



EC508T R

Modular Radius Belt Series

- **Meat Applications**

Spiral Freezer

- **Poultry Applications**

Spiral Freezer

- **Seafood Applications**

Freezing Lines, Spiral

- **Bakery Applications**

Spiral, Proofing, Cooling, Freezing Lines, Pan Handling

- **Fruits and Vegetables Applications**

Container Conveyance

EC508T R

Pitch:	50,8 mm / 2 inch
Belt Surface:	Open, Smooth Surface
Minimum Width:	508 mm / 20 inch
Open Area (%):	58%. (Biggest opening 15 x 17 mm)
Contact Area (%):	85%. Open Contact Area
Flight:	No
Divider:	Yes
Pin:	Ø 6 mm / 0.296 inch - Self Lock
Approved:	FDA and EU
Curve:	Yes
Color:	Blue / White
Cleanability:	Excellent
Application:	Straight and side flexing
Collapse Factor:	1.5 - 1.7 (Please check page 221 to see Collapse Factors-Width Table)
Belt Thickness:	16 mm / 0.63 inch

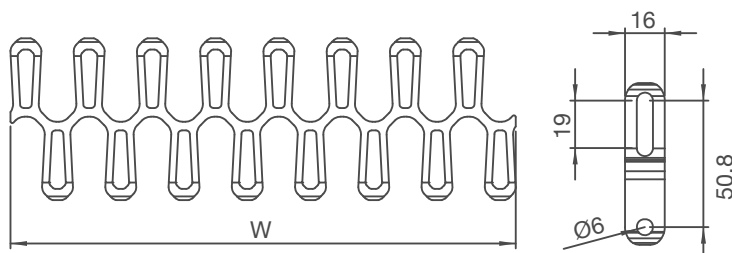


EC508T R Technical Information

Belt Material		POM	POM	PP	PP
Pin Material		PA	POM	PA	POM
Belt Strength (Straight)	N/m lb/ft	21000 - 1439	21000 - 1439	15000 - 1028	15000 - 1028
Belt Strength (Curve)	N/m lb/ft	3200 - 720	3200 - 720	2330 - 516	2330 - 516
Temperature	°C °F	-40 / +93 -40 / +200	-40 / +93 -40 / +200	+5 / +105 +40 / +220	+5 / +93 +40 / +200
Belt Weight	kg/m² lb/sqft²	7.5 / 1.54	7.5 / 1.54	5.2 / 1.07	5.2 / 1.07

Diameter of idling rollers (min.)		Diameter of support rollers (min.)		Diameter for gravity take up center drive rollers (min.)		Backbending radius for elevators without side guards or hold down devices (min.)		Backbending radius for elevators with side guards or hold down devices (min.)	
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
100	4	100	4	150	6	150	6	150	6

Belt Width mm	508,0	558,8	609,9	660,4	711,2	762,0	812,8	863,6	914,4	965,2	1016,0	1066,8	1117,6	1168,4	1219,2	1270,0	1320,8
Belt Width inch	20.00	22.00	24.00	26.00	28.00	30.00	32.00	34.00	36.00	38.00	40.00	42.00	44.00	46.00	48.00	50.00	52.00
Belt Width mm	1371,6	1422,4	1473,2	1524,0													
Belt Width inch	54.00	56.00	58.00	60.00													



Product Features and Functional Benefits

- Belt designed for tight radius applications.
- Available for medium and high load capacity.
- High temperature and wear resistance. Unique locking system.
- Belt provides optimal open area for drainage and airflow.
- Suitable for proofer-cooling-freezing spiral towers.

Important Notes

- **Standard belt increments 50,8 mm. Non-standard belt increments 25,4 mm.**
- Please contact with customer service for precise belt measurements.
- Special raw materials and additional colors available.
- Belt widths bigger than **1200 mm (48")** are not recommended. For further information, please contact Modutech Representatives.
- Physical belt widths are generally **0.1% to 0.3%** smaller.
- For PP & POM material up to **750 mm (30") -3 mm to 0 mm** and **-0.4% to 0%** for wider belts.

EC508T R Series

Sprockets and Accessories



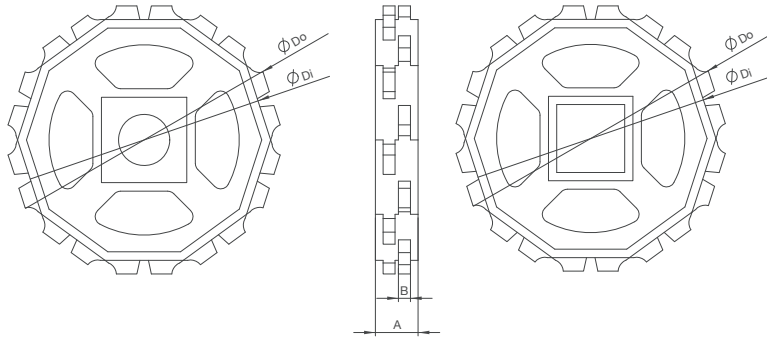
Z8



Z10



Z12



EC508T R Series / Molded Sprocket Dimensions

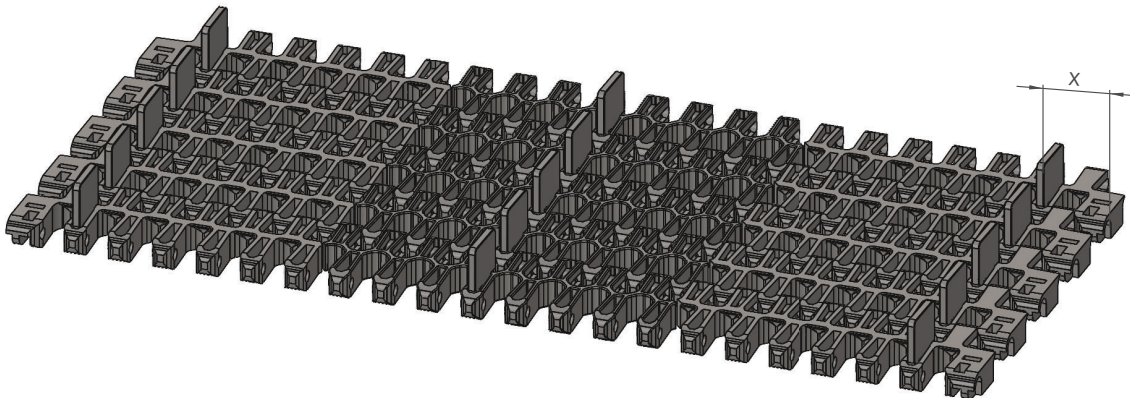
NO.TEETH	Di mm/inch	Do mm/inch	A mm/inch	B mm/inch	Square Bore (Q)		Round Bore (R)		PRODUCT CODE	
					mm	inch	mm	inch	Square Type (Q)	Round Type (R)
Z8	107,4 / 4.23	127,4 / 5.01	40,00 / 1.57	7,00 / 0.27	40	1.5	25 to 30	1 to 1.25	MD-TR508SQZ8*POM	MD-TR508SRZ8*POM
Z10	141,3 / 5.56	160,4 / 6.31	40,00 / 1.57	7,00 / 0.27	40	1.5	25 to 30	1 to 1.25	MD-TR508SQZ10*POM	MD-TR508SRZ10*POM
Z12	174,7 / 6.87	193,27 / 7.61	40,00 / 1.57	7,00 / 0.27	40	1.5	25 to 30	1 to 1.25	MD-TR508SQZ12*POM	MD-TR508SRZ12*POM
Z16	240,9 / 9.48	258,7 / 10.18	40,00 / 1.57	7,00 / 0.27	60 & 90	-	-	-	MD-TR508SQZ16*POM	MD-TR508SRZ16*POM

*All required sprockets produced by CNC.

*Other sprockets and hub sizes are manufactured on request..

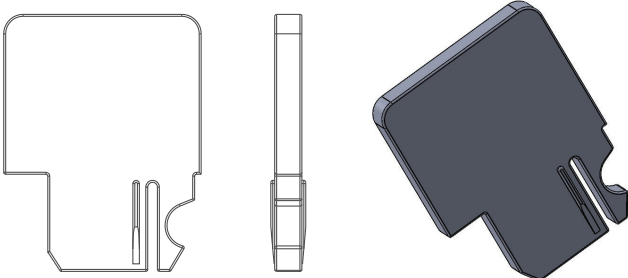
*PA (Polyamide) sprockets raw material is available on request.

*Machined Split Sprockets are available on request.



EC508T R Series / Divider Technical Specifications

Divider Indents	X	
	mm	inch
Standard	35,9	1.41
Standard	61,3	2.41
Standard	86,7	3.41
Standard	112,1	4.41

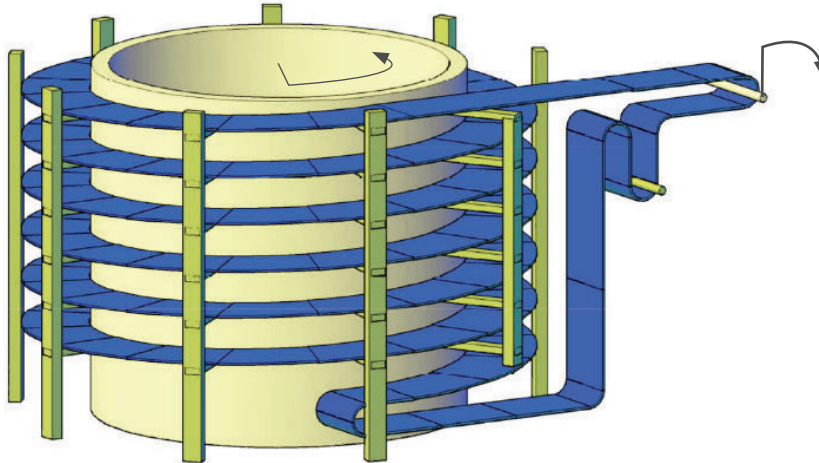


EC508T R Series

Technical Specifications

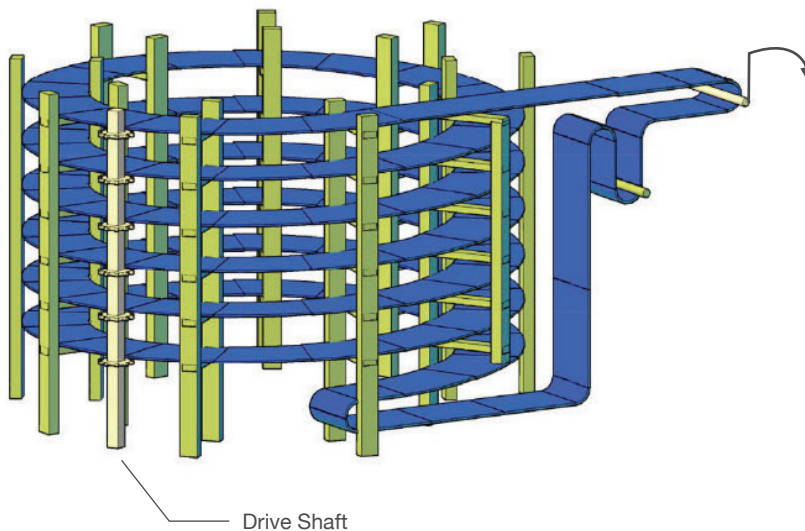
EC508T R Series / Drum Types

Central Driver Drum



Spiral conveyor of this kind is made of modular belt that twisted around of special drum structure in the center. The belt is sliding on rails with plastic profile with low friction. The rails are fixed on external vertical support columns. The drive drum has a cylindrical shape and made of profiled pipes or plates, forming a continuous or rarefied surface.

Lateral Driver Drum



Lateral drive system has been implemented as a stainless steel structure with a gear motor located in a bottom part and connected with a vertical shaft that has driving sprockets, the number of which equals the number of tiers on the spiral conveyor. Belt received the teeth on the outer contour and through which carried out the movement from the sprockets, thus forming a multilevel gear transmission.

Wear Strip Placement Calculation

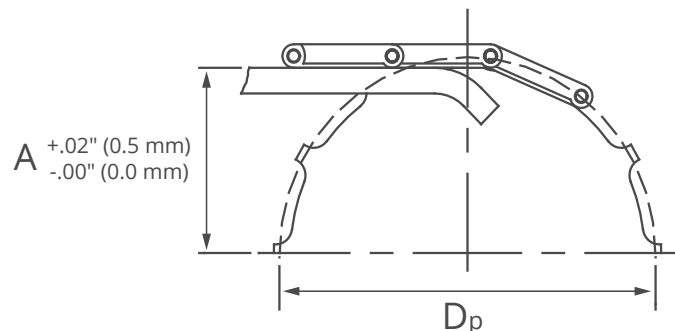
This formula is a general guideline and does not take into consideration belts traveling at speeds greater than 75 ft/min. (23 m/minute). For high speed applications, Modutech recommends increasing the height of "A" and shortening the wear strips as much as one belt pitch in length.

$$A = \frac{1}{2} \times (D_p - BT)$$

A = Calculated Height

D_p = Sprocket Pitch Diameter

BT = Belt Thickness



EC508T R Series

Technical Specifications

EC508T R Series / Wear Strip Placement

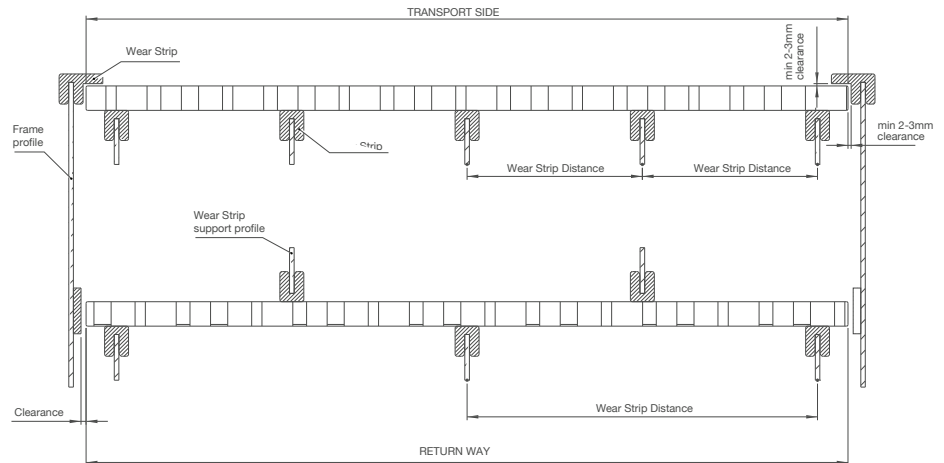
Due to the strength and rigidity of the stainless steel pins the number of wear strip can be largely reduced compared to other belts with plastic pin.

The wear strip distance is based on the product weight and how is distributed on the belt. a range between 250 and 400 mm is covering most of the case. on the return path the guides can be spaced up 1 meter apart.

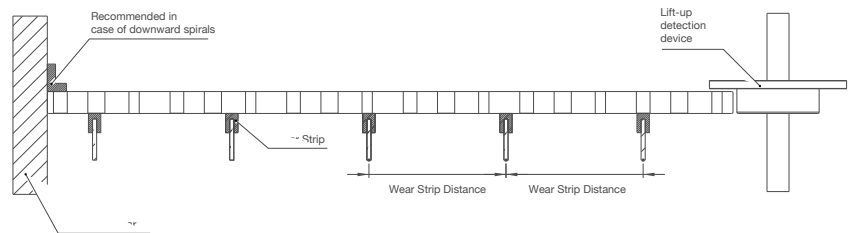
Due to excellent belt width tolerance the lateral gap between belt and guides can be few mm, anyhow it is important to keep into firm consideration the thermal dilatation of the belt that corresponds exactly to the dilatation of the stainless steel pin.

Note: Please contact with your sales representative for suitable wear strip types and location for spiral towers.

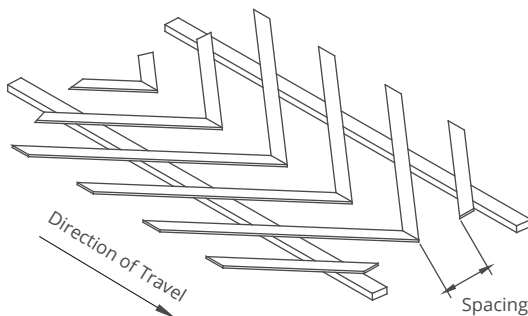
Radius Application



Spiral Application

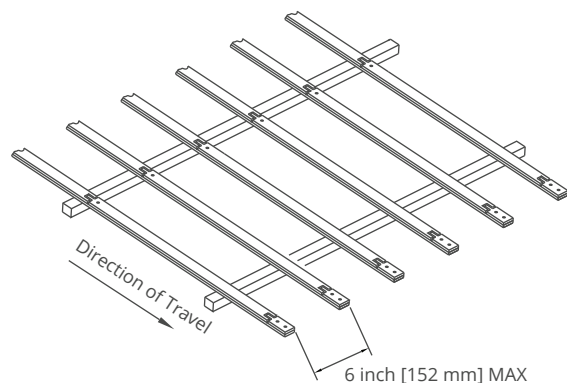


EC508T R Series / Support



Herringbone rails: Modutech recommended.

Flat wear strips in a “V” configuration with the point of the “V” pointing in the direction of travel. Low friction wear strip material preferred to minimize belt wear. Recommended spacing between rails of 100–300mm depending on belt type, load, and other factors. This configuration distributes the wear over the entire belt width.



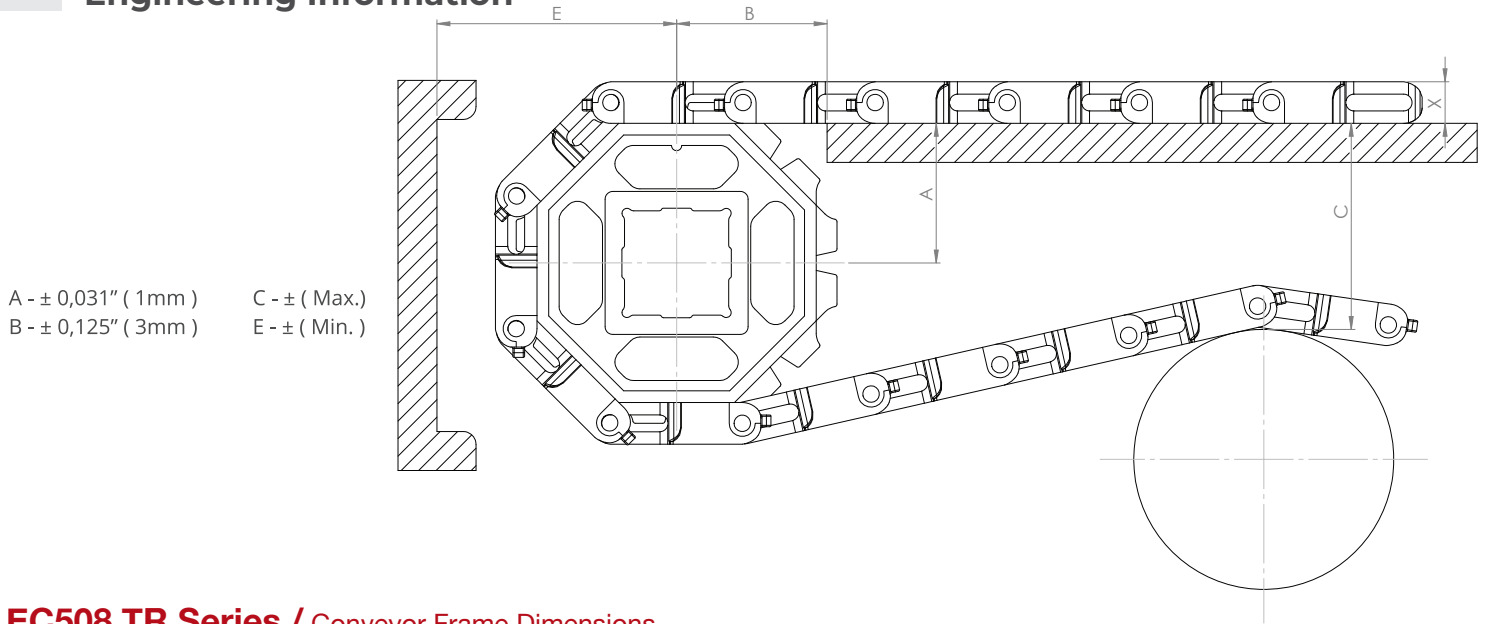
Longitudinal Rails: Flat wear strips the

full length of the conveyor, parallel to each other and perpendicular to the terminal shafts. Low friction wear strip material preferred to minimize belt wear. Recommended spacing between rails of 100-300mm depending on belt type, load, and other factors. This configuration does not distribute wear over the full width of the belt.



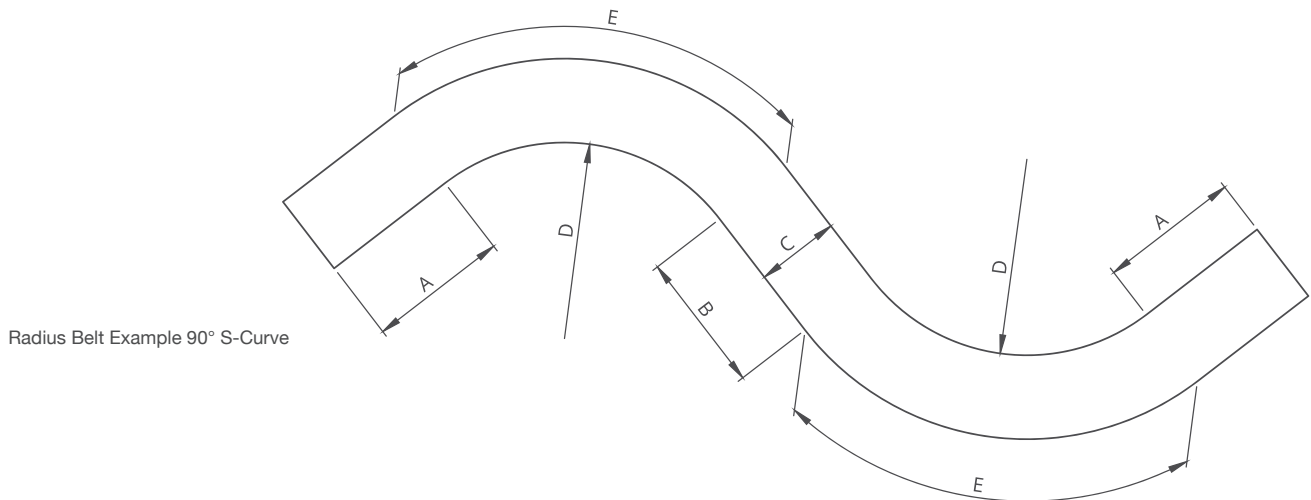
EC508 TR Series

Engineering Information



EC508 TR Series / Conveyor Frame Dimensions

Sprockets Description			A		B		C		E		X	
Pitch Diameter		No.Teeth	Range (Bottom to Top)		inch	mm	inch	mm	inch	mm	inch	mm
inch	mm		inch	mm								
EC508 R, EC508T R												
5.1	129,3	8	2.36	60,1	1.85	47,0	4.47	113,5	3.36	85,4	0.63	16,0
5.5	164,3	10	2.96	75,1	2.31	58,7	5.85	141,8	4.01	101,8	0.63	16,0
7.6	193,1	12	3.55	90,1	2.77	70,5	6.70	170,2	4.65	118,1	0.63	16,0
10.2	259,5	16	4.74	120,45	3.74	95	7.48	190,0	6.01	154,2	0.63	16,0



EC508 TR Series / Radius Belt Calculation

- A:** Straight run pull and n = min. 1,5 x belt width recommended
- B:** Straight run between 2 curves = min. 2 x belt width
- C:** Belt width
- D:** Minimum inner radius
- E:** Curve length

$$\text{Collapse Factor} = \frac{\text{Min. inner radius}}{\text{Belt width}}$$

$$\text{Minimum inner radius} = \text{Collapse Factor} \times \text{Belt width}$$

CALCULATION EXAMPLE

Belt width: 762 mm Radius Belt
Collapse Factor: 2.20

$$\text{D: } 762 \text{ mm} \times 2.20 = 1676,4 \text{ mm}$$

$$\text{A: } 762 \text{ (min.)}$$

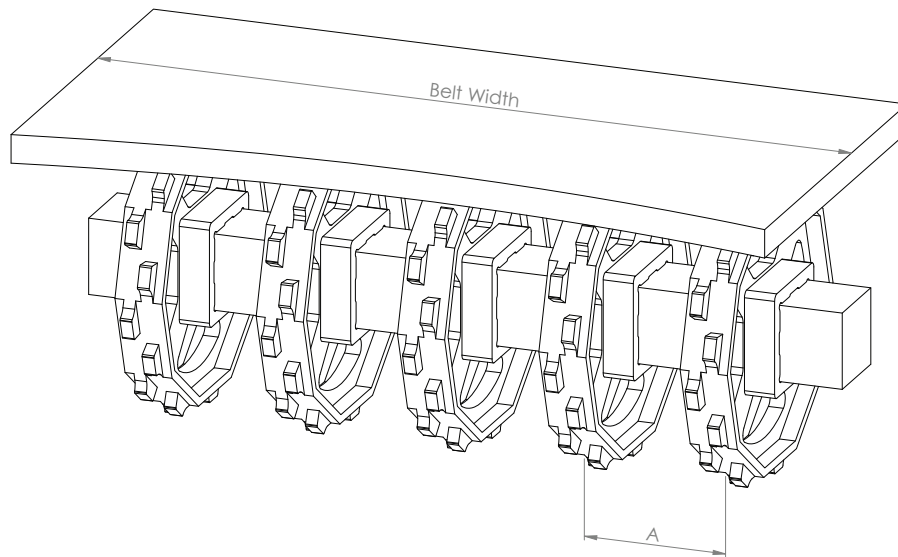
$$\text{B: } 2 \times 762 \text{ mm} = 1524 \text{ mm (min.)}$$

$$\text{E: } \frac{2 \times (C+D) \times 3.14}{4} = 3828,30 \text{ mm}$$

$$\text{Total length} = (2 \times A) + B + (2 \times E)$$

EC508 TR Series

Engineering Information



EC508 TR Series / Sprocket & Wearstrip Arrangements

Standard Belt Width		Number of sprockets per shaft	Number of wearstrips		A (mm/inch)	
mm	inch		Carryway	Returnway	Min.	Max.
508,0	20	3	2	2	51 / 2	203 / 8
558,8	22	3	2	2	51 / 2	203 / 8
609,6	24	3	2	2	51 / 2	203 / 8
660,4	26	3	2	2	51 / 2	203 / 8
711,2	28	5	2	2	51 / 2	203 / 8
762,0	30	5	3	2	51 / 2	203 / 8
812,8	32	5	3	2	51 / 2	203 / 8
863,6	34	5	3	2	51 / 2	203 / 8
914,4	36	5	3	2	51 / 2	203 / 8
965,2	38	5	3	2	51 / 2	203 / 8
1016,0	40	5	3	3	51 / 2	203 / 8
1066,8	42	5	3	3	51 / 2	203 / 8
1117,6	44	7	3	3	51 / 2	203 / 8
1168,4	46	7	3	3	51 / 2	203 / 8
1219,2	48	7	3	3	51 / 2	203 / 8
1270,0	50	7	3	3	51 / 2	203 / 8
1320,8	52	7	3	3	51 / 2	203 / 8
1371,6	54	7	3	3	51 / 2	203 / 8
1422,4	56	7	4	3	51 / 2	203 / 8
1473,2	58	7	4	3	51 / 2	203 / 8
1524,0	60	9	4	3	51 / 2	203 / 8

Note:

*The number of sprockets and wearstrips may vary depending on the load.

*For wider belts, central distance of sprockets recommended to be maximum 152,4mm (6") to 203,2mm (8").

*For wider belts, central distance of carryway & returnway wearstrips may change 304,8mm (12") to 508mm (20").

*Number of sprockets, idlers and wearstrips may vary for spiral applications.

EC508T R Series / Collapse Factors per width for EC508T R Series

Nom. Belt Width (mm)	355,6	406,4	457,2	508,0	558,8	609,6	660,4	711,2	762,0	812,8	863,6	914,4	965,2	1016,0	1066,8	1117,6	1168,4	1219,2	1270,0	1320,8
Nom. Belt Width (inch)	14.0	16.0	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
Collapse Factor	1,49	1,49	1,49	1,49	1,50	1,51	1,52	1,53	1,53	1,54	1,54	1,55	1,56	1,56	1,57	1,57	1,58	1,60	1,62	1,63
Min. Inner Radius (mm)	529,8	605,5	681,2	756,9	838,2	920,5	1003,8	1088,1	1165,9	1251,7	1329,9	1417,3	1505,7	1585,0	1674,9	1754,6	1846,1	1950,7	2057,4	2152,9
Min. Inner Radius (inch)	20.9	23.8	26.8	29.8	33.0	36.2	39.5	42.8	45.9	49.3	52.4	55.8	59.3	62.4	65.9	69.1	72.7	76.8	81.0	84.8

Standard range of belt width and collapse factor (Min. Inner radius = Collapse factor x Standard belt width)