uni chains

uni Flex ONE

New

Snap Link®
Single Link®

uni Flex ONE

Designed for strength and reliability

Snap Link®- Modules simply snap together (Pinless Belt Design) for easy maintenance and cleaning

uni Flex ONE

Side flexing - for versatility in conveyor system

Maximize uptime and improve reliability - made entirely from plastic but as strong as a steel reinforced plastic belt. Single Link® - full-width one piece design giving increased strength and impact resistance.

- Reduce conveyor down-time
- Simple and easy belt assembly/disassembly for shorter maintenance operations.
- Snap Link® Modules simply snap together with out pins for easy maintenance.

Easier cleaning and reduced stock of spare parts - unique single component design.

Designed for Efficiency - snap together for easy assembly/disassembly, without the need for any tools. Conveyor downtime for maintenance and cleaning is reduced and stocks of spare parts minimized - incorporating uni-chains® latest Snap Link® design, uni Flex ONE has a pinless design.

Designed for strength and reliability - the unique design of uni Flex ONE means that the load is spread across the hinges, greatly increasing the strength compared to traditional side flexing belts.

Tight Radius
With uni Flex ONE it is possible to make more compact conveyor systems. Possible turning radii from 1.5 x belt width. Straight and curved sections can be combined reducing the use of transfer plates.

Product Orientation
Compared to other side flexing conveyor systems, product orientation is maintained around curves. Products follow the belt surface which reduces the need for side guide rail systems.

High Speed and Low Noise
uni-chains® has experience of running uni Flex ONE belts at high speeds. uni Flex ONE reduces the noise compared to standard side flexing chain applications.

High Beam Strength
uni Flex ONE Single Link® design provides exeptional beam strength allowing conveyors to be built with fewer supports on carry and return increasing airflow and cleanability.

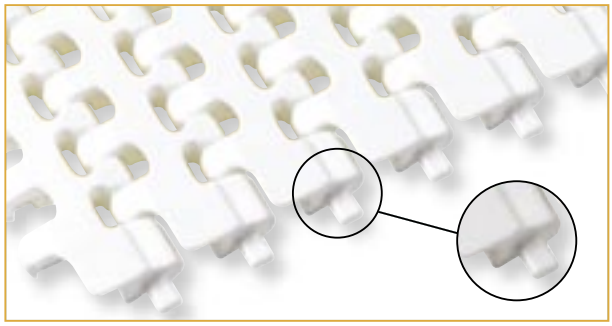
Application Examples

Industries/application

- Food Processing
- Bakery
- Freezing
- Dairy
- Beverage
- Canning
- Distributions center
- Meat and Poultry
- Fish and Seafood
- Fruit and Vegetable

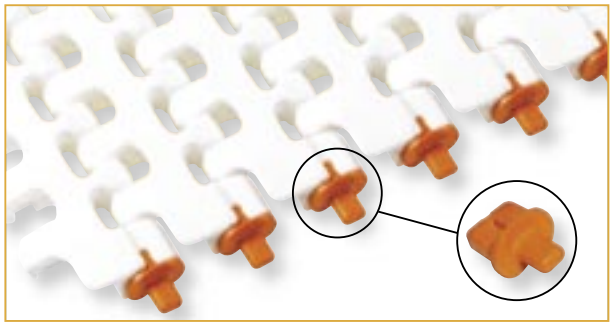
Pinless Belt Design

Belt Edge Configuration



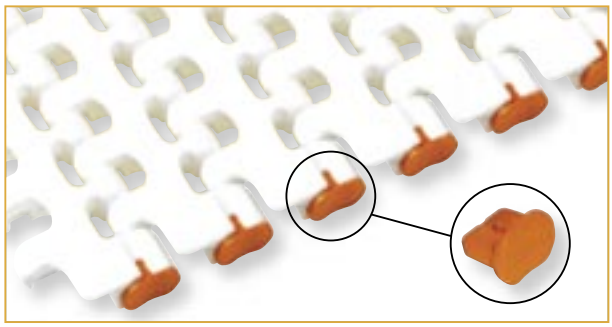
uni Flex ONE-O
(O-Tab)

Using the uni Flex ONE with O-Tab with a slotted wearstrip the O-Tab will allow the transported products to be wider than the belt. O-Tabs ensure cleanability and perferred for direct food contact.



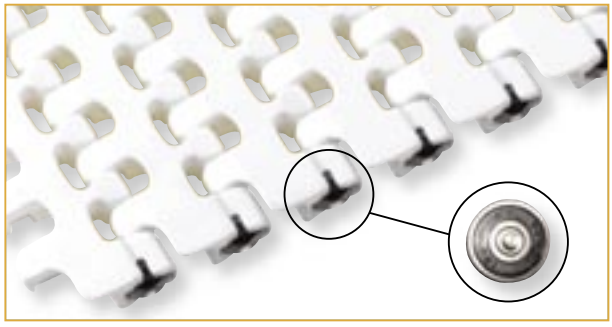
uni Flex ONE-EO
(Exchangeable O-Tab)

Exchangeable O-Tab system is made of heat and wear resistant material to improve performance between belt edge and wearstrip. Using a slotted wearstrip the exchangeable O-Tab will track the belt and allow the transported products to be wider than the belt. Resist high curve load at increased speed.



uni Flex ONE-EW
(Exchangeable Wearpart)

Exchangeable Wearpart system made of heat and wear resistant material to improve performance between belt edge and wearstrip. This Wearpart can easily be replaced. Resist high curve load at increased speed.



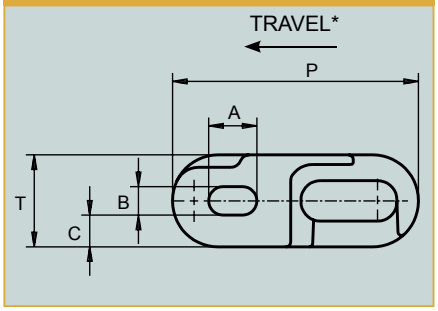
uni Flex ONE-ER
(Exchangeable Edge Roller)

uni Flex ONE with Exchangeable Edge Rollers reduces friction in the curve to a minimum. Making it very suitable for applications with many curves e.g. static spirals (non rotating drum) or high speed side flexing conveyors.

Belt Specifications

Dimensional Sketches

uni Flex ONE-O

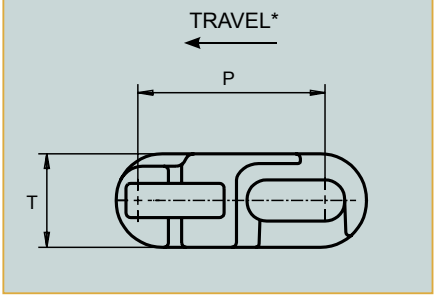


O-Tab

Dimensions

	mm	in.
A	10.0	0.04
B	5.9	0.23
C	6.6	0.26
P	38.1	1.50
T	19.1	0.75

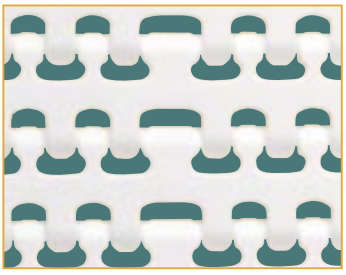
uni Flex ONE-EO/EW/ER

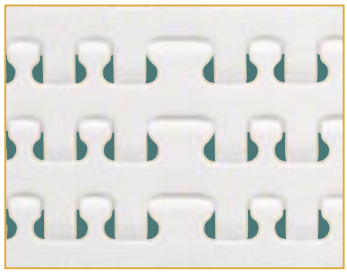


Exchangeable parts:
O-tabs (EO)
Wearparts (EW)
Edge Rollers (ER)

** uni-chains recommends this travel direction. However, travel in both directions is possible.*

Compression





Compression rate is 23% (e.g. 1 meter (3.28 ft) of belt can compress 0.23 m (0.75 ft) to a length of 0.77 mm (2.53 ft).

Side flexing

Pitch
38.1 mm (1.50 in.)

Pat. pending

Backflex radius
50 mm (2.0 in.)

Sprocket
See page 14

Standard materials

Belt
POM-SX W

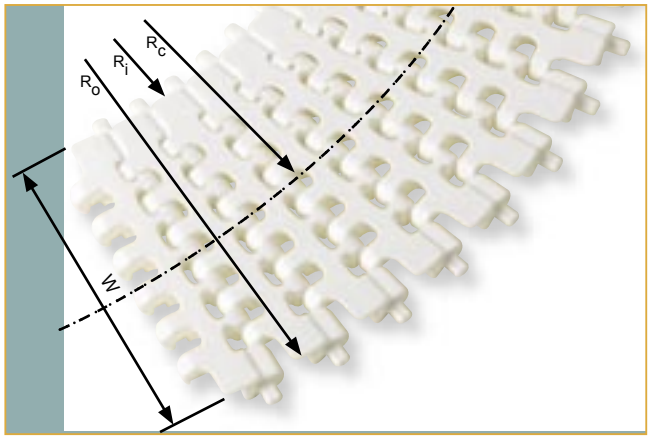
Exchangeable O-Tab, wearpart
POM-DK O

POM-SX
POM-SX is an acetal polymer which contains low noise components and has improved wear and load resistance.

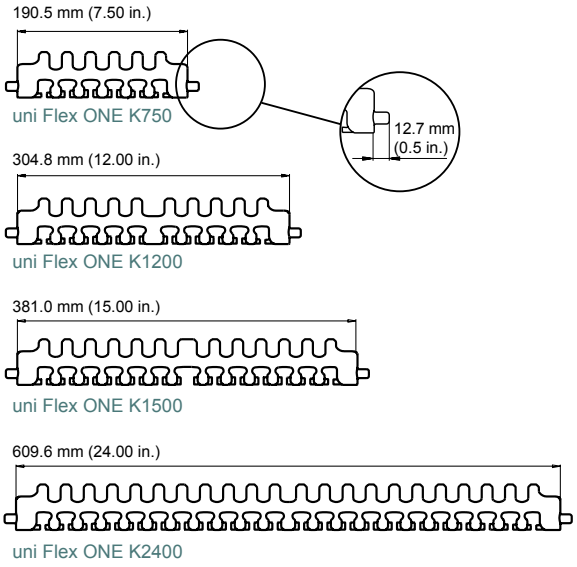
POM-DK
POM-DK is a reinforced acetal polymer designed for applications where high wear resistance is needed and/or high conveyor speeds. The material is typically used for wear parts on side flexing belt/or in applications where very high wear resistance is required.

Snap Link®/Single Link®

Belt Width (Single Link®)



The following belt widths are available:



Technical Data

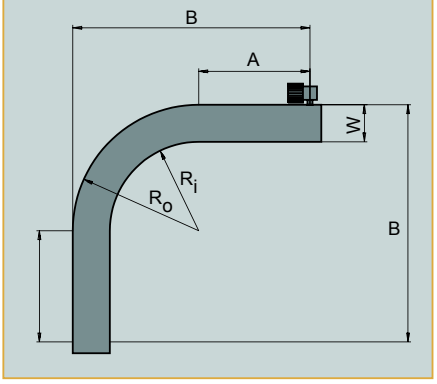
Assortment	Size	Width W	Weight	Min. Center Radius, R_C	Min. Inner Radius, R_i	Flex Ratio (R_i to W)
uni Flex ONE-O	K750	190.5 mm (7.50 in.)	2.5 kg/m (1.68 lb/ft)	365.3 mm (14.38 in.)	270.0 mm (10.63 in.)	1.42
uni Flex ONE-EW			2.4 kg/m (1.61 lb/ft)			
uni Flex ONE-EO			2.5 kg/m (1.68 lb/ft)			
uni Flex ONE-ER-L/R*			2.6 kg/m (1.75 lb/ft)			
uni Flex ONE-ER/ER			2.7 kg/m (1.81 lb/ft)			
uni Flex ONE-O	K1200	304.8 mm (12.00 in.)	4.0 kg/m (2.69 lb/ft)	612.4 mm (24.11 in.)	460.0 mm (18.11 in.)	1.51
uni Flex ONE-EW			3.9 kg/m (2.62 lb/ft)			
uni Flex ONE-EO			4.0 kg/m (2.69 lb/ft)			
uni Flex ONE-ER-L/R*			4.1 kg/m (2.76 lb/ft)			
uni Flex ONE-ER/ER			4.2 kg/m (2.82 lb/ft)			
uni Flex ONE-O	K1500	381.0 mm (15.00 in.)	4.9 kg/m (3.29 lb/ft)	780.5 mm (30.73 in.)	590.0 mm (23.23 in.)	1.55
uni Flex ONE-EW			4.9 kg/m (3.29 lb/ft)			
uni Flex ONE-EO			4.9 kg/m (3.29 lb/ft)			
uni Flex ONE-ER-L/R*			5.0 kg/m (3.36 lb/ft)			
uni Flex ONE-ER/ER			5.1 kg/m (3.43 lb/ft)			
uni Flex ONE-O	K2400	609.6 mm (24.00 in.)	7.9 kg/m (5.31 lb/ft)	1294.8 mm (51.00 in.)	990.0 mm (38.98 in.)	1.62
uni Flex ONE-EW			7.8 kg/m (5.24 lb/ft)			
uni Flex ONE-EO			7.8 kg/m (5.24 lb/ft)			
uni Flex ONE-ER-L/R*			7.9 kg/m (5.31 lb/ft)			
uni Flex ONE-ER/ER			8.1 kg/m (5.44 lb/ft)			

* L/R = L (left)/R (right). When ordering please specify Belt Edge Configuration on opposite side of edge roller (e.g. uni Flex ONE ER/EO = ER on left side and EO on right side - uni Flex ONE EW/ER = EW on left side and ER right side).

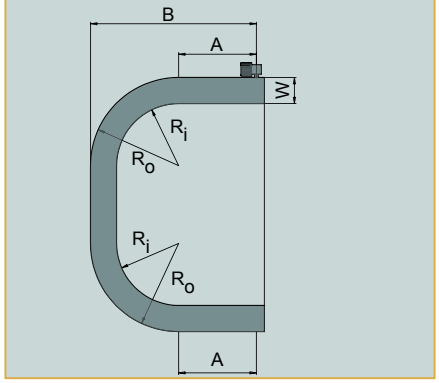
Layout Guidelines

Overall dimensions for uni Flex ONE conveyors

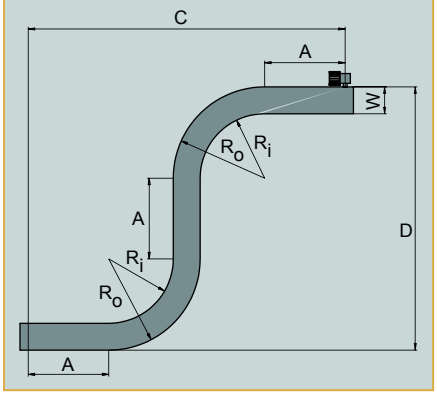
L - conveyors



C - conveyors



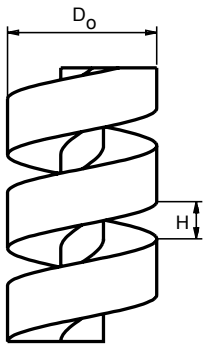
S - conveyors



Dimension Guide, minimum Dimensions

	K750		K1200		K1500		K2400	
	mm	in.	mm	in.	mm	in.	mm	in.
A	190.5	7.50	304.8	12.00	381.0	15.00	609.6	24.00
B	651.0	25.63	1069.6	42.11	1352.0	53.23	2209.2	86.98
C	1302.0	51.26	2139.2	84.22	2704.0	106.46	4418.4	173.95
D	1111.5	43.76	1834.4	72.22	2323.0	91.46	3808.8	149.95
R_i	270.0	10.63	460.0	18.11	590.0	23.23	990.0	38.98
R_o	460.5	18.13	764.8	30.11	971.0	38.23	1599.6	62.98

Spiral Conveyor



Guidelines Dimensions for static Spirals

Belt size	Outside diameter D_o		Max. product height H	
	mm	in.	mm	in.
K750	1100	43.3	350	13.7
K1200	1700	66.9	450	17.7
K1500	2100	82.6	600	23.6
K2400	3300	129.9	800	31.5

Strength

uni Flex ONE Belt Strength

Style		Belt width			Max. permissible load on straight sections		Max. permissible load in curves at low speed*			
							UHMW PEHD 1000		Nylatron, NSM	
		Type	mm	in.	N	lbf	N	lbf	N	lbf
uni Flex ONE	-O	K750	190.5	7.50	2400	540 lb	1800	405	2000	450
	-EW						1800	405	2000	450
	-EO						1800	405	2000	450
	-ER						2000	450	2000	450
uni Flex ONE	-O	K1200	304.8	12.00	4000	899	2700	607	3400	764
	-EW						2700	607	3400	764
	-EO						2700	607	3400	764
	-ER						3400	764	3400	764
uni Flex ONE	-O	K1500	381.0	15.00	6400	1439	2800	629	3500	787
	-EW						2800	629	3500	787
	-EO						2800	629	3500	787
	-ER						3500	787	3500	787
uni Flex ONE	-O	K2400	609.6	24.00	12000	2698	3200	719	3800	854
	-EW						3200	719	3800	854
	-EO						3200	719	3800	854
	-ER						3800	854	3800	854

** See chart on next page for reduction of permissible curve load depending on actual belt speed.*

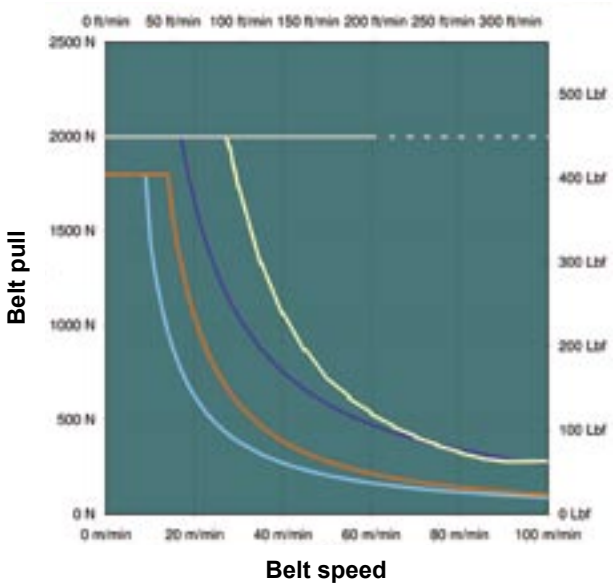
Material for alle types of uni Flex ONE: POM-SX

Please contact uni-chains® Customer Service Sales Engineering for assistance with calculating conveyors to ensure that the belt is strong enough for the radius application in question.

Strength

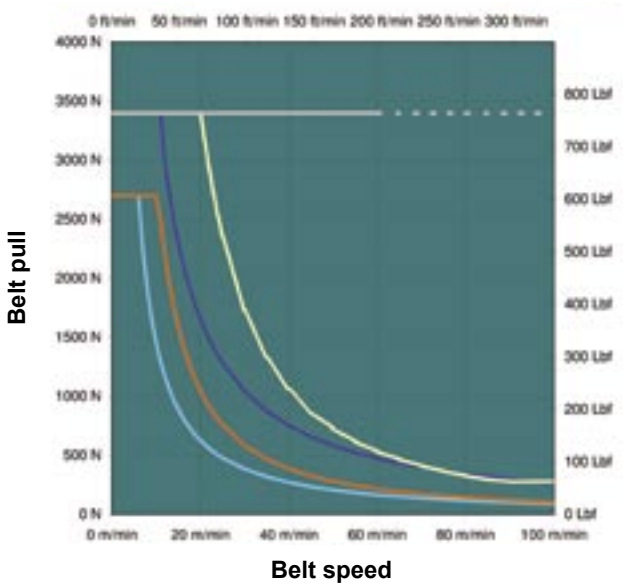
uni Flex ONE K750

(Permissible curve load)



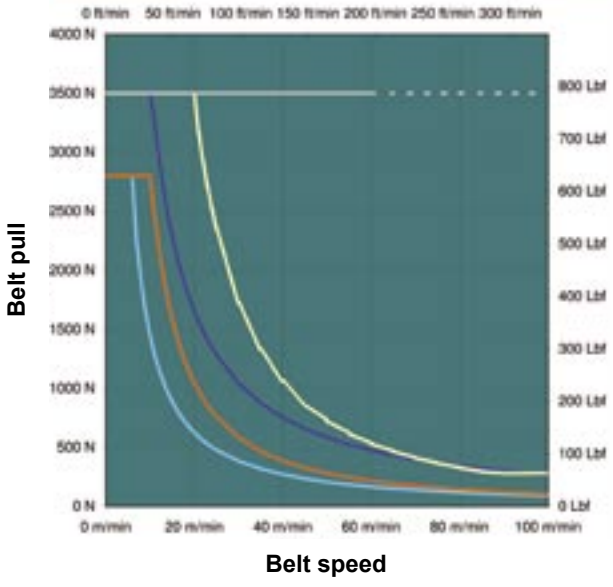
uni Flex ONE K1200

(Permissible curve load)



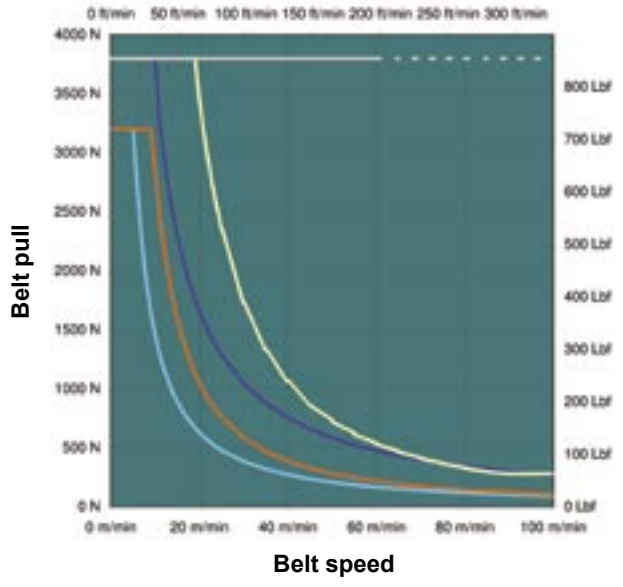
uni Flex ONE K1500

(Permissible curve load)



uni Flex ONE K2400

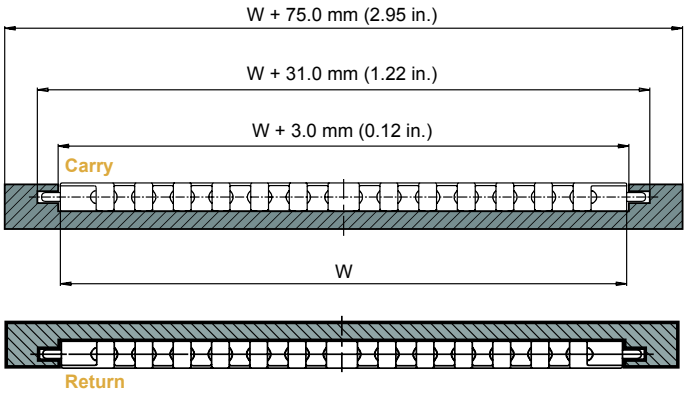
(Permissible curve load)

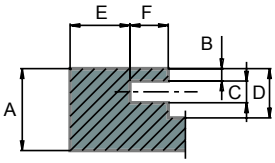


Profiles for uni Flex ONE

uni Flex ONE-O/EO

Compact profile configuration





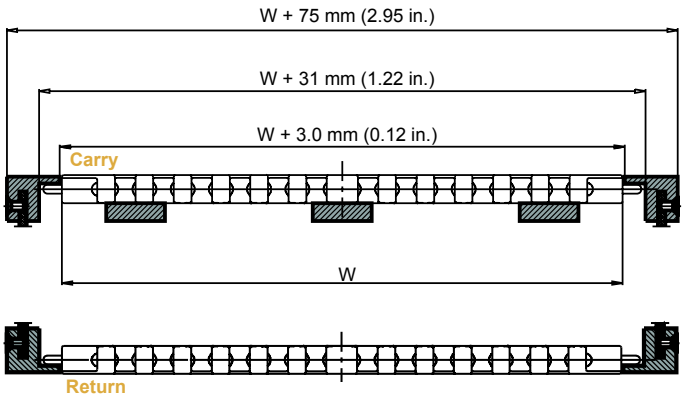
Dimensions

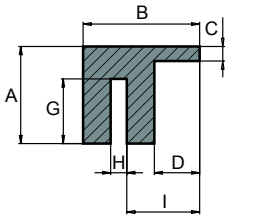
	mm	in.
A	30.0	1.18
B	4.5	0.18
C	8.0	0.31
D	18.0	0.71
E	22.0	0.87
F	14.0	0.55

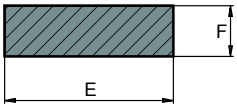
W (Belt width): See page 6

uni Flex ONE-O/EO

Slotted wearstrip configuration







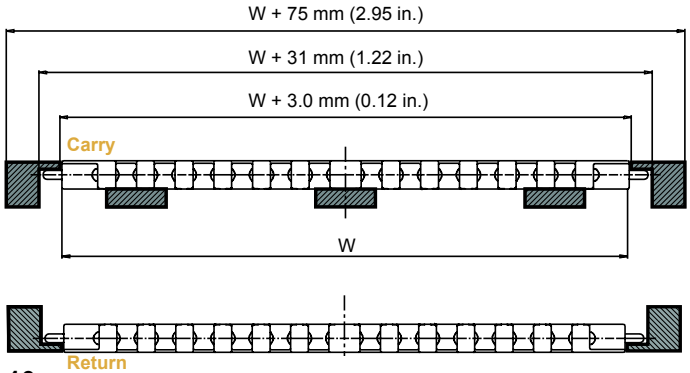
Dimensions

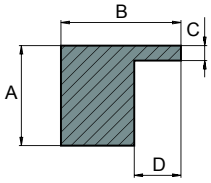
	mm	in.
A	30.0	1.18
B	36.0	1.42
C	4.5	0.18
D	14.0	0.55
E	40.0	1.57
F	12.0	0.47
G	20.0	0.79
H	5.0	0.20
I	22.5	0.89

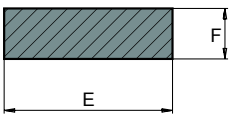
W (Belt width): See page 6

uni Flex ONE-O/EO

Solid wearstrip configuration







Dimensions

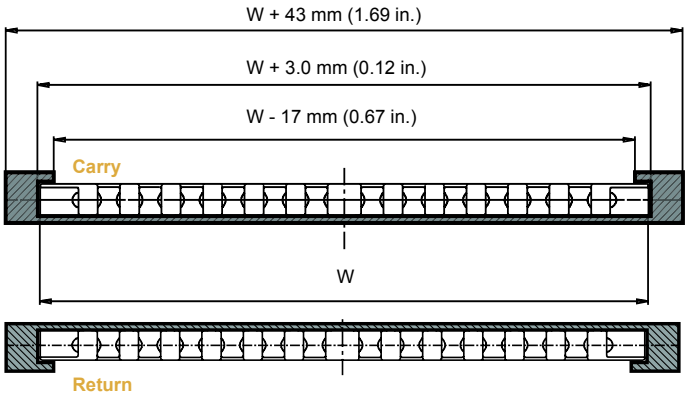
	mm	in.
A	30.0	1.18
B	36.0	1.42
C	4.5	0.18
D	14.0	0.55
E	40.0	1.57
F	12.0	0.47

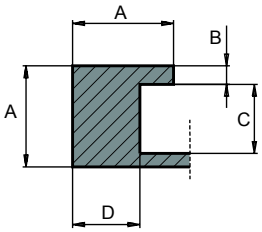
W (Belt width): See page 6

Profiles for uni Flex ONE

uni Flex ONE-EW/ER

Compact profile configuration





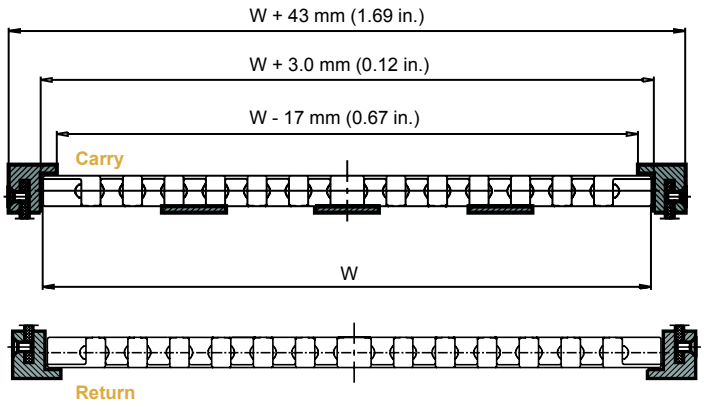
Dimensions

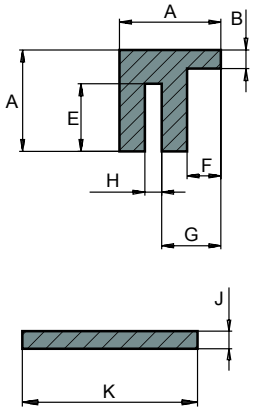
	mm	in.
A	30.0	1.18
B	5.5	0.22
C	20.5	0.81
D	20.0	0.79

W (Belt width): See page 6

uni Flex ONE-EW/ER

Slotted wearstrip configuration





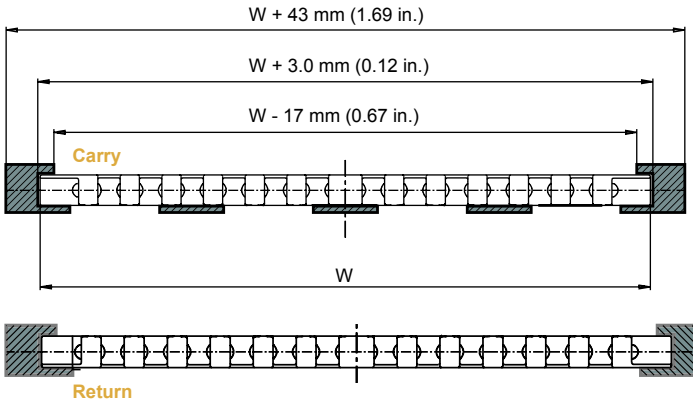
Dimensions

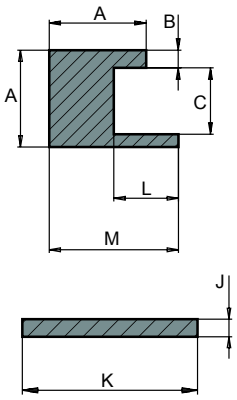
	mm	in.
A	30.0	1.18
B	5.5	0.22
E	20.0	0.79
F	10.0	0.39
G	17.5	0.69
H	5.0	0.20
J	4.0	0.16
K	40.0	1.57

W (Belt width): See page 6

uni Flex ONE-EW/ER

Solid wearstrip configuration





Dimensions

	mm	in.
A	30.0	1.18
B	5.5	0.22
C	20.5	0.81
J	4.0	0.16
K	40.0	1.57
L	20.0	0.79
M	40.0	1.57

W (Belt width): See page 6

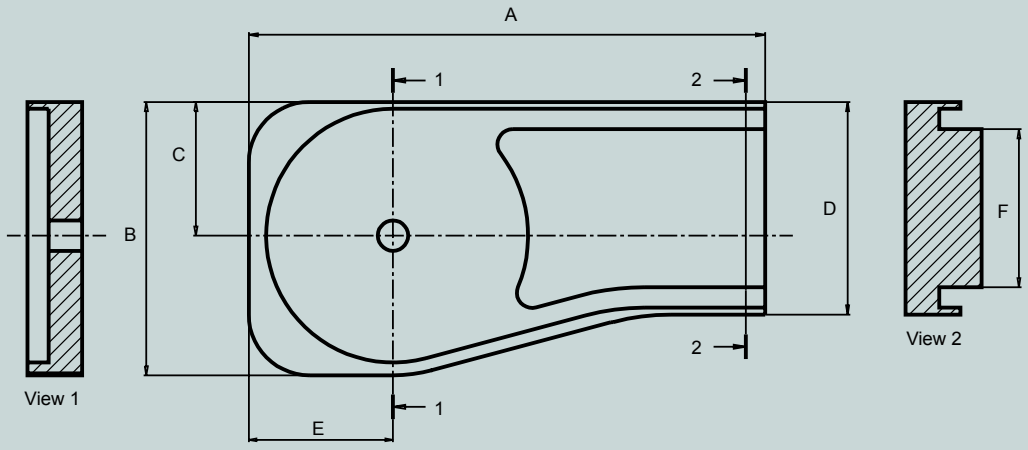
Driving Terminals

As an alternative to the classic gravity catenary sag belt length take up system, uni-chains® has developed the driving terminal. This consists of a pair of side plates mounted at the conveyor drive end, to ensure correct belt sprocket engagement is obtained.

Advantages:

- Space for catenary sag is not required. Very useful in applications with low headroom.
- Correct engagement between belt and sprockets is ensured under all operating conditions.
- Belt sprocket wrap of more than 180 degrees.

Driving Terminal Sketch



Driving terminals are available for all types of uni Flex ONE and to suit different sprocket diameters. For full information please, contact uni-chains®.

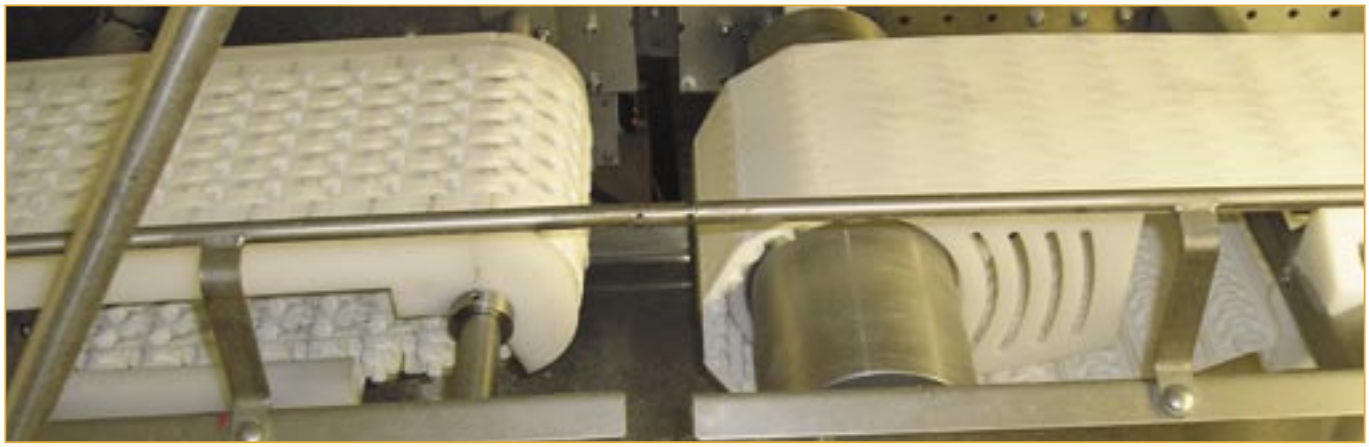
Driving Terminal Dimensions

uni Flex ONE-O/EO

No. of teeth	Dimension											
	A		B		C		D		E		F	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
8	315.0	12.40	120.0	4.72	58.3	2.30	85.0	3.35	65.0	2.56	49.0	1.93
9	315.0	12.40	130.0	5.12	64.2	2.53	85.0	3.35	70.0	2.76	49.0	1.93
11	340.0	13.39	155.0	6.10	76.1	3.00	120.0	4.72	85.0	3.35	84.0	3.31
12	340.0	13.39	165.0	6.50	82.1	3.23	120.0	4.72	90.0	3.54	84.0	3.31
13	340.0	13.39	180.0	7.09	88.1	3.47	140.0	5.51	95.0	3.74	104.0	4.09
16	475.0	18.70	215.0	8.46	106.1	4.18	140.0	5.51	115.0	4.53	140.0	5.51

uni Flex ONE-EW/ER

No. of teeth	Dimension											
	A		B		C		D		E		F	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
8	315.0	12.40	132.0	5.20	65.9	2.59	105.0	4.13	70.0	2.76	52.7	2.07
9	315.0	12.40	142.0	5.60	71.8	2.83	105.0	4.13	75.0	2.95	52.7	2.07
11	340.0	13.39	167.0	6.57	83.7	3.30	140.0	5.51	90.0	3.54	87.7	3.45
12	340.0	13.39	177.0	6.97	89.7	3.53	140.0	5.51	95.0	3.74	87.7	3.45
13	340.0	13.39	192.0	7.56	95.7	3.77	160.0	6.30	100.0	3.94	107.7	4.24
16	475.0	18.70	227.0	8.94	113.7	4.48	160.0	6.30	120.0	4.72	107.7	4.24



Application: Tray handling/Meat industry

uni Flex ONE Sprockets

uni Flex ONE Sprocket

uni-chains® provides an extensive range of sprockets to drive the uni Flex ONE belts. During years field experience the sprocket profiles have been developed to ensure maximum operating performance.

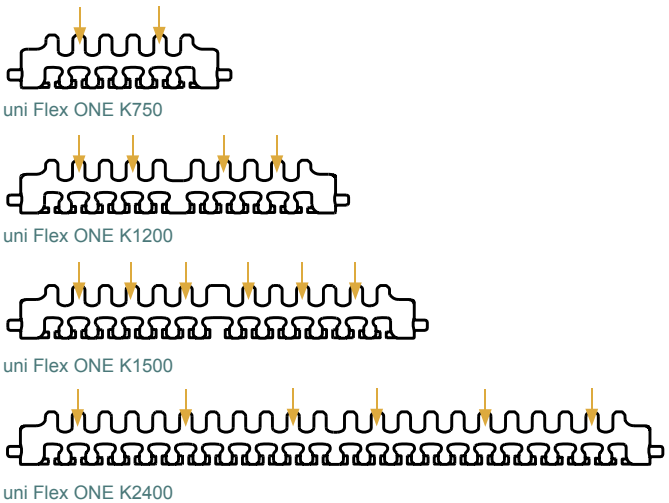
See table for standard types.

Width of sprockets: 39.0 mm (1.54 in.)
Tooth width: 9.0 mm (0.35 in.)

Standard sprocket material and color:

Polyamide - PA6 G

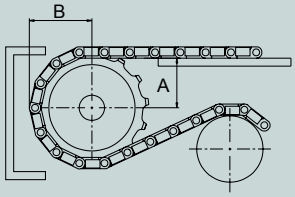
Placement and number of sprockets



Please note if travel is in both direction an extra set of sprockets is required.

Placement of Wearstrips and Sprockets

No. of teeth	Minimum B-dimension		Wearstrip distance A	
	mm	in.	mm	in.
8	72.9	2.87	117.8	4.64
9	85.6	3.37	129.7	5.11
11	110.7	4.36	153.7	6.05
12	123.1	4.85	165.7	6.52
13	135.5	5.33	177.8	7.00
16	172.4	6.79	213.9	8.42



uni Flex ONE Idler

Recommended for use at idler end to ensure smooth and low noise operation.

Standard material and color:

Polyamide - PA6 W

No. of teeth	Diameter Idler	
	mm	in.
8	72.9	2.87
9	85.6	3.37
11	110.7	4.36
12	123.1	4.85
13	135.5	5.33
16	172.4	6.79

Thickness of Idler: 20.0 mm (0.79 in.)

Standard Sprockets

No. of teeth	Pitch diameter		Overall diameter		Hub size		Bore		Reference no. plastic
	mm	in.	mm	in.	mm	in.	mm	in.	
8	99.6	3.92	101.0	3.98	ø65.0	ø2.56	ø18.0/40.0*	ø0.71/1.57*	8233FONE08N
					sq 50.0	sq1.97	sq 25.4	sq 1.00	8233FONE08N10INSQ
							sq 30.0	sq 1.18	8233FONE08N30MMSQ
9	111.4	4.39	113.7	4.48	ø70.0	ø2.76	ø18.0/40.0*	ø0.71/1.57*	8233FONE09N
					sq 57.0	sq 2.24	sq 38.1	sq 1.50	8233FONE09N15INSQ
							sq 40.0	sq 1.57	8233FONE09N40MMSQ
11	135.2	5.32	138.8	5.46	ø70.0	ø2.76	ø18.0/40.0*	ø0.71/1.57*	8233FONE11N
					sq 57.0	sq 2.24	sq 38.1	sq 1.50	8233FONE11N15INSQ
							sq 40.0	sq 1.57	8233FONE11N40MMSQ
					ø95.0	ø3.74	ø40.0/ø70.0	ø1.57/2.76	8233FONE11NBB
					sq 75.0	sq 2.95	sq 50.8	sq 2.00	8233FONE11NBB20INSQ
							sq 60.0	sq 2.36	8233FONE11NBB60MMSQ
12	147.2	5.80	151.2	5.95	ø70.0	ø2.76	ø18.0/40.0*	ø0.71/1.57*	8233FONE12N
					sq 57.0	sq 2.24	sq 38.1	sq 1.50	8233FONE12N15INSQ
							sq 40.0	sq 1.57	8233FONE12N40MMSQ
					ø110.0	ø4.33	ø40.0/ø70.0	ø1.57/2.76	8233FONE12NBB
					sq 85.0	sq 3.35	sq 50.8	sq 2.00	8233FONE12NBB20INSQ
							sq 60.0	sq 2.36	8233FONE12NBB60MMSQ
							sq 63.5	sq 2.50	8233FONE12NBB25INSQ
13	159.2	6.27	163.6	6.44	ø70.0	ø2.76	ø18.0/40.0*	ø0.71/1.57*	8233FONE13N
					sq 57.0	sq 2.24	sq 38.1	sq 1.50	8233FONE13N15INSQ
							sq 40.0	sq 1.57	8233FONE13N40MMSQ
					ø120.0	ø4.72	ø40.0/ø70.0	ø1.57/2.76	8233FONE13NBB
					sq 85.0	sq 3.35	sq 50.8	sq 2.00	8233FONE13NBB20INSQ
							sq 60.0	sq 2.36	8233FONE13NBB60MMSQ
							sq 63.5	sq 2.50	8233FONE13NBB25INSQ
16	195.3	7.69	200.5	7.89	ø70.0	ø2.76	ø18.0/40.0*	ø0.71/1.57*	8233FONE16N
					sq 57.0	sq 2.24	sq 38.1	sq 1.50	8233FONE16N15INSQ
							sq 40.0	sq 1.57	8233FONE16N40MMSQ
					ø120.0	ø4.72	ø40.0/ø70.0	ø1.57/2.76	8233FONE16NBB
					sq 85.0	sq 3.35	sq 50.8	sq 2.00	8233FONE16NBB20INSQ
							sq 60.0	sq 2.36	8233FONE16NBB60MMSQ
							sq 63.5	sq 2.50	8233FONE16NBB25INSQ

* Minimum/maximum round bore.

Global Sales Organization

www.unichains.com

Head Office, Denmark
uni-chains A/S
Hjulmagervej 21, DK-7100 Vejle
tel: +45 75 72 31 00
fax: +45 75 72 33 48
e-mail: admin@unichains.dk
www.unichains.com

Germany
uni-chains Deutschland GmbH
tel: +49 5971-91437-0
fax: +49 5971-915475
e-mail: admin@unichains.de

Italy
uni-chains Italia s.r.l.
tel: +39 0522-922470
fax: +39 0522-922508
e-mail: unichains@unichains.it

South Africa
uni-chains ZA
tel: +27 11 397 2116
fax: +27 11 397 2117
e-mail: unichains@mweb.co.za

Canada
uni-chains CDN
tel: 610-372-1800
tel: 800-937-2864 (toll free)
fax: 610-372-3590
e-mail: sales@unichains.com

Great Britain
uni-chains UK
tel: +44 121-559-0377
fax: +44 121-559-0373
e-mail: admin@unichains.co.uk

Netherlands
uni-chains NL
tel: +31 651 732 110
fax: +31 547 275 566
e-mail: netherlands@unichains.com

Sweden
uni-chains SE
tel: +042-212 480
fax: + 45 75 72 33 48
e-mail: admin@unichains.se

France
uni-chains FR
tel: + 33 344 67 46 92
fax: + 33 344 67 46 93
e-mail: france@unichains.com

Ireland
uni-chains IRL
tel: +44 121-559-0377
fax: +44 121-559-0373
e-mail: admin@unichains.co.uk

Norway
uni-chains NO
tel: +47 2220 2699
fax: +45 75 72 33 48
e-mail: norway@unichains.com

USA
uni-chains Manufacturing Inc.
tel: 610-372-1800
tel: 800-937-2864 (toll free)
fax: 610-372-3590
e-mail: sales@unichains.com

Argentina
Bandax Argentina S.A.
tel: +54 11 4717-5151

Australia
Belts: Heat & Control Pty. Ltd.
tel: +61 73877 6333

Chains: Renold Australia Pty. Ltd.
tel: +61 39262 3333

Austria
Katena Stahlgelenkketten GmbH
tel: +43 1292 1071

Belarus
JV Ltd. Chiorino-K
tel: +375 17 280 45 78

Belgium
Ketten Wulf NV
tel: +32 9 243 73 73

Brazil
Sampla Belting
tel: +55 11 6402-3022

Chile
Ducasse Comercial Ltda.
tel: +56 23 557100

Colombia
Oxicortes S.A.
tel: +57 4 262 03 23

Czech Republic
Murtfeldt Plasty s.r.o
tel: +420 272 706 052

Egypt
United Trading Co.
tel: +20 2 451 07 93

Estonia
Tecnobalt Group - Trellest LTD
tel: +372 4575723100

Finland
SKS-Mekaniika OY
tel: +35 09-852 661

Greece
George P. Alexandris S.A.
tel: +30 210 4111841

Hungary
Tech-Con Hungaria KFT
tel: +36 1/4124161

Iceland
Bakverk-Heidsala EFT
tel: +354 517-2220

India
Lakhotia Beltings Private Ltd.
tel: +91 80 2242588

Iran
Pour Limited
tel: +98 21-8722237

Israel
M. Marcus Conveyor Supply Ltd.
tel: +972 3-9415150

Japan
Kansai Wire Netting Co., Ltd.
tel: +81 66 561 2014

Latvia
Peruza Ltd.
tel: +371 7248036

Lithuania
Pak Markas Ltd.
tel: +370 5 239 25 25

Mexico
Linarand S.A. de C.V.
tel: +52 55 5341 8131

New Zealand
Belts: Heat & Control Ltd.
tel: +64 9 274 4182

Chains: Renold New Zealand Ltd.
tel: +64 9 828 5018

Poland
Derco s.p. zoo
tel: +48 022 664 3887

Portugal
Harker, Sumner S.A.
tel: +351 229478090

Romania
Meteor Auto s.r.l.
tel: +40 21-221 9640

Russia
Moscow branch:
Megadrive Ltd.
tel: +7 495 346-24-10

St. Peterburg branch:
Megadrive-Spb Ltd.
tel: +7 812 389-13-38

South Korea
Dongan-Ku Anyang City:
Woo Il Trading Co.
tel: +82 31-479-5100

Seoul:
JC Systems Co. Ltd.
tel: +823-2062-0394
uni-metals Co. Ltd.
tel: +823 806 0330

Spain
CID, S.L.
tel: +34 (91) 507 28 38

Singapore
uni conveyor chains Asia Pte Ltd.
tel: +65 7498513/4

Switzerland
Plüss tel: +41 44 824 88 00
Renold tel: +41 44 824 84 84

Taiwan
Uei Yeu Co. Ltd.
tel: +886 2 22182201

Turkey
Mimsan Ithalat Ihracat Konveyör
tel: +90 212 657 89 46

UAE
Tecnobelt Trading
tel: +971 4 299 4828

Ukraine
UNIBELT Ltd.
tel: +380 44 592-88-72

©2006, uni-chains A/S 013570/0706