.74	0.91	1.07	1.17	1.40	1.62	1.85	2.02	2.18	2.33	2.59	2.69	2.60	2.28
V _{max}	m/s																		

Belt length correction factor c₃

Table 21

L _w	mm	179	219	299	319	334	359	371	394	419	469	514	549	579	619	649	729	819	919
c ₃		0.76	0.80	0.86	0.87	0.88	0.90	0.91	0.92	0.93	0.95	0.97	0.99	1.00	1.01	1.02	1.05	1.08	1.10

CONTI FO®-Z XPZ

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk}, transmission ratio i, small pulley speed n_k and pitch length L_w = 1600 mm.
Min. pulley diameter d_{b min} = 50 mm.

CONTI FO®-Z XPZ

Table 22

d _{wk} (mm)	i or 1:i	Speed of small pulley n _k (min ⁻¹)																	
		200	400	700	800	950	1200	1450	1600	2000	2400	2850	3200	3600	4000	5000	6000	7500	9500
50.0	1.00	0.15	0.26	0.42	0.47	0.54	0.66	0.77	0.83	0.99	1.14	1.30	1.41	1.54	1.66	1.92	2.14	2.38	2.52
	1.05	0.15	0.27	0.43	0.48	0.55	0.67	0.78	0.85	1.01	1.16	1.33	1.45	1.58	1.70	1.98	2.21	2.46	2.62
	1.20	0.16	0.29	0.47	0.53	0.61	0.74	0.86	0.94	1.12	1.30	1.49	1.63	1.78	1.93	2.26	2.55	2.89	3.16
	1.50	0.17	0.30	0.49	0.55	0.64	0.78	0.91	0.99	1.19	1.37	1.58	1.73	1.89	2.05	2.41	2.73	3.12	3.45
	3.00	0.17	0.31	0.51	0.57	0.66	0.80	0.94	1.02	1.23	1.43	1.64	1.80	1.98	2.14	2.53	2.87	3.29	3.66
56.0	1.00	0.19	0.34	0.56	0.62	0.72	0.88	1.03	1.12	1.35	1.56	1.79	1.96	2.15	2.32	2.72	3.07	3.46	3.75
	1.05	0.19	0.35	0.56	0.63	0.73	0.89	1.05	1.14	1.37	1.59	1.82	1.99	2.18	2.36	2.78	3.13	3.54	3.85
	1.20	0.20	0.37	0.60	0.68	0.79	0.96	1.13	1.23	1.48	1.72	1.98	2.18	2.39	2.59	3.06	3.47	3.97	4.39
	1.50	0.21	0.38	0.63	0.70	0.82	1.00	1.17	1.28	1.54	1.80	2.07	2.27	2.50	2.71	3.21	3.65	4.20	4.68
	3.00	0.21	0.39	0.64	0.72	0.84	1.03	1.21	1.31	1.59	1.85	2.13	2.35	2.58	2.81	3.33	3.79	4.37	4.90
63.0	1.00	0.24	0.44	0.71	0.80	0.93	1.14	1.34	1.45	1.76	2.05	2.36	2.59	2.84	3.08	3.63	4.11	4.67	5.08
	1.05	0.24	0.44	0.72	0.81	0.94	1.15	1.35	1.47	1.78	2.07	2.39	2.62	2.88	3.12	3.69	4.17	4.75	5.18
	1.20	0.25	0.46	0.76	0.85	0.99	1.22	1.44	1.56	1.89	2.21	2.55	2.80	3.08	3.35	3.97	4.52	5.18	5.73
	1.50	0.25	0.47	0.78	0.88	1.02	1.25	1.48	1.61	1.95	2.28	2.64	2.90	3.19	3.47	4.13	4.70	5.41	6.01
	3.00	0.26	0.48	0.80	0.90	1.04	1.28	1.51	1.65	2.00	2.34	2.70	2.97	3.28	3.57	4.24	4.84	5.58	6.23
71.0	1.00	0.29	0.54	0.89	1.00	1.16	1.43	1.68	1.83	2.22	2.59	2.99	3.29	3.62	3.93	4.65	5.26	5.97	6.45
	1.05	0.29	0.54	0.90	1.01	1.17	1.44	1.70	1.85	2.24	2.62	3.02	3.33	3.66	3.98	4.70	5.32	6.05	6.55
	1.20	0.30	0.57	0.94	1.05	1.23	1.51	1.78	1.94	2.36	2.76	3.19	3.51	3.87	4.21	4.99	5.67	6.48	7.10
	1.50	0.31	0.58	0.96	1.08	1.26	1.55	1.83	1.99	2.42	2.83	3.27	3.61	3.97	4.33	5.14	5.85	6.70	7.39
	3.00	0.31	0.59	0.97	1.10	1.28	1.57	1.86	2.03	2.46	2.89	3.34	3.68	4.06	4.42	5.25	5.99	6.88	7.60
80.0	1.00	0.35	0.66	1.09	1.22	1.43	1.75	2.07	2.26	2.74	3.20	3.70	4.07	4.48	4.87	5.75	6.49	7.32	7.79
	1.05	0.35	0.66	1.09	1.23	1.44	1.77	2.09	2.27	2.76	3.23	3.73	4.11	4.52	4.91	5.80	6.56	7.40	7.89
	1.20	0.36	0.68	1.13	1.28	1.49	1.83	2.17	2.37	2.88	3.37	3.90	4.29	4.73	5.14	6.09	6.90	7.83	8.43
	1.50	0.37	0.70	1.15	1.30	1.52	1.87	2.21	2.41	2.94	3.44	3.98	4.39	4.83	5.26	6.24	7.08	8.06	8.72
	3.00	0.37	0.71	1.17	1.32	1.54	1.90	2.25	2.45	2.98	3.49	4.05	4.46	4.92	5.35	6.35	7.22	8.23	8.94
90.0	1.00	0.42	0.79	1.30	1.47	1.71	2.11	2.50	2.72	3.31	3.87	4.47	4.92	5.41	5.88	6.92	7.78	8.67	8.98
	1.05	0.42	0.79	1.31	1.48	1.72	2.12	2.51	2.74	3.33	3.90	4.50	4.96	5.45	5.92	6.97	7.85	8.75	9.08
	1.20	0.43	0.81	1.35	1.52	1.78	2.19	2.59	2.83	3.44	4.03	4.67	5.14	5.66	6.15	7.26	8.19	9.18	9.62
	1.50	0.44	0.82	1.37	1.55	1.81	2.23	2.64	2.88	3.50	4.11	4.75	5.24	5.77	6.27	7.41	8.37	9.41	9.91
	3.00	0.44	0.83	1.39	1.57	1.83	2.26	2.67	2.92	3.55	4.16	4.82	5.31	5.85	6.36	7.53	8.51	9.58	10.13
100.0	1.00	0.48	0.91	1.52	1.71	2.00	2.47	2.92	3.18	3.87	4.53	5.23	5.75	6.32	6.85	8.04	8.98	9.85	9.83
	1.05	0.49	0.92	1.53	1.72	2.01	2.48	2.93	3.20	3.89	4.55	5.26	5.79	6.36	6.90	8.09	9.04	9.93	9.93
	1.20	0.50	0.94	1.57	1.77	2.06	2.55	3.02	3.29	4.00	4.69	5.42	5.97	6.56	7.13	8.38	9.39	10.36	10.48
	1.50	0.50	0.95	1.59	1.79	2.09	2.58	3.06	3.34	4.07	4.76	5.51	6.07	6.67	7.25	8.53	9.57	10.59	10.77
	3.00	0.51	0.96	1.60	1.81	2.11	2.61	3.09	3.38	4.11	4.82	5.58	6.14	6.76	7.34	8.64	9.70	10.76	10.98
112.0	1.00	0.56	1.07	1.77	2.00	2.34	2.89	3.42	3.73	4.53	5.30	6.12	6.72	7.37	7.98	9.30	10.28	11.02	
	1.05	0.57	1.07	1.78	2.01	2.35	2.90	3.43	3.74	4.55	5.32	6.15	6.76	7.41	8.02	9.35	10.34	11.10	
	1.20	0.58	1.09	1.82	2.06	2.40	2.97	3.52	3.84	4.67	5.46	6.31	6.94	7.62	8.25	9.64	10.69	11.53	
	1.50	0.58	1.11	1.84	2.08	2.43	3.00	3.56	3.88	4.73	5.53	6.40	7.04	7.73	8.37	9.79	10.87	11.76	
	3.00	0.59	1.11	1.86	2.10	2.45	3.03	3.59	3.92	4.77	5.59	6.46	7.11	7.81	8.47	9.90	11.01	11.93	
125.0	1.00	0.65	1.23	2.05	2.31	2.70	3.34	3.95	4.31	5.24	6.12	7.06	7.74	8.47	9.14	10.55	11.51	11.95	
	1.05	0.65	1.23	2.06	2.32	2.71	3.35	3.97	4.33	5.26	6.15	7.09	7.77	8.51	9.19	10.60	11.57	12.03	
	1.20	0.66	1.26	2.10	2.37	2.77	3.42	4.05	4.42	5.37	6.28	7.25	7.96	8.71	9.41	10.89	11.92	12.46	
	1.50	0.67	1.27	2.12	2.39	2.80	3.46	4.09	4.47	5.43	6.36	7.33	8.05	8.82	9.54	11.04	12.10	12.69	
	3.00	0.67	1.28	2.14	2.41	2.82	3.48	4.13	4.50	5.48	6.41	7.40	8.13	8.91	9.63	11.16	12.24	12.86	
140.0	1.00	0.75	1.42	2.37	2.67	3.12	3.85	4.56	4.97	6.04	7.04	8.10	8.87	9.67	10.40	11.85	12.68	12.54	
	1.05	0.75	1.42	2.37	2.68	3.13	3.87	4.58	4.99	6.06	7.07	8.13	8.90	9.71	10.44	11.90	12.74	12.62	
	1.20	0.76	1.44	2.41	2.73	3.19	3.93	4.66	5.08	6.17	7.21	8.29	9.08	9.92	10.67	12.19	13.09	13.05	
	1.50	0.77	1.46	2.43	2.75	3.21	3.97	4.70	5.13	6.23	7.28	8.38	9.18	10.03	10.79	12.34	13.27	13.28	
	3.00	0.77	1.47	2.45	2.77	3.24	4.00	4.74	5.17	6.28	7.33	8.45	9.25	10.11	10.89	12.45	13.40	13.45	
v _{max}	m/s															45	55		

Belt length correction factor c₃

Table 23

L _w	mm	590	630	710	800	900	1000	1120	1250	1400	1500	1600	1800	2000	2240	2500	2800	3150	3550
c ₃		0.82	0.83	0.85	0.87	0.89	0.91	0.93	0.95	0.98	0.99	1.00	1.02	1.04	1.06	1.08	1.10	1.12	1.15

CONTI FO[®]-Z XPA

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk}, transmission ratio i, small pulley speed n_k and pitch length L_w = 2500 mm.

Min. pulley diameter d_{b min} = 63 mm.

CONTI FO[®]-Z XPA

Table 24

d _{wk} (mm)	i or 1:i	Speed of small pulley n _k (min ⁻¹)																		
		100	200	400	700	800	950	1200	1450	1600	2000	2400	2850	3200	3600	4000	5000	6000	7500	
63.0	1.00	0.14	0.25	0.45	0.70	0.78	0.90	1.08	1.24	1.34	1.58	1.80	2.02	2.17	2.33	2.47	2.74	2.89	2.85	
	1.05	0.14	0.26	0.46	0.72	0.80	0.92	1.11	1.28	1.38	1.63	1.85	2.09	2.25	2.42	2.57	2.86	3.04	3.03	
	1.20	0.15	0.28	0.51	0.81	0.91	1.05	1.27	1.47	1.59	1.89	2.17	2.46	2.67	2.90	3.10	3.53	3.83	4.03	
	1.50	0.16	0.30	0.54	0.86	0.97	1.11	1.35	1.57	1.70	2.03	2.34	2.66	2.90	3.15	3.38	3.88	4.25	4.56	
	3.00	0.17	0.31	0.56	0.90	1.01	1.16	1.41	1.65	1.79	2.14	2.47	2.82	3.07	3.34	3.59	4.14	4.57	4.95	
71.0	1.00	0.19	0.34	0.62	1.00	1.12	1.29	1.57	1.83	1.98	2.37	2.73	3.10	3.37	3.66	3.93	4.48	4.86	5.09	
	1.05	0.19	0.35	0.63	1.02	1.14	1.32	1.60	1.87	2.02	2.42	2.79	3.17	3.45	3.75	4.02	4.60	5.01	5.27	
	1.20	0.20	0.37	0.69	1.11	1.25	1.44	1.76	2.06	2.24	2.68	3.11	3.55	3.88	4.23	4.55	5.26	5.80	6.27	
	1.50	0.21	0.39	0.71	1.16	1.30	1.51	1.84	2.16	2.35	2.82	3.27	3.75	4.10	4.48	4.83	5.61	6.22	6.79	
	3.00	0.21	0.40	0.74	1.20	1.35	1.56	1.91	2.24	2.43	2.93	3.40	3.90	4.27	4.67	5.05	5.88	6.54	7.19	
80.0	1.00	0.24	0.44	0.82	1.34	1.50	1.74	2.12	2.49	2.70	3.25	3.76	4.31	4.70	5.13	5.52	6.36	6.98	7.42	
	1.05	0.24	0.45	0.83	1.35	1.52	1.76	2.15	2.52	2.74	3.30	3.82	4.38	4.78	5.22	5.62	6.48	7.12	7.61	
	1.20	0.26	0.48	0.88	1.45	1.62	1.89	2.31	2.72	2.95	3.56	4.14	4.76	5.21	5.70	6.15	7.15	7.92	8.60	
	1.50	0.26	0.49	0.91	1.49	1.68	1.95	2.39	2.82	3.07	3.70	4.31	4.96	5.43	5.95	6.43	7.50	8.34	9.13	
	3.00	0.27	0.50	0.93	1.53	1.72	2.00	2.46	2.89	3.15	3.81	4.44	5.11	5.60	6.14	6.64	7.76	8.66	9.53	
90.0	1.00	0.30	0.56	1.04	1.70	1.91	2.23	2.73	3.21	3.49	4.21	4.90	5.62	6.15	6.72	7.25	8.37	9.20	9.77	
	1.05	0.30	0.56	1.05	1.72	1.93	2.25	2.76	3.24	3.53	4.26	4.96	5.69	6.23	6.81	7.35	8.50	9.34	9.95	
	1.20	0.31	0.59	1.10	1.81	2.04	2.37	2.92	3.44	3.74	4.53	5.28	6.07	6.66	7.29	7.88	9.16	10.14	10.95	
	1.50	0.32	0.60	1.13	1.86	2.10	2.44	3.00	3.54	3.85	4.67	5.44	6.27	6.88	7.54	8.16	9.51	10.56	11.48	
	3.00	0.33	0.61	1.15	1.90	2.14	2.49	3.06	3.62	3.94	4.77	5.57	6.42	7.05	7.73	8.37	9.78	10.88	11.87	
100.0	1.00	0.36	0.67	1.25	2.07	2.33	2.71	3.33	3.92	4.27	5.17	6.02	6.91	7.57	8.27	8.92	10.29	11.26	11.84	
	1.05	0.36	0.68	1.26	2.08	2.35	2.73	3.36	3.96	4.31	5.22	6.07	6.98	7.65	8.36	9.02	10.42	11.41	12.02	
	1.20	0.37	0.70	1.32	2.18	2.45	2.86	3.52	4.15	4.52	5.48	6.39	7.36	8.07	8.84	9.55	11.08	12.21	13.02	
	1.50	0.38	0.72	1.34	2.23	2.51	2.93	3.60	4.25	4.64	5.62	6.56	7.56	8.30	9.09	9.83	11.43	12.63	13.54	
	3.00	0.38	0.73	1.36	2.26	2.55	2.98	3.66	4.33	4.72	5.73	6.69	7.71	8.47	9.28	10.04	11.70	12.94	13.94	
112.0	1.00	0.43	0.80	1.51	2.50	2.82	3.29	4.04	4.77	5.20	6.30	7.33	8.43	9.23	10.08	10.86	12.46	13.52	13.90	
	1.05	0.43	0.81	1.52	2.52	2.84	3.31	4.07	4.81	5.24	6.34	7.39	8.50	9.31	10.16	10.95	12.58	13.67	14.08	
	1.20	0.44	0.84	1.57	2.61	2.94	3.44	4.23	5.00	5.45	6.61	7.71	8.88	9.73	10.64	11.48	13.25	14.47	15.08	
	1.50	0.45	0.85	1.60	2.66	3.00	3.50	4.31	5.10	5.56	6.75	7.88	9.08	9.96	10.90	11.77	13.60	14.89	15.61	
	3.00	0.45	0.86	1.62	2.70	3.04	3.55	4.38	5.18	5.65	6.86	8.01	9.23	10.13	11.09	11.98	13.86	15.20	16.00	
125.0	1.00	0.50	0.95	1.79	2.97	3.35	3.90	4.81	5.68	6.19	7.50	8.74	10.03	10.97	11.96	12.85	14.63	15.68	15.58	
	1.05	0.50	0.95	1.80	2.98	3.37	3.93	4.84	5.72	6.23	7.55	8.79	10.10	11.05	12.05	12.95	14.76	15.82	15.77	
	1.20	0.52	0.98	1.85	3.08	3.47	4.05	5.00	5.91	6.44	7.81	9.11	10.48	11.47	12.52	13.48	15.42	16.62	16.76	
	1.50	0.52	0.99	1.88	3.13	3.53	4.12	5.08	6.01	6.55	7.95	9.28	10.68	11.70	12.78	13.76	15.77	17.04	17.29	
	3.00	0.53	1.00	1.90	3.16	3.57	4.17	5.14	6.09	6.64	8.06	9.41	10.83	11.87	12.97	13.97	16.04	17.36	17.69	
140.0	1.00	0.59	1.11	2.10	3.50	3.95	4.61	5.68	6.72	7.32	8.86	10.31	11.82	12.90	14.03	15.02	16.89	17.74	16.73	
	1.05	0.59	1.12	2.11	3.52	3.97	4.64	5.71	6.75	7.36	8.91	10.37	11.89	12.98	14.11	15.12	17.01	17.89	16.91	
	1.20	0.60	1.14	2.17	3.61	4.08	4.76	5.87	6.95	7.57	9.18	10.69	12.27	13.41	14.59	15.65	17.68	18.69	17.91	
	1.50	0.61	1.16	2.19	3.66	4.13	4.83	5.96	7.05	7.68	9.32	10.86	12.47	13.63	14.84	15.93	18.03	19.11	18.44	
	3.00	0.62	1.17	2.22	3.70	4.18	4.88	6.02	7.12	7.77	9.43	10.99	12.62	13.80	15.04	16.14	18.29	19.42	18.83	
160.0	1.00	0.70	1.33	2.52	4.21	4.75	5.55	6.83	8.08	8.80	10.64	12.35	14.11	15.35	16.60	17.67	19.44	19.72		
	1.05	0.70	1.34	2.53	4.22	4.77	5.57	6.86	8.11	8.84	10.69	12.41	14.18	15.42	16.69	17.77	19.56	19.87		
	1.20	0.72	1.36	2.59	4.32	4.87	5.70	7.02	8.30	9.05	10.96	12.73	14.56	15.85	17.16	18.30	20.23	20.67		
	1.50	0.72	1.38	2.61	4.37	4.93	5.76	7.11	8.41	9.16	11.10	12.90	14.76	16.07	17.42	18.58	20.58	21.09		
	3.00	0.73	1.39	2.63	4.40	4.97	5.81	7.17	8.48	9.25	11.20	13.03	14.91	16.24	17.61	18.79	20.84	21.41		
180.0	1.00	0.81	1.55	2.94	4.91	5.54	6.47	7.97	9.41	10.25	12.37	14.32	16.28	17.62	18.94	20.00	21.41			
	1.05	0.82	1.55	2.95	4.92	5.56	6.49	8.00	9.45	10.29	12.42	14.37	16.35	17.70	19.03	20.10	21.53			
	1.20	0.83	1.58	3.00	5.02	5.66	6.62	8.16	9.64	10.50	12.68	14.69	16.73	18.13	19.51	20.63	22.19			
	1.50	0.84	1.59	3.03	5.06	5.72	6.68	8.24	9.74	10.61	12.82	14.86	16.93	18.35	19.76	20.91	22.55			
	3.00	0.84	1.61	3.05	5.10	5.76	6.73	8.31	9.82	10.70	12.93	14.99	17.08	18.52	19.95	21.13	22.81			
V _{max}	m/s																			50

Belt length correction factor c₃

Table 25

L _w	mm	590	800	900	1000	1120	1250	1400	1600	1800	2000	2240	2500	2650	2800	3000	3150	3350	3550
c ₃		0.76	0.81	0.83	0.85	0.86	0.88	0.90	0.92	0.94	0.96	0.98	1.00	1.01	1.02	1.03	1.04	1.05	1.06

CONTI FO®-Z XPB

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk}, transmission ratio i, small pulley speed n_k and pitch length L_w = 3550 mm.
Min. pulley diameter d_{b min} = 100 mm.

CONTI FO®-Z XPB

Table 26

d _{wk} (mm)	i or 1:i	Speed of small pulley n _k (min ⁻¹)																	
		100	200	400	700	800	950	1200	1450	1600	1800	2000	2200	2400	2850	3200	3600	4500	6000
100.0	1.00	0.53	0.93	1.65	2.65	2.97	3.43	4.18	4.88	5.29	5.82	6.33	6.83	7.30	8.29	8.99	9.70	10.98	11.88
	1.05	0.53	0.94	1.67	2.69	3.01	3.48	4.24	4.96	5.38	5.92	6.44	6.94	7.43	8.44	9.16	9.90	11.21	12.20
	1.20	0.56	0.99	1.79	2.89	3.24	3.76	4.59	5.38	5.84	6.44	7.02	7.58	8.12	9.26	10.08	10.94	12.52	13.93
	1.50	0.58	1.02	1.85	3.00	3.37	3.90	4.77	5.60	6.09	6.71	7.32	7.91	8.49	9.70	10.57	11.49	13.20	14.85
	3.00	0.59	1.05	1.90	3.08	3.46	4.01	4.91	5.77	6.27	6.92	7.55	8.17	8.76	10.03	10.94	11.90	13.72	15.54
112.0	1.00	0.65	1.15	2.09	3.39	3.80	4.41	5.39	6.33	6.87	7.58	8.26	8.92	9.55	10.88	11.82	12.78	14.50	15.70
	1.05	0.65	1.16	2.11	3.43	3.85	4.46	5.45	6.40	6.96	7.67	8.36	9.03	9.67	11.03	11.99	12.97	14.74	16.01
	1.20	0.68	1.22	2.22	3.63	4.08	4.74	5.80	6.82	7.42	8.19	8.94	9.67	10.37	11.85	12.91	14.02	16.04	17.75
	1.50	0.69	1.25	2.28	3.73	4.20	4.88	5.98	7.05	7.66	8.47	9.25	10.00	10.73	12.29	13.40	14.56	16.72	18.67
	3.00	0.71	1.27	2.33	3.82	4.29	4.99	6.12	7.21	7.85	8.68	9.48	10.26	11.01	12.61	13.77	14.98	17.24	19.36
125.0	1.00	0.77	1.39	2.55	4.18	4.70	5.46	6.69	7.88	8.56	9.45	10.31	11.14	11.94	13.61	14.79	15.99	18.08	19.31
	1.05	0.78	1.40	2.57	4.22	4.74	5.51	6.76	7.95	8.65	9.55	10.42	11.26	12.06	13.76	14.96	16.18	18.32	19.63
	1.20	0.80	1.46	2.69	4.42	4.97	5.79	7.10	8.37	9.11	10.07	11.00	11.89	12.76	14.59	15.88	17.22	19.62	21.36
	1.50	0.82	1.49	2.75	4.53	5.09	5.93	7.29	8.59	9.35	10.34	11.30	12.23	13.12	15.02	16.37	17.77	20.30	22.28
	3.00	0.83	1.51	2.80	4.61	5.19	6.04	7.43	8.76	9.54	10.55	11.53	12.48	13.40	15.35	16.74	18.19	20.82	22.97
140.0	1.00	0.91	1.67	3.09	5.08	5.72	6.66	8.18	9.64	10.49	11.58	12.64	13.66	14.63	16.67	18.08	19.51	21.88	22.73
	1.05	0.92	1.68	3.11	5.12	5.77	6.72	8.25	9.72	10.57	11.68	12.74	13.77	14.76	16.82	18.25	19.70	22.12	23.05
	1.20	0.95	1.74	3.22	5.32	6.00	6.99	8.59	10.14	11.03	12.20	13.32	14.41	15.45	17.64	19.18	20.74	23.42	24.78
	1.50	0.96	1.77	3.29	5.43	6.12	7.13	8.78	10.36	11.28	12.47	13.63	14.74	15.82	18.08	19.67	21.29	24.11	25.70
	3.00	0.98	1.79	3.33	5.51	6.21	7.24	8.91	10.52	11.46	12.68	13.86	15.00	16.10	18.40	20.03	21.71	24.62	26.39
160.0	1.00	1.10	2.04	3.80	6.28	7.08	8.25	10.14	11.96	13.01	14.37	15.67	16.92	18.11	20.57	22.24	23.88	26.34	25.91
	1.05	1.11	2.05	3.82	6.32	7.12	8.30	10.21	12.03	13.09	14.46	15.78	17.04	18.24	20.72	22.41	24.07	26.58	26.23
	1.20	1.14	2.11	3.93	6.52	7.35	8.58	10.55	12.45	13.56	14.98	16.36	17.67	18.93	21.54	23.34	25.11	27.88	27.97
	1.50	1.15	2.14	3.99	6.63	7.48	8.72	10.74	12.67	13.80	15.26	16.66	18.01	19.30	21.98	23.83	25.66	28.57	28.88
	3.00	1.17	2.16	4.04	6.71	7.57	8.83	10.87	12.84	13.98	15.46	16.89	18.26	19.58	22.31	24.19	26.08	29.09	29.57
180.0	1.00	1.29	2.40	4.50	7.47	8.42	9.82	12.08	14.23	15.48	17.08	18.62	20.07	21.46	24.25	26.11	27.84	30.04	
	1.05	1.30	2.41	4.52	7.50	8.46	9.87	12.14	14.31	15.56	17.18	18.72	20.19	21.58	24.41	26.28	28.03	30.28	
	1.20	1.33	2.47	4.64	7.71	8.70	10.15	12.49	14.73	16.03	17.70	19.30	20.83	22.28	25.23	27.20	29.07	31.58	
	1.50	1.34	2.50	4.70	7.81	8.82	10.29	12.67	14.95	16.27	17.97	19.61	21.16	22.64	25.66	27.69	29.62	32.26	
	3.00	1.35	2.52	4.74	7.89	8.91	10.40	12.81	15.12	16.46	18.18	19.84	21.42	22.92	25.99	28.06	30.04	32.78	
200.0	1.00	1.48	2.77	5.20	8.64	9.75	11.37	13.98	16.47	17.90	19.73	21.47	23.11	24.65	27.71	29.65	31.35	32.88	
	1.05	1.49	2.78	5.22	8.68	9.79	11.42	14.04	16.54	17.98	19.83	21.58	23.23	24.78	27.86	29.82	31.54	33.12	
	1.20	1.52	2.83	5.34	8.88	10.02	11.70	14.39	16.96	18.45	20.35	22.15	23.87	25.47	28.68	30.75	32.59	34.42	
	1.50	1.53	2.87	5.40	8.99	10.15	11.84	14.58	17.19	18.69	20.62	22.46	24.20	25.84	29.12	31.23	33.14	35.11	
	3.00	1.54	2.89	5.44	9.07	10.24	11.95	14.71	17.35	18.87	20.83	22.69	24.46	26.12	29.45	31.60	33.55	35.63	
224.0	1.00	1.71	3.20	6.03	10.04	11.33	13.21	16.23	19.09	20.73	22.81	24.77	26.59	28.28	31.52	33.44	34.92	35.06	
	1.05	1.71	3.21	6.05	10.08	11.37	13.26	16.29	19.17	20.81	22.90	24.87	26.71	28.41	31.67	33.61	35.11	35.29	
	1.20	1.74	3.27	6.17	10.28	11.60	13.54	16.64	19.59	21.28	23.42	25.45	27.35	29.10	32.49	34.53	36.15	36.60	
	1.50	1.76	3.30	6.23	10.39	11.72	13.68	16.82	19.81	21.52	23.70	25.76	27.68	29.47	32.93	35.02	36.70	37.28	
	3.00	1.77	3.32	6.28	10.47	11.82	13.79	16.96	19.98	21.70	23.91	25.99	27.94	29.74	33.25	35.39	37.11	37.80	
250.0	1.00	1.95	3.67	6.93	11.54	13.02	15.18	18.62	21.86	23.70	26.01	28.17	30.14	31.93	35.19	36.91	37.90		
	1.05	1.95	3.68	6.95	11.58	13.06	15.23	18.68	21.94	23.78	26.11	28.27	30.26	32.06	35.34	37.08	38.09		
	1.20	1.98	3.73	7.06	11.78	13.29	15.50	19.03	22.36	24.25	26.63	28.85	30.90	32.75	36.16	38.00	39.13		
	1.50	2.00	3.77	7.12	11.89	13.41	15.65	19.21	22.58	24.49	26.91	29.16	31.23	33.12	36.60	38.49	39.68		
	3.00	2.01	3.79	7.17	11.97	13.51	15.76	19.35	22.74	24.67	27.11	29.39	31.49	33.39	36.93	38.86	40.09		
280.0	1.00	2.23	4.20	7.95	13.25	14.94	17.41	21.31	24.95	26.99	29.54	31.85	33.93	35.75	38.78	40.02	40.07		
	1.05	2.23	4.21	7.97	13.29	14.98	17.46	21.38	25.03	27.08	29.63	31.96	34.05	35.87	38.93	40.19	40.26		
	1.20	2.26	4.27	8.09	13.49	15.22	17.73	21.73	25.45	27.54	30.15	32.54	34.68	36.57	39.76	41.11	41.30		
	1.50	2.28	4.30	8.15	13.60	15.34	17.88	21.91	25.67	27.79	30.43	32.84	35.02	36.93	40.19	41.60	41.85		
	3.00	2.29	4.32	8.20	13.68	15.43	17.99	22.05	25.84	27.97	30.63	33.07	35.27	37.21	40.52	41.97	42.27		
v _{max}	m/s																	50	

Belt length correction factor c₃

Table 27

L _w	mm	1250	1320	1400	1500	1600	1700	1800	1900	2000	2120	2240	2360	2500	2650	2800	3000	3350	3550
c ₃		0.83	0.84	0.85	0.86	0.87	0.88	0.89	0.90	0.91	0.92	0.93	0.93	0.94	0.95	0.96	0.97	0.99	1.00

CONTI FO®-Z XPC

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk}, transmission ratio i, small pulley speed n_k and pitch length L_w = 5600 mm.

Min. pulley diameter d_{b min} = 160 mm.

CONTI FO®-Z XPC

Table 28

d _{wk} (mm)	i or 1:i	Speed of small pulley n _k (min ⁻¹)																	
		100	200	300	400	700	800	950	1200	1450	1600	1880	2000	2200	2400	2850	3200	3600	4000
160.0	1.00	1.22	2.23	3.15	4.01	6.38	7.12	8.16	9.80	11.30	12.13	13.56	14.13	14.99	15.76	17.15	17.88	18.28	18.21
	1.05	1.24	2.26	3.19	4.07	6.49	7.23	8.30	9.97	11.51	12.37	13.84	14.42	15.31	16.12	17.57	18.35	18.81	18.80
	1.20	1.32	2.42	3.43	4.39	7.05	7.88	9.07	10.94	12.67	13.65	15.35	16.02	17.08	18.04	19.86	20.92	21.70	22.01
	1.50	1.36	2.50	3.56	4.56	7.35	8.21	9.47	11.45	13.29	14.33	16.14	16.87	18.01	19.06	21.07	22.27	23.23	23.70
	3.00	1.39	2.57	3.66	4.69	7.57	8.47	9.77	11.83	13.75	14.84	16.74	17.51	18.71	19.83	21.98	23.29	24.38	24.98
180.0	1.00	1.55	2.85	4.06	5.20	8.38	9.37	10.79	13.03	15.10	16.26	18.26	19.06	20.28	21.38	23.39	24.46	25.12	25.11
	1.05	1.56	2.88	4.10	5.26	8.48	9.48	10.93	13.21	15.31	16.50	18.54	19.35	20.60	21.73	23.81	24.93	25.65	25.70
	1.20	1.64	3.04	4.34	5.58	9.04	10.13	11.70	14.17	16.48	17.78	20.05	20.95	22.37	23.66	26.10	27.50	28.54	28.91
	1.50	1.68	3.12	4.47	5.75	9.34	10.46	12.10	14.68	17.09	18.46	20.84	21.80	23.30	24.68	27.30	28.86	30.06	30.60
	3.00	1.72	3.19	4.57	5.88	9.56	10.72	12.40	15.06	17.55	18.97	21.45	22.44	24.00	25.44	28.21	29.88	31.21	31.88
200.0	1.00	1.87	3.47	4.96	6.38	10.35	11.59	13.39	16.22	18.83	20.31	22.84	23.84	25.39	26.77	29.27	30.57	31.29	31.13
	1.05	1.88	3.50	5.00	6.44	10.45	11.71	13.53	16.39	19.05	20.54	23.12	24.13	25.71	27.13	29.69	31.04	31.82	31.71
	1.20	1.97	3.66	5.25	6.76	11.02	12.35	14.29	17.36	20.21	21.82	24.63	25.74	27.48	29.05	31.98	33.61	34.71	34.92
	1.50	2.01	3.74	5.37	6.93	11.31	12.69	14.69	17.86	20.82	22.50	25.42	26.59	28.41	30.07	33.19	34.97	36.23	36.62
	3.00	2.04	3.81	5.47	7.06	11.54	12.95	15.00	18.25	21.29	23.01	26.02	27.23	29.11	30.84	34.10	35.99	37.39	37.89
224.0	1.00	2.26	4.20	6.04	7.79	12.69	14.23	16.47	19.97	23.22	25.04	28.16	29.38	31.26	32.93	35.83	37.21	37.75	37.05
	1.05	2.27	4.23	6.08	7.85	12.80	14.35	16.60	20.15	23.43	25.28	28.44	29.68	31.59	33.28	36.25	37.68	38.27	37.64
	1.20	2.35	4.39	6.32	8.17	13.36	14.99	17.37	21.11	24.60	26.56	29.95	31.28	33.35	35.21	38.54	40.25	41.16	40.85
	1.50	2.39	4.48	6.45	8.34	13.66	15.33	17.77	21.62	25.21	27.24	30.74	32.13	34.28	36.22	39.75	41.61	42.69	42.54
	3.00	2.42	4.54	6.54	8.46	13.88	15.59	18.07	22.00	25.68	27.75	31.34	32.77	34.98	36.99	40.66	42.63	43.84	43.82
250.0	1.00	2.67	5.00	7.19	9.29	15.20	17.06	19.75	23.97	27.86	30.02	33.70	35.13	37.29	39.17	42.27	43.49	43.45	41.73
	1.05	2.68	5.03	7.24	9.35	15.31	17.18	19.89	24.14	28.07	30.26	33.98	35.42	37.62	39.53	42.69	43.96	43.98	42.32
	1.20	2.76	5.19	7.48	9.67	15.87	17.82	20.65	25.11	29.23	31.54	35.49	37.03	39.38	41.45	44.98	46.52	46.87	45.53
	1.50	2.81	5.27	7.60	9.84	16.17	18.16	21.05	25.62	29.85	32.22	36.28	37.88	40.31	42.47	46.18	47.88	48.39	47.22
	3.00	2.84	5.34	7.70	9.97	16.39	18.42	21.36	26.00	30.31	32.73	36.89	38.52	41.02	43.23	47.09	48.90	49.54	48.50
280.0	1.00	3.14	5.90	8.51	11.02	18.07	20.28	23.47	28.47	33.04	35.56	39.79	41.40	43.79	45.79	48.75	49.41	48.19	44.65
	1.05	3.16	5.93	8.56	11.08	18.17	20.40	23.61	28.65	33.26	35.80	40.07	41.70	44.11	46.15	49.17	49.88	48.72	45.24
	1.20	3.24	6.09	8.80	11.40	18.73	21.04	24.38	29.61	34.42	37.08	41.58	43.30	45.88	48.07	51.46	52.45	51.61	48.45
	1.50	3.28	6.18	8.93	11.57	19.03	21.38	24.78	30.12	35.03	37.76	42.37	44.15	46.81	49.09	52.67	53.80	53.14	50.14
	3.00	3.31	6.24	9.02	11.70	19.25	21.63	25.08	30.50	35.50	38.27	42.97	44.79	47.51	49.86	53.58	54.83	54.29	51.42
315.0	1.00	3.69	6.95	10.04	13.01	21.36	23.97	27.74	33.59	38.87	41.74	46.45	48.19	50.69	52.65	54.91	54.37	50.99	44.33
	1.05	3.71	6.98	10.09	13.07	21.46	24.09	27.88	33.76	39.08	41.98	46.73	48.49	51.01	53.01	55.33	54.84	51.52	44.92
	1.20	3.79	7.14	10.33	13.39	22.02	24.73	28.64	34.73	40.25	43.26	48.24	50.09	52.78	54.93	57.62	57.41	54.41	48.13
	1.50	3.83	7.23	10.46	13.56	22.32	25.07	29.04	35.23	40.86	43.94	49.03	50.94	53.71	55.95	58.83	58.77	55.93	49.82
	3.00	3.86	7.29	10.55	13.69	22.54	25.32	29.34	35.62	41.32	44.45	49.63	51.58	54.41	56.71	59.74	59.79	57.08	51.10
355.0	1.00	4.32	8.15	11.78	15.27	25.06	28.11	32.49	39.23	45.21	48.39	53.43	55.20	57.59	59.24	59.91	57.19	50.16	38.49
	1.05	4.33	8.17	11.82	15.32	25.16	28.23	32.63	39.41	45.42	48.62	53.70	55.49	57.92	59.59	60.33	57.66	50.69	39.08
	1.20	4.41	8.34	12.06	15.65	25.72	28.87	33.39	40.37	46.58	49.91	55.21	57.10	59.68	61.52	62.62	60.23	53.58	42.29
	1.50	4.45	8.42	12.19	15.82	26.02	29.21	33.79	40.88	47.20	50.58	56.01	57.94	60.61	62.53	63.82	61.58	55.10	43.98
	3.00	4.49	8.48	12.28	15.94	26.24	29.46	34.10	41.26	47.66	51.09	56.61	58.58	61.32	63.30	64.73	62.60	56.25	45.26
400.0	1.00	5.01	9.47	13.71	17.77	29.14	32.67	37.69	45.31	51.90	55.29	60.38	62.03	63.98	64.88				
	1.05	5.03	9.50	13.75	17.83	29.25	32.78	37.83	45.49	52.11	55.53	60.66	62.32	64.30	65.23				
	1.20	5.11	9.66	13.99	18.15	29.81	33.43	38.59	46.45	53.28	56.81	62.17	63.92	66.07	67.16				
	1.50	5.15	9.75	14.12	18.32	30.10	33.76	38.99	46.96	53.89	57.49	62.96	64.77	67.00	68.17				
	3.00	5.18	9.81	14.21	18.45	30.33	34.02	39.30	47.34	54.35	58.00	63.56	65.41	67.70	68.94				
450.0	1.00	5.78	10.94	15.83	20.52	33.58	37.60	43.27	51.72	58.74	62.19	66.90	68.17	69.18					
	1.05	5.79	10.96	15.87	20.58	33.69	37.71	43.41	51.89	58.96	62.43	67.18	68.46	69.50					
	1.20	5.88	11.13	16.11	20.90	34.25	38.35	44.17	52.86	60.12	63.71	68.69	70.07	71.27					
	1.50	5.92	11.21	16.24	21.07	34.55	38.69	44.57	53.36	60.73	64.39	69.48	70.91	72.20					
	3.00	5.95	11.27	16.34	21.20	34.77	38.95	44.87	53.75	61.20	64.90	70.08	71.55	72.90					
V _{max}	m/s	50																	

Belt length correction factor c₃

Table 29

L _w	mm	2000	2120	2240	2360	2500	2650	2800	3000	3150	3350	3550
c ₃		0.85	0.86	0.86	0.87	0.88	0.89	0.90	0.91	0.91	0.92	0.93

CONTI ULTRAFLEX® SPZ

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk}, transmission ratio i, small pulley speed n_k and pitch length L_w = 1600 mm.

Min. pulley diameter d_{b min} = 63 mm.

CONTI ULTRAFLEX® SPZ

Table 30

d _{wk} (mm)	i or 1:i	Speed of small pulley n _k (min ⁻¹)																	
		200	350	500	700	800	950	1200	1450	1600	1800	2000	2500	2850	3500	4000	5000	6000	8000
63.0	1.00	0.18	0.29	0.38	0.50	0.56	0.64	0.76	0.88	0.95	1.03	1.11	1.29	1.41	1.59	1.70	1.85	1.90	1.65
	1.05	0.18	0.29	0.39	0.51	0.57	0.65	0.78	0.90	0.97	1.06	1.14	1.33	1.45	1.64	1.76	1.92	1.99	1.76
	1.20	0.20	0.32	0.43	0.57	0.63	0.72	0.87	1.01	1.09	1.20	1.29	1.52	1.67	1.91	2.07	2.31	2.45	2.38
	1.50	0.21	0.33	0.45	0.59	0.66	0.76	0.92	1.07	1.16	1.27	1.37	1.62	1.78	2.05	2.23	2.51	2.69	2.70
	3.00	0.21	0.34	0.46	0.62	0.69	0.79	0.96	1.12	1.21	1.32	1.44	1.70	1.87	2.16	2.35	2.67	2.88	2.95
71.0	1.00	0.24	0.38	0.52	0.68	0.76	0.88	1.06	1.23	1.33	1.46	1.58	1.87	2.05	2.35	2.54	2.84	3.00	2.83
	1.05	0.24	0.39	0.52	0.69	0.77	0.89	1.08	1.26	1.36	1.49	1.61	1.90	2.09	2.40	2.60	2.91	3.08	2.94
	1.20	0.26	0.41	0.56	0.75	0.84	0.97	1.17	1.37	1.48	1.63	1.77	2.10	2.31	2.67	2.91	3.30	3.54	3.56
	1.50	0.26	0.43	0.58	0.78	0.87	1.00	1.22	1.43	1.55	1.70	1.85	2.20	2.43	2.81	3.07	3.50	3.79	3.88
	3.00	0.27	0.44	0.60	0.80	0.89	1.03	1.26	1.47	1.59	1.75	1.91	2.28	2.51	2.92	3.20	3.65	3.97	4.13
80.0	1.00	0.30	0.49	0.66	0.89	0.99	1.15	1.39	1.63	1.76	1.94	2.11	2.50	2.76	3.18	3.46	3.90	4.14	3.97
	1.05	0.30	0.49	0.67	0.90	1.00	1.16	1.41	1.65	1.79	1.97	2.14	2.54	2.80	3.23	3.52	3.97	4.23	4.08
	1.20	0.32	0.52	0.71	0.95	1.07	1.23	1.50	1.76	1.91	2.10	2.29	2.73	3.02	3.50	3.83	4.35	4.69	4.70
	1.50	0.33	0.53	0.73	0.98	1.10	1.27	1.55	1.82	1.98	2.18	2.37	2.83	3.14	3.65	3.99	4.56	4.93	5.03
	3.00	0.33	0.55	0.75	1.00	1.12	1.30	1.59	1.86	2.03	2.23	2.43	2.91	3.22	3.75	4.11	4.71	5.12	5.27
90.0	1.00	0.37	0.61	0.83	1.11	1.24	1.44	1.76	2.06	2.24	2.46	2.68	3.20	3.53	4.08	4.45	5.00	5.30	4.99
	1.05	0.37	0.61	0.84	1.12	1.26	1.46	1.78	2.08	2.26	2.49	2.71	3.23	3.57	4.13	4.50	5.07	5.39	5.10
	1.20	0.39	0.64	0.87	1.17	1.32	1.53	1.87	2.19	2.38	2.63	2.87	3.43	3.79	4.40	4.81	5.46	5.85	5.72
	1.50	0.40	0.65	0.89	1.20	1.35	1.57	1.92	2.25	2.45	2.70	2.95	3.53	3.91	4.54	4.97	5.66	6.09	6.04
	3.00	0.40	0.66	0.91	1.22	1.38	1.60	1.95	2.30	2.50	2.76	3.01	3.60	3.99	4.65	5.10	5.82	6.28	6.29
100.0	1.00	0.44	0.72	0.99	1.33	1.49	1.74	2.12	2.49	2.70	2.98	3.25	3.88	4.28	4.95	5.38	6.03	6.33	5.71
	1.05	0.44	0.73	1.00	1.34	1.51	1.75	2.14	2.51	2.73	3.01	3.28	3.91	4.32	5.00	5.44	6.10	6.42	5.82
	1.20	0.46	0.75	1.04	1.39	1.57	1.82	2.23	2.62	2.85	3.14	3.43	4.10	4.54	5.27	5.75	6.49	6.88	6.44
	1.50	0.47	0.77	1.06	1.42	1.60	1.86	2.28	2.68	2.91	3.22	3.51	4.21	4.66	5.41	5.91	6.69	7.12	6.77
	3.00	0.47	0.78	1.07	1.44	1.63	1.89	2.32	2.73	2.96	3.27	3.57	4.28	4.74	5.52	6.03	6.84	7.31	7.01
112.0	1.00	0.52	0.86	1.18	1.59	1.79	2.08	2.55	3.00	3.25	3.59	3.91	4.67	5.15	5.94	6.45	7.15	7.38	
	1.05	0.52	0.87	1.19	1.60	1.80	2.10	2.57	3.02	3.28	3.62	3.94	4.70	5.19	5.99	6.50	7.22	7.47	
	1.20	0.54	0.89	1.23	1.66	1.87	2.17	2.66	3.13	3.40	3.75	4.10	4.90	5.41	6.26	6.81	7.60	7.93	
	1.50	0.55	0.91	1.25	1.69	1.90	2.21	2.71	3.19	3.47	3.83	4.18	5.00	5.53	6.40	6.97	7.81	8.17	
	3.00	0.55	0.92	1.26	1.71	1.92	2.24	2.74	3.23	3.52	3.88	4.24	5.08	5.62	6.51	7.10	7.96	8.36	
125.0	1.00	0.61	1.01	1.39	1.88	2.11	2.45	3.01	3.54	3.84	4.24	4.62	5.50	6.06	6.96	7.51	8.21	8.27	
	1.05	0.61	1.02	1.40	1.89	2.12	2.47	3.02	3.56	3.86	4.26	4.65	5.54	6.10	7.01	7.57	8.28	8.35	
	1.20	0.63	1.04	1.44	1.94	2.18	2.54	3.12	3.67	3.99	4.40	4.80	5.73	6.32	7.28	7.88	8.66	8.81	
	1.50	0.64	1.06	1.46	1.97	2.22	2.58	3.17	3.73	4.05	4.48	4.88	5.83	6.44	7.42	8.04	8.87	9.06	
	3.00	0.64	1.07	1.47	1.99	2.24	2.61	3.20	3.77	4.10	4.53	4.94	5.91	6.53	7.53	8.17	9.02	9.24	
140.0	1.00	0.71	1.18	1.63	2.20	2.47	2.88	3.53	4.15	4.51	4.97	5.41	6.43	7.07	8.06	8.63	9.22	8.93	
	1.05	0.71	1.19	1.63	2.21	2.49	2.89	3.55	4.17	4.53	4.99	5.44	6.47	7.11	8.11	8.69	9.29	9.01	
	1.20	0.73	1.21	1.67	2.26	2.55	2.97	3.64	4.28	4.65	5.13	5.59	6.66	7.33	8.38	9.00	9.67	9.47	
	1.50	0.74	1.23	1.69	2.29	2.58	3.00	3.69	4.34	4.72	5.21	5.68	6.76	7.45	8.52	9.16	9.88	9.72	
	3.00	0.74	1.24	1.71	2.31	2.60	3.03	3.72	4.38	4.77	5.26	5.74	6.84	7.53	8.63	9.28	10.03	9.90	
160.0	1.00	0.85	1.41	1.94	2.62	2.95	3.44	4.21	4.95	5.37	5.92	6.44	7.61	8.32	9.38	9.91	10.17		
	1.05	0.85	1.41	1.95	2.63	2.96	3.45	4.23	4.97	5.40	5.94	6.46	7.65	8.37	9.43	9.97	10.24		
	1.20	0.86	1.44	1.99	2.69	3.03	3.52	4.32	5.08	5.52	6.08	6.62	7.84	8.59	9.70	10.28	10.62		
	1.50	0.87	1.45	2.01	2.72	3.06	3.56	4.37	5.14	5.58	6.16	6.70	7.94	8.70	9.84	10.44	10.83		
	3.00	0.88	1.46	2.02	2.74	3.08	3.59	4.41	5.19	5.63	6.21	6.76	8.02	8.79	9.95	10.57	10.98		
180.0	1.00	0.98	1.63	2.25	3.04	3.43	3.99	4.88	5.73	6.21	6.83	7.42	8.72	9.48	10.51	10.93			
	1.05	0.98	1.63	2.26	3.05	3.44	4.00	4.90	5.75	6.24	6.86	7.45	8.75	9.52	10.56	10.99			
	1.20	1.00	1.66	2.30	3.11	3.50	4.07	4.99	5.86	6.36	7.00	7.60	8.95	9.74	10.83	11.30			
	1.50	1.01	1.68	2.32	3.14	3.53	4.11	5.04	5.92	6.43	7.07	7.68	9.05	9.85	10.97	11.46			
	3.00	1.01	1.69	2.33	3.16	3.56	4.14	5.08	5.97	6.48	7.13	7.74	9.12	9.94	11.08	11.58			
v _{max}	m/s	40																	

Belt length correction factor c₃

Table 31

L _w	mm	512	630	710	800	900	1000	1120	1250	1400	1500	1600	1800	2000	2240	2500	2800	3150	3550
c ₃		0.79	0.83	0.85	0.87	0.89	0.91	0.93	0.95	0.98	0.99	1.00	1.02	1.04	1.06	1.08	1.10	1.12	1.15

CONTI ULTRAFLEX® SPA

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk}, transmission ratio i, small pulley speed n_k and pitch length L_w = 2500 mm.

Min. pulley diameter d_{b min} = 90 mm.

CONTI ULTRAFLEX® SPA

Table 32

d _{wk} (mm)	i or 1:i	Speed of small pulley n _k (min ⁻¹)																	
		100	200	350	500	700	800	950	1200	1450	1600	1800	2000	2500	2850	3500	4000	5000	6000
90.0	1.00	0.23	0.42	0.67	0.89	1.17	1.30	1.48	1.77	2.03	2.18	2.36	2.54	2.91	3.13	3.44	3.57	3.57	3.17
	1.05	0.24	0.43	0.68	0.91	1.19	1.32	1.51	1.81	2.08	2.23	2.42	2.60	3.00	3.23	3.55	3.70	3.74	3.37
	1.20	0.26	0.46	0.74	1.00	1.32	1.47	1.68	2.02	2.34	2.52	2.75	2.96	3.44	3.74	4.18	4.42	4.64	4.44
	1.50	0.27	0.48	0.78	1.05	1.38	1.54	1.77	2.14	2.48	2.67	2.92	3.15	3.68	4.01	4.51	4.80	5.11	5.01
	3.00	0.27	0.50	0.80	1.08	1.43	1.60	1.84	2.22	2.58	2.78	3.04	3.29	3.86	4.21	4.76	5.09	5.47	5.44
100.0	1.00	0.30	0.54	0.86	1.17	1.54	1.72	1.97	2.37	2.75	2.96	3.23	3.48	4.05	4.39	4.89	5.16	5.32	4.95
	1.05	0.30	0.54	0.88	1.18	1.56	1.74	2.00	2.41	2.79	3.01	3.29	3.55	4.13	4.48	5.01	5.29	5.49	5.15
	1.20	0.32	0.58	0.94	1.27	1.69	1.89	2.17	2.63	3.05	3.30	3.61	3.91	4.58	5.00	5.64	6.00	6.38	6.22
	1.50	0.33	0.60	0.97	1.32	1.75	1.96	2.26	2.74	3.19	3.45	3.78	4.09	4.82	5.27	5.97	6.38	6.86	6.79
	3.00	0.33	0.61	1.00	1.35	1.80	2.02	2.33	2.83	3.29	3.56	3.91	4.24	5.00	5.47	6.22	6.67	7.21	7.22
112.0	1.00	0.37	0.67	1.10	1.49	1.98	2.21	2.55	3.09	3.59	3.88	4.25	4.59	5.38	5.86	6.57	6.96	7.24	6.79
	1.05	0.37	0.68	1.11	1.50	2.00	2.24	2.58	3.13	3.64	3.93	4.31	4.66	5.46	5.95	6.69	7.09	7.40	6.98
	1.20	0.39	0.72	1.17	1.59	2.13	2.38	2.75	3.34	3.90	4.22	4.63	5.02	5.91	6.46	7.31	7.80	8.30	8.06
	1.50	0.40	0.74	1.20	1.64	2.19	2.46	2.84	3.46	4.04	4.37	4.80	5.21	6.15	6.73	7.65	8.18	8.77	8.63
	3.00	0.41	0.75	1.23	1.68	2.24	2.51	2.91	3.54	4.14	4.48	4.93	5.35	6.33	6.94	7.90	8.47	9.13	9.06
125.0	1.00	0.44	0.82	1.34	1.83	2.45	2.74	3.17	3.85	4.49	4.86	5.33	5.78	6.78	7.39	8.30	8.78	9.08	8.38
	1.05	0.45	0.83	1.36	1.85	2.47	2.77	3.20	3.89	4.54	4.91	5.39	5.84	6.87	7.49	8.41	8.91	9.24	8.58
	1.20	0.47	0.87	1.42	1.94	2.60	2.91	3.37	4.11	4.80	5.20	5.71	6.20	7.31	8.00	9.04	9.62	10.14	9.65
	1.50	0.48	0.88	1.45	1.99	2.66	2.99	3.46	4.22	4.94	5.35	5.88	6.39	7.55	8.27	9.37	10.00	10.61	10.22
	3.00	0.48	0.90	1.48	2.02	2.71	3.05	3.53	4.31	5.04	5.47	6.01	6.53	7.73	8.47	9.62	10.29	10.97	10.65
140.0	1.00	0.53	0.99	1.63	2.23	2.99	3.35	3.88	4.72	5.52	5.98	6.56	7.11	8.35	9.09	10.16	10.69	10.86	9.65
	1.05	0.54	1.00	1.64	2.25	3.01	3.38	3.91	4.76	5.57	6.03	6.62	7.17	8.43	9.18	10.28	10.82	11.03	9.85
	1.20	0.55	1.03	1.70	2.34	3.14	3.52	4.08	4.98	5.83	6.32	6.94	7.53	8.88	9.69	10.91	11.54	11.92	10.93
	1.50	0.56	1.05	1.74	2.38	3.20	3.60	4.17	5.09	5.97	6.47	7.11	7.72	9.11	9.96	11.24	11.92	12.40	11.49
	3.00	0.57	1.07	1.76	2.42	3.25	3.65	4.24	5.18	6.07	6.58	7.24	7.86	9.29	10.17	11.49	12.21	12.75	11.92
160.0	1.00	0.65	1.22	2.01	2.75	3.70	4.15	4.81	5.87	6.86	7.43	8.15	8.83	10.34	11.22	12.42	12.92	12.62	
	1.05	0.65	1.22	2.02	2.77	3.72	4.18	4.84	5.91	6.91	7.48	8.21	8.89	10.42	11.31	12.53	13.05	12.78	
	1.20	0.67	1.26	2.08	2.86	3.85	4.32	5.02	6.12	7.17	7.77	8.53	9.25	10.87	11.82	13.16	13.77	13.68	
	1.50	0.68	1.28	2.11	2.90	3.91	4.40	5.11	6.24	7.31	7.92	8.70	9.44	11.10	12.09	13.49	14.15	14.15	
	3.00	0.69	1.29	2.14	2.94	3.96	4.45	5.17	6.32	7.41	8.03	8.83	9.58	11.28	12.29	13.74	14.43	14.51	
180.0	1.00	0.77	1.44	2.38	3.27	4.40	4.94	5.73	6.99	8.17	8.84	9.69	10.48	12.21	13.18	14.39	14.73		
	1.05	0.77	1.44	2.39	3.28	4.42	4.97	5.76	7.03	8.22	8.89	9.75	10.55	12.29	13.27	14.50	14.86		
	1.20	0.79	1.48	2.45	3.37	4.55	5.11	5.93	7.24	8.48	9.18	10.07	10.90	12.74	13.78	15.13	15.57		
	1.50	0.80	1.50	2.49	3.42	4.61	5.19	6.02	7.36	8.61	9.33	10.24	11.09	12.98	14.05	15.46	15.95		
	3.00	0.80	1.51	2.51	3.46	4.66	5.24	6.09	7.44	8.72	9.44	10.37	11.24	13.15	14.26	15.71	16.24		
200.0	1.00	0.88	1.66	2.75	3.78	5.09	5.72	6.64	8.09	9.44	10.21	11.17	12.06	13.96	14.96	16.04	16.07		
	1.05	0.89	1.66	2.76	3.80	5.11	5.75	6.67	8.13	9.49	10.26	11.23	12.13	14.04	15.06	16.16	16.20		
	1.20	0.90	1.70	2.82	3.89	5.24	5.89	6.84	8.34	9.75	10.55	11.55	12.49	14.49	15.57	16.79	16.92		
	1.50	0.91	1.72	2.85	3.93	5.30	5.97	6.93	8.46	9.89	10.70	11.72	12.68	14.72	15.84	17.12	17.30		
	3.00	0.92	1.73	2.88	3.97	5.35	6.02	7.00	8.54	9.99	10.81	11.85	12.82	14.90	16.04	17.37	17.59		
224.0	1.00	1.02	1.92	3.19	4.39	5.91	6.64	7.70	9.38	10.93	11.80	12.88	13.86	15.87	16.85	17.57			
	1.05	1.02	1.93	3.20	4.40	5.93	6.67	7.73	9.42	10.98	11.85	12.94	13.93	15.96	16.94	17.68			
	1.20	1.04	1.96	3.26	4.49	6.06	6.81	7.91	9.63	11.24	12.14	13.26	14.29	16.40	17.45	18.31			
	1.50	1.05	1.98	3.29	4.54	6.13	6.89	8.00	9.75	11.37	12.29	13.43	14.48	16.64	17.72	18.64			
	3.00	1.06	2.00	3.32	4.58	6.18	6.94	8.06	9.83	11.48	12.40	13.56	14.62	16.82	17.93	18.89			
250.0	1.00	1.17	2.20	3.66	5.04	6.79	7.62	8.84	10.74	12.48	13.44	14.63	15.68	17.71	18.55				
	1.05	1.17	2.21	3.67	5.05	6.81	7.65	8.87	10.78	12.53	13.50	14.68	15.75	17.79	18.64				
	1.20	1.19	2.24	3.73	5.14	6.94	7.79	9.04	10.99	12.79	13.78	15.01	16.11	18.24	19.15				
	1.50	1.20	2.26	3.76	5.19	7.00	7.87	9.13	11.11	12.93	13.93	15.18	16.30	18.48	19.42				
	3.00	1.21	2.28	3.79	5.23	7.05	7.93	9.20	11.19	13.03	14.05	15.31	16.44	18.66	19.62				
V _{max}	m/s	40																	

Belt length correction factor c₃

Table 33

L _w	mm	647	800	900	1000	1120	1250	1400	1600	1800	2000	2240	2500	2650	2800	3150	3550	4000	4500
c ₃		0.77	0.81	0.83	0.85	0.86	0.88	0.90	0.92	0.94	0.96	0.98	1.00	1.01	1.02	1.04	1.06	1.08	1.10

CONTI ULTRAFLEX® SPB

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk}, transmission ratio i, small pulley speed n_k and pitch length L_w = 3550 mm.

Min. pulley diameter d_{b min} = 140 mm.

CONTI ULTRAFLEX® SPB

Table 34

d _{wk} (mm)	i or 1:i	Speed of small pulley n _k (min ⁻¹)																	
		50	100	200	350	500	700	800	950	1200	1450	1600	1800	2000	2500	2850	3500	4000	5000
140.0	1.00	0.36	0.66	1.20	1.93	2.60	3.43	3.82	4.38	5.25	6.04	6.48	7.03	7.52	8.52	9.02	9.43	9.25	7.38
	1.05	0.36	0.67	1.21	1.95	2.64	3.48	3.88	4.45	5.34	6.15	6.60	7.16	7.66	8.70	9.22	9.68	9.53	7.74
	1.20	0.38	0.70	1.29	2.09	2.83	3.76	4.19	4.82	5.81	6.72	7.23	7.86	8.45	9.69	10.34	11.06	11.11	9.71
	1.50	0.39	0.73	1.33	2.17	2.94	3.90	4.36	5.02	6.06	7.02	7.56	8.24	8.87	10.21	10.93	11.78	11.94	10.74
	3.00	0.40	0.74	1.36	2.22	3.02	4.01	4.48	5.17	6.25	7.25	7.81	8.52	9.18	10.60	11.38	12.33	12.56	11.53
160.0	1.00	0.46	0.85	1.56	2.54	3.45	4.58	5.12	5.89	7.10	8.21	8.83	9.60	10.30	11.73	12.44	13.03	12.77	10.06
	1.05	0.46	0.85	1.57	2.56	3.48	4.63	5.17	5.96	7.19	8.32	8.95	9.73	10.44	11.91	12.64	13.28	13.06	10.42
	1.20	0.48	0.89	1.65	2.70	3.68	4.90	5.49	6.33	7.66	8.89	9.58	10.44	11.23	12.89	13.77	14.66	14.63	12.39
	1.50	0.49	0.91	1.69	2.77	3.78	5.05	5.65	6.53	7.91	9.19	9.91	10.81	11.64	13.41	14.36	15.39	15.46	13.42
	3.00	0.50	0.93	1.73	2.83	3.86	5.16	5.78	6.68	8.10	9.41	10.16	11.09	11.96	13.80	14.80	15.93	16.09	14.20
180.0	1.00	0.56	1.04	1.92	3.14	4.28	5.71	6.39	7.38	8.92	10.33	11.11	12.08	12.97	14.74	15.58	16.15	15.59	
	1.05	0.56	1.04	1.93	3.17	4.32	5.76	6.45	7.45	9.00	10.43	11.23	12.21	13.11	14.92	15.79	16.40	15.88	
	1.20	0.58	1.08	2.01	3.30	4.51	6.04	6.77	7.82	9.47	11.00	11.86	12.92	13.90	15.91	16.91	17.78	17.45	
	1.50	0.59	1.10	2.05	3.38	4.62	6.18	6.93	8.02	9.72	11.30	12.19	13.30	14.31	16.42	17.50	18.51	18.28	
	3.00	0.60	1.12	2.08	3.43	4.70	6.29	7.06	8.17	9.91	11.53	12.44	13.58	14.62	16.81	17.95	19.05	18.91	
200.0	1.00	0.65	1.22	2.27	3.74	5.11	6.83	7.66	8.84	10.69	12.39	13.33	14.48	15.52	17.54	18.43	18.74	17.63	
	1.05	0.66	1.23	2.29	3.76	5.15	6.88	7.71	8.91	10.78	12.49	13.44	14.61	15.66	17.72	18.64	18.99	17.92	
	1.20	0.68	1.27	2.37	3.90	5.34	7.16	8.03	9.28	11.25	13.06	14.07	15.32	16.45	18.71	19.76	20.37	19.49	
	1.50	0.69	1.29	2.41	3.97	5.45	7.30	8.19	9.48	11.50	13.36	14.40	15.69	16.86	19.22	20.35	21.09	20.32	
	3.00	0.69	1.30	2.44	4.03	5.52	7.41	8.32	9.63	11.69	13.59	14.65	15.97	17.17	19.62	20.79	21.64	20.95	
224.0	1.00	0.77	1.44	2.70	4.45	6.09	8.16	9.15	10.57	12.78	14.79	15.89	17.23	18.41	20.60	21.41	21.07		
	1.05	0.77	1.45	2.71	4.47	6.13	8.21	9.21	10.64	12.87	14.89	16.01	17.36	18.56	20.78	21.62	21.33		
	1.20	0.79	1.49	2.79	4.61	6.33	8.49	9.52	11.01	13.34	15.46	16.63	18.07	19.34	21.77	22.74	22.70		
	1.50	0.80	1.51	2.83	4.68	6.43	8.63	9.69	11.21	13.59	15.76	16.97	18.44	19.76	22.29	23.33	23.43		
	3.00	0.81	1.53	2.86	4.74	6.51	8.74	9.81	11.36	13.78	15.99	17.22	18.72	20.07	22.68	23.78	23.98		
250.0	1.00	0.89	1.68	3.15	5.21	7.15	9.58	10.74	12.40	14.98	17.29	18.54	20.04	21.33	23.52	24.06			
	1.05	0.90	1.69	3.17	5.23	7.18	9.63	10.80	12.47	15.07	17.40	18.66	20.17	21.47	23.70	24.27			
	1.20	0.92	1.73	3.25	5.37	7.38	9.91	11.11	12.85	15.54	17.97	19.29	20.88	22.26	24.68	25.39			
	1.50	0.93	1.75	3.29	5.44	7.48	10.05	11.28	13.04	15.79	18.27	19.62	21.25	22.67	25.20	25.98			
	3.00	0.94	1.77	3.32	5.50	7.56	10.16	11.40	13.19	15.98	18.50	19.87	21.53	22.99	25.59	26.43			
280.0	1.00	1.04	1.96	3.67	6.08	8.35	11.19	12.54	14.47	17.44	20.05	21.44	23.06	24.39	26.31	26.30			
	1.05	1.04	1.96	3.69	6.11	8.38	11.24	12.60	14.54	17.52	20.16	21.55	23.19	24.53	26.49	26.50			
	1.20	1.06	2.00	3.77	6.24	8.58	11.52	12.91	14.91	17.99	20.73	22.18	23.90	25.32	27.47	27.62			
	1.50	1.07	2.02	3.81	6.32	8.68	11.66	13.08	15.11	18.24	21.03	22.52	24.27	25.74	27.99	28.21			
	3.00	1.08	2.04	3.84	6.37	8.76	11.77	13.20	15.26	18.43	21.26	22.77	24.55	26.05	28.38	28.66			
315.0	1.00	1.20	2.27	4.28	7.09	9.73	13.04	14.60	16.82	20.19	23.08	24.57	26.24	27.51	28.72				
	1.05	1.21	2.28	4.29	7.11	9.77	13.09	14.66	16.89	20.27	23.19	24.69	26.37	27.65	28.90				
	1.20	1.23	2.32	4.37	7.25	9.96	13.36	14.97	17.26	20.74	23.76	25.32	27.08	28.44	29.89				
	1.50	1.24	2.34	4.41	7.32	10.07	13.51	15.14	17.46	20.99	24.06	25.65	27.45	28.85	30.40				
	3.00	1.24	2.36	4.44	7.38	10.15	13.62	15.26	17.61	21.18	24.29	25.90	27.73	29.17	30.80				
355.0	1.00	1.39	2.63	4.96	8.22	11.29	15.10	16.89	19.41	23.16	26.28	27.80	29.39	30.42					
	1.05	1.39	2.64	4.97	8.25	11.32	15.15	16.95	19.48	23.25	26.38	27.92	29.52	30.56					
	1.20	1.41	2.68	5.05	8.38	11.52	15.43	17.26	19.86	23.72	26.95	28.55	30.23	31.35					
	1.50	1.42	2.70	5.09	8.46	11.62	15.57	17.43	20.05	23.97	27.25	28.88	30.60	31.77					
	3.00	1.43	2.71	5.12	8.51	11.70	15.68	17.55	20.20	24.16	27.48	29.13	30.88	32.08					
400.0	1.00	1.60	3.03	5.72	9.48	13.01	17.36	19.38	22.21	26.29	29.50	30.94	32.25	32.77					
	1.05	1.60	3.04	5.73	9.51	13.05	17.41	19.44	22.27	26.38	29.60	31.06	32.38	32.92					
	1.20	1.62	3.08	5.81	9.65	13.24	17.69	19.76	22.65	26.85	30.17	31.69	33.08	33.70					
	1.50	1.63	3.10	5.85	9.72	13.35	17.83	19.92	22.85	27.10	30.47	32.02	33.46	34.12					
	3.00	1.64	3.11	5.88	9.77	13.42	17.94	20.05	22.99	27.29	30.70	32.27	33.74	34.43					
v _{max}	m/s	40																	

Belt length correction factor c₃

Table 35

L _w	mm	1250	1400	1600	1800	2000	2240	2500	2800	3150	3550	4000	4500	5000	5600	6300	7100	7500	8000
c ₃		0.88	0.85	0.87	0.89	0.91	0.93	0.94	0.96	0.98	1.00	1.02	1.04	1.05	1.07	1.09	1.11	1.12	1.13

CONTI ULTRAFLEX® SPC

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk}, transmission ratio i, small pulley speed n_k and pitch length L_w = 5600 mm.

Min. pulley diameter d_{b min} = 224 mm.

CONTI ULTRAFLEX® SPC

Table 36

d _{wk} (mm)	i or 1:i	Speed of small pulley n _k (min ⁻¹)																	
		50	100	200	350	500	700	800	950	1200	1300	1450	1600	1700	1800	2000	2500	2850	3500
224.0	1.00	1.07	1.97	3.61	5.83	7.86	10.35	11.51	13.14	15.57	16.45	17.64	18.69	19.31	19.86	20.74	21.54	20.78	16.00
	1.05	1.08	1.99	3.65	5.90	7.96	10.49	11.67	13.33	15.81	16.70	17.93	19.01	19.64	20.21	21.13	22.04	21.34	16.69
	1.20	1.13	2.10	3.86	6.27	8.50	11.24	12.53	14.35	17.10	18.10	19.49	20.73	21.47	22.15	23.28	24.73	24.41	20.45
	1.50	1.16	2.16	3.98	6.47	8.78	11.64	12.98	14.89	17.78	18.84	20.31	21.64	22.44	23.17	24.42	26.14	26.03	22.44
	3.00	1.18	2.20	4.06	6.62	9.00	11.94	13.32	15.29	18.30	19.40	20.93	22.32	23.17	23.94	25.27	27.22	27.25	23.94
250.0	1.00	1.30	2.41	4.45	7.24	9.81	12.98	14.46	16.54	19.66	20.77	22.30	23.63	24.41	25.10	26.18	27.01	25.78	
	1.05	1.31	2.43	4.49	7.31	9.91	13.12	14.61	16.73	19.89	21.03	22.58	23.95	24.75	25.45	26.57	27.50	26.34	
	1.20	1.36	2.54	4.70	7.68	10.45	13.87	15.48	17.75	21.19	22.43	24.14	25.67	26.58	27.39	28.73	30.19	29.41	
	1.50	1.39	2.60	4.82	7.88	10.73	14.27	15.93	18.29	21.87	23.17	24.97	26.58	27.54	28.41	29.86	31.61	31.03	
	3.00	1.41	2.64	4.90	8.03	10.95	14.57	16.27	18.70	22.38	23.72	25.59	27.26	28.27	29.18	30.72	32.68	32.25	
280.0	1.00	1.56	2.92	5.41	8.85	12.04	15.97	17.80	20.38	24.22	25.59	27.43	29.02	29.94	30.72	31.90	32.27	30.04	
	1.05	1.57	2.94	5.45	8.92	12.13	16.10	17.96	20.57	24.46	25.84	27.72	29.34	30.27	31.08	32.30	32.77	30.61	
	1.20	1.63	3.04	5.66	9.29	12.67	16.86	18.82	21.59	25.75	27.24	29.28	31.06	32.10	33.02	34.45	35.46	33.67	
	1.50	1.65	3.10	5.78	9.49	12.96	17.25	19.27	22.13	26.43	27.98	30.10	31.97	33.07	34.04	35.58	36.87	35.29	
	3.00	1.68	3.14	5.86	9.64	13.17	17.55	19.61	22.54	26.95	28.54	30.72	32.66	33.80	34.81	36.44	37.95	36.51	
315.0	1.00	1.87	3.50	6.52	10.71	14.60	19.39	21.62	24.74	29.34	30.94	33.08	34.87	35.86	36.67	37.75	36.87		
	1.05	1.88	3.52	6.56	10.78	14.70	19.52	21.77	24.93	29.57	31.20	33.36	35.18	36.19	37.03	38.15	37.36		
	1.20	1.93	3.63	6.78	11.15	15.23	20.28	22.63	25.95	30.86	32.60	34.92	36.91	38.02	38.97	40.30	40.05		
	1.50	1.96	3.68	6.89	11.35	15.52	20.68	23.09	26.49	31.54	33.33	35.75	37.81	38.99	39.99	41.44	41.47		
	3.00	1.98	3.73	6.98	11.50	15.73	20.98	23.43	26.90	32.06	33.89	36.37	38.50	39.72	40.76	42.29	42.54		
355.0	1.00	2.21	4.16	7.78	12.81	17.48	23.21	25.87	29.56	34.88	36.69	39.04	40.91	41.86	42.58	43.25			
	1.05	2.22	4.18	7.82	12.88	17.58	23.35	26.02	29.75	35.12	36.95	39.33	41.22	42.20	42.94	43.64			
	1.20	2.28	4.29	8.04	13.25	18.12	24.11	26.89	30.77	36.41	38.35	40.89	42.94	44.03	44.87	45.79			
	1.50	2.31	4.35	8.15	13.45	18.40	24.50	27.34	31.31	37.09	39.09	41.71	43.85	44.99	45.90	46.93			
	3.00	2.33	4.39	8.24	13.60	18.62	24.80	27.68	31.71	37.61	39.64	42.33	44.54	45.72	46.67	47.78			
400.0	1.00	2.60	4.90	9.19	15.14	20.67	27.41	30.50	34.75	40.71	42.66	45.06	46.80	47.56	47.98	47.74			
	1.05	2.61	4.92	9.22	15.21	20.77	27.55	30.66	34.94	40.95	42.92	45.35	47.12	47.89	48.33	48.13			
	1.20	2.66	5.03	9.44	15.59	21.31	28.31	31.52	35.96	42.24	44.32	46.91	48.84	49.73	50.27	50.28			
	1.50	2.69	5.08	9.55	15.79	21.59	28.70	31.97	36.50	42.92	45.05	47.73	49.75	50.69	51.29	51.42			
	3.00	2.71	5.13	9.64	15.94	21.81	29.00	32.32	36.91	43.44	45.61	48.36	50.43	51.42	52.06	52.27			
450.0	1.00	3.03	5.71	10.73	17.70	24.15	31.94	35.46	40.23	46.64	48.60	50.83	52.12	52.43	52.26				
	1.05	3.04	5.73	10.77	17.77	24.25	32.08	35.62	40.42	46.88	48.86	51.11	52.44	52.76	52.61				
	1.20	3.09	5.84	10.98	18.15	24.79	32.83	36.48	41.44	48.17	50.26	52.68	54.16	54.59	54.55				
	1.50	3.12	5.90	11.10	18.35	25.07	33.23	36.93	41.98	48.85	51.00	53.50	55.07	55.56	55.57				
	3.00	3.14	5.94	11.18	18.50	25.29	33.53	37.28	42.39	49.36	51.55	54.12	55.75	56.29	56.34				
500.0	1.00	3.45	6.52	12.26	20.23	27.56	36.31	40.21	45.37	51.94	53.76	55.52	56.02	55.60					
	1.05	3.46	6.54	12.30	20.30	27.66	36.45	40.36	45.56	52.17	54.01	55.80	56.34	55.94					
	1.20	3.51	6.65	12.52	20.68	28.20	37.20	41.23	46.58	53.47	55.41	57.37	58.06	57.77					
	1.50	3.54	6.70	12.63	20.88	28.48	37.60	41.68	47.12	54.15	56.15	58.19	58.97	58.73					
	3.00	3.56	6.75	12.71	21.03	28.70	37.90	42.02	47.53	54.66	56.71	58.81	59.65	59.46					
560.0	1.00	3.95	7.48	14.08	23.22	31.56	41.35	45.60	51.07	57.38	58.80	59.58							
	1.05	3.96	7.50	14.12	23.29	31.66	41.49	45.76	51.25	57.62	59.05	59.87							
	1.20	4.02	7.61	14.33	23.66	32.19	42.24	46.62	52.28	58.91	60.45	61.43							
	1.50	4.04	7.67	14.45	23.86	32.48	42.64	47.07	52.81	59.59	61.19	62.25							
	3.00	4.07	7.71	14.53	24.01	32.69	42.94	47.42	53.22	60.10	61.75	62.88							
630.0	1.00	4.54	8.59	16.18	26.64	36.08	46.91	51.44	56.99	62.35	62.94								
	1.05	4.55	8.61	16.22	26.71	36.18	47.04	51.60	57.18	62.59	63.20								
	1.20	4.60	8.72	16.43	27.08	36.72	47.80	52.46	58.20	63.88	64.60								
	1.50	4.63	8.78	16.55	27.28	37.00	48.20	52.92	58.74	64.56	65.33								
	3.00	4.65	8.82	16.63	27.43	37.22	48.50	53.26	59.15	65.07	65.89								
V _{max}	m/s	40																	

Belt length correction factor c₃

Table 37

L _w	mm	2000	2240	2500	3000	3350	3750	4000	4500	5000	5600	6000	6700	7500	8000	8500	9000	9500	12250
c ₃		0.85	0.86	0.88	0.91	0.92	0.94	0.95	0.97	0.98	1.00	1.01	1.03	1.04	1.05	1.06	1.07	1.08	1.12

CONTI MULTIFLEX® 8/-

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk}, transmission ratio i, small pulley speed n_k and pitch length L_w = 579 mm.

Min. pulley diameter d_{b min} = 35.5 mm.

CONTI MULTIFLEX® 8/-

Table 38

d _{wk} (mm)	i or 1:i	Speed of small pulley n _k (min ⁻¹)																	
		200	400	700	800	950	1200	1450	1600	2000	2400	2850	3200	3600	4000	4500	5000	5500	6000
35.5	1.00	0.03	0.06	0.09	0.09	0.11	0.13	0.15	0.16	0.19	0.22	0.24	0.26	0.28	0.30	0.32	0.34	0.36	0.37
	1.05	0.03	0.06	0.09	0.10	0.11	0.13	0.15	0.17	0.20	0.22	0.25	0.27	0.30	0.32	0.34	0.36	0.38	0.40
	1.20	0.03	0.06	0.09	0.10	0.12	0.14	0.17	0.18	0.21	0.24	0.27	0.30	0.32	0.35	0.37	0.40	0.42	0.44
	1.50	0.03	0.06	0.10	0.11	0.12	0.15	0.17	0.19	0.22	0.26	0.29	0.32	0.34	0.37	0.40	0.43	0.45	0.48
	3.00	0.04	0.06	0.10	0.11	0.13	0.15	0.18	0.19	0.23	0.27	0.30	0.33	0.36	0.39	0.42	0.45	0.48	0.50
40.0	1.00	0.04	0.07	0.11	0.12	0.14	0.17	0.20	0.21	0.25	0.29	0.33	0.35	0.39	0.41	0.45	0.48	0.50	0.53
	1.05	0.04	0.07	0.11	0.12	0.14	0.17	0.20	0.22	0.26	0.30	0.34	0.37	0.40	0.43	0.46	0.50	0.52	0.55
	1.20	0.04	0.07	0.12	0.13	0.15	0.18	0.21	0.23	0.27	0.31	0.36	0.39	0.43	0.46	0.50	0.53	0.56	0.59
	1.50	0.04	0.08	0.12	0.14	0.16	0.19	0.22	0.24	0.28	0.33	0.38	0.41	0.45	0.48	0.52	0.56	0.60	0.63
	3.00	0.04	0.08	0.12	0.14	0.16	0.19	0.23	0.24	0.29	0.34	0.39	0.42	0.46	0.50	0.54	0.58	0.62	0.65
45.0	1.00	0.05	0.09	0.14	0.15	0.17	0.21	0.25	0.27	0.32	0.37	0.42	0.46	0.50	0.53	0.58	0.62	0.65	0.69
	1.05	0.05	0.09	0.14	0.15	0.18	0.22	0.25	0.27	0.33	0.38	0.43	0.47	0.51	0.55	0.60	0.64	0.68	0.71
	1.20	0.05	0.09	0.14	0.16	0.19	0.22	0.26	0.28	0.34	0.39	0.45	0.49	0.54	0.58	0.63	0.67	0.72	0.75
	1.50	0.05	0.09	0.15	0.17	0.19	0.23	0.27	0.29	0.35	0.41	0.47	0.51	0.56	0.60	0.66	0.70	0.75	0.79
	3.00	0.05	0.09	0.15	0.17	0.19	0.24	0.28	0.30	0.36	0.42	0.48	0.52	0.57	0.62	0.67	0.73	0.77	0.81
50.0	1.00	0.06	0.10	0.16	0.18	0.21	0.25	0.30	0.32	0.38	0.44	0.51	0.56	0.61	0.65	0.71	0.76	0.80	0.84
	1.05	0.06	0.10	0.16	0.18	0.21	0.26	0.30	0.33	0.39	0.45	0.52	0.57	0.62	0.67	0.72	0.77	0.82	0.86
	1.20	0.06	0.11	0.17	0.19	0.22	0.27	0.31	0.34	0.41	0.47	0.54	0.59	0.65	0.70	0.76	0.81	0.86	0.90
	1.50	0.06	0.11	0.17	0.19	0.23	0.27	0.32	0.35	0.42	0.49	0.56	0.61	0.67	0.72	0.78	0.84	0.89	0.94
	3.00	0.06	0.11	0.18	0.20	0.23	0.28	0.33	0.36	0.43	0.50	0.57	0.62	0.68	0.74	0.80	0.86	0.92	0.96
56.0	1.00	0.07	0.12	0.19	0.22	0.25	0.30	0.36	0.39	0.46	0.54	0.61	0.67	0.73	0.79	0.85	0.91	0.96	1.01
	1.05	0.07	0.12	0.20	0.22	0.25	0.31	0.36	0.39	0.47	0.55	0.63	0.68	0.75	0.80	0.87	0.93	0.98	1.03
	1.20	0.07	0.12	0.20	0.22	0.26	0.32	0.37	0.40	0.49	0.56	0.65	0.71	0.77	0.83	0.91	0.97	1.03	1.07
	1.50	0.07	0.13	0.20	0.23	0.27	0.32	0.38	0.41	0.50	0.58	0.66	0.73	0.79	0.86	0.93	1.00	1.06	1.11
	3.00	0.07	0.13	0.21	0.23	0.27	0.33	0.39	0.42	0.51	0.59	0.68	0.74	0.81	0.87	0.95	1.02	1.08	1.13
63.0	1.00	0.08	0.14	0.23	0.26	0.30	0.36	0.42	0.46	0.55	0.64	0.74	0.80	0.88	0.94	1.02	1.09	1.14	1.19
	1.05	0.08	0.14	0.23	0.26	0.30	0.37	0.43	0.47	0.56	0.65	0.75	0.82	0.89	0.96	1.04	1.10	1.16	1.21
	1.20	0.08	0.15	0.24	0.27	0.31	0.38	0.44	0.48	0.58	0.67	0.77	0.84	0.92	0.99	1.07	1.14	1.20	1.25
	1.50	0.08	0.15	0.24	0.27	0.31	0.38	0.45	0.49	0.59	0.68	0.78	0.86	0.94	1.01	1.10	1.17	1.24	1.29
	3.00	0.08	0.15	0.24	0.27	0.32	0.39	0.46	0.49	0.60	0.69	0.80	0.87	0.95	1.03	1.11	1.19	1.26	1.32
71.0	1.00	0.09	0.17	0.27	0.30	0.35	0.43	0.50	0.54	0.66	0.76	0.87	0.95	1.03	1.11	1.20	1.27	1.33	1.37
	1.05	0.09	0.17	0.27	0.30	0.35	0.43	0.51	0.55	0.66	0.77	0.88	0.96	1.05	1.13	1.21	1.29	1.35	1.39
	1.20	0.09	0.17	0.28	0.31	0.36	0.44	0.52	0.56	0.68	0.79	0.90	0.98	1.07	1.15	1.25	1.32	1.39	1.44
	1.50	0.09	0.17	0.28	0.32	0.37	0.45	0.53	0.57	0.69	0.80	0.92	1.00	1.09	1.18	1.27	1.35	1.42	1.47
	3.00	0.09	0.17	0.28	0.32	0.37	0.45	0.53	0.58	0.70	0.81	0.93	1.02	1.11	1.20	1.29	1.37	1.44	1.50
80.0	1.00	0.10	0.19	0.31	0.35	0.41	0.50	0.59	0.64	0.77	0.89	1.01	1.11	1.20	1.29	1.38	1.45	1.50	1.54
	1.05	0.11	0.19	0.32	0.36	0.41	0.50	0.59	0.64	0.77	0.90	1.03	1.12	1.21	1.30	1.39	1.47	1.53	1.56
	1.20	0.11	0.20	0.32	0.36	0.42	0.51	0.60	0.66	0.79	0.92	1.05	1.14	1.24	1.33	1.43	1.51	1.57	1.61
	1.50	0.11	0.20	0.33	0.37	0.42	0.52	0.61	0.66	0.80	0.93	1.06	1.16	1.26	1.35	1.45	1.54	1.60	1.64
	3.00	0.11	0.20	0.33	0.37	0.43	0.52	0.62	0.67	0.81	0.94	1.08	1.17	1.28	1.37	1.47	1.56	1.62	1.67
90.0	1.00	0.12	0.22	0.36	0.41	0.47	0.58	0.68	0.74	0.89	1.03	1.17	1.27	1.38	1.47	1.56	1.63	1.67	1.68
	1.05	0.12	0.22	0.37	0.41	0.48	0.58	0.69	0.74	0.90	1.04	1.18	1.28	1.39	1.48	1.57	1.64	1.69	1.70
	1.20	0.12	0.23	0.37	0.42	0.48	0.59	0.70	0.76	0.91	1.05	1.20	1.31	1.42	1.51	1.61	1.68	1.73	1.74
	1.50	0.12	0.23	0.37	0.42	0.49	0.60	0.70	0.77	0.92	1.07	1.22	1.33	1.44	1.53	1.63	1.71	1.76	1.78
	3.00	0.12	0.23	0.38	0.42	0.49	0.60	0.71	0.77	0.93	1.08	1.23	1.34	1.45	1.55	1.65	1.73	1.78	1.81
100.0	1.00	0.14	0.25	0.41	0.46	0.54	0.66	0.77	0.84	1.01	1.16	1.32	1.43	1.54	1.63	1.71	1.77	1.78	1.76
	1.05	0.14	0.25	0.41	0.47	0.54	0.66	0.78	0.84	1.01	1.17	1.33	1.44	1.55	1.64	1.73	1.79	1.80	1.78
	1.20	0.14	0.26	0.42	0.47	0.55	0.67	0.79	0.86	1.03	1.19	1.35	1.46	1.58	1.67	1.76	1.82	1.85	1.83
	1.50	0.14	0.26	0.42	0.48	0.55	0.68	0.80	0.86	1.04	1.20	1.37	1.48	1.60	1.70	1.79	1.85	1.88	1.86
	3.00	0.14	0.26	0.43	0.48	0.56	0.68	0.80	0.87	1.05	1.21	1.38	1.50	1.61	1.71	1.81	1.87	1.90	1.89
v _{max}	m/s	30																	

Belt length correction factor c₃

Table 39

L _w	mm	549	579	619	649	699	719	729	769	779	819	849	869	894	919	969	1019	1219	1269
c ₃		0.99	1.00	1.01	1.02	1.04	1.05	1.05	1.06	1.06	1.08	1.08	1.09	1.10	1.10	1.11	1.13	1.17	1.18

CONTI MULTIFLEX® 10/Z

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk} , transmission ratio i , small pulley speed n_k and pitch length $L_w = 822$ mm.

Min. pulley diameter $d_{b\ min} = 45$ mm.

CONTI MULTIFLEX® 10/Z

Table 40

d_{wk} (mm)	i or 1:i	Speed of small pulley n_k (min ⁻¹)																	
		200	400	700	800	950	1200	1450	1600	2000	2400	2850	3200	3600	4000	4500	5000	5500	6000
45.0	1.00	0.06	0.10	0.16	0.17	0.19	0.23	0.26	0.28	0.32	0.36	0.40	0.43	0.46	0.48	0.50	0.52	0.52	0.53
	1.05	0.06	0.11	0.16	0.18	0.20	0.24	0.28	0.29	0.34	0.39	0.43	0.46	0.49	0.51	0.54	0.56	0.57	0.58
	1.20	0.07	0.11	0.17	0.19	0.22	0.26	0.30	0.32	0.38	0.43	0.48	0.52	0.55	0.59	0.62	0.65	0.67	0.69
	1.50	0.07	0.12	0.18	0.20	0.23	0.28	0.32	0.35	0.41	0.46	0.52	0.56	0.60	0.64	0.68	0.72	0.75	0.77
	3.00	0.07	0.12	0.19	0.21	0.24	0.29	0.34	0.36	0.43	0.49	0.55	0.59	0.64	0.68	0.73	0.77	0.80	0.83
50.0	1.00	0.07	0.13	0.20	0.22	0.25	0.30	0.35	0.38	0.44	0.50	0.56	0.60	0.65	0.69	0.73	0.76	0.78	0.80
	1.05	0.08	0.13	0.21	0.23	0.26	0.31	0.36	0.39	0.46	0.52	0.59	0.63	0.68	0.72	0.77	0.80	0.83	0.85
	1.20	0.08	0.14	0.22	0.24	0.28	0.34	0.39	0.42	0.49	0.56	0.64	0.69	0.74	0.79	0.85	0.89	0.93	0.96
	1.50	0.08	0.15	0.23	0.26	0.29	0.35	0.41	0.44	0.52	0.60	0.68	0.73	0.79	0.85	0.91	0.96	1.01	1.04
	3.00	0.08	0.15	0.24	0.26	0.30	0.36	0.42	0.46	0.54	0.62	0.71	0.77	0.83	0.89	0.95	1.01	1.06	1.10
56.0	1.00	0.09	0.16	0.25	0.28	0.33	0.39	0.45	0.49	0.58	0.66	0.75	0.81	0.87	0.93	0.99	1.04	1.08	1.10
	1.05	0.09	0.17	0.26	0.29	0.33	0.40	0.47	0.50	0.60	0.68	0.77	0.84	0.90	0.96	1.03	1.08	1.13	1.16
	1.20	0.10	0.17	0.27	0.31	0.35	0.42	0.49	0.53	0.63	0.73	0.82	0.89	0.97	1.03	1.11	1.17	1.22	1.26
	1.50	0.10	0.18	0.28	0.32	0.36	0.44	0.51	0.55	0.66	0.76	0.86	0.94	1.02	1.09	1.17	1.24	1.30	1.35
	3.00	0.10	0.18	0.29	0.32	0.37	0.45	0.53	0.57	0.68	0.78	0.89	0.97	1.05	1.13	1.22	1.29	1.36	1.41
63.0	1.00	0.11	0.20	0.32	0.35	0.41	0.49	0.57	0.62	0.74	0.84	0.96	1.04	1.12	1.20	1.28	1.35	1.40	1.44
	1.05	0.11	0.20	0.32	0.36	0.42	0.50	0.59	0.63	0.75	0.87	0.98	1.07	1.16	1.23	1.32	1.39	1.45	1.49
	1.20	0.12	0.21	0.34	0.37	0.43	0.52	0.61	0.66	0.79	0.91	1.03	1.12	1.22	1.31	1.40	1.48	1.55	1.60
	1.50	0.12	0.22	0.35	0.39	0.45	0.54	0.63	0.68	0.82	0.94	1.07	1.17	1.27	1.36	1.46	1.55	1.62	1.68
	3.00	0.12	0.22	0.35	0.39	0.46	0.55	0.65	0.70	0.84	0.97	1.10	1.20	1.31	1.40	1.51	1.60	1.68	1.74
71.0	1.00	0.13	0.24	0.39	0.43	0.50	0.61	0.71	0.76	0.91	1.05	1.19	1.29	1.40	1.50	1.60	1.68	1.74	1.78
	1.05	0.14	0.25	0.39	0.44	0.51	0.62	0.72	0.78	0.93	1.07	1.22	1.32	1.43	1.53	1.64	1.72	1.79	1.83
	1.20	0.14	0.25	0.41	0.45	0.52	0.64	0.75	0.81	0.97	1.11	1.27	1.38	1.50	1.60	1.72	1.81	1.89	1.94
	1.50	0.14	0.26	0.42	0.47	0.54	0.65	0.77	0.83	0.99	1.15	1.31	1.43	1.55	1.66	1.78	1.88	1.96	2.02
	3.00	0.14	0.26	0.42	0.47	0.55	0.67	0.78	0.85	1.01	1.17	1.34	1.46	1.58	1.70	1.83	1.93	2.02	2.08
80.0	1.00	0.16	0.29	0.46	0.52	0.60	0.73	0.85	0.93	1.11	1.28	1.45	1.57	1.70	1.81	1.93	2.02	2.08	2.10
	1.05	0.16	0.29	0.47	0.53	0.61	0.74	0.87	0.94	1.13	1.30	1.48	1.60	1.73	1.85	1.97	2.06	2.13	2.16
	1.20	0.16	0.30	0.48	0.54	0.63	0.76	0.89	0.97	1.16	1.34	1.53	1.66	1.80	1.92	2.05	2.15	2.22	2.26
	1.50	0.17	0.30	0.49	0.55	0.64	0.78	0.91	0.99	1.19	1.37	1.57	1.70	1.85	1.97	2.11	2.22	2.30	2.35
	3.00	0.17	0.31	0.50	0.56	0.65	0.79	0.93	1.01	1.21	1.40	1.59	1.74	1.88	2.01	2.16	2.27	2.36	2.41
90.0	1.00	0.19	0.34	0.55	0.62	0.71	0.87	1.02	1.10	1.32	1.52	1.72	1.87	2.01	2.14	2.26	2.35	2.39	2.40
	1.05	0.19	0.34	0.56	0.62	0.72	0.88	1.03	1.12	1.34	1.54	1.75	1.90	2.05	2.17	2.30	2.39	2.44	2.45
	1.20	0.19	0.35	0.57	0.64	0.74	0.90	1.06	1.15	1.37	1.58	1.80	1.95	2.11	2.25	2.38	2.48	2.54	2.56
	1.50	0.19	0.36	0.58	0.65	0.75	0.92	1.08	1.17	1.40	1.62	1.84	2.00	2.16	2.30	2.45	2.55	2.62	2.64
	3.00	0.20	0.36	0.59	0.66	0.76	0.93	1.09	1.18	1.42	1.64	1.87	2.03	2.20	2.34	2.49	2.60	2.67	2.70
100.0	1.00	0.21	0.39	0.63	0.71	0.82	1.01	1.18	1.28	1.53	1.76	1.99	2.15	2.31	2.44	2.56	2.63	2.65	2.60
	1.05	0.22	0.39	0.64	0.72	0.83	1.02	1.19	1.29	1.54	1.78	2.01	2.18	2.34	2.47	2.60	2.68	2.70	2.66
	1.20	0.22	0.40	0.65	0.73	0.85	1.04	1.22	1.32	1.58	1.82	2.06	2.23	2.40	2.54	2.68	2.76	2.79	2.76
	1.50	0.22	0.41	0.66	0.74	0.86	1.05	1.24	1.34	1.61	1.85	2.10	2.28	2.45	2.60	2.74	2.84	2.87	2.85
	3.00	0.22	0.41	0.67	0.75	0.87	1.07	1.25	1.36	1.63	1.88	2.13	2.31	2.49	2.64	2.79	2.88	2.93	2.91
112.0	1.00	0.25	0.45	0.74	0.82	0.96	1.17	1.37	1.48	1.77	2.03	2.29	2.46	2.63	2.76	2.86	2.90	2.85	
	1.05	0.25	0.46	0.74	0.83	0.96	1.18	1.38	1.49	1.79	2.05	2.31	2.49	2.66	2.79	2.90	2.94	2.90	
	1.20	0.25	0.46	0.75	0.85	0.98	1.20	1.40	1.52	1.82	2.09	2.36	2.55	2.72	2.86	2.98	3.03	3.00	
	1.50	0.25	0.47	0.76	0.86	0.99	1.21	1.42	1.55	1.85	2.13	2.40	2.59	2.78	2.92	3.05	3.10	3.08	
	3.00	0.26	0.47	0.77	0.87	1.00	1.23	1.44	1.56	1.87	2.15	2.43	2.62	2.81	2.96	3.09	3.15	3.13	
125.0	1.00	0.28	0.52	0.84	0.95	1.10	1.34	1.56	1.70	2.02	2.31	2.59	2.77	2.94	3.05	3.12	3.08		
	1.05	0.28	0.52	0.85	0.95	1.10	1.35	1.58	1.71	2.04	2.33	2.62	2.80	2.97	3.09	3.16	3.13		
	1.20	0.29	0.53	0.86	0.97	1.12	1.37	1.60	1.74	2.07	2.38	2.67	2.86	3.03	3.16	3.24	3.22		
	1.50	0.29	0.53	0.87	0.98	1.13	1.39	1.62	1.76	2.10	2.41	2.71	2.90	3.09	3.21	3.30	3.29		
	3.00	0.29	0.54	0.88	0.99	1.14	1.40	1.64	1.78	2.12	2.43	2.74	2.94	3.12	3.25	3.34	3.34		
v_{max}	m/s	30																	

Belt length correction factor c_3

Table 41

L_w	mm	472	522	582	622	692	772	822	922	1022	1082	1142	1204	1272	1342	1422	1622	1822	2022
c_3		0.88	0.90	0.93	0.94	0.96	0.99	1.00	1.02	1.05	1.06	1.07	1.08	1.10	1.11	1.12	1.15	1.18	1.20

CONTI MULTIFLEX® 13/A

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk}, transmission ratio i, small pulley speed n_k and pitch length L_w = 1730 mm.

Min. pulley diameter d_{b min} = 71 mm.

CONTI MULTIFLEX® 13/A

Table 42

d _{wk} (mm)	i or 1:i	Speed of small pulley n _k (min ⁻¹)																	
		100	200	350	500	700	800	950	1200	1450	1600	1800	2000	2500	2850	3500	4000	5000	6000
71.0	1.00	0.12	0.21	0.32	0.41	0.52	0.57	0.63	0.73	0.81	0.85	0.90	0.94	1.01	1.04	1.03	0.98	0.74	0.31
	1.05	0.13	0.22	0.33	0.43	0.55	0.60	0.67	0.78	0.87	0.92	0.98	1.03	1.12	1.16	1.18	1.15	0.95	0.56
	1.20	0.13	0.24	0.36	0.48	0.61	0.67	0.75	0.88	0.99	1.05	1.12	1.19	1.32	1.39	1.47	1.48	1.36	1.05
	1.50	0.14	0.25	0.39	0.51	0.65	0.72	0.81	0.96	1.08	1.15	1.24	1.32	1.49	1.58	1.70	1.74	1.69	1.44
	3.00	0.15	0.26	0.40	0.53	0.69	0.76	0.86	1.01	1.15	1.23	1.32	1.41	1.60	1.71	1.86	1.92	1.92	1.72
80.0	1.00	0.16	0.28	0.44	0.57	0.74	0.81	0.92	1.08	1.22	1.30	1.39	1.48	1.66	1.75	1.85	1.87	1.73	1.32
	1.05	0.16	0.29	0.45	0.59	0.77	0.84	0.96	1.13	1.28	1.36	1.47	1.56	1.76	1.87	2.00	2.04	1.94	1.57
	1.20	0.17	0.30	0.48	0.64	0.82	0.91	1.03	1.23	1.40	1.50	1.62	1.73	1.97	2.10	2.29	2.37	2.35	2.07
	1.50	0.18	0.32	0.50	0.67	0.87	0.96	1.10	1.30	1.49	1.60	1.73	1.86	2.13	2.29	2.52	2.63	2.67	2.46
	3.00	0.18	0.33	0.52	0.69	0.90	1.00	1.14	1.36	1.56	1.67	1.82	1.95	2.25	2.42	2.68	2.81	2.90	2.74
90.0	1.00	0.20	0.36	0.56	0.75	0.97	1.08	1.23	1.46	1.67	1.78	1.93	2.06	2.35	2.51	2.73	2.80	2.73	2.30
	1.05	0.20	0.36	0.58	0.77	1.00	1.11	1.27	1.51	1.73	1.85	2.00	2.15	2.46	2.63	2.87	2.97	2.94	2.55
	1.20	0.21	0.38	0.61	0.81	1.06	1.18	1.35	1.61	1.85	1.98	2.15	2.31	2.66	2.87	3.16	3.30	3.35	3.04
	1.50	0.22	0.39	0.63	0.84	1.11	1.23	1.41	1.68	1.94	2.09	2.27	2.44	2.83	3.05	3.39	3.56	3.67	3.43
	3.00	0.22	0.40	0.65	0.87	1.14	1.27	1.45	1.74	2.01	2.16	2.35	2.53	2.94	3.19	3.55	3.75	3.91	3.71
100.0	1.00	0.24	0.43	0.69	0.92	1.21	1.34	1.53	1.83	2.11	2.26	2.45	2.63	3.03	3.25	3.55	3.68	3.62	3.09
	1.05	0.24	0.44	0.70	0.94	1.24	1.37	1.57	1.88	2.17	2.33	2.53	2.72	3.13	3.37	3.70	3.85	3.83	3.35
	1.20	0.25	0.46	0.73	0.98	1.29	1.44	1.65	1.98	2.29	2.46	2.68	2.88	3.34	3.60	3.99	4.18	4.24	3.84
	1.50	0.26	0.47	0.75	1.02	1.34	1.49	1.71	2.06	2.38	2.56	2.79	3.01	3.50	3.79	4.22	4.44	4.57	4.23
	3.00	0.26	0.48	0.77	1.04	1.37	1.53	1.76	2.11	2.45	2.64	2.88	3.10	3.62	3.92	4.38	4.62	4.80	4.51
112.0	1.00	0.29	0.52	0.84	1.13	1.48	1.65	1.89	2.27	2.62	2.82	3.07	3.30	3.81	4.10	4.49	4.64	4.54	
	1.05	0.29	0.53	0.85	1.15	1.51	1.69	1.93	2.32	2.68	2.89	3.14	3.38	3.91	4.22	4.63	4.81	4.75	
	1.20	0.30	0.55	0.88	1.19	1.57	1.75	2.01	2.42	2.80	3.02	3.29	3.55	4.12	4.45	4.92	5.14	5.16	
	1.50	0.31	0.56	0.90	1.22	1.62	1.80	2.07	2.50	2.90	3.12	3.41	3.68	4.28	4.64	5.15	5.40	5.48	
	3.00	0.31	0.57	0.92	1.24	1.65	1.84	2.12	2.56	2.97	3.20	3.49	3.77	4.40	4.77	5.31	5.58	5.71	
125.0	1.00	0.34	0.62	1.00	1.35	1.78	1.99	2.28	2.74	3.17	3.41	3.72	4.00	4.62	4.97	5.42	5.57	5.32	
	1.05	0.34	0.63	1.01	1.37	1.81	2.02	2.32	2.79	3.23	3.48	3.79	4.09	4.72	5.09	5.56	5.74	5.53	
	1.20	0.35	0.64	1.04	1.41	1.87	2.08	2.40	2.89	3.35	3.61	3.94	4.25	4.93	5.32	5.85	6.07	5.94	
	1.50	0.36	0.66	1.06	1.44	1.91	2.14	2.46	2.97	3.45	3.72	4.06	4.38	5.09	5.51	6.08	6.33	6.27	
	3.00	0.36	0.67	1.08	1.46	1.94	2.17	2.50	3.03	3.51	3.79	4.14	4.47	5.21	5.64	6.24	6.52	6.50	
140.0	1.00	0.40	0.73	1.18	1.60	2.12	2.36	2.72	3.28	3.79	4.08	4.45	4.78	5.51	5.90	6.38	6.49		
	1.05	0.40	0.74	1.19	1.62	2.15	2.40	2.76	3.33	3.85	4.15	4.52	4.87	5.61	6.02	6.53	6.66		
	1.20	0.41	0.75	1.22	1.66	2.20	2.46	2.84	3.43	3.97	4.28	4.67	5.03	5.82	6.26	6.81	6.99		
	1.50	0.42	0.77	1.25	1.69	2.25	2.52	2.90	3.50	4.07	4.39	4.79	5.16	5.98	6.44	7.04	7.25		
	3.00	0.42	0.78	1.26	1.72	2.28	2.55	2.94	3.56	4.13	4.46	4.87	5.25	6.10	6.58	7.20	7.43		
160.0	1.00	0.48	0.87	1.42	1.93	2.56	2.86	3.29	3.97	4.59	4.94	5.38	5.78	6.61	7.04	7.47	7.42		
	1.05	0.48	0.88	1.43	1.95	2.59	2.89	3.33	4.02	4.65	5.01	5.45	5.86	6.71	7.16	7.61	7.59		
	1.20	0.49	0.90	1.46	1.99	2.65	2.96	3.41	4.12	4.77	5.14	5.60	6.02	6.92	7.39	7.90	7.92		
	1.50	0.49	0.91	1.49	2.02	2.69	3.01	3.47	4.20	4.87	5.25	5.72	6.16	7.08	7.58	8.13	8.18		
	3.00	0.50	0.92	1.50	2.04	2.72	3.05	3.52	4.25	4.93	5.32	5.80	6.25	7.20	7.71	8.29	8.37		
180.0	1.00	0.55	1.02	1.66	2.25	2.99	3.35	3.85	4.64	5.37	5.77	6.26	6.71	7.61	8.03	8.30			
	1.05	0.56	1.03	1.67	2.27	3.02	3.38	3.89	4.69	5.43	5.83	6.34	6.79	7.71	8.15	8.45			
	1.20	0.56	1.04	1.70	2.31	3.08	3.44	3.97	4.79	5.55	5.97	6.49	6.96	7.92	8.39	8.74			
	1.50	0.57	1.05	1.72	2.35	3.13	3.50	4.03	4.87	5.64	6.07	6.60	7.09	8.08	8.57	8.97			
	3.00	0.58	1.06	1.74	2.37	3.16	3.53	4.08	4.93	5.71	6.14	6.69	7.18	8.20	8.70	9.13			
200.0	1.00	0.63	1.16	1.89	2.57	3.42	3.82	4.40	5.30	6.11	6.56	7.10	7.58	8.50	8.87				
	1.05	0.63	1.17	1.90	2.59	3.45	3.86	4.44	5.35	6.17	6.62	7.18	7.67	8.61	8.99				
	1.20	0.64	1.18	1.93	2.63	3.51	3.92	4.52	5.45	6.29	6.76	7.33	7.83	8.81	9.22				
	1.50	0.65	1.20	1.96	2.67	3.55	3.97	4.58	5.52	6.39	6.86	7.44	7.96	8.98	9.41				
	3.00	0.65	1.21	1.97	2.69	3.58	4.01	4.62	5.58	6.45	6.93	7.53	8.06	9.09	9.54				
v _{max}	m/s	30																	

Belt length correction factor c₃

Table 43

L _w	mm	590	660	740	830	930	1030	1150	1280	1430	1730	1830	2030	2270	2530	3030	3380	4030	5030
c ₃		0.78	0.80	0.82	0.85	0.87	0.89	0.91	0.94	0.96	1.00	1.01	1.03	1.06	1.08	1.12	1.15	1.19	1.24

CONTI MULTIFLEX® 17/B

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk} , transmission ratio i , small pulley speed n_k and pitch length $L_w = 2283$ mm.

Min. pulley diameter $d_{b\ min} = 112$ mm.

CONTI MULTIFLEX® 17/B

Table 44

d_{wk} (mm)	i or 1:i	Speed of small pulley n_k (min ⁻¹)																	
		50	100	200	350	500	700	800	950	1100	1200	1450	1600	1800	2000	2500	2850	3500	4000
112.0	1.00	0.19	0.33	0.58	0.89	1.16	1.48	1.63	1.83	2.01	2.12	2.37	2.50	2.65	2.77	2.96	2.99	2.80	2.42
	1.05	0.19	0.34	0.59	0.92	1.21	1.55	1.70	1.92	2.11	2.23	2.51	2.65	2.82	2.96	3.20	3.26	3.13	2.80
	1.20	0.20	0.36	0.63	0.99	1.30	1.68	1.85	2.09	2.32	2.45	2.77	2.94	3.15	3.33	3.65	3.78	3.77	3.53
	1.50	0.21	0.37	0.66	1.04	1.37	1.78	1.97	2.23	2.48	2.63	2.98	3.18	3.41	3.62	4.02	4.20	4.28	4.11
	3.00	0.21	0.38	0.68	1.07	1.43	1.85	2.05	2.33	2.59	2.75	3.13	3.34	3.60	3.82	4.28	4.49	4.64	4.53
125.0	1.00	0.23	0.41	0.73	1.14	1.51	1.95	2.16	2.44	2.71	2.87	3.25	3.45	3.69	3.89	4.26	4.38	4.28	3.90
	1.05	0.23	0.42	0.75	1.18	1.56	2.02	2.23	2.53	2.81	2.99	3.39	3.60	3.86	4.08	4.49	4.64	4.61	4.27
	1.20	0.24	0.44	0.78	1.24	1.65	2.15	2.38	2.71	3.01	3.21	3.65	3.89	4.19	4.45	4.95	5.17	5.25	5.01
	1.50	0.25	0.45	0.81	1.29	1.72	2.25	2.50	2.85	3.17	3.38	3.86	4.13	4.45	4.74	5.31	5.58	5.76	5.59
	3.00	0.25	0.46	0.83	1.33	1.78	2.32	2.58	2.94	3.29	3.51	4.01	4.29	4.64	4.95	5.57	5.88	6.12	6.00
140.0	1.00	0.28	0.50	0.90	1.43	1.91	2.49	2.76	3.14	3.50	3.72	4.24	4.52	4.85	5.14	5.67	5.87	5.81	5.34
	1.05	0.28	0.51	0.92	1.47	1.96	2.56	2.84	3.23	3.60	3.84	4.37	4.67	5.02	5.33	5.91	6.14	6.14	5.72
	1.20	0.29	0.53	0.96	1.53	2.05	2.69	2.98	3.41	3.81	4.06	4.64	4.96	5.35	5.70	6.37	6.66	6.78	6.45
	1.50	0.30	0.55	0.99	1.58	2.12	2.79	3.10	3.55	3.97	4.23	4.85	5.19	5.61	5.99	6.73	7.08	7.29	7.03
	3.00	0.30	0.56	1.01	1.62	2.18	2.86	3.18	3.64	4.08	4.36	5.00	5.36	5.80	6.19	6.99	7.37	7.65	7.45
160.0	1.00	0.34	0.63	1.13	1.82	2.44	3.20	3.55	4.06	4.53	4.83	5.52	5.89	6.34	6.73	7.43	7.68	7.52	6.80
	1.05	0.35	0.64	1.15	1.85	2.48	3.26	3.63	4.15	4.64	4.94	5.65	6.04	6.51	6.91	7.66	7.94	7.85	7.18
	1.20	0.36	0.65	1.19	1.91	2.58	3.39	3.78	4.32	4.84	5.16	5.92	6.33	6.84	7.28	8.12	8.47	8.49	7.91
	1.50	0.36	0.67	1.22	1.96	2.65	3.49	3.89	4.46	5.00	5.34	6.13	6.57	7.10	7.57	8.49	8.88	9.00	8.49
	3.00	0.37	0.68	1.24	2.00	2.70	3.57	3.97	4.56	5.11	5.46	6.28	6.73	7.28	7.78	8.75	9.18	9.36	8.91
180.0	1.00	0.41	0.75	1.36	2.19	2.96	3.89	4.33	4.95	5.54	5.91	6.75	7.21	7.75	8.22	9.02	9.25	8.83	
	1.05	0.41	0.76	1.38	2.23	3.00	3.96	4.41	5.04	5.64	6.02	6.89	7.36	7.92	8.41	9.26	9.52	9.16	
	1.20	0.42	0.78	1.42	2.29	3.09	4.09	4.55	5.22	5.84	6.24	7.16	7.65	8.25	8.77	9.72	10.04	9.80	
	1.50	0.43	0.79	1.45	2.34	3.17	4.19	4.67	5.36	6.00	6.42	7.37	7.89	8.51	9.06	10.08	10.45	10.31	
	3.00	0.43	0.80	1.47	2.38	3.22	4.26	4.75	5.45	6.12	6.54	7.52	8.05	8.70	9.27	10.34	10.75	10.67	
200.0	1.00	0.47	0.87	1.59	2.57	3.47	4.57	5.09	5.83	6.52	6.95	7.94	8.47	9.09	9.61	10.44	10.57		
	1.05	0.48	0.88	1.61	2.60	3.51	4.64	5.17	5.92	6.62	7.07	8.08	8.62	9.26	9.80	10.67	10.84		
	1.20	0.48	0.90	1.64	2.66	3.60	4.77	5.31	6.09	6.83	7.29	8.35	8.91	9.59	10.17	11.13	11.36		
	1.50	0.49	0.91	1.67	2.71	3.68	4.87	5.43	6.23	6.99	7.46	8.56	9.15	9.85	10.46	11.49	11.77		
	3.00	0.50	0.92	1.69	2.75	3.73	4.94	5.51	6.33	7.10	7.59	8.71	9.31	10.04	10.66	11.75	12.07		
224.0	1.00	0.55	1.01	1.86	3.01	4.07	5.38	5.99	6.86	7.66	8.17	9.31	9.90	10.59	11.14	11.88	11.79		
	1.05	0.55	1.02	1.87	3.04	4.12	5.44	6.06	6.95	7.77	8.28	9.44	10.05	10.76	11.33	12.12	12.06		
	1.20	0.56	1.04	1.91	3.11	4.21	5.57	6.21	7.12	7.97	8.50	9.71	10.35	11.09	11.70	12.58	12.58		
	1.50	0.57	1.05	1.94	3.16	4.28	5.67	6.33	7.26	8.13	8.68	9.92	10.58	11.35	11.99	12.94	13.00		
	3.00	0.57	1.06	1.96	3.19	4.33	5.75	6.41	7.36	8.24	8.80	10.07	10.75	11.54	12.19	13.20	13.29		
250.0	1.00	0.63	1.16	2.14	3.48	4.71	6.23	6.94	7.94	8.86	9.43	10.71	11.35	12.07	12.62	13.11			
	1.05	0.63	1.17	2.16	3.51	4.76	6.30	7.01	8.03	8.96	9.55	10.84	11.50	12.24	12.80	13.34			
	1.20	0.64	1.19	2.20	3.58	4.85	6.42	7.16	8.20	9.17	9.77	11.11	11.80	12.57	13.17	13.80			
	1.50	0.65	1.21	2.23	3.63	4.93	6.53	7.28	8.34	9.33	9.94	11.32	12.03	12.84	13.46	14.17			
	3.00	0.65	1.22	2.25	3.67	4.98	6.60	7.36	8.44	9.44	10.06	11.47	12.20	13.02	13.67	14.43			
280.0	1.00	0.72	1.34	2.47	4.02	5.45	7.19	8.00	9.14	10.18	10.82	12.21	12.89	13.59	14.06				
	1.05	0.73	1.35	2.49	4.05	5.49	7.26	8.08	9.23	10.29	10.93	12.34	13.04	13.76	14.25				
	1.20	0.74	1.37	2.53	4.12	5.58	7.39	8.23	9.41	10.49	11.16	12.61	13.33	14.09	14.62				
	1.50	0.74	1.38	2.56	4.17	5.66	7.49	8.34	9.54	10.65	11.33	12.82	13.56	14.36	14.91				
	3.00	0.75	1.39	2.58	4.20	5.71	7.56	8.42	9.64	10.76	11.45	12.97	13.73	14.54	15.11				
315.0	1.00	0.83	1.54	2.85	4.64	6.28	8.29	9.21	10.49	11.65	12.34	13.80	14.47	15.08	15.37				
	1.05	0.83	1.55	2.87	4.67	6.33	8.35	9.28	10.58	11.75	12.46	13.94	14.62	15.25	15.56				
	1.20	0.84	1.57	2.90	4.73	6.42	8.48	9.43	10.76	11.95	12.68	14.20	14.91	15.58	15.92				
	1.50	0.85	1.58	2.93	4.78	6.49	8.58	9.55	10.89	12.11	12.85	14.42	15.14	15.85	16.21				
	3.00	0.86	1.59	2.95	4.82	6.55	8.65	9.63	10.99	12.23	12.98	14.56	15.31	16.03	16.42				

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Belt length correction factor c_3

Table 45

L_w	mm	658	793	918	1018	1093	1218	1343	1493	1643	1843	2043	2283	2543	2843	3293	4043	5043	7143
c_3		0.75	0.78	0.81	0.83	0.85	0.87	0.89	0.91	0.93	0.95	0.98	1.00	1.02	1.05	1.08	1.13	1.18	1.26

CONTI MULTIFLEX® 20/-

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk}, transmission ratio i, small pulley speed n_k and pitch length L_w = 3198 mm.

Min. pulley diameter d_{b min} = 140 mm.

CONTI MULTIFLEX® 20/-

Table 46

d _{wk} (mm)	i or 1:i	Speed of small pulley n _k (min ⁻¹)																	
		50	100	200	350	400	500	700	800	950	1100	1200	1450	1600	1800	2000	2400	2850	3500
140.0	1.00	0.25	0.45	0.78	1.21	1.34	1.59	2.05	2.26	2.55	2.82	2.98	3.35	3.54	3.75	3.92	4.11	4.08	3.50
	1.05	0.26	0.46	0.80	1.25	1.38	1.64	2.12	2.34	2.65	2.93	3.11	3.50	3.70	3.94	4.13	4.36	4.38	3.87
	1.20	0.27	0.48	0.84	1.32	1.47	1.75	2.26	2.50	2.84	3.16	3.35	3.80	4.03	4.31	4.54	4.86	4.96	4.58
	1.50	0.28	0.49	0.87	1.38	1.53	1.83	2.38	2.63	3.00	3.34	3.55	4.03	4.29	4.60	4.86	5.25	5.43	5.15
	3.00	0.28	0.50	0.90	1.42	1.58	1.89	2.46	2.73	3.11	3.46	3.69	4.20	4.48	4.81	5.09	5.52	5.75	5.56
160.0	1.00	0.32	0.57	1.00	1.58	1.76	2.11	2.74	3.04	3.45	3.84	4.07	4.61	4.89	5.21	5.47	5.78	5.78	5.00
	1.05	0.32	0.58	1.03	1.62	1.81	2.16	2.82	3.12	3.55	3.95	4.20	4.76	5.06	5.40	5.68	6.03	6.08	5.37
	1.20	0.33	0.60	1.07	1.69	1.89	2.26	2.96	3.29	3.75	4.18	4.45	5.06	5.39	5.77	6.09	6.53	6.66	6.09
	1.50	0.34	0.61	1.10	1.75	1.95	2.34	3.07	3.42	3.90	4.36	4.64	5.30	5.65	6.06	6.41	6.92	7.13	6.66
	3.00	0.35	0.63	1.12	1.79	2.00	2.40	3.15	3.51	4.01	4.48	4.78	5.46	5.83	6.27	6.64	7.19	7.45	7.06
180.0	1.00	0.38	0.69	1.23	1.96	2.18	2.62	3.43	3.80	4.34	4.83	5.14	5.83	6.18	6.59	6.92	7.29	7.21	6.03
	1.05	0.39	0.70	1.25	1.99	2.22	2.67	3.50	3.89	4.44	4.95	5.26	5.98	6.35	6.78	7.12	7.54	7.51	6.40
	1.20	0.40	0.72	1.29	2.06	2.31	2.77	3.64	4.05	4.63	5.17	5.51	6.28	6.68	7.15	7.54	8.03	8.09	7.11
	1.50	0.40	0.73	1.32	2.12	2.37	2.85	3.76	4.18	4.79	5.35	5.70	6.51	6.94	7.44	7.86	8.42	8.56	7.68
	3.00	0.41	0.74	1.35	2.16	2.42	2.91	3.84	4.27	4.89	5.48	5.84	6.68	7.13	7.65	8.09	8.70	8.88	8.09
200.0	1.00	0.44	0.80	1.45	2.32	2.60	3.12	4.10	4.56	5.20	5.80	6.17	6.99	7.42	7.89	8.25	8.61	8.35	
	1.05	0.45	0.81	1.47	2.36	2.64	3.17	4.17	4.64	5.30	5.91	6.29	7.15	7.58	8.08	8.46	8.86	8.64	
	1.20	0.46	0.83	1.51	2.43	2.72	3.28	4.32	4.81	5.50	6.14	6.54	7.44	7.91	8.45	8.87	9.35	9.23	
	1.50	0.47	0.85	1.54	2.49	2.78	3.36	4.43	4.94	5.65	6.32	6.74	7.68	8.17	8.74	9.20	9.74	9.69	
	3.00	0.47	0.86	1.57	2.53	2.83	3.42	4.51	5.03	5.76	6.45	6.87	7.85	8.36	8.95	9.43	10.02	10.02	
224.0	1.00	0.52	0.94	1.71	2.76	3.09	3.72	4.89	5.44	6.21	6.93	7.36	8.33	8.81	9.33	9.69	9.93	9.28	
	1.05	0.52	0.95	1.73	2.79	3.13	3.77	4.97	5.53	6.31	7.04	7.49	8.48	8.98	9.52	9.90	10.18	9.58	
	1.20	0.53	0.97	1.77	2.87	3.21	3.87	5.11	5.69	6.51	7.27	7.74	8.78	9.30	9.88	10.31	10.67	10.17	
	1.50	0.54	0.99	1.81	2.92	3.27	3.95	5.23	5.82	6.66	7.45	7.93	9.01	9.56	10.18	10.64	11.06	10.63	
	3.00	0.55	1.00	1.83	2.96	3.32	4.01	5.31	5.91	6.77	7.57	8.07	9.18	9.75	10.38	10.87	11.34	10.96	
250.0	1.00	0.60	1.09	1.99	3.22	3.61	4.35	5.74	6.38	7.28	8.10	8.60	9.68	10.20	10.72	11.05	11.01		
	1.05	0.60	1.10	2.01	3.26	3.65	4.41	5.81	6.46	7.38	8.22	8.73	9.83	10.37	10.91	11.26	11.26		
	1.20	0.61	1.12	2.06	3.33	3.73	4.51	5.95	6.63	7.57	8.44	8.97	10.13	10.69	11.28	11.67	11.75		
	1.50	0.62	1.14	2.09	3.39	3.80	4.59	6.07	6.76	7.73	8.62	9.17	10.37	10.96	11.58	11.99	12.14		
	3.00	0.63	1.15	2.11	3.43	3.84	4.65	6.15	6.85	7.84	8.75	9.31	10.53	11.14	11.78	12.22	12.42		
280.0	1.00	0.69	1.27	2.32	3.75	4.20	5.07	6.69	7.43	8.47	9.40	9.96	11.12	11.64	12.12	12.31			
	1.05	0.69	1.28	2.34	3.79	4.25	5.13	6.76	7.52	8.57	9.51	10.08	11.27	11.81	12.30	12.52			
	1.20	0.70	1.30	2.38	3.86	4.33	5.23	6.91	7.68	8.76	9.74	10.33	11.57	12.14	12.67	12.93			
	1.50	0.71	1.31	2.41	3.92	4.39	5.31	7.02	7.81	8.92	9.92	10.52	11.80	12.40	12.97	13.25			
	3.00	0.72	1.32	2.43	3.96	4.44	5.37	7.10	7.90	9.03	10.04	10.66	11.97	12.58	13.17	13.48			
315.0	1.00	0.79	1.46	2.69	4.36	4.89	5.90	7.77	8.62	9.79	10.82	11.43	12.62	13.09	13.41	13.33			
	1.05	0.80	1.47	2.71	4.40	4.93	5.95	7.84	8.70	9.89	10.94	11.55	12.77	13.26	13.60	13.54			
	1.20	0.81	1.49	2.75	4.47	5.01	6.06	7.99	8.87	10.09	11.16	11.80	13.07	13.59	13.97	13.95			
	1.50	0.82	1.51	2.78	4.53	5.08	6.14	8.10	9.00	10.24	11.34	11.99	13.30	13.85	14.26	14.28			
	3.00	0.82	1.52	2.80	4.57	5.12	6.20	8.18	9.09	10.35	11.47	12.13	13.47	14.03	14.47	14.51			
355.0	1.00	0.91	1.69	3.10	5.05	5.66	6.83	8.96	9.92	11.22	12.33	12.95	14.07	14.40	14.40				
	1.05	0.92	1.70	3.13	5.08	5.70	6.88	9.03	10.01	11.32	12.44	13.08	14.22	14.57	14.59				
	1.20	0.93	1.72	3.17	5.16	5.78	6.98	9.18	10.17	11.51	12.67	13.32	14.52	14.89	14.96				
	1.50	0.94	1.73	3.20	5.21	5.85	7.06	9.29	10.30	11.67	12.85	13.52	14.75	15.15	15.25				
	3.00	0.94	1.75	3.22	5.25	5.89	7.12	9.37	10.39	11.78	12.97	13.66	14.92	15.34	15.46				
400.0	1.00	1.05	1.94	3.57	5.81	6.51	7.84	10.25	11.31	12.71	13.85	14.45	15.33	15.39					
	1.05	1.05	1.95	3.59	5.84	6.55	7.89	10.32	11.40	12.81	13.97	14.58	15.48	15.55					
	1.20	1.06	1.97	3.63	5.91	6.63	8.00	10.47	11.56	13.01	14.19	14.82	15.78	15.88					
	1.50	1.07	1.98	3.66	5.97	6.69	8.08	10.58	11.69	13.16	14.37	15.02	16.02	16.14					
	3.00	1.08	2.00	3.69	6.01	6.74	8.14	10.66	11.78	13.27	14.50	15.16	16.18	16.33					
v _{max}	m/s	30																	

Belt length correction factor c₃

Table 47

L _w	mm	948	1048	1081	1228	1298	1448	1648	1748	1948	2048	2408	2848	3198	3598	4048	4548	5048	6048
c ₃		0.75	0.77	0.78	0.80	0.81	0.83	0.86	0.87	0.90	0.91	0.94	0.98	1.00	1.03	1.05	1.08	1.10	1.14

CONTI MULTIFLEX® 22/C

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk}, transmission ratio i, small pulley speed n_k and pitch length L_w = 3802 mm.

Min. pulley diameter d_{b min} = 180 mm.

CONTI MULTIFLEX® 22/C

Table 48

d _{wk} (mm)	i or 1:i	Speed of small pulley n _k (min ⁻¹)																	
		50	100	200	350	400	500	700	800	950	1100	1200	1450	1600	1800	2000	2200	2400	2850
180.0	1.00	0.53	0.95	1.69	2.66	2.95	3.51	4.52	4.98	5.60	6.17	6.51	7.24	7.59	7.95	8.18	8.28	8.24	7.58
	1.05	0.54	0.98	1.74	2.74	3.04	3.62	4.67	5.15	5.81	6.41	6.77	7.56	7.94	8.35	8.62	8.77	8.77	8.21
	1.20	0.56	1.02	1.82	2.89	3.21	3.84	4.97	5.50	6.22	6.88	7.29	8.18	8.63	9.12	9.48	9.71	9.80	9.43
	1.50	0.58	1.05	1.89	3.01	3.35	4.01	5.21	5.77	6.55	7.26	7.70	8.68	9.18	9.73	10.17	10.46	10.62	10.41
	3.00	0.59	1.08	1.94	3.09	3.45	4.13	5.38	5.96	6.78	7.53	7.99	9.03	9.56	10.17	10.65	10.99	11.20	11.09
200.0	1.00	0.64	1.16	2.07	3.29	3.66	4.37	5.67	6.26	7.09	7.83	8.28	9.26	9.73	10.23	10.55	10.71	10.67	9.84
	1.05	0.65	1.18	2.12	3.36	3.75	4.48	5.82	6.44	7.30	8.07	8.55	9.58	10.08	10.62	10.99	11.19	11.20	10.47
	1.20	0.67	1.22	2.20	3.51	3.92	4.70	6.13	6.78	7.70	8.55	9.06	10.20	10.77	11.40	11.85	12.14	12.23	11.70
	1.50	0.69	1.25	2.27	3.63	4.06	4.87	6.36	7.06	8.03	8.92	9.47	10.70	11.32	12.01	12.54	12.89	13.05	12.67
	3.00	0.70	1.28	2.32	3.72	4.15	4.99	6.53	7.25	8.26	9.19	9.76	11.05	11.70	12.44	13.02	13.42	13.63	13.36
224.0	1.00	0.76	1.39	2.52	4.03	4.50	5.39	7.03	7.78	8.82	9.77	10.34	11.58	12.17	12.78	13.16	13.31	13.21	11.95
	1.05	0.77	1.42	2.57	4.11	4.59	5.50	7.18	7.96	9.03	10.01	10.61	11.89	12.52	13.17	13.60	13.80	13.73	12.58
	1.20	0.80	1.46	2.65	4.26	4.76	5.72	7.48	8.30	9.44	10.48	11.12	12.52	13.21	13.95	14.46	14.74	14.77	13.80
	1.50	0.81	1.49	2.72	4.38	4.89	5.89	7.72	8.57	9.76	10.86	11.53	13.01	13.75	14.56	15.15	15.49	15.59	14.78
	3.00	0.83	1.52	2.77	4.46	4.99	6.01	7.89	8.77	9.99	11.12	11.82	13.36	14.14	15.00	15.63	16.02	16.17	15.46
250.0	1.00	0.90	1.65	3.01	4.83	5.39	6.48	8.47	9.39	10.65	11.80	12.49	13.95	14.64	15.31	15.68	15.74	15.45	
	1.05	0.91	1.67	3.05	4.90	5.48	6.59	8.63	9.56	10.86	12.04	12.75	14.27	14.99	15.70	16.12	16.22	15.98	
	1.20	0.93	1.72	3.14	5.05	5.65	6.80	8.93	9.91	11.27	12.51	13.27	14.89	15.68	16.48	16.98	17.17	17.01	
	1.50	0.95	1.75	3.20	5.17	5.79	6.97	9.17	10.18	11.60	12.89	13.68	15.39	16.22	17.09	17.67	17.92	17.83	
	3.00	0.96	1.77	3.25	5.26	5.89	7.09	9.33	10.37	11.82	13.15	13.97	15.74	16.61	17.53	18.15	18.45	18.41	
280.0	1.00	1.06	1.95	3.56	5.73	6.41	7.71	10.10	11.19	12.70	14.05	14.85	16.51	17.25	17.91	18.16	17.97		
	1.05	1.07	1.97	3.60	5.81	6.50	7.82	10.25	11.37	12.91	14.29	15.11	16.83	17.60	18.30	18.60	18.46		
	1.20	1.09	2.01	3.69	5.96	6.67	8.04	10.56	11.71	13.32	14.76	15.63	17.45	18.29	19.08	19.46	19.40		
	1.50	1.10	2.04	3.75	6.08	6.81	8.21	10.79	11.98	13.64	15.14	16.04	17.95	18.83	19.69	20.14	20.15		
	3.00	1.12	2.07	3.80	6.16	6.90	8.33	10.96	12.18	13.87	15.40	16.33	18.30	19.22	20.12	20.62	20.69		
315.0	1.00	1.24	2.28	4.19	6.77	7.58	9.13	11.95	13.23	14.99	16.53	17.44	19.23	19.95	20.46	20.41			
	1.05	1.25	2.31	4.23	6.85	7.67	9.24	12.11	13.41	15.20	16.78	17.70	19.55	20.30	20.85	20.85			
	1.20	1.27	2.35	4.32	7.00	7.84	9.45	12.41	13.75	15.61	17.25	18.22	20.17	20.99	21.63	21.71			
	1.50	1.28	2.38	4.39	7.12	7.98	9.62	12.65	14.03	15.93	17.62	18.63	20.66	21.53	22.24	22.39			
	3.00	1.30	2.41	4.44	7.21	8.08	9.74	12.81	14.22	16.16	17.89	18.92	21.01	21.92	22.68	22.87			
355.0	1.00	1.44	2.67	4.91	7.95	8.90	10.71	14.00	15.48	17.48	19.19	20.17	21.95	22.54	22.69				
	1.05	1.45	2.69	4.95	8.02	8.98	10.82	14.16	15.66	17.69	19.44	20.43	22.27	22.89	23.08				
	1.20	1.47	2.73	5.04	8.17	9.16	11.03	14.46	16.00	18.10	19.91	20.95	22.89	23.58	23.86				
	1.50	1.49	2.77	5.10	8.29	9.29	11.20	14.70	16.28	18.42	20.29	21.36	23.39	24.12	24.47				
	3.00	1.50	2.79	5.15	8.38	9.39	11.33	14.87	16.47	18.65	20.55	21.65	23.74	24.51	24.91				
400.0	1.00	1.67	3.09	5.70	9.24	10.35	12.45	16.23	17.90	20.11	21.94	22.92	24.49	24.75					
	1.05	1.68	3.12	5.75	9.32	10.44	12.56	16.38	18.08	20.32	22.18	23.19	24.81	25.11					
	1.20	1.70	3.16	5.83	9.47	10.61	12.77	16.68	18.42	20.73	22.65	23.70	25.43	25.79					
	1.50	1.72	3.19	5.90	9.59	10.74	12.94	16.92	18.69	21.05	23.03	24.11	25.93	26.34					
	3.00	1.73	3.22	5.95	9.68	10.84	13.06	17.09	18.89	21.28	23.29	24.40	26.28	26.73					
450.0	1.00	1.92	3.56	6.57	10.66	11.93	14.33	18.59	20.44	22.80	24.64	25.56	26.59						
	1.05	1.93	3.58	6.62	10.74	12.01	14.44	18.75	20.61	23.01	24.89	25.82	26.91						
	1.20	1.95	3.63	6.70	10.89	12.19	14.65	19.05	20.96	23.42	25.36	26.34	27.53						
	1.50	1.96	3.66	6.77	11.01	12.32	14.82	19.29	21.23	23.74	25.73	26.74	28.03						
	3.00	1.98	3.69	6.82	11.09	12.42	14.94	19.46	21.42	23.97	26.00	27.03	28.38						
500.0	1.00	2.16	4.03	7.44	12.04	13.47	16.15	20.84	22.81	25.23	26.97	27.70							
	1.05	2.17	4.05	7.48	12.12	13.56	16.26	20.99	22.98	25.44	27.21	27.96							
	1.20	2.19	4.09	7.57	12.27	13.73	16.48	21.29	23.33	25.85	27.68	28.48							
	1.50	2.21	4.13	7.63	12.39	13.87	16.65	21.53	23.60	26.18	28.06	28.89							
	3.00	2.22	4.15	7.68	12.48	13.96	16.77	21.70	23.79	26.41	28.32	29.18							
v _{max}	m/s	30																	

Belt length correction factor c₃

Table 49

L _w	mm	1142	1302	1452	1552	1752	2052	2292	2552	3052	3402	3602	3802	4052	4552	5052	6052	7152	8052
c ₃		0.75	0.78	0.80	0.81	0.84	0.87	0.89	0.92	0.95	0.98	0.99	1.00	1.01	1.04	1.06	1.10	1.14	1.17

CONTI MULTIFLEX® 25/-

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk}, transmission ratio i, small pulley speed n_k and pitch length L_w = 4561 mm.

Min. pulley diameter d_{b min} = 224 mm.

CONTI MULTIFLEX® 25/-

Table 50

d _{wk} (mm)	i or 1:i	Speed of small pulley n _k (min ⁻¹)																	
		50	100	150	200	250	300	400	500	600	700	800	950	1100	1200	1450	1600	1800	2000
224.0	1.00	0.69	1.23	1.72	2.17	2.61	3.02	3.80	4.53	5.21	5.84	6.43	7.24	7.95	8.37	9.20	9.55	9.82	9.85
	1.05	0.70	1.25	1.75	2.22	2.67	3.09	3.89	4.64	5.35	6.00	6.62	7.46	8.21	8.65	9.54	9.92	10.24	10.32
	1.20	0.72	1.30	1.82	2.31	2.78	3.23	4.08	4.87	5.62	6.32	6.98	7.90	8.71	9.20	10.20	10.65	11.06	11.23
	1.50	0.74	1.33	1.88	2.39	2.87	3.34	4.22	5.05	5.84	6.58	7.27	8.24	9.11	9.63	10.73	11.23	11.71	11.96
	3.00	0.75	1.36	1.91	2.44	2.93	3.41	4.32	5.18	5.99	6.76	7.48	8.48	9.39	9.94	11.10	11.64	12.18	12.47
250.0	1.00	0.82	1.47	2.07	2.63	3.16	3.68	4.65	5.56	6.41	7.20	7.95	8.97	9.86	10.38	11.41	11.82	12.11	12.08
	1.05	0.83	1.49	2.10	2.68	3.22	3.75	4.74	5.67	6.55	7.37	8.14	9.19	10.11	10.66	11.75	12.19	12.53	12.55
	1.20	0.85	1.54	2.17	2.77	3.34	3.88	4.92	5.90	6.82	7.69	8.50	9.62	10.62	11.21	12.41	12.93	13.36	13.46
	1.50	0.87	1.58	2.23	2.84	3.43	3.99	5.07	6.08	7.04	7.94	8.79	9.97	11.02	11.64	12.93	13.50	14.01	14.19
	3.00	0.88	1.60	2.26	2.89	3.49	4.07	5.17	6.21	7.19	8.12	9.00	10.21	11.30	11.95	13.30	13.91	14.47	14.70
280.0	1.00	0.97	1.75	2.47	3.15	3.80	4.42	5.61	6.72	7.77	8.74	9.66	10.89	11.96	12.58	13.76	14.19	14.41	14.19
	1.05	0.98	1.77	2.50	3.20	3.86	4.49	5.70	6.84	7.91	8.91	9.84	11.11	12.22	12.86	14.10	14.56	14.83	14.66
	1.20	1.00	1.82	2.57	3.29	3.97	4.63	5.89	7.07	8.18	9.23	10.21	11.55	12.72	13.41	14.76	15.29	15.65	15.57
	1.50	1.02	1.85	2.63	3.36	4.06	4.74	6.03	7.25	8.40	9.48	10.50	11.89	13.12	13.84	15.28	15.87	16.30	16.29
	3.00	1.03	1.88	2.67	3.41	4.13	4.82	6.13	7.38	8.55	9.66	10.70	12.13	13.40	14.15	15.66	16.28	16.76	16.81
315.0	1.00	1.14	2.07	2.93	3.75	4.53	5.28	6.72	8.06	9.32	10.49	11.58	13.04	14.28	14.98	16.22	16.58	16.57	15.94
	1.05	1.15	2.09	2.97	3.80	4.59	5.35	6.81	8.18	9.46	10.66	11.77	13.26	14.54	15.26	16.55	16.95	16.99	16.41
	1.20	1.17	2.14	3.04	3.89	4.70	5.49	6.99	8.41	9.73	10.98	12.13	13.70	15.04	15.81	17.22	17.68	17.81	17.32
	1.50	1.19	2.17	3.09	3.96	4.79	5.60	7.14	8.59	9.95	11.23	12.42	14.04	15.44	16.24	17.74	18.26	18.46	18.05
	3.00	1.20	2.20	3.13	4.01	4.86	5.68	7.24	8.71	10.10	11.41	12.63	14.29	15.72	16.55	18.11	18.67	18.92	18.56
355.0	1.00	1.33	2.43	3.45	4.43	5.36	6.25	7.96	9.56	11.05	12.43	13.69	15.37	16.74	17.47	18.61	18.76	18.28	
	1.05	1.34	2.45	3.49	4.47	5.42	6.32	8.05	9.67	11.19	12.59	13.88	15.59	17.00	17.75	18.95	19.14	18.70	
	1.20	1.36	2.50	3.56	4.56	5.53	6.46	8.24	9.90	11.46	12.91	14.25	16.02	17.50	18.30	19.61	19.87	19.52	
	1.50	1.38	2.54	3.61	4.64	5.62	6.57	8.38	10.08	11.68	13.16	14.54	16.37	17.90	18.74	20.14	20.45	20.17	
	3.00	1.39	2.56	3.65	4.69	5.68	6.65	8.48	10.21	11.83	13.34	14.74	16.61	18.18	19.04	20.51	20.86	20.63	
400.0	1.00	1.54	2.83	4.03	5.18	6.27	7.33	9.33	11.20	12.93	14.52	15.96	17.80	19.23	19.94	20.73	20.46		
	1.05	1.56	2.86	4.07	5.22	6.33	7.40	9.43	11.32	13.07	14.68	16.14	18.02	19.49	20.22	21.07	20.84		
	1.20	1.58	2.90	4.14	5.32	6.45	7.54	9.61	11.55	13.35	15.00	16.51	18.45	19.99	20.77	21.73	21.57		
	1.50	1.60	2.94	4.19	5.39	6.54	7.64	9.75	11.73	13.56	15.26	16.80	18.80	20.39	21.20	22.26	22.15		
	3.00	1.61	2.96	4.23	5.44	6.60	7.72	9.86	11.86	13.72	15.44	17.00	19.04	20.67	21.51	22.63	22.56		
450.0	1.00	1.78	3.28	4.67	6.00	7.28	8.50	10.83	12.98	14.95	16.73	18.31	20.26	21.64	22.22	22.30			
	1.05	1.79	3.30	4.71	6.05	7.33	8.57	10.92	13.09	15.09	16.90	18.50	20.48	21.90	22.50	22.63			
	1.20	1.81	3.35	4.78	6.14	7.45	8.71	11.10	13.32	15.36	17.22	18.86	20.91	22.40	23.05	23.30			
	1.50	1.83	3.38	4.83	6.21	7.54	8.82	11.25	13.50	15.58	17.47	19.15	21.26	22.80	23.48	23.82			
	3.00	1.85	3.41	4.87	6.26	7.60	8.90	11.35	13.63	15.73	17.65	19.36	21.50	23.08	23.79	24.19			
500.0	1.00	2.01	3.71	5.30	6.82	8.26	9.66	12.29	14.70	16.88	18.82	20.49	22.44	23.63	23.96				
	1.05	2.03	3.74	5.34	6.86	8.32	9.73	12.38	14.81	17.02	18.99	20.68	22.66	23.89	24.24				
	1.20	2.05	3.78	5.41	6.95	8.44	9.87	12.56	15.04	17.30	19.31	21.04	23.09	24.39	24.79				
	1.50	2.07	3.82	5.46	7.03	8.53	9.97	12.71	15.22	17.51	19.56	21.33	23.44	24.79	25.22				
	3.00	2.08	3.84	5.50	7.08	8.59	10.05	12.81	15.35	17.67	19.74	21.54	23.68	25.07	25.53				
560.0	1.00	2.29	4.23	6.05	7.78	9.43	11.02	13.99	16.69	19.09	21.15	22.86	24.65	25.41					
	1.05	2.30	4.26	6.09	7.83	9.49	11.09	14.08	16.80	19.23	21.32	23.05	24.87	25.67					
	1.20	2.33	4.30	6.15	7.92	9.61	11.23	14.27	17.03	19.50	21.64	23.41	25.31	26.17					
	1.50	2.34	4.34	6.21	7.99	9.70	11.33	14.41	17.21	19.72	21.89	23.70	25.65	26.57					
	3.00	2.36	4.36	6.25	8.04	9.76	11.41	14.51	17.34	19.87	22.07	23.91	25.90	26.85					
630.0	1.00	2.61	4.83	6.91	8.89	10.77	12.57	15.92	18.90	21.48	23.62	25.25	26.63						
	1.05	2.62	4.86	6.95	8.93	10.83	12.64	16.01	19.02	21.62	23.78	25.43	26.85						
	1.20	2.65	4.90	7.01	9.02	10.94	12.78	16.19	19.25	21.90	24.10	25.80	27.29						
	1.50	2.66	4.94	7.07	9.10	11.03	12.89	16.34	19.43	22.11	24.35	26.09	27.63						
	3.00	2.68	4.96	7.11	9.15	11.10	12.96	16.44	19.55	22.27	24.53	26.29	27.88						
v _{max}	m/s	30																	

Belt length correction factor c₃

Table 51

L _w	mm	1461	1561	1961	2181	2301	2561	2861	3061	3411	3811	4061	4561	5061	5661	6361	7161	8061	9061
c ₃		0.77	0.78	0.32	0.85	0.86	0.88	0.90	0.92	0.94	0.96	0.98	1.00	1.02	1.05	1.07	1.10	1.13	1.15

CONTI MULTIFLEX® 32/D

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk}, transmission ratio i, small pulley speed n_k and pitch length L_w = 6375 mm.

Min. pulley diameter d_{b min} = 315 mm.

CONTI MULTIFLEX® 32/D

Table 52

d _{wk} (mm)	i or 1:i	Speed of small pulley n _k (min ⁻¹)																	
		50	100	150	200	250	300	350	400	450	500	600	700	800	950	1100	1200	1300	1450
315.0	1.00	1.78	3.22	4.54	5.77	6.93	8.04	9.10	10.11	11.08	12.00	13.73	15.31	16.71	18.51	19.91	20.61	21.10	21.45
	1.05	1.81	3.29	4.63	5.90	7.09	8.23	9.32	10.36	11.36	12.32	14.11	15.75	17.22	19.11	20.61	21.36	21.92	22.36
	1.20	1.87	3.41	4.82	6.14	7.40	8.60	9.75	10.86	11.92	12.94	14.86	16.61	18.21	20.29	21.97	22.85	23.53	24.16
	1.50	1.92	3.51	4.97	6.34	7.65	8.90	10.09	11.25	12.36	13.43	15.44	17.30	18.99	21.22	23.04	24.02	24.80	25.58
	3.00	1.95	3.58	5.07	6.48	7.82	9.10	10.34	11.53	12.67	13.77	15.86	17.78	19.55	21.88	23.81	24.86	25.71	26.58
355.0	1.00	2.16	3.94	5.58	7.11	8.57	9.97	11.30	12.58	13.81	14.98	17.18	19.17	20.95	23.21	24.93	25.75	26.30	26.57
	1.05	2.19	4.00	5.67	7.24	8.73	10.16	11.52	12.83	14.09	15.30	17.56	19.61	21.46	23.81	25.62	26.51	27.12	27.49
	1.20	2.25	4.13	5.86	7.49	9.04	10.53	11.96	13.33	14.65	15.92	18.30	20.48	22.45	24.98	26.98	27.99	28.72	29.28
	1.50	2.30	4.22	6.00	7.68	9.29	10.82	12.30	13.72	15.09	16.41	18.89	21.17	23.23	25.91	28.06	29.16	30.00	30.70
	3.00	2.33	4.29	6.11	7.82	9.46	11.03	12.54	14.00	15.40	16.75	19.31	21.65	23.79	26.57	28.82	30.00	30.90	31.70
400.0	1.00	2.58	4.74	6.73	8.61	10.39	12.10	13.74	15.31	16.82	18.26	20.95	23.37	25.51	28.16	30.09	30.93	31.39	31.32
	1.05	2.61	4.80	6.82	8.73	10.55	12.29	13.96	15.57	17.10	18.57	21.32	23.81	26.01	28.76	30.78	31.69	32.21	32.24
	1.20	2.67	4.92	7.01	8.98	10.86	12.66	14.40	16.06	17.66	19.19	22.07	24.67	27.00	29.94	32.14	33.17	33.82	34.03
	1.50	2.72	5.02	7.16	9.18	11.11	12.96	14.74	16.45	18.10	19.68	22.65	25.36	27.79	30.87	33.22	34.35	35.09	35.45
	3.00	2.76	5.09	7.26	9.31	11.28	13.17	14.98	16.73	18.41	20.03	23.07	25.85	28.34	31.53	33.98	35.18	36.00	36.46
450.0	1.00	3.05	5.61	7.99	10.24	12.39	14.44	16.40	18.28	20.08	21.80	24.99	27.82	30.29	33.23	35.18	35.87	36.04	
	1.05	3.08	5.68	8.09	10.37	12.55	14.63	16.62	18.54	20.37	22.12	25.37	28.27	30.79	33.83	35.88	36.63	36.86	
	1.20	3.14	5.80	8.27	10.62	12.85	15.00	17.06	19.03	20.92	22.74	26.11	29.13	31.78	35.01	37.24	38.12	38.47	
	1.50	3.19	5.90	8.42	10.81	13.10	15.29	17.40	19.42	21.37	23.23	26.69	29.82	32.57	35.94	38.31	39.29	39.74	
	3.00	3.22	5.97	8.53	10.95	13.27	15.50	17.64	19.70	21.68	23.57	27.11	30.30	33.12	36.60	39.08	40.12	40.64	
500.0	1.00	3.51	6.48	9.25	11.86	14.35	16.74	19.01	21.19	23.27	25.24	28.87	32.06	34.76	37.81	39.54	39.89	39.52	
	1.05	3.54	6.55	9.34	11.99	14.51	16.92	19.23	21.44	23.55	25.56	29.25	32.50	35.26	38.41	40.24	40.64	40.34	
	1.20	3.60	6.67	9.53	12.23	14.82	17.30	19.67	21.94	24.11	26.18	29.99	33.36	36.25	39.59	41.60	42.13	41.95	
	1.50	3.65	6.77	9.67	12.43	15.06	17.59	20.01	22.33	24.55	26.67	30.58	34.05	37.03	40.52	42.67	43.30	43.22	
	3.00	3.68	6.84	9.78	12.57	15.24	17.80	20.25	22.61	24.86	27.01	31.00	34.53	37.59	41.18	43.44	44.13	44.13	
560.0	1.00	4.06	7.51	10.73	13.78	16.67	19.44	22.08	24.59	26.98	29.23	33.32	36.82	39.67	42.60	43.72			
	1.05	4.09	7.58	10.83	13.90	16.83	19.63	22.30	24.85	27.26	29.55	33.70	37.26	40.18	43.20	44.41			
	1.20	4.15	7.70	11.01	14.15	17.14	20.00	22.74	25.34	27.82	30.17	34.44	38.13	41.17	44.37	45.77			
	1.50	4.20	7.80	11.16	14.34	17.39	20.30	23.08	25.73	28.26	30.66	35.03	38.81	41.95	45.30	46.85			
	3.00	4.23	7.87	11.26	14.48	17.56	20.50	23.32	26.01	28.57	31.00	35.45	39.30	42.50	45.96	47.62			
630.0	1.00	4.69	8.70	12.44	15.98	19.34	22.53	25.57	28.45	31.15	33.69	38.21	41.92	44.75	47.13				
	1.05	4.72	8.77	12.54	16.10	19.49	22.72	25.79	28.70	31.44	34.01	38.58	42.36	45.25	47.73				
	1.20	4.78	8.89	12.72	16.35	19.80	23.09	26.22	29.19	31.99	34.62	39.33	43.23	46.24	48.90				
	1.50	4.83	8.99	12.87	16.54	20.05	23.39	26.57	29.58	32.44	35.11	39.91	43.91	47.02	49.83				
	3.00	4.87	9.06	12.97	16.68	20.22	23.60	26.81	29.86	32.75	35.46	40.33	44.40	47.58	50.49				
710.0	1.00	5.41	10.05	14.37	18.45	22.32	25.98	29.44	32.69	35.71	38.51	43.35	47.09	49.60					
	1.05	5.44	10.11	14.46	18.57	22.47	26.17	29.66	32.94	36.00	38.82	43.73	47.53	50.10					
	1.20	5.50	10.23	14.65	18.82	22.78	26.54	30.09	33.43	36.55	39.44	44.47	48.39	51.09					
	1.50	5.55	10.33	14.79	19.02	23.03	26.83	30.43	33.82	36.99	39.93	45.05	49.08	51.88					
	3.00	5.58	10.40	14.90	19.16	23.20	27.04	30.68	34.10	37.31	40.28	45.47	49.56	52.43					
800.0	1.00	6.20	11.54	16.50	21.18	25.59	29.74	33.63	37.24	40.55	43.55	48.53	51.98	53.73					
	1.05	6.24	11.60	16.60	21.30	25.75	29.93	33.85	37.49	40.84	43.87	48.91	52.43	54.24					
	1.20	6.30	11.73	16.78	21.55	26.06	30.30	34.29	37.99	41.40	44.49	49.65	53.29	55.23					
	1.50	6.35	11.82	16.93	21.75	26.30	30.60	34.63	38.38	41.84	44.98	50.24	53.98	56.01					
	3.00	6.38	11.89	17.03	21.89	26.48	30.81	34.87	38.66	42.15	45.33	50.65	54.46	56.57					
900.0	1.00	7.08	13.18	18.84	24.15	29.13	33.79	38.09	42.02	45.56	48.66	53.47	56.18						
	1.05	7.11	13.24	18.93	24.28	29.29	33.98	38.31	42.27	45.84	48.98	53.85	56.62						
	1.20	7.17	13.36	19.12	24.52	29.60	34.35	38.74	42.77	46.40	49.60	54.59	57.49						
	1.50	7.22	13.46	19.27	24.72	29.85	34.64	39.09	43.16	46.84	50.09	55.18	58.17						
	3.00	7.26	13.53	19.37	24.86	30.02	34.85	39.33	43.44	47.15	50.43	55.60	58.66						
V _{max}	m/s	30																	

Belt length correction factor c₃

Table 53

L _w	mm	2075	2435	2575	2875	3225	3625	4075	4575	5075	5675	6075	6375	7175	8075	9075	10075	11275	12575
c ₃		0.77	0.80	0.81	0.83	0.86	0.88	0.91	0.93	0.95	0.98	0.99	1.00	1.03	1.05	1.08	1.10	1.13	1.15

CONTI MULTIFLEX® 40/E

Power rating P_R

Power rating P_R (kW) for a V-belt as a function of small pulley pitch diameter d_{wk}, transmission ratio i, small pulley speed n_k and pitch length L_w = 7182 mm.

Min. pulley diameter d_{b min} = 450 mm.

CONTI MULTIFLEX® 40/E

Table 54

d _{wk} (mm)	i or 1:i	Speed of small pulley n _k (min ⁻¹)																	
		20	50	100	150	200	250	300	350	400	450	500	550	600	700	800	950	1100	1200
450.0	1.00	1.49	3.32	6.00	8.43	10.69	12.81	14.80	16.68	18.44	20.09	21.63	23.06	24.37	26.63	28.38	29.97	30.18	29.48
	1.05	1.51	3.37	6.11	8.59	10.90	13.07	15.12	17.05	18.86	20.57	22.16	23.64	25.01	27.38	29.23	30.98	31.35	30.76
	1.20	1.56	3.47	6.32	8.91	11.32	13.60	15.74	17.78	19.70	21.51	23.20	24.79	26.26	28.83	30.90	32.96	33.64	33.26
	1.50	1.59	3.56	6.48	9.15	11.65	14.01	16.24	18.35	20.36	22.25	24.03	25.70	27.25	29.99	32.22	34.53	35.46	35.24
	3.00	1.61	3.62	6.60	9.33	11.88	14.30	16.59	18.76	20.82	22.78	24.61	26.34	27.95	30.81	33.15	35.64	36.74	36.64
500.0	1.00	1.75	3.91	7.11	10.03	12.75	15.30	17.71	19.98	22.11	24.10	25.96	27.66	29.23	31.88	33.87	35.49	35.27	34.00
	1.05	1.77	3.96	7.21	10.19	12.96	15.57	18.03	20.35	22.53	24.58	26.49	28.25	29.86	32.63	34.72	36.50	36.44	35.27
	1.20	1.81	4.06	7.42	10.50	13.38	16.09	18.65	21.08	23.37	25.52	27.53	29.39	31.11	34.08	36.39	38.47	38.73	37.77
	1.50	1.84	4.15	7.59	10.75	13.71	16.50	19.15	21.66	24.03	26.26	28.35	30.30	32.10	35.24	37.71	40.04	40.54	39.75
	3.00	1.87	4.21	7.70	10.92	13.94	16.79	19.50	22.07	24.49	26.79	28.94	30.95	32.80	36.06	38.64	41.15	41.83	41.16
560.0	1.00	2.05	4.61	8.42	11.92	15.18	18.25	21.14	23.85	26.40	28.76	30.95	32.95	34.76	37.75	39.85	41.13	39.91	
	1.05	2.07	4.66	8.53	12.08	15.39	18.51	21.45	24.22	26.82	29.24	31.48	33.54	35.40	38.50	40.70	42.14	41.08	
	1.20	2.11	4.77	8.74	12.39	15.81	19.03	22.08	24.95	27.65	30.18	32.53	34.68	36.65	39.95	42.36	44.12	43.37	
	1.50	2.15	4.85	8.90	12.63	16.14	19.45	22.57	25.53	28.31	30.92	33.35	35.59	37.64	41.11	43.68	45.69	45.18	
	3.00	2.17	4.91	9.02	12.81	16.37	19.74	22.92	25.94	28.78	31.45	33.94	36.23	38.34	41.93	44.62	46.80	46.47	
630.0	1.00	2.40	5.42	9.94	14.09	17.97	21.62	25.04	28.25	31.23	33.99	36.51	38.78	40.79	43.96	45.91	46.25		
	1.05	2.42	5.47	10.04	14.25	18.18	21.88	25.36	28.62	31.66	34.47	37.04	39.37	41.43	44.70	46.76	47.26		
	1.20	2.46	5.57	10.25	14.56	18.60	22.40	25.98	29.35	32.49	35.41	38.08	40.51	42.68	46.16	48.42	49.24		
	1.50	2.50	5.66	10.42	14.81	18.93	22.81	26.48	29.93	33.15	36.15	38.91	41.42	43.67	47.32	49.74	50.81		
	3.00	2.52	5.72	10.53	14.98	19.16	23.11	26.83	30.34	33.62	36.68	39.49	42.06	44.37	48.13	50.68	51.92		
710.0	1.00	2.80	6.33	11.65	16.54	21.10	25.38	29.39	33.11	36.54	39.67	42.49	44.96	47.08	50.15	51.52			
	1.05	2.82	6.39	11.76	16.70	21.32	25.65	29.71	33.48	36.97	40.15	43.02	45.55	47.71	50.89	52.37			
	1.20	2.86	6.49	11.96	17.01	21.73	26.17	30.33	34.21	37.80	41.09	44.06	46.69	48.96	52.35	54.03			
	1.50	2.89	6.57	12.13	17.26	22.06	26.58	30.83	34.79	38.46	41.83	44.88	47.60	49.95	53.50	55.35			
	3.00	2.92	6.63	12.25	17.43	22.30	26.88	31.18	35.20	38.93	42.36	45.47	48.24	50.65	54.32	56.29			
800.0	1.00	3.24	7.35	13.55	19.25	24.56	29.52	34.12	38.36	42.22	45.67	48.69	51.25	53.32	55.84	55.99			
	1.05	3.26	7.40	13.66	19.41	24.77	29.78	34.44	38.74	42.65	46.15	49.22	51.84	53.95	56.58	56.84			
	1.20	3.30	7.51	13.86	19.72	25.19	30.31	35.07	39.46	43.48	47.09	50.27	52.98	55.20	58.04	58.51			
	1.50	3.33	7.59	14.03	19.97	25.52	30.72	35.56	40.04	44.14	47.83	51.09	53.89	56.19	59.19	59.83			
	3.00	3.36	7.65	14.15	20.14	25.75	31.01	35.91	40.45	44.61	48.36	51.68	54.53	56.89	60.01	60.76			
900.0	1.00	3.72	8.47	15.63	22.21	28.32	33.98	39.19	43.92	48.14	51.82	54.90	57.35	59.12	60.44				
	1.05	3.74	8.52	15.74	22.37	28.53	34.25	39.51	44.29	48.57	52.30	55.43	57.94	59.76	61.18				
	1.20	3.79	8.63	15.95	22.68	28.95	34.77	40.13	45.02	49.40	53.23	56.47	59.08	61.01	62.64				
	1.50	3.82	8.71	16.11	22.93	29.28	35.18	40.63	45.60	50.06	53.98	57.30	59.99	62.00	63.79				
	3.00	3.84	8.77	16.23	23.11	29.51	35.47	40.98	46.01	50.53	54.50	57.88	60.63	62.70	64.61				
1000.0	1.00	4.20	9.58	17.69	25.12	31.99	38.31	44.05	49.17	53.63	57.37	60.33	62.44	63.64					
	1.05	4.23	9.63	17.79	25.28	32.20	38.57	44.37	49.54	54.06	57.85	60.86	63.02	64.28					
	1.20	4.27	9.74	18.00	25.59	32.62	39.09	44.99	50.27	54.89	58.79	61.90	64.17	65.53					
	1.50	4.30	9.82	18.17	25.84	32.95	39.50	45.49	50.85	55.55	59.53	62.73	65.08	66.52					
	3.00	4.32	9.88	18.28	26.01	33.18	39.80	45.84	51.26	56.02	60.06	63.31	65.72	67.22					
1120.0	1.00	4.78	10.89	20.12	28.55	36.28	43.30	49.58	55.04	59.61	63.20	65.72	67.08						
	1.05	4.80	10.95	20.22	28.70	36.49	43.57	49.90	55.41	60.03	63.68	66.25	67.66						
	1.20	4.84	11.05	20.43	29.02	36.91	44.09	50.52	56.14	60.87	64.61	67.29	68.81						
	1.50	4.87	11.13	20.60	29.26	37.24	44.50	51.02	56.72	61.53	65.35	68.12	69.72						
	3.00	4.89	11.19	20.71	29.44	37.47	44.79	51.37	57.13	61.99	65.88	68.70	70.36						
1250.0	1.00	5.39	12.30	22.71	32.18	40.78	48.48	55.19	60.83	65.27	68.38	70.05							
	1.05	5.41	12.35	22.82	32.34	40.99	48.74	55.51	61.20	65.69	68.86	70.58							
	1.20	5.45	12.46	23.03	32.65	41.40	49.26	56.14	61.93	66.53	69.80	71.62							
	1.50	5.49	12.54	23.19	32.89	41.73	49.67	56.63	62.51	67.19	70.54	72.45							
	3.00	5.51	12.60	23.31	33.07	41.97	49.97	56.98	62.92	67.65	71.07	73.03							
v _{max}	m/s	30																	

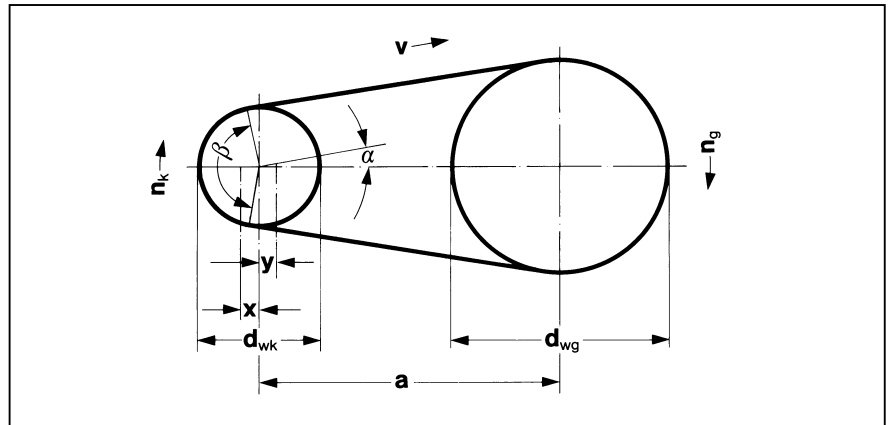
Belt length correction factor c₃

Table 55

L _w	mm	5082	5682	7182	8082	9082	10082	11282
c ₃		0.93	0.95	1.00	1.03	1.05	1.07	1.10

Example of calculation for two-pulley drive


Printing machine



Two-pulley drive

Fig. 19

Example

Prime mover:	diesel engine	$P = 50 \text{ kW}$
		$n_1 = 2400 \text{ min}^{-1}$
Driven machine:	stand by power unit	$n_2 = 1500 \text{ min}^{-1}$
Service conditions:	large pulley diameter	$\cong 240$
	centre distance optional	
	daily operating period 24 hours	

Service factor
 c_2 from table 10, page 31

$$c_2 = 1.3$$

Transmission ratio

$$i = \frac{n_1}{n_2} = \frac{d_{w2}}{d_{w1}}$$

$$i = \frac{2400}{1500} = 1.6$$

Pitch diameter of pulleys

$$d_{w2} = d_{wg}$$

$$d_{w1} = d_{wk} = \frac{d_{wg}}{i}$$

Selected: $d_{wg} = 224 \text{ mm}$

$$d_{wk} = \frac{224}{1.6} = 140 \text{ mm}$$

Selection of section

 Figs. 8, 9, 10
 Pages 33, 34

 Selected: CONTI FO®-Z heavy-duty cogged raw edge V-belt
 Section XPB

Centre distance

$$a_{\max} \cong 2 \cdot (d_{wg} + d_{wk})$$

$$a_{\min} \cong 0,7 \cdot (d_{wg} + d_{wk})$$

$$a_{\max} \cong 2 \cdot (224 + 140) = 728 \text{ mm}$$

$$a_{\min} \cong 0.7 \cdot (224 + 140) = 255 \text{ mm}$$

Selected: $a = 500 \text{ mm}$

3 Calculation of V-belt drives

Pitch length

$$L_w \approx 2 \cdot a + \frac{\pi}{2} (d_{wg} + d_{wk}) + \frac{(d_{wg} - d_{wk})^2}{4 \cdot a}$$

Pitch length available determined from table 4, page 14

$$L_w \approx 2 \cdot 500 + \frac{\pi}{2} (224 + 140) + \frac{(224 - 140)^2}{4 \cdot 500} \approx 1575 \text{ mm}$$

$$L_w = 1600 \text{ mm}$$

Centre distance

Determination in accordance with selected pitch length

$$a \approx \frac{1}{4} \cdot \left(L_b - \frac{d_{wg} + d_{wk}}{2} \cdot \pi \right) + \frac{1}{4} \cdot \sqrt{\left(L_b - \frac{d_{wg} + d_{wk}}{2} \cdot \pi \right)^2 - 2 \cdot (d_{wg} - d_{wk})^2}$$

$$a \approx \frac{1}{4} \cdot \left(1600 - \frac{224 + 140}{2} \cdot \pi \right) + \frac{1}{4} \cdot \sqrt{\left(1600 - \frac{224 + 140}{2} \cdot \pi \right)^2 - 2 \cdot (224 - 140)^2}$$

$$a = 512.4 \text{ mm}$$

Arc of contact around small pulley

$$\beta = 2 \cdot \arccos \left(\frac{d_{wg} - d_{wk}}{2 \cdot a} \right)$$

$$\beta = 2 \cdot \arccos \left(\frac{224 - 140}{2 \cdot 512.4} \right) = 170.6^\circ$$

Centre adjustments x and y

$$x = \frac{0.01 \cdot L_w}{\sin \frac{\beta}{2}}$$

$$x = \frac{0.01 \cdot 1600}{\sin \frac{170.6}{2}} = 16 \text{ mm}$$

$$y = \frac{0.005 \cdot L_w + \pi \cdot h \cdot \frac{\beta}{360}}{\sin \frac{\beta}{2}}$$

$$y = \frac{0.005 \cdot 1600 + \pi \cdot 13 \cdot \frac{170.6}{360}}{\sin \frac{170.6}{2}} = 27.5 \text{ mm}$$

h from table 3, page 11

Belt speed

$$v = \frac{\pi \cdot d_w \cdot n}{60 \cdot 10^3}$$

$$v = \frac{\pi \cdot 140 \cdot 2400}{60 \cdot 10^3} = 17.59 \text{ m/s}$$

Belt flex frequency

$$f_B = \frac{10^3 \cdot v \cdot k}{L_w}$$

$$f_B = \frac{10^3 \cdot 17.59 \cdot 2}{1600} = 22 \text{ s}^{-1}$$

Arc of contact factor

c_1 from table 12, page 32

$$c_1 = 0.98$$

Length correction factor

c_3 from table 27, page 48

$$c_3 = 0.87$$

Power rating

P_R from table 26, page 48

$$P_R = 15.9 \text{ kW}$$

Number of V-belts required

$$z_{er} = \frac{P \cdot c_2}{P_R \cdot c_1 \cdot c_3}$$

$$z_{er} = \frac{50 \cdot 1.3}{15.9 \cdot 0.98 \cdot 0.87} = 4.8$$

Selected: 1 set CONTI FO®-Z heavy-duty cogged raw edge V-belts 5 · XPB 1600 L_w

Check on service factor

$$c_{2er} = z \cdot \frac{P_R \cdot c_1 \cdot c_3}{P}$$

$$c_{2er} = 5 \cdot \frac{15.9 \cdot 0.98 \cdot 0.87}{50} = 1.36$$

Effective pull

$$F_u = \frac{P \cdot 10^3}{v}$$

$$F_u = \frac{50 \cdot 10^3}{17.59} = 2842 \text{ N}$$

Axle load

$$F_v = (k_1 \cdot F_u + 2 \cdot z \cdot k_2 \cdot v^2) \cdot \sin \frac{\beta}{2}$$

$$F_v = (1.76 \cdot 2842 + 2 \cdot 5 \cdot 0.192 \cdot 17.59^2) \cdot \sin \frac{170.6}{2}$$

$$F_v = 5577 \text{ N}$$

$$F_{dyn} = k_1 \cdot F_u \cdot \sin \frac{\beta}{2}$$

$$F_{dyn} = 1.76 \cdot 2842 \cdot \sin \frac{170.6}{2} = 4985 \text{ N}$$

k_1 from table 11, page 38

$$k_1 = 1.76$$

k_2 from table 12, page 38

$$k_2 = 0.192$$

Control of belt tension

Calculated static belt tension

$$F = \frac{F_v}{2 \cdot z \cdot \sin \frac{\beta}{2}}$$

$$F = \frac{5577}{2 \cdot 5 \cdot \sin \frac{170.6}{2}} = 560 \text{ N}$$

Static belt tension from table 59, page 78

$$F \approx 557 \text{ N}$$

Test force from fig. 14, page 42

$$F_e = 75 \text{ N}$$

Read-off value from fig. 14, page 42

$$\frac{t_e}{L_f} \cdot 100$$

$$\frac{t_e}{L_f} \cdot 100 = 2.8$$

Free span length

$$L_f = a \cdot \sin \frac{\beta}{2}$$

$$L_f = 512.4 \cdot \sin \frac{170.6}{2} = 511 \text{ mm}$$

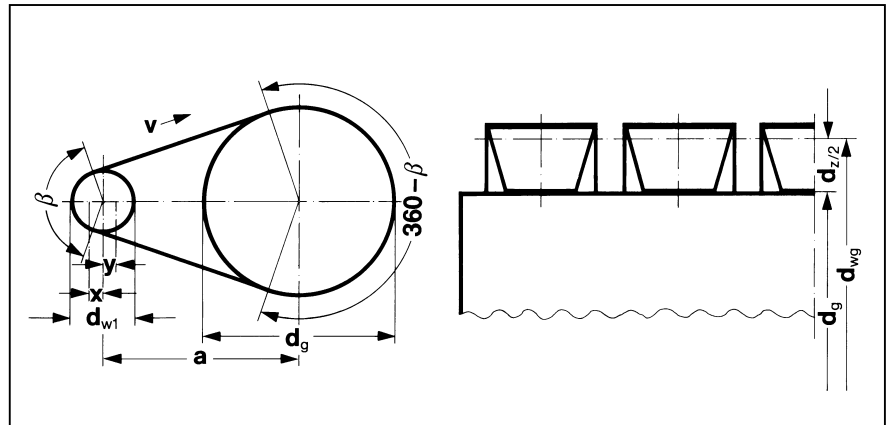
Deflection

$$t_e = \frac{L_f}{100} \cdot \text{read-off value}$$

$$t_e = \frac{511}{100} \cdot 2.85 \approx 14 \text{ mm}$$

With this deflection, the belt tension complies with the rated value calculated.

Example of calculation for V-flat drive



V-flat drive

fig. 19

This type of drive is used especially when disk flywheels or flat belt pulleys already at hand are to be re-used and the production of large grooved pulleys is uneconomical.

CONTI MULTIFLEX® classical-section V-belts are suitable for V-flat drives.

The following prerequisites must be fulfilled to ensure the operating reliability of a V-flat drive:

- the small pulley must be a grooved pulley
- the transmission ratio must be $i \geq 3$
- the recommended centre distance a :
 - when $i \leq 5$ $a = 1.2 \cdot (d_g - d_{wk})$,
 - when $i > 5$ $a = d_g$
- the power rating is calculated in the usual way for the small pulley; the power transmission capacity at the large pulley must also be checked by referring to the tensioning capacity
- the tensioning capacity at the flat pulley must be $p_{Fu} < 2.8 \text{ N/cm}^2$.

Example

Prime mover:	electric motor with high starting	$P = 70 \text{ kW}$
		$n_1 = 1450 \text{ min}^{-1}$
Driven machine:	eccentric press	$n_2 = 285 \text{ min}^{-1}$
Service conditions:	evaluation via service factor c_2	
	daily operating period 10 hours	
	diameter of disk flywheel	$d_g = 1400 \text{ mm}$

Service factor

c_2 from table 10, page 31

$c_2 = 1.2$

Transmission ratio

$$i = \frac{n_1}{n_2} = \frac{d_{w2}}{d_{w1}}$$

$i = \frac{1450}{285} = 5.1$

$d_{w2} = d_{wg} = d_g + d_z$

$d_{w2} = 1400 + 18 = 1418 \text{ mm}$

d_z from table 56

$d_z = 18 \text{ mm}$

Diameter addition d_z and bottom width of belt b_u

Table 56

CONTI MULTIFLEX® classical-section wrapped V-belts

Section		13/A	17/B	20/-	22/C	25/-	32/D	40/E
Diameter additional d_z	mm	10	13	16	18	20	23	25
Bottom with of belt b_u	mm	7.5	9.4	11.4	12.4	14.0	18.3	22.8

Selection of section

Diagram fig. 11, page 34

Selected: CONTI MULTIFLEX® classical-section wrapped V-belt
Section 22/C

Pitch diameter of pulleys

$$d_{w1} = \frac{d_{w2}}{i}$$

$$d_{w1} = \frac{1418}{5.1} = 278 \text{ mm}$$

Selected: $d_{w1} = 280 \text{ mm}$

Centre distance

$$a = 1,2 \cdot (d_{wg} - d_{wk}) \text{ when } i \leq 5$$

$$a = d_{wg} \text{ when } i > 5$$

$$a = 1418 \text{ mm}$$

Pitch length

$$L_w \approx 2 \cdot a + \frac{\pi}{2} (d_{wg} + d_{wk}) + \frac{(d_{wg} - d_{wk})^2}{4 \cdot a}$$

$$L_w \approx 2 \cdot 1418 + \frac{\pi}{2} (280 + 1418) + \frac{(1418 - 280)^2}{4 \cdot 1418} \approx 5731 \text{ mm}$$

Pitch length available determined from table 63, page 57

$$L_w = 5652 \text{ mm}$$

Centre distance

Determination in accordance with selected pitch length

$$a = \frac{1}{4} \cdot \left(L_w - \frac{d_{wg} + d_{wk}}{2} \cdot \pi \right) + \frac{1}{4} \cdot \sqrt{\left(L_w - \frac{d_{wg} - d_{wk}}{2} \cdot \pi \right)^2 - 2 \cdot (d_{wg} - d_{wk})^2}$$

$$a = \frac{1}{4} \cdot \left(5652 - \frac{1418 + 280}{2} \cdot \pi \right) + \frac{1}{4} \cdot \sqrt{\left(5652 - \frac{1418 - 280}{2} \cdot \pi \right)^2 - 2 \cdot (1418 - 280)^2}$$

$$a = 1374.6 \text{ mm}$$

Arc of contact around small pulley

$$\beta = 2 \cdot \arccos \left(\frac{d_{wg} - d_{wk}}{2 \cdot a} \right)$$

$$\beta = 2 \cdot \arccos \left(\frac{1418 - 280}{2 \cdot 1374.6} \right) = 131^\circ$$

Centre adjustments x and y

$$x = \frac{0.015 \cdot L_w}{\sin \frac{\beta}{2}}$$

$$y = \frac{0.005 \cdot L_w + \pi \cdot h \cdot \frac{\beta}{360}}{\sin \frac{\beta}{2}}$$

h from table 7, page 18

$$x = \frac{0.015 \cdot 5652}{\sin \frac{131}{2}} = 93 \text{ mm}$$

$$y = \frac{0.005 \cdot 5652 + \pi \cdot 14 \cdot \frac{131}{360}}{\sin \frac{131}{2}} = 49 \text{ mm}$$

Belt speed

$$v = \frac{\pi \cdot d_w \cdot n}{60 \cdot 10^3}$$

$$v = \frac{\pi \cdot 280 \cdot 1450}{60 \cdot 10^3} = 21.26 \text{ m/s}$$

Belt flex frequency

$$f_B = \frac{10^3 \cdot v \cdot k}{L_w}$$

$$f_B = \frac{10^3 \cdot 21.26 \cdot 2}{5652} = 7.52 \text{ s}^{-1}$$

Arc of contact

c_1 from table 9, page 30

$$c_1 = 0.86$$

Length correction factor

c_3 from table 62, page 57

$$c_3 = 1.08$$

Power rating

P_R from table 61, page 57

$$P_R = 18.3 \text{ kW}$$

Number of V-belts required

$$z = \frac{P \cdot c_2}{P_R \cdot c_1 \cdot c_3}$$

$$z = \frac{70 \cdot 1.2}{18.3 \cdot 0.86 \cdot 1.08} = 4.94$$

Selected: 1 Set CONTI MULTIFLEX® classical-section wrapped V-belts 5 × 22/C × 5600 L_i

Check on service factor

$$c_{2er} = z \cdot \frac{P_R \cdot c_1 \cdot c_3}{P}$$

$$c_{2er} = 5 \cdot \frac{18.3 \cdot 0.86 \cdot 1.08}{70} = 1.21$$

Effective pull

$$F_u = \frac{P \cdot 10^3}{v}$$

$$F_u = \frac{70 \cdot 10^3}{21.26} = 3293 \text{ N}$$

Contact surface on pulley

$$A = \frac{d_g \cdot \pi \cdot (360 - \beta) \cdot b_u \cdot z}{3,6 \cdot 10^4}$$

b_u from table 56, page 67

$$A = \frac{1400 \cdot \pi \cdot (360 - 131) \cdot 12,4 \cdot 5}{3,6 \cdot 10^4} = 1735 \text{ cm}^2$$

$$b_u = 12,4$$

Tensioning capacity

$$p_{Fu} = \frac{F_u}{A}$$

$$p_{Fu} = \frac{3293}{1735} = 1,9 \text{ N/cm}^2$$

The recommended tensioning capacity $p_{Fu} < 2,8 \text{ N/cm}^2$ is adhered to.

Axle load

$$F_v = (k_1 \cdot F_u + 2 \cdot z \cdot k_2 \cdot v^2) \cdot \sin \frac{\beta}{2}$$

$$F_{dyn} = k_1 \cdot F_u \cdot \sin \frac{\beta}{2}$$

k_1 from table 11, page 38

k_2 from table 12, page 38

$$F_v = (2,10 \cdot 3293 + 2 \cdot 5 \cdot 0,300 \cdot 21,26^2) \cdot \sin \frac{131}{2}$$

$$F_v = 7530 \text{ N}$$

$$F_{dyn} = 2,10 \cdot 3293 \cdot \sin \frac{131}{2} = 6293 \text{ N}$$

$$k_1 = 2,10$$

$$k_2 = 0,300$$

Control of belt tension

Calculated static belt tension

$$F = \frac{F_v}{2 \cdot z \cdot \sin \frac{\beta}{2}}$$

Test force from fig. 17, page 42

Read-off value from fig. 17, page 42

$$\frac{t_e}{L_f} \cdot 100$$

free span length

$$L_f = a \cdot \sin \frac{\beta}{2}$$

Deflection

$$t_e = \frac{L_f}{100} \cdot \text{read-off value}$$

$$F = \frac{7530}{2 \cdot 5 \cdot \sin \frac{131}{2}} = 827 \text{ N}$$

$$F_e = 100 \text{ N}$$

$$\frac{t_e}{L_f} \cdot 100 = 3,4$$

$$L_f = 1374,6 \cdot \sin \frac{131}{2} = 1251 \text{ mm}$$

$$t_e = \frac{1251}{100} \cdot 3,4 \approx 43 \text{ mm}$$

With this deflection, the belt tension complies with the rated value calculated.

ContiTech Computer Service

The ContiTech Computer Service can provide the technically and economically best solution for drive systems, even for those with extremely complex designs. Drive-related requirements are entered and the most suitable V-belt is shown within seconds.

The example below shows the computer printout for the design of a two pulley drive using data from the calculation example on page 63.

ContiTech Antriebssysteme GmbH ContiTech Group		CONTITECH ®	
<u>FO®-Z V-BELT DRIVE CALCULATION</u>		25.03.1999	09:33:36
Customer :	Sample Calculation	Company :	ContiTech Antriebssysteme
Reference :		Telephone :	
:		Fax :	
:		Designer :	
Belt Type:		FO®-Z	
Section:		XPB	
Pitch Diameter Of Small Pulley:	DWK	=	140,00 mm
Outside Diameter Of Small Pulley:	DAK	=	147,00 mm
Pitch Diameter Of Large Pulley:	DWG	=	224,00 mm
Outside Diameter Of Large Pulley:	DAG	=	231,00 mm
Speed Of Small Pulley:	NK	=	2400,00 rpm
Speed Of Large Pulley:	NG	=	1500,00 rpm
Drive Ratio:	I or 1/I	=	1,60
Belt Pitch Length	LW	=	1600,00 mm
Calculated Centre Distance:	AER	=	512,39 mm
Arc of Contact:	BETA	=	170,60 degree
Take Up:	X	+	16,05 mm
Slack Off:	Y	-	27,45 mm
Belt Speed:	V	=	17,59 m/s
Belt Flex Frequency:	FB	=	21,99 Hz
Power To Be Transmitted:	P	=	50,00 kW
Given Service Factor:	C2	=	1,30
Arc Of Contact Factor:	C1	=	0,98
Belt Length Correction Factor:	C3	=	0,87
Power Rating Per Belt:	PR	=	15,94 kW
Calculated Number Of Belts:	ZER	=	4,77
Recommended Number Of Belts:	Z	=	5
Calculated Service Factor:	CZER	=	1,36
Min. Pulley Face Width:	B2	=	101,00 mm
Belt Tension Factor:	K1	=	1,76
Belt Rotational Force:	FU	=	2842,05 N
Static Tension Per Belt:	F	=	558,50 N
Static Axle Load:	FV	=	5566,26 N
Dynamic Axle Load:	FDYN	=	4973,99 N
Belt Tension Test Force:	FE	=	75 N
Belt Tension Test Deflection:	TE	=	14 mm
Natural Frequency Of Belt Span:	EIF	=	52,81 Hz
Service Life:	LH	>	25000 Hrs
<hr/>			
Result:			
1 Set Of CONTI FO-Z® Heavy Duty V-Belts		5	XPB 1600 Lw
Small Pulley		P5	XPB 140
Large Pulley		P5	XPB 224
<hr/>			

Computer printout for V-belt calculation

Fig. 20

V-belt length measurement

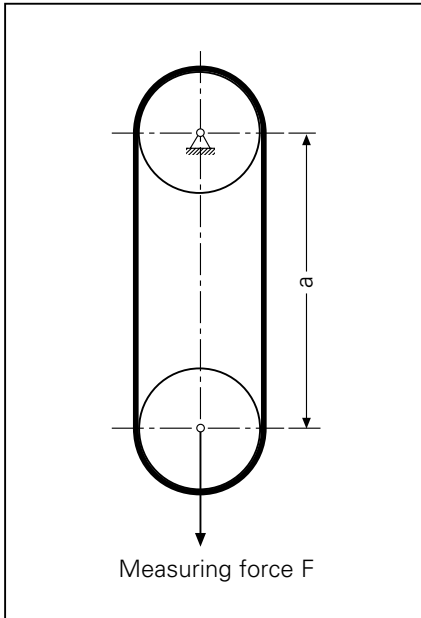


Matched length CONTI FO[®]-Z heavy-duty raw edge V-belts on a paper-cutting machine

V-belt length measurement

Precise measuring methods are specified in DIN 7753 Part 1 for narrow-section V-belts and in DIN 2215 for classical-section V-belts.

In the DIN method, the V-belt is laid over two equal-sized measuring pulleys (Fig.21) whose grooves are designed to correspond with the belt section. Details of groove types and dimensions are given in figs. 23 and 24 and in tables 57 and 58.



Measuring method

Fig. 21

The movable measuring pulley is loaded in such a way that the measuring force (cf. Tables 57 and 58) acts on the V-belt. To ensure that the belt fits well into the pulley grooves, the measuring pulleys are rotated with the V-belt loaded until the belt has revolved at least three times. The centre distance "a" between the two pulleys is then measured.

The pitch length L_w is deduced from twice the centre distance "a" plus the pitch circumference U_w of measuring pulleys:

$$L_w = 2 \cdot a + U_w$$

The outside length L_a or the inside length L_i is calculated from the pitch length L_w and the length differential value ΔL (see Tables 57 and 58) that is fixed for each V-belt section.

A simple way of determining the length of a V-belt is to use a wall gauge. This comprises two semicircular V-belt supports, one of which can slide along a measuring scale. See Fig. 22.

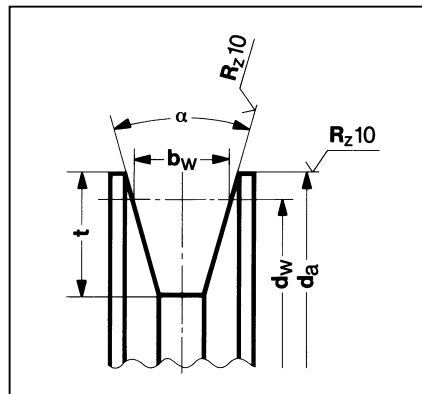
As it is impossible to exert a precisely-defined measuring force, this method does not always give sufficiently accurate values.



Wall gauge

Fig. 22

**Measuring pulleys and measuring force for
CONTI FO®-Z heavy duty cogged raw edge V-belts and
CONTI ULTRAFLEX® narrow-section wrapped V-belts
to DIN Standard 7753 part 1 and B.S. 3790**



Measuring pulley

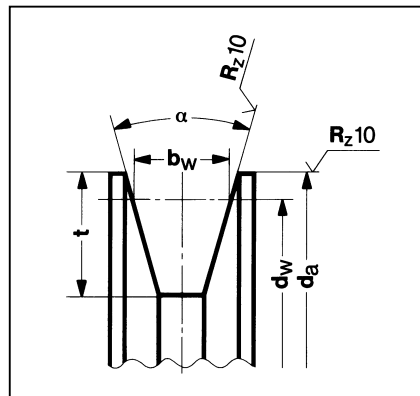
Fig. 23

Measuring pulleys and measuring force

Table 57

Belt section	B.S./DIN symbol	XPZ/SPZ	XPA/SPA	XPB/SPB	XPC/SPC
Pitch circumference U_w	mm	300	450	600	1000
Pitch Diameter $d_w \pm 0.05$	mm	95.49	143.24	190.99	318.31
Outside diameter $d_a \pm 0.05$	mm	100	149	198	328
Pitch width b_w	mm	8.5	11.0	14.0	19.0
Groove-included angle $\alpha \pm 10'$	°(degrees)	36	36	36	36
Groove depth t_{min}	mm	11	14	17	24
Measuring force F	N	360	560	900	1500
Length differential value from L_w $\Delta L = L_a - L_w$	mm	13	18	22	30

**Measuring pulleys and measuring force for
CONTI FO®-Z heavy duty cogged raw edge V-belts and
CONTI MULTIFLEX® classical-section wrapped V-belts
to DIN Standard 2215 part 1 and B.S. 3790**



Measuring pulley

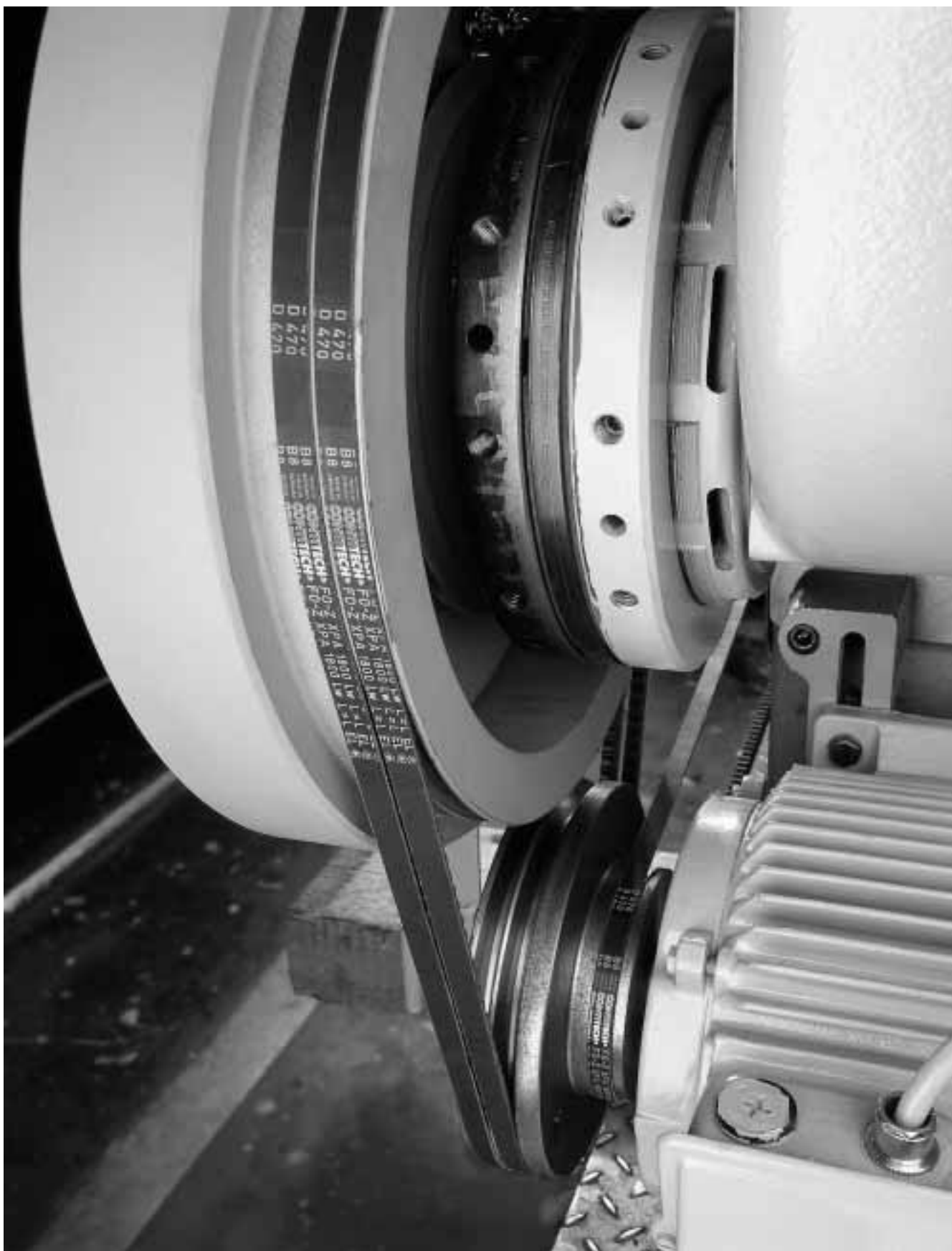
Fig. 24

Measuring pulleys and measuring force

Table 58

Belt section	DIN symbol B.S./ISO symbol	5	6	8	10	13	17	20	22	25	32	40
		-	Y	-	Z	A	B	-	C	-	D	E
Pitch circumference U_w	mm	70	90	140	180	300	400	520	700	800	1200	1800
Pitch diameter $d_w \pm 0.05$	mm	22.28	28.65	44.56	57.30	95.50	127.32	165.52	222.82	254.65	381.98	572.96
Outside diameter $d_a \pm 0.05$	mm	24.88	31.85	44.56	62.30	102.10	135.72	175.12	234.22	267.25	398.18	596.96
Pitch width b_w	mm	4.2	5.3	6.7	8.5	11.0	14.0	17.0	19.0	21.0	27.0	32.0
Groove included												
angle $\alpha \pm 10'$	°(degrees)	32	32	32	34	34	34	34	34	34	36	36
Groove depth t_{min}	mm	5	6	8	10	12	15	18	20	22	28	36
Measuring force F	N	29	39	78	108	196	294	735	735	735	1373	1765
Length differential value from L_i $\Delta L = L_w - L_i$	mm	11	15	19	22	30	43	48	52	61	75	82

Installation, maintenance and storage of V-belts



*Matched-length CONTI FO[®]-Z heavy-duty cogged
raw edge V-belts on a paper cutting machine*

Installation, maintenance and storage of V-belts

CONTI® V-belts ensure a long service life and a high standard of operating reliability if the following conditions are observed:

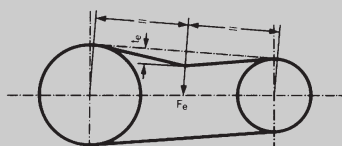
- correct drive design according to belt section, number of belts used and belt type
- correct installation, maintenance and storage of the belts.

Installation and maintenance of V-belts.

The ten points listed below are designed to ensure optimum utilization of ContiTech V-belts in practical application:

1. The pulleys used must comply with the data in the chapter on “Pulleys”. Incorrectly selected pulleys or belt sections result in inefficient drives.
2. The pulleys must be correctly aligned. Incorrect alignment causes twisting of V-belts, severe edge abrasion and excessive noise.
3. The pulleys must be free from burr, rust and dirt. Soiled pulleys lead to premature belt damage.
4. V-belts must be mounted by hand; the centre distance is reduced accordingly for this purpose. Prying belts over flanges by force or with assembly tools may result in indiscernible damage to the tension member and to the fabric jacket with a consequent reduction in service life.
5. V-belt drives must be tensioned with great care. Insufficient belt tension leads to inadequate power transmission and premature wear due to excessive slip. Over tensioning causes excessive elongation, unnecessary flexing combined with high temperatures and thus a reduction in service life. The shaft bearings are also subjected to excessive strain. Calculation and control of V-belt tension for new constructions are detailed on page 41. For existing drives, the static belt tension is shown in tables 59 and 60. In practice the belt tension can be set and controlled by means of the ContiTech V-belt tension gauge (cf. page 41). The correct belt tension can also be determined from figs. 14 to 17. Fig. 27 facilitates determination of belt speed. The data required for control of belt tension can be entered on a label that can be affixed to the drive for ready reference (Fig. 25).
6. After a brief running in phase of some 20 minutes, the tension must be checked and, if necessary, the belt tightened. Incorrectly tensioned V-belts are subject to premature wear and tear.
7. Multi-groove drives must be fitted with V-belts of equal length. Matched-length V-belts made by ContiTech ensure easy grouping together in sets. If a single V-belt fails, the entire set needs to be replaced. New and part-used belts will not function together in one set because of their differing amounts of stretch.
8. Tensioning pulleys designed to compensate for belt elongation must function from the inside; their diameters should not be below the minimum permissible pulley diameter. Tensioning pulleys functioning from the outside and excessively small diameters increase flexing strain and reduce service life.

V-belt tension control



Belt tension test force $F_e =$		Newton
Belt tension test deflection of belt $t_e =$		mm

The matched set consists of:

belts:	size:	x	L_w
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Always replace all worn V-belts on multigroove drives with a complete new set.

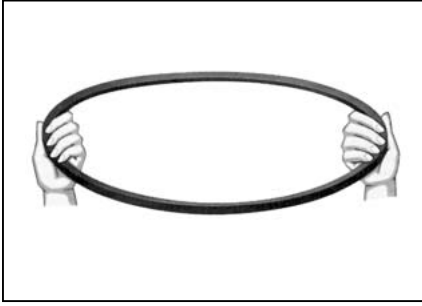
Please note!
Tension new V-belts as per manufacturer's specifications.
 Let V-belts run in for 15 to 20 minutes.
 Recheck their tension and, if necessary, tighten the V-belts.

CONTITECH

ContiTech Group

Adhesive label
V-belt tension control

Fig. 26



9. The use of belt dressings is superfluous. The efficiency of the drive is ensured by correct belt tensioning.

10. V-belts must be protected from any oil and other chemicals. Constant exposure to such agents results in swelling or in other premature damage to the belt.

If the above principles are observed, CONTI® V-belts require no further maintenance.

Storage of V-belts

Standard practice for storage, cleaning and maintenance of rubber products is detailed in DIN standard 7716.

Storage method

V-belts can be efficiently stored by suspending them on "saddles" or tubular brackets with a large diameter. The diameter should be at least 10 x height of belt cross-section.

Long V-belts can be stacked to save space, provided that they are correctly coiled (Fig. 26).

Shorter V-belts can be stored on shelves. Stacks should not be more than 300 mm high, as the bottom belts may otherwise be deformed.

V-belts for precision engineering can best be stored on reels.

Hooks and nails are unsuitable for suspending V-belts for storage purposes.

Storage premises

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

The temperature should be kept at between 15 and 25 °C.

V-belts must not be stored near sources of heat.

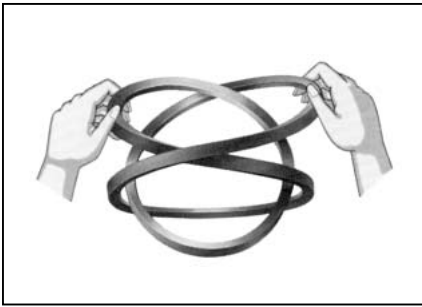
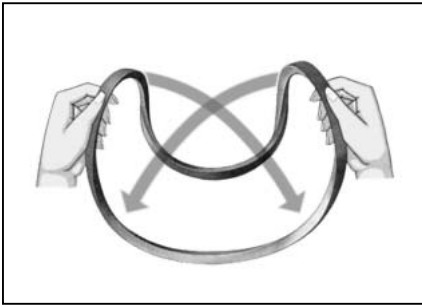
Keep V-belts away from direct sunlight and strong artificial light with a high ultraviolet content.

Equipment generating ozone, e.g. sparking electrical switchgear, should not be operated constantly in storage premises.

Inflammable materials, lubricants, acids and other aggressive materials should not be kept in V-belt storage premises. Elastomers and fabrics may be affected or even irreparably damaged by such agents.

Cleaning

Soiled V-belts can be cleaned with a glycerine/spirit mixture (1:10). Solvents such as petrol or benzene must not be used. Sharp-edged objects must not be used for cleaning V-belts.



Coiling long V-belts

Fig. 26

Static belt tension F (N) for a V-belt as a function of belt speed v and power P

Table 59

Effective pull as a component of power to be transmitted P/z (kW) for a V-belt

P/z (kW)	Belt speed v (m/s)																							
	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50
0.2	43	29	21	17	14	12	10	9	8	7	7	6	6	5	5	5	4	4	4	4	3	3	3	3
0.4	87	58	43	34	29	24	21	19	17	15	14	13	12	11	10	10	9	9	8	8	8	7	7	6
0.6	131	87	65	52	43	37	32	29	26	23	21	20	18	17	16	15	14	13	13	12	11	11	10	10
0.8	174	116	87	69	58	49	43	38	34	31	29	26	24	23	21	20	19	18	17	16	15	15	14	13
1.0	218	145	109	87	72	62	54	48	43	39	36	33	31	29	27	25	24	23	21	20	19	19	18	17
1.2	262	174	131	104	87	74	65	58	52	47	43	40	37	34	32	30	29	27	26	24	23	22	21	20
1.4	306	204	153	122	102	87	76	68	61	55	51	47	43	40	38	36	34	32	30	29	27	26	25	24
1.6	349	233	174	139	116	99	87	77	69	63	58	53	49	46	43	41	38	36	34	33	31	30	29	27
1.8	393	262	196	157	131	112	98	87	78	71	65	60	56	52	49	46	43	41	39	37	35	34	32	31
2.0	437	291	218	175	145	125	109	97	87	79	72	67	62	58	54	51	48	46	43	41	39	38	36	35
2.2	481	320	240	192	160	137	120	106	96	87	80	74	68	64	60	56	53	50	48	45	43	41	40	38
2.4	524	349	262	209	174	149	131	116	104	95	87	80	74	69	65	61	58	55	52	49	47	45	43	41
2.6	568	379	284	227	189	162	142	126	113	103	94	87	81	75	71	66	63	59	56	54	51	49	47	45
2.8	612	408	306	244	204	174	153	136	122	111	102	94	87	81	76	72	68	64	61	58	55	53	51	48
3.0	656	437	328	262	218	187	164	145	131	119	109	100	93	87	82	77	72	69	65	62	59	57	54	52
3.2	699	466	349	279	233	199	174	155	139	127	116	107	99	93	87	82	77	73	69	66	63	60	58	55
3.4	743	495	371	297	247	212	185	165	148	135	123	114	106	99	92	87	82	78	74	70	67	64	61	59
3.6	787	524	393	314	262	224	196	174	157	143	131	121	112	104	98	92	87	82	78	74	71	68	65	62
3.8	831	554	415	332	277	237	207	184	166	151	138	127	118	110	103	97	92	87	83	79	75	72	69	66
4.0	875	583	437	350	291	250	218	194	175	159	145	134	125	116	109	102	97	92	87	83	79	76	72	70
4.2	918	612	459	367	306	262	229	204	183	167	153	141	131	122	114	108	102	96	91	87	83	79	76	73
4.4	962	641	481	384	320	274	240	213	192	174	160	148	137	128	120	113	106	101	96	91	87	83	80	76
4.6	1006	670	503	402	335	287	251	223	201	182	167	154	143	134	125	118	111	105	100	95	91	87	83	80
4.8	1049	699	524	419	349	299	262	233	209	190	174	161	149	139	131	123	116	110	104	99	95	91	87	83
5.0	1093	729	546	437	364	312	273	243	218	198	182	168	156	145	136	128	121	115	109	104	99	95	91	87
6.0	1312	875	656	525	437	375	328	291	262	238	218	201	187	175	164	154	145	138	131	125	119	114	109	105
7.0	1531	1020	765	612	510	437	382	340	306	278	255	235	218	204	191	180	170	161	153	145	139	133	127	122
8.0	1750	1166	875	700	583	500	437	388	350	318	291	269	250	233	218	205	194	184	175	166	159	152	145	140
9.0	1968	1312	984	787	656	562	492	437	393	357	328	302	281	262	246	231	218	207	196	187	178	171	164	157
10.0	2187	1458	1093	875	729	625	546	486	437	397	364	336	312	291	273	257	243	230	218	208	198	190	182	175
12.0	2625	1750	1312	1050	875	750	656	583	525	477	437	403	375	350	328	308	291	276	262	250	238	228	218	210
14.0	3062	2041	1531	1225	1020	875	765	680	612	556	510	471	437	408	382	360	340	322	306	291	278	266	255	245
16.0	3500	2333	1750	1400	1166	1000	875	777	700	636	583	538	500	466	437	411	388	368	350	333	318	304	291	280
18.0	3937	2625	1968	1575	1312	1125	984	875	787	715	656	605	562	525	492	463	437	414	393	375	357	342	328	315
20.0	4375	2916	2187	1750	1458	1250	1093	972	875	795	729	673	625	583	546	514	486	460	437	416	397	380	364	350
22.0	4812	3208	2406	1925	1604	1375	1203	1069	962	875	802	740	687	641	601	566	534	506	481	458	437	418	401	385
24.0	5250	3500	2625	2100	1750	1500	1312	1166	1050	954	875	807	750	700	656	617	583	552	525	500	477	456	437	420
26.0	5687	3791	2843	2275	1895	1625	1421	1263	1137	1034	947	875	812	758	710	669	631	598	568	541	517	494	473	455
28.0	6125	4083	3062	2450	2041	1750	1531	1361	1225	1113	1020	942	875	816	765	720	680	644	612	583	556	532	510	490
30.0	6562	4375	3281	2625	2187	1875	1640	1458	1312	1193	1093	1009	937	875	820	772	729	690	656	625	596	570	546	525
32.0	7000	4666	3500	2800	2333	2000	1750	1555	1400	1272	1166	1076	1000	933	875	823	777	736	700	666	636	608	583	560
34.0	7437	4958	3718	2975	2479	2125	1859	1652	1487	1352	1239	1144	1062	991	929	875	826	786	748	708	676	646	619	595
36.0	7875	5250	3937	3150	2625	2250	1968	1750	1575	1431	1312	1211	1125	1050	984	926	875	828	787	750	715	684	656	630
38.0	8312	5541	4156	3325	2770	2375	2078	1847	1662	1511	1385	1278	1187	1108	1039	977	923	875	831	791	755	722	692	665
40.0	8750	5833	4375	3500	2916	2500	2187	1944	1750	1590	1458	1346	1250	1166	1093	1029	972	921	875	833	795	760	729	700
42.0	9187	6125	4593	3675	3062	2625	2296	2041	1837	1670	1531	1413	1312	1225	1148	1080	1020	967	918	875	835	798	765	735
44.0	9625	6416	4812	3850	3208	2750	2406	2138	1925	1750	1604	1480	1375	1283	1203	1132	1069	1013	962	916	875	836	802	770
46.0	10062	6708	5031	4025	3354	2875	2515	2236	2012	1829	1677	1548	1437	1341	1257	1183	1118	1059	1006	958	914	875	838	805
48.0	10500	7000	5250	4200	3500	3000	2625	2333	2100	1909	1750	1615	1500	1400	1312	1235	1166	1105	1050	1000	954	913	875	840
50.0	10937	7291	5468	4375	3645	3125	2734	2430	2187	1988	1822	1682	1562	1458	1367	1286	1215	1151	1093	1041	994	951	911	875

52,0	11375	7583	5687	4550	3791	3250	2843	2527	2275	2068	1895	1750	1625	1516	1421	1338	1263	1197	1137	1083	1034	989	947	910
54,0	11812	7875	5906	4725	3937	3375	2953	2625	2362	2147	1968	1817	1687	1575	1476	1389	1312	1243	1181	1125	1073	1027	984	945
56,0	12250	8166	6125	4900	4083	3500	3062	2722	2450	2227	2041	1884	1750	1633	1531	1441	1361	1289	1225	1166	1113	1065	1020	980
58,0	12687	8458	6343	5075	4229	3625	3171	2819	2537	2306	2114	1951	1812	1691	1585	1492	1409	1335	1268	1208	1153	1103	1057	1015
60,0	13125	8750	6562	5250	4375	3750	3281	2916	2625	2386	2187	2019	1875	1750	1640	1544	1458	1381	1312	1250	1193	1141	1093	1050
62,0	13562	9041	6781	5425	4520	3875	3390	3013	2712	2465	2260	2086	1937	1808	1695	1595	1506	1427	1356	1291	1232	1179	1130	1085
64,0	14000	9333	7000	5600	4666	4000	3500	3111	2800	2545	2333	2153	2000	1866	1750	1647	1555	1473	1400	1333	1272	1217	1166	1120
66,0	14437	9625	7218	5775	4812	4125	3609	3208	2887	2625	2406	2221	2062	1925	1804	1698	1604	1519	1443	1375	1312	1255	1203	1155
68,0	14875	9916	7437	5950	4958	4250	3718	3305	2975	2704	2479	2288	2125	1983	1859	1750	1652	1565	1487	1416	1352	1293	1239	1190
70,0	15312	10208	7656	6125	5104	4375	3828	3402	3062	2784	2552	2355	2187	2041	1914	1801	1701	1611	1531	1458	1392	1331	1276	1225
72,0	15750	10500	7875	6300	5250	4500	3937	3500	3150	2863	2625	2423	2250	2100	1968	1852	1750	1657	1575	1500	1431	1369	1312	1260
74,0	16187	10791	8093	6475	5395	4625	4046	3597	3237	2943	2697	2490	2312	2158	2023	1904	1798	1703	1618	1541	1471	1407	1348	1295

Table 60

Centrifugal component in static belt tension value F (N) for a V-belt

CONTI FO®-Z heavy-duty cogged raw edge V-belts

5/-	0	1	1	2	2	3	4	5	6	7	9	10	12	14	15	17	19	22	24	26	29	32	35	38
6/Y	0	1	1	2	3	5	6	7	9	11	13	16	18	21	24	27	30	33	37	41	45	49	53	58
8/-	1	1	3	4	6	8	10	13	16	20	24	28	32	37	42	47	53	59	66	72	79	87	94	103
XPZ	1	3	5	7	10	14	18	23	29	35	41	49	56	65	74	83	93	104	115	127	139	152	166	180
XPA	2	4	7	11	16	22	29	36	45	54	65	76	88	101	115	129	145	162	179	198	217	237	258	280
XPB	3	7	12	19	28	38	49	62	77	93	111	130	151	173	197	222	249	277	307	339	372	406	442	480
XPC	6	13	24	37	53	73	95	120	148	179	213	250	290	333	379	428	480	534	592	653	716	783	852	925

CONTI ULTRAFLEX® narrow-section wrapped V-belts

SPZ	1	3	5	7	11	14	19	24	29	35	42	49	57	66	75	84	95	105	117					
SPA	2	4	6	10	14	20	26	32	40	48	58	68	78	90	102	116	130	144	160					
SPB	3	6	11	18	26	35	46	58	71	86	103	120	140	160	182	206	231	257	285					
SPC	6	14	24	38	55	74	97	123	152	184	219	257	298	342	389	433	492	549	608					

CONTI MULTIFLEX® classical-section wrapped V-belts

8/-	1	1	3	4	6	8	10	13	16	19	23	27	31	36										
10/Z	1	2	4	6	9	12	15	19	24	29	35	41	47	54										
13/A	2	4	7	11	15	21	27	34	42	51	60	71	82	94										
17/B	3	6	11	17	24	33	44	55	68	82	98	115	133	153										
20/-	4	9	15	24	35	47	61	78	96	116	138	162	188	216										
22/C	5	11	19	30	43	59	77	97	120	145	173	203	235	270										
25/-	7	15	28	43	62	84	110	139	172	208	248	291	337	387										
32/D	10	23	40	63	91	123	161	204	252	305	363	426	494	567										
40/E	16	35	62	97	140	190	248	314	388	469	559	656	760	873										

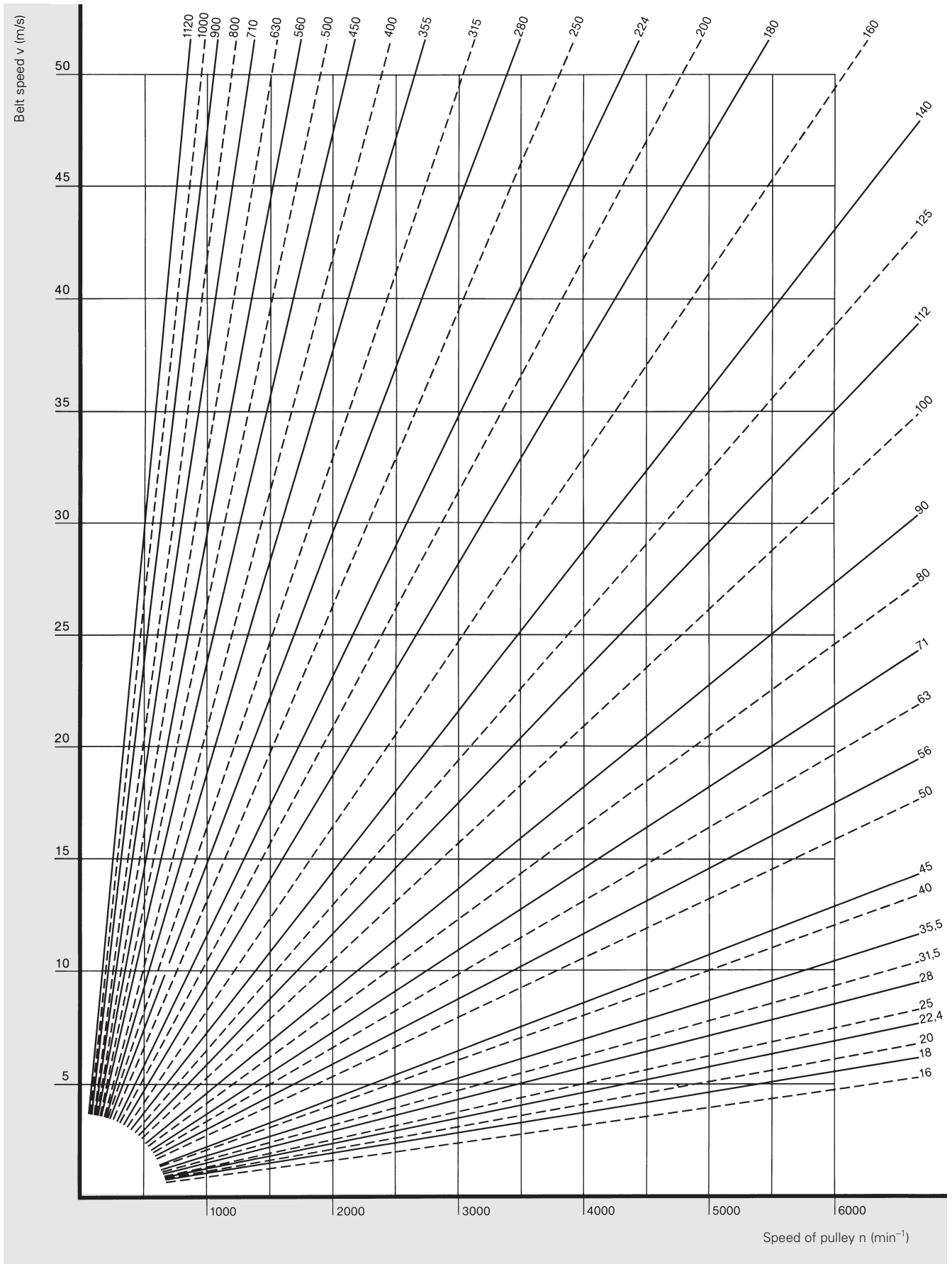
Tables 59 and 60:
Instructions for use.

1. Determine effective pull component from belt speed and power to be transmitted (table 59)
2. Determine centrifugal force component according to belt speed and to type and section of V-belt (table 60)
3. Calculate static belt tension F by adding together effective pull component (value in table 59) and centrifugal force component (value in table 60).

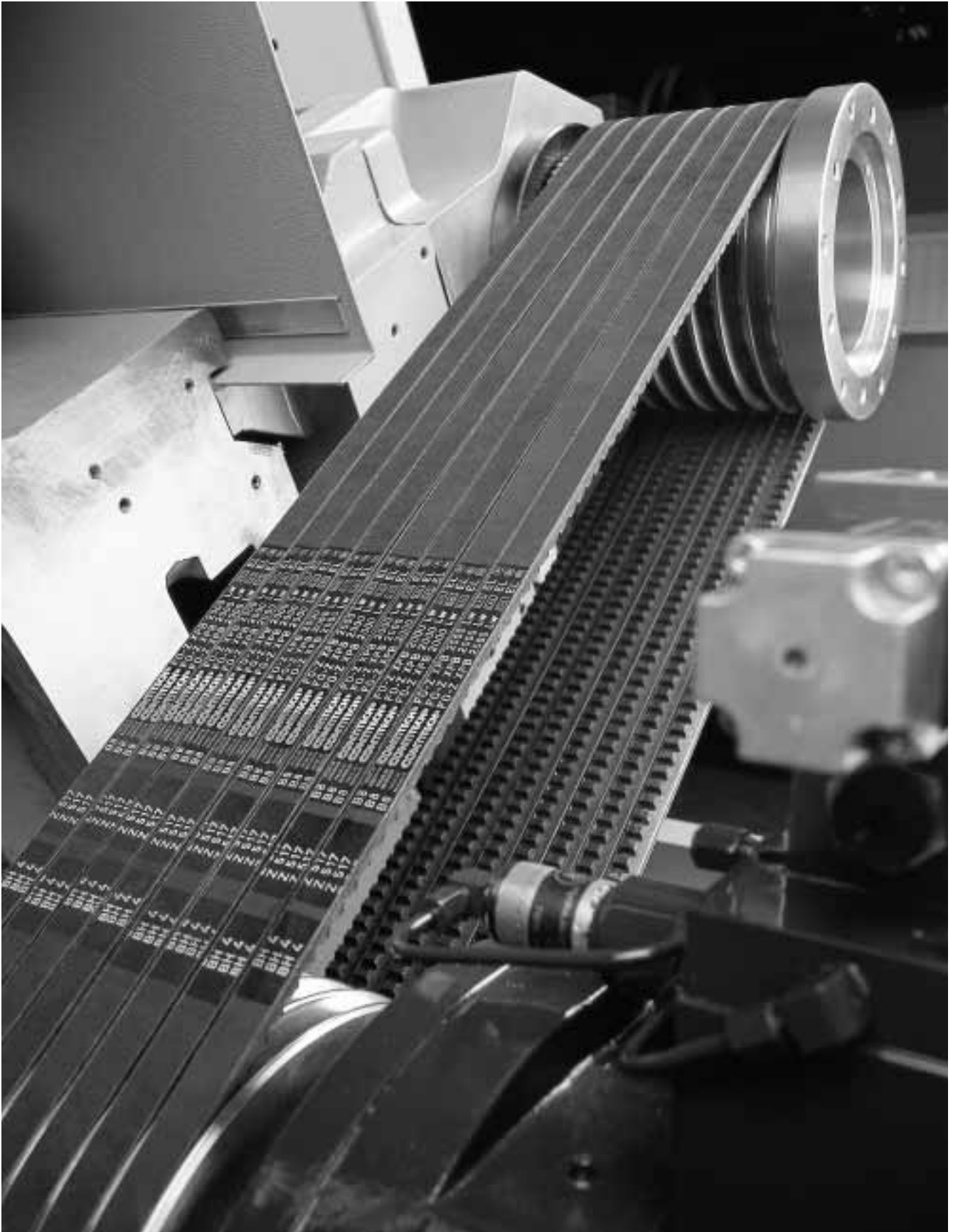
Value in table 59																								
Value in table 60																								
Σ = F																								

Belt speed v (m/s) as a function of pulley speed $n_{1,2}$ and pulley diameter $d_{w1,2}$

Fig. 27



Standard specifications



Matched-length CONTI FO®-Z heavy-duty cogged raw edge V-belts on a lathe

Standard specifications

Germany

- DIN 109 ____ Part 1 ____ Driving Elements; Circumferential Speeds
Part 2 ____ Driving Elements; Centre Distances for V-belt Drives
- DIN 2211 ____ Part 1 ____ Driving Elements; Grooved Pulleys for Narrow V-belts; dimensions; material
____ Part 2 ____ Driving Elements; Grooved Pulleys for Narrow V-belts; verification
- DIN 2215 _____ Endless V-belts; Dimensions
- DIN 2217 ____ Part 1 ____ Driving Elements; V-belt Pulleys; Dimensions, Material
Part 2 ____ Driving Elements; Grooved Pulleys for V-belts; Testing of Grooves
- DIN 2218 _____ Endless V-belts for Mechanical Engineering; Calculation of Drives, Power Ratings
- DIN 7719 ____ Part 1 ____ Endless broad-section V-belts for industrial variable speed gears; belts and groove profiles of corresponding pulleys
Part 2 ____ Endless broad-section V-belts for industrial variable speed gears; measurement of variations in centre distance
- DIN 7721 ____ Part 1 ____ Synchronous belt drives; metric pitch; synchronous belts
Part 2 ____ Synchronous belt drives; metric pitch; tooth space profile of synchronous pulleys
- DIN 7753 ____ Part 1 ____ Endless Narrow V-belts for industrial Purposes; Dimensions
Part 3 ____ Endless Narrow V-belts for the Automotive Industry; Dimensions
Part 4 ____ Endless Narrow V-belts for the Automotive Industry; Fatigue test
- DIN 7867 _____ Multiple V-ribbed belts and pulleys
- DIN ISO 5294 _____ Synchronous belt drives; pulleys
- DIN ISO 5296 _____ Synchronous belt drives; Belts

ISO – International Organization for Standardization

- ISO 155 _____ Transmission pulleys; Limiting values for adjustment of centres
- ISO 254 _____ Quality, finish and balance of transmission pulleys
- ISO 1081 _____ Drives using V-belts and grooved pulleys; Terminology
- ISO 1604 _____ Endless wide V-belts for industrial speed-changers and groove profiles for corresponding pulleys
- ISO 1813 _____ Antistatic endless V-belts; Electrical conductivity; Characteristic and method of test
- ISO 2790 _____ Narrow V-belt drives for the automotive industry; Dimensions

ISO 3410	_____	Agricultural machinery; Endless variable-speed V-belts and groove sections of corresponding pulleys
ISO 4183	_____	Grooved pulleys for classical and narrow V-belts
ISO 4184	_____	Classical and narrow V-belts; Lengths
ISO 5287	_____	Narrow V-belt drives for the automotive industry; Fatigue test
ISO 5292	_____	Industrial V-belt drives; Calculation of power ratings
ISO 5294	_____	Synchronous belt drives; Pulleys
ISO 5295	_____	Synchronous belts; Calculation of power rating and drive centre distance
ISO 5296	_____	Synchronous belt drives; Belts
ISO 8370	_____	V-belts and multiple V-ribbed belts; determination of the pitch zone
ISO 9010	_____	Synchronous belt drives; automotive belts
ISO 9011	_____	Synchronous belt drives; automotive pulleys
ISO 9563	_____	Electrical conductivity of antistatic synchronous belts; characteristic and method of test
ISO 9608	_____	Uniformity of V-belts; measurement and limiting values of variations in centre distance
ISO 9980	_____	V-belt pulleys; geometric testing of grooves
ISO 9981	_____	Multiple V-ribbed belts and pulleys for the automotive industry; dimensions of PK section
ISO 9982	_____	Multiple V-ribbed belts and pulleys for industrial applications; dimensions of PH to PM sections

France

NF T 47-104	_____	Endless antistatic V-belts; Electrical conductivity; Specifications and methods of test
NF T 47-106	_____	Classical endless V-belts and corresponding grooved pulleys
NF T 47-117	_____	Endless narrow V-belts and V-belt pulleys for sections SPZ, SPA and SPB
NF T 47-128	_____	Endless wide V-belts for industrial speed changers and groove profiles for corresponding pulleys
NF T 47-129	_____	Endless narrow V-belts (SPC sections) and corresponding pulleys
NF R 15-504	_____	Endless narrow V-belts for the automotive industry; geometrical characteristics for sections SPZ and SPA
NF R 15-505	_____	Endless narrow V-belts for the automotive industry; mechanical characteristics for sections SPZ and SPA

Great Britain

BS 3733	_____	Endless V-belt drives for agricultural purposes
BS 3790	_____	Specification for endless wedge belt drives and endless V-belt drives
BS AU 150	_____	Automotive V-belt drives

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