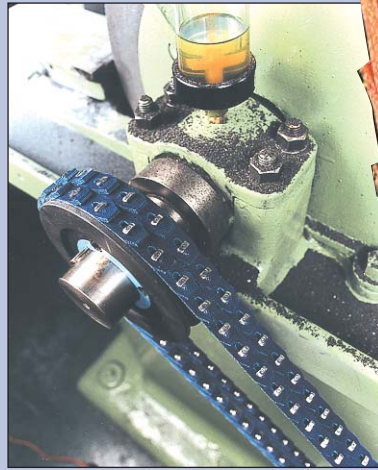




SUPER**T****LINK**®

NU**T****LINK**®



Permanent Replacement V & SP Belts

V & SP Performance with Added Practical Benefits

The Alternative Choice...

Made from a series of individual links our belts offer a unique alternative to traditional endless V and Wedge SP belts.

The range includes NuTLink, for Classical V drives, and SuperTLink, for Wedge SP rated power transmission. The belts are a simple concept but deliver outstanding results, solving many of the problems associated with endless V and Wedge SP belts.



V & Wedge SP Performance

Rest assured when fitting NuTLink or SuperTLink it's only the belt that changes, each provides standard V or SP transmission performance and run on standard section pulleys.

Permanent Benefits

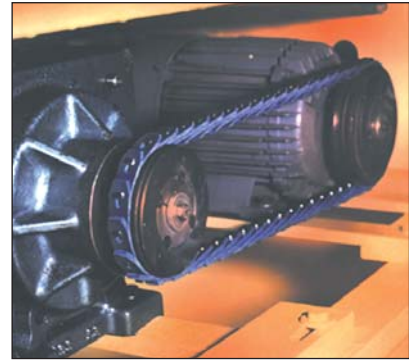
Our range of V & Wedge SP belts have a unique design and material composition which provides a number of time and money saving benefits to end-users, equipment designers and maintenance engineers:-

- Extended Belt Life
- Thrives in Tough Conditions
- Easy Fitting
- Minimized Maintenance
- Simplified Design
- Minimised Spares
- Reduced Vibration



Premium Durability in Harsh Conditions

Our V & SP belts are manufactured from multi-ply Polyester which is impregnated with high performance Polyurethane to give excellent durability even in the most demanding conditions.



Substance Resistance – highly resistant to water, steam, oil and most industrial chemicals.

Abrasion Resistance – highly resistant to abrasive substances such as grit, sand, gravel and other building materials.

Extreme Temperature Resistance – operate at extreme temperatures (-40 to 100°C) with minimum effects to performance.



Application: Stone Conveyor Drive

Problem: Exposure to an abrasive mix of aggregate and dust was causing excessive wear and friction generated heat on the belts. Endless rubber SPC belts were failing regularly.

Solution: Fitting SuperTLink provided greater resistance to the harsh operating conditions. The belt lifespan was increased by 5 times.

For more applications visit www.fennerdrives.com

Easier/Faster Fitting

The link construction provides easier installation, even on enclosed or restricted access drives.



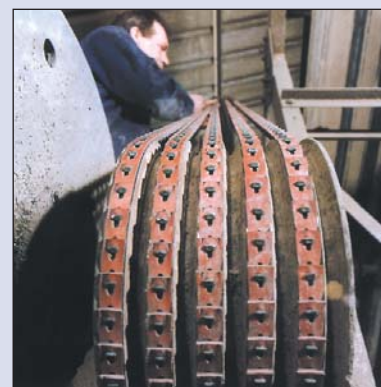
There is no need to dismantle the drive, belts can be fitted simply by joining around the shafts and springing onto the pulleys at the required tension. **Both NuTLink and SuperTLink run on the appropriate standard pulleys.**

Application: Brick Manufacture

Problem: Fitting replacement endless belts entailed totally stripping down the drive, removing the pulleys and then re-assembling with the new belt fitted. This process could take between 2 and 3 days.

Solution: Installing NuTLink reduced fitting time to just 2 hours and in addition reduced the frequency of belt failures.

For more applications visit www.fennerdrives.com



Minimized Spare Stocks

With NuTLink and SuperTLink there is no need to maintain stocks of numerous different endless belt lengths to cover all possible failures.



Link type belts can be made to length on site simply by adding or removing links. Just a few packs will cover most belt failures.

Application: Air Conditioning Drives

Problem: This naval base had over 200 air conditioning units on site with 136 different belt lengths, at any one time the stores held 1750 spare belts. The spares inventory was very difficult to manage and correct replacement belts difficult to locate.

Solution: The site phased in SuperTLink. Engineers can now carry a pack of SuperTLink with them and replace belts immediately without wasting time returning to the stores. The spares inventory was reduced to just a few reels of the main sections SPZ, SPA, SPB, SPC.

For more applications visit www.fennerdrives.com



Minimal Maintenance – Fit & Forget

The design and material composition ensure our belts require minimal retensioning even over long periods of usage.

The belts are fitted at the required tension and, after a short “run in” period, show minimal permanent stretch



Application: Heat Treatment Stove

Problem: This fan drive is located on top of a heat treatment stove in a steelworks. Extremely high temperatures caused rubber V belts to stretch and even fail prematurely. Adjusting the drive to retension belts took up to 3 hours. Given the harsh environment and high temperatures this was not a popular task amongst the engineers.

Solution: NuTLink was fitted, retensioning was minimized and when required a complete new set of 4 belts could be fitted in just one hour.

For more applications visit www.fennerdrives.com



Simplified Design & Cost Savings

With link type V & Wedge SP belts design of equipment can be simplified and cost savings made.

As the belts show minimal stretch there is no need to fit expensive tensioning or centre distance adjustment devices. The drive can also be positioned in inaccessible positions. In addition our belts can be used on misaligned or angled pulleys up to 17.5 degrees, without significant reductions in performance.



Application: Airport Baggage Handling

Problem: Chain was originally used to power rollers around a series of curves. Each roller was offset at an 8 degree angle. The stresses of running between angled pulleys caused regular failure of chain.

Solution: After rigorous testing SuperTLink was specified. The problem was solved without reducing the transmission performance. In addition noise levels were reduced by 40% in comparison to chain.

For more applications visit www.fennerdrives.com



Reduced Vibration and Belt Noise

NuTLink and SuperTLink do not have continuous tension cords and as result vibration transmission is reduced by up to 50%. Belt noise is also minimized against alternatives such as chain and endless belts.



Application: Quarry Grading Conveyor Drive

Problem: High levels of belt vibration coupled with exposure to abrasive dust was causing premature failure of standard endless V belts.

Solution: NuTLink was fitted, the result was the belt lifespan was increased by 10 times. The link construction absorbed the vibratory stresses and minimized friction between the belts.

For more applications visit www.fennerdrives.com



Our belts are available in most standard industry profiles. Depending on which profile is required the belts are supplied in boxes or reels. Each pack provides full fitting instructions and a special fitting tool.

The tables below show section and pack size availability.

NU TLINK								
Pack Size	Section/Profile							
	Z/10	A/13	B/17	C/21	S/25*	D/32	E/40*	F/50*
5 metres	✓	✓	✓					
20 metres	✓	✓	✓	✓	✓	✓	✓	✓

SUPERLINK				
Pack Size	Section/Profile			
	SPZ	SPA	SPB	SPC
5 metres	✓	✓	✓	
20 metres	✓	✓	✓	✓



*indicates non-stock item made to order.

Solving Problems on Big Drives **NU TLINK**

In addition to the popular standard industry sections NuTLink is available in larger profiles up to F/50 Section. This is often a solution for heavy industrial equipment where replacement belts are obsolete or expensive made to order items.

Application: Steel Rolling Mill Drive

Problem: This steel rolling mill was fitted with 12 x 35m fabricated F section rubber belts. The belts were due to be replaced but a cost effective replacement belt could not be sourced. Costs for a new fabricated belt were excessive and the fitting time would be one week.

Solution: Specifying F Section NuTLink belts reduced the new belt costs by 50%, the fitting time was also reduced to just 2 days hence minimizing downtime on the line.

For more applications visit www.fennerdrives.com



The tables given below provide some information regarding NuTLink & SuperTLink power ratings and offer some details on how to determine the belt type required for a particular drive.

Drive Calculation

To calculate the belt requirement for individual drives, first find the design power by multiplying the nominal power by the correct service factor (table 1) and arc of contact factor (table 2) and then divide by the power available per belt (table 3).

Check out the following drive from details given:

Example: Milling Machine
5.5kW motor
1440 r.p.m.
Star Delta Start

Motor Pulley 125mm (5") dia
Drive Pulley 250mm (10") dia
Centres 750mm
Runs for 16 hours per day
2 "B" Section belts fitted

1. Find design kW

From Table 1 we select 1.3 i.e.
Machine tool
Star Delta Start
Design kW = 5.5 x 1.3 = 7.15kW

2. Find arc of contact

$$180^\circ - \frac{60(250 - 125)}{750} = 170^\circ$$

From Table 2 170 = 1.02

3. Find total design kW

Design kW x A/c factor
= 7.15 x 1.02 = 7.293kW

4. Check out drive

kW per belt "B" Section 125mm dia
Pulley is 3.84kW
No. of belts required
= $\frac{\text{Total Design kW}}{\text{kW per belt}} = \frac{7.293}{3.84}$
= 1.9 belts

5. 2 Nu-T-Link B/17 belts required

Table 1 - Service Factor

DUTY	TYPE OF DRIVE	TYPES OF PRIME MOVER					
Special Conditions	Note: For Speed up. Vertical and Reversing Drives. Long Centres, extremely Short Centres, multiply the Service Factor by 1.2. Starting Torques of 150% to 200% should be treated as very heavy loads and the last column used. On contaminated drives multiply the Service Factor by 1.1 and on severely contaminated drives multiply the Service Factor by 1.2.	A.C. Motors - Star Delta Start - Normal Torque Squirrel Cage Motors - Split Phase Motors. D.C. Shunt Wound			A.C. Motors - Direct On Line Start - High Torque High Slip Repulsion Induction Motors D.C. Motors - Series and Compound Wound Steam-Gas-Engines under 600 R.P.M. Lineshafts-Clutches-Brakes.		
		Steam - Gas Engines Over 600 R.P.M.					
		Hours per day duty					
	TYPE OF DRIVE	Under 10	10 to 16	Over 16	Over 10	10 to 16	Over 16
Light Duty	Normal Industrial Drives Fans - Pumps - Compressors up to 4kW	1.0	1.1	1.2	1.1	1.2	1.3
Medium Duty	Bakery Machinery Fans - Pumps - Compressors up to 15kW Line Shafts - Printing Machinery - Generators - Machine tools - Punches - Presses - Shears	1.1	1.2	1.3	1.2	1.3	1.4
Heavy Duty	Textile Machinery - Saw Mills - Woodworking Machinery - Brick Machinery - Exciters - Piston Compressors - Paper Mill Machinery - Brick and Pipe Machinery Positive Blowers	1.2	1.3	1.4	1.4	1.5	1.6

Table 2 - Arc of Contact Correction Factors

Arc of contact	180°	175°	170°	165°	160°	155°	150°	145°	140°	135°	130°	125°	120°
Connection factor for speed reduction drives	1.00	1.01	1.02	1.04	1.05	1.07	1.08	1.11	1.12	1.14	1.16	1.18	1.20

Arc of Contact = $180^\circ - \frac{60 \times (\text{dia of Large Pulley} - \text{dia of Small Pulley})}{\text{Centre Distance}}$

Belt Speed M./sec. = $\frac{\text{R.P.M.} \times \text{Pulley diameter in mm}}{19100}$

Table 3 - kW Ratings 1kW = 1.34 H.P.

SUPERLINK® Rated Power (kW) Per Belt For Small Pulley Pitch Dia (mm)													
Rev/min of faster shaft	SPZ.			SPA.			SPB.			SPC.			
	63	90	125	90	112	150	140	180	250	224	280	355	
100	0.10	0.20	0.33	0.26	0.41	0.65	0.73	1.10	1.74	1.99	2.99	4.31	
200	0.18	0.37	0.61	0.47	0.75	1.21	1.33	2.05	3.28	3.59	5.49	8.00	
300	0.25	0.53	0.63	0.66	1.06	1.74	1.89	2.93	4.70	5.04	7.81	11.44	
400	0.32	0.63	1.14	0.84	1.36	2.24	2.42	3.77	6.07	6.40	9.99	14.70	
500	0.39	0.83	1.39	1.01	1.65	2.73	2.92	4.57	7.39	7.67	12.06	17.80	
600	0.45	0.96	1.64	1.16	1.92	3.21	3.40	5.35	8.67	8.87	14.04	20.75	
700	0.51	1.11	1.86	1.32	2.19	3.67	3.86	6.11	9.92	10.00	15.92	23.56	
720	0.52	1.15	1.94	1.35	2.24	3.76	3.95	6.26	10.16	10.22	16.28	24.10	
800	0.56	1.25	2.12	1.46	2.45	4.12	4.31	6.84	11.12	11.08	17.71	26.22	
900	0.62	1.38	2.35	1.60	2.70	4.56	4.75	7.56	12.29	12.10	19.41	28.73	
960	0.64	1.45	2.46	1.69	2.85	4.82	5.00	7.98	12.97	12.68	20.38	30.16	
1000	0.67	1.51	2.57	1.74	2.95	4.99	5.17	8.25	13.42	13.06	21.02	31.08	
1100	0.72	1.64	2.80	1.87	3.19	5.41	5.58	8.93	14.52	13.96	22.53	32.14	
1200	0.77	1.77	3.01	2.00	3.43	5.83	5.97	9.58	15.57	14.81	23.95	33.17	
1300	0.82	1.89	3.23	2.12	3.66	6.23	6.36	10.22	16.59	15.59	25.27	34.16	
1400	0.87	2.01	3.44	2.24	3.88	6.63	6.73	10.84	17.57	16.31	25.75	34.02	
1440	0.89	2.04	3.50	2.29	3.97	6.78	6.88	11.08	17.68	16.59	26.22	33.83	
1500	0.91	2.13	3.65	2.36	4.10	7.01	7.09	11.44	18.51	16.98	26.68	33.61	
1600	0.96	2.25	3.85	2.47	4.32	7.39	7.44	12.02	18.85	17.58	27.12	33.36	
1700	1.00	2.36	4.05	2.58	4.53	7.76	7.78	12.58	19.18	18.11	27.56		
1800	1.04	2.47	4.25	2.69	4.73	8.12	8.11	13.12	19.50	18.57	27.48		
1900	1.08	2.58	4.44	2.79	4.93	8.48	8.43	13.64	19.80	18.97	27.36		
2000	1.12	2.69	4.63	2.89	5.13	8.82	8.73	14.14	19.74	19.29	27.21		
2200	1.20	2.91	5.00	3.09	5.51	9.48	9.31	14.90	19.53				
2400	1.27	3.11	5.35	3.26	5.87	10.11	9.83	15.43					
2600	1.34	3.31	5.68	3.43	6.21	10.48	10.31	15.77					
2800	1.41	3.50	6.00	3.59	6.53	10.89	10.73	15.87					
3000	1.47	3.68	6.31	3.73	6.83	11.38	11.10	15.66					
3200	1.53	3.85	6.59	3.86	7.11	11.49							
3400	1.58	4.02	6.86	3.98	7.37	11.40							
3600	1.63	4.18	7.11	4.08	7.44	11.08							
3800	1.68	4.33	7.34	4.17	7.48	10.65							
4000	1.72	4.47	7.55	4.25	7.52								
4200	1.76	4.60	7.74										
4400	1.80	4.72	7.90										
4600	1.83	4.84	8.05										
4800	1.86	4.94	8.17										
5000	1.88	5.04	8.26										
5200	1.90	5.12	8.33										
5400	1.91	5.19											

NU LINK Rated Power (kW) Per Belt For Small Pulley Pitch Dia (mm)																		
Rev/min of faster shaft	Z/10			A/13			B/17			C/22-S/25			D/32					
	50	71	90	63	90	112	112	125	180	180	200	250	330	355	410			
100	0.10	0.13	0.16	0.12	0.24	0.31	0.37	0.97	1.03	1.31	1.53	2.18	3.60	4.47	6.79			
200	0.11	0.15	0.18	0.14	0.30	0.37	0.52	1.22	1.61	1.83	2.66	3.52	7.00	8.49	10.85			
300	0.13	0.17	0.21	0.16	0.43	0.47	0.73	1.47	2.19	2.44	3.89	5.16	9.89	11.57	14.87			
400	0.16	0.20	0.30	0.19	0.58	0.63	0.98	1.72	2.77	3.18	4.40	6.49	13.30	15.61	18.93			
500	0.20	0.22	0.38	0.21	0.76	1.01	1.30	1.97	3.35	3.92	5.63	8.22	15.25	17.72	21.91			
600	0.23	0.25	0.50	0.24	0.99	1.40	1.62	2.22	3.93	4.66	6.41	9.41	16.35	19.06	23.69			
700	0.25	0.32	0.58	0.31	1.08	1.67	1.87	2.35	4.19	5.00	6.90	9.93	17.86	20.93	25.41			
720	0.28	0.39	0.66	0.37	1.15	1.83	2.03	2.48	4.41	5.15	6.97	10.38	18.41	21.32	26.38			
800	0.30	0.46	0.74	0.42	1.18	1.90	2.13	2.71	4.66	5.32	7.35	11.14	19.33	22.80	27.66			
900	0.32	0.53	0.80	0.47	1.25	1.97	2.24	2.94	4.97	5.73	7.73	11.91	20.94	24.83	30.16			
960	0.33	0.60	0.88	0.52	1.32	2.05	2.34	3.11	5.28	5.95	8.21	12.31	21.61	25.90	31.49			
1000	0.34	0.62	0.98	0.57	1.38	2.12	2.45	3.27	5.51	6.18	8.51	12.72	22.01	26.49	31.72			
1100	0.35	0.69	1.09	0.61	1.45	2.22	2.57	3.33	5.75	6.41	8.82	13.82	22.97	26.87	32.00			
1200	0.36	0.79	1.20	0.66	1.52	2.34	2.65	3.50	6.11	6.73	9.28	14.58	23.50	27.25	32.07			
1300	0.37	0.86	1.31	0.70	1.58	2.44	2.74	3.64	6.57	7.09	9.66	15.00	24.50	27.66				
1400	0.38	0.93	1.48	0.75	1.66	2.58	2.80	3.77	6.87	7.31	9.87	15.36						
1440	0.39	1.01	1.51	0.79	1.73	2.72	2.87	3.84	7.06	7.41	9.99	15.50						
1500	0.40	1.08	1.55	0.84	1.81	2.86	2.94	3.92	7.27	7.51	10.09	15.63						
1600	0.44	1.11	1.61	0.87	1.91	2.99	3.04	4.05	7.59	7.62	10.24	15.70						
1700	0.48	1.19	1.62	0.90	2.01	3.12	3.14	4.19	7.88	7.64	10.34	15.70						
1800	0.55	1.25	1.72	0.93	2.09	3.24	3.26	4.40	8.11	7.95	10.36	15.70						
1900	0.62	1.32	1.78	0.94	2.17	3.37	3.38	4.54	8.30	8.00	10.62	15.70						
2000	0.66	1.38	1.80	0.95	2.22	3.46	3.48	4.68	8.44	8.18	10.81	15.70						
2200	0.72	1.44	1.86	0.97	2.32	3.62	3.72	4.85	8.65	8.28	10.92	15.70						
2400	0.78	1.51	1.91	0.99	2.44	3.72	3.85	4.90	8.68	8.34	10.98							
2600	0.82	1.57	1.95	1.01	2.55	3.81	3.93	4.99	8.70	8.58								
2800	0.88	1.63	1.99	1.03	2.63	3.89	3.96	5.01	8.72	8.70								
2880	0.89	1.65	1.99	1.04	2.64	3.93	3.97	5.01	8.73									
3000	0.92	1.69	2.00	1.06	2.67	4.02	4.00	5.03										
3200	0.94	1.73	2.03	1.08	2.71	4.07	4.01											
3500	0.98	1.79	2.08	1.13	2.80	4.08												
4000	1.04	1.82	2.11	1.18	2.91													
4200	1.06	1.82		1.20	2.92													
4500	1.08			1.23														
4800	1.10			1.23														
5100	1.13																	
5700	1.14																	

Installing NuTLink & SuperTLink

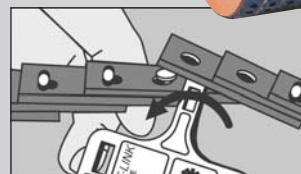
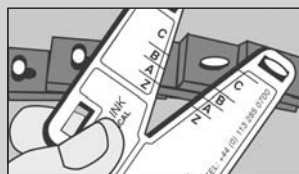
In order to maximize the benefits offered by NuTLink or SuperTLink it is important that the instructions below are followed very carefully when fitting the belts. Each pack contains full fitting instructions and a fitting tool.

Fitting Instructions (refer to diagrams)

Before Starting

Always check the alignment and condition of pulleys carefully. Unless pulleys are faulty there is no need to change them, NuTLink and SuperTLink are standard section belts and run perfectly on existing pulleys of the correct profile.

Get familiar with the link concept before fitting. (See diagrams)



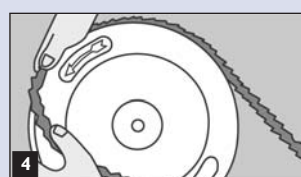
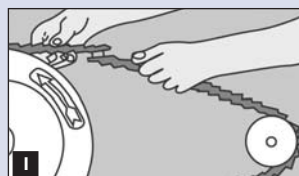
To unfasten turn stud heads 90°, insert tool and twist.

To fasten, snap last link over stud heads and turn heads 90°.

Fitting the Belts (refer to diagrams)

- 1) Position belt around pulleys to obtain required length.
- 2) Count the total number of links and remove the appropriate number of links to obtain the necessary pre-tension. For Z, A, B, SPZ, SPA, SPB sections remove 1 in 11 links (9%), for C and SPC sections 1 in 13 links (7%) and D section 1 in 16 links (6%). For larger sections please contact Fenner Drives.
- 3) Make belt endless, around pulley shafts if necessary
- 4) Mount belt on to small pulley and spring onto large pulley by turning large pulley slowly.
- 5) The belt will run equally well in either direction but preferably with tails leading as illustrated.

On multi-belt drives ensure that each belt has the same number of links and that each belt runs in the same direction.



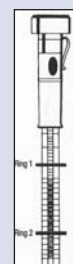
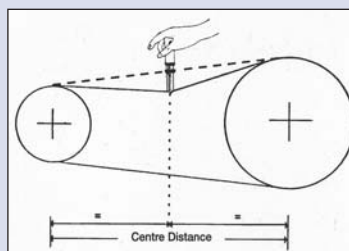
Installation Instructions When Using Slide Rails

- 1) Set motor to mid position on slide rails.
- 2) Position belt around pulleys to check length.
- 3) Remove required number of links (see 2 above)
- 4) Push motor forward to minimum centre distance

- 5) Make belts endless and spring over pulleys
- 6) Pull motor part way back to mid position and run drive for 30 minutes
- 7) Pull motor back to mid position

Installation Instructions When Using a Standard Tension Gauge

- 1) Measure centre distance of pulleys.
- 2) Multiply distance in metres by 16 to obtain deflection required in mm.
- 3) Set this deflection on the tension gauge (ring 2)
- 4) With the tension gauge at right angles to the belt and at the mid point of the pulleys, apply a force so that the set deflection is achieved.
- 5) Check the force applied against the values given.
- 6) Increase the pulley centre distance until the correct value is obtained.
- 7) Run drive for 30 minutes and re-tension if required.



Belt Section	Force required to deflect belt 16mm/mtr centres Kgs
Z/10	1.5 - 2.5
A/13	3.5 - 4.5
B/17	4 - 6
C/22	9 - 12
D/32	12 - 14
SPZ	2 - 3
SPA	4 - 5.5
SPB	4.5 - 6
SPC	12 - 14

Quality Brands from Fenner Drives

We are one of the world's leading manufacturers of problem solving power transmission and conveyor belting.

NULINK
SUPERLINK
PowerFlex
EAGLE
POLYURETHANE BELTING

DUNLOP
BELTING PRODUCTS

Trantorque
Keyless Bushings