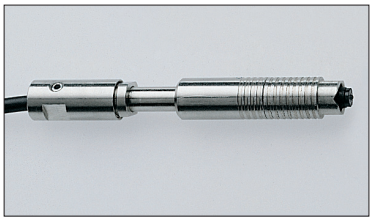
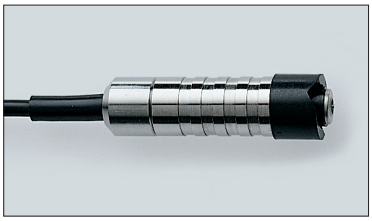
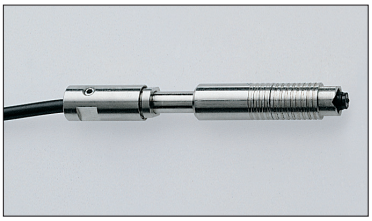
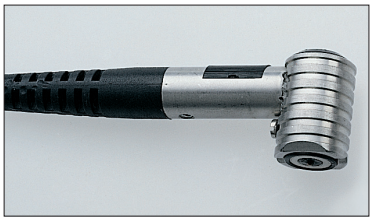
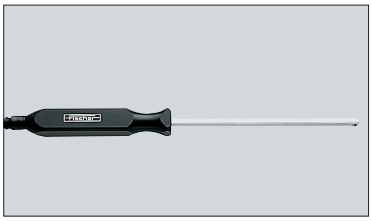
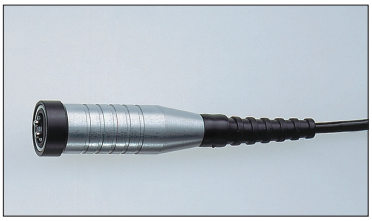




Probe model	FGAB1.3	FGA2H	FGA06H
Version description **Part no.**	**FGAB1.3; standard version** 604-141 **FGAB1.3T; temperature resistant** 604-182	**FGA2H; standard version** 604-174 **FGA2HF; moisture proof** 604-226	**FGA06H** 604-176
Probe design	Axial single tip probe with spring-loaded measuring system.	Axial single tip probe with spring-loaded measuring system.	Axial single tip probe with spring-loaded measuring system
Measuring mode	Single mode	Single mode	Single mode
Measuring method	Magnetic induction method	Magnetic induction method	Magnetic induction method
Measuring application	NF, Iso/Fe	NF, Iso/Fe	NF, Iso/Fe
Measuring range	0 - 2000 µm	0 - 1500 µm	0 - 700 µm
Accuracy	up to 100 µm: ± 1 µm 100 - 1000 µm: ± 1 % 1000 - 2000 µm: < 3 %	up to 100 µm: ± 1 µm 100 - 1000 µm: ± 1 % 1000 - 1500 µm: < 3 %	up to 70 µm: ± 0.5 µm 70 - 500 µm: < 2 % 500 - 700 µm: < 3 %
Precision	bis up/to 100 µm: 0.3 µm 100 - 2000 µm: < 0.3 %	bis/up to 100 µm: 0.3 µm 100 - 1500 µm: < 0.3 %	bis/up to 25 µm: 0.2 µm 25 - 500 µm: < 0.3 % 500 - 700 µm: < 0.5 %
Ø (concave) for 10 % error **Min. Ø**	30 mm 1.2“ 10 mm 400 mils	40 mm 1.57“ 38 mm 1.5“	15 mm 600 mils 22 mm 880 mils
Ø (convex) for 10 % error **Min. Ø**	16 mm 630 mils 2 mm 80 mils	18 mm 710 mils 2 mm 80 mils	7 mm 280 mils 2 mm 80 mils
Meas. area Ø for 10 % error **Min. measuring area Ø**	10 mm 400 mils 3.5 mm 140 mils	20 mm 800 mils 4 mm 160 mils	4 mm 200 mils 2 mm 80 mils
Edge distance for 10 % error	0.3 mm 12 mils	0.1 mm 4 mils	0,25 mm 10 mils
Substrate th. for 10 % error	0.4 mm 16 mils	0.6 mm 24 mils	0.2 mm 8 mils
Probe tip radius	0.75 mm 30 mils	2.25 mm 90 mils	0.3 mm 12 mils
Probe tip material	PVD-coated steel	Hard metal	Hard metal
Probe tip replaceable	Yes	Yes	No
Height	-	-	-
Diameter / width	10 mm	13 mm	10 mm
Length	110 mm	80 mm	110 mm
Works with the instruments	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®
Applications	Measures nonferrous and nonmetallic coatings on steel or iron substrates (NF, Iso/Fe). Most popular probe for electroplated or paint and lacquer coatings. However, measurement data scatter is relatively high on rough (e.g., sandblasted) surfaces. If permitted by the shape of the specimen, a dual-tip probe should be used in such cases.	Measures nonferrous and nonmetallic coatings on steel or iron substrates (NF, Iso/Fe). Due to the larger probe tip diameter better suited for rough surfaces than the FGAB1.3 probe.	Measures nonferrous and nonmetallic coatings on steel or iron substrates (NF, Iso/Fe). Especially suited for small test areas and surfaces with a pronounced curvature. High wear resistance of the tungsten carbide tip. Not suited for very rough surfaces.

Version: 06 Version: 06 Version: 05



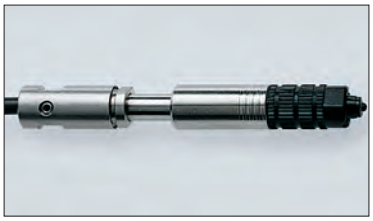
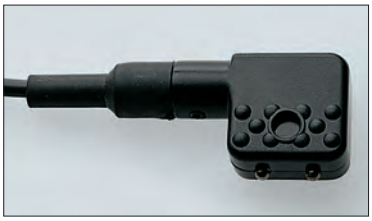
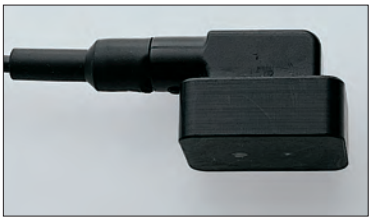




Probe model	FGABW1.3	FGABI1.3-150	V7FK4
Version description	**FGABW1.3**	**FGABI1.3-150**	**V7FK4**
Part no.	604-178	604-175	604-184
Probe design	Single tip probe for angular measurements with spring-loaded measuring system	Single tip inside probe with spring-loaded measuring system	Axial double tip probe with spring-loaded measuring element
Measuring mode	Single mode	Single mode	Single mode
Measuring method	Magnetic induction method	Magnetic induction method	Magnetic induction method
Measuring application	NF, Iso/Fe	NF, Iso/Fe	NF, Iso/Fe
Measuring range	0 - 2000 µm	0 - 1000 µm	0 - 2000 µm
Accuracy	up to 100 µm: ± 1 µm 100 - 1000 µm: ± 1 % 1000 - 2000 µm: < 3 %	up to 50 µm: ± 0.5 µm 50 - 1000 µm: < 1 %	0 - 100 µm: 1 µm 100 - 2000 µm: < 1 %
Precision	bis/up to 100 µm: 0.3 µm 100 - 2000 µm: < 0.3 %	0 - 50 µm: 0.15 µm 50 - 1000 µm: 0.3 %	0 - 25 µm: 0.1 µm 25 - 2000 µm: 0.4 %

Ø (concave) for 10 % error **Min. Ø**	35 mm 36 mm	1.4“ 1.44“	35 mm 9 mm	1.38“ 350 mils	38 mm 20 mm	1.52“ 800 mils
Ø (convex) for 10 % error **Min. Ø**	16 mm 2 mm	640 mils 80 mils	16 mm 2 mm	640 mils 80 mils	22 mm 2 mm	880 mils 80 mils
Meas. area Ø for 10 % error **Min. measuring area Ø**	10 mm 3.5 mm	400 mils 140 mils	8 mm 2 mm	320 mils 80 mils	30 mm 25 mm	1.2“ 1“
Edge distance for 10 % error	0.7 mm	-	-	-	-	-
Substrate th. for 10 % error	0.2 mm	8 mils	0.2 mm	8 mils	0.4 mm	16 mils
Probe tip radius	0.75 mm	30 mils	0.75 mm	30 mils	1.25 mm	50 mils

Probe tip material	PVD-coated steel	PVD-coated steel	Heat treated steel
Probe tip replaceable	Yes	Yes	Yes
Height	23 mm	6,5 mm	-
Diameter / width	14 mm	5,5 mm	18 mm
Length	72 mm	320 mm	105 mm
Works with the instruments	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®
Applications	Measures nonferrous and nonmetallic coatings on steel or iron substrates (NF, Iso/Fe). Most popular probe for the measurement of electroplated or paint and lacquer coatings in pipes, bore holes, recesses etc. However, measurement data scatter is relatively high on rough (e.g., sandblasted) surfaces. If permitted by the shape of the specimen, a dual-tip probe should be used in such cases.	Measures nonferrous and nonmetallic coatings on steel or iron substrates (NF, Iso/Fe). Suited for measurements in bore holes, pipes or grooves. To achieve a very small measurement uncertainty, externally triggered measurement acquisition should be used when measuring small inside diameters. Smallest permissible inside diameter: 9 mm. Maximum insertion depth: 150 mm.	Measures nonferrous and nonmetallic coatings on steel or iron substrates (NF, Iso/Fe). Due to the uncoated measuring tips, especially suited for thin coatings (phosphate coatings). Greater measuring precision on rough surfaces than single tip probes. Spring-loaded measuring system ensures dependable positioning and uniform contact pressure of the measuring system (an advantage with thin coatings).

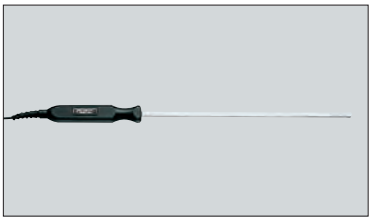




Probe model	FGB2	FKB10	FKB10-OD
Version description Part no.	**FGB2 standard version** 604-179 **FGB2L; cable 5 m** 604-265	**FKB10** 604-177	**FKB10-OD** 604-219
Probe design	Axial single tip probe with spring-loaded measuring system.	Double tip probe for angular measure-ments with f xed measuring system	Double tip probe for angular measure-ments with f xed measuring system
Measuring mode	Single mode	Single mode	Single mode
Measuring method	Magnetic induction method	Magnetic induction method	Magnetic induction method
Measuring application	NF, Iso/Fe	NF, Iso/Fe	NF, Iso/Fe
Measuring range	0,01 - 5 mm	0 - 8 mm	0 - 8 mm
Accuracy	up to 0.1 mm: ± 0.0015 mm 0.1 - 3 mm: < 1.5 % 3 - 5 mm: < 5 %	0 - 0.5 mm: 0.01 mm 0.5 - 8 mm: < 2 %	0 - 0.5 mm: 0.005 mm 0.5 - 8 mm: < 1 %
Precision	bis/up to 0.1 mm: 0.0003 mm 0,1 - 3 mm: < 0.3 % 3 - 5 mm: < 0.5 %	0 - 0.5 mm: 0.0025 mm 0.5 - 8 mm: 0.5 %	0 - 0.5 mm: 0.0015 mm 0.5 - 8 mm: 0.3 %
Ø (concave) for 10 % error **Min. Ø**	37 mm 9 mm	1.48“ mils 360 mils	75 mm 24 mm	3“ 960 mils	for f at specimen only	
Ø (convex) for 10 % error **Min. Ø**	21.5 mm 2 mm	860 mils 80 mils	50 mm 2 mm	2“ 80 mils	50 mm -	2“ -
Meas. area Ø for 10 % error **Min. measuring area Ø**	20 mm 6 mm	800 mils 240 mils	30 mm 20 mm	1.2“ 800 mils	30 mm 38 mm	1.2“ 1.52“
Edge distance for 10 % error	1.5 mm	60 mils	-	-	-	-
Substrate th. for 10 % error	0.6 mm	24 mils	0.5 mm	20 mils	0.5 mm	20 mils
Probe tip radius	1.0 mm	40 mils	1.5 mm	60 mils	f at: 34x24 mm	f at: 400x960 mils
Probe tip material	PVD-coated steel		PVD-coated steel		Hard plastics	
Probe tip replaceable	Yes		Yes		No	
Height	-		27 mm		26 mm	
Diameter / width	10 mm		14 mm		24 mm	
Length	110 mm		50 mm		53 mm	
Works with the instruments	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®		FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®		FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®	
Applications	Measures nonferrous and nonmetallic coatings on steel or iron substrates (NF, Iso/Fe). Has the largest measurement range of all single tip probes. Due to unshielded magnetic f eld larger geometric inf uence, however smaller tilting effect.		Measures nonferrous and nonmetallic coatings on steel or iron substrates (NF, Iso/Fe). Especially suited for thick coatings. Higher measurement precision on rough surfaces than single tip probes.		Measures nonferrous and nonmetallic coatings on steel or iron substrates (NF, Iso/Fe). The large f at contact surface is especially well suited for thick and compressible soft coatings (for example rubber sheeting for offset printing).	

Version: 06 Version: 02.3 Version: 02.3

			
Probe model	**FKB25**	**FK50**	**FGBW2**
Version description	**FKB25**	**FK50**	**FGBW2**
Part no.	604-266	604-185	604-252
Probe design	Double tip probe for angular measurements with f xed measuring system	Double tip probe for angular measurements with f xed measuring system	Single tip probe for angular measurements with spring-loaded measuring system
Measuring mode	Single mode	Single mode	Single mode
Measuring method	Magnetic induction method	Magnetic induction method	Magnetic induction method
Measuring application	NF, Iso/Fe	NF, Iso/Fe	NF, Iso/Fe
Measuring range	0 - 15 mm	0,01 - 30 mm	0,01 - 5 mm
Accuracy	0 - 1 mm: 0.002 mm 1 - 7 mm: < 2 % 7 - 15 mm: < 5 %	0.03 - 1 mm: 5 µm 1 - 10 mm: < 0.5 % 10 - 30 mm: < 5 %	up to 0.1 mm: ± 0.0015 mm 0.1 - 3 mm: < 1.5 % 3 - 5 mm: < 5 %
Precision	0 - 0.5 mm: 0.001 mm 0.5 - 15 mm: 0.2 %	0.03 - 1 mm: 0.002 mm 1 - 30 mm: 0.2 %	bis/up to 0.1 mm: 0.0003 mm 0.1 - 3 mm: < 0.3 % 3 - 5 mm: < 0.5 %
Ø (concave) for 10 % error **Min. Ø**	85 mm 20 mm	3.4“ 800 mils	140 mm 14 mm	5.6“ 560 mils	35 mm 18 mm	1.4“ 720 mils
Ø (convex) for 10 % error **Min. Ø**	60 mm 10 mm	2.4“ 400 mils	100 mm 10 mm	4“ 400 mils	24 mm 2 mm	960 mils 80 mils
Meas. area Ø for 10 % error **Min. measuring area Ø**	- 40 mm	- 1.6“	- 70 mm	- 2.8“	20 mm 6 mm	800 mils 240 mils
Edge distance for 10 % error	5 mm	200 mils	7 mm	280 mils	1 mm	40 mils
Substrate th. for 10 % error	0.7 mm	28 mils	1.2 mm	48 mils	0.6 mm	24 mils
Probe tip radius	1.5 mm	60 mils	2.5 mm	100 mils	1.0 mm	40 mils
Probe tip material	PVD-coated steel		Heat treated steel		PVD-coated steel	
Probe tip replaceable	Yes		Yes		Yes	
Height	33 mm		33 mm		23 mm	
Diameter / width	20 mm		20 mm		14 mm	
Length	65 mm		95 mm		72 mm	
Works with the instruments	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®		FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®		FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®	
Applications	Measures nonferrous and nonmetallic coatings on steel or iron substrates (NF, Iso/Fe). Especially suited for thick, nonmetallic coatings.		Measures nonferrous and nonmetallic coatings on steel or iron substrates (NF, Iso/Fe). Especially suited for very thick, nonmetallic coatings. For austenitic stainless steel coatings smaller measurement errors due to ferromagnetic delta ferrite content than with all other types of probes.		Measures nonferrous and nonmetallic coatings on steel or iron substrates (NF, Iso/Fe). Same as FGB2 probe, however preferably used for measurements in pipes, bore holes or recesses.	
	Version: 02.3		Version: 02.4		Version: 06	



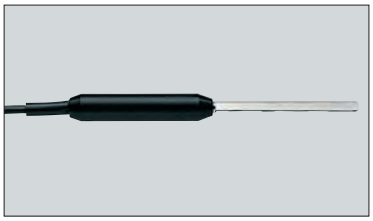
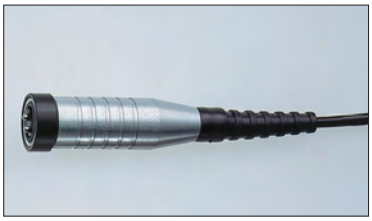


Probe model	FGA06H-MC	FGAB1.3-SD	FGABI1.3-260
Version description	**FGA06H-MC**	**FGAB1.3-SD**	**FGABI1.3-260**
Part no.	604-181	604-227	604-339
Probe design	Axial single tip probe with spring-loaded measuring system	Axial single tip probe with spring-loaded measuring system.	Single tip inside probe with spring-loaded measuring system
Measuring mode	Single mode	Single mode	Single mode
Measuring method	Magnetic induction method	Magnetic induction method	Magnetic induction method
Measuring application	NF, Iso/Fe	NF, Iso/Fe	NF, Iso/Fe
Measuring range	0 - 700 µm	0 - 2000 µm	0 - 1000 µm
Accuracy	0 - 50 µm: 0.5 µm 50 - 700 µm: < 1 %	up to 60 µm: ± 1.5 µm 60 - 1000 µm: ± 2.5 % 1000 - 2000 µm: < 5 %	up to 50 µm: ± 0.5 µm 50 - 1000 µm: < 1 %
Precision	0 - 100 µm: 0.08 µm 100 - 700 µm: < 0.08 %	bis/up to 60 µm: 0.6 µm 60 - 2000 µm: < 1 %	0 - 50 µm: 0.15 µm 50 - 1000 µm: 0.3 %

Ø (concave) for 10 % error **Min. Ø**	30 mm 10 mm	1200 mils 400 mils	for f at specimens only		35 mm 9 mm	1.38“ 350 mils
Ø (convex) for 10 % error **Min. Ø**	18 mm 2 mm	720 mils 80 mils	For f at specimens only		16 mm 2 mm	640 mils 80 mils
Meas. area Ø for 10 % error **Min. measuring area Ø**	5 mm 3 mm	200 mils 120 mils	12 mm 4 mm	480 mils 160 mils	8 mm 2 mm	320 mils 80 mils
Edge distance for 10 % error	-	-	4 mm	160 mils	-	-
Substrate th. for 10 % error	0.25 mm	10 mils	0.4 mm	16 mils	0.2 mm	8 mils
Probe tip radius	0.3 mm	12 mils	f at: ø 8 mm	f at: ø 320 mils	0.75 mm	30 mils

Probe tip material	Hard metal	Hard plastics	PVD-coated steel
Probe tip replaceable	No	No	Yes
Height	-	-	6,5 mm
Diameter / width	13 mm	18 mm	5,5 mm
Length	110 mm	100 mm	430 mm
Works with the instruments	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®
Applications	Measures nonferrous and nonmetallic coatings on steel or iron substrates (NF, Iso/Fe). Mechanical design especially suited for installation in customer specif c probe f xtures or guide devices for precise probe positioning..	Measures nonferrous and nonmetallic coatings on steel or iron substrates (NF ,Iso/Fe). The f at surface probe tip is especially suited for soft coatings (screen printing material, soft plastic material, etc.). The surface to be measured must be completely clean. Grease coatings or dirt particles will lead to measurement errors.	Measures nonferrous and nonmetallic coatings on steel or iron substrates (NF,Iso/Fe). Suited for measurements in bore holes, pipes or grooves. To obtain the smallest possible measurement uncertainty, externally triggered measurement acquisition should be used when measuring small inside diameters. Smallest permissible inside diameter: 9 mm. Maximum insertion depth: 260 mm

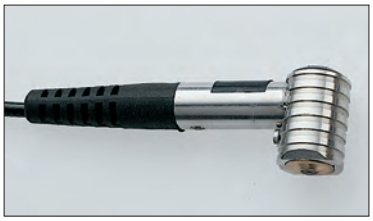
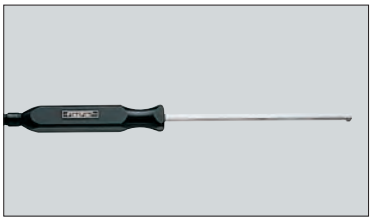
Version: 01 Version: 06 Version: 02.2

			
Probe model	**V1FGA1HR34**	**V7FKB4**	**FGAW2H**
Version description **Part no.**	**V1FGA1HR34** 604-183	**V7FKB4** 604-180	**FGAW2H** 604-212
Probe design	Single tip probe for inside measurement applications with f xed measuring system	Axial double tip probe with spring-loaded measuring system	Single tip probe for angular measurements with spring-loaded measuring system
Measuring mode	Single mode	Single mode	Single mode
Measuring method	Magnetic induction method	Magnetic induction method	Magnetic induction method
Measuring application	NF, Iso/Fe	NF, Iso/Fe	NF, Iso/Fe
Measuring range	0 - 1000 µm	0 - 2000 µm	0 - 1500 µm
Accuracy	0 - 50 µm: 0.5 µm 50 - 1000 µm: 1 %	up to 100 µm: ± 1 µm 100 - 1500 µm: < 1 % 1500 - 2000 µm: < 3 %	up to 100 µm: ± 1 µm 100 - 1000 µm: ± 1 % 1000 - 1500 µm: < 3 %
Precision	0 - 100 µm: 0.2 µm 100 - 1000 µm: 0.2 %	bis/up to 100 µm: 0.2 µm 100 - 2000 µm: < 0.2 %	bis/up to 100 µm: 0.3 µm 100 - 1500 µm: < 0.3 %

Ø (concave) for 10 % error **Min. Ø**	35 mm 7 mm	1.4“ 280 mils	44 mm 60 mm	1.76“ 2.4“	32 mm 18 mm	1.28“ 720 mils
Ø (convex) for 10 % error **Min. Ø**	18 mm 2 mm	720 mils 80 mils	29 mm 4 mm	1.16“ 160 mils	23 mm 2 mm	920 mils 80 mils
Meas. area Ø for 10 % error **Min. measuring area Ø**	6 mm 2 mm	240 mils 80 mils	12 mm 6 mm	480 mils 240 mils	20 mm 4 mm	800 mils 80 mils
Edge distance for 10 % error	-	-	0.6 mm	24 mils	0.5 mm	20 mils
Substrate th. for 10 % error	0.2 mm	8 mils	0.7 mm	28 mils	0.6 mm	24 mils
Probe tip radius	0.8 mm	32 mils	1.25 mm	50 mils	2.25 mm	90 mils

Probe tip material	Hard metal	PVD-coated steel	Hard metal
Probe tip replaceable	No	Yes	Yes
Height	4,3 mm	-	23 mm
Diameter / width	4 mm	18 mm	14 mm
Length	120 mm	105 mm	72 mm
Works with the instruments	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®	FMP10/20/30/40/100, MMS® PC mit F-Modul PERMASCOPE®
Applications	Measures nonferrous and nonmetallic coatings on steel or iron substrates (NF, Iso/Fe). Suited for measurements in bore holes, pipes or grooves. To obtain the smallest possible measurement uncertainty, externally triggered measurement acquisition should be used when measuring small inside diameters. Smallest permissible inside diameter: 7 mm. Maximum insertion depth: 60 mm.	Measures nonferrous and nonmetallic coatings on steel or iron substrates (NF, Iso/Fe). Higher repeatability precision than single tip probes when measuring rough surfaces. Spring loaded measuring system allows exact positioning and constant pressure force, which is advantageous when measuring soft coatings.	Measures nonferrous and nonmetallic coatings on steel or iron substrates (NF, Iso/Fe). Due to the larger probe tip diameter better suited for rough surfaces than the FGABW1.3 probe.

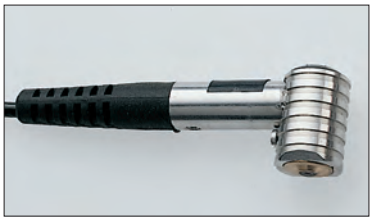
			
Probe model	**FTA3.3H**	**FTA3.3**	**FTD3.3**
Version description	**FTA3.3H**	**FTA3.3**	**FTD3.3**
Part no.	604-142	604-186	604-189
Probe design	Axial single tip probe with spring-loaded measuring system	Axial single tip probe with spring-loaded measuring system	Axial single tip probe with spring-loaded measuring system
Measuring mode	Single mode	Single mode	Single mode
Measuring method	Eddy current method	Eddy current method	Eddy current method
Measuring application	Iso/NF	Iso/NF	Iso/NF
Measuring range	0 - 1200 µm	0 - 1200 µm	0 - 800 µm
Accuracy	up to 50 µm: ± 0.5 µm 50 - 800 µm: ± 1 % 800 - 1200 µm: < 3 %	up to 100 µm: ± 1 µm 100 - 800 µm: ± 1 % 800 - 1200 µm: < 3 %	on f at specimen: 0 - 50 µm: 0.5 µm; 50 - 800 µm: 1 % on 8 mm convex: 0 - 50 µm: 2.5 µm; 50 - 800 µm: 5 %
Precision	bis/up to 100 µm: 0.4 µm 100 - 1200 µm: < 0.4 %	bis/up to 100 µm: 0.4 µm 100 - 1200 µm: < 0.4 %	auf f achen Teilen/on f at specimen *: 0 - 100 µm: 0.5 µm 100 - 800 µm: 0.5 %
Ø (concave) for 10 % error **Min. Ø**	62 mm 18 mm	2.48“ 720 mils	69 mm 18 mm	2.76“ 720 mils	- 32 mm	- 1.28“
Ø (convex) for 10 % error **Min. Ø**	57 mm 2 mm	2.28“ 80 mils	57 mm 2 mm	2.28“ 80 mils	- 2 mm	- 80 mils
Meas. area Ø for 10 % error **Min. measuring area Ø**	2 mm 2 mm	80 mils 80 mils	3 mm 2 mm	120 mils 80 mils	- 2 mm	- 80 mils
Edge distance for 10 % error	1 mm	40 mils	1 mm	40 mils	1.5 mm	60 mils
Substrate th. for 10 % error	< 0.1 mm	< 4 mils	< 0.1 mm	< 4 mils	0.05 mm	2 mils
Probe tip radius	1.2 mm	48 mils	1.2 mm	48 mils	1.2 mm	48 mils
Probe tip material	Hard metal		Ruby jewel tip		Ruby jewel tip	
Probe tip replaceable	No		Yes		Yes	
Height	-		-		-	
Diameter / width	18 mm		18 mm		16 mm	
Length	70 mm		70 mm		100 mm	
Works with the instruments	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®		FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®		FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®	
Applications	Measures electrically non-conducting coatings on non-ferromagnetic metal substrate materials (Iso/NF). Standard probe for paint and plastic coatings. Should not be used when surfaces exhibit a damp condition (acidic contamination of test surface).		Measures electrically non-conducting coatings on non-ferromagnetic metal substrate materials (Iso/NF). Standard probe for paint and plastic coatings, as well as for anodized coatings. Can possibly also be used when surfaces exhibit a damp condition (acidic contamination of test surface). Smaller tilting effect than with ETA3.3FG probe.		Measures paint, lacquer, plastic and anodized coatings on non-ferromagnetic metal substrates (Iso/NF). Excellent curvature compensation in a diameter range from inf nite to about 4 mm. Patented design. Especially suited for measurements on curved surfaces such as car bodies, blinds, etc. Operation corresponds to that of a typical Eddy current probe. *) Precision measured on 8 mm convex: 0 - 100 µm: 1 µm 100 - 800 µm: 1 %	
	Version: 06		Version: 06		Version: 01.3	

			
Probe model	**FAW3.3**	**FAI3.3-150**	**FTA3.3FG**
Version description **Part no.**	**FAW3.3** 604-193	**FAI3.3-150 shaft length 150 mm** 604-187 **FAI3.3-260 shaft length 260 mm** 604-336	**FTA3.3FG** 604-190
Probe design	Single tip probe for angular measurements with spring-loaded measuring system	Single tip inside probe with spring-loaded measuring system	Axial single tip probe with spring-loaded measuring system
Measuring mode	Single mode	Single mode	Single mode
Measuring method	Eddy current method	Eddy current method	Eddy current method
Measuring application	Iso/NF	Iso/NF	Iso/NF
Measuring range	0 - 1200 µm	0 - 800 µm	0 - 1200 µm
Accuracy	up to 100 µm: 1 µm 100 - 800 µm: ± 1 % 800 - 1200 µm: < 3 %	1 - 200 µm: 1 µm 200 - 800 µm: < 0.5 %	0 - 50 µm: 0.5 µm 50 - 1200 µm: < 1 %
Precision	bis/up to 50 µm: 0.5 µm 50 - 1200 µm: < 0.5 %	1 - 100 µm: 0.3 µm 100 - 800 µm: 0.3 %	0 - 35 µm: 0.35 µm 35 - 1200 µm: 1 %

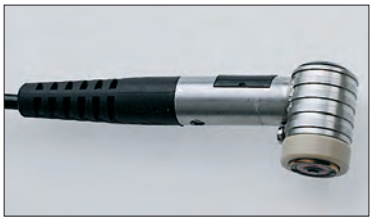
Ø (concave) for 10 % error **Min. Ø**	62 mm 26 mm	2.48“ 1.04“	55 mm 9 mm	2.2“ 360 mils	- -	- -
Ø (convex) for 10 % error **Min. Ø**	54 mm 2 mm	2.16“ 80 mils	50 mm 2 mm	2“ 80 mils	12 mm 10 mm	480 mils 400 mils
Meas. area Ø for 10 % error **Min. measuring area Ø**	3 mm 2 mm	120 mils 80 mils	4 mm 2 mm	160 mils 80 mils	15 mm 10 mm	600 mils 400 mils
Edge distance for 10 % error	1.2 mm	48 mils	-	-	-	-
Substrate th. for 10 % error	< 0.1 mm	< 4 mils	0.09 mm	4 mils	0.09 mm	4 mils
Probe tip radius	1.2 mm	48 mils	1.2 mm	48 mils	7 mm	280 mils

Probe tip material	Ruby jewel tip	Saphire jewel tip	Vespel SP1
Probe tip replaceable	Yes	Yes	No
Height	23 mm	6,5 mm	-
Diameter / width	14 mm	5,5 mm	18 mm
Length	72 mm	Depending on version	80 mm
Works with the instruments	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®
Applications	Measures electrically non-conducting coatings on non-ferromagnetic metal substrate materials (Iso/NF). Suited for measurements on plane specimens or in pipes bore holes and recesses. Can possibly also be used when surfaces exhibit a damp condition (acidic contamination of test surface).	Measures electrically non-conducting coatings on non-ferromagnetic metal substrate materials (Iso/NF). Suited for measurements in pipes, bore holes, grooves, etc. External start should be used to avoid contact errors. Smallest permissible inside diameter: 9 mm. Maximum insertion depth: 150 mm.	Measures electrically non-conducting coatings on non-ferromagnetic metal substrate materials (Iso/NF). Entire probe, incl. cable connector, protected from moisture inf ltration. Thus, especially suited for anodized coatings with acidic contamination of the test surface. Larger tilting effect than with FTA3.3 probe.

Probe model	FTA3.3-5.6	FTA3.3-5.6-HF
Version description	**FTA3.3-5.6**	**FTA3.3-5.6-HF**
Part no.	604-200	604-229
Probe design	Axial single tip probe with spring-loaded measuring system	Axial single tip probe with spring-loaded measuring system
Measuring mode	Single mode	Single mode
Measuring method	Eddy current method	Eddy current method
Measuring application	Iso/NF	Iso/NF
Measuring range	0 - 1200 µm	0 - 1200 µm
Accuracy	up to 50 µm: ± 0.8 µm 50 - 1200 µm: up to ± 1.5 %	0 - 50 µm: ± 1 µm 50 - 800 µm: up to ± 2 % 800 - 1200 µm: up to ± 5 %
Precision	0 - 100 µm: 0.5 µm 100 - 1200 µm: 0.5 %	0 - 100 µm: 1 µm 100 - 1200 µm: 1 %
Ø (concave) for 10 % error **Min. Ø**	32 mm 40 mm	1.28“ 1.6“	72 mm 40 mm	2.88“ 1.6“
Ø (convex) for 10 % error **Min. Ø**	43 mm 2 mm	1.72“ 80 mils	22 mm 2 mm	880 mils 80 mils
Meas. area Ø for 10 % error **Min. measuring area Ø**	- 5 mm	- 200 mils	- 5 mm	- 200 mils
Edge distance for 10 % error	-	-	0.4 mm	16 mils
Substrate th. for 10 % error	< 0.1 mm	< 4 mils	< 0.1 mm	< 4 mils
Probe tip radius	5.6 mm	220 mils	5.6 mm	220 mils
Probe tip material	Alumina		Alumina	
Probe tip replaceable	Yes		Yes	
Height	-		-	
Diameter / width	18 mm		18 mm	
Length	70 mm		70 mm	
Works with the instruments	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®		FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®	
Applications	Measures electrically non-conducting coatings on non-ferromagnetic metal substrate materials (Iso/NF). Due to the larger radius of the probe tip, lower measurement scatter on rough surfaces than with FTA3.3 probe.		Measures electrically non-conducting coatings on non-ferromagnetic metal substrate materials (Iso/NF). Due to the larger radius of the probe tip and the high measurement frequency, especially suited for the measurement of paint coatings on hot-dipped galvanized steel components with a zinc thickness of > 80 µm (3.2 mils).	

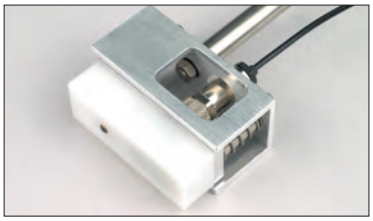


Probe model	FAW3.3-5.6	FAW3.3-5.6 HF
Version description	**FAW3.3-5.6**	**FAW3.3-5.6 HF**
Part no.	604-223	604-224
Probe design	Single tip probe for angular measurements with spring-loaded measuring system	Single tip probe for angular measurements with spring-loaded measuring system
Measuring mode	Single mode	Single mode
Measuring method	Eddy current method	Eddy current method
Measuring application	Iso/NF	Iso/NF
Measuring range	0 - 1200 µm	0 - 1200 µm
Accuracy	up to 50 µm: 0.75 µm 50 - 800 µm: ± 1.5 % 800 - 1200 µm: < 3 %	up to 50 µm: ± 1 µm 50 - 800 µm: < 2 % 800 - 1200 µm: < 5 %
Precision	bis/up to 100 µm: 0.7 µm 100 - 1200 µm: < 0.7 %	bis/up to 100 µm: 1.5 µm 100 - 1200 µm: < 1.5 %
Ø (concave) for 10 % error **Min. Ø**	47 mm 40 mm	1.88“ 1.6“	54 mm 24 mm	2.16“ 960 mils
Ø (convex) for 10 % error **Min. Ø**	54 mm 2 mm	2.16“ 80 mils	57 mm 2 mm	2.28“ 80 mils
Meas. area Ø for 10 % error **Min. measuring area Ø**	3 mm 2 mm	120 mils 200 mils	3 mm 1.5 mm	120 mils 60 mils
Edge distance for 10 % error	1.2 mm	48 mils	1.25 mm	50 mils
Substrate th. for 10 % error	< 0.1 mm	< 4 mils	< 0.1 mm	< 4 mils
Probe tip radius	5.6 mm	220 mils	10 mm	400 mils
Probe tip material	Alumina		Alumina	
Probe tip replaceable	Yes		Yes	
Height	23 mm		23 mm	
Diameter / width	14 mm		14 mm	
Length	72 mm		72 mm	
Works with the instruments	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®		FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®	
Applications	Measures electrically non-conducting coatings on non-ferromagnetic metal substrate materials (Iso/NF). Due to the larger radius of the probe tip, lower measurement scatter on rough surfaces than with FAW3.3 probe.		Measures electrically non-conducting coatings on non-ferromagnetic metal substrate materials (Iso/NF). Due to high measurement frequency suitable for measuring Iso-coatings on thin base material..	



Probe model	FA9	FA30	FA70
Version description	**FA9**	**FA30**	**FA70**
Part no.	604-188	604-213	604-191
Probe design	Single tip probe for angular measurements with spring-loaded measuring system	Single tip angle probe with f xed measurement system	Single tip angle probe with f xed measurement system
Measuring mode	Single mode	Single mode	Single mode
Measuring method	Eddy current method	Eddy current method	Eddy current method
Measuring application	Iso/NF	Iso/NF, Fe	Iso/NF, Fe
Measuring range	0 - 3,5 mm	0 - 20 mm	0 - 50 mm
Accuracy	up to 0.25 mm: up to ± 0.005 mm 0.25 - 2.5 mm : up to ± 2 % 2.5 - 3.5 mm: up to ± 3 %	0 - 2 mm: 0.04 mm 2 - 20 mm: < 2 %	0 - 5 mm: 0.1 mm 5 - 50 mm: < 2 %
Precision	bis/up to 1 mm: < 0.002 mm 1 - 2.5 mm: < 0.2 % 2.5 - 3.5 mm: < 0.4 %	0 - 1 mm: 0.002 mm 1 - 20 mm: 0.2 %	0 - 50 mm: 0.3 %
Ø (concave) for 10 % error	175 mm 7“	- -	- -
Min. Ø	40 mm 1.6“	- -	- -
Ø (convex) for 10 % error	175 mm 7“	1200 mm 48“	2500 mm 98“
Min. Ø	2 mm 80 mils	400 mm 16“	600 mm 24“
Meas. area Ø for 10 % error	8 mm 320 mils	42 mm 1680 mils	82 mm 3.3“
Min. measuring area Ø	5 mm 200 mils	34 mm 1360 mils	74 mm 3“
Edge distance for 10 % error	3 mm 120 mils	- -	- -
Substrate th. for 10 % error	< 0.1 mm < 4 mils	0.09 mm 4 mils	0.09 mm 4 mils
Probe tip radius	8 mm 320 mils	Flat: ø 34 mm Flat: ø 1.36“	Flat: ø 74 mm Flat: ø 3“
Probe tip material	Heat treated steel	Hard plastics	Hard plastics
Probe tip replaceable	No	No	No
Height	23 mm	43 mm	43 mm
Diameter / width	14 mm	34 mm	74 mm
Length	72 mm	60 mm	80 mm
Works with the instruments	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®
Applications	Measures electrically non-conducting coatings on non-ferromagnetic metal substrate materials (Iso/NF). Suited for the measurement of thicker plastic or rubber coatings.	Measures electrically non-conducting coatings on non-ferromagnetic metal substrate materials (Iso/NF) or on steel or iron (Iso/Fe). Suitable for the measurement of thicker plastic or rubber coatings; also to measure the wall thickness of, for example, plastic tanks with an aluminum backing foil. For surfaces with a larger curvature, a V-groove adapter shoe has to be used.	Measures electrically non-conducting coatings on non-ferromagnetic metal substrate materials (Iso/NF) or on steel and iron (Iso/Fe). Suitable for the measurement of thicker plastic or rubber coatings; also to measure the wall thickness of, for example, plastic tanks with an aluminum backing foil. For surfaces with a larger curvature, a V-groove adapter shoe has to be used.

Version: 06 Version: 02.1 Version: 02.4



Probe model	FTA2.4-SC	FTA2.4-MC
Version description Part no.	**FTA2.4-SC standard version** 604-228 **FTA2.4L-SC cable length 3 m** 604-267	**FTA2.4-MC** 604-192
Probe design	Single tip probe with spring-loaded measuring system, integrated in f at contact surface	Axial single tip probe with spring-loaded measuring system
Measuring mode	Single mode	Single mode
Measuring method	Eddy current method	Eddy current method
Measuring application	Iso/NF	Iso/NF
Measuring range	0 - 700 µm	0 - 700 µm
Accuracy	0 - 50 µm: 0.5 µm 50 - 300 µm: < 1 % 300 - 700 µm: < 2 %	up to 50 µm: ± 1 µm 50 - 500 µm: < 2 % 500 - 700 µm: < 5 %
Precision	0 - 100 µm: 0.2 µm 100 - 700 µm: 0.2 %	0 - 100 µm: 0.5 µm 100 - 700 µm: < 0.5 %
Ø (concave) for 10 % error Min. Ø	- -	15 mm 8 mm
Ø (convex) for 10 % error Min. Ø	- -	23 mm 2 mm
Meas. area Ø for 10 % error Min. measuring area Ø	Smallest test area 20 mm x 60 mm	2 mm 1 mm
Edge distance for 10 % error	-	0.8 mm
Substrate th. for 10 % error	0.4 mm	0.15 mm
Probe tip radius	0.5 mm	0.5 mm
Probe tip material	Ruby jewel tip	Ruby jewel tip
Probe tip replaceable	Yes	Yes
Height	-	-
Diameter / width	13 mm	13 mm
Length	110 mm	110 mm
Works with the instruments	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®	FMP10/20/30/40/100, MMS® PC & F-Modul PERMASCOPE®
Applications	Measures electrically non-conducting coatings on non-ferromagnetic metal substrate materials (Iso/NF). Due to the large contact surface and spring-loaded measuring element with very little mass and low contact pressure, especially suited for soft coatings such as those found on aluminum tubes or for automated measuring systems. No measurement tip wear even after several million measurement cycles when used properly. For f at specimens only.	Measures electrically non-conducting coatings on non-ferromagnetic metal substrate materials (Iso/NF). Mechanical design especially suited for installation in customer-specif c probe f xtures or guide devices for precise probe positioning.

	Min. area 800 mils x 2.4“	16 mils	20 mils	600 mils 560 mils	920 mils 80 mils	80 mils 40 mils	32 mils	6 mils	20 mils