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Technical Information

RED POWER3

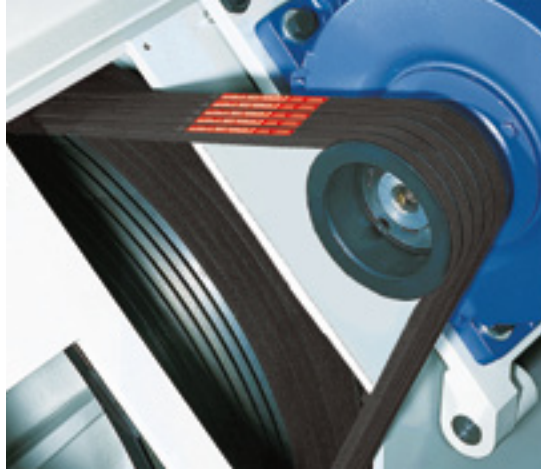
- ✓ up to 50% higher power ratings
- ✓ maintenance-free
- ✓ up to 97% efficiency



Drive solutions with Optibelt

A practical example

16 hours a day, 260 days a year: continuous operation of a drive element in a pelletizing press in feeding stuff production. Based on an operational life of 25,000 hours, a running time of over 6 years is achieved.



RED POWER 3

V-Belts, Maintenance-Free

The same drive location, the same application: however, this time with the improved Optibelt RED POWER 3

With 8 standard belts	SPB 3750 L _d
Driver pulley	8 grooves Ø 170 mm
Driven pulley	8 grooves Ø 900 mm
Pulley face width	158 mm
Theoretical belt life	25 000 hours
Retensioning	10 times

With 5 „RED POWER 3“	SPB 3750 L _d
Driver pulley	5 grooves Ø 170 mm
Driven pulley	5 grooves Ø 900 mm
Pulley face width	120 mm
Theoretical belt life	25 000 hours
Retensioning	not required

Cost savings for the drive system: approx. 35 %

optibelt RED POWER

The direct comparison between the Optibelt standard V-belt and our advanced "Optibelt RED POWER 3" illustrates:

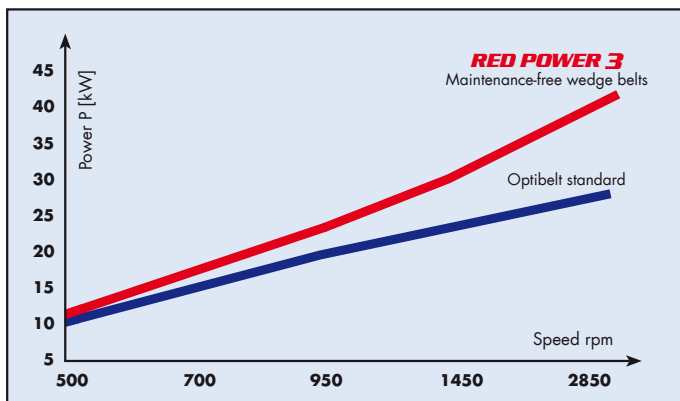
At a rotational speed of 2850 rpm the "Optibelt RED POWER 3" achieves – believe it or not –

50% increased performance

compared to the Optibelt standard V-belt. The application examples are unlimited as the "Optibelt RED POWER 3" is available in length ranges from 1200 mm to 8500 mm.

The product range includes the V-belt profiles SPZ, SPA, SPB, SPC, 3V/9N, 5V/15N and 8V/25N as well as the kraitband profiles 3V/9J, 5V/15J, 8V/25J, SPZ, SPA, SPB and SPC.

**Fewer belts + narrower V-grooved pulleys
+ space saving = less costs**



Power rating comparison between Optibelt standard and Optibelt RED POWER 3. Belt section SPB, pulley diameter 280 mm.

Advantage 1: Maintenance-free – optimum tension behaviour during service life

New production processes and raw materials make it possible to manufacture a new type of wrapped wedge belt which requires absolutely no maintenance or retensioning throughout its life. Following the initial tensioning to our recommendations the Optibelt RED POWER 3 will never need any further attention. Laboratory tests prove that the second generation of Optibelt RED POWER 3 has an exceptionally long service life and thus represents a real revolution in the world of power transmission. For the initial fitting of Optibelt RED POWER 3 the same calculation methods apply as for Optibelt standard wedge belts.

The tension values are to be calculated on the same basis or can be gathered from the table on page 15.

Advantage 2: Strong power ratings – drive efficiency up to 97%

The power ratings of Optibelt RED POWER 3 speak for themselves. They are substantially higher than present day wrapped wedge belts depending on section size and pulley diameter. The ratings for the Optibelt RED POWER 3 are, in many cases, similar to those of raw edge, moulded cogged belts. The drive efficiency is as high as 97%. Optibelt RED POWER 3 are oil-resistant, heat-resistant and dust-resistant as standard. The application of antistatic Optibelt RED POWER 3 requires the confirmation by testing the stipulated properties to ISO 1813. We are proving the electrical conductivity with our final inspection certificate EN 10204 "3.1.B".

RED POWER 3

S=C PLUS
SetConstant

Wartungsfrei
Maintenance-Free

Advantage 3: Cost savings – less belts = lower costs

Real money can be saved by using Optibelt RED POWER 3. The higher power ratings mean fewer belts on a drive. Fewer belts, narrower pulleys, therefore less space required – result: lower costs. What an argument!

Advantage 4: S=C PLUS Set Constant

Naturally, the same applies to Optibelt RED POWER 3 S=C PLUS. Due to the fact that it is less sensitive to shock loads, RED POWER 3 runs very well in sets and is virtually smooth running. Belt length tolerances of the Optibelt RED POWER 3 are well below the matched set tolerances around nominal lengths shown in standards. By the way: the Optibelt RED POWER 3 is also available as kraftband.

Advantage 5: Environmentally friendly

Production of the Optibelt RED POWER 3 is far more environmentally friendly than the production of many other belts. There is a little material waste during the production of the wrapped maintenance-free wedge belt. We are proud to say that we succeeded in producing the most environmentally friendly transmission belt, both with regard to production and waste removal and taking into account these power ratings.

RED POWER 3
Maintenance-Free Wedge Belts

Product Description

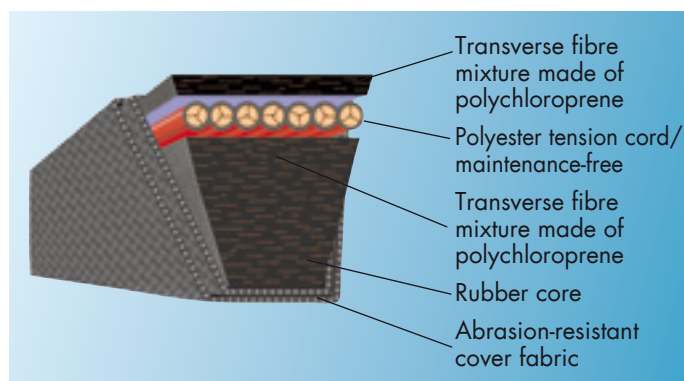
optibelt RED POWER 3 High Performance Wedge Belts



Power Transmission

Construction

Optibelt RED POWER 3 wedge belts:



The tension cord for all sections and cross sections consists of a special polyester cord. Due to the special treatment of the tension cord the Optibelt RED POWER 3 wedge belt is very low stretch and maintenance-free, so that retensioning is not necessary.

The fibre mixture over and under the tension cord guarantees highly dynamic load of the belt and provides good flexibility in combination with the polyester tension cord.

The cover fabric is extremely wear-resistant, flexible and abrasion-proof.

Properties

The high-quality components in connection with product manufacturing make the Optibelt RED POWER 3 a maintenance-free V-belt. Production is continuously monitored using state-of-the-art static and dynamic testing devices.

Application with drives using idler pulleys is possible due to the special construction of the Optibelt RED POWER 3.

Its properties:

- maintenance-free
- high power rating
- cost effective
- Set Constant
- environmentally friendly

Optibelt RED POWER 3 are oil-resistant, heat-resistant and dust protected as standard

The antistatic properties of Optibelt RED POWER 3 should be confirmed by testing these properties according to ISO 1813. With our acceptance test certificate to EN 10204 "3.1.B" we show proof of the antistatic properties.

V-Belt Tensioning

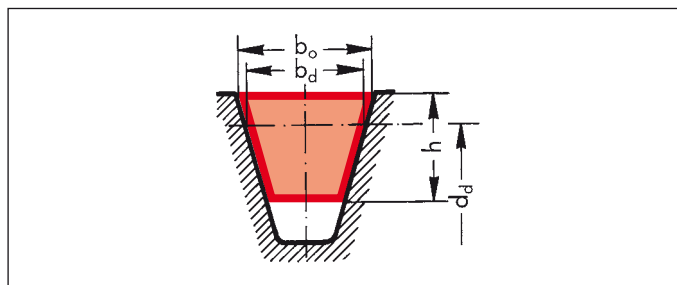
For the initial fitting of Optibelt RED POWER 3 the same calculation methods are used as for standard Optibelt V-belts. The tensioning values are to be calculated on the same basis or to be taken from the table on page 15. Once correctly tensioned Optibelt RED POWER 3 V-belts need no retensioning.

Applications

Optibelt RED POWER 3 wedge belts were especially developed for mechanical engineering. The fields of application are among others compressors, pumps, presses, fans and other heavy duty drives.

Standardisation/Dimensions

Optibelt RED POWER 3 wedge belts with the sections SPZ, SPA, SPB, SPC, 3V/9N, 5V/15N and 8V/25N are standardised according to BS 3790, DIN 7753 Part 1, ISO 4184 and RMA/MPTA.



Section		SPZ	SPA	SPB	SPC
Belt top width	$b_o \approx$	9.7	12.7	16.3	22
Datum width	$b_d \approx$	8.5	11	14	19
Belt height	$h \approx$	8	10	13	18
Recommended minimum pulley datum diameter	$d_{d \min}$	63	90	140	224
Belt weight (kg/m)	$\approx$	0.074	0.123	0.195	0.377
Maximum flex rate (s^{-1})	$f_{B \max} \approx$	100			
Maximum belt speed (m/s)	$v_{\max} \approx$	55*			

* When $v > 42$ m/sec. please consult our Applications Engineering Dept.

Section		3V/9N	5V/15N	8V/25N
Belt top width	$b_o \approx$	9	15	25
Belt height	$h \approx$	8	13	23
Recommended minimum pulley datum diameter	$d_{d \min}$	63	140	335
Belt weight (kg/m)	$\approx$	0.074	0.195	0.575
Max. flexing rate (s^{-1})	$f_{B \max} \approx$	100		
Max. belt speed (m/s)	$v_{\max} \approx$	55*		

* When $v > 42$ m/sec. please consult our Applications Engineering Dept.

Standard Range

optibelt *RED POWER 3* High Performance Wedge Belts

BS 3790/DIN 7753 Part 1/ISO 4184



Profile SPZ			Profile SPA				Profile SPB	Profile SPC
Datum length ISO (mm) L _d			Datum length ISO (mm) L _d				Datum length ISO (mm) L _d	Datum length ISO (mm) L _d
1202	1587	2137	1207	1700	2282	3082	1250	2000
1212	1600	2187	1232	1707	2300	3150	1320	2120
1237	1612	2240	1250	1732	2307	3182	1400	2240
1250	1637	2287	1257	1757	2332	3282	1500	2360
1262	1662	2360	1282	1782	2360	3350	1600	2500
1287	1687	2500	1307	1800	2382	3382	1700	2650
1312	1700	2650	1320	1807	2432	3550	1800	2800
1320	1737	2800	1332	1832	2482	3750	1900	3000
1337	1762	3000	1357	1857	2500	4000	2000	3150
1362	1787	3150	1382	1882	2532		2120	3350
1387	1800	3350	1400	1900	2582		2240	3550
1400	1837	3550	1407	1907	2607		2360	3750
1412	1862		1432	1932	2632		2500	4000
1437	1887		1457	1957	2650		2650	4250
1462	1900		1482	1982	2682		2800	4500
1487	1937		1500	2000	2732		3000	4750
1500	1987		1507	2032	2782		3150	5000
1512	2000		1532	2057	2800		3350	5300
1537	2037		1557	2082	2832		3550	5600
1562	2120		1582	2120	2847		3750	6000
			1600	2132	2882		4000	6300
			1607	2182	2932		4250	6700
			1632	2207	2982		4500	7100
			1657	2232	3000		4750	7500
			1682	2240	3032		5000	8000
							5300	8500
							5600	9000
							6000	9500
							6300	10000
							6700	
							7100	
							7500	
							8000	
Maximum manufacturing length: 4000 mm			Maximum manufacturing length: 4000 mm				Maximum manufacturing length: 8000 mm	Maximum manufacturing length: 10000 mm
Non standard lengths on request			Non standard lengths on request				Non standard lengths on request	Non standard lengths on request
Weight: ≈ 0.074 kg/m			Weight: ≈ 0.123 kg/m				Weight: ≈ 0.195 kg/m	Weight: ≈ 0.377 kg/m
Datum length L _d ≙ pitch length L _w /L _p								

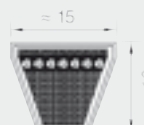
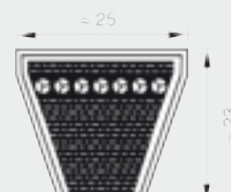
Standard Range

optibelt *RED POWER 3* High Performance Wedge Belts

USA Standard RMA/MPTA



Power Transmission

**3V/9N****5V/15N****8V/25N**

Profile 3V/9N		Profile 5V/15N		Profile 8V/25N	
Designation	Designation L_a (outside length mm)	Designation	Designation L_a (outside length mm)	Designation	Designation L_a (outside length mm)
3V 475	9N 1206	5V 530	15N 1346	8V 1000	25N 2540
3V 500	9N 1270	5V 560	15N 1422	8V 1120	25N 2845
3V 530	9N 1346	5V 600	15N 1524	8V 1180	25N 2997
3V 560	9N 1422	5V 630	15N 1600	8V 1250	25N 3175
3V 600	9N 1524	5V 670	15N 1702	8V 1320	25N 3353
3V 630	9N 1600	5V 710	15N 1803	8V 1400	25N 3556
3V 670	9N 1702	5V 750	15N 1905	8V 1500	25N 3810
3V 710	9N 1803	5V 800	15N 2032	8V 1600	25N 4064
3V 750	9N 1905	5V 850	15N 2159	8V 1700	25N 4318
3V 800	9N 2032	5V 900	15N 2286	8V 1800	25N 4572
3V 850	9N 2159	5V 950	15N 2413	8V 1900	25N 4826
3V 900	9N 2286	5V 1000	15N 2540	8V 2000	25N 5080
3V 950	9N 2413	5V 1060	15N 2692	8V 2120	25N 5385
3V 1000	9N 2540	5V 1120	15N 2845	8V 2240	25N 5690
3V 1060	9N 2692	5V 1180	15N 2997	8V 2360	25N 5994
3V 1120	9N 2845	5V 1250	15N 3175	8V 2500	25N 6350
3V 1180	9N 2997	5V 1320	15N 3353	8V 2650	25N 6731
3V 1250	9N 3175	5V 1400	15N 3556	8V 2800	25N 7112
3V 1320	9N 3353	5V 1500	15N 3810	8V 3000	25N 7620
3V 1400	9N 3556	5V 1600	15N 4064	8V 3150	25N 8001
		5V 1700	15N 4318	8V 3350	25N 8509
		5V 1800	15N 4572	8V 3550	25N 9017
		5V 1900	15N 4826	8V 3750	25N 9525
		5V 2000	15N 5080	8V 4000	25N 10160
		5V 2120	15N 5385	8V 4250	25N 10795
		5V 2240	15N 5690	8V 4500	25N 11430
		5V 2360	15N 5994	8V 4750	25N 12065
		5V 2500	15N 6350		
		5V 2650	15N 6731		
		5V 2800	15N 7112		
		5V 3000	15N 7620		
		5V 3150	15N 8001		
Maximum production length: 4000 mm L_a		Maximum production length: 9525 mm L_a		Maximum production length: 12 065 mm L_a	
Non standard lengths on request		Non standard lengths on request		Non standard lengths on request	
Weight: ≈ 0.074 kg/m		Weight: ≈ 0.195 kg/m		Weight: ≈ 0.575 kg/m	

Standard Range

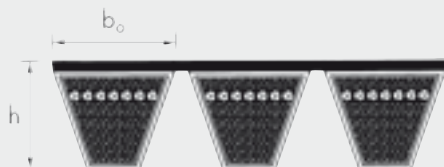
optibelt RED POWER 3 Kraftbands

with High Performance Wedge Belts

BS/DIN/ISO



Power Transmission



Profile	SPB	SPC
$b_o \approx (\text{mm})$	16.5	22.0
$h \approx (\text{mm})$	15.6	22.6

Profile SPB	Profile SPC
Datum length ISO L_d (mm)	Datum length ISO L_d (mm)
2000	3000
2120	3150
2240	3350
2360	3550
2500	3750
2650	4000
2800	4250
3000	4500
3150	4750
3350	5000
3550	5300
3750	5600
4000	6000
4250	6300
4500	6700
4750	7100
5000	7500
5300	8000
5600	8500
6000	9000
6300	9500
6700	10000
7100	
7500	
8000	
Maximum production length: 8000 mm L_d	Maximum production length: 10000 mm L_d
Non standard lengths on request	Non standard lengths on request
Weight: $\approx 0.261 \text{ kg/m per rib}$	Weight: $\approx 0.555 \text{ kg/m per rib}$

Standard Range

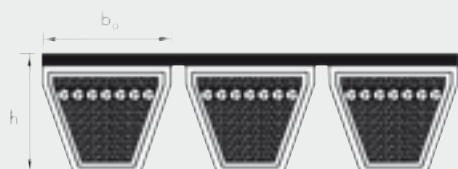
optibelt *RED POWER 3* Kraftbands

with High Performance Wedge Belts

USA Standard RMA/MPTA



Power Transmission



Profile	3V/9J	5V/15J	8V/25J
$b_o \approx$ (mm)	9.0	15.0	25.0
$h \approx$ (mm)	9.9	15.1	25.5

Profile 3V/9J		Profile 5V/15J		Profile 8V/25J	
Designation	Designation L_a (outside length mm)	Designation	Designation L_a (outside length mm)	Designation	Designation L_a (outside length mm)
3V 500	9J 1270	5V 560	15J 1422	8V 1000	25J 2540
3V 530	9J 1346	5V 600	15J 1524	8V 1060	25J 2692
3V 560	9J 1422	5V 630	15J 1600	8V 1120	25J 2845
3V 600	9J 1524	5V 670	15J 1702	8V 1180	25J 2997
3V 630	9J 1600	5V 710	15J 1803	8V 1250	25J 3175
3V 670	9J 1702	5V 750	15J 1905	8V 1320	25J 3353
3V 710	9J 1803	5V 800	15J 2032	8V 1400	25J 3556
3V 750	9J 1905	5V 850	15J 2159	8V 1500	25J 3810
3V 800	9J 2032	5V 900	15J 2286	8V 1600	25J 4064
3V 850	9J 2159	5V 950	15J 2413	8V 1700	25J 4318
3V 900	9J 2286	5V 1000	15J 2540	8V 1800	25J 4572
3V 950	9J 2413	5V 1060	15J 2692	8V 1900	25J 4826
3V 1000	9J 2540	5V 1120	15J 2845	8V 2000	25J 5080
3V 1060	9J 2692	5V 1180	15J 2997	8V 2120	25J 5385
3V 1120	9J 2845	5V 1250	15J 3175	8V 2240	25J 5690
3V 1180	9J 2997	5V 1320	15J 3353	8V 2360	25J 5994
3V 1250	9J 3175	5V 1400	15J 3556	8V 2500	25J 6350
3V 1320	9J 3353	5V 1500	15J 3810	8V 2650	25J 6731
3V 1400	9J 3556	5V 1600	15J 4064	8V 2800	25J 7112
		5V 1700	15J 4318	8V 3000	25J 7620
		5V 1800	15J 4572	8V 3150	25J 8001
		5V 1900	15J 4826	8V 3350	25J 8509
		5V 2000	15J 5080	8V 3550	25J 9017
		5V 2120	15J 5385	8V 3750	25J 9525
		5V 2240	15J 5690	8V 4000	25J 10160
		5V 2360	15J 5994	8V 4250	25J 10795
		5V 2500	15J 6350	8V 4500	25J 11430
		5V 2650	15J 6731	8V 4750	25J 12065
		5V 2800	15J 7112		
		5V 3000	15J 7620		
		5V 3150	15J 8001		
Maximum production length: 4000 mm L_a		Maximum production length: 9525 mm L_a		Maximum production length: 12065 mm L_a	
Non standard lengths on request		Non standard lengths on request		Non standard lengths on request	
Weight: ≈ 0.122 kg/m per rib		Weight: ≈ 0.252 kg/m per rib		Weight: ≈ 0.693 kg/m per rib	

Power Ratings

optibelt RED POWER 3 Profile SPZ, 3V/9N, 3V/9J

Nominal Power Rating P_N (kW) for $\beta = 180^\circ$ and $L_d = 1600$ mm



Power Transmission

Table 1

Pulleys	v (m/s)	n _k (min ⁻¹)	Datum diameter of small pulley d _{sk} (mm)																Additional power (kW) per belt for speed ratio i			
			63	71	80	85	90	95	100	112	125	132	140	150	160	180	200	1.01 to 1.05	1.06 to 1.26	1.27 to 1.57	> 1.57	
Statically balanced	5	700	0.72	0.96	1.22	1.37	1.51	1.66	1.80	2.14	2.50	2.70	2.92	3.19	3.47	4.02	4.56	0.01	0.06	0.09	0.11	
		950	0.92	1.24	1.58	1.78	1.97	2.16	2.35	2.80	3.29	3.54	3.84	4.20	4.56	5.28	5.99	0.01	0.09	0.12	0.15	
		1450	1.30	1.76	2.27	2.56	2.83	3.12	3.40	4.06	4.75	5.14	5.56	6.08	6.60	7.63	8.63	0.02	0.13	0.19	0.23	
		2850	2.16	3.00	3.94	4.44	4.94	5.44	5.93	7.08	8.28	8.92	9.61	10.46	11.29	12.84	14.26	0.04	0.26	0.37	0.46	
		100	0.13	0.18	0.22	0.24	0.26	0.29	0.31	0.37	0.43	0.46	0.49	0.54	0.59	0.67	0.77	0.00	0.01	0.01	0.02	
		200	0.25	0.32	0.41	0.46	0.49	0.54	0.59	0.70	0.80	0.86	0.94	1.02	1.10	1.28	1.45	0.00	0.02	0.03	0.03	
		300	0.36	0.46	0.58	0.65	0.71	0.78	0.84	1.00	1.16	1.25	1.36	1.49	1.61	1.86	2.11	0.00	0.03	0.04	0.05	
		400	0.46	0.59	0.74	0.83	0.92	1.01	1.09	1.30	1.51	1.63	1.76	1.93	2.09	2.42	2.75	0.01	0.04	0.05	0.06	
		500	0.54	0.72	0.91	1.02	1.12	1.22	1.33	1.58	1.85	1.99	2.16	2.36	2.56	2.96	3.36	0.01	0.05	0.07	0.08	
		600	0.64	0.84	1.07	1.19	1.32	1.44	1.56	1.86	2.18	2.35	2.54	2.78	3.02	3.49	3.96	0.01	0.06	0.08	0.10	
	700	0.72	0.96	1.22	1.37	1.51	1.66	1.80	2.14	2.50	2.70	2.92	3.19	3.47	4.02	4.56	0.01	0.06	0.09	0.11		
	800	0.80	1.07	1.37	1.54	1.69	1.86	2.02	2.40	2.82	3.04	3.29	3.60	3.91	4.52	5.14	0.01	0.07	0.11	0.13		
	900	0.89	1.19	1.51	1.69	1.88	2.06	2.24	2.66	3.13	3.37	3.66	4.01	4.34	5.03	5.70	0.01	0.08	0.12	0.15		
	1000	0.96	1.30	1.66	1.86	2.06	2.26	2.46	2.93	3.43	3.71	4.02	4.39	4.78	5.52	6.26	0.01	0.09	0.13	0.16		
	1100	1.04	1.40	1.80	2.02	2.23	2.46	2.68	3.19	3.74	4.03	4.37	4.79	5.20	6.01	6.80	0.02	0.10	0.14	0.18		
	1200	1.12	1.50	1.93	2.17	2.41	2.65	2.88	3.44	4.03	4.36	4.72	5.16	5.60	6.48	7.34	0.02	0.11	0.16	0.19		
	1300	1.19	1.61	2.08	2.33	2.58	2.83	3.08	3.68	4.33	4.67	5.05	5.53	6.01	6.95	7.86	0.02	0.12	0.17	0.21		
	1400	1.26	1.72	2.21	2.48	2.75	3.02	3.29	3.94	4.62	4.98	5.39	5.90	6.41	7.40	8.38	0.02	0.13	0.18	0.23		
	1500	1.33	1.81	2.34	2.63	2.92	3.20	3.49	4.18	4.90	5.28	5.72	6.26	6.80	7.85	8.88	0.02	0.14	0.20	0.24		
	1600	1.40	1.91	2.47	2.77	3.08	3.38	3.70	4.42	5.17	5.58	6.05	6.62	7.19	8.29	9.36	0.02	0.15	0.21	0.26		
	1700	1.48	2.00	2.59	2.93	3.24	3.56	3.89	4.64	5.45	5.88	6.37	6.97	7.56	8.71	9.84	0.02	0.16	0.22	0.27		
	1800	1.54	2.10	2.72	3.06	3.41	3.74	4.08	4.87	5.72	6.17	6.68	7.31	7.93	9.13	10.30	0.03	0.17	0.24	0.29		
	1900	1.61	2.20	2.84	3.20	3.56	3.91	4.27	5.10	5.99	6.46	6.98	7.64	8.29	9.54	10.75	0.03	0.18	0.25	0.31		
	2000	1.67	2.28	2.96	3.35	3.72	4.09	4.45	5.33	6.25	6.74	7.30	7.97	8.64	9.94	11.18	0.03	0.19	0.26	0.32		
	2100	1.73	2.38	3.08	3.48	3.86	4.26	4.64	5.54	6.50	7.02	7.58	8.29	8.99	10.32	11.60	0.03	0.19	0.28	0.34		
	2200	1.79	2.46	3.20	3.61	4.02	4.42	4.82	5.76	6.76	7.28	7.88	8.60	9.32	10.69	12.01	0.03	0.20	0.29	0.35		
	2300	1.85	2.56	3.32	3.74	4.16	4.58	4.99	5.98	7.01	7.55	8.16	8.92	9.65	11.06	12.40	0.03	0.21	0.30	0.37		
	2400	1.91	2.64	3.44	3.88	4.31	4.74	5.17	6.18	7.25	7.81	8.44	9.22	9.97	11.41	12.77	0.03	0.22	0.32	0.39		
	2500	1.97	2.72	3.55	4.01	4.45	4.91	5.34	6.38	7.49	8.06	8.71	9.50	10.27	11.75	13.13	0.04	0.23	0.33	0.40		
	2600	2.03	2.81	3.66	4.13	4.60	5.06	5.52	6.59	7.72	8.32	8.98	9.79	10.58	12.08	13.48	0.04	0.24	0.34	0.42		
	2700	2.09	2.88	3.77	4.26	4.74	5.21	5.68	6.79	7.94	8.56	9.24	10.07	10.87	12.40	13.80	0.04	0.25	0.35	0.44		
	2800	2.14	2.96	3.88	4.38	4.87	5.36	5.84	6.98	8.17	8.80	9.49	10.33	11.15	12.70	14.11	0.04	0.26	0.37	0.45		
	2900	2.20	3.05	3.98	4.50	5.00	5.51	6.01	7.18	8.39	9.02	9.73	10.60	11.42	12.98	14.40	0.04	0.27	0.38	0.47		
	3000	2.24	3.12	4.09	4.62	5.14	5.65	6.17	7.36	8.60	9.25	9.97	10.85	11.69	13.26	14.68	0.04	0.28	0.39	0.48		
3100	2.29	3.19	4.19	4.73	5.27	5.80	6.32	7.54	8.81	9.47	10.20	11.09	11.94	13.52	14.93	0.04	0.29	0.41	0.50			
3200	2.34	3.28	4.30	4.85	5.40	5.94	6.47	7.72	9.01	9.68	10.43	11.33	12.18	13.76	15.17	0.05	0.30	0.42	0.52			
3300	2.39	3.35	4.39	4.96	5.52	6.07	6.62	7.90	9.20	9.89	10.64	11.56	12.42	14.00	15.37	0.05	0.31	0.43	0.53			
3400	2.44	3.42	4.49	5.06	5.64	6.20	6.77	8.06	9.40	10.09	10.86	11.77	12.64	14.22	15.58	0.05	0.31	0.45	0.55			
3500	2.48	3.48	4.58	5.17	5.76	6.34	6.90	8.22	9.59	10.28	11.05	11.98	12.84	14.41	15.74	0.05	0.32	0.46	0.56			
3600	2.53	3.55	4.67	5.28	5.88	6.47	7.04	8.39	9.77	10.48	11.26	12.18	13.04	14.60	15.90	0.05	0.33	0.47	0.58			
3700	2.58	3.62	4.76	5.39	5.99	6.59	7.18	8.54	9.94	10.66	11.44	12.36	13.22	14.77	16.03	0.05	0.34	0.49	0.60			
3800	2.62	3.68	4.85	5.48	6.11	6.72	7.31	8.69	10.10	10.82	11.62	12.54	13.40	14.92	16.14	0.05	0.35	0.50	0.61			
3900	2.66	3.76	4.94	5.58	6.22	6.84	7.44	8.84	10.27	10.99	11.78	12.71	13.57	15.06	16.22	0.06	0.36	0.51	0.63			
4000	2.70	3.82	5.03	5.68	6.32	6.95	7.56	8.99	10.42	11.15	11.94	12.86	13.72	15.18	16.28	0.06	0.37	0.53	0.64			
4100	2.75	3.88	5.11	5.77	6.42	7.07	7.69	9.12	10.57	11.30	12.10	13.01	13.85	15.28	16.32	0.06	0.38	0.54	0.66			
4200	2.78	3.94	5.18	5.87	6.53	7.18	7.80	9.25	10.72	11.45	12.24	13.15	13.98	15.36	16.33	0.06	0.39	0.55	0.68			
4300	2.82	4.00	5.27	5.95	6.62	7.28	7.92	9.38	10.85	11.58	12.37	13.27	14.09	15.42	16.32	0.06	0.40	0.57	0.69			
4400	2.86	4.04	5.34	6.04	6.72	7.38	8.03	9.50	10.98	11.71	12.49	13.39	14.18	15.47	16.28	0.06	0.41	0.58	0.71			
4500	2.89	4.10	5.41	6.12	6.82	7.49	8.14	9.62	11.10	11.83	12.61	13.49	14.27	15.49	16.21	0.06	0.42	0.59	0.73			
4600	2.93	4.15	5.50	6.20	6.90	7.58	8.24	9.73	11.21	11.94	12.71	13.58	14.34	15.49	16.13	0.07	0.43	0.60	0.74			
4700	2.96	4.21	5.56	6.29	7.00	7.68	8.34	9.84	11.32	12.05	12.80	13.66	14.40	15.48	16.01	0.07	0.44	0.62	0.76			
4800	2.99	4.26	5.63	6.36	7.08	7.76	8.44	9.95	11.42	12.14	12.89	13.73	14.44	15.44	15.86	0.07	0.44	0.63	0.77			
4900	3.02	4.31	5.70	6.43	7.15	7.85	8.53	10.04	11.51	12.23	12.97	13.79	14.46	15.38	15.68	0.07	0.45	0.64	0.79			
5000	3.05	4.36	5.76	6.50	7.24	7.93	8.62	10.14	11.60	12.30	13.03	13.82	14.47	15.31	15.48	0.07	0.46	0.66	0.81			
5100	3.08	4.40	5.82	6.58	7.31	8.02	8.70	10.22	11.68	12.37	13.09	13.85	14.47	15.22	15.25	0.07	0.47	0.67	0.82			
5200	3.11	4.44	5.88	6.64	7.38	8.09	8.77	10.30	11.75	12.43	13.13	13.87	14.45	15.10	14.99	0.07	0.48	0.68	0.84			
5300	3.13	4.49	5.94	6.71	7.45	8.16	8.86	10.37	11.81	12.48	13.16	13.87	14.41	14.95		0.08	0.49	0.70	0.85			
5400	3.16	4.52	5.99	6.77	7.51	8.23	8.92	10.44	11.87	12.53	13.19	13.86	14.36	14.78		0.08	0.50	0.71	0.87			
5500	3.18	4.56	6.04	6.83																		

Power Ratings

optibelt RED POWER 3 Profile SPA

Nominal Power Rating P_N (kW) for $\beta = 180^\circ$ and $L_d = 2500$ mm



Power Transmission

Table 2

Pulleys	v (m/s)	n _k (min ⁻¹)	Datum diameter of small pulley d _{dk} (mm)															Additional power (kW) per belt for speed ratio i			
			90	95	100	112	125	132	140	150	160	180	200	224	250	280	315	1.01	1.06	1.27	> 1.57
																		to 1.05	to 1.26	to 1.57	
Statically balanced	5	700	1.61	1.85	2.08	2.64	3.24	3.56	3.94	4.39	4.84	5.74	6.64	7.69	8.82	10.10	11.59	0.02	0.15	0.21	0.26
		950	2.06	2.38	2.69	3.43	4.22	4.66	5.14	5.74	6.34	7.52	8.69	10.08	11.56	13.24	15.14	0.03	0.20	0.29	0.36
		1450	2.88	3.34	3.79	4.88	6.05	6.67	7.38	8.26	9.13	10.84	12.52	14.50	16.57	18.90	21.52	0.05	0.31	0.44	0.54
		2850	4.69	5.53	6.35	8.29	10.36	11.44	12.65	14.15	15.60	18.40	21.02	23.95	26.82	29.70	32.41	0.09	0.61	0.87	1.07
		100	0.31	0.35	0.38	0.48	0.58	0.62	0.68	0.77	0.84	0.98	1.13	1.31	1.49	1.70	1.96	0.00	0.02	0.03	0.04
		200	0.56	0.64	0.71	0.89	1.07	1.18	1.28	1.43	1.57	1.85	2.14	2.47	2.82	3.24	3.71	0.01	0.04	0.06	0.07
		300	0.79	0.90	1.01	1.26	1.54	1.68	1.85	2.06	2.27	2.68	3.08	3.58	4.09	4.69	5.39	0.01	0.06	0.09	0.11
		400	1.01	1.15	1.30	1.63	1.98	2.17	2.40	2.66	2.94	3.48	4.01	4.64	5.33	6.10	7.00	0.01	0.09	0.12	0.15
		500	1.22	1.39	1.56	1.98	2.41	2.65	2.92	3.25	3.59	4.25	4.91	5.68	6.52	7.48	8.57	0.02	0.11	0.15	0.19
		600	1.42	1.62	1.82	2.32	2.83	3.12	3.43	3.83	4.22	5.00	5.77	6.70	7.68	8.81	10.10	0.02	0.13	0.18	0.22
		700	1.61	1.85	2.08	2.64	3.24	3.56	3.94	4.39	4.84	5.74	6.64	7.69	8.82	10.10	11.59	0.02	0.15	0.21	0.26
		800	1.80	2.06	2.33	2.96	3.65	4.01	4.42	4.93	5.45	6.47	7.46	8.66	9.94	11.38	13.04	0.03	0.17	0.24	0.30
		900	1.97	2.27	2.57	3.28	4.03	4.44	4.90	5.47	6.05	7.18	8.29	9.61	11.02	12.62	14.46	0.03	0.19	0.27	0.34
		1000	2.15	2.47	2.81	3.58	4.42	4.86	5.38	6.00	6.62	7.87	9.10	10.54	12.08	13.84	15.83	0.03	0.22	0.31	0.37
		1100	2.32	2.68	3.04	3.88	4.79	5.28	5.83	6.52	7.20	8.54	9.88	11.45	13.13	15.01	17.17	0.04	0.24	0.34	0.41
		1200	2.48	2.87	3.25	4.18	5.16	5.69	6.29	7.03	7.76	9.22	10.66	12.35	14.14	16.16	18.47	0.04	0.26	0.37	0.45
		1300	2.64	3.06	3.48	4.46	5.52	6.08	6.73	7.52	8.32	9.88	11.41	13.22	15.13	17.29	19.72	0.04	0.28	0.40	0.49
		1400	2.80	3.24	3.68	4.75	5.88	6.48	7.16	8.02	8.86	10.52	12.16	14.08	16.10	18.37	20.93	0.05	0.30	0.43	0.52
		1500	2.95	3.43	3.90	5.03	6.23	6.86	7.60	8.50	9.40	11.16	12.88	14.90	17.04	19.43	22.08	0.05	0.32	0.46	0.56
		1600	3.11	3.60	4.10	5.29	6.58	7.25	8.02	8.98	9.91	11.77	13.60	15.72	17.95	20.45	23.21	0.05	0.34	0.49	0.60
		1700	3.25	3.78	4.31	5.57	6.91	7.62	8.44	9.43	10.43	12.38	14.29	16.51	18.84	21.43	24.29	0.06	0.37	0.52	0.64
		1800	3.40	3.95	4.51	5.83	7.24	7.99	8.84	9.90	10.93	12.97	14.96	17.29	19.70	22.37	25.30	0.06	0.39	0.55	0.67
		1900	3.53	4.12	4.70	6.08	7.56	8.35	9.24	10.34	11.42	13.56	15.64	18.04	20.53	23.28	26.27	0.06	0.41	0.58	0.71
		2000	3.67	4.28	4.90	6.34	7.88	8.70	9.64	10.78	11.92	14.12	16.27	18.77	21.34	24.14	27.18	0.07	0.43	0.61	0.75
		2100	3.80	4.44	5.08	6.59	8.20	9.05	10.02	11.21	12.38	14.69	16.91	19.46	22.12	24.97	28.03	0.07	0.45	0.64	0.79
		2200	3.92	4.60	5.26	6.83	8.51	9.40	10.39	11.63	12.85	15.23	17.52	20.15	22.85	25.75	28.84	0.07	0.47	0.67	0.82
		2300	4.06	4.75	5.44	7.07	8.81	9.72	10.76	12.05	13.31	15.76	18.11	20.81	23.56	26.50	29.57	0.08	0.50	0.70	0.86
		2400	4.18	4.90	5.62	7.31	9.10	10.06	11.12	12.44	13.74	16.27	18.68	21.44	24.23	27.19	30.24	0.08	0.52	0.73	0.90
		2500	4.30	5.04	5.78	7.54	9.38	10.37	11.48	12.84	14.17	16.76	19.24	22.04	24.88	27.83	30.84	0.08	0.54	0.76	0.94
		2600	4.42	5.18	5.95	7.75	9.67	10.68	11.82	13.22	14.59	17.24	19.78	22.62	25.48	28.43	31.38	0.09	0.56	0.79	0.97
		2700	4.52	5.33	6.11	7.98	9.95	10.99	12.17	13.60	15.00	17.71	20.29	23.17	26.04	28.98	31.85	0.09	0.58	0.82	1.01
		2800	4.64	5.46	6.28	8.20	10.22	11.29	12.49	13.97	15.41	18.17	20.78	23.70	26.57	29.47	32.24	0.09	0.60	0.86	1.05
		2900	4.75	5.59	6.43	8.40	10.49	11.58	12.82	14.32	15.79	18.61	21.26	24.20	27.06	29.92	32.57	0.10	0.62	0.89	1.09
		3000	4.85	5.72	6.58	8.60	10.74	11.87	13.13	14.66	16.16	19.03	21.71	24.66	27.52	30.30	32.81	0.10	0.65	0.92	1.12
		3100	4.96	5.84	6.73	8.81	10.99	12.14	13.43	15.00	16.52	19.44	22.14	25.10	27.92	30.62	32.96	0.10	0.67	0.95	1.16
		3200	5.05	5.96	6.88	9.00	11.23	12.41	13.73	15.32	16.87	19.82	22.55	25.51	28.28	30.90	33.05	0.11	0.69	0.98	1.20
		3300	5.15	6.08	7.01	9.19	11.47	12.67	14.00	15.64	17.21	20.20	22.93	25.88	28.61	31.12	33.05	0.11	0.71	1.01	1.24
		3400	5.24	6.20	7.15	9.37	11.70	12.92	14.28	15.94	17.53	20.54	23.29	26.22	28.90	31.26		0.11	0.73	1.04	1.27
		3500	5.33	6.31	7.28	9.55	11.93	13.16	14.56	16.22	17.84	20.88	23.63	26.53	29.12	31.34		0.12	0.75	1.07	1.31
		3600	5.41	6.42	7.40	9.72	12.14	13.40	14.81	16.51	18.14	21.19	23.94	26.81	29.32	31.37		0.12	0.77	1.10	1.35
		3700	5.50	6.52	7.52	9.89	12.35	13.63	15.06	16.78	18.42	21.49	24.23	27.04	29.45	31.33		0.12	0.80	1.13	1.39
		3800	5.58	6.62	7.64	10.06	12.55	13.86	15.30	17.03	18.70	21.77	24.49	27.24	29.54			0.13	0.82	1.16	1.42
		3900	5.65	6.72	7.76	10.21	12.74	14.06	15.53	17.28	18.95	22.02	24.72	27.41	29.58			0.13	0.84	1.19	1.46
		4000	5.72	6.80	7.87	10.36	12.94	14.27	15.74	17.51	19.19	22.26	24.92	27.54	29.57			0.13	0.86	1.22	1.50
		4100	5.80	6.90	7.98	10.51	13.12	14.46	15.95	17.74	19.42	22.48	25.10	27.62	29.51			0.14	0.88	1.25	1.54
		4200	5.86	6.98	8.09	10.64	13.28	14.65	16.15	17.94	19.62	22.67	25.26	27.68	29.39			0.14	0.90	1.28	1.57
		4300	5.93	7.07	8.18	10.78	13.45	14.82	16.33	18.13	19.82	22.85	25.38	27.70				0.14	0.93	1.31	1.61
		4400	5.99	7.14	8.27	10.91	13.61	14.99	16.51	18.31	19.99	23.00	25.48	27.66				0.15	0.95	1.34	1.65
		4500	6.04	7.21	8.36	11.03	13.75	15.16	16.68	18.48	20.16	23.14	25.54	27.59				0.15	0.97	1.37	1.69
		4600	6.08	7.28	8.45	11.15	13.90	15.30	16.84	18.64	20.34	23.23	25.56	27.48				0.15	0.99	1.41	1.72
		4700	6.14	7.34	8.53	11.26	14.03	15.43	16.97	18.78	20.44	23.32	25.56					0.16	1.01	1.44	1.76
		4800	6.18	7.40	8.60	11.35	14.15	15.56	17.10	18.90	20.56	23.39	25.54					0.16	1.03	1.47	1.80
		4900	6.23	7.46	8.68	11.45	14.27	15.68	17.22	19.01	20.65	23.42	25.46					0.16	1.05	1.50	1.84
		5000	6.26	7.51	8.74	11.54	14.36	15.79	17.33	19.10	20.72	23.44	25.37					0.17	1.08	1.53	1.87
		5100	6.30	7.56	8.80	11.63	14.46	15.89	17.42	19.19	20.78	23.42	25.24					0.17	1.10	1.56	1.91
		5200	6.32	7.61	8.86	11.70	14.56	15.97	17.51	19.26	20.83	23.38	25.08					0.17	1.12	1.59	1.95
		5300	6.35	7.64	8.90	11.77	14.63	16.06	17.58	19.31	20.86	23.32						0.18	1.14	1.62	1.99
5400	6.37	7.68	8.95	11.83	14.70	16.12	17.63	19.34	20.86	23.23						0.18	1.16	1.65	2.02		
5500	6.40	7.70	8.99	11.89	14.76	16.18	17.68	19.37	20.												

Power Ratings

optibelt RED POWER 3 Profile SPB, 5V/15N, 5V/15J

Nominal Power Rating P_N (kW) for $\beta = 180^\circ$ and $L_d = 3550$ mm



Power Transmission

Table 3

Pulleys	v (m/s)	n _k (min ⁻¹)	Datum diameter of small pulley d _{dk} (mm)													Additional power (kW) per belt for speed ratio i				
			140	150	160	180	200	224	250	280	315	335	355	375	400	1.01 to 1.05	1.06 to 1.26	1.27 to 1.57	> 1.57	
Statically balanced	5	700	4.82	5.57	6.32	7.80	9.28	11.02	12.89	15.02	17.48	18.88	20.26	21.62	23.33	0.05	0.33	0.47	0.58	
		950	6.23	7.22	8.21	10.18	12.11	14.41	16.86	19.66	22.86	24.66	26.45	28.21	30.38	0.07	0.45	0.64	0.78	
		1450	8.80	10.26	11.70	14.54	17.35	20.65	24.16	28.09	32.54	35.02	37.43	39.79	42.65	0.11	0.69	0.97	1.20	
		2850	14.53	17.05	19.54	24.35	28.93	34.12	39.34	44.76	50.24	52.93	55.26			0.21	1.35	1.92	2.35	
		100	0.89	1.01	1.13	1.37	1.61	1.90	2.21	2.56	2.96	3.20	3.43	3.66	3.95	0.01	0.05	0.07	0.08	
		200	1.63	1.87	2.10	2.57	3.02	3.58	4.16	4.84	5.62	6.06	6.50	6.95	7.49	0.01	0.09	0.13	0.16	
		300	2.33	2.68	3.01	3.68	4.36	5.16	6.02	7.01	8.14	8.78	9.43	10.07	10.87	0.02	0.14	0.20	0.25	
		400	2.99	3.43	3.88	4.76	5.64	6.68	7.81	9.10	10.57	11.42	12.25	13.09	14.12	0.03	0.19	0.27	0.33	
		500	3.62	4.16	4.72	5.81	6.89	8.17	9.55	11.12	12.94	13.97	15.00	16.02	17.28	0.04	0.24	0.34	0.41	
		600	4.22	4.88	5.53	6.82	8.09	9.61	11.24	13.10	15.24	16.46	17.66	18.86	20.35	0.04	0.28	0.40	0.49	
		700	4.82	5.57	6.32	7.80	9.28	11.02	12.89	15.02	17.48	18.88	20.26	21.62	23.33	0.05	0.33	0.47	0.58	
		800	5.40	6.24	7.09	8.76	10.43	12.40	14.51	16.91	19.68	21.24	22.79	24.32	26.22	0.06	0.38	0.54	0.66	
		900	5.95	6.90	7.84	9.71	11.56	13.74	16.09	18.76	21.82	23.53	25.25	26.93	29.02	0.07	0.43	0.61	0.74	
		1000	6.50	7.54	8.58	10.63	12.66	15.06	17.63	20.56	23.89	25.78	27.62	29.46	31.72	0.07	0.47	0.67	0.82	
		1100	7.03	8.17	9.30	11.53	13.74	16.36	19.14	22.31	25.92	27.95	29.94	31.91	34.33	0.08	0.52	0.74	0.91	
		1200	7.55	8.78	10.00	12.42	14.80	17.62	20.62	24.01	27.89	30.05	32.18	34.27	36.84	0.09	0.57	0.81	0.99	
		1300	8.06	9.38	10.69	13.28	15.84	18.85	22.06	25.68	29.80	32.09	34.34	36.55	39.25	0.10	0.62	0.87	1.07	
		1400	8.56	9.97	11.36	14.14	16.85	20.06	23.47	27.30	31.64	34.06	36.42	38.74	41.54	0.10	0.66	0.94	1.15	
		1500	9.05	10.54	12.02	14.96	17.84	21.24	24.84	28.87	33.43	35.95	38.42	40.82	43.73	0.11	0.71	1.01	1.24	
		1600	9.52	11.10	12.67	15.77	18.82	22.39	26.17	30.41	35.16	37.78	40.33	42.80	45.79	0.12	0.76	1.08	1.32	
		1700	9.98	11.65	13.31	16.57	19.76	23.52	27.47	31.88	36.82	39.52	42.14	44.69	47.74	0.12	0.81	1.14	1.40	
		1800	10.43	12.19	13.92	17.34	20.69	24.61	28.73	33.31	38.40	41.18	43.87	46.45	49.54	0.13	0.85	1.21	1.48	
		1900	10.87	12.71	14.53	18.11	21.60	25.67	29.95	34.68	39.91	42.77	45.49	48.12	51.22	0.14	0.90	1.28	1.57	
		2000	11.30	13.22	15.12	18.84	22.48	26.70	31.13	36.00	41.36	44.26	47.02	49.66	52.74	0.15	0.95	1.34	1.65	
		2100	11.72	13.73	15.70	19.56	23.33	27.71	32.26	37.26	42.72	45.66	48.44	51.06	54.12	0.15	0.99	1.41	1.73	
		2200	12.13	14.21	16.26	20.27	24.16	28.68	33.36	38.47	44.02	46.97	49.74	52.36	55.36	0.16	1.04	1.48	1.81	
		2300	12.53	14.69	16.80	20.95	24.97	29.60	34.40	39.61	45.22	48.17	50.94	53.51	56.41	0.17	1.09	1.55	1.90	
		2400	12.92	15.14	17.34	21.61	25.75	30.52	35.41	40.70	46.33	49.28	52.01	54.52	57.31	0.18	1.14	1.61	1.98	
		2500	13.30	15.59	17.86	22.26	26.51	31.38	36.37	41.72	47.36	50.28	52.97	55.39	58.04	0.18	1.18	1.68	2.06	
		2600	13.67	16.03	18.35	22.88	27.23	32.21	37.27	42.67	48.31	51.18	53.78	56.11	58.60	0.19	1.23	1.75	2.14	
		2700	14.02	16.45	18.84	23.48	27.94	33.00	38.14	43.56	49.15	51.97	54.48	56.68		0.20	1.28	1.82	2.23	
		2800	14.36	16.86	19.31	24.06	28.61	33.76	38.94	44.38	49.91	52.63	55.03	57.08		0.21	1.33	1.88	2.31	
		2900	14.69	17.26	19.76	24.62	29.24	34.48	39.71	45.13	50.56	53.18	55.45			0.21	1.37	1.95	2.39	
		3000	15.01	17.63	20.20	25.15	29.86	35.15	40.40	45.80	51.11	53.62				0.22	1.42	2.02	2.47	
		3100	15.31	18.00	20.62	25.67	30.44	35.78	41.05	46.40	51.55	53.92				0.23	1.47	2.08	2.56	
		3200	15.61	18.35	21.02	26.16	31.00	36.38	41.65	46.92	51.89					0.23	1.52	2.15	2.64	
		3300	15.89	18.68	21.41	26.63	31.52	36.94	42.18	47.36	52.10					0.24	1.56	2.22	2.72	
		3400	16.16	19.01	21.78	27.07	32.02	37.44	42.66	47.72						0.25	1.61	2.29	2.80	
		3500	16.42	19.32	22.13	27.49	32.47	37.91	43.07	48.00						0.26	1.66	2.35	2.89	
		3600	16.67	19.61	22.46	27.89	32.90	38.33	43.43	48.18						0.26	1.71	2.42	2.97	
		3700	16.90	19.88	22.78	28.25	33.29	38.70	43.72	48.29						0.27	1.75	2.49	3.05	
		3800	17.11	20.15	23.08	28.60	33.65	39.02	43.93							0.28	1.80	2.55	3.13	
		3900	17.32	20.39	23.35	28.91	33.96	39.30	44.09							0.29	1.85	2.62	3.21	
		4000	17.51	20.62	23.60	29.20	34.25	39.53	44.17							0.29	1.89	2.69	3.30	
		4100	17.69	20.82	23.84	29.46	34.50	39.70	44.20							0.30	1.94	2.76	3.38	
		4200	17.84	21.02	24.06	29.69	34.70	39.82	44.15							0.31	1.99	2.82	3.46	
		4300	18.00	21.19	24.25	29.89	34.87	39.89								0.32	2.04	2.89	3.54	
		4400	18.13	21.35	24.42	30.07	35.00	39.90								0.32	2.08	2.96	3.63	
		4500	18.24	21.49	24.58	30.22	35.10	39.86								0.33	2.13	3.03	3.71	
		4600	18.35	21.61	24.71	30.34	35.15	39.77								0.34	2.18	3.09	3.79	
		4700	18.43	21.72	24.82	30.42	35.16									0.34	2.23	3.16	3.87	
		4800	18.50	21.80	24.90	30.47	35.12									0.35	2.27	3.23	3.96	
		4900	18.56	21.86	24.96	30.49	35.05									0.36	2.32	3.29	4.04	
		5000	18.60	21.91	25.01	30.48	34.93									0.37	2.37	3.36	4.12	
		5100	18.62	21.94	25.02	30.43	34.76									0.37	2.42	3.43	4.20	
		5200	18.64	21.95	25.01	30.36	34.56									0.38	2.46	3.50	4.29	
		5300	18.62	21.94	24.98	30.24										0.39	2.51	3.56	4.37	
		5400	18.60	21.90	24.92	30.10										0.40	2.56	3.63	4.45	
		5500	18.55	21.84	24.84	29.92										0.40	2.61	3.70	4.53	
v _{max} ≤ 55 m/s																				
If v > 42 m/s, please consult our Application Engineering Department.																				
																v (m/s)				
Dynamically balanced (for details see DIN 22111)																Pulleys				

Note: Pulley diameters shown are outside diameters for sections 5V/15N, 5V/15J.

Power Ratings

optibelt RED POWER 3 Profile SPC

Nominal Power Rating P_N (kW) for $\beta = 180^\circ$ and $L_d = 5600$ mm



Power Transmission

Table 4

Pulleys	v (m/s)	n _k (min ⁻¹)	Datum diameter of small pulley d _{dk} (mm)													Additional power (kW) per belt for speed ratio i			
			224	250	280	315	335	355	375	400	450	500	560	630	710	1.01	1.06	1.27	> 1.57
																to 1.05	to 1.26	to 1.57	
Statically balanced	⑤	700	13.31	16.61	20.38	24.71	27.17	29.59	32.00	34.99	40.87	46.63	53.38	61.01	69.38	0.14	0.90	1.28	1.57
		950	17.08	21.41	26.33	31.97	35.14	38.28	41.38	45.19	52.66	59.86	68.16	77.33	87.06	0.19	1.22	1.73	2.13
		1450	23.68	29.83	36.76	44.57	48.90	53.14	57.26	62.28	71.77	80.51	89.90	99.23	107.51	0.29	1.86	2.65	3.25
		2850	34.84	43.91	53.33	62.76	67.33	71.27								0.57	3.67	5.20	6.38
		50	1.34	1.62	1.96	2.33	2.54	2.76	2.96	3.23	3.76	4.28	4.91	5.63	6.44	0.01	0.06	0.09	0.11
		100	2.48	3.02	3.65	4.37	4.78	5.18	5.59	6.11	7.12	8.11	9.30	10.68	12.24	0.02	0.13	0.18	0.22
		150	3.55	4.34	5.26	6.31	6.90	7.50	8.10	8.83	10.31	11.76	13.50	15.52	17.78	0.04	0.26	0.37	0.45
		200	4.56	5.60	6.79	8.17	8.95	9.73	10.51	11.47	13.39	15.30	17.57	20.18	23.15	0.06	0.39	0.55	0.67
		250	5.53	6.82	8.28	9.98	10.94	11.90	12.85	14.05	16.40	18.74	21.53	24.73	28.36	0.07	0.45	0.64	0.78
		300	6.48	8.00	9.73	11.75	12.89	14.02	15.16	16.56	19.34	22.10	25.38	29.17	33.43	0.08	0.51	0.73	0.90
	350	7.40	9.16	11.16	13.48	14.78	16.09	17.40	19.01	22.22	25.39	29.16	33.50	38.38	0.09	0.58	0.82	1.01	
	400	8.30	10.28	12.54	15.17	16.64	18.12	19.60	21.42	25.04	28.62	32.86	37.73	43.20	0.10	0.64	0.91	1.12	
	450	9.18	11.39	13.91	16.82	18.48	20.12	21.76	23.78	27.80	31.78	36.48	41.87	47.90	0.11	0.71	1.00	1.23	
	500	10.03	12.47	15.25	18.46	20.27	22.08	23.88	26.11	30.53	34.87	40.01	45.90	52.46	0.12	0.77	1.10	1.34	
	⑩	550	10.87	13.54	16.56	20.06	22.04	24.01	25.97	28.39	33.19	37.91	43.48	49.84	56.90	0.13	0.84	1.19	1.45
		600	11.70	14.58	17.86	21.64	23.77	25.90	28.01	30.64	35.80	40.88	46.86	53.66	61.21	0.14	0.90	1.28	1.57
		650	12.52	15.60	19.13	23.18	25.49	27.77	30.02	32.83	38.36	43.79	50.16	57.38	65.38	0.15	0.96	1.37	1.68
		700	13.31	16.61	20.38	24.71	27.17	29.59	32.00	34.99	40.87	46.63	53.38	61.01	69.38	0.16	1.03	1.46	1.79
		750	14.09	17.60	21.60	26.21	28.81	31.39	33.95	37.12	43.33	49.42	56.51	64.51	73.25	0.17	1.09	1.55	1.90
		800	14.86	18.58	22.81	27.68	30.43	33.16	35.86	39.19	45.74	52.13	59.56	67.90	76.96	0.18	1.16	1.64	2.01
		850	15.61	19.54	24.01	29.14	32.03	34.90	37.73	41.23	48.11	54.78	62.52	71.16	80.50	0.19	1.22	1.73	2.13
		900	16.36	20.48	25.18	30.56	33.60	36.60	39.58	43.24	50.40	57.36	65.39	74.30	83.87	0.20	1.29	1.83	2.24
		950	17.08	21.41	26.33	31.97	35.14	38.28	41.38	45.19	52.66	59.86	68.16	77.33	87.06	0.21	1.35	1.92	2.35
		1000	17.80	22.32	27.46	33.35	36.65	39.91	43.14	47.11	54.84	62.29	70.84	80.20	90.00	0.22	1.41	2.01	2.46
	⑮	1050	18.49	23.22	28.57	34.69	38.14	41.52	44.87	48.98	56.98	64.66	73.40	82.94	92.88	0.23	1.48	2.10	2.57
		1100	19.19	24.10	29.66	36.02	39.59	43.10	46.56	50.81	59.05	66.92	75.86	85.54	95.48	0.24	1.54	2.19	2.69
		1150	19.87	24.97	30.74	37.32	41.00	44.64	48.22	52.60	61.07	69.13	78.23	87.98	97.88	0.25	1.61	2.28	2.80
		1200	20.53	25.81	31.79	38.60	42.41	46.14	49.82	54.32	63.01	71.24	80.47	90.28	100.08	0.26	1.67	2.37	2.91
		1250	21.18	26.65	32.83	39.85	43.76	47.62	51.40	56.02	64.90	73.27	82.61	92.41	102.04	0.27	1.74	2.46	3.02
		1300	21.83	27.47	33.84	41.06	45.10	49.06	52.93	57.66	66.72	75.23	84.62	94.37	103.78	0.28	1.80	2.56	3.13
		1350	22.45	28.27	34.84	42.26	46.40	50.45	54.42	59.24	68.47	77.08	86.51	96.17	105.26	0.29	1.86	2.65	3.25
		1400	23.06	29.06	35.81	43.43	47.66	51.82	55.86	60.79	70.16	78.84	88.27	97.79	106.51	0.30	1.93	2.74	3.36
		1450	23.68	29.83	36.76	44.57	48.90	53.14	57.26	62.28	71.77	80.51	89.90	99.23	107.51	0.31	1.99	2.83	3.47
		1500	24.26	30.59	37.68	45.68	50.10	54.42	58.62	63.71	73.31	82.08	91.40	100.49		0.32	2.06	2.92	3.58
	⑳	1550	24.84	31.32	38.59	46.76	51.28	55.67	59.94	65.10	74.77	83.54	92.77	101.54		0.33	2.12	3.01	3.69
		1600	25.40	32.05	39.48	47.81	52.40	56.87	61.20	66.42	76.16	84.92	94.00	102.41		0.34	2.19	3.10	3.80
		1650	25.96	32.75	40.34	48.84	53.51	58.03	62.42	67.69	77.47	86.18	95.06	103.08		0.35	2.25	3.19	3.92
		1700	26.50	33.43	41.18	49.82	54.56	59.16	63.59	68.90	78.71	87.34	96.00			0.36	2.31	3.29	4.03
		1750	27.01	34.10	42.00	50.78	55.60	60.24	64.72	70.06	79.85	88.38	96.77			0.37	2.38	3.38	4.14
		1800	27.53	34.76	42.79	51.71	56.58	61.27	65.78	71.15	80.92	89.32	97.39			0.38	2.44	3.47	4.25
1850		28.02	35.40	43.56	52.61	57.53	62.27	66.79	72.17	81.90	90.13	97.85			0.39	2.51	3.56	4.36	
1900		28.51	36.01	44.30	53.47	58.44	63.20	67.76	73.14	82.79	90.83				0.40	2.57	3.65	4.48	
1950		28.98	36.61	45.02	54.30	59.32	64.10	68.68	74.04	83.58	91.40				0.41	2.64	3.74	4.59	
2000		29.44	37.19	45.73	55.09	60.14	64.96	69.53	74.88	84.29	91.85				0.42	2.70	3.83	4.70	
㉑	2050	29.88	37.75	46.39	55.86	60.94	65.76	70.32	75.65	84.90	92.17				0.43	2.77	3.92	4.81	
	2100	30.30	38.29	47.04	56.58	61.68	66.52	71.06	76.34	85.43	92.38				0.44	2.83	4.02	4.92	
	2150	30.72	38.81	47.66	57.26	62.39	67.21	71.75	76.97	85.85					0.45	2.89	4.11	5.04	
	2200	31.12	39.31	48.25	57.92	63.05	67.87	72.37	77.53	86.16					0.46	2.96	4.20	5.15	
	2250	31.50	39.79	48.82	58.54	63.66	68.47	72.94	78.01	86.38					0.47	3.02	4.29	5.26	
	2300	31.86	40.26	49.36	59.11	64.24	69.02	73.44	78.43						0.48	3.09	4.38	5.37	
	2350	32.21	40.70	49.87	59.65	64.76	69.52	73.87	78.76						0.49	3.15	4.47	5.48	
	2400	32.54	41.12	50.35	60.14	65.24	69.95	74.24	79.02						0.50	3.22	4.56	5.60	
	2450	32.87	41.52	50.80	60.61	65.68	70.33	74.56	79.20						0.51	3.28	4.66	5.71	
	2500	33.17	41.89	51.23	61.02	66.06	70.66	74.80	79.30						0.52	3.34	4.75	5.82	
㉒	2550	33.46	42.25	51.61	61.40	66.40	70.93	74.98	79.32						0.53	3.41	4.84	5.93	
	2600	33.73	42.59	51.98	61.74	66.68	71.14	75.08	79.26						0.54	3.47	4.93	6.04	
	2650	33.98	42.90	52.31	62.03	66.91	71.29	75.12							0.55	3.54	5.02	6.16	
	2700	34.22	43.19	52.62	62.28	67.10	71.38	75.08							0.56	3.60	5.11	6.27	
	2750	34.44	43.45	52.88	62.48	67.24	71.40	74.98							0.57	3.67	5.20	6.38	
	2800	34.64	43.69	53.12	62.64	67.31	71.36	74.80											

Power Ratings

optibelt RED POWER 3 Profile 8V/25N, 8V/25J

Nominal Power Rating P_N (kW) for $\beta = 180^\circ$ and 8V 2500/6350 mm L_a



Power Transmission

Table 5

Pulleys		n_k (min ⁻¹)	Outside diameter of small pulley d_{ak} (mm)													Additional power (kW) per belt for speed ratio i				
v (m/s)			335	355	375	425	450	475	500	530	560	600	630	710	800	1.01 to 1.05	1.06 to 1.26	1.27 to 1.57	> 1.57	
Statically balanced	5	700	33.85	37.57	41.26	50.27	54.67	59.00	63.26	68.28	73.18	79.54	84.17	95.89	107.94	0.28	1.83	2.60	3.18	
		950	42.72	47.41	52.01	63.12	68.45	73.63	78.65	84.44	89.99	96.97	101.89	113.58	124.01	0.38	2.48	3.52	4.32	
		1450	55.34	61.15	66.68	79.30	84.90	90.01	94.58	99.36	103.31	107.21	109.06			0.59	3.79	5.38	6.60	
		50	3.36	3.70	4.03	4.85	5.27	5.68	6.08	6.56	7.06	7.70	8.18	9.46	10.88	0.02	0.13	0.19	0.23	
		100	6.28	6.91	7.55	9.12	9.91	10.69	11.47	12.41	13.33	14.57	15.49	17.94	20.66	0.04	0.26	0.37	0.45	
		150	9.00	9.94	10.86	13.18	14.32	15.46	16.60	17.95	19.31	21.11	22.45	26.00	29.95	0.06	0.39	0.56	0.68	
		200	11.62	12.83	14.04	17.06	18.55	20.04	21.53	23.30	25.07	27.40	29.15	33.76	38.88	0.08	0.52	0.74	0.91	
		250	14.14	15.64	17.12	20.82	22.66	24.48	26.30	28.48	30.64	33.49	35.62	41.24	47.47	0.10	0.65	0.93	1.14	
		300	16.57	18.35	20.11	24.48	26.64	28.80	30.94	33.49	36.02	39.38	41.88	48.47	55.73	0.12	0.78	1.11	1.36	
		350	18.95	20.99	23.00	28.03	30.52	32.99	35.44	38.36	41.27	45.10	47.95	55.43	63.65	0.14	0.91	1.30	1.59	
		400	21.25	23.56	25.84	31.49	34.28	37.06	39.82	43.09	46.34	50.63	53.81	62.12	71.22	0.16	1.05	1.48	1.82	
		450	23.50	26.05	28.58	34.85	37.94	41.02	44.06	47.68	51.25	55.97	59.45	68.54	78.42	0.18	1.18	1.67	2.05	
		500	25.68	28.49	31.26	38.12	41.51	44.86	48.17	52.12	55.99	61.10	64.87	74.68	85.22	0.20	1.31	1.86	2.27	
		550	27.82	30.85	33.88	41.30	44.96	48.58	52.15	56.39	60.58	66.05	70.07	80.48	91.61	0.22	1.44	2.04	2.50	
		600	29.88	33.16	36.41	44.39	48.31	52.18	56.00	60.52	64.97	70.76	75.02	85.98	97.54	0.24	1.57	2.23	2.73	
		650	31.90	35.40	38.87	47.38	51.55	55.66	59.71	64.49	69.17	75.28	79.73	91.12	103.00	0.26	1.70	2.41	2.96	
		700	33.85	37.57	41.26	50.27	54.67	59.00	63.26	68.28	73.18	79.54	84.17	95.89	107.94	0.28	1.83	2.60	3.18	
		750	35.75	39.68	43.56	53.05	57.67	62.22	66.67	71.89	76.99	83.57	88.33	100.28	112.34	0.30	1.96	2.78	3.41	
		800	37.58	41.72	45.79	55.74	60.56	65.29	69.91	75.32	80.58	87.34	92.20	104.27	116.20	0.32	2.09	2.97	3.64	
		850	39.36	43.69	47.95	58.31	63.32	68.22	73.00	78.56	83.95	90.83	95.75	107.83	119.44	0.34	2.22	3.15	3.87	
		900	41.08	45.59	50.03	60.77	65.95	71.00	75.91	81.61	87.10	94.04	98.99	110.94	122.05	0.36	2.35	3.34	4.09	
		950	42.72	47.41	52.01	63.12	68.45	73.63	78.65	84.44	89.99	96.97	101.89	113.58	124.01	0.38	2.48	3.52	4.32	
		1000	44.30	49.16	53.92	65.35	70.81	76.09	81.19	87.06	92.63	99.59	104.45	115.72	125.27	0.40	2.61	3.71	4.55	
		1050	45.83	50.83	55.73	67.45	73.02	78.38	83.54	89.45	95.02	101.89	106.63	117.35	125.80	0.42	2.74	3.90	4.78	
		1100	47.28	52.43	57.44	69.42	75.08	80.52	85.70	91.60	97.12	103.86	108.43	118.44	125.57	0.44	2.88	4.08	5.00	
		1150	48.66	53.94	59.08	71.27	76.99	82.46	87.65	93.52	98.94	105.48	109.84	118.97		0.46	3.01	4.27	5.23	
		1200	49.97	55.37	60.60	72.97	78.74	84.22	89.39	95.17	100.46	106.74	110.83	118.92		0.49	3.14	4.45	5.46	
		1250	51.19	56.70	62.03	74.54	80.33	85.79	90.90	96.56	101.69	107.64	111.40	118.26		0.51	3.27	4.64	5.69	
		1300	52.36	57.96	63.36	75.96	81.74	87.16	92.18	97.69	102.60	108.14	111.52			0.53	3.40	4.82	5.91	
		1350	53.44	59.11	64.58	77.23	82.98	88.32	93.24	98.54	103.18	108.24	111.17			0.55	3.53	5.01	6.14	
		1400	54.43	60.18	65.69	78.35	84.04	89.27	94.03	99.10	103.42					0.57	3.66	5.19	6.37	
		1450	55.34	61.15	66.68	79.30	84.90	90.01	94.58	99.36	103.31					0.59	3.79	5.38	6.60	
		1500	56.18	62.02	67.57	80.09	85.58	90.52	94.88	99.31	102.84					0.61	3.92	5.57	6.82	
		1550	56.93	62.78	68.34	80.71	86.06	90.79	94.91							0.63	4.05	5.75	7.05	
		1600	57.58	63.46	68.98	81.17	86.34	90.84	94.64							0.65	4.18	5.94	7.28	
		1650	58.15	64.01	69.49	81.44	86.40	90.64	94.12							0.67	4.31	6.12	7.51	
		1700	58.62	64.46	69.89	81.54	86.26	90.18	93.29							0.69	4.44	6.31	7.73	
		1750	58.99	64.80	70.15	81.43	85.88	89.47	92.16							0.71	4.57	6.49	7.96	
		1800	59.28	65.02	70.27	81.14	85.28									0.73	4.70	6.68	8.19	
		1850	59.45	65.12	70.26	80.66	84.46									0.75	4.84	6.86	8.42	
		1900	59.53	65.10	70.10	79.98	83.39									0.77	4.97	7.05	8.64	
		1950	59.51	64.96	69.82	79.08	82.08									0.79	5.10	7.23	8.87	
		2000	59.36	64.69	69.37	77.98	80.52									0.81	5.23	7.42	9.10	
		2050	59.12	64.30	68.77											0.83	5.36	7.61	9.33	
		2100	58.78	63.77	68.03											0.85	5.49	7.79	9.55	
		2150	58.31	63.11	67.12											0.87	5.62	7.98	9.78	
		2200	57.72	62.32	66.05											0.89	5.75	8.16	10.01	
		2250	57.01	61.38	64.82											0.91	5.88	8.35	10.23	
40 $v_{\max} \leq 55$ m/s If $v > 42$ m/s, please consult our Application Engineering Department.																v (m/s)				
Dynamically balanced (for details see USA standard RMA/MPTA)																Pulleys				

Dynamically balanced (for details see USA standard RMA/MPTA)

Design Hints

Technical Tools



Power Transmission

Optibelt TT optical



Measuring range: 5-500 Hz

Optibelt TT mini S



Measuring range: 10-600 Hz

Optibelt TT 3



Measuring range: 10-600 Hz

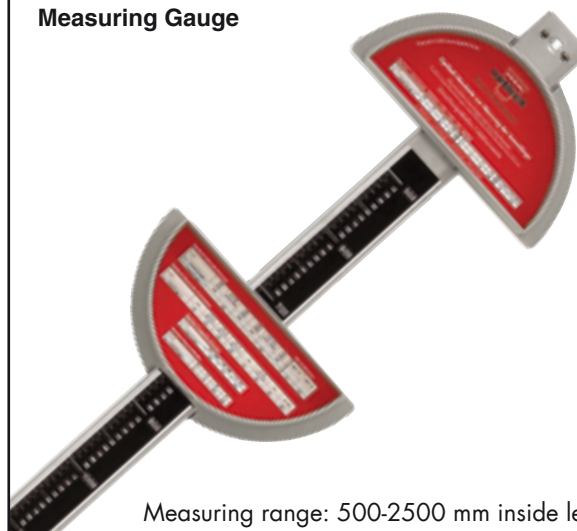
Optibelt laser pointer



Optibelt SERVICE KIT



Measuring Gauge



Measuring range: 500-2500 mm inside length (L_i)

Design Hints

Tensioning for **optibelt** Wedge Belts



Power Transmission

Profile	Diameter of small pulley (mm)	Static belt tension (N)	
		RED POWER 3	
		Initial fitting new V-belts	Re-fitting existing V-belts
SPZ; 3V/9N	≤ 71	250	200
	> 71 ≤ 90	300	250
	> 90 ≤ 125	400	300
	> 125*		
SPA	≤ 100	400	300
	> 100 ≤ 140	500	400
	> 140 ≤ 200	600	450
	> 200*		
SPB; 5V/15N	≤ 160	700	550
	> 160 ≤ 224	850	650
	> 224 ≤ 355	1000	800
	> 355*		
SPC	≤ 250	1400	1100
	> 250 ≤ 355	1600	1200
	> 355 ≤ 560	1900	1500
	> 560*		

* Tension values for these pulleys must be calculated.

Tension Gauges:

Optikrik 0	range: 70 - 150 N
Optikrik I	range: 150 - 600 N
Optikrik II	range: 500 - 1400 N
Optikrik III	range: 1300 - 3100 N

The static tension values shown are calculated for maximum power transmission capability (per V-belt) and should be applied only when accurate data is not available.

Calculation Basis

RED POWER 3

Wedge belts

speed $v = 5$ to 55 m/s

Notes



Power Transmission

Notes



Notes



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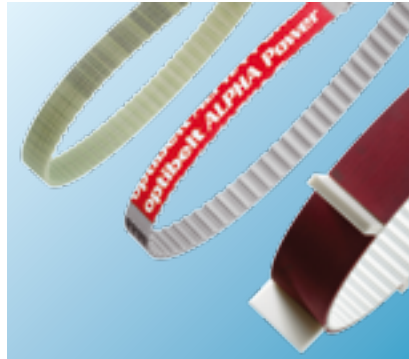
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Lieferprogramm Product Range



Power Transmission



Made by Optibelt

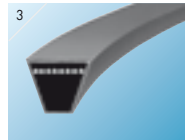
1 **optibelt RED POWER 3**
5 **optibelt KB RED POWER 3**
Hochleistungs-Schmalkeilriemen,
wartungsfrei
High Performance Wedge Belts,
Maintenance-Free



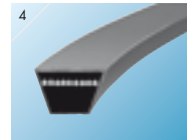
2 **optibelt BLUE POWER**
6 **optibelt KB BLUE POWER**
Hochleistungs-Schmalkeilriemen
High Performance Wedge Belts



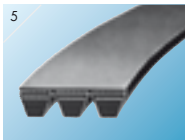
3 **optibelt SK**
7 **optibelt KB SK**
Schmalkeilriemen
Wedge Belts



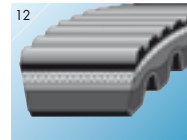
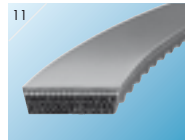
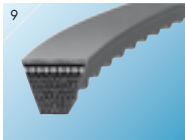
4 **optibelt VB**
8 **optibelt KB VB**
Klassische Keilriemen
Classical V-Belts



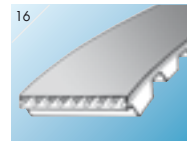
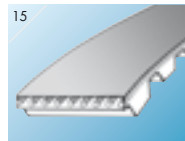
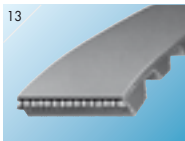
9 **optibelt Super E-POWER M=S**
Hochleistungs-Schmalkeilriemen,
flankenoffen, formgezahnt
High Performance Wedge Belts,
Raw Edge, Moulded Cogged



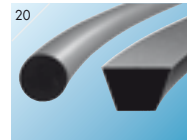
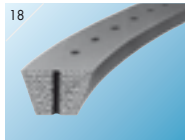
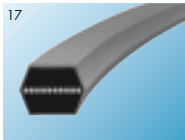
9 **optibelt Super X-POWER M=S**
Hochleistungs-Schmalkeilriemen,
flankenoffen, formgezahnt
High Performance Wedge Belts,
Raw Edge, Moulded Cogged



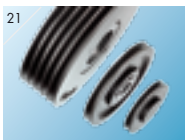
10 **optibelt Super KBX-POWER**
Kraftbänder, flankenoffen
Kraftbands, Raw Edge



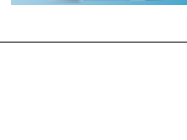
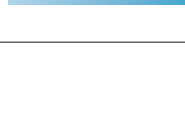
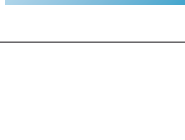
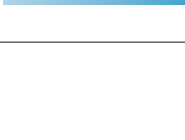
11 **optibelt VARIO POWER**
Breitkeilriemen, flankenoffen,
formgezahnt
Variable Speed Belts,
Raw Edge, Moulded Cogged



12 **optibelt VARIO POWER**
Breitkeilriemen, doppelverzahnt,
flankenoffen, formgezahnt
Double Section Variable Speed Belts,
Raw Edge, Moulded Cogged



13 **optibelt ZR**
optibelt ZR linear
Zahnriemen aus Chloropren
Chloroprene Timing Belts



14 **optibelt OMEGA HL**
optibelt OMEGA HP
optibelt OMEGA FanPower
optibelt OMEGA linear
Zahnriemen aus Chloropren
Chloroprene Timing Belts

15 **optibelt ALPHA Power**
16 **optibelt ALPHA linear / V**
optibelt ALPHAflex
Zahnriemen aus Polyurethan
Polyurethane Timing Belts

17 **optibelt DK**
Doppelkeilriemen
Double Section V-Belts

18 **optimat OE**
Endliche Keilriemen
DIN 2216, gelocht
Open-Ended V-Belting,
Punched

19 **optibelt RB**
Rippenbänder
Ribbed Belts

20 **optibelt RR / RR PLUS**
Kunststoffrundriemen
Plastic Round Section Belting

20 **optibelt KK**
Kunststoffkeilriemen
Plastic V-Belting

21 **optibelt KS**
Keilrillenscheiben
V-Grooved Pulleys

22 **optibelt ZRS**
Zahnriemenscheiben
Timing Belt Pulleys

23 **optibelt RBS**
Rippenbandscheiben
Ribbed Belt Pulleys

24 **optibelt SERVICE KIT**