Technical Data Sheet

Probe model	FTA3.3FG	
Version description	**FTA3.3FG**	
Part no.	604-190	
Probe design	Axial single tip probe with spring-loaded measuring system	*Mechanical design principle of the measurement probe.*
Measuring mode	Single mode	*Specifies, whether this probe is suitable for only one (single mode), for several (DUAL mode) or for a combination of two methods (DUPLEX mode).*
Measuring method	Eddy current method	*Method used for the specified measuring application.*
Measuring application	Iso/NF	*Measurable coating/substrate material system.*
Measuring range	0 - 1200 µm	*Limits of the measurable coating thickness.*
Accuracy	0 - 50 µm: 0.5 µm 50 - 1200 µm: < 1 %	*The trueness is determined using calibration standards of known thicknesses. It is the difference between the nominal value of the calibration standard and the measured value. The trueness can be stated as an absolute value or as a percentage of the reading.*
Precision	0 - 35 µm: 0.35 µm 35 - 1200 µm: 1 %	*Repeatable standard deviation s of n = 10 single readings.*
Ø (concave) for 10 % error **Min. Ø**	- -	-  -	*Diameter of a specimen with a concave curvature, under which the error is > 10 %.* *Min. Ø: Smallest diameter permissible for measurements.*
Ø (convex) for 10 % error **Min. Ø**	12 mm 10 mm	480 mils 400 mils 	*Diameter of a specimen with a convex curvature, under which the error is > 10 %.* *Min. Ø: Smallest diameter permissible for a measurement.*
Meas. area Ø for 10 % error **Min. measuring area Ø**	15 mm 10 mm	600 mils 400 mils 	*Diameter of a flat measurement area, under which the error is > 10 %.* *Min. Ø: Smallest diameter permissible for a measurement.*
Edge distance for 10 % error	-	- 	*Distance of the probe tip to the edge of the specimen underneath which the error is > 10 %.* *For 2-tip probes: Parallel distance tip connection line to the edge.*
Substrate th. for 10 % error	0.09 mm	4 mils 	*This the thickness d of the substrate material, under which the reading will deviate by more than 10 % from an "infinitely" thick substrate material.*
Probe tip radius	7 mm	280 mils	*Radius of the probe measuring tip.* *The measuring tip establishes the contact with the surface of the specimen.*
Probe tip material	Vespel SP1		*Material of the measuring tip.*
Probe tip replaceable	No		*Specifies, whether a worn measuring tip can be replaced or not.*
Height	-		*Ref. graphic in the section „Note regarding the probe dimensions"*
Diameter / width	18 mm		*Ref. graphic in the section „Note regarding the probe dimensions"*
Length	80 mm		*Ref. graphic in the section „Note regarding the probe dimensions"*
Works with the instruments	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®		*Designation of the HELMUT FISCHER instruments to which the respective probe can be connected.*
Applications	Measures electrically non-conducting coatings on non-ferromagnetic metal substrate materials (Iso/NF). Entire probe, incl. cable connector, protected from moisture infiltration. Thus, especially suited for anodized coatings with acidic contamination of the test surface. Larger tilting effect than with FTA3.3 probe.		*Abbreviations:* *NF: Non-ferrous metals (non-ferromagnetic properties).* *Fe: Iron or steel (with ferromagnetic properties).* *Iso: Material with isolating properties, i.e., electrically non-conducting e.g., paint.* **) The limits are referenced to a coating thickness that generates a measuring signal at about the center of the usable signal range. With increasing coating thicknesses, the 10 % error will be reached only at smaller radii or substrate material thicknesses, respectively.*