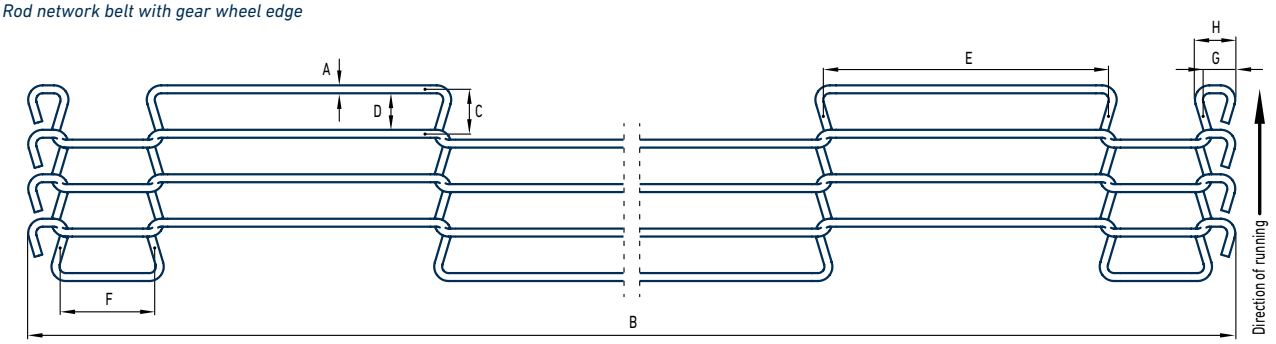
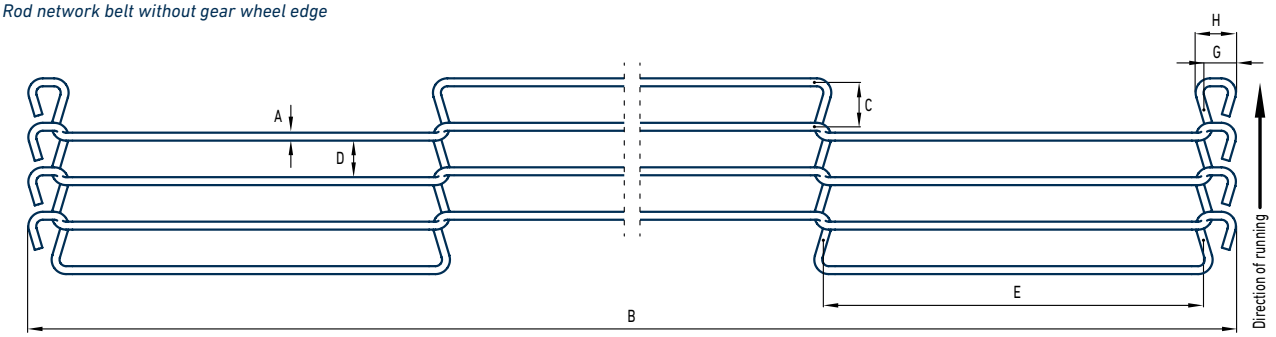
ROD NETWORK BELT –
TECHNICAL DETAILS

MÄRTENS
Tradition and innovation since 1929

Rod network belt with gear wheel edge



Rod network belt without gear wheel edge



A Wire +Ø/mm
B Width/mm
C Pitch/mm
D Mesh width/mm
E Mesh length/mm
F Gear wheel edge/mm
G Final loop dimension
H Final loop/external/mm

Belt top face (level surface)

Belt underside (interrupted by braiding knots)

P-001-G-GB-2013-12

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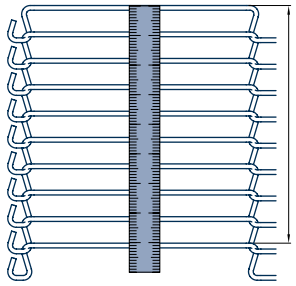
Pitch ("C")

When using interlocking drive elements with identical pitch, exactly the right pitch must be set in order to properly drive the rod network belts. Pitch is defined as the distance from the middle of one wire to the middle of the next one in the direction of the belt run (dimension "C"). The pitch measurement is taken across ten pitches when the belt is tensioned or specified corresponding to the ring gear pitch.

Sketch for the pitch "C"

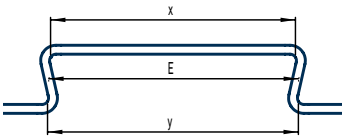


Mesh width ("D")

The mesh width is the clearance between two rods in the direction of the belt run (pitch – wire thickness = mesh thickness)

Mesh length ("E")

Dimension of a mesh perpendicular to the direction of running. We require the mean bending measurement perpendicular to the direction of running. Acceptance of measurements and calculation are described in the adjacent text.



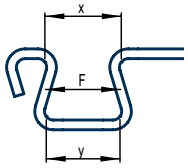
$$E = \frac{x + y}{2}$$

Standard: All meshes are the same size

➜ there is an odd number of meshes (e. g. 5 – 7 – 9 etc.)
(With an even number of meshes, the open end of a final loop would point in the direction of the belt run.)

Divergence from the standard:

- ➜ numerous combinations of different mesh lengths can be produced within a rod
- ➜ even number of meshes if the operating conditions do not allow for any other possibilities



$$F = \frac{x + y}{2}$$

Gear wheel edge ("F")

There are rod network belts with and without gear wheel edges. The gear wheel edges are measured similar to the mesh lengths. They serve to stabilise the rod network belts. We require the mean bending measurement "F" perpendicular to the direction of running. Acceptance of measurements and calculation are described in the adjacent text.

Final loops ("G" and "H")

The final loops have a calculated measurement ("G") and an outer measurement ("H"). These two dimensions are independent of the wire Ø. We differentiate between standard loops ("S loop") and wide loops ("B loop").

DIMENSIONS OF THE FINAL LOOPS				
ACTUAL VALUE	"S LOOP"		"B LOOP"	
Wire Ø	H (outside)	G	H (outside)	G
0.90	5.00	**4.00**		
1.00	5.20	**4.00**		
1.20	6.40	**5.00**		
1.25	6.50	**5.00**	8.30	**7.00**
1.40	8.30	**6.75**	8.30	**6.75**
1.60	8.70	**7.00**	11.50	**9.75**
1.80	9.50	**7.50**	11.50	**9.50**
2.00	10.20	**8.00**		
2.35	12.50	**10.00**	15.50	**13.00**
2.80	13.00	**10.00**	18.50	**15.50**

Structure and dimensioning

With the final loops, we differentiate between standard loops (S loop) and wide loops (B loop). Apart from the loop sizes listed, we are also able to produce other dimensions, if needed.

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P-001-G-GB-2013-12