

Flex-grid belts

Flex-grid conveyor belts are constructed using parallel wires for both straight-line and turn conveyor applications. Available in a variety of steel grades, wire sizes and belt widths to carry a wide variety of lightweight products.

Please find below detailed technical data regarding our range of Flex-grid belts. For further details and advice regarding your application; talk to your Webforge Locker sales consultant.

* Please note images are NOT to scale

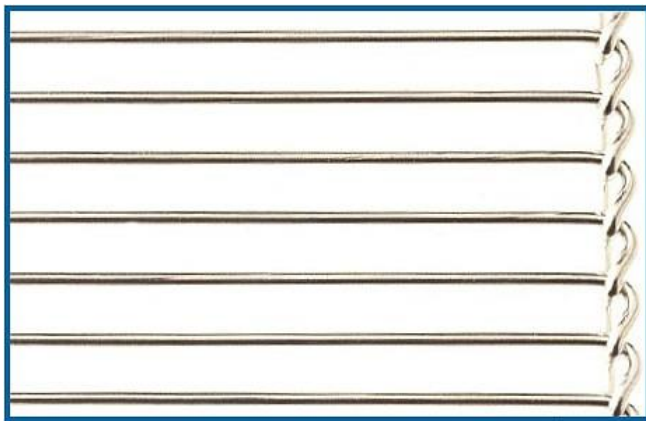
Flex-grid systems use slide supports at, or near, each edge of the belt (Figure 1) on both the load and return passes, rather than supports under the full width of the belt.



The slider supports are usually faced or capped with a low friction material. The same basic slider support is used on both straight line and turn conveyor units.



Figure 1



F072 ▲

Flex-grid is designed to be sprocket-driven utilising 2 sprockets on each shaft, head and tail, positioned to engage the belt just inside the inner edge at each side of the belt. To avoid excessive tension on straight line conveyor units, it is suggested a catenary or sag of not more than 50mm be allowed on the return pass at a point just below the drive sprocket (Figure 2).

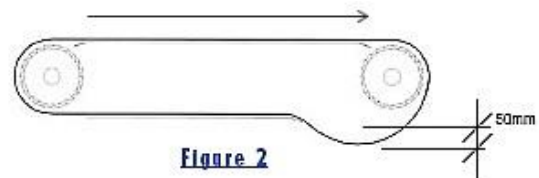
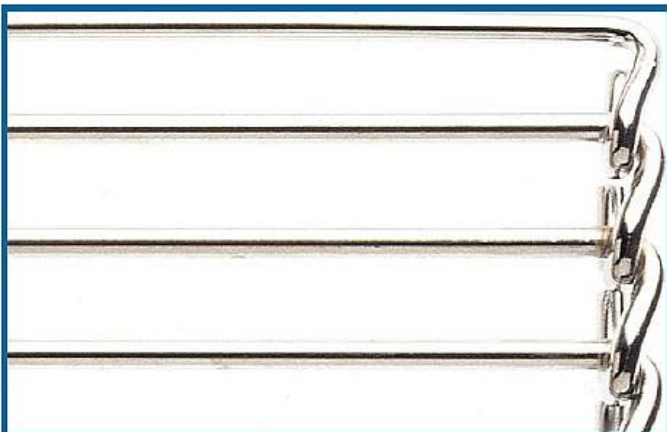


Figure 2



F123 ▼

Flex-grid turn conveyors are available in both 90° and 180° units with a standard 762 mm inside radius. Turn conveyors are sprocket-driven in the same fashion as straight line conveyors. Although a catenary is not normally used to control tension, minimum tension is recommended for smooth operation. To assist in dimensioning the layout for a turn conveyor unit, refer to Figure 3, for the standard 762mm inside radius turn.

Each unit, straight line of turn should be pulled by its own drive motor. Motor size will be governed by conveyor length and loading.

Flex-grid turntables are manufactured for Right (clockwise) or Left (anti-clockwise) travel, so it is important to specify the intended direction of travel when ordering.

Belt Selection

To select the appropriate belt the following details need to be considered

- the product to be processed
- width and length of the unit,
- weight of the load
- speed

to allow the belt tension and deflection to be determined.

Belt Tension

Although Flex-grid belts are always sprocket driven, belt tension is calculated in the same way as for spiral mesh belts.

Since only four different gauges of wire rod are used, the maximum allowable tension is a simple figure based on the wire diameter, as per table below.

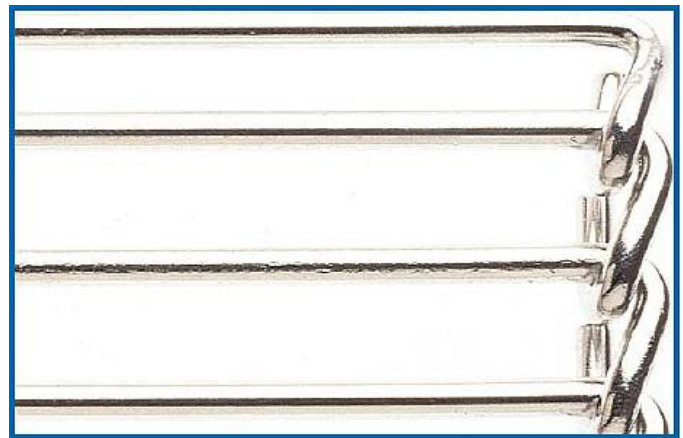
Wire Dia	Pitch	Max allowable working tension
Ø6.3	25.4mm	140 kgs
Ø4.88	19.05mm	90 kgs
Ø3.66	12.7mm	75 kgs
Ø2.24	7.94mm	45 kgs

Belt Deflection

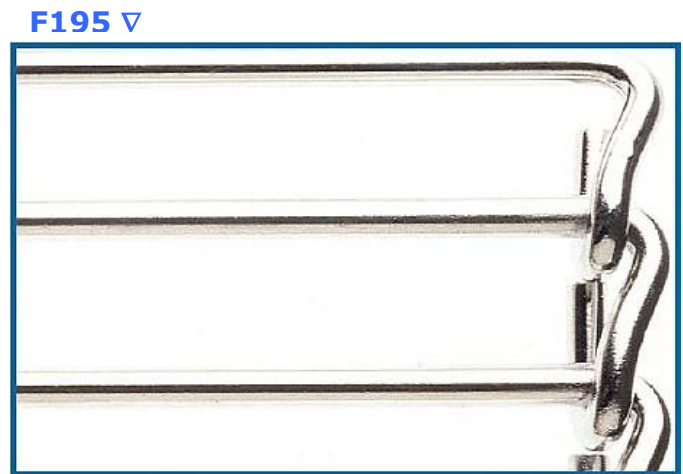
The amount of load carried on a Flex-grid belt has to take into consideration not only the maximum tension, or pull, on the belt but also the maximum allowable weight to avoid deflection of the rods across the width of the belt.

Rod deflection depends on the weight of the load, and the distance between supports along the width of the rod (or belt). The table below shows the maximum recommended load for belts of different widths and load distributions in an application without centre supports.

Max. allowable load/mtr (Uniform load) Excluding belt weight				
Width	150mm	305mm	381mm	451mm
F072	7.5kg	-	-	-
F123	-	44kg	23kg	12kg
F195	-	90kg	52kg	27kg
F256	-	110kg	60kg	45kg



F155 ▲



F195 ▼



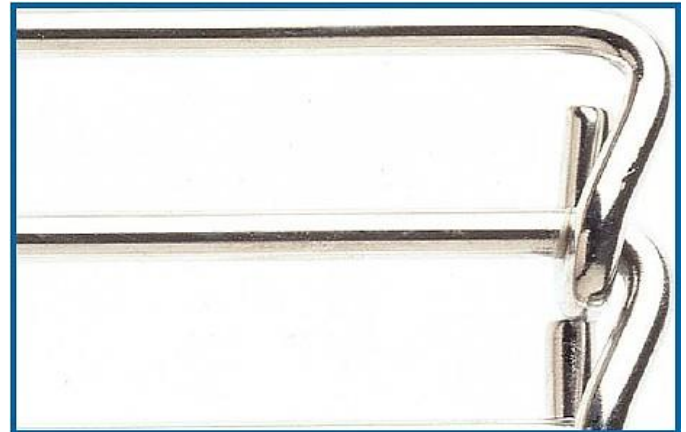
F255 ▲

F256 ▾

Flex-grid belts are available from 7.2 to 25.4mm pitch in wire diameters from 2.24 to 6.30 mm, to satisfy a broad cross section of industrial and agricultural processing applications. The table below outlines the details of belts pictured throughout the Technical Data Sheet.

The sprocket drive ensures positive traction and accurate belt alignment.

Flex-grid is easily installed on a very simple framework.



Our recommended widths are as follows.

Code	Pitch	Wire Dia	Min	Max	Kg/m ²
F072	7.94mm x 2.24mm		75	200	5.05
F123	12.70mm x 3.66mm		125	450	7.70
F155	15.87mm x 4.88mm		200	610	9.9
F195	19.00mm x 4.88mm		200	610	9.25
F255	25.40mm x 4.88mm		200	450	9.25
F256	25.40mm x 6.30mm		200	610	21.76

Fixed Turntables – 762mm Internal Radius

Specification	Min/Max Width	Pitch External
F123	305	17.78
(12.7 x 3.66)	457	20.32
F195	305	26.67
(19.05 x 4.88)	457	30.48
F256	305	35.56
(25.40 x 6.30)	457	40.64

Normal specifications 17 tooth sprockets

	F072	F123	F195	F256
P.C.D.	43	69	103	138
O.D.	45	72	108	144
R.D.	41	65	98	131
L.T.B.	35	35	40	40
Weight kg	0.4	0.60	1.80	3.60

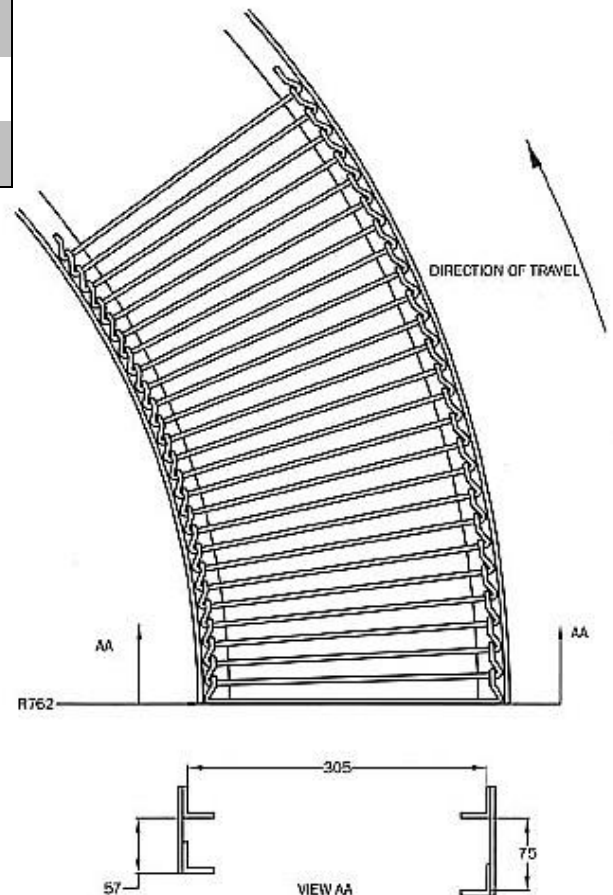


Figure 3