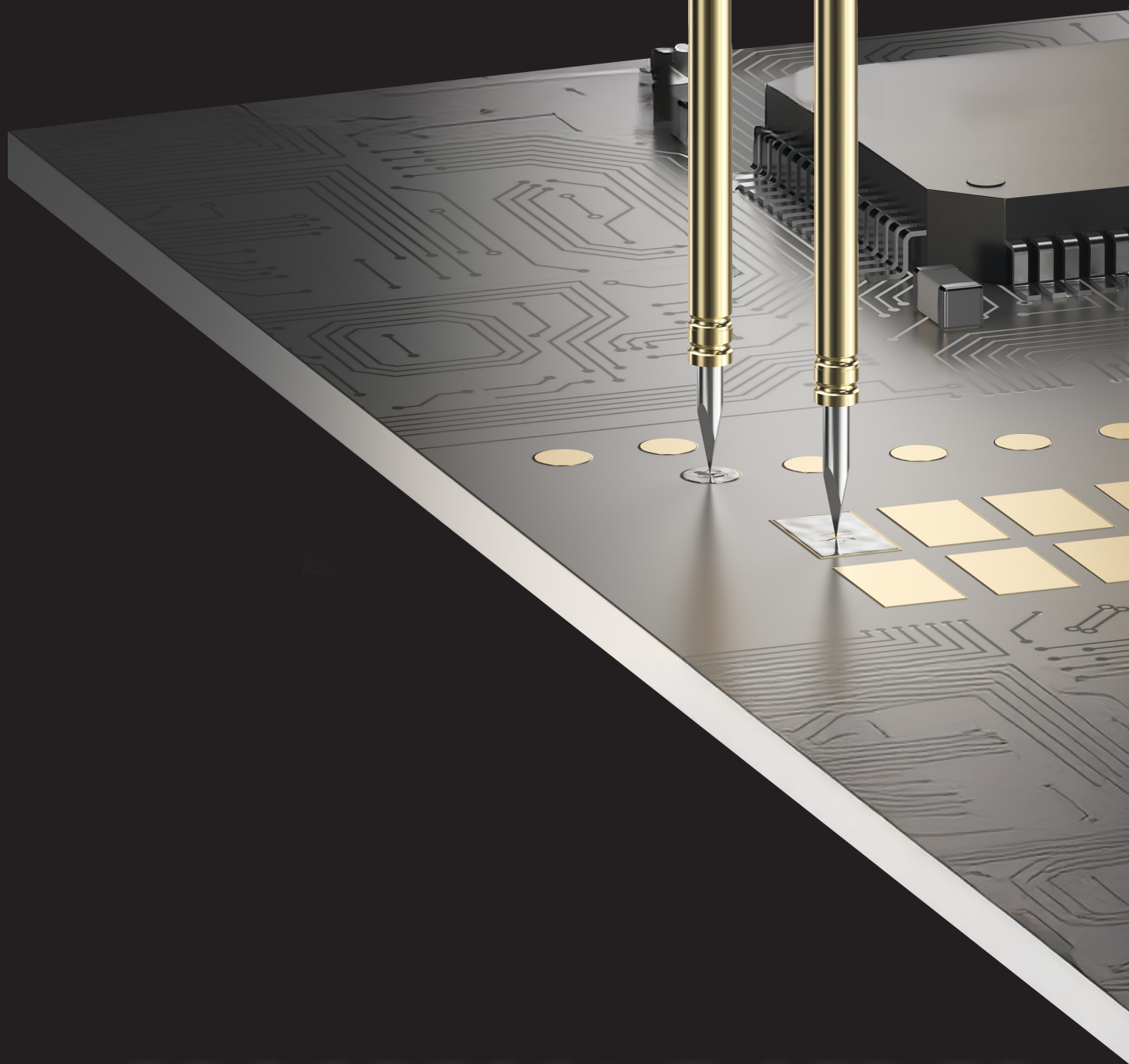




FEINMETALL

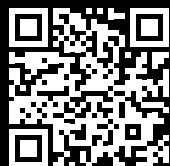
Contact Technologies



PROGRESSIVE SERIES

For reliable contacting in demanding conditions

CHECK IT
OUT NOW.



CONTENT

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THE CHALLENGE

UNDER TOUGH CONDITIONS

In electronic testing, significant challenges can arise when contacting lead-free solder pads, heavily contaminated or oxidized boards, or OSP-coated boards.

Contaminants are difficult to penetrate and tend to adhere to the Contact Probes. As a result, the electrical connection to the DUT is affected or not established at all. In addition, the lifetime of the spring contact probes is reduced.



OSP-Coating

OSP – Coating

OSP Coating is a thin, transparent organic protective coating applied to copper surfaces like clear lacquer. It is significantly harder than conventional surface coatings and can lead to contamination at the tip of the plunger and to the degradation of the gold coating.



Flux

Flux

Lead-free soldering has a corrosive effect on metallic materials, meaning that tools and equipment wear out more quickly in direct contact. Flux residues are also sticky and adhere strongly to contact probes.

Contamination

Contamination can occur due to dust, grease stains, fingerprints, oils, lubricating films, insufficiently netted paints and plastics. The most challenging contact issues arise from residues of fluxes, soldering pastes, adhesives, and oxidation.

THE PROOF

20 YEARS OF DEVELOPMENT

+74 %

Service life

extension despite
tough conditions

+32 %

First Pass Yield

improvement across
customers

120k

Touchdowns

without significant
wear and tear

130+

Progressive Probes

across 13 product families

BUILT TO PERFORM

All the features you need for tough conditions

Progressive Coating

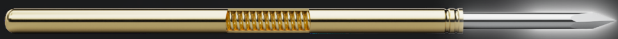
The unique Progressive Coating, invented by FEINMETALL, is an important core component of our Progressive Probes. Thanks to its palladium content, the surface is 3 times harder than that of standard probes. When combined with a steel plunger, mechanical durability is massively enhanced. Furthermore, the smooth surface provides a self-cleaning effect that counteracts contamination and helps ensure a long service life.

Higher Preload

Due to increased spring preload, a higher force is exerted immediately upon contact with the DUT, while the nominal spring force remains unchanged. Consequently, the total load on the DUT does not change, yet contaminants are penetrated more effectively.

Special Tip Styles

Every application and every DUT is different. To help customers fully leverage the benefits of the Progressive Series, FEINMETALL offers a wide range of specialized tip styles. Many of them are unique and available exclusively.



Solutions for every application

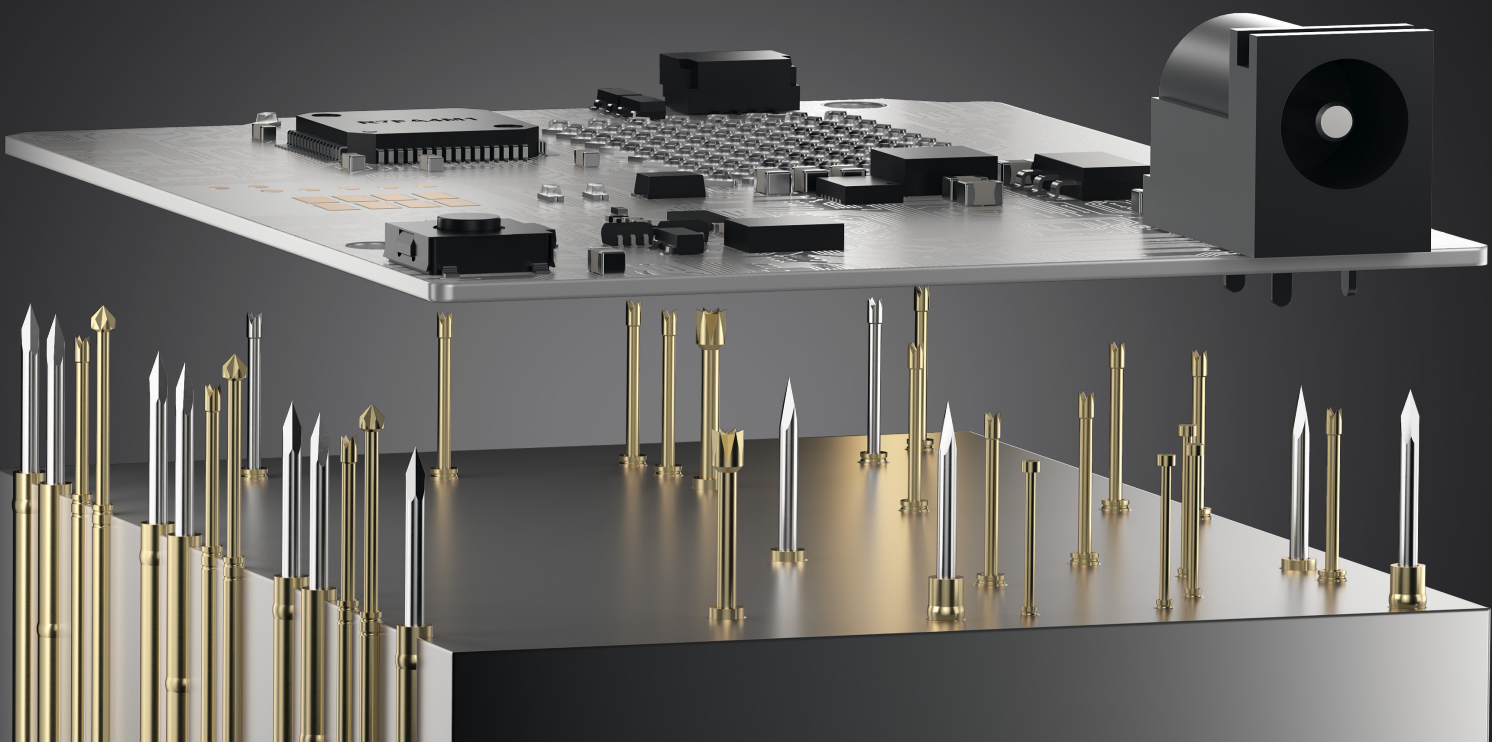
Over the years, FEINMETALL has built up an extensive portfolio of Progressive Probes with more than 130 probes and 13 product families. Since every application and DUT is different, FEINMETALL offers specialized tip styles to help customers fully leverage the Progressive Series. Many are unique and available exclusively from FEINMETALL.

05 Concave stepped	06 Serrated stepped	07 Hexagonal 90° stepped	10 Flexible needle
14 4-point crown stepped (self-cleaning)	15 Triangular 45° stepped	21 4-point crown (self-cleaning)	32 Rigid needle 10°
33 Square lance 38°	35 3-point crown stepped (self-cleaning)	36 6-point crown stepped, middle pin longer	37 4-point crown stepped
38 Square lance 140°	43 Square lance 90°	44 Rigid needle with eccentric-cut	54 Square lance stepped
62 Triangular 30°	63 8-point crown stepped (self-cleaning)	79 6-point crown flattened	

BUILT TO BREAK THROUGH

Features for tough conditions

The Progressive Series combines three innovations in a single probe: Progressive Coating, higher preload, and optimized tip geometries.



3x
Harder
thanks to Progressive Coating



2x
Higher Preload
for immediate, stable contact

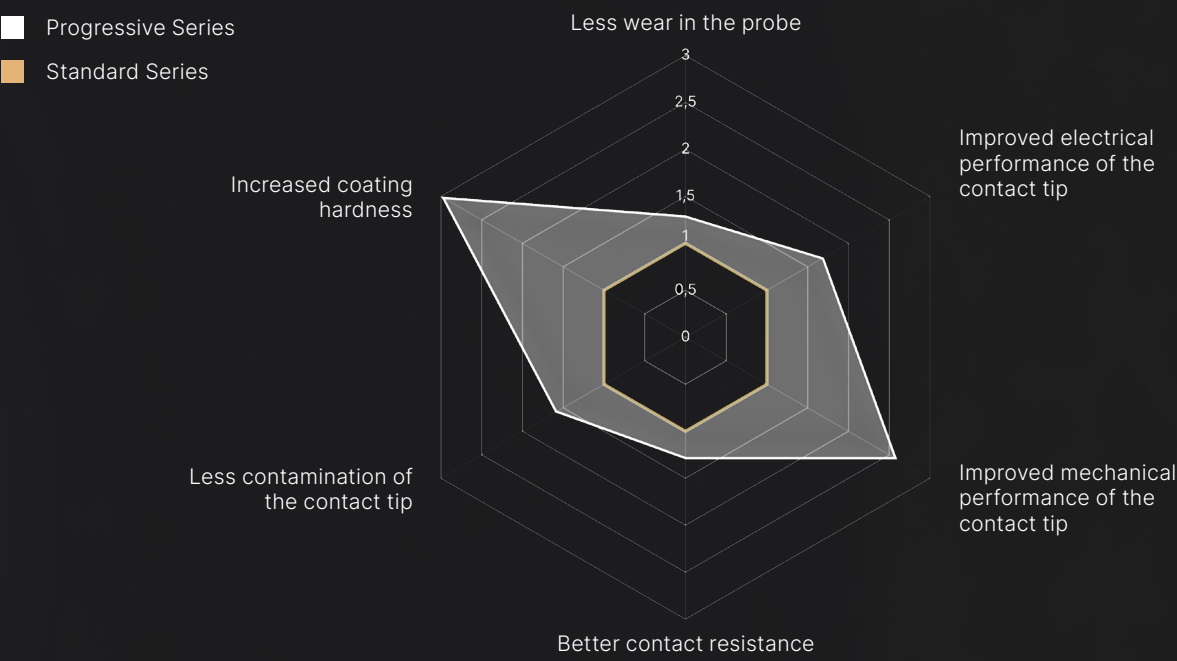


25+
Tip styles
for every testing application

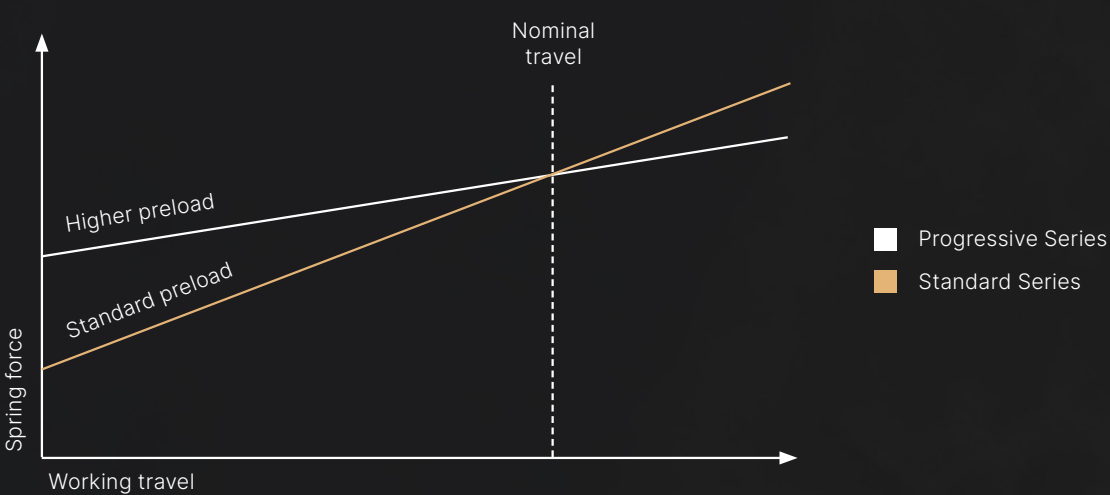


PERFORMANCE COMPARISON

Making a difference when things get tough



Spring characteristics - Spring force vs. working travel



The increased preload of the spring ensures a better and more consistent penetration of the surface upon contact. At the same time, mechanical stress on the DUT can be reduced, as lower nominal spring forces may be used while maintaining a reliable contact performance.

AVAILABLE VARIANTS

Materials and plating

Plunger	Steel	palladium alloy plated
Barrel	Bronze	gold plated
Spring	Spring steel	silver plated

Type	Order Code	Product name	Center [mm/mil]	Current [A]	Nominal travel [mm]	Maximum travel [mm]	FM Choice
F786 HP	1032612	F78610S080P300HP	2.54 / 100	5.0	6.4	8.0	-
	1015524	F78633S130P500HP	2.54 / 100	5.0	6.4	8.0	-
	1013217	F78633S130P300HP	2.54 / 100	5.0	6.4	8.0	-
F772 HP	1013335	F77233S130P300HP	2.54 / 100	5.0	4.0	5.0	-
F100 HP	1135348	F10005B150P200HP	2.54 / 100	5.0	4.3	6.4	-
	1142384	F10005B200P200HP	2.54 / 100	5.0	4.3	6.4	-
	1135050	F10005S190P200HP	2.54 / 100	5.0	4.3	6.4	-
	1146532	F10006B130P200HP	2.54 / 100	5.0	4.3	6.4	-
	1013505	F10006B200P100HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1019980	F10006B200P300HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1170299	F10007S150P100HP	2.54 / 100	5.0	4.3	6.4	-
	1017617	F10010S060P150HPRP	2.54 / 100	5.0	4.3	6.4	-
	1143891	F10010S060P200HP	2.54 / 100	5.0	4.3	6.4	-
	1039808	F10010S060P300HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1167843	F10014S130L300HP	2.54 / 100	5.0	4.3	6.4	-
	1161282	F10014S130P300HP	2.54 / 100	5.0	4.3	6.4	-
	1017757	F10014S150L300HP	2.54 / 100	5.0	4.3	6.4	-
	1159064	F10014S150P100HP	2.54 / 100	5.0	4.3	6.4	-
	1001161	F10014S150P130HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1142392	F10014S150P200HP	2.54 / 100	5.0	4.3	6.4	-
	1001170	F10014S150P300HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1040481	F10015B150P150HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1156211	F10015B150P200HP	2.54 / 100	5.0	4.3	6.4	-
	1036642	F10015B150P300HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1010207	F10021S090P200HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1010160	F10021S090P300HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1164516	F10032S090P200HP	2.54 / 100	5.0	4.3	6.4	-
	1014293	F10032S090P300HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1001150	F10033S090L200HP	2.54 / 100	5.0	4.3	6.4	-
	1172565	F10033S090L300HP	2.54 / 100	5.0	4.3	6.4	-
	1016293	F10033S090P130HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1018693	F10033S090P150HP	2.54 / 100	5.0	4.3	6.4	-
	1010205	F10033S090P200HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1009991	F10033S090P300HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1038017	F10035S150P200HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1036217	F10035S150P300HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1163072	F10036S130P300HP	2.54 / 100	5.0	4.3	6.4	-

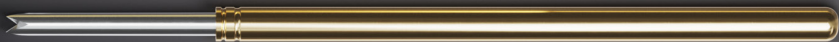
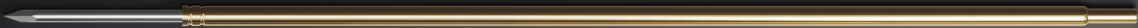
Type	Order Code	Product name	Center [mm/mil]	Current [A]	Nominal travel [mm]	Maximum travel [mm]	FM Choice
F100 HP	1144266	F10036S150P200HP	2.54 / 100	5.0	4.3	6.4	-
	1169776	F10037B030P200HP	2.54 / 100	5.0	4.3	6.4	-
	1152297	F10037B030P300HP	2.54 / 100	5.0	4.3	6.4	-
	1169779	F10037S030P200HP	2.54 / 100	5.0	4.3	6.4	-
	1167096	F10037S030P300HP	2.54 / 100	5.0	4.3	6.4	-
	1142415	F10037S050P200HP	2.54 / 100	5.0	4.3	6.4	-
	1014768	F10037S050P300HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1121650	F10038S090P200HP	2.54 / 100	5.0	4.3	6.4	-
	1132220	F10038S090P300HP	2.54 / 100	5.0	4.3	6.4	-
	1010389	F10043S090P130HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1010206	F10043S090P200HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1141081	F10043S090P250HP	2.54 / 100	5.0	4.3	6.4	-
	1010165	F10043S090P300HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1172558	F10044S026P200HP	2.54 / 100	5.0	4.3	6.4	-
	1172564	F10044S026P300HP01	2.54 / 100	5.0	4.3	6.4	-
	1137813	F10054S157P200HP	2.54 / 100	5.0	4.3	6.4	-
	1015552	F10062S090P150HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1010208	F10062S090P200HP	2.54 / 100	5.0	4.3	6.4	FM Choice
	1010167	F10062S090P300HP	2.54 / 100	5.0	4.3	6.4	-
	1142414	F10063B150P200HP	2.54 / 100	5.0	4.3	6.4	-
	1146201	F10063B150P250HP	2.54 / 100	5.0	4.3	6.4	-
	1156258	F10063B150P300HP	2.54 / 100	5.0	4.3	6.4	-
	1169674	F10079B090P150HP	2.54 / 100	5.0	4.3	6.4	-
F100 HPL	1017051	F10014S150L200HPL	2.54 / 100	5.0	4.3	6.4	-
	1010318	F10021S090P200HPL	2.54 / 100	5.0	4.3	6.4	-
	1010320	F10021S090P300HPL	2.54 / 100	5.0	4.3	6.4	-
	1014294	F10032S090P300HPL	2.54 / 100	5.0	4.3	6.4	-
	1020073	F10033S090L200HPL	2.54 / 100	5.0	4.3	6.4	FM Choice
	1017908	F10033S090P130HPL	2.54 / 100	5.0	4.3	6.4	FM Choice
	1010258	F10033S090P200HPL	2.54 / 100	5.0	4.3	6.4	FM Choice
	1010324	F10033S090P300HPL	2.54 / 100	5.0	4.3	6.4	FM Choice
	1010319	F10043S090P200HPL	2.54 / 100	5.0	4.3	6.4	-
	1010325	F10062S090P300HPL	2.54 / 100	5.0	4.3	6.4	FM Choice
F588 HPS	1043611	F58833S090P300HPS	2.54 / 100	5.0	7.6	10.0	-
F588 HP	1035800	F58810S060P150HPRP	2.54 / 100	5.0	9.3	11.7	-
	1019480	F58821S090P300HP	2.54 / 100	5.0	9.3	11.7	-
	1170313	F58833S090L180HP	2.54 / 100	5.0	9.3	11.7	-
	1170012	F58833S090P280HP	2.54 / 100	5.0	9.3	11.7	-
	1013000	F58833S090P300HP	2.54 / 100	5.0	9.3	11.7	FM Choice
	1019481	F58837S050P300HP	2.54 / 100	5.0	9.3	11.7	-
	1159742	F58863B150P300HP	2.54 / 100	5.0	9.3	11.7	-
	1019483	F58866B250P300HP	2.54 / 100	5.0	9.3	11.7	-
F075 HP	1143889	F07510S064P200HP	1.90 / 75	4.0	4.3	6.4	-
	1164988	F07514S120P200HP	1.90 / 75	4.0	4.3	6.4	-
	1030563	F07514S120P250HP	1.90 / 75	4.0	4.3	6.4	FM Choice
	1173773	F07521S064L250HPH	1.90 / 75	4.0	4.3	6.4	-
	1010210	F07521S064P200HP	1.90 / 75	4.0	4.3	6.4	FM Choice
	1010169	F07521S064P250HP	1.90 / 75	4.0	4.3	6.4	FM Choice

PRODUCT PORTFOLIO

Type	Order Code	Product name	Center [mm/mil]	Current [A]	Nominal travel [mm]	Maximum travel [mm]	FM Choice
F075 HP	1173771	F07521S064P250HPH	1.90 / 75	4.0	4.3	6.4	-
	1164517	F07532S064P200HP	1.90 / 75	4.0	4.3	6.4	-
	1014301	F07532S064P250HP	1.90 / 75	4.0	4.3	6.4	-
	1020074	F07533S064L200HP	1.90 / 75	4.0	4.3	6.4	FM Choice
	1032377	F07533S064L250HP	1.90 / 75	4.0	4.3	6.4	-
	1016294	F07533S064P130HP	1.90 / 75	4.0	4.3	6.4	FM Choice
	1125616	F07533S064P150HP	1.90 / 75	4.0	4.3	6.4	-
	1010209	F07533S064P200HP	1.90 / 75	4.0	4.3	6.4	FM Choice
	1010077	F07533S064P250HP	1.90 / 75	4.0	4.3	6.4	FM Choice
	1155972	F07533S064P280HP	1.90 / 75	4.0	4.3	6.4	-
	1152010	F07533S064P300HP	1.90 / 75	4.0	4.3	6.4	-
	1038209	F07535S120P200HP	1.90 / 75	4.0	4.3	6.4	-
	1033612	F07535S120P250HP	1.90 / 75	4.0	4.3	6.4	-
	1143901	F07536B120P200HP	1.90 / 75	4.0	4.3	6.4	-
	1163047	F07536B120P280HP	1.90 / 75	4.0	4.3	6.4	-
	1169773	F07537B030P200HP	1.90 / 75	4.0	4.3	6.4	-
	1152298	F07537B030P300HP	1.90 / 75	4.0	4.3	6.4	-
	1142404	F07537B050P200HP	1.90 / 75	4.0	4.3	6.4	-
	1167099	F07537S030P300HP	1.90 / 75	4.0	4.3	6.4	-
	1170047	F07537S050L280HP	1.90 / 75	4.0	4.3	6.4	-
	1171946	F07538S064P280HP	1.90 / 75	4.0	4.3	6.4	-
	1156385	F07538S064P300HP	1.90 / 75	4.0	4.3	6.4	-
	1010388	F07543S064P130HP	1.90 / 75	4.0	4.3	6.4	FM Choice
	1010211	F07543S064P200HP	1.90 / 75	4.0	4.3	6.4	FM Choice
	1010170	F07543S064P250HP	1.90 / 75	4.0	4.3	6.4	FM Choice
	1145256	F07543S064P300HP	1.90 / 75	4.0	4.3	6.4	-
	1171952	F07544S020P200HP	1.90 / 75	4.0	4.3	6.4	-
	1172180	F07544S026P280HP	1.90 / 75	4.0	4.3	6.4	-
	1137829	F07554S117P200HP	1.90 / 75	4.0	4.3	6.4	-
	1010212	F07562S064P200HP	1.90 / 75	4.0	4.3	6.4	FM Choice
	1010171	F07562S064P250HP	1.90 / 75	4.0	4.3	6.4	FM Choice
	1142453	F07563S120P200HP	1.90 / 75	4.0	4.3	6.4	-
	1146203	F07563S120P250HP	1.90 / 75	4.0	4.3	6.4	-
	1172258	F07563S120P300HP	1.90 / 75	4.0	4.3	6.4	-
	1169693	F07579B064P150HP	1.90 / 75	4.0	4.3	6.4	-
F075 HPL	1053951	F07521S064P200HPL	1.90 / 75	4.0	4.3	6.4	FM Choice
	1010292	F07521S064P250HPL	1.90 / 75	4.0	4.3	6.4	FM Choice
	1014299	F07532S064P250HPL	1.90 / 75	4.0	4.3	6.4	-
	1001149	F07533S064L200HPL	1.90 / 75	4.0	4.3	6.4	FM Choice
	1010288	F07533S064P200HPL	1.90 / 75	4.0	4.3	6.4	FM Choice
	1010291	F07533S064P250HPL	1.90 / 75	4.0	4.3	6.4	FM Choice
	1165918	F07533S064P280HPL	1.90 / 75	4.0	4.3	6.4	-
	1010289	F07543S064P200HPL	1.90 / 75	4.0	4.3	6.4	-
	1010290	F07562S064P200HPL	1.90 / 75	4.0	4.3	6.4	-
F793 HP	1170401	F79333S064L100HP	1.90 / 75	4.0	8.0	10.0	-
	1013301	F79333S064P250HP	1.90 / 75	4.0	8.0	10.0	-
	1042075	F79335S120P250HP	1.90 / 75	4.0	8.0	10.0	-
F793 HPL	1020550	F79333S064L250HPL	1.90 / 75	4.0	8.0	10.0	-
	1142584	F79333S064P250HPL	1.90 / 75	4.0	8.0	10.0	-

PRODUCT PORTFOLIO

Type	Order Code	Product name	Center [mm/mil]	Current [A]	Nominal travel [mm]	Maximum travel [mm]	FM Choice
F050 HP	1142410	F05006B090P200HP	1.27 / 50	3.0	4.3	6.4	-
	1010225	F05021S050P200HP	1.27 / 50	3.0	4.3	6.4	FM Choice
	1156261	F05021S050P250HP	1.27 / 50	3.0	4.3	6.4	-
	1010224	F05033S050P200HP	1.27 / 50	3.0	4.3	6.4	FM Choice
	1150038	F05033S050P250HP	1.27 / 50	3.0	4.3	6.4	-
	1137783	F05037B028P200HP	1.27 / 50	3.0	4.3	6.4	-
	1152299	F05037B028P250HP	1.27 / 50	3.0	4.3	6.4	-
	1137239	F05037S028P200HP	1.27 / 50	3.0	4.3	6.4	-
	1137521	F05038S050P200HP	1.27 / 50	3.0	4.3	6.4	-
	1010345	F05043S050P130HP	1.27 / 50	3.0	4.3	6.4	FM Choice
	1010226	F05043S050P200HP	1.27 / 50	3.0	4.3	6.4	FM Choice
	1010227	F05062S050P200HP	1.27 / 50	3.0	4.3	6.4	FM Choice
	1169713	F05079B050P100HP	1.27 / 50	3.0	4.3	6.4	-
F050 HPL	1019119	F05033S050P200HPL	1.27 / 50	3.0	4.3	6.4	-
	1026814	F05043S050P200HPL	1.27 / 50	3.0	4.3	6.4	-
F040HP	1124159	F04029S038P080HP	1.00 / 40	2.0	4.3	6.4	-
	1137242	F04029S038P150HP	1.00 / 40	2.0	4.3	6.4	-
	1140612	F04033S038P080HP	1.00 / 40	2.0	4.3	6.4	-
	1124160	F04043S038P080HP	1.00 / 40	2.0	4.3	6.4	-



FM Choice

What is FM Choice?

FM Choice is our specially curated selection of the most reliable and frequently used probes in the market. Based on our expertise and experience, we have pre-selected the top-performing probes, so you don't have to choose from hundreds of options. With FM Choice, we make your decision easier by offering the most trusted solutions that meet your needs.

One of the greatest advantages of FM Choice is high availability and fast delivery, as we can often ship directly from our stock. This enables us to meet your demands whenever you need them. Plus, FM Choice offers competitive pricing, even for smaller quantities, making it an attractive solution for all kinds of projects.

Our portfolio includes over 700 Contact Probes for pitches between 6 and 374 mil, covering a wide range of applications and ensuring we meet most technical requirements quickly and efficiently.

Benefits at a glance



Most trusted solutions



Competitive prices



Fast delivery & high availability

Discover FM Choice products online

With our new Product Finder, we offer you a complete overview of all FM Choice products that you can easily search through. This high-performance tool allows you to search for specific products and compare them based on their technical features.

In addition to the FM Choice products, we invite you to explore the other categories to discover our complete product portfolio. Start your selection now and experience the variety and quality of our products.

> FEINMETALL.COM/PRODUCT-FINDER



WELCOME TO OUR DIGITAL WORLD

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Step into FEINMETALL's digital world and explore our products, technologies and industry expertise across our website, social media channels and newsletter. Stay connected with the latest innovations, insights and updates from FEINMETALL – all in one digital space.



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Newsletter: Stay informed



LinkedIn: Business & News

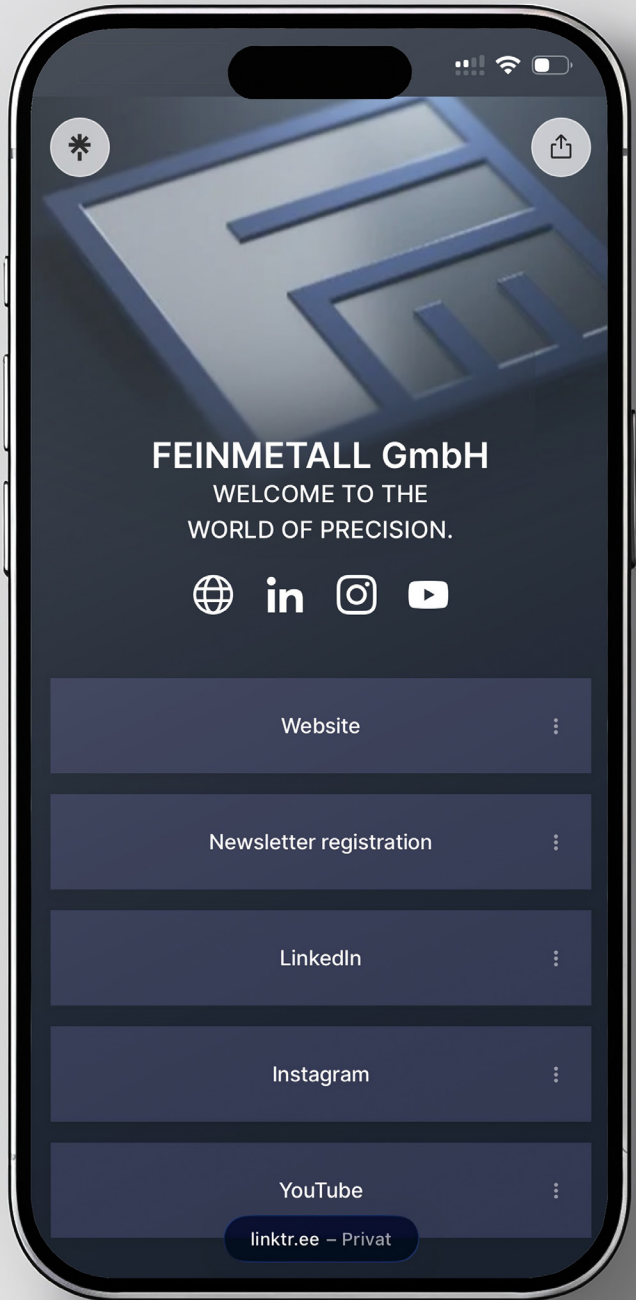


Instagram: Insights & Impressions



YouTube: Watch & Experience

Check it out



PASSION
FOR FINEST
TECHNOLOGY.

> FEINMETALL.COM



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