F210

Measurement of Wire Contour

imess
Optische Mess- und Prüfanlagen

F210

Measurement of Wire Contour

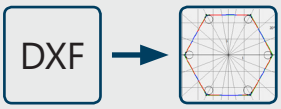
The system F210 tests wire samples with regard to their contour measures and their tolerances. Even complex contours made of tangential circle segments (multiarc) are reliably measured. The operator selects the respective drawing number, fixes the wire and presses the start button. The wire is then turned 360° in 1° steps while the outer contour is measured. The contour is put together from the single values and subsequently compared to the nominal contour. F210 offers reliable results in short measurement time.

Contour Definition

Standard

The values of the nominal contour and its tolerances are entered and saved in the respective menu with a reference number or name. The menu is customized regarding the requirements of the different profile types. Moreover, drawings are used to simplify the entry.

CAD-Import (optional)



The CAD-File has to consist of the contour line only (DXF-File) and be copied into a defined folder by operator side. The measurement software reads the CAD-File, convert and display it for the operator to select.

Teach-In of Master Contour. Record any convex contour, save it as master, use it as reference. (optional)

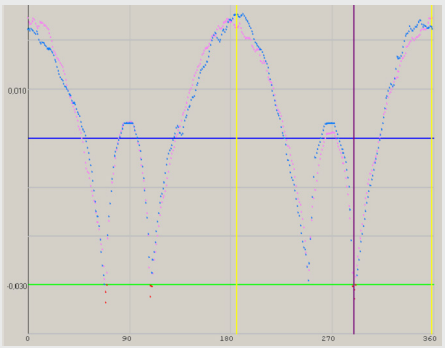
1. The operator fixes the wire straight and clean. The wire is scanned in 1° steps and the result is visualised.
2. The contour can now be stored. In addition, the tolerance (+/-) has to be set.
3. Once the profile is selected for measurement, the taught in contour is shown in black as a reference.

System	Concept	Max. Diameter (centrally fixed wire)	Accuracy
F210d	Telecentric camera and backlight	7,5 mm	2 µ
F210L	Laser	17 mm (optional up to 60 mm)	1 µ
further dimensions on demand			

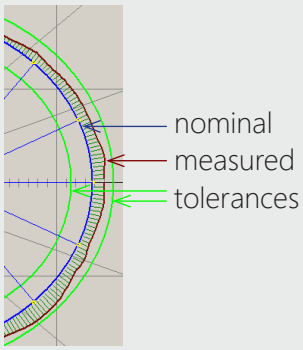
The measurement results are depicted in different types.

	nominal	min. actual	max. actual	Difference
width	4,540	4,543	---	0,003
thickness	3,630	3,616	---	-0,014
sector 1	1,511	1,508	1,513	-0,003 .. 0,001
sector 2	1,706	1,702	1,704	-0,004 .. -0,003
sector 3	2,145	2,139	2,142	-0,006 .. -0,003
sector 4	3,510	3,504	3,506	-0,006 .. -0,004
sector 5	1,784	1,780	1,784	-0,005 .. -0,001
sector 6	1,784	1,778	1,784	-0,006 .. 0,000
sector 7	3,510	3,504	3,506	-0,006 .. -0,004
sector 8	2,145	2,140	2,142	-0,005 .. -0,003
sector 9	1,706	1,703	1,705	-0,004 .. -0,002
sector 10	1,511	1,509	1,513	-0,002 .. 0,001

Table with data of every segment / degree



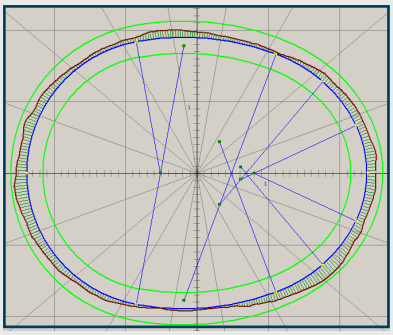
Depiction of coiling in a x-y coordinate system.



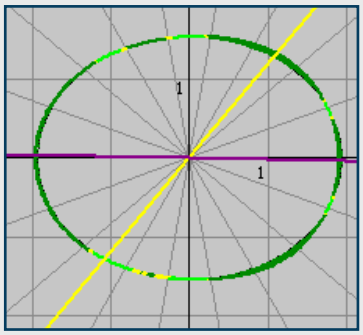
in contour depiction with zoom

Contours

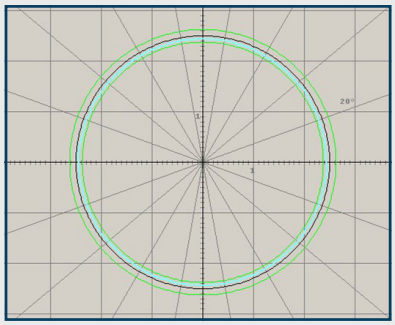
Any convex contour can be measured.



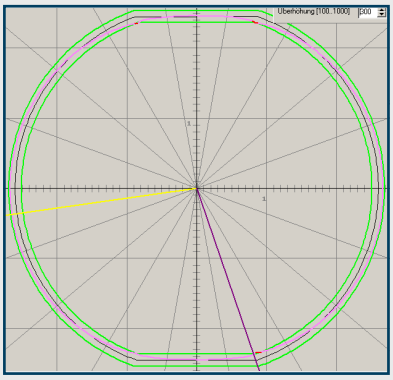
multiarc



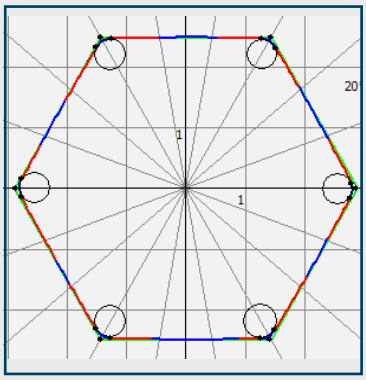
oval



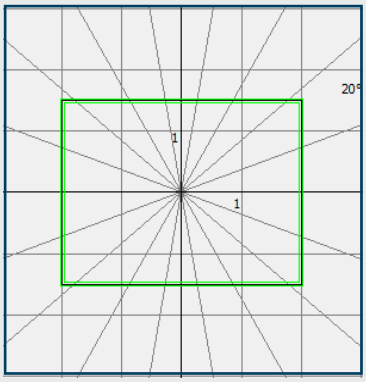
round



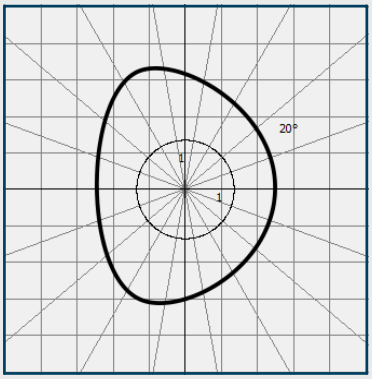
flat round



hexagonal



rectangular (inclusive trapez)



free contour (only CAD or Master)

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