

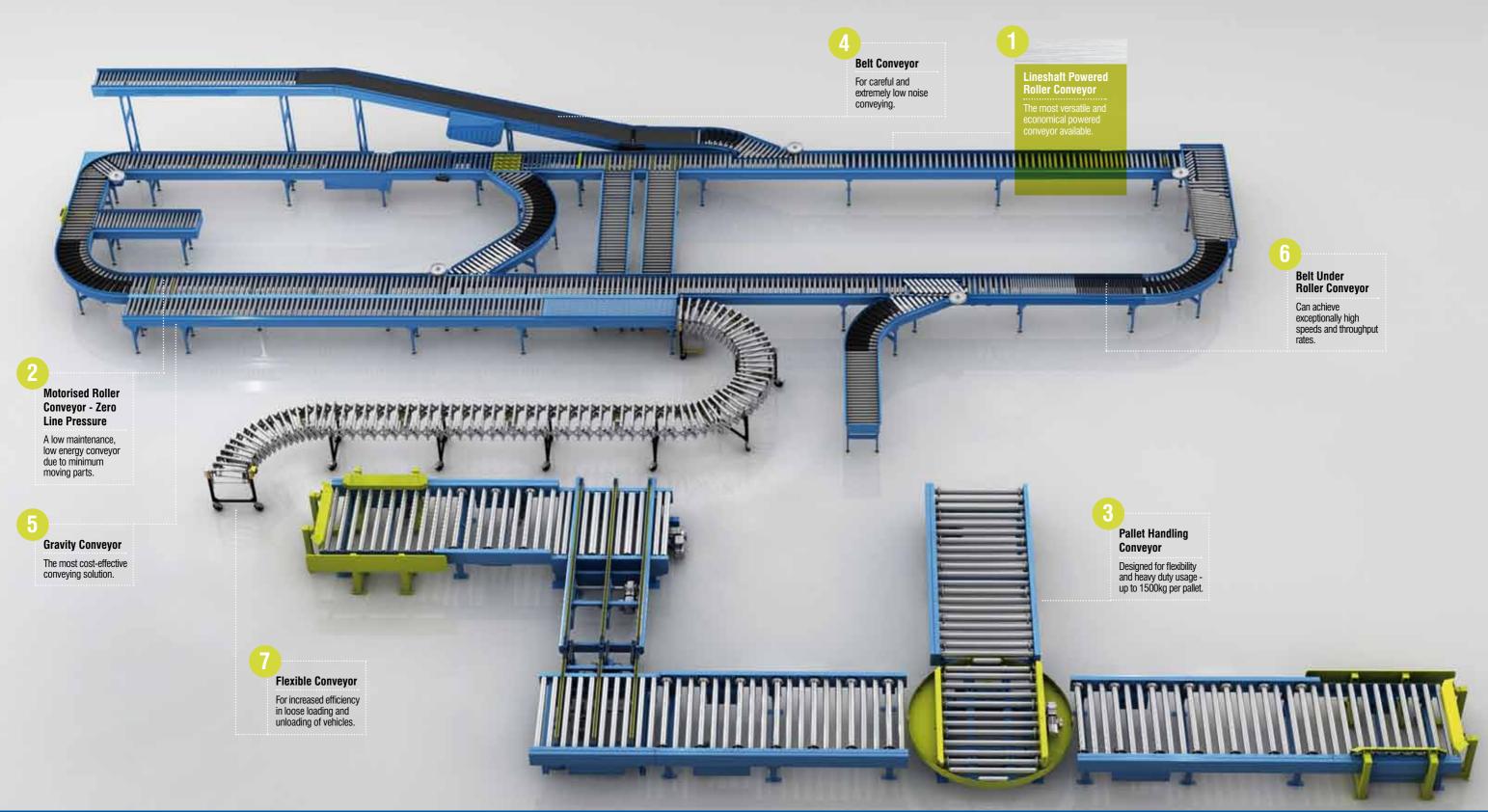
Lineshaft Powered Roller Conveyor

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The most economical and versatile conveyor in material handling

No.1of 7







Introduction

The uni-xu® range of conveyors has been integral to thousands of turnkey solutions for some of the most demanding and successful companies across Europe. It is renowned for the robustness of its design, with quality being reflected in a distinct durability in the field. Furthermore, the modularity of the uni-xu® design offers extreme flexibility and simplicity for totally integrated systems. It has been engineered and manufactured in Britain since 1963, resulting in five decades of engineering development and excellence, which today, makes it one of the best known trademarks in conveyor manufacture. Facts

- Over a third of conveyor orders shipped overseas.

• UK's largest conveyor manufacturer. • 150,000 sq. ft. manufacturing plant on a 7 acre site. • In excess of half a million rollers manufactured every year. • Over 15 km of conveyor produced each year.

Index

Straight Track		Line Brake	18	
Bend Unit		Switch Sorter	19	
Corner Turn Unit		Mitre Section	20	
Drive Units		Pusher Unit	21	
Jump Chain Assembly		Chain Transfer Unit	22	
Lift Up Gate Section		Vertical Lift Chain		
Mobile Unit	11	Transfer Unit	23	
Incline / Decline Joint	12	Belt Transfer Unit		
30° Merge Unit	13	Pack Positioning Unit	25	
30° Switch Junction	14	Pack Turn Unit	26	
90° Junction		Technical Information	27-29	
Vertical Blade Stop		Rollers		
Rotating Blade Stop	17	Spares	31	



Focus on Lineshaft

• The most versatile and economical conveyor available in material handling.

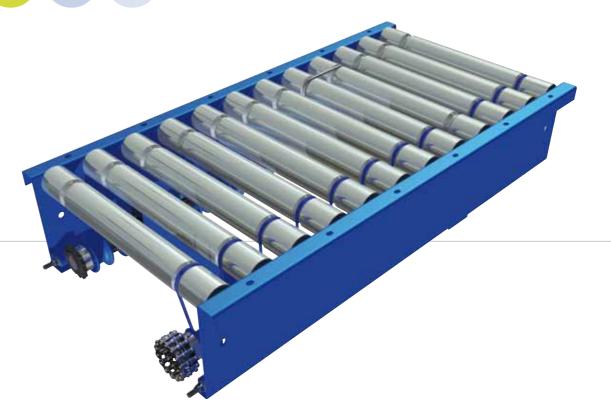
Key Features	Benefits
Modular design.	Proven product, highly configurable, easy and reduced installation with low maintenance. Allows for a variety of arrangements to be made from standard components.
Ability for transportation and accumulation on the same conveyor system.	Versatility / adaptability in product handling. Optimised productivity.
Fewer motors required.	Reduced costs in installation, maintenance and power consumption.
Ability to include ancillary items.	Highly adaptable / versatile and cost-efficient.
Accumulation.	Reliable accumulation thus eliminating product damage. Easily reconfigurable if further ancillary items are added.
Quiet.	Reduced noise is more conducive to good working environment.
Heavy duty drive belts on bends, merges and mitres.	Increased driving capacity.







Straight Track



- XU30S incorporates 25.4 mm diameter rollers fitted with 35mm diameter plastic sleeves with rollers set at 37.5mm pitch. Drive capacity per roller 4kg.
- XU30 incorporates 35mm diameter rollers set at 37.5mm pitch. Drive capacity per roller 4kg.
- XU60 incorporates 50mm diameter rollers set at either 75mm,100mm or 150mm pitch. Drive capacity per roller 8kg.
- XU60 incorporates 50mm diameter rollers set at either 75mm,100mm or 150mm pitch, drive capacity per roller 12kg.
- 178mm x 32 x 2.5mm fully jig welded 'Z' section framework for all options.
- Free running intermediate rollers, 25.4mm diameter available for use in XU60 and XU90.
- Standard speeds available 12, 15, 20, 25 and 30 metres per minute as nominal. Others speeds available on request.
- Standard widths available: 412mm, 462mm, 512mm, 612mm, 762mm and 912mm. Other widths available on request.
- Powder coated as standard, also available in stainless steel and aluminium.







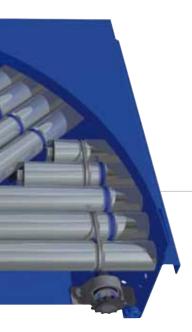


- Available for XU30, XU30S, XU60 and XU90.
- All bends have true taper plastic sleeved rollers to ensure correct load orientation.
- 75mm pitch on inner rail.
- 50mm diameter zinc plated rollers are double grooved at the drive belt positions.
- Heavy duty XU90 belts are used throughout.
- Bend units can be supplied fitted with geared motor units, (60° and 90° only).
- For smaller products intermediate rollers are available and supplied loose for on site fitting.
- The lineshafts are inter-connected by constant velocity (needle roller bearings) universal joints, housed within a rubber gaiter.
- All bends have an inside radius of 859mm.
- Angles available 30°, 45°, 60° and 90°.
- Accumulation not advised.
- Standard widths available: 412mm, 462mm, 512mm, 612mm, 762mm, 912m. Other widths available on request.

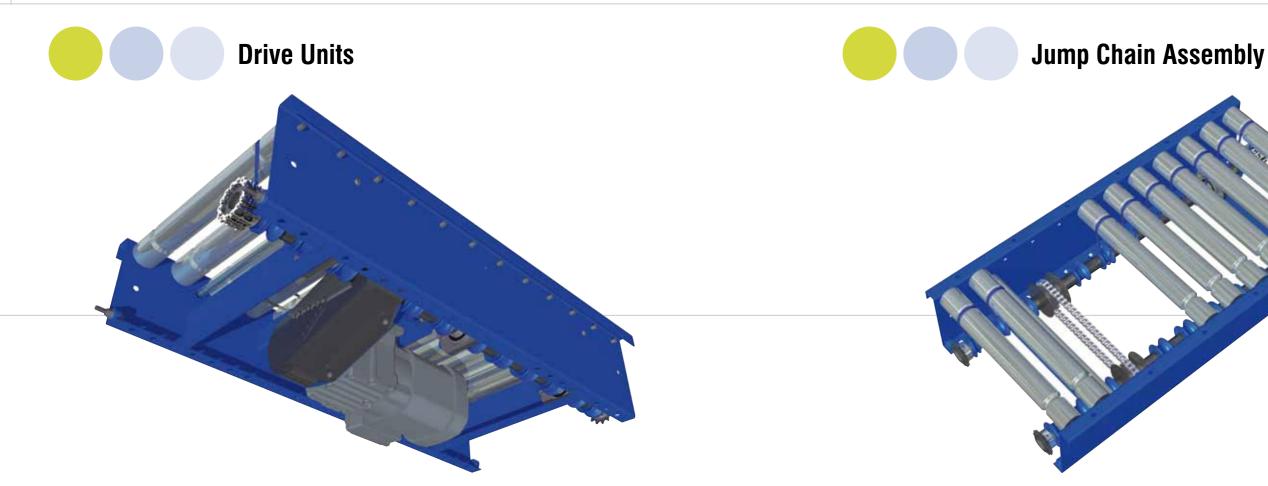


- Two types available XU30 612mm² fitted with 35mm diameter rollers and XU60 612mm² fitted with 50mm diameter rollers.
- Suitable for use with 412 and 462mm inside track widths.
- Used where space is restricted. However, they are only a substitute for bends and have limitations with respect to maintaining correct product orientation. This is determined by the product length to width dimension ratio.
- Supplied with an adjustable inner nylon turning wheel to assist packages through the corner turn.
- Supplied with an outer guide rail.
- Accumulation not advised.









- Available for XU30, XU30S, XU60 and XU90.
- Can be fitted to straight track as well as 90° and 60° bends.
- Urethane mounted to reduce transmission noise.
- Screwed tensioner to ensure correct timing belt tensioning.
- Moving parts are fully enclosed in a removable vacuum moulded guard.
- SEW Eurodrive geared motor units 0.37 and 0.75 kW available. Others available on request.
- Standard speeds available 12, 15, 20, 25 and 30 metres per minute as nominal.

- Available for XU30, XU30S, XU60 and XU90.
- A jump chain assembly comprises two sprockets and a chain which are used for transferring the drive between lineshafts when they are positioned on opposite sides of the conveyor.
- Standard jump chain 1:1 ratio (17 tooth: 17 tooth 1/2" pitch sprockets).
- Speed up jump chain ratio 2:1 available for product separation (14 tooth: 19 tooth 1/2" pitch sprockets and with speed up spools).
- Adjacent jump chain available for driving two conveyors which are side by side 1:1 ratio (17 tooth: 17 tooth 1/2" pitch sprockets).













- Available for XU60 and XU90.
- Fitted with plastic rollers slave driven from a 24V motorised roller.
- Fixed section of track must be 75mm roller pitch.
- 900mm clear access given when gate is in the 'up' position.
- To be used for emergency access only.
- The lifting process is by manual operation, although the design does incorporate a spring assisted mechanism which controls and cushions the raising and lowering operation.
- Drive cannot be taken through to the next section of conveyor and the gate assembly cannot be fitted to a bend.
- Can be positioned back to back to give a 'Tower Bridge' arrangement.
- Standard widths available: 412mm, 462mm, 512mm, 612mm, 762mm and 912mm. Other widths available on request.









- Can be used should site conditions require sections of conveyor to be moved to allow for the passage of fork lift trucks or other equipment through the line of conveyor.
- Braked swivel castors as standard.
- Variable heights and lengths available.
- Standard widths available: 412mm, 462mm, 512mm, 612mm, 762mm and 912mm. Other widths available on request.







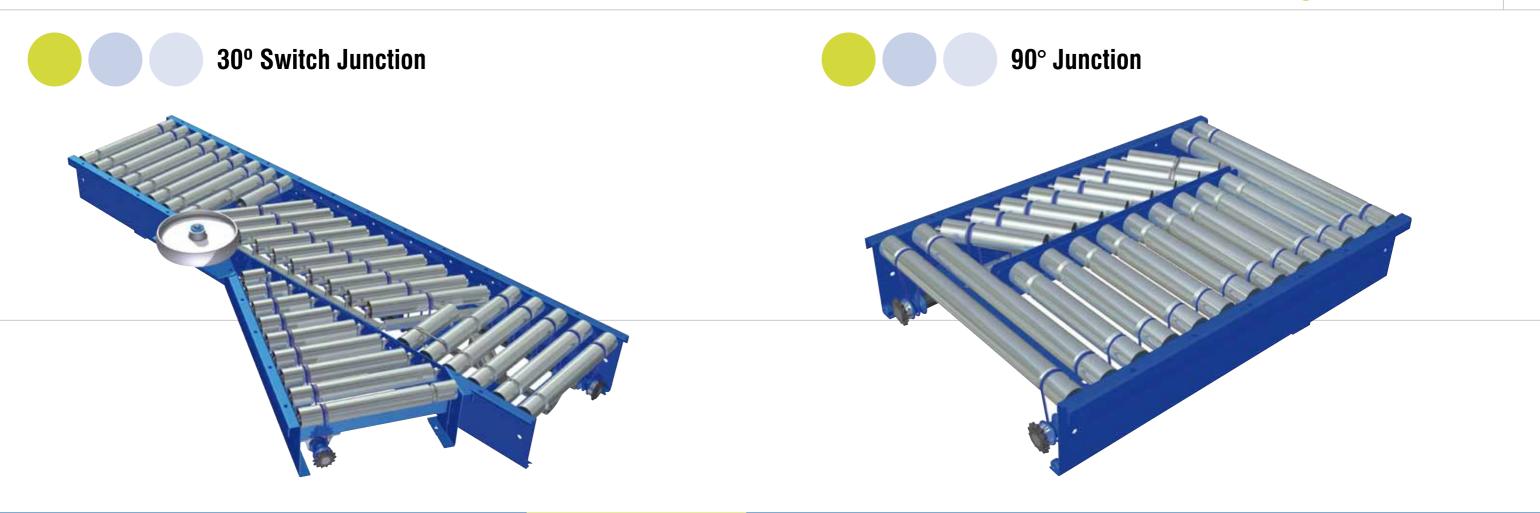
- Available for XU60 and XU90.
- Incline section uses XU90 conveyor with rollers at 75mm pitch.
- The maximum angle of incline / decline which is recommended with the standard specification of conveyor equipment is 5°, depending on the product length and weight, this may be increased.
- We recommend the fitting of intermediate rollers at both ends of the intersection for a distance equal to the maximum product length to prohibit 'nosing-in' between roller pitchings.
- We recommend that product trials are carried out at our works.

• Available for XU30, XU30S, XU60 and XU90.

- Right and left hand merges available.
- The rollers are always fitted at 75mm pitch and driven with heavy duty drive belts.
- The ability to merge tracks at 90° and parallel lines when using 60° and 30° bends.
- Merge unit includes jump chains and universal joints which allow the drive to be continued through the unit.
- Can be used in conjunction with XU30 and XU30S conveyor, but intermediate rollers must be fitted.
- Supplied with a turning wheel for positioning at the leg intersection to assist with guidance of the product.
- Accumulation is not advised.
- Maximum throughput of 25 packs per minute based on conveyor speed of 50 metres per minute.
- Standard widths available: 412mm, 462mm, 512mm, 612mm and 762mm. Other widths available on request.







- Available for XU60 and XU90, prior consultation is required for XU90 with our sales department.
- Used for diverting products from the main line.
- Switch can be manufactured to a left or right hand.
- Incorporates a pivoting group of rollers positioned adjacent to the 30° leg which can be actuated by manual or pneumatic operation.
- Maximum operations of 15 per minute.
- Minimum suitable product length is 225mm.
- Total air consumption per operation 0.49 litres.
- Supplied with full width underguard as standard.
- Standard widths available: 412mm, 462mm, 512mm, 612mm and 762mm. Other widths available on request.

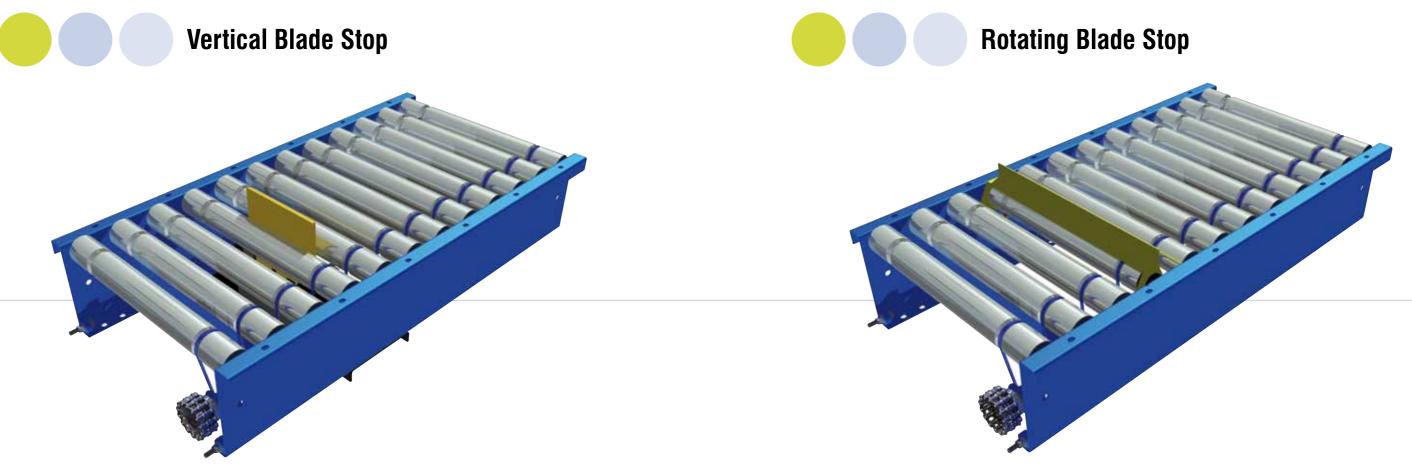
- Available for XU60 and XU90 conveyor.
- This junction is only used when space is at a premium and the need to merge at 90° to the main line.











- Available for XU30, XU30S, XU60 and XU90.
- This stop can be incorporated into straight track positioned in between roller pitches for XU60 / XU90 and would replace a roller for XU30 / XU30S.
- Speed up spools are supplied at the stop position to increase gaps between loads. Speed up jump chain assemblies can also be used for this application.
- Double acting pneumatic air cylinders.
- Air consumption for each cylinder operation 0.70 litres.
- Standard widths available: 412mm, 462mm, 512mm, 612mm, 762mm and 912mm. Other widths available on request.

- Available for XU60 and XU90 conveyor.
- Speed up spools are supplied at the stop position to increase gaps between loads. Speed up jump chain assemblies can also be used for this application.
- This type of stop is particularly useful where conveyor height is to be of a minimum and in two tier systems.
- Incorporates single acting spring return pneumatic air cylinders, fitted with flow regulators 25mm bore x 80mm stroke, which can be fitted inside or outside the track frame.
- XU60 up to and including 512mm are fitted with single cylinders, 612mm and 762mm are fitted with twin cylinders.
- XU90 fitted with twin cylinders as standard.
- Total air consumption for each operation per cylinder 0.24 litres.
- This stop unit has a full width blade and is designed to fit into any straight track position.
- Maximum product weight 15Kg.
- Standard widths available: XU60 412mm, 462mm and 512mm, XU90 412mm, 462mm, 512mm, 612mm and 762mm.





- Available for XU30, XU60 and XU90.
- A pneumatically operated rubber covered friction pad comes into contact with the underside of the rollers and gives negative line pressure over a standard brake length of 890mm.
- It can be used in conjunction with stops to reduce line pressure and provide singulation of products to chain transfer units, packing and wrapping machines etc.
- Inclusive of two pneumatic cylinders.
- Total air consumption per operation 0.10 litres.
- For accumulation control see our 'Technical Manual.'

- Available for XU60 and XU90.
- The sorter wheels are independently driven from a 0.37 kW SEW motor, to give either 60 or 110 metres per minute.
- We recommend that an inverter is fitted to the gearbox to enable fine tuning of the speed that will be required to suit your application.
- Can be supplied right handed, left handed or bi-directional.
- Minimum product size 200mm x 200mm.
- Available at 45° switching angle.
- Normally used in conjunction with a 45° mitre section, although other options are available.
- Accumulation is not advisable on these units.
- Maximum operations 3000 products per hour.
- Standard widths available 462mm, 612mm, 762mm and 912mm.













- Available for XU60 and XU90.
- Used where one conveyor feeds into or diverts from another.
- Angles available: 30°, 45°, 60° and 90°.
- Standard widths available 412mm, 462mm, 512mm, 612mm, 762mm and 912mm. Other widths available on request.

- Available for XU30, XU30S, XU60 and XU90.
- Comprises a rodless cylinder which has an arm attached to its saddle.
- When the cylinder is energised the arm traverses across the track width and pushes products onto a conveyor at 90°.
- Pneumatic cylinder 32mm bore.
- Total air consumption for double stroke 7.76 litres per cylinder based on 700mm stroke.
- Suitable for moving a maximum load of 25kg.
- Maximum operations 20 per minute. Please contact us for off set loads and higher throughputs.





21





- Available for XU30, XU30S, XU60 and XU90.
- The minimum chain centres are 112.5mm for XU30 and 150mm for XU60 and XU90.
- Maximum of 15 operations per minute.
- Maximum lift twin chain 50Kg. Maximum lift triple chain 100Kg.
- Drive to the transfer chains is via sprockets on the main lineshaft.
- The rise and fall of chains is actuated by double acting pneumatic cylinder(s).
- Available in twin or triple chain transfers with either steel or nylon chain.
- One cylinder is required for twin chain transfers. Two cylinders are required for triple chain transfer.
- Total air consumption for double stroke 0.4 litres per cylinder.
- Standard widths available: 412mm, 462mm, 512mm, 612mm, 762mm and 912mm. Other widths available on request.

- Available for XU30, XU30S, XU60 and XU90.
- The minimum chain centres are 150mm.
- Maximum of 20 operations per minute.
- Maximum lift 50Kg.
- Drive to the transfer chains is via sprockets on the main lineshaft.
- The rise and fall of chains is actuated by double acting pneumatic cylinder.
- Available in twin or triple chain transfers with either steel or nylon chain.
- Two cylinders are required for twin chain transfers. Four cylinders are required for triple chain transfer.
- Total air consumption per operation 0.51 litres per cylinder.
- Standard widths available: 412mm, 462mm, 512mm, 612mm, 762mm and 912mm. Other widths available on request.



Vertical Lift Chain Transfer Unit



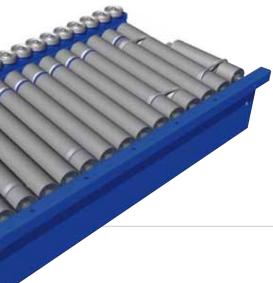


- Available for XU30, XU60 and XU90.
- The minimum belt centres are 150mm.
- Maximum of 25 operations per minute.
- Maximum lift 70Kg.
- Independently driven from a geared motor unit via pulleys on a separate shaft.
- The rise and fall of chains is actuated by a double acting pneumatic cylinder(s).
- Available in twin or triple belt transfers.
- Polyurethane truly endless belt with co-extruded backing.
- One cylinder is required for twin and triple transfers.
- Total air consumption per operation 1.04 litres per cylinder.
- Standard widths available: 412mm, 462mm, 512mm, 612mm, 762mm and 912mm. Other widths available on request.

- Available for XU60 only.
- Supplied left or right hand.
- Fitted with angled driven rollers set at 60mm pitch, which guide the product to the left or right hand side of the conveyor track. This provides a fixed product position for infeed into various types of machinery and within scanning distance for barcode readers and labelling machines etc.
- Each unit includes a steel wheel sideguide on one side only.
- We recommend that product trials are carried out at our works.
- Standard widths available: 462mm and 612mm. Other widths available on request.









- Available for XU60 only.
- Supplied left or right hand.
- The unit is fitted with driven rollers set at 75mm pitch.
- Incorporates a jump chain assembly with speed-up spools to give an increase in line speed of 2:1 ratio. This increase in speed, coupled with the hinged nudger bar turns the product through 90°, subject to its weight, length and width ratio.
- Each unit includes steel wheel sideguide on one side only.
- Maximum product weight 8Kg.
- For weights in excess of 8Kg contact sales office.
- We recommend that product trials are carried out at our works.
- Standard widths available: 462mm and 612mm. Other widths available on request.

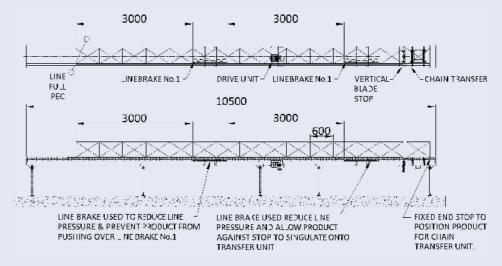




Stop and Line Brake Applications

- Fast operation, capable of picking up minimum spaces between cartons.
- Small bore / stroke cylinder ensures low usage of compressed air.
- Standardised components ensure quality stops at low cost.
- Quickly manufactured to fit any track width.
- Spring return on rotating blade stop cylinder for safety.
- Both vertical and rotating stop units include the necessary larger diameter drive up rollers and create gaps between loads.
- Easily repositioned on site if system requires change.

The tables shown to the right offer guidance on the number of products which can b arrested by a line brake.



Vertical Blade Stop

Forces (Kg) acting on Vertical Blade Stop under various conditions as listed:

Track Reference XU60 / 462 / 75	Speed	d (Metre	es Per M	inute)
Load Type	10	20	30	40
Corrugated One Product Five Products Ten Products	1 7 11	2 7.5 16	2 8 19.5	2 9.5 20
Plastic Tote One Product Five Products Ten Products	1.5 12 26	2.5 12 26	3 14 28	3 15 29
Steel Tote One Product Five Products Ten Products	2 9 14	2 9 18	2 9 20	2 9 20
Wooden Platten One Product Five Products Ten Products	2 12 24	2 12 24	2 12 28	2 12 28





Track Referen XU60 / 462 / Load Type		Speed 10	1 (Metro 20	es Per N 30	linute) 40
	Corrugated Plastic Tote	16 5	12 5	12 5	12 5
	Steel Tote Wooden Platten	8 5	7 5	7 4	5 4
e spools to speed	Load Details	Leng	th	Weight	(Ka)
	Corrugated Plastic Tote	300m 470m	ım	15 15	
be stopped and	Steel Tote	450mm		15	
be stopped and	Wooden Platten	500mm		15	

Load Details	Length	Weight (Kg)
Corrugated	300mm	15
Plastic Tote	470mm	15
Steel Tote	450mm	15
Wooden Platten	500mm	15

NB.

- 1. Gradual accumulation of loads.
- 2. Maximum number of products acting on any stop is 10.
- For loads having tapered sides then an overhead guide will be required adjacent to the stop to prohibit loads from rising ('jack-knifing').

Drive Units

Calculation for Number of Drives in a System

The number of drives is conditional on: -

1. Pitch of rollers.

3000

- 2. Total metre length of conveyor with accumulation.
- **3.** Total metre length of conveyor without accumulation.

A) Table 1 gives metre allowance to be added into total conveyor length, for switches, bends, transfers etc. For XU60 and XU90 series 75mm, 100mm and 150mm pitch of rollers. XU30 series at 37.5mm pitch.

3000 ACCUMULATION ACCUMULATION 3000 3000 _30" MERGE 3000 3000 30° SWITCH 1500 4 OPNER

by a factor of 2.

are allowed for accumulation purposes.



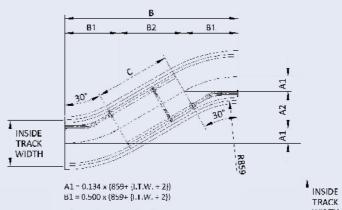
accumulation. To calculate number of drives required in the system, add total metre lengths together with allowances given in Table 1, allowing for accumulation factor on straight track as note B, and divide the calculated metre length.

B) For areas where accumulation occurs, the metre length should be multiplied

NB. It is recommended to design the system so that only straight bed sections



30° 'S' BEND CONFIGURATION CALCULATIONS



TO FIND C WHEN A IS KNOWN: FIRST FIND A2 - A - (2 X A1)

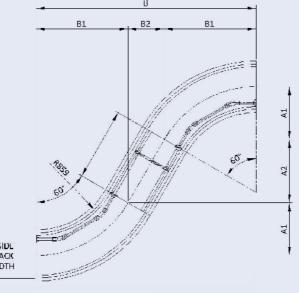


THEN C - 2 X A2

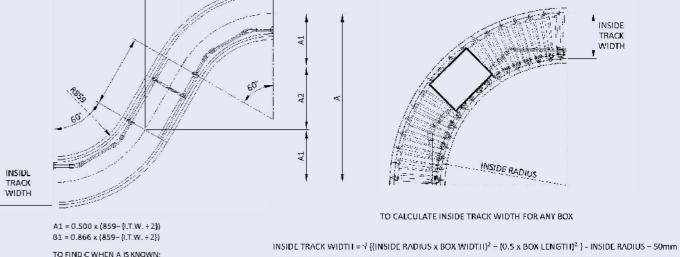
TO FIND B WHEN A IS KNOWN:

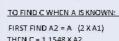
FIRST FIND B2 - 1.732 X A2 THEN B = B2 + (2 x B1)

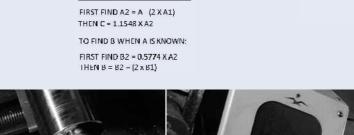
60° 'S' BEND CONFIGURATION CALCULATIONS



B1 = 0.866 x (859– {I.T.W. \div 2}) TO FIND C WHEN A IS KNOWN:







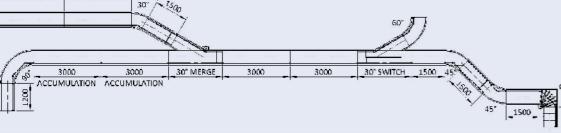


Table 1

Total length of straight track driven from 1 drive unit - to be approx. equal either side of drive unit							
Roller Centres on	90°	60°	45°	30°	Switch	Twin Chain	Cornei
Straight Track	Bend	Bend	Bend	Bend	and Merge	Transfer	Turn
37.5 and 75mm	4.90	3.70	2.40	1.90	7.60	1.00	3.70
100mm	6.10	4.70	3.20	2.40	10.20	1.25	4.70
150mm	9.20	7.00	4.80	3.50	15.20	2.00	7.00

Table 2

Maximum length of conveyor in metres that can be driven by 0.37kW geared motor for XU30 and XU60.

Total length of straight track driven from 1 drive unit - to be approx. equal either side of drive unit						
Roller Centres on Straight Track	Conveyor Speed 10 m.p.m 20 m.p.m 30 m.p.m					
37.5 and 75mm	36m	18m	12m			
100mm	48m	24m	16m			
150mm	72m	36m	24m			

Example based on conveyor speed of 10 m.p.m. and 75mm roller pitch. Length of conveyor NOT accumulating (metres)

Straight Track	
1 off 90° bend	4.90
1 off 60° bend	3.70
2 off 45° bends	4.80
1 off 30° bend	1.90
1 off 30° merge	
1 off 30° switch	
1 off corner turn	
1 off twin chain transfer	1.00
Length of conveyor track accumulating	
Straight track 12 metres x 2 (accumulation factor)	24.00
	TOTAL = 73.30

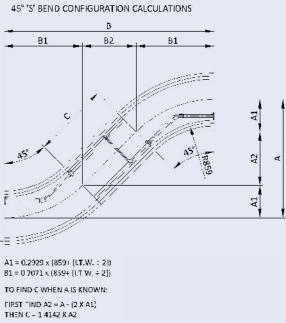
Number of drives required 73.30 metres 36.00 metres = 2.036

TURN

8

Therefore 3 drives required @ 0.37kw





TO FIND B WHEN A IS KNOWN: FIRST FIND B2 - A2 THEN $B = 32 + (2 \times B1)$





Optimise Your Operating Efficiency with our Rollers and Parts Service Guarantee

We have also gained a reputation for supplying high quality competitively priced rollers and spares to all aspects of the material handling industry. Our products are used by blue-chip companies in the UK and throughout Europe.

We have a high degree of standardisation in our systems which means we can guarantee a particularly rapid and reliable spare parts service to meet the end-users' needs with speed and ease.

Furthermore, by buying replacement parts from the original equipment manufacturer you are helping to ensure that the equipment stays in prime condition, optimizing the operating efficiency of your system.

Rollers

We are not only the largest conveyor manufacturer in the UK, but also the largest roller manufacturer, producing in excess of half a million rollers every year.

We source and purchase only the best raw materials directly from the mills, and in vast quantities - in excess of 200km of 50mm diameter steel tubing every year. This means that not only does it allow us to constantly meet order commitments, but it also makes our pricing extremely competitive.

Our range of rollers includes: Gravity Rollers, Plastic Rollers, Stainless Steel Rollers, Grooved Rollers, Tapered Rollers, Sprocketed Rollers, Belt Conveyor Rollers, as well as an extensive range of specialised rollers.

Spares

We also produce an extensive range of stock components, again competitively priced, for Powered Roller Conveyors, Pallet Conveyors, Gravity Conveyors and Belt Conveyors, with all plastic conveyor components injection moulded here on site.

Please give us the opportunity to quote all your roller and spares requirements. We can guarantee: -

- Competitive prices.
- Fast turnaround.
- Extensive product range.
- Excellent customer service.





STOURPORT SITE

- 1 Goods Inwards
- 2 Made To Order Roller Department
- 3 Injection Moulding
- 4 Heavy Duty Drum / Roller Assembly
- 5 Press / Laser Processing Department
- 6 Aluminium Conveyor Assembly
- 7 Heathfield Road
- 8 Sandy Lane
- 9 Product Development
- **10** Tapered Roller Assembly
- **11** Pallet Conveyor Assembly
- 12 Belt Conveyor Assembly
- **13** General Assembly
- 14 Powder Coating Plant / Curing Oven
- 15 Production Welding
- 16 Main Reception
- 17 Despatch
- **18** Ancillary Assembly
- **19** Bend Fabrication
- 20 Press Brake

21 Stourport Showroom and Demonstration Area





conveyor solutions

