

Menetmaró, menetörvénylő, kombinált szerszámok

1 Menetörvénylők

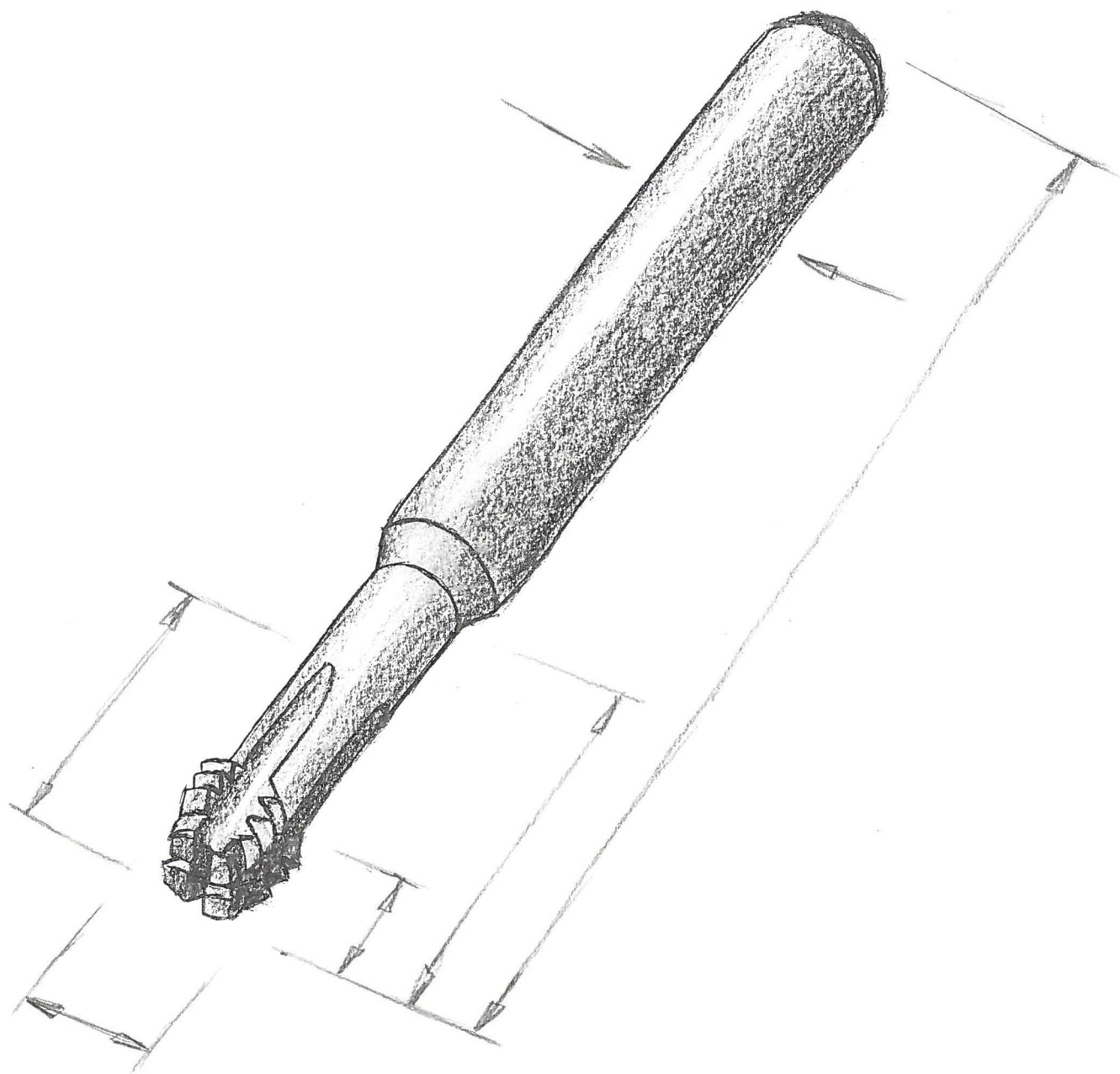
2 Menetmarók

3 Menetidomszerek

4 Nano-menetidomszerek









VERFÜGBARKEIT DER ARTIKEL

- ID Lagerartikel
- ID Kurzfristig lieferbar
- * ID Ab Lager lieferbar solange Vorrat

AVAILABILITY OF THE ARTICLES

- ID Stock item
- ID Available at short notice
- * ID Available from stock, while stock lasts



Unser innovatives KMU ist im Berner Jura in der Schweiz zu Hause, idyllisch eingebettet zwischen Hügeln und am Ufer der hier noch jungen Birs gelegen. Hier werden bereits seit 1940 die Hochleistungs-Gewindewerkzeuge unserer Marke DC entwickelt, produziert und in die ganze Welt geliefert.

Seit der Gründung unseres Unternehmens konzentrieren wir uns auf die Erweiterung unseres Angebotes an Gewindebohrern und Gewindeformern aus HSSE / HSSE-PM, um die Bedürfnisse unserer Kunden optimal zu erfüllen, und auf die Entwicklung neuer Werkzeugtypen für die neusten Technologien und Werkstoffe.

Im Jahre 2000 haben wir den neuen Produktionsbereich „ONE STEP“, ausgestattet mit modernsten Produktionstechnologien, für die Entwicklung und Herstellung von zuverlässigen und leistungsstarken Vollhartmetall-Gewindefräsern geschaffen. In der Zwischenzeit wurde unser VHM-Programm stark weiterentwickelt und ausgebaut, mit Schwerpunkt auf Gewindewirblern.

Seit 2010 wird der Entwicklung unserer Mikrowerkzeuge besonders viel Aufmerksamkeit gewidmet. Das Resultat ist unser in der Zwischenzeit echt breites „nano“-Programm, das Gewindewirbler, Gewindebohrer, Gewindeformer, Gewindelehren und Prüfgewindelehren im Durchmesserbereich von 0.3 – 2.75 mm beinhaltet. Als ISO 17025/2005 akkreditiertes Unternehmen ist die DC Nano Tools SA Ihr Spezialist für diesen Bereich.

Heute werden unsere Hochleistungs-Gewindewerkzeuge weltweit und in sämtlichen Branchen dort eingesetzt, wo Wert auf **Qualität, Leistung und Zuverlässigkeit** der Produkte gelegt wird.

Falls Sie in unserem breit gefächerten Standardprogramm nicht finden sollten was Sie benötigen, ändern wir Werkzeuge Ihren Bedürfnissen entsprechend ab oder stellen spezifische Sonderwerkzeuge basierend auf Ihren Vorgaben und Zeichnungen für Sie her.

Für Fragen, auf die Sie in unserem Katalog keine Antwort finden, stehen wir Ihnen selbstverständlich gerne zur Verfügung.



„Zuerst war ich auf der Suche nach den besten Werkzeugen, dann entschied ich mich, diese selbst herzustellen“

Daniel Charpillon – 1940



Our innovative SME is at home in the Berner Jura in Switzerland, idyllically nestled between hills and on the banks of the still young river called Birs. This is where since 1940 the high-performance threading tools of our brand DC are developed, manufactured and supplied all over the world.

Since the foundation of our company, we have focused on expanding our range of HSSE / HSSE-PM taps and thread formers in order to optimally meet our customers' needs and on constantly developing new tool types for the latest technologies and materials.

In 2000, we created the new "ONE STEP" production division, equipped with the latest production technologies, for the development and manufacture of reliable and powerful solid carbide thread milling cutters. In the meantime, our CAR programme has been greatly developed and expanded, with a focus on thread whirling cutters.

Since 2010, special attention has been paid to the development of our micro tools. The result is our in the meantime really broad "nano" programme, which includes thread whirlers, taps, thread formers, thread gauges and check thread gauges in the diameter range from 0.3 - 2.75 mm. As an ISO 17025/2005 accredited company, DC Nano Tools SA is your specialist in this field.

Today, our high performance threading tools are used worldwide and in all industries where **quality, performance** and **reliability** of the products are paramount.

If you do not find what you need in our wide range of standard products, we can modify tools to suit your needs or manufacture specific special items, based on your specifications and drawings.

For questions, to which you cannot find an answer in our catalogue, we are of course gladly at your entire disposal.



"In the beginning, I was looking for the best tools, then I decided to produce them myself"

Daniel Charpillot – 1940

DC SWISS WELTWEIT

UND IMMER IN IHRER NÄHE

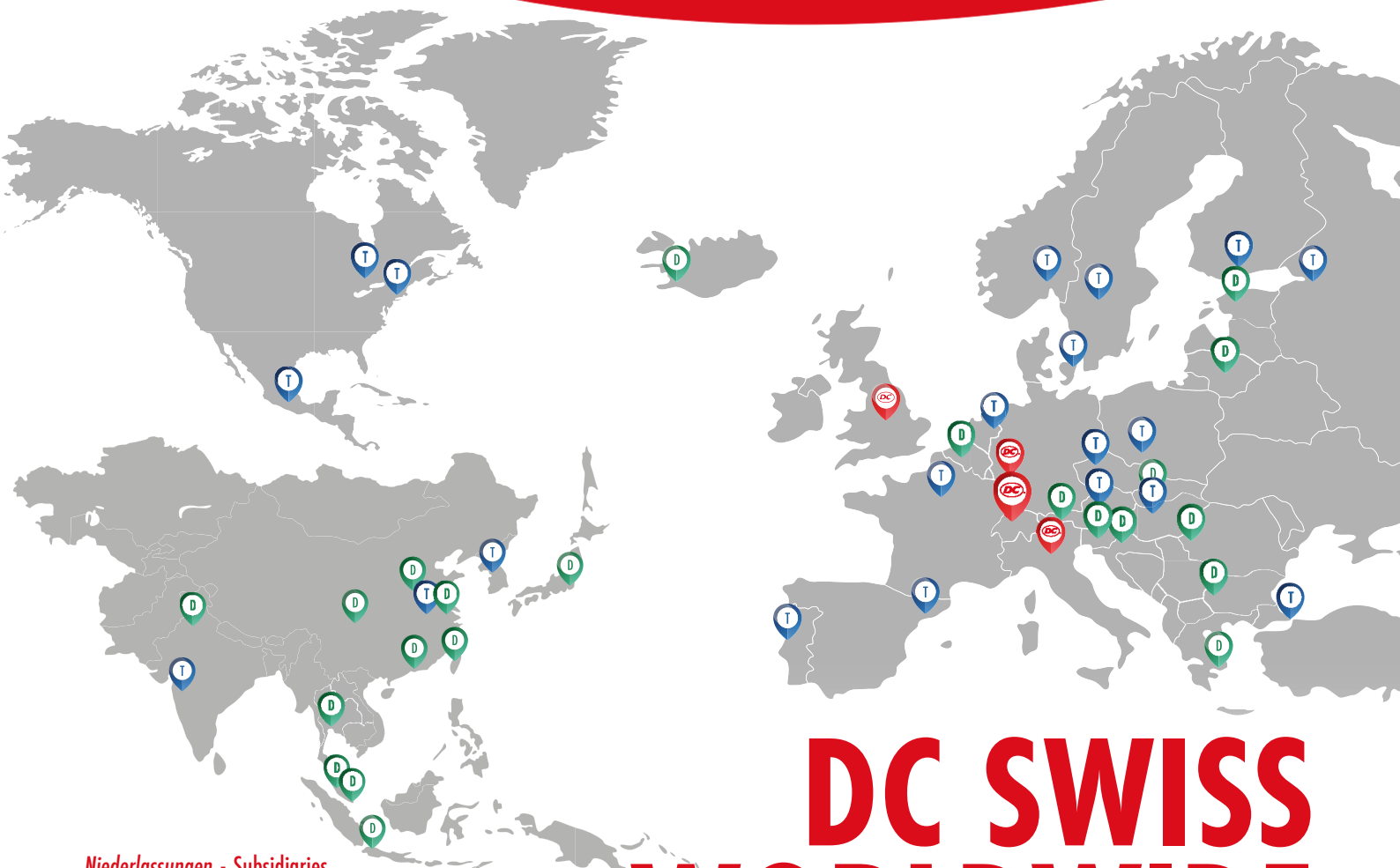


KUNDENNÄHE

Sie finden immer einen kompetenten Ansprechpartner, egal ob im Mutterwerk in der Schweiz, bei einer unserer Tochtergesellschaften in Deutschland, Italien und England, oder bei einer unserer vielen Vertretungen bzw. einem unserer Stützpunkthändler weltweit.

CUSTOMER PROXIMITY

You will always find a competent contact person, whether at our main site in Switzerland, at one of our subsidiaries in Germany, Italy and England, or at one of our many representatives or resellers worldwide.



Niederlassungen - Subsidiaries

Technologiepartner - Technology Partners

Vertretungen - Distributors

Für weitere Länder : dcswiss.com/de/verkaufsnetz

For further countries: : dcswiss.com/en/sales-network

DC SWISS WORLDWIDE

AND ALWAYS CLOSE TO YOU

SWISS QUALITY



100 % made by DC SWISS -
garantiert von der Entwicklung des
Werkzeuges über dessen Herstellung bis
zur Endkontrolle, dank unseres Fachwissens
und unserer Kompetenz in allen Bereichen der
Gewindewerkzeugherstellung.

100 % made by DC SWISS - guaranteed from the de-
velopment of the tool to its production and straight through to
the end control, thanks to our know-how and competencies in the
whole field of threading tool manufacturing.

UNSERE WERTE

LEISTUNG

Wir sind darin bestrebt, neue leistungsstarke Gewindewerkzeuge zu entwickeln und die Leistungsfähigkeit unserer Standardprodukte den aktuellen Bedürfnissen unserer Kunden anzupassen. Wir legen grossen Wert auf ein konstantes Preis- / Leistungsverhältnis, als Basis für eine vertrauensvolle Beziehung zu unseren Kunden.

OUR VALUES

PERFORMANCE

We make every effort to develop new high-performance threading tools and to adapt the performance of our standard tools to the current needs of our customers. We attach great importance to a constant price/performance ratio as the basis for a trusting relationship with our customers.



AUTOMOTIVE
AUTOMOTIVE

UHRENINDUSTRIE
WATCHMAKING

LUFT- UND RAUMFAHRT
AEROSPACE

MEDIZINTECHNIK
MEDICAL

SONDERLÖSUNGEN
CUSTOMISED SOLUTIONS



FACHKENNTNIS

Der Wert unserer Fachkenntnisse zeigt sich in unserer einzigartigen Art und Weise der Problemlösung, indem wir unser seit 1940 angesammeltes Fachwissen, unsere Erfahrungen und Kompetenzen zum Ausdruck bringen, diese miteinander verbinden und umsetzen.

KNOW-HOW

The value of our know-how represents in a unique way the solving of problems and articulates, implements and associates the whole knowledge, experiences and competences accumulated since 1940.

ZUVERLÄSSIGKEIT

Wir wissen, dass sich dauerhafte Beziehungen nur auf einem soliden Vertrauensverhältnis aufbauen lassen, basierend auf Transparenz und dem täglichen Engagement jedes einzelnen Mitarbeiters, unseren Kunden Werkzeuge und Dienstleistungen bester Qualität zu liefern.

RELIABILITY

We know that lasting relationships can only be built on the basis of confidence, transparency and the daily efforts of each of our employees to provide our customers with tools and services of an excellent quality.





GEWINDESCHNEIDEN
THREAD CUTTING



GEWINDEFORMEN
THREAD FORMING



LUFT- UND RAUMFAHRT
AEROSPACE



GEWINDEFRÄSEN
THREAD MILLING



AUTOMOTIVE
AUTOMOTIVE



MEDIZINTECHNIK
MEDICAL



SONDERLÖSUNGEN
CUSTOMISED SOLUTIONS

ENERGIEERZEUGUNG
POWER GENERATION



UHRENINDUSTRIE
WATCHMAKING



ALLGEMEINER MASCHINENBAU
GENERAL ENGINEERING



GEWINDEWIRBELN
THREAD WHIRLING



GEWINDELEHREN
THREAD GAUGES



GEWINDESCHNEIDFUTTER
TAPPING CHUCKS



GEWINDESCHNEIDEISEN
DIES



UNSERE KOMPETENZEN

KALIBRIEREN & MESSEN

DC SWISS besitzt eine eigene messtechnische Abteilung, die von der Schweizerischen Akkreditierungsstelle (SAS) als Kalibrierlaboratorium für die Messgrösse "Länge" zugelassen ist.

DC SWISS kann daher Dienstleistungen im Bereich Kalibrieren und Messen von Gewindeverbindungen anbieten.

Ein Zertifikat ist ein schriftlicher Nachweis über die Qualität der messtechnischen Ausrüstung des Unternehmens. Als Mitglied der DC SWISS Holding bietet Ihnen DC NANO TOOLS SA (Akkreditierung SCS 0143) die Prüfung und Kalibrierung von Gewindelehndornen und Gewindelehringen nach der internationalen Norm ISO 17025 an.

Unsere Werkzeuge sind das Ergebnis zahlreicher Studien, hoher Fachkompetenzen und langjähriger Erfahrung. Sie werden von uns kontinuierlich bis an ihre Leistungsgrenzen getestet. Dieses Know-how stellen wir Ihnen mit unseren Dienstleistungen zur Verfügung, damit Sie die beste Lösung für Ihre Anwendung erhalten – von der ersten Studie an bis zur Serienfertigung.

Wir beherrschen sämtliche Aspekte der Gewindeschneidtechnologie und stellen Ihnen gerne unsere umfassende Erfahrung auf diesem Gebiet zur Verfügung, sei es bei der Konstruktion, der Fertigung oder der messtechnischen Kontrolle auf den einzelnen Stufen des Fertigungsprozesses.

Konstruktion

Jede Konstruktion ist einzigartig. Für ihre Realisierung gibt es allerdings oft mehrere Lösungen. Wir beraten Sie bei der Auswahl der geeigneten Gewindeverbindung, unter anderem zum Einsatz einstellbarer Schrauben oder hochwertiger selbstsichernder Gewinde. Gemeinsam mit Ihren Konstrukteuren finden wir die für Ihr Projekt bestmögliche Lösung, die wichtige Aspekte wie Masse, Machbarkeit, Produktions- und Montagekosten berücksichtigt.

Fertigung

Jedes Gewindewerkzeug erfordert eine spezifische Programmierung unter Berücksichtigung zahlreicher Parameter. Wir helfen Ihnen bei der individuellen Einstellung Ihrer Maschinen und Werkzeuge, damit Sie optimale Fertigungsergebnisse erzielen können. Wir unterstützen Sie bei den erforderlichen Prüfungen und Messungen, sodass Sie sicher sein können, dass Ihre Gewinde exakt den Vorgaben entsprechen. Auch die perfekte Anpassung des Werkzeuges an Ihre Anforderungen ist für uns selbstverständlich. Probleme bei komplexen Geometrien oder atypischen Positionierungen lassen sich oft mit einer speziellen Werkzeugaufnahme lösen.

Messtechnik

Wir bieten Ihnen nicht nur eine umfangreiche Palette an Messlehren, sondern zeigen Ihnen auch, wie man sie korrekt verwendet und vor allem überprüft, um dauerhaft erstklassige Fertigungsergebnisse zu erzielen. Auch spezifischere Messinstrumente sind erhältlich, etwa zur Überprüfung des Rundlaufs, wie auch alle Zertifizierungen. Wir unterstützen Sie bei der Einrichtung Ihrer Prüfverfahren. Dieser kostenpflichtige Service ist für Flankendurchmesser von 0.1 bis 3.0 mm und für Aussendurchmesser von 0.1 bis 3.5 mm verfügbar. Gehen Sie keine Risiken ein, sondern nutzen Sie die Kompetenzen von DC NANO TOOLS SA für das Kalibrieren Ihrer Messinstrumente.

Aus- und Weiterbildung

In unserem Anwendungszentrum und unserem Labor bieten wir allen Kunden Einführungen in die Theorie und beste Praxis der Gewindeschneidtechnologie an – von der Konstruktion über die Fertigung bis zum Einsatz von Gewindeverbindungen. Auf Wunsch vertiefen wir diese Informationen in spezifischen Schulungen zu bestimmten Themen, wie beispielsweise die Sicherung von Gewindeverbindungen.

OUR EXPERTISE

CALIBRATION & METROLOGY SERVICE

DC SWISS has a metrology lab that is accredited by the Swiss Accreditation Service as a laboratory for calibrating lengths.

DC SWISS is able to offer a calibration and metrology service for screw connections.

A certificate is written confirmation of the quality of a company's metrological equipment. DC NANO TOOLS SA (SCS accreditation 0143), a member of the DC SWISS Group, can inspect and calibrate thread plug gauges as well as thread ring gauges in accordance with the ISO 17025 international standard.

Our tools are the result of numerous studies. We design them using all the knowledge we have acquired over many years, always testing them to their utmost limits. We share all this knowledge with you in the form of our services. Our aim is to provide the most appropriate solution in each case, from feasibility study right through to mass production.

We are experts in all aspects of the process of screw threading, and are able to offer you our assembly expertise from design, machining and metrological inspection through the various stages of creating screw connections.

Design expertise

Each design is unique, but there are often multiple solutions. We can advise you on which type of screw fixing to choose, for example adjustable, self-locking or high-quality screws. During the design phase, we can help your designers to identify and decide the best-performing screw fixing in terms of dimensions, practicality, production costs and assembly.

Machining expertise

Each tool calls for special programming involving numerous parameters. We can help you to get the best out of your machines and tools in order to achieve maximum performance via personalised programming. We can provide you with support in the inspection and measurement phase, so you can be sure of having produced the screw thread you were expecting. And if a tool needs to be customised, we can do this so that it meets all your requirements. Often, a particular approach to fitting makes it possible to resolve a problem caused by complex geometry or unusual positioning.

Metrological expertise

We supply a large number of measuring gauges and also advice on how to use and inspect them in order to ensure the required quality is consistently achieved. Other more specific measures are available, such as concentricity and certification measures. We can assist you in setting up control procedures. This service is available for pitch diameters of 0.1 to 3.0 mm, and external diameters of 0.1 to 3.5 mm. Don't take the risk — benefit from the expertise of DC NANO TOOLS SA to calibrate your measuring tools.

Training

In our application centre and our laboratory, we distribute full information and advice on best practice to all our customers in the design, manufacture and use of screw fixings. We can provide on-demand training in specific subjects such as secure fixings.



The management system of

DC Swiss SA

CP 363,
Grand rue 19
CH - 2735 Malleray



has been assessed and certified as meeting the requirements of

ISO 9001:2015

For the following activities

**Design, development, manufacturing, marketing, sales and distribution
of cutting tools. Expertise in threading technology.**

This certificate is valid from 19 June 2018 until 18 June 2021
and remains valid subject to satisfactory surveillance audits
Recertification audit due before 7 June 2021
Issue 6. Certified since September 2007

Authorised by

[Handwritten signature]

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Technoparkstrasse 1 8005 Zurich Switzerland
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REGISTER — REGISTER

 Gewindewirbeln Thread whirling				 Gewindefräsen Thread milling			
M GW1000 44 GW2000 47 GW3000 50 GWi3000 65 GWi5000 82 GWH3000 89 ZBGF 90 MJ GWi3000 67 MF GW3000 53 GWi3000 69 MJF GWi3000 71 UNC GW3000 56 GWi3000 73 GWi5000 83 ZBGF 91 UNJC GWi3000 75 UNF GW3000 59 GWi3000 77 GWi5000 84 ZBGF 92 UNJF GWi3000 79 S GW1000 45 GW2000 48 GW3000 62 GWi3000 81 GWi5000 85 SL GW1000 46 GW2000 49 GW3000 62				M GF 104 / 115 GFH 104 GFS 117 GFM 128 BGF 132 MF GF 107 / 115 GFS 120 GFM 128 BGF 135 UNC, UNF, UNEF, UN, UNS GF 109 / 116 GFS 122 GFM 129 G (BSP) GF 113 GFS 126 GFM 130 NPT, NPTF GF 114 GFS 127 GFM 131			
 Zentrierbohrer, Spiralbohrer Spotting drills, Twist drills							
C315VS 86 FZ315VS 87 F286VS 88							

REGISTER — REGISTER

 Gewindelehrdorne Thread plug gauges						 Gewindelehrringe Thread ring gauges			
M D5701-1 138 D5701-2 138 D5703 138 MF D5701-1 140 D5701-2 141 D5703 140 UNC D5701-1 144 D5703 144 UNF D5701-1 145 D5703 145 UNEF D5703 145 G D5701-1 146 D5701-2 146 D5703 146 PG D5725 146 NPT, NPTF D5720 147 EG M, EG UNC, EG UNF D5703 148						M D5704 139 D5714 139 MF D5704 142 D5714 142 UNC D5704 144 D5714 144 UNF D5704 145 D5714 145 UNEF D5704 145 D5714 145 G D5704 146 D5714 146 PG D5704 146 NPT, NPTF D5721 147			
M nano DN01 158 DN02 158 MF nano DN01 159 DN02 159 UNC nano DN01 160 DN02 160 UNF nano DN01 160 DN02 160 S nano DN01 161 DN02 161 SF nano DN01 163 DN02 163 SL nano DN01 163 DN02 163						M nano DZ04 164 DZ14 164 DN04 169 DN14 169 MF nano DZ04 165 DZ14 165 DN04 170 DN14 170 UNC nano DZ04 166 DZ14 166 DN04 171 DN14 171 UNF nano DZ04 166 DZ14 166 DN04 171 DN14 171 S nano DZ04 167 DZ14 167 DN04 172 DN14 172 SF nano DZ04 168 DZ14 168 DN04 173 DN14 173			
 Alle nano-Gewindelehrdorne sind SCS-zertifiziert und das kostenpflichtige Zertifikat auf Bestellung lieferbar. All nano thread plug gauges are SCS-certified and the paid certificate is available on request.						 Alle nano-Gewindelehrringe haben ein Prüfzertifikat, realisiert mit SCS-akkreditierten Prüf-Gewindelehrdornen. Das kostenpflichtige Prüfzertifikat ist auf Bestellung lieferbar. All nano ring gauges have a certificate of measurement, established with SCS certified plug check gauges. The paid certificate is available on request.			

REGISTER — REGISTER

	Prüfgewindelehndorne Thread plug check gauges		Kalibrier-Gewindelehndorne Calibration thread plug gauges
M nano RN05-1 174 RN15-1 174 RN05-2 179 RN15-2 179 MF nano RN05-1 175 RN15-1 175 RN05-2 180 RN15-2 180 UNC nano RN05-1 176 RN15-1 176 RN05-2 181 RN15-2 181 UNF nano RN05-1 176 RN15-1 176 RN05-2 181 RN15-2 181 S nano RN05-1 177 RN15-1 177 RN05-2 182 RN15-2 182 SF nano RN05-1 178 RN15-1 178 RN05-2 183 RN15-2 183		S nano EN00 186  Mit SCS-Zertifikat. SCS certificate included.	
			
		nano-Gewindelehren - Prüfmittel - SCS-Zertifikat Bestellformular für nano-Gewindelehren Micro-Safelock Härtevergleichstabelle Tabelle Zoll - mm Umrechnungstabelle Kernlochbohrungen Aussendurchmesser Technischer Fragebogen Liefer- und Zahlungsbedingungen Weitere Informationen finden Sie unter www.dcswiss.com	
	Abnutzungsprüfdorne Master plug gauges WEAR		
M nano RN05-3 184 RN15-3 184 MF nano RN05-3 185 RN15-3 185		nano-Thread gauges - Inspection devices - SCS Measurement certificate Order form for nano thread gauges Micro-Safelock Hardness chart Chart inches - mm Conversion table Core holes Turned diameters Technical questionnaire Delivery and payment conditions Further information are available on www.dcswiss.com	
 Mit SCS-Zertifikat. SCS certificate included.			

PIKTOGRAMME — PICTOGRAPHS

Vollhartmetall-Gewindewirbler, Gewindefräser, Bohrgewindefräser, Zirkular-Bohrgewindefräser, Zentrierbohrer und Spiralbohrer
Solid carbide thread whirler, thread milling cutters, thrillers, circular drill thread milling cutters, spotting drills and twist drills



Vollhartmetall
Solid carbide



DC-"VS"-Verschleisschutzschicht für den allgemeinen Einsatz
DC "VS" wear-protective coating for general use



DC-"VX"-Verschleisschutzschicht für rostfreie Stähle und Nickellegierungen
DC "VX" wear-protective coating for stainless steels and Nickel alloys



DC-"VH"-Verschleisschutzschicht für gehärtete Stähle (≤ 63 HRC)
DC "VH" wear-protective coating for tempered steels (≤ 63 HRC)



Schweizerische Uhrenindustrie-Norm
Norm of Swiss Watch Industry



Für Werkstoffe ≤ 63 HRC (GWH - GFH)
For materials ≤ 63 HRC (GWH - GFH)



Schafttoleranz h5 / h6
Shank tolerance h5 / h6



Schafttoleranz h5
Shank tolerance h5



Schafttoleranz h6
Shank tolerance h6



Rundlaufgenauigkeit
Shape accuracy



HSC-Bearbeitung
HSC-Machining



GW1000-Profil
GW1000 profile



GW2000-Profil
GW2000 profile



GW3000-Profil
GW3000 profile



GWi3000-Profil
GWi3000 profile



GWi5000-Profil
GWi5000 profile



Anzahl Zähne zur Programmierung (GWi5000)
Number of teeth for programming (GWi5000)



Für gratfreie Gewinde (GWi5000)
For burr-free threads (GWi5000)



Zirkular-Bohrgewindefräser-Profil
Circular drill thread milling cutter profile



Zirkular-Bohrgewindefräser mit Kühlkanal
Circular drill thread milling cutter with cooling channel



Innenkühlung mindestens 20 bar
Internal coolant min. 20 bar



Kühlkanal
Internal cooling channel



Kühlkanal (BGF, 2 Spannuten)
Internal cooling channel (BGF, 2 flutes)



Kühlkanal (BGF, 3 Spannuten)
Internal cooling channel (BGF, 3 flutes)



10° Rechtsspiralnuten
10° right-hand spiral flutes



15° Rechtsspiralnuten
15° right-hand spiral flutes



27° Rechtsspiralnuten
27° right-hand spiral flutes



27° Rechtsspiralnuten
27° right-hand spiral flutes



0° Drillwinkel (GWi5000 - GWH)
0° helix angle (GWi5000 - GWH)



10° Rechtsdrallwinkel
10° right-hand helix angle



3° Linksdrallwinkel (ZBGF)
3° left-hand helix angle (ZBGF)



Mit 45° Senker zum Anfasen des Gewindes
With 45° chamfer for countersinking



Radius auf Aussendurchmesser
Radius on external diameter



Kühlkanal GWi $\varnothing 0.8 - \leq 6.35$ mm
Cooling channel GWi $\varnothing 0.8 - \leq 6.35$ mm



Kühlkanal GWi $\varnothing > 6.35 - \leq 20$ mm
Cooling channel GWi $\varnothing > 6.35 - \leq 20$ mm



Konisches Gewinde 1:16 (NPT - NPTF)
Tapered thread 1:16 (NPT - NPTF)



Gewindelänge $2 \times D_1$
Thread length $2 \times D_1$



Gewindelänge $2.5 \times D_1$
Thread length $2.5 \times D_1$



Gewindelänge $3 \times D_1$
Thread length $3 \times D_1$



Gewindelänge $4 \times D_1$
Thread length $4 \times D_1$

PIKTOGRAMME — PICTOGRAPHS



Gewindelänge $1.5 \times D_1$
Thread length $1.5 \times D_1$



Gewindelänge $2 \times D_1$
Thread length $2 \times D_1$



Gewindelänge $2.5 \times D_1$
Thread length $2.5 \times D_1$



Innengewinde
Internal thread



Aussengewinde
External thread



Innengewinde (GW - GWi - GWH)
Internal thread (GW - GWi - GWH)



Sacklöcher (BGF)
Blind holes (BGF)



Durchgangslöcher (BGF)
Through holes (BGF)



BGF, 2 Spannnuten
BGF, 2 flutes



BGF, 3 Spannnuten
BGF, 3 flutes



EG-Gewinde
Thread EG (for wire screw thread inserts)



Kernlochdurchmesser
Core-hole diameter



Anzahl Spannnuten (Z)
Number of flutes (Z)



LH-rot. Werkzeugdrehrichtung "links"
Sense of rotation of tool "left"



Auf Anfrage
On request



Unvollständigen Gang entfernen (GF61 - GFH61),
Umstellung auf neue Ausführung im Gange
Removal of incomplete thread (GF61 - GFH61),
change to new version in progress



Fasenwinkel 90°
Chamfer 90°



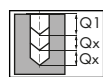
Bohrtiefe $5 \times d_1$
Drilling depth $5 \times d_1$



Bohrtiefe $6 \times d_1$
Drilling depth $6 \times d_1$



Bohrtiefe $8 \times d_1$
Drilling depth $8 \times d_1$



Tieflochbohren mit Entspannen
Drilling with pecking



130° Spitzenwinkel
 130° point angle



140° Spitzenwinkel
 140° point angle



30° Rechtsspiralnuten
 30° right-hand spiral flutes



Innenkühlung, mit 2 stirnseitigen Schmiermittelaustritten
Internal coolant, with 2 frontal outflows



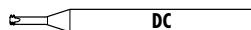
Innenkühlung, mit 2 gedrahten Kühlkanälen
Internal coolant, with 2 twisted coolant channels



Für Bohrtiefe $3 \times d_1$
For drilling depth $3 \times d_1$



Für Bohrtiefe $5 \times d_1$
For drilling depth $5 \times d_1$



Baumasse nach DC-Werksnorm
General dimensions as per DC standards



Schaftmasse nach DIN 6535 HA
Shank dimensions as per DIN 6535 HA

Bemerkung GFM



Zur Vermeidung grösserer Profilüberfräsungen darf der Fräser-Ø für Regelgewinde nicht grösser als $\frac{2}{3}$ (Feingewinde $\frac{3}{4}$) des zu fräsenden Gewinde-Ø sein.



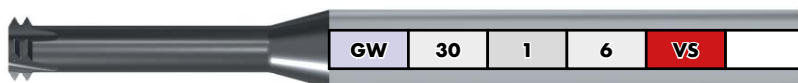
In order to avoid profile defects it is important that the tool diameter does not exceed $\frac{2}{3}$ of the diameter of the work-piece thread for coarse threads ($\frac{3}{4}$ for fine threads).

KODIERUNG — CODIFICATION

DC VHM-Gewindewirbler

DC Solid carbide thread whirl cutters

Beispiel - Example



Standardausführung	Standard execution	GW			
Für gehärteten Stahl (55 - ≤ 63 HRC)	For hardened steels (55 - ≤ 63 HRC)	GWH			
Mit Kühlkanal	With cooling channel	GWi			
Einzahn	Single tooth		11		
Mehrzahn-Einzelprofil	Single profile, multi toothed		20		
Mehrzahn-Doppelprofil	Double pitch with multi flutes		30		
Mehrzahn-Vollprofil	Multi fluted with full profile		50		
Aussenkühlung	External lubrication			1	
Innenkühlung	Internal lubrication			6	
Gewindelänge 2 x D _i	Thread length 2 x D _i				5
Gewindelänge 2.5 x D _i	Thread length 2.5 x D _i				6
Gewindelänge 3 x D _i	Thread length 3 x D _i				7
Gewindelänge 4 x D _i	Thread length 4 x D _i				9
VS-Verschleisschutzschicht, generell	VS wear-protective coating, general				VS
VX-Beschichtung für rostfreie Stähle und Nickelleg.	VX coating for stainless steels and Nickel alloys				VX
VH-Beschichtung für gehärtete Stähle (≤ 63 HRC)	VH coating for hardened steels (≤ 63 HRC)				VH
Spezialausführung	Special execution				SP

DC VHM-Zirkular-Bohrgewindefräser

DC Solid carbide circular drill thread milling cutters

Beispiel - Example



Standardausführung	Standard execution	ZBGF			
Spiralnuten 3°	Spiral flutes 3°		60		
Innenkühlung	Internal lubrication			6	
Gewindelänge 2 x D _i	Thread length 2 x D _i				5
Gewindelänge 3 x D _i	Thread length 3 x D _i				7
VS-Verschleisschutzschicht, generell	VS wear-protective coating, general				VS
Spezialausführung	Special execution				SP

KODIERUNG — CODIFICATION

DC VHM-Gewindefräser

DC Solid carbide thread milling cutters

Beispiel - Example



Standardausführung	Standard execution	GF					
Für gehärteten Stahl (55 - ≤ 63 HRC)	For hardened steels (55 - ≤ 63 HRC)	GFH					
Mit 45° Senkfase	With 45° chamfer for countersinking	GFS					
Polyvalenter Gewindefräser	For multi sizes thread milling cutters	GFM					
Bohrgewindefräser	Thrillers	BGF					
Spiralnuten 27° (GF61), 10° (GFH)	Spiral flutes 27° (GF61), 10° (GFH)			61			
Spiralnuten 15° (GF62, GFM62)	Spiral flutes 15° (GF62, GFM62)			62			
Spiralnuten 27° (GFS)	Spiral flutes 27° (GFS)			66			
Bohrgewindefräser zweilippig	Thrillers 2 flutes			67			
Bohrgewindefräser dreilippig	Thrillers 3 flutes			68			
Aussenkühlung	External lubrication				1		
Innenkühlung	Internal lubrication				6		
Gewindelänge 1.5 x D _i	Thread length 1.5 x D _i					0	
Gewindelänge 2 x D _i	Thread length 2 x D _i					5	
Gewindelänge 2.5 x D _i	Thread length 2.5 x D _i					6	
VS-Verschleisschutzschicht, generell	VS wear-protective coating, general						VS
VX-Beschichtung für rostfreie Stähle und Nickelleg.	VX coating for stainless steels and Nickel alloys						VX
VH-Beschichtung für gehärtete Stähle (≤ 63 HRC)	VH coating for hardened steels (≤ 63 HRC)						VH
Spezialausführung	Special execution						SP
Profil für Aussengewinde	Profile for external threads						EX

Bemerkung GFM



Zur Vermeidung grösserer Profilüberfräsungen darf der Fräser-Ø für Regelgewinde nicht grösser als $\frac{2}{3}$ (Feingewinde $\frac{3}{4}$) des zu fräsenden Gewinde-Ø sein.

Notice GFM



In order to avoid profile defects it is important that the tool diameter does not exceed $\frac{2}{3}$ of the diameter of the work-piece thread for coarse threads ($\frac{3}{4}$ for fine threads).

ANWENDUNGSGRUPPEN

Beispiele für Anwendungsgruppen

11 Automatenstahl 1.0711 9S20 1.0715 9SMn28 1.0718 9SMnPb28 1.0726 35S20 1.0737 9SMnPb36	12 Baustahl, Einsatzstahl 1.0037 St37-2 (S235JR) 1.0050 St50-2 (E295) 1.0060 St60-2 (E335) 1.5919 15CrNi6 1.7131 16MnCr5	13 Kohlenstoffstahl 1.0503 C45 1.0535 C55 1.0601 C60 1.1545 C105W1 1.2067 102Cr6 (100Cr6)	14 Stahl legiert < 850 N/mm ² 1.2363 X100CrMoV5-1 1.3551 80MoCrV42-16 1.7218 25CrMo4 1.7220 34CrMo4 1.7225 42CrMo4	15 Stahl legiert / vergütet > 850 - < 1150 N/mm ² 1.3553 X82WMoCrV6-5-4 1.6580 30CrNiMo8 1.7220 34CrMo4 1.7225 42CrMo4 1.8507 34CrAlMo5
16 Hochfester Stahl ≤ 44 HRC EN-GJS-1200-2 1.6582 34CrNiMo6v 1.7225 42CrMo4v 1.7228 50CrMo4v 1.8515 31CrMo12v	17 Stahl vergütet > 44 - ≤ 54 HRC > 44 - ≤ 54 HRC	18 Stahl gehärtet > 54 - ≤ 63 HRC > 54 - ≤ 63 HRC	21 Rostfreier Stahl, geschwefelt 1.4005 X12CrS13 1.4104 X14CrMoS17 1.4305 X10CrNiS18-9	22 Austenitisch 1.4301 X5CrNi18-10 1.4406 X2CrNiMoN17-12-2 1.4435 X2CrNiMo18-14-3 1.4541 X6CrNiTi18-10 1.4571 X6CrNiMoTi17-12-2
23 Ferritisch, martensitisch < 850 N/mm ² 1.4112 X90CrMoV18 1.4540 X4CrNiCuNb16-4 1.4582 X4CrNiMoNb25-7 1.4762 X10CrAl24 1.4922 X20CrMo11-1	24 Ferritisch, martensitisch > 850 - < 1150 N/mm ² 1.4057 X17CrNi17-2 1.4125 X105CrMo17 1.4542 X5CrNiCuNb16-4 1.4548 X5CrNiCuNb17-4-4 1.4748 X85CrMoV18-2	31 Grauguss 0.6015 GG15 0.6020 GG20 0.6025 GG25 0.6030 GG30	32 Kugelgraphitguss, Temperguss 0.7040 GGG40 0.7043 GGG40.3 0.7050 GGG50 0.7060 GGG60 0.7080 GGG80	41 Reintitan 3.7024 Grad1 3.7034 Grad2 3.7055 Grad3 3.7065 Grad4
42 Titanlegierung 3.7124 TiCu2.5 TiAl7Nb 3.7164 TiAl6V4 (Grad5) 3.7174 TiAl6V6Sn2	51 Nickellegierung 1 ≤ 850 N/mm ² 1.3912 Ni36 (Invar) 2.4360 NiCu30Fe (Monel 400) 2.4816 NiCr15Fe (Inconel 600) 1.4876 X10NiCrAlTi32-20	52 Nickellegierung 2 > 850 - ≤ 1150 N/mm ² 2.4375 NiCu30Al (Monel K500) 2.4631 NiCr20TiAl (Nimonic 80) 2.4668 NiCr19NbMo (Inconel 718)	53 Nickellegierung 3 > 1150 - ≤ 1600 N/mm ² 2.4631 NiCr20TiAl (Nimonic 80) 2.4668 NiCr19NbMo (Inconel 718)	61 Reinkupfer (Elektrolytkupfer) 2.0060 E-Cu57 (E-Cu)
62 Messing, Bronze, Rotguss (kurzspanend) 2.0401 CuZn39Pb3 (Ms58) 2.0402 CuZn40Pb2 (Ms58) 2.1030 CuSn8 (Bz) 2.1096 G-CuSn5ZnPh	63 Messing (langspanend) 2.0240 CuZn15 (Ms85) 2.0265 CuZn30 (Ms70) 2.0321 CuZn37 (Ms63)	71 Al unlegiert 3.0205 Al99 3.0255 Al99.5	72 Al legiert Si < 1.5 % 3.1255 AlCuSiMn 3.1355 AlCuMg2 3.2315 AlMgSi1 3.3206 AlMgSi0.5 3.4345 AlZnMgCu0.5	73 Al legiert Si > 1.5 % - < 10 % 3.2161 G-AlSi8Cu3 3.2162 G-AlSi8Cu3 3.2341 G-AlSi5Mg 3.2371 G-AlSi7Mg
74 Al legiert Si > 10 %, Mg-Legierungen 3.2381 G-AlSi10Mg 3.2382 G-AlSi10Mg 3.2581 G-AlSi12 3.2583 G-AlSi12 (Cu)	81 Thermoplaste Delrin (POM) Teflon Nylon	82 Duroplaste Bakelit Novopan	83 Faserverstärkte Kunststoffe Glasfaserverstärkte Thermo- und Duroplaste	Referenz: DIN
91 Gelbgold 2N18 Au585AgCu205 3N18 Au917AgCu44	92 Rotgold 4N18 5N18 Au585CuAg325 Au750AgCu Au917Cu83	93 Weissgold Au750PdCu125 Au750PdCu150 Au585PdCu150 Au925Pd75	94 Silber Ag999 Ag800Cu Ag925Cu	

APPLICATION GROUPS

Examples for application groups

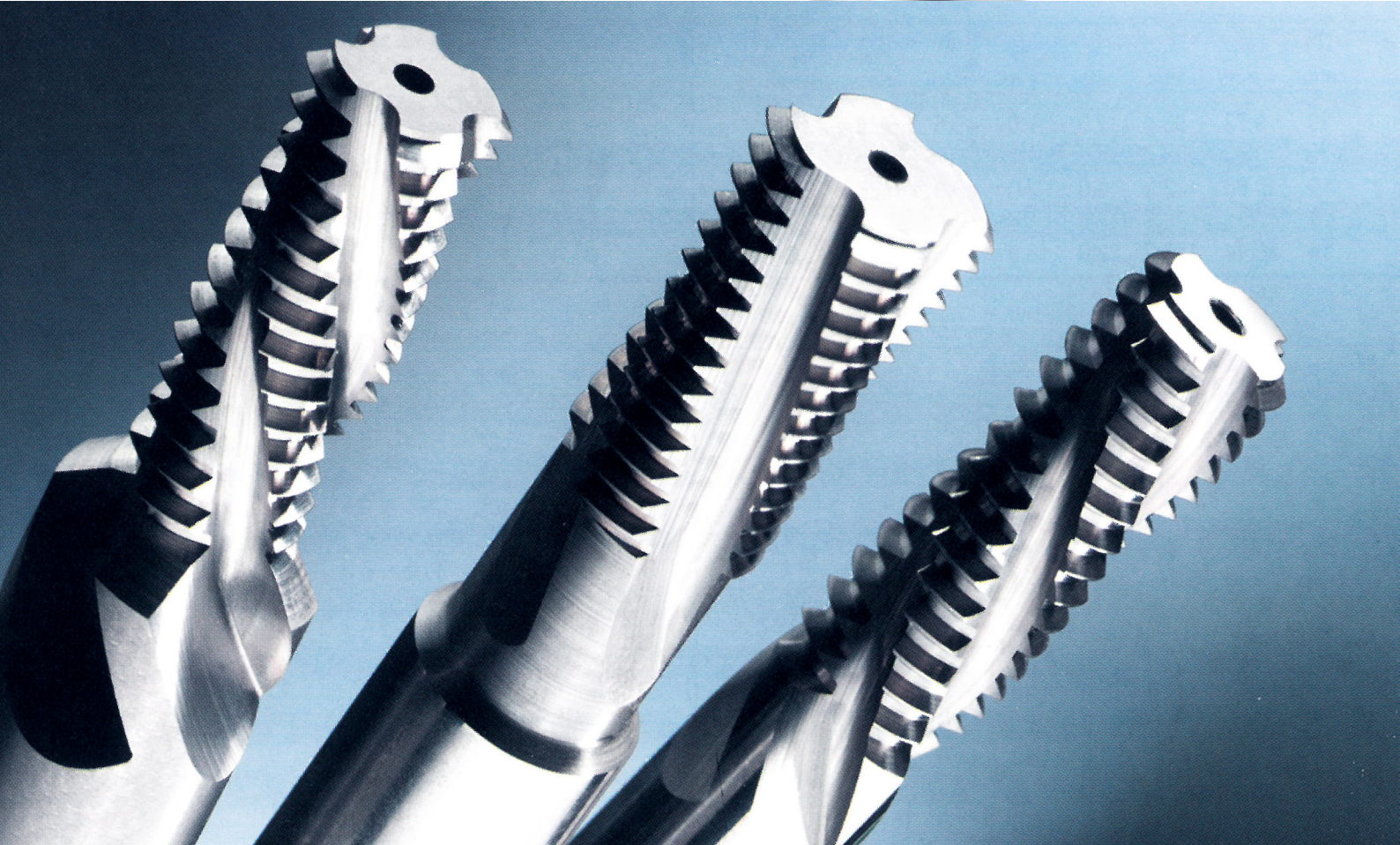
11 Free-cutting steels 1.07111212 1.07151213 1.071812L13 1.07261140 1.073712L14	12 Structural, cementation steels 1.00371015 1.0050A570 Gr.50 1.0060A572 Gr.65 1.59193115 1.71315115	13 Carbon steels 1.05031045 1.05351055 1.06011060 1.1545W110 1.2067L 3	14 Alloy steels < 850 N/mm2 1.2363A2 1.3551M50 1.72184130 1.72204135 1.72254140	15 Alloy steels hard./temp. > 850 - < 1150 N/mm2 1.3553- 1.65804340 1.72204135 1.72254140 1.8507A355CLD (K23510)
16 High tensile alloy steels ≤ 44 HRC EN-GJS-1200-2 1.65824340 1.72254140 1.72284150 1.8515-	17 Alloy steels tempered > 44 - ≤ 54 HRC > 44 - ≤ 54 HRC	18 Alloy steels hardened > 54 - ≤ 63 HRC > 54 - ≤ 63 HRC	21 Free machining stainless steels 1.4005416 1.4104430F 1.4305303	22 Austenitic stainless steels 1.4301304 1.4406316LN 1.4435316L 1.4541321 1.4571316Ti
23 Ferritic and martensitic < 850 N/mm2 1.4112440B 1.4540XM12 (15-5PH) 1.4582- 1.4762446 1.48214922	24 Ferritic and martensitic > 850 - < 1150 N/mm2 1.4057431 1.4125440C 1.4542630 (17-4PH) 1.4748-	31 Cast iron 0.6015A48-25B 0.6020A48-30B 0.6025A48-40B 0.6030A48-45B	32 Spheroidal graphite + malleable cast iron 0.704060-40-18 0.7043- 0.705065-45-12 0.706080-55-06 0.7080120-90-02	41 Pure titanium 3.7024Gr.1 3.7034Gr.2 3.7055Gr.3 3.7065Gr.4
42 Titanium alloys 3.7124Alloy 230 F-1295 3.7164Gr.5 3.7174-	51 Nickel alloys 1 ≤ 850 N/mm2 1.3912K93600 2.4360N04400 1.4816N08800	52 Nickel alloys 2 > 850 - ≤ 1150 N/mm2 2.4375N05500 (B865) 2.4631N07080 (B637) 2.4668N07718 (B637)	53 Nickel alloys 3 > 1150 - ≤ 1600 N/mm2 2.4631N07080 (B637) 2.4668N07718 (B637)	61 Pure copper (electrolytic copper) 2.0060C11000
62 Short chip brass, phosphor bronze, gun metal 2.0401C38500 2.0402C37800 2.1030C52100 2.1096-	63 Long chip brass 2.0240C23000 2.0265C26000 2.0321C27200	71 Al unalloyed 3.02051200 3.02551050A	72 Al alloyed Si < 1.5 % 3.12552014 3.13552024 3.23156082 3.32066060 3.43457020	73 Al alloyed Si > 1.5 % - < 10 % 3.2161380.1 3.2162- 3.2341- 3.2371A 356.2
74 Al alloyed Si > 10 %, Mg-alloys 3.2381A360 3.2382- 3.2581A413 3.2583413.1	81 Thermoplastics Delrin (POM) Teflon Nylon	82 Duroplastics Bakelit Novopan	83 Glass fibre reinforced plastics Glass fibre reinforced, Thermo and Duroplastics	Reference: AISI/ASTM/UNS
91 Yellow gold 2N18 Au585AgCu205 3N18 Au917AgCu44	92 Red gold 4N18 5N18 Au585CuAg325 Au750AgCu Au917Cu83	93 White gold Au750PdCu125 Au750PdCu150 Au585PdCu150 Au925Pd75	94 Silver Ag999 Ag800Cu Ag925Cu	

SPEZIALAUSFÜHRUNGEN

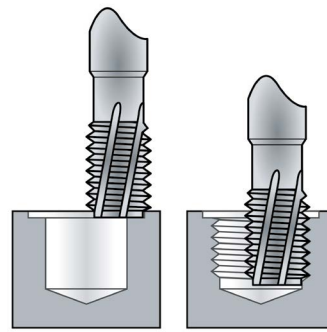
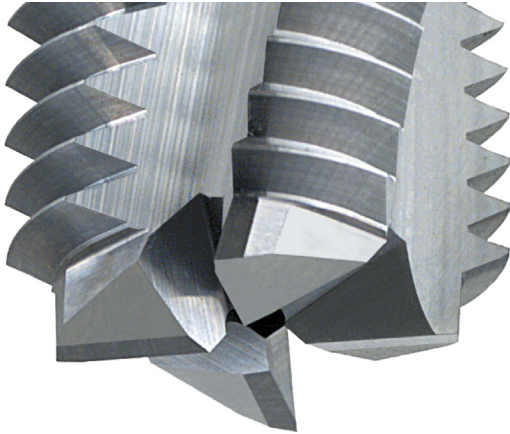
Wir bieten Ihnen ein breites Standardprogramm an, basierend auf den heutigen technischen Standards und den allgemeinen Bedürfnissen unserer Kunden. Sollten Sie in unserem Standardprogramm nicht das für das von Ihnen zu bearbeitende Werkstück geeignete Gewindewerkzeug finden, unterbreiten wir Ihnen gerne ein Angebot für das für Ihren Anwendungsfall passende Werkzeug.

SPECIAL EXECUTIONS

We offer you a wide range of standard products, based on today's technical standards and the general needs of our customers. If you should not find in our standard programme the right tool for your workpiece to be machined, we will gladly make you an offer for the custom-made threading tool in special execution, adapted to your application.

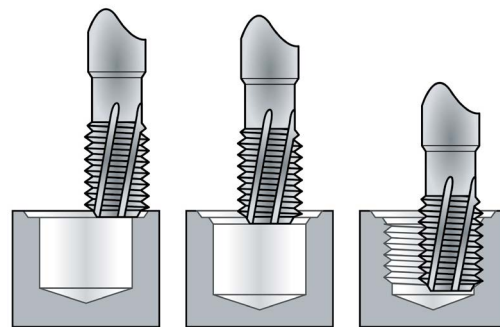
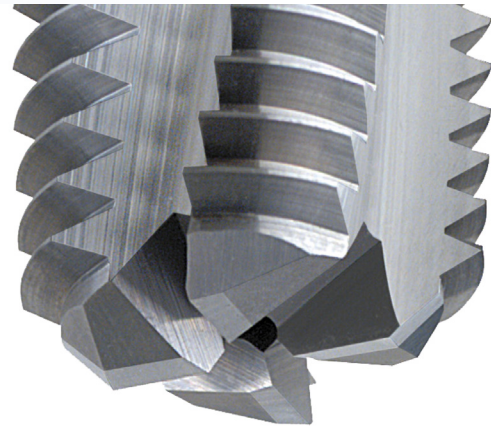


GFMS



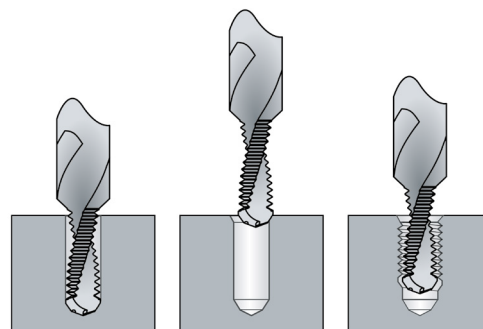
Stirnschneider
Spot facing cutter

GFMS



Stirnschneider + Zirkularschneider mit 45° Fase
Spot facing cutter + circular cutter with 45° bevel

BGFS

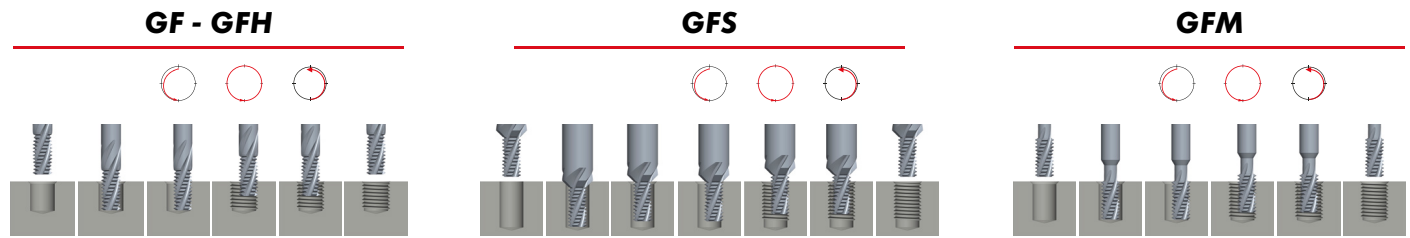


Zirkularschneider mit 45°-Senkfase
With 45° circular chamfer for countersinking

ANWENDUNGSTABELLE GF - GFH - GFS - GFM

APPLICATION CHART GF - GFH - GFS - GFM

Programmierzklus für Gewindefräser GF - GFH - GFS - GFM
Programming cycle for thread milling cutters GF - GFH - GFS - GFM



DC Anwendungstabelle für Gewindefräser DC Application chart for thread milling cutters

Werkstoff-Gruppen Material groups		Werkstoffbezeichnung Material designation		Härte Hardness (HB)	Festigkeit Tensile strength Rm (N/mm²)	Kühlung Lubricant		
						Standard Standard	Beschichtet Coated	
10	Stahl Steels	11	Automatenstahl	Free-cutting steels	< 200	< 700		
		12	Baustahl, Einsatzstahl	Structural, cementation steels	< 200	< 700		
		13	Kohlenstoffstahl	Carbon steels	< 300	< 1000		
		14	Stahl legiert < 850 N/mm²	Alloy steels < 850 N/mm²	< 250	< 850		
		15	Stahl legiert / vergütet > 850 - < 1150 N/mm²	Alloy steels hard. / temp. > 850 - < 1150 N/mm²	> 250	> 850		
		16	Hochfester Stahl ≤ 44 HRC	High tensile alloy steels ≤ 44 HRC	> 250	> 850		
		17	Stahl vergütet > 44 - ≤ 54 HRC	Alloy steels tempered > 44 - ≤ 54 HRC	> 410	> 1400		
		18	Stahl gehärtet > 54 - ≤ 63 HRC	Alloy steels hardened > 54 - ≤ 63 HRC	> 560	> 1980		 A
20	Rostfreier Stahl Stainless steels	21	Rostfreier Stahl, geschwefelt	Free machining stainless steels	< 250	< 850		
		22	Austenitisch	Austenitic stainless steels	< 250	< 850		
		23	Ferritisch, martensitisch < 850 N/mm²	Ferritic and martensitic < 850 N/mm²	< 250	< 850		
		24	Ferritisch, martensitisch > 850 - < 1150 N/mm²	Ferritic and martensitic > 850 - < 1150 N/mm²	> 250	> 850		
30	Guss Cast iron	31	Grauguss	Cast iron	< 250	< 850		 A
		32	Kugelgraphitguss, Temperguss	Spheroidal graphite + malleable cast iron	< 250	< 850		
40	Titan Titanium	41	Reintitan	Pure titanium	< 250	< 850		
		42	Titanlegierung	Titanium alloys	> 250	> 850		
50	Nickel Nickel	51	Nickellegierung 1 ≤ 850 N/mm²	Nickel alloys 1 ≤ 850 N/mm²	< 250	< 850		
		52	Nickellegierung 2 > 850 - ≤ 1150 N/mm²	Nickel alloys 2 > 850 - ≤ 1150 N/mm²	> 250	> 850		
		53	Nickellegierung 3 > 1150 - ≤ 1600 N/mm²	Nickel alloys 3 > 1150 - ≤ 1600 N/mm²	> 340	> 1150		
60	Kupfer Copper	61	Reinkupfer (Elektrolytkupfer)	Pure copper (electrolytic copper)	< 120	< 400		
		62	Messing, Bronze, Rotguss (kurzspanend)	Short chip brass, phosphor bronze, gun metal	< 200	< 700	 A	 A
		63	Messing (langspanend)	Long chip brass	< 200	< 700		
70	Aluminium Magnesium	71	Al unlegiert	Al unalloyed	< 100	< 350		
		72	Al legiert Si < 1.5 %	Al alloyed Si < 1.5 %	< 150	< 500		
	Aluminium Magnesium	73	Al legiert Si > 1.5 % - < 10 %	Al alloyed Si > 1.5 % - < 10 %	< 120	< 400		
		74	Al legiert Si > 10 %, Mg-Legierungen	Al alloyed Si > 10 %, Mg-alloys	< 120	< 400		
80	Kunststoff Plastic compounds	81	Thermoplaste	Thermoplastics	-	-		
		82	Duroplaste	Duroplastics	-	-		
		83	Faserverstärkte Kunststoffe	Glass fibre reinforced plastics	-	-		 A
90	Edelmetalle Precious metals	91	Gelbgold	Yellow gold	-	-		
		92	Rotgold	Red gold	-	-		
		93	Weissgold	White gold	-	-		
		94	Silber	Silver	-	-		

Optimal mit Schneidöl
Optimal with cutting oil

Geeignet mit Schneidöl
Suitable with cutting oil

Optimal mit Emulsion
Optimal with emulsion

Geeignet mit Emulsion
Suitable with emulsion

GF - GFH - GFS - GFM

GF - GFH - GFS - GFM												
GF611x		GF616x		GF621x GF626x		GFH611x	GFS661x		GFS666x		GFM626x	
												
VS		VS		VS		VH	VS		VS		VS	

Vc (m/min)		VS		VS		VS		VH		VS		VS		VS		
Standard Standard	Beschichtet Coated	Vorschub fz (mm/Zahn)						Milling fz (mm/tooth)								
	80-150		0.04-0.15		0.04-0.15	0.04-0.15				0.04-0.15			0.04-0.15		0.04-0.15	11
	60-120		0.04-0.15		0.04-0.15	0.04-0.15				0.04-0.15			0.04-0.15		0.04-0.15	12
	60-120		0.02-0.10		0.02-0.10	0.02-0.10				0.02-0.10			0.02-0.10		0.02-0.10	13
	60-120		0.02-0.10		0.02-0.10	0.02-0.10				0.02-0.10			0.02-0.10		0.02-0.10	14
	50-90		0.02-0.08		0.02-0.08	0.02-0.08				0.02-0.08			0.02-0.08		0.02-0.08	15
	30-60		0.01-0.05		0.01-0.05	0.01-0.05		0.01-0.05		0.01-0.05			0.01-0.05		0.01-0.05	16
	30-50		0.008-0.035		0.008-0.035	0.008-0.035		0.008-0.035		0.008-0.035			0.008-0.035		0.008-0.035	17
	20-40							0.005-0.02								18
	50-90		0.02-0.10		0.02-0.10	0.02-0.10				0.02-0.10			0.02-0.10		0.02-0.10	21
	30-60		0.01-0.05		0.01-0.05	0.01-0.05				0.01-0.05			0.01-0.05		0.01-0.05	22
	50-90		0.02-0.08		0.02-0.08	0.02-0.08				0.02-0.08			0.02-0.08		0.02-0.08	23
	30-60		0.01-0.05		0.01-0.05	0.01-0.05				0.01-0.05			0.01-0.05		0.01-0.05	24
	80-150		0.05-0.15		0.05-0.15	0.05-0.15		0.05-0.15		0.05-0.15			0.05-0.15		0.05-0.15	31
	80-120		0.02-0.10		0.02-0.10	0.02-0.10				0.02-0.10			0.02-0.10		0.02-0.10	32
40-70	60-100	0.02-0.08	0.02-0.08	0.02-0.08	0.02-0.08	0.02-0.08			0.02-0.08	0.02-0.08	0.02-0.08	0.02-0.08	0.02-0.08	0.02-0.08	0.02-0.08	41
20-40	30-60	0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.05			0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.05	42
	30-60		0.02-0.08		0.02-0.08	0.02-0.08				0.02-0.08			0.02-0.08		0.02-0.08	51
	30-60		0.02-0.08		0.02-0.08	0.02-0.08				0.02-0.08			0.02-0.08		0.02-0.08	52
	20-30		0.005-0.02		0.005-0.02	0.005-0.02				0.005-0.02			0.005-0.02		0.005-0.02	53
	200-250		0.05-0.15		0.05-0.15	0.05-0.15				0.05-0.15			0.05-0.15		0.05-0.15	61
150-200	200-250	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15		0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	62
150-200	200-250	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15			0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	63
100-250	100-250	0.05-0.20	0.05-0.20	0.05-0.20	0.05-0.20	0.05-0.20			0.05-0.20	0.05-0.20	0.05-0.20	0.05-0.20	0.05-0.20	0.05-0.20	0.05-0.20	71
100-250	100-250	0.05-0.20	0.05-0.20	0.05-0.20	0.05-0.20	0.05-0.20			0.05-0.20	0.05-0.20	0.05-0.20	0.05-0.20	0.05-0.20	0.05-0.20	0.05-0.20	72
	100-250		0.05-0.20		0.05-0.20	0.05-0.20				0.05-0.20			0.05-0.20		0.05-0.20	73
	100-250		0.05-0.15		0.05-0.15	0.05-0.15				0.05-0.15			0.05-0.15		0.05-0.15	74
100-200	100-200	0.05-0.20	0.05-0.20	0.05-0.20	0.05-0.20	0.05-0.20			0.05-0.20	0.05-0.20	0.05-0.20	0.05-0.20	0.05-0.20	0.05-0.20	0.05-0.20	81
50-100	50-100	0.04-0.15	0.04-0.15	0.04-0.15	0.04-0.15	0.04-0.15			0.04-0.15	0.04-0.15	0.04-0.15	0.04-0.15	0.04-0.15	0.04-0.15	0.04-0.15	82
	60-80		0.04-0.15		0.04-0.15	0.04-0.15		0.04-0.15		0.04-0.15			0.04-0.15		0.04-0.15	83
50-100	100-150	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15			0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	91
50-90	90-120	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15			0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	0.05-0.15	92
	30-50		0.05-0.15		0.05-0.15	0.05-0.15				0.05-0.15			0.05-0.15		0.05-0.15	93
	90-120		0.05-0.15		0.05-0.15	0.05-0.15				0.05-0.15			0.05-0.15		0.05-0.15	94

A Optimal mit Luft
Optimal with air

A Geeignet mit Luft
Suitable with air

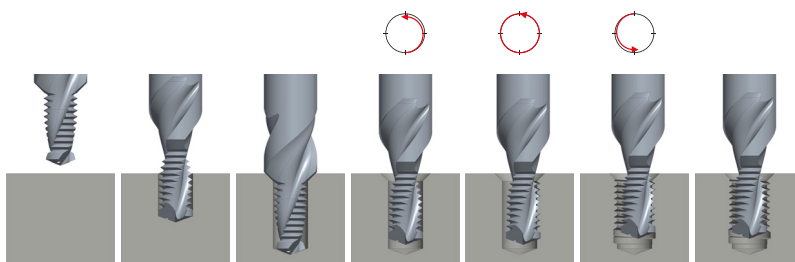
Bei den oben aufgeführten Daten handelt es sich um Richtwerte.
The indicated values are a guideline.



ANWENDUNGSTABELLE BGF — APPLICATION CHART BGF

Programmierzklus für Bohrgewindefräser BGF

Programming cycle for thrillers BGF



DC Anwendungstabelle für Bohrgewindefräser DC Application chart for thrillers

	Werkstoff-Gruppen Material groups	Werkstoffbezeichnung Material designation	Härte Hardness (HB)	Festigkeit Tensile strength Rm (N/mm ²)	Kühlung Lubricant	
					Standard Standard	Beschichtet Coated
10	Stahl Steels	11 Automatenstahl	Free-cutting steels	< 200	< 700	
		12 Baustahl, Einsatzstahl	Structural, cementation steels	< 200	< 700	
		13 Kohlenstoffstahl	Carbon steels	< 300	< 1000	
		14 Stahl legiert < 850 N/mm ²	Alloy steels < 850 N/mm ²	< 250	< 850	
		15 Stahl legiert / vergütet > 850 - < 1150 N/mm ²	Alloy steels hard. / temp. > 850 - < 1150 N/mm ²	> 250	> 850	
		16 Hochfester Stahl ≤ 44 HRC	High tensile alloy steels ≤ 44 HRC	> 250	> 850	
		17 Stahl vergütet > 44 - ≤ 54 HRC	Alloy steels tempered > 44 - ≤ 54 HRC	> 410	> 1400	
		18 Stahl gehärtet > 54 - ≤ 63 HRC	Alloy steels hardened > 54 - ≤ 63 HRC	> 560	> 1980	
20	Rostfreier Stahl Stainless steels	21 Rostfreier Stahl, geschwefelt	Free machining stainless steels	< 250	< 850	
		22 Austenitisch	Austenitic stainless steels	< 250	< 850	
		23 Ferritisch, martensitisch < 850 N/mm ²	Ferritic and martensitic < 850 N/mm ²	< 250	< 850	
		24 Ferritisch, martensitisch > 850 - < 1150 N/mm ²	Ferritic and martensitic > 850 - < 1150 N/mm ²	> 250	> 850	
30	Guss Cast iron	31 Grauguss	Cast iron	< 250	< 850	OE
		32 Kugelgraphitguss, Temperguss	Spheroidal graphite + malleable cast iron	< 250	< 850	OE
40	Titan Titanium	41 Reintitan	Pure titanium	< 250	< 850	
		42 Titanlegierung	Titanium alloys	> 250	> 850	
50	Nickel Nickel	51 Nickellegierung 1 ≤ 850 N/mm ²	Nickel alloys 1 ≤ 850 N/mm ²	< 250	< 850	
		52 Nickellegierung 2 > 850 - ≤ 1150 N/mm ²	Nickel alloys 2 > 850 - ≤ 1150 N/mm ²	> 250	> 850	
		53 Nickellegierung 3 > 1150 - ≤ 1600 N/mm ²	Nickel alloys 3 > 1150 - ≤ 1600 N/mm ²	> 340	> 1150	
60	Kupfer Copper	61 Reinkupfer (Elektrolytkupfer)	Pure copper (electrolytic copper)	< 120	< 400	
		62 Messing, Bronze, Rotguss (kurzspanend)	Short chip brass, phosphor bronze, gun metal	< 200	< 700	OE OE
		63 Messing (langspanend)	Long chip brass	< 200	< 700	OE OE
70	Aluminium Magnesium Aluminium Magnesium	71 Al unlegiert	Al unalloyed	< 100	< 350	OE OE
		72 Al legiert Si < 1.5 %	Al alloyed Si < 1.5 %	< 150	< 500	OE OE
		73 Al legiert Si > 1.5 % - < 10 %	Al alloyed Si > 1.5 % - < 10 %	< 120	< 400	OE OE
		74 Al legiert Si > 10 %, Mg-Legierungen	Al alloyed Si > 10 %, Mg-alloys	< 120	< 400	OE OE
80	Kunststoff Plastic compounds	81 Thermoplaste	Thermoplastics	-	-	
		82 Duroplaste	Duroplastics	-	-	
		83 Faserverstärkte Kunststoffe	Glass fibre reinforced plastics	-	-	E
90	Edelmetalle Precious metals	91 Gelbgold	Yellow gold	-	-	OE OE
		92 Rotgold	Red gold	-	-	
		93 Weissgold	White gold	-	-	
		94 Silber	Silver	-	-	

Optimal mit Schneidöl
Optimal with cutting oil

Geeignet mit Schneidöl
Suitable with cutting oil

Optimal mit Emulsion
Optimal with emulsion

Geeignet mit Emulsion
Suitable with emulsion

BGF					
					
Vc (m/min)		VS		VS	
Standard Standard	Beschichtet Coated	Bohrvorschub f (mm/U)	Drilling f (mm/rev.)	Fräsvorschub fz (mm/Zahn)	Milling fz (mm/tooth)
					11
					12
					13
					14
					15
					16
					17
					18
					21
					22
					23
					24
	80-150		0.10-0.30		0.05-0.15
	80-120		0.10-0.20		0.02-0.10
					41
					42
					51
					52
					53
					61
100-200	150-300	0.10-0.40	0.10-0.40	0.05-0.20	0.05-0.20
100-200	150-300	0.10-0.40	0.10-0.40	0.05-0.20	0.05-0.20
100-200	150-300	0.10-0.40	0.10-0.40	0.05-0.20	0.05-0.20
100-200	150-300	0.10-0.40	0.10-0.40	0.05-0.20	0.05-0.20
100-200	150-300	0.10-0.40	0.10-0.40	0.05-0.20	0.05-0.20
100-200	150-250	0.10-0.30	0.10-0.30	0.05-0.15	0.05-0.15
					81
					82
	80-120		0.10-0.20		0.02-0.10
100-200	150-300	0.10-0.40	0.10-0.40	0.05-0.20	0.05-0.20
					91
					92
					93
					94

A Optimal mit Luft
Optimal with air

A Geeignet mit Luft
Suitable with air

Bei den aufgeführten Daten handelt es sich um Richtwerte.

The indicated values are a guideline.

Technische Hinweise

△ Die Bearbeitung von langspanenden Werkstoffen verlangt ein mehrmaliges Unterbrechen des Bohrzyklus zum Entfernen der Späne.

△ Bitte wenden Sie sich an DC SWISS SA wenn Sie die Bohrgewindefräser in andere Werkstoffe einsetzen möchten.

Technical notes

△ When machining long chipping materials, they may require deburring operations.

△ Please ask DC SWISS SA before using BGF type thrillers in materials where no cutting data is given.

Inhaltsverzeichnis - VHM-Gewindefräser Typ GF
Directory - Solid carbide thread milling cutters type GF

		GF											
Typ Type		GF6110 GF6110VS		GF6160 GF6160VS		GF6115 GF6115VS		GF6165 GF6165VS		GF6116 GF6116VS		GF6166 GF6166VS	
Beschichtung Coating		VS		VS		VS		VS		VS		VS	
													
Gewindelänge Thread length													
Merkmale Characteristics				 				 				 	
M	ISO DIN 13	104				105		105		106		106	
MF	ISO DIN 13	107						108				108	
UNC	ASME B1.1	109						110				110	
UNF	ASME B1.1	111						112				112	
UN	ASME B1.1												
UNEF	ASME B1.1												
UNS	ASME B1.1												
G (BSP)	DIN EN ISO 228							113				113	
NPT	ASME B1.20.1			114									
NPTF	ANSI B1.20.3			114									

Inhaltsverzeichnis - VHM-Gewindefräser Typ GF - GFH und GFS
Directory - Solid carbide thread milling cutters type GF - GFH and GFS

		GF		GFH	GFS							
Typ Type		GF6215VS	GF6265VS	GFH6110VH	GFS6610	GFS6610VS	GFS6660	GFS6660VS	GFS6615	GFS6615VS	GFS6665	GFS6665VS
Beschichtung Coating		VS	VS	VH	VS		VS		VS		VS	
												
Gewindelänge Thread length												
Merkmale Characteristics				 HRC ≤ 63								
M	ISO DIN 13	115	115	104	117		117		118		118	
MF	ISO DIN 13	115	115		120		120		121		121	
UNC	ASME B1.1	116	116		122		122		123		123	
UNF	ASME B1.1	116	116		124		124		125		125	
UN	ASME B1.1											
UNEF	ASME B1.1											
UNS	ASME B1.1											
G (BSP)	DIN EN ISO 228						126				126	
NPT	ASME B1.20.1						127					
NPTF	ANSI B1.20.3						127					

Inhaltsverzeichnis - VHM-Gewindefräser Typ GFS und GFM
Directory - Solid carbide thread milling cutters type GFS and GFM

	GFS		GFM
Typ Type	GFS6616 GFS6616VS	GFS6666 GFS6666VS	GFM6260 GFM6260VS
Beschichtung Coating	VS		VS
			
Gewindelänge Thread length			
Merkmale Characteristics			
M ISO DIN 13	119	119	128
MF ISO DIN 13			128
UNC ASME B1.1			129
UNF ASME B1.1			129
UN ASME B1.1			129
UNEF ASME B1.1			129
UNS ASME B1.1			129
G (BSP) DIN EN ISO 228			130
NPT ASME B1.20.1			131
NPTF ANSI B1.20.3			131

Inhaltsverzeichnis - VHM-Bohrgewindefräser Typ BGF

Directory - Solid carbide thrillers type BGF

	BGF									
Typ Type	BGF6760 BGF6760VS		BGF6765 BGF6765VS		BGF6766 BGF6766VS		BGF6865 BGF6865VS		BGF6866 BGF6866VS	
Beschichtung Coating	VS		VS		VS		VS		VS	
										
Gewindelänge Thread length										
Merkmale Characteristics										
M ISO DIN 13	132		133		133		134		134	
MF ISO DIN 13	135		135							

Formel zur Berechnung des "Fräsvorschubes"

$$\begin{aligned} \text{Vorschub} & V_{fK} = f_z \times Z \times n \\ \text{Vorschub der Werkzeugmitte} & V_{fM} = \frac{V_{fK} \times (\text{Nenndurchmesser des Gewindes} - \text{Fräserdurchmesser})}{\text{Nenndurchmesser des Gewindes}} \end{aligned}$$

Auf CNC-Maschinen, die den Vorschub der Werkzeugmitte nicht automatisch berechnen, muss der Wert "Vorschub Werkzeugmitte V_{fM} " berücksichtigt werden.

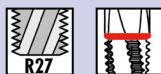
Thread milling feed rates

$$\begin{aligned} \text{Feed rate} & V_{fK} = f_z \times Z \times n \\ \text{Feed rate of the tool middle} & V_{fM} = \frac{V_{fK} \times (\text{nominal thread } \varnothing - \varnothing \text{ of the thread milling cutter})}{\text{nominal thread } \varnothing} \end{aligned}$$

On CNC machines, which do not calculate for themselves the feed rate at the tool-centre, the value "centre of the tool V_{fM} " must be considered.

GF - GFH

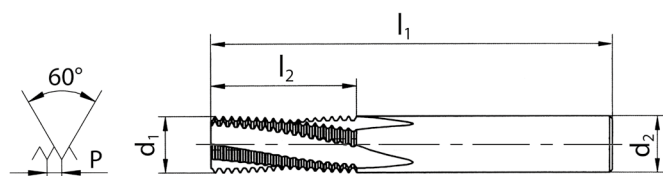
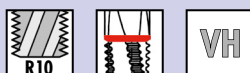
GF6110



GF6110VS



GFH6110VH



GF6110



GF6110VS



GFH6110VH



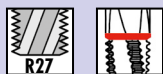
HRC
≤ 63



Ø D ₁ M	P mm	d ₁ mm	l ₁ mm	l ₂ mm	d ₂ mm	GF	GFH		ID	ID	ID
2	0.4	1.5	48	3.4	6	2		1.6	● 125233	● 115993	
2.5	0.45	1.9	48	4.3	6	3		2.05	● 150565	● 152124	
3	0.5	2.3	48	5.3	6	3	3	2.5	● 125660	● 116395	● 150072
3.5	0.6	2.7	48	6.3	6	3		2.9	● 116350	● 135217	
4	0.7	3	48	7.4	6	3	3	3.3	● 125944	● 116396	● 150073
5	0.8	3.8	48	9.2	6	3	4	4.2	● 126158	● 116397	● 150074
6	1	4.5	54	10.5	6		4	5			● 150075
8	1.25	5.95	54	13.1	6		5	6.8			● 150076
10	1.5	7.95	64	17.3	8		5	8.5			● 150077
12	1.75	9.95	74	20.1	10		5	10.2			● 151326

GF

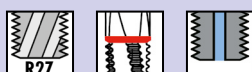
GF6115



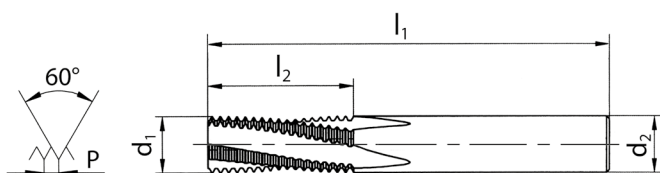
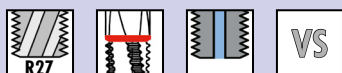
GF6115VS



GF6165



GF6165VS



GF6115



GF6115VS



GF6165



GF6165VS



$\emptyset D_1$ M	P mm	d_1 mm	l_1 mm	l_2 mm	d_2 mm		
4	0.7	3	48	8.8	6	3	3.3
5	0.8	3.8	48	10.8	6	3	4.2
6	1	4.5	54	13.5	6	3	5
8	1.25	5.95	54	18.1	6	3	6.8
10	1.5	7.95	64	21.8	8	4	8.5
12	1.75	9.95	72	25.4	10	4	10.2
14	2	9.95	74	31	10	4	12
16	2	11.95	80	35	12	4	14
18	2.5	13.95	90	41.3	14	4	15.5
20							17.5

ID

ID

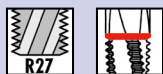
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ID

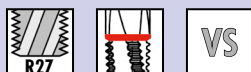
● 146298	● 146969		
● 146299	● 146970		
● 146300	● 146971	● 126350	● 116398
● 146321	● 146972	● 126586	● 116399
● 146322	● 146973	● 124836	● 116400
		● 116342	● 116401
		● 125066	● 116402
		● 125114	● 115990
		● 125229	● 116403

GF

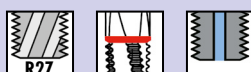
GF6116



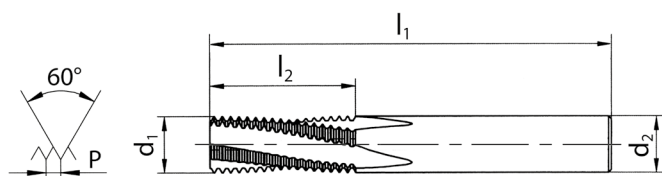
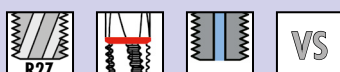
GF6116VS



GF6166



GF6166VS



GF6116



GF6116VS



GF6166



GF6166VS



$\emptyset D_1$ M	P mm	d_1 mm	l_1 mm	l_2 mm	d_2 mm		
4	0.7	3	48	10.9	6	3	3.3
5	0.8	3.8	48	13.2	6	3	4.2
6	1	4.5	54	16.5	6	3	5
8	1.25	5.95	54	21.9	6	3	6.8
10	1.5	7.95	64	26.3	8	4	8.5
12	1.75	9.95	74	32.4	10	4	10.2
14	2	9.95	74	37	10	4	12
16	2	11.95	90	43	12	4	14
18	2.5	13.95	105	53.8	14	4	15.5
20							17.5

ID

ID

ID

ID

● 155365

● 155370

● 155366

● 155371

● 155367

● 155372

● 155375

● 155382

● 155368

● 155373

● 155376

● 155383

● 155369

● 155374

● 155377

● 155384

● 155378

● 155385

● 155379

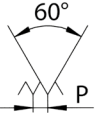
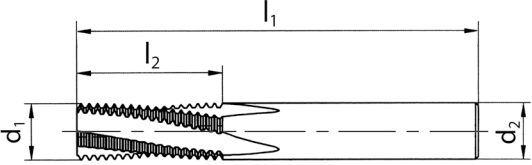
● 155386

● 155380

● 155387

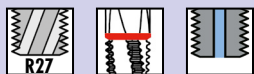
● 155381

● 155388

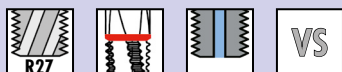
GF									GF6110	GF6110VS		
GF6110   GF6110VS   												
 												
												
$\emptyset D_1$ MF	P mm	d_1 mm	l_1 mm	l_2 mm	d_2 mm				ID	ID		
4	0.5	3	48	7.3	6	3	3.5		● 135218	● 135219		
5	0.5	3.8	48	8.8	6	3	4.5		● 135069	● 135220		

GF

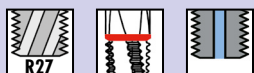
GF6165



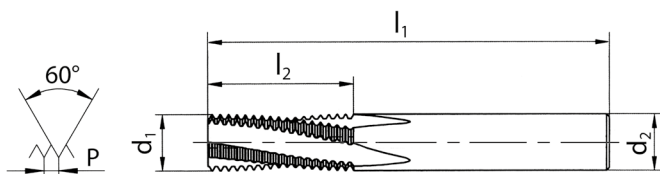
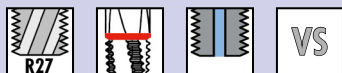
GF6165VS



GF6166



GF6166VS



GF6165



GF6165VS



GF6166



GF6166VS



Ø D ₁ MF	P mm	d ₁ mm	l ₁ mm	l ₂ mm	d ₂ mm		
6	0.5	4.5	54	12.8	6	3	5.5
6	0.75	4.5	54	13.1	6	3	5.25
8	0.5	5.95	54	17.8	6	3	7.5
8	0.75	5.95	54	16.9	6	3	7.25
8	1	5.95	54	17.5	6	3	7
10	1	7.95	64	21.5	8	4	9
10	1.25	7.95	64	21.9	8	4	8.8
12	1	9.95	72	25.5	10	4	11
12	1.5	9.95	72	26.3	10	4	10.5

ID

ID

● 135221	● 135222
● 123664	● 123665
● 135002	● 135223
● 143110	● 135224
● 124239	● 116404
● 119986	● 116405
● 120102	● 116406
● 120303	● 116407
● 120392	● 120393

Ø D ₁ MF	P mm	d ₁ mm	l ₁ mm	l ₂ mm	d ₂ mm		
6	0.5	4.5	54	15.8	6	3	5.5
6	0.75	4.5	54	16.1	6	3	5.25
8	0.5	5.95	54	20.8	6	3	7.5
8	0.75	5.95	54	20.6	6	3	7.25
8	1	5.95	54	21.5	6	3	7
10	1	7.95	64	26.5	8	4	9
10	1.25	7.95	64	26.9	8	4	8.8
12	1	9.95	74	31.5	10	4	11
12	1.5	9.95	74	32.3	10	4	10.5

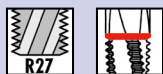
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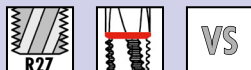
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● 155390	● 155399
* 155391	* 155400
● 155392	● 155401
* 155393	* 155402
● 155394	● 155403
* 155395	* 155404
● 155396	● 155405
● 155397	● 155406

GF

GF6110

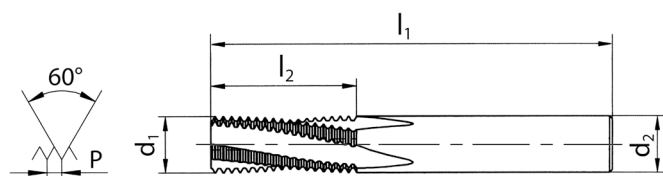


GF6110VS



GF6110

GF6110VS



Ø" D ₁ UNC	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	d ₂ mm		
10	24	3.6	48	10.1	6	3	3.8
12	24	4.1	48	10.1	6	3	4.4
1/4	20	4.8	54	12.1	6	3	5.1

ID

ID

• 135225

• 135226

• 135227

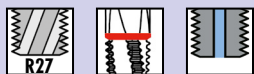
• 135228

• 135229

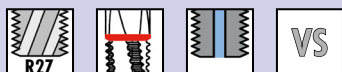
• 135230

GF

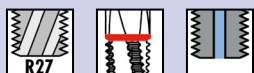
GF6165



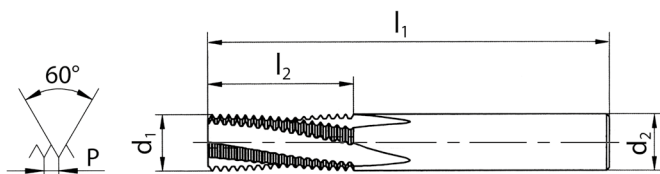
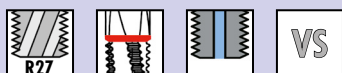
GF6165VS



GF6166



GF6166VS



GF6165



GF6165VS



GF6166



GF6166VS



Ø" D ₁ UNC	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	d ₂ mm		
1/4	20	4.8	54	14.6	6	3	5.1
5/16	18	5.95	54	17.6	6	3	6.5
3/8	16	7.1	64	21.5	8	4	8
7/16	14	7.95	64	24.5	8	4	9.3
1/2	13	9.95	72	28.4	10	4	10.8

ID

ID

* 155407

* 155408

● 116047

● 135231

● 135232

● 135233

* 116049

* 135234

* 135235

* 135236

Ø" D ₁ UNC	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	d ₂ mm		
1/4	20	4.8	54	17.1	6	3	5.1
5/16	18	5.95	54	21.9	6	3	6.5
3/8	16	7.1	64	26.2	8	4	8
7/16	14	7.95	64	29.9	8	4	9.3
1/2	13	9.95	74	34.2	10	4	10.8

ID

ID

● 155409

● 155414

● 155410

● 155415

● 155411

● 155416

● 155412

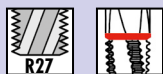
● 155417

● 155413

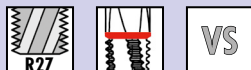
● 155418

GF

GF6110

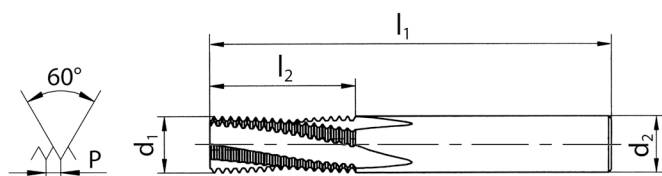


GF6110VS



GF6110

GF6110VS



Ø" D ₁ UNF	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	d ₂ mm		
10	32	3.6	48	8.3	6	3	4.05
12	28	4.1	48	9.5	6	3	4.6
1/4	28	4.8	54	11.3	6	3	5.5

ID

ID

• 128659

• 135237

• 135238

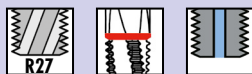
• 135239

• 135240

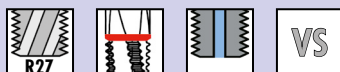
• 135176

GF

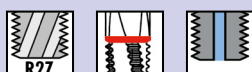
GF6165



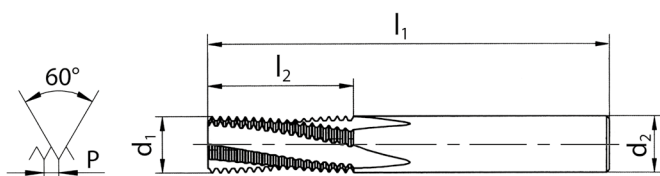
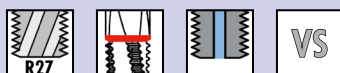
GF6165VS



GF6166



GF6166VS



GF6165



GF6165VS



GF6166



GF6166VS



Ø" D ₁ UNF	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	d ₂ mm		
1/4	28	4.8	54	14.1	6	3	5.5
5/16	24	5.95	54	17.5	6	3	6.9
3/8	24	7.1	64	20.6	8	4	8.5
7/16	20	7.95	64	24.8	8	4	9.8
1/2	20	9.95	72	27.3	10	4	11.4

ID

ID

● 155419	● 155420
● 135242	● 135243
● 135182	● 135245
● 135246	● 135247
● 135183	● 135249

Ø" D ₁ UNF	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	d ₂ mm		
1/4	28	4.8	54	16.8	6	3	5.5
5/16	24	5.95	54	20.6	6	3	6.9
3/8	24	7.1	64	24.9	8	4	8.5
7/16	20	7.95	64	28.6	8	4	9.8
1/2	20	9.95	74	33.7	10	4	11.4

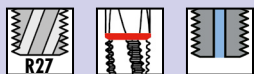
ID

ID

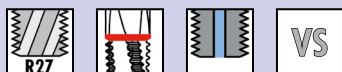
● 155421	● 155426
● 155422	● 155427
● 155423	● 155428
● 155424	● 155429
● 155425	● 155430

GF

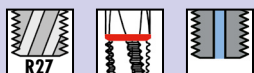
GF6165



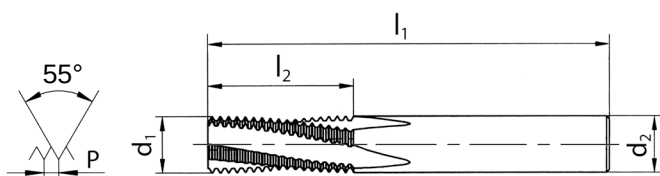
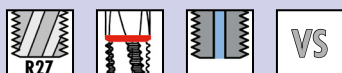
GF6165VS



GF6166



GF6166VS



$\frac{\text{Ø}}{\text{G}}$ D ₁	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	d ₂ mm		
1/8	28	7.95	64	21.3	8	4	8.75
1/4	19	9.95	72	28.7	10	4	11.6
3/8	19	13.6	80	35.4	14	4	15.2

$\frac{\text{Ø}}{\text{G}}$ D ₁	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	d ₂ mm		
1/8	28	7.95	64	24.9	8	4	8.75
1/4	19	9.95	74	34.1	10	4	11.6
3/8	19	13.6	90	43.4	14	4	15.2

GF6165



GF6165VS



GF6166



GF6166VS



ID

ID

119347	116409
119292	116410
119678	116411

ID

ID

155431	155434
155432	155435
155433	155436

NPT, NPTF

ASME B1.20.1
ANSI B1.20.3

VHM
CAR

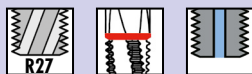


HB
HE

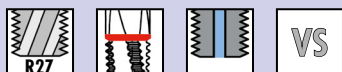
sur demande
auf Anfrage
on request
su richiesta
sobre pedido

GF

GF6160

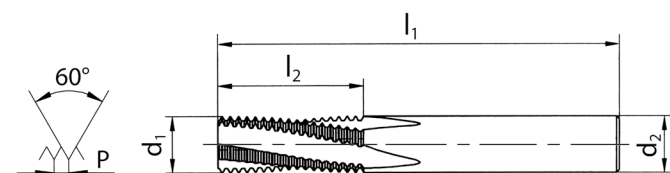


GF6160VS



GF6160

GF6160VS



Ø" D ₁ NPT	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	d ₂ mm	
1/8	27	7.3	64	9.9	8	4
1/4	18	9.95	72	14.8	12	4
3/8	18	12.5	80	14.8	14	4
1/2	14	14.7	90	19.1	16	4

ID

ID

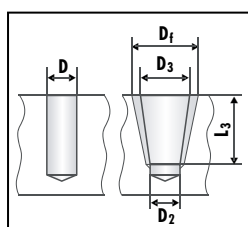
● 116371	● 116435
● 135250	● 135251
● 135252	● 135253
● 155437	● 155438

Ø" D ₁ NPTF	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	d ₂ mm	
1/8	27	7.3	64	9.9	8	4
3/8	18	12.5	80	14.8	12	4
1/2	14	14.7	90	19.1	14	4

ID

ID

★ 135254	
★ 135258	★ 135259
★ 155439	★ 155440



		Vorbereitung Core hole			
Ø" D ₁	D	D ₂	NPT NPTF	D ₃ (+0.05)	
1/8	8.5	8.3	8.74	8.76	
1/4	11.0	10.8	11.36	11.40	
3/8	14.5	14.2	14.80	14.84	
1/2	17.9	17.5	18.32	18.33	

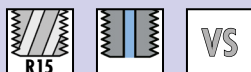
		Fräsen Milling	
D _f	L ₃		
9.81	6.92		
12.99	10.02		
16.41	10.33		
20.37	13.57		

GF

GF6215VS

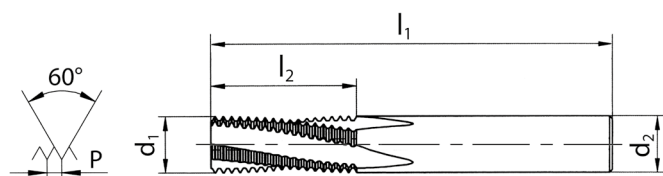


GF6265VS



GF6215VS

GF6265VS



Ø D ₁ M	P mm	d ₁ mm	l ₁ mm	l ₂ mm	d ₂ mm		
4	0.7	3	48	8.8	6	3	3.3
5	0.8	3.8	48	10.8	6	3	4.2
6	1	4.5	54	13.5	6	3	5
8	1.25	5.95	54	18.1	6	3	6.8
10	1.5	7.95	64	21.8	8	4	8.5
12	1.75	9.95	72	25.4	10	4	10.2
14	2	9.95	74	31	10	4	12
16	2	11.95	80	35	12	4	14
18	2.5	13.95	90	43.8	14	4	15.5
20	2.5	13.95	90	43.8	14	4	17.5

ID

ID

• 196068	
• 196069	
• 196070	• 196080
• 196071	• 196081
• 196072	• 196082
• 196073	• 196083
	• 196084
	• 196085
	• 196086
	• 196087

Ø D ₁ MF	P mm	d ₁ mm	l ₁ mm	l ₂ mm	d ₂ mm		
6	0.75	4.5	54	13.1	6	3	5.25
8	1	5.95	54	17.5	6	3	7
10	1	7.95	64	21.5	8	4	9
10	1.25	7.95	64	21.9	8	4	8.8
12	1	9.95	72	25.5	10	4	11
12	1.5	9.95	72	26.3	10	4	10.5
14	1.5	9.95	74	30.8	10	4	12.5
16	1.5	11.95	80	33.8	12	4	14.5
18	1.5	13.95	90	42.8	14	4	16.5
20	1.5	13.95	90	42.8	14	4	18.5

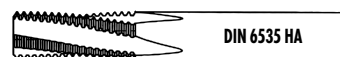
ID

ID

• 196090	• 196099
• 196091	• 196100
• 196092	• 196101
• 196093	• 196102
	• 197113
• 196094	• 196103
	• 196104
	• 196105
	• 196106
	• 196107

UNC, UNF ASME B1.1

VHM
CAR



HB
HE

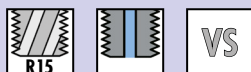
sur demande
auf Anfrage
on request
su richiesta
sobre pedido

GF

GF6215VS

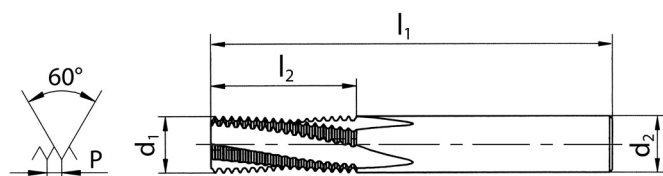


GF6265VS



GF6215VS

GF6265VS



Ø" D ₁ UNC	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	d ₂ mm		
8	32	3.1	48	9.1	6	3	3.4
10	24	3.6	48	10.1	6	3	3.8
1/4	20	4.8	54	14.6	6	3	5.1
5/16	18	5.95	54	17.6	6	3	6.5
3/8	16	7.1	64	21.5	8	4	8
7/16	14	7.95	64	24.5	8	4	9.3
1/2	13	9.95	72	28.4	10	4	10.8
5/8	11	11.95	80	35.8	12	4	13.6
3/4	10	13.95	90	41.9	14	4	16.6

ID

ID

• 196109

• 196110

• 196111

• 196118

• 196112

• 196119

• 196113

• 196120

• 196114

• 196121

• 196115

• 196122

• 196123

• 196124

Ø" D ₁ UNF	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	d ₂ mm		
10	32	3.6	48	8.3	6	3	4.05
1/4	28	4.8	54	14.1	6	3	5.5
5/16	24	5.95	54	17.5	6	3	6.9
3/8	24	7.1	64	20.6	8	4	8.5
7/16	20	7.95	64	24.8	8	4	9.8
1/2	20	9.95	72	27.3	10	4	11.4
5/8	18	11.95	80	34.6	12	4	14.5
3/4	16	13.95	90	40.5	14	4	17.5

ID

ID

• 196125

• 196126

• 196133

• 196127

• 196134

• 196128

• 196135

• 196129

• 196136

• 196130

• 196137

• 196138

• 196139

GFS

GFS6610



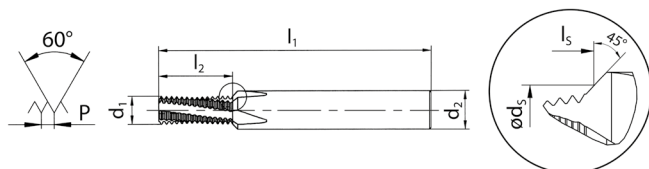
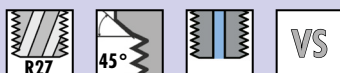
GFS6610VS



GFS6660



GFS6660VS



GFS6610



GFS6610VS



GFS6660



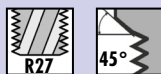
GFS6660VS



Ø D ₁ M	P mm	d ₁ mm	l ₁ mm	l ₂ mm	l ₃ mm	d ₂ mm	d ₃ mm			ID	ID	ID	ID
2	0.4	1.5	48	3.4	3.7	2.1	6	2	1.6	* 135331	* 135332		
2.5	0.45	1.9	48	4.3	4.6	2.6	6	3	2.05	* 155441	* 155443		
3	0.5	2.3	48	5.3	5.7	3.1	6	3	2.5	● 135333	● 135334		
3.5	0.6	2.7	48	5.7	6.2	3.6	6	3	2.9	* 155442	* 155444		
4	0.7	3	48	7.4	7.9	4.1	6	3	3.3	● 135335	● 135336		
5	0.8	3.8	54	9.2	9.9	5.1	6	3	4.2	● 135337	● 135338		
6	1	4.5	62	10.5	11.4	6.2	8	3	5	● 135339	● 116175		
8	1.25	5.95	74	13.1	14.3	8.2	10	3	6.8			● 135340	● 116172
10	1.5	7.95	80	17.3	18.4	10.3	12	4	8.5			● 135341	● 116173
12	1.75	9.95	90	20.1	21.3	12.3	14	4	10.2			* 135342	* 116174
14	2	10.8	102	25	26.8	14.4	16	4	12			* 135343	* 135344
16	2	12.8	102	27	28.8	16.4	18	4	14			* 135345	* 135346
18	2.5	13.95	125	33.8	36	18.5	25	4	15.5			* 135347	* 135348
20					37	20.5			17.5				

GFS

GFS6615



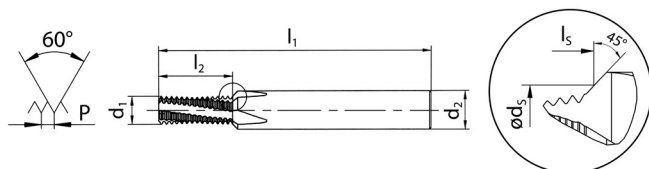
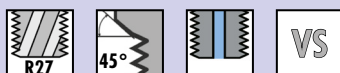
GFS6615VS



GFS6665



GFS6665VS



GFS6615



GFS6615VS



GFS6665



GFS6665VS



Ø D ₁ M	P mm	d ₁ mm	l ₁ mm	l ₂ mm	l ₃ mm	d ₂ mm	d ₂ mm			ID	ID	ID	ID
2	0.4	1.5	48	4.6	4.9	2.1	6	2	1.6	* 135349	* 135350		
2.5	0.45	1.9	48	5.6	6	2.6	6	3	2.05	* 155445	* 155447		
3	0.5	2.3	48	6.8	7.2	3.1	6	3	2.5	● 125661	● 135351		
3.5	0.6	2.7	48	7.5	8	3.6	6	3	2.9	* 155446	* 147108		
4	0.7	3	48	8.8	9.3	4.1	6	3	3.3	● 125946	● 135352		
5	0.8	3.8	54	10.8	11.5	5.1	6	3	4.2	● 126160	● 116178		
6	1	4.5	62	13.5	14.4	6.2	8	3	5	● 126352	● 135353	● 155524	● 155525
8	1.25	5.95	74	18.1	19.3	8.2	10	3	6.8			● 126587	● 116343
10	1.5	7.95	80	21.8	22.9	10.3	12	4	8.5			* 124837	* 135354
12	1.75	9.95	90	25.4	26.6	12.3	14	4	10.2			* 124973	* 135355
14	2	10.8	102	31	32.8	14.4	16	4	12			* 125067	* 135356
16	2	12.8	102	35	36.8	16.4	18	4	14			* 125116	* 135357
18	2.5	13.95	125	41.3	43.5	18.5	25	4	15.5				* 135358
20					44.5	20.5			17.5				

GFS

GFS6616



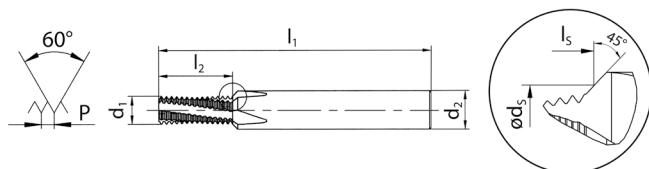
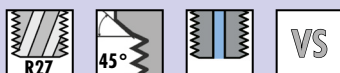
GFS6616VS



GFS6666



GFS6666VS



GFS6616



GFS6616VS



GFS6666



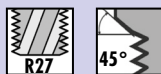
GFS6666VS



Ø D ₁ M	P mm	d ₁ mm	l ₁ mm	l ₂ mm	l ₃ mm	d ₃ mm	d ₂ mm			ID	ID	ID	ID
3	0.5	2.3	48	8.3	8.7	3.1	6	3	2.5	● 155448	● 155452		
4	0.7	3	48	10.9	11.4	4.1	6	3	3.3	● 155449	● 155453		
5	0.8	3.8	54	13.2	13.9	5.1	6	3	4.2	● 155450	● 155454		
6	1	4.5	62	16.5	17.4	6.2	8	3	5	★ 155451	★ 155455	● 155456	● 155463
8	1.25	5.95	74	21.9	23	8.2	10	3	6.8			● 155457	● 155464
10	1.5	7.95	80	26.3	27.4	10.3	12	4	8.5			● 155458	● 155465
12	1.75	9.95	90	32.4	33.6	12.3	14	4	10.2			★ 155459	★ 155466
16	2	12.8	102	43	44.8	16.4	18	4	14			★ 155461	★ 155468

GFS

GFS6610



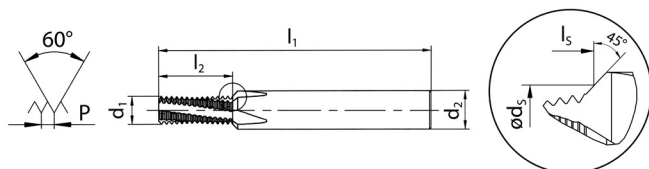
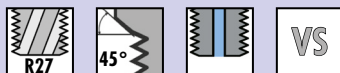
GFS6610VS



GFS6660



GFS6660VS



GFS6610



GFS6610VS



GFS6660



GFS6660VS



Ø D ₁ MF	P mm	d ₁ mm	l ₁ mm	l ₂ mm	l _s mm	d _i mm	d ₂ mm			ID	ID	ID	ID
4	0.5	3	48	7.3	7.8	4.1	6	3	3.5	* 135359	* 135360		
5	0.5	3.8	54	8.8	9.4	5.1	6	3	4.5	* 135361	* 135362		
6	0.5	4.5	62	9.8	10.6	6.2	8	3	5.5	* 135363	* 135364		
6	0.75	4.5	62	10.1	11	6.2	8	3	5.25	* 135365	* 135366		
8	0.5	5.95	74	12.8	13.9	8.2	10	3	7.5			* 135367	* 135368
8	0.75	5.95	74	13.1	14.3	8.2	10	3	7.25			* 135369	* 135370
8	1	5.95	74	13.5	14.6	8.2	10	3	7			* 135371	* 135372
10	1	7.95	80	16.5	17.7	10.3	12	4	9			* 135373	* 135374
10	1.25	7.95	80	16.9	18.1	10.3	12	4	8.8			* 135375	* 135376
12	1	9.95	90	19.5	20.7	12.3	14	4	11			* 135377	* 135378
12	1.5	9.95	90	20.3	21.4	12.3	14	4	10.5			* 135379	* 135380
14	1.5	10.8	102	23.3	25.1	14.4	16	4	12.5			* 135381	* 135382
16	1.5	12.8	102	26.3	28.1	16.4	18	4	14.5			* 135383	* 135384

GFS

GFS6615



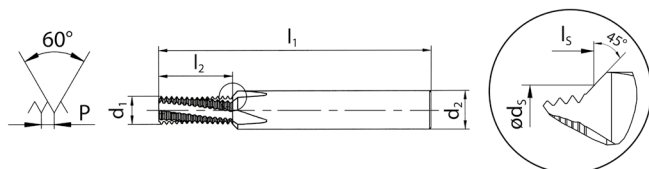
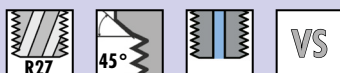
GFS6615VS



GFS6665



GFS6665VS



GFS6615



GFS6615VS



GFS6665



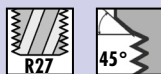
GFS6665VS



Ø D ₁ MF	P mm	d ₁ mm	l ₁ mm	l ₂ mm	l ₃ mm	d ₂ mm	d ₃ mm			ID	ID	ID	ID
4	0.5	3	48	8.8	9.3	4.1	6	3	3.5	● 135385	● 135386		
5	0.5	3.8	54	10.8	11.4	5.1	6	3	4.5	● 135387	● 135388		
6	0.5	4.5	62	12.8	13.6	6.2	8	3	5.5	★ 135389	★ 135390		
6	0.75	4.5	62	13.1	14	6.2	8	3	5.25	★ 135391	★ 135392		
8	0.5	5.95	74	17.8	18.9	8.2	10	3	7.5			★ 135393	★ 135394
8	0.75	5.95	74	16.9	18	8.2	10	3	7.25			● 135395	● 135396
8	1	5.95	74	17.5	18.6	8.2	10	3	7			★ 135397	★ 135398
10	1	7.95	80	21.5	22.7	10.3	12	4	9			★ 135399	★ 135400
10	1.25	7.95	80	21.9	23.1	10.3	12	4	8.8			★ 135401	★ 135402
12	1	9.95	90	25.5	26.7	12.3	14	4	11			★ 135403	★ 135404
12	1.5	9.95	90	26.3	27.4	12.3	14	4	10.5			★ 135405	★ 135406
14	1.5	10.8	102	30.8	32.6	14.4	16	4	12.5			★ 135407	★ 135408
16	1.5	12.8	102	33.8	35.6	16.4	18	4	14.5			● 135409	● 135410

GFS

GFS6610



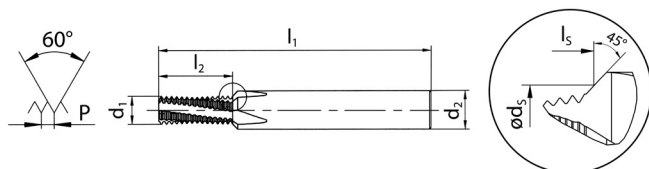
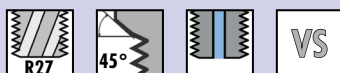
GFS6610VS



GFS6660



GFS6660VS



GFS6610



GFS6610VS



GFS6660



GFS6660VS



Ø" D ₁ UNC	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	l ₃ mm	d ₂ mm	d ₂ mm			ID	ID	ID	ID
12	24	4.1	54	10.1	10.8	5.6	6	3	4.4	* 135422	* 135423		
1/4	20	4.8	62	12.1	12.9	6.5	8	3	5.1	* 135424	* 135425	* 155470	* 155473
5/16	18	5.95	74	14.8	15.9	8.1	10	3	6.5	* 135426	* 135427	* 155471	* 155474
3/8	16	7.1	80	16.7	18	9.8	12	4	8	* 135428	* 135429	* 155472	* 155475
7/16	14	7.95	80	19.1	20.8	11.4	12	4	9.3			* 135430	* 135431
1/2	13	9.95	90	22.5	24	13	14	4	10.8			* 135432	* 135433
9/16	12	10.8	102	24.4	26.2	14.6	16	4	12.2			* 135434	* 135435
5/8	11	11.9	102	26.5	28.8	16.3	18	4	13.6			* 135436	* 135437

GFS

GFS6615



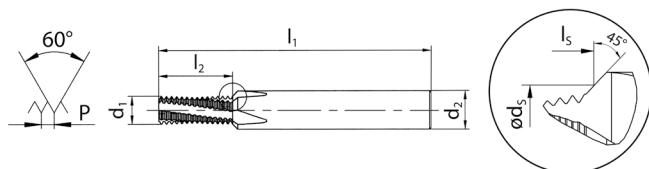
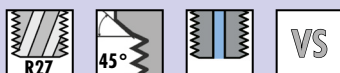
GFS6615VS



GFS6665



GFS6665VS



GFS6615



GFS6615VS



GFS6665



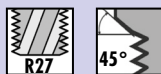
GFS6665VS



Ø" D ₁ UNC	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	l ₃ mm	d ₂ mm	d ₃ mm			ID	ID	ID	ID
10	24	3.6	54	12.2	12.8	4.9	6	3	3.8	* 135438	* 135439		
12	24	4.1	54	13.2	14	5.6	6	3	4.4	* 135440	* 135441		
1/4	20	4.8	62	14.6	15.5	6.5	8	3	5.1	* 135442	* 135443	* 155476	* 155479
5/16	18	5.95	74	17.6	18.7	8.1	10	3	6.5	* 135444	* 135445	* 155477	* 155480
3/8	16	7.1	80	21.5	22.8	9.8	12	4	8	* 135446	* 135447	* 155478	* 155481
7/16	14	7.95	80	24.5	26.2	11.4	12	4	9.3			* 135448	* 135449
1/2	13	9.95	90	28.4	29.9	13	14	4	10.8			* 135450	* 135451
9/16	12	10.8	102	32.8	34.7	14.6	16	4	12.2			* 135452	* 135453
5/8	11	11.9	102	35.8	38	16.3	18	4	13.6			* 135454	* 135455

GFS

GFS6610



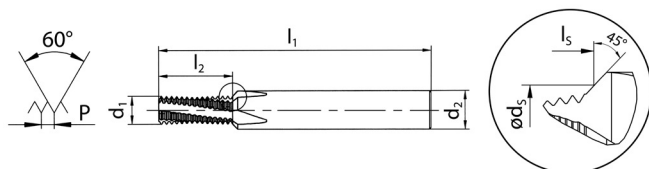
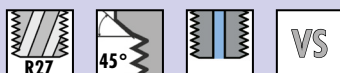
GFS6610VS



GFS6660



GFS6660VS



GFS6610



GFS6610VS



GFS6660



GFS6660VS



$\emptyset'' D_1$ UNF	P TPI	d_1 mm	l_1 mm	l_2 mm	l_3 mm	d_1 mm	d_2 mm			ID	ID	ID	ID
12	28	4.1	54	9.5	10.3	5.6	6	3	4.6	* 135458	* 135459		
1/4	28	4.8	62	11.3	12.2	6.5	8	3	5.5	* 135460	* 135461	* 155482	* 155485
5/16	24	5.95	74	13.2	14.3	8.1	10	3	6.9	* 135462	* 135463	* 155483	* 155486
3/8	24	7.1	80	16.4	17.7	9.8	12	4	8.5	* 135464	* 135465	* 155484	* 155487
1/2	20	9.95	90	21	22.5	13	14	4	11.4			* 135468	* 135469
5/8	18	11.9	102	26.1	28.3	16.3	18	4	14.5			* 135472	* 135473

GFS

GFS6615



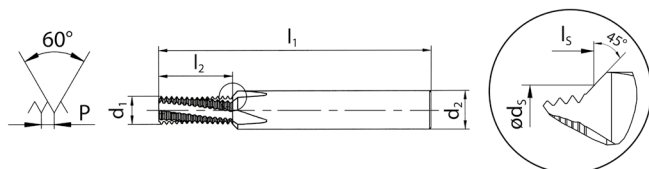
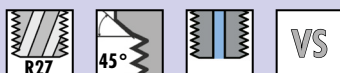
GFS6615VS



GFS6665



GFS6665VS



GFS6615



GFS6615VS



GFS6665



GFS6665VS



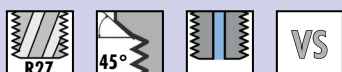
Ø" D ₁ UNF	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	l ₃ mm	d ₂ mm	d ₂ mm			ID	ID	ID	ID
10	32	3.6	54	11.5	12.2	4.9	6	3	4.05	● 128660	● 135474		
12	28	4.1	54	12.3	13	5.6	6	3	4.6	★ 135475	★ 135476		
1/4	28	4.8	62	14.1	14.9	6.5	8	3	5.5	● 128578	● 135477	★ 155488	★ 155491
5/16	24	5.95	74	17.5	18.5	8.1	10	3	6.9	★ 135478	★ 135479	★ 155489	★ 155492
3/8	24	7.1	80	20.6	22	9.8	12	4	8.5	★ 135480	★ 135481	★ 155490	★ 155493
7/16	20	7.95	80	24.8	26.5	11.4	12	4	9.8			★ 135482	★ 135483
1/2	20	9.95	90	27.3	28.8	13	14	4	11.4			★ 135484	★ 135485
5/8	18	11.9	102	34.6	36.8	16.3	18	4	14.5			★ 135488	★ 135489

GFS

GFS6660



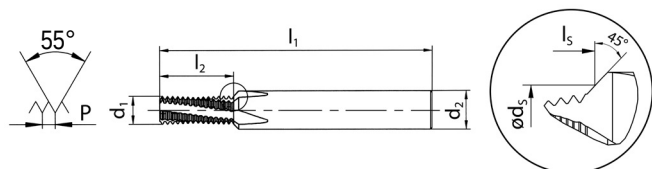
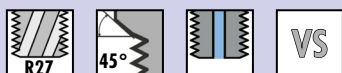
GFS6660VS



GFS6665



GFS6665VS



GFS6660



GFS6660VS



GFS6665



GFS6665VS



Ø" D ₁ G	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	l _s mm	d _s mm	d ₂ mm		
1/4	19	9.95	90	22.1	23.8	13.5	14	4	11.6
3/8	19	12.8	102	27.4	29.6	17.1	18	4	15.2

ID

ID

* 135414

* 135415

* 135416

Ø" D ₁ G	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	l _s mm	d _s mm	d ₂ mm		
1/8	28	7.95	80	21.3	22.3	10	12	4	8.75
1/4	19	9.95	90	28.7	30.5	13.5	14	4	11.6
3/8	19	12.8	102	35.4	37.6	17.1	18	4	15.2

ID

ID

* 119349

* 135417

* 119298

* 135418

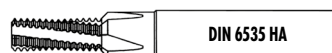
* 119680

* 135419

NPT, NPTF

ASME B1.20.1
ANSI B1.20.3

VHM
CAR



HB
HE

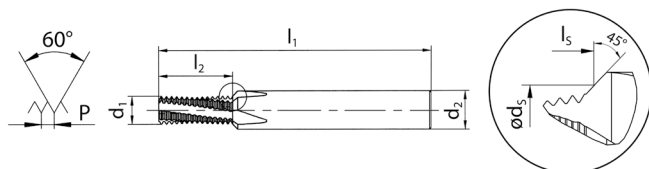
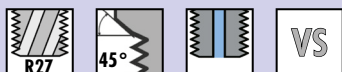
sur demande
auf Anfrage
on request
su richiesta
sobre pedido

GFS

GFS6660



GFS6660VS



GFS6660

GFS6660VS



Ø" D ₁ NPT	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	l ₃ mm	d ₂ mm	d ₃ mm	
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1/4	18	9.95	80	14.8	16.4	14	16	4
3/8	18	12.5	80	14.8	16.9	17.6	18	4

ID

ID

* 126899

* 135491

* 126928

Ø" D ₁ NPTF	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	l ₃ mm	d ₂ mm	d ₃ mm	
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1/8	27	7.3	70	9.9	11.2	10.6	12	4
1/4	18	9.95	80	14.8	16.4	14	16	4
3/8	18	12.5	80	14.8	16.9	17.6	18	4

ID

ID

* 135493

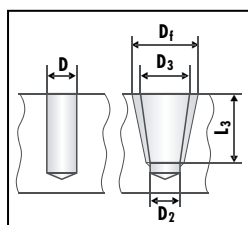
* 135494

* 135495

* 135496

* 135497

* 135498

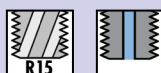


Vorbohrung Core hole				
Ø" D ₁	D	D ₂	NPT NPTF D ₃ (+0.05)	
1/8	8.5	8.3	8.74	8.76
1/4	11.0	10.8	11.36	11.40
3/8	14.5	14.2	14.80	14.84

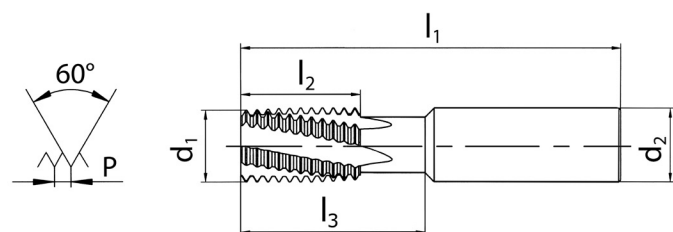
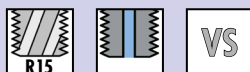
Fräsen Milling	
D _f	L ₃
9.81	6.92
12.99	10.02
16.41	10.33

GFM

GFM6260

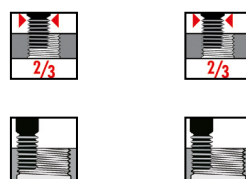


GFM6260VS



GFM6260

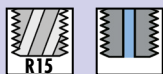
GFM6260VS



d ₁ mm	P mm	Ø D ₁ ≥ M, MF	l ₁ mm	l ₂ mm	l ₃ mm	d ₂ mm		ID	ID
8	0.5	10	64	16	16	8	4	● 116450	● 135260
8	0.75	10	64	15.8	16	8	4	● 116340	● 135261
10	0.75	14	70	15.8	26	10	4	★ 116128	★ 135262
10	1	14	70	16	26	10	4	● 118657	● 135263
10	1.25	14	70	16.3	26	10	4	★ 118659	★ 135264
10	1.5	14	70	16.5	26	10	4	● 118661	● 135265
12	0.5	18	80	20	32	12	4	★ 116129	★ 135214
12	0.75	18	80	20.3	32	12	4	● 155526	● 155527
12	1	18	80	20	32	12	4	● 118664	● 135007
12	1.5	18	80	21	32	12	4	● 118669	● 135181
12	2	18	80	20	32	12	4	● 118673	● 135269
16	1	24	90	25	42	16	4	● 118680	● 135270
16	1.5	24	90	25.5	42	16	4	● 118682	● 116017
16	2	24	90	26	42	16	4	● 118684	● 135271
16	2.5	24	90	25	42	16	4	● 118689	● 135272
16	3	24	90	27	42	16	4	● 158760	● 150564
20	1	30	105	33	52	20	5	★ 135273	★ 135274
20	1.5	30	105	33	52	20	5	● 118694	● 135275
20	2	30	105	34	52	20	5	● 116338	● 135276
20	3	30	105	33	52	20	5	★ 118699	★ 135279
20	3.5	30	105	35	52	20	5	● 144195	● 144065

GFM

GFM6260

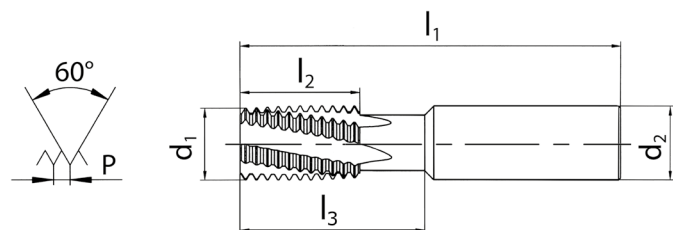
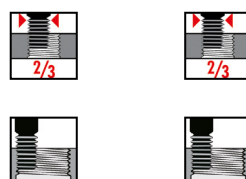


GFM6260VS

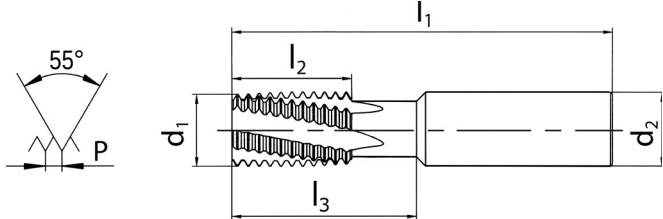
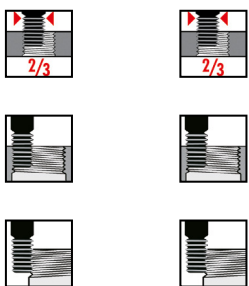


GFM6260

GFM6260VS



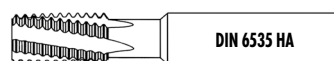
d ₁ mm	P TPI	Ø" D ₁ ≥ UN	l ₁ mm	l ₂ mm	l ₃ mm	d ₂ mm		ID	ID
10	24	1/2	70	15.9	26	10	4	* 135288	* 135289
12	24	3/4	80	20.1	32	12	4	* 135290	* 135291
12	20	3/4	80	20.3	32	12	4	* 135292	* 135293
12	18	3/4	80	19.8	32	12	4	* 135294	* 135295
12	16	3/4	80	20.6	32	12	4	● 135296	● 135297
12	10	3/4	80	20.3	32	12	4	* 150963	* 155494
16	24	1	90	25.4	42	16	4	* 135298	* 135299
16	20	1	90	25.4	42	16	4	* 135300	* 135301
16	18	1	90	25.4	42	16	4	* 135302	* 135303
16	16	1	90	25.4	42	16	4	* 135304	* 135305
16	14	1	90	25.4	42	16	4	● 135306	● 135307
16	12	1	90	25.4	42	16	4	● 135308	● 135309
16	9	1	90	25.4	42	16	4	* 150964	* 155495
16	8	1	90	25.4	42	16	4	* 150965	* 155496
20	24	1 1/4	105	32.8	52	20	5	* 135310	* 135311
20	20	1 1/4	105	33	52	20	5	* 135312	* 135313
20	18	1 1/4	105	32.5	52	20	5	* 135314	* 135315
20	16	1 1/4	105	33.4	52	20	5	* 118697	* 135316
20	14	1 1/4	105	32.7	52	20	5	* 135317	* 135318
20	12	1 1/4	105	31.8	52	20	5	* 135319	* 135320
20	8	1 1/4	105	31.8	52	20	5	* 135321	* 135322
20	7	1 1/4	105	32.7	52	20	5	* 150962	* 155497

GFM								GFM6260	GFM6260VS		
GFM6260  GFM6260VS 											
											
d ₁ mm	P TPI	Ø" D ₁ G	l ₁ mm	l ₂ mm	l ₃ mm	d ₂ mm		ID	ID		
10	19	1/4-3/8	70	16	26	10	4	● 118655	● 135280		
16	14	1/2-7/8	90	25.4	42	16	4	● 118678	● 135281		
20	11	≥ 1	105	32.3	52	20	5	● 118691	● 135282		

NPT, NPTF

ASME B1.20.1
ANSI B1.20.3

VHM
CAR



HB
HE

sur demande
auf Anfrage
on request
su richiesta
sobre pedido

GFM

GFM6260

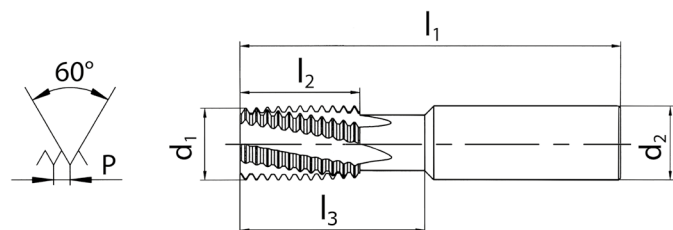


GFM6260VS



GFM6260

GFM6260VS



d_1 mm	P TPI	$\emptyset'' D_1$ $\geq$ NPT	l_1 mm	l_2 mm	d_2 mm	
14.5	14	1/2	90	19.1	16	4
18.5	11.5	1	90	23.2	20	5

ID

ID

- 135323
- 135325

- 135324
- 135326

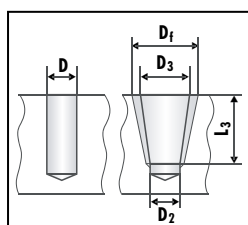
d_1 mm	P TPI	$\emptyset'' D_1$ $\geq$ NPTF	l_1 mm	l_2 mm	d_2 mm	
14.5	14	1/2	90	19.1	16	4
18.5	11.5	1	90	23.2	20	5

ID

ID

- * 135327
- * 135329

- * 135328
- * 135330



Vorbereitung Core hole				
$\emptyset'' D_1$	D	D2	NPT NPTF $D_3 (+0.05)$	
1/2	17.9	17.5	18.32	18.33
3/4	23.2	22.8	23.67	23.68
1	29.0	28.6	29.69	29.72
1 1/4	37.7	37.3	38.45	38.48
1 1/2	44.0	43.5	44.52	44.55
2	56.0	55.5	56.56	56.59

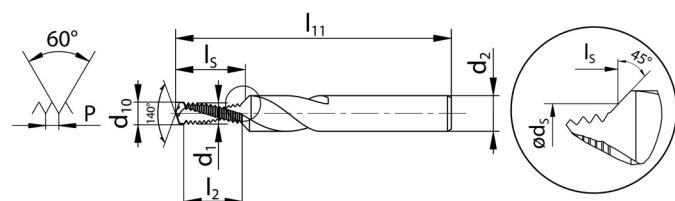
Fräsen Milling	
D_f	L_3
20.37	13.57
25.69	14.05
32.18	16.79
40.90	17.30
49.67	17.30
58.99	17.70

BGF

BGF6760



BGF6760VS



BGF6760

BGF6760VS



$\emptyset D_1$ M	P mm	d_1 mm	d_{10} mm	l_{11} mm	l_2 mm	l_3 mm	d_5 mm	d_2 mm	
4	0.7	3.1	3.3	48	5.6	7.4	4.1	6	2
5	0.8	4	4.2	54	7.2	9.4	5.1	6	2
6	1	4.75	5	62	9	11.7	6.2	8	2
8	1.25	6.5	6.75	74	11.2	14.6	8.2	10	2
10	1.5	8.25	8.5	80	15	19.1	10.3	12	2
12	1.75	9.95	10.25	90	17.4	22.1	12.3	14	2
14	2	11.6	12	102	19.9	25.1	14.4	16	2
16	2	13.6	14	102	23.9	29.5	16.4	18	2

ID

ID

* 153400	* 153415
* 153401	* 153416
* 153402	* 153417
* 151911	* 153418
* 153403	* 151442
* 153404	* 153419
* 153405	* 153420
* 153406	* 153421

BGF

BGF6765



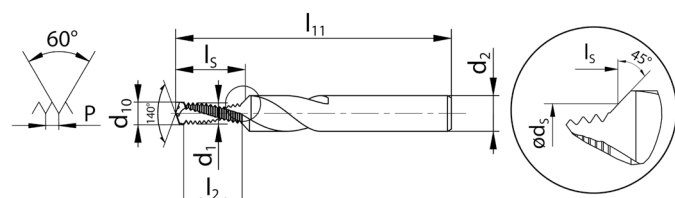
BGF6765VS



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Ø D ₁ M	P mm	d ₁ mm	d ₁₀ mm	l ₁₁ mm	l ₂ mm	l ₁ mm	d ₅ mm	d ₂ mm	
4	0.7	3.1	3.3	48	7.7	9.5	4.1	6	2
5	0.8	4	4.2	54	9.6	11.8	5.1	6	2
6	1	4.75	5	62	12	14.7	6.2	8	2
8	1.25	6.5	6.75	74	15	18.4	8.2	10	2
10	1.5	8.25	8.5	80	19.4	23.6	10.3	12	2
12	1.75	9.95	10.25	90	22.7	27.3	12.3	14	2
14	2	11.6	12	102	27.9	33.1	14.4	16	2
16	2	13.6	14	102	31.9	37.5	16.4	18	2

ID	ID
* 153430	* 153442
* 151305	* 151306
* 150933	* 151776
* 153431	* 150588
* 153432	* 150589
* 153433	* 150927
* 153434	* 153443
* 153435	* 151324

Ø D ₁ M	P mm	d ₁ mm	d ₁₀ mm	l ₁₁ mm	l ₂ mm	l ₁ mm	d ₅ mm	d ₂ mm	
6	1	4.75	5	62	15	17.7	6.2	8	2
8	1.25	6.5	6.75	74	20	23.4	8.2	10	2
10	1.5	8.25	8.5	80	23.9	28.1	10.3	12	2
12	1.75	9.95	10.25	90	29.7	34.3	12.3	14	2
14	2	11.6	12	102	35.9	41.1	14.4	16	2
16	2	13.6	14	102	39.9	45.5	16.4	18	2

ID	ID
● 153451	● 153467
● 153452	● 153468
* 153453	* 153469
* 153454	* 153470
* 153455	* 153471
* 153456	* 153472

BGF

BGF6865



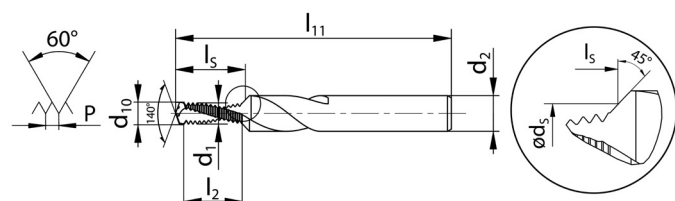
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$\emptyset D_1$ M	P mm	d_1 mm	d_{10} mm	l_{11} mm	l_2 mm	l_3 mm	d_3 mm	d_2 mm	
6	1	4.75	5	62	12	14.7	6.2	8	3
8	1.25	6.5	6.75	74	15	18.4	8.2	10	3
10	1.5	8.25	8.5	80	19.4	23.6	10.3	12	3
12	1.75	9.95	10.25	90	22.7	27.3	12.3	14	3
14	2	11.6	12	102	27.9	33.1	14.4	16	3
16	2	13.6	14	102	31.9	37.5	16.4	18	3

ID	ID
* 153577	* 153589
* 153578	* 153590
* 153579	* 153591
* 153580	* 153592
* 153581	* 153593
* 153582	* 153594

$\emptyset D_1$ M	P mm	d_1 mm	d_{10} mm	l_{11} mm	l_2 mm	l_3 mm	d_3 mm	d_2 mm	
6	1	4.75	5	62	15	17.7	6.2	8	3
8	1.25	6.5	6.75	74	20	23.4	8.2	10	3
10	1.5	8.25	8.5	80	23.9	28.1	10.3	12	3
12	1.75	9.95	10.25	90	29.7	34.3	12.3	14	3
14	2	11.6	12	102	35.9	41.1	14.4	16	3
16	2	13.6	14	102	39.9	45.5	16.4	18	3

ID	ID
* 153601	* 153613
* 153602	* 153614
* 153603	* 153615
* 153604	* 153616
* 153605	* 153617
* 153606	* 153618

BGF

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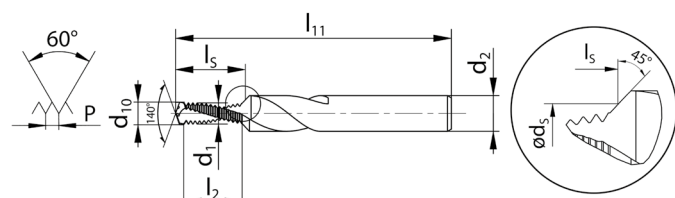
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Ø D ₁ MF	P mm	d ₁ mm	d ₁₀ mm	l ₁₁ mm	l ₂ mm	l ₁ mm	d ₅ mm	d ₂ mm	
6	0.75	5	5.25	62	9	11.4	6.2	8	2
8	1	6.75	7	74	12	15	8.2	10	2
10	1	8.75	9	80	15	18.5	10.3	12	2
12	1	10.7	11	90	18	21.9	12.3	14	2
12	1.5	10.2	10.5	90	17.9	22.5	12.3	14	2
14	1.5	12.1	12.5	102	20.9	26	14.4	16	2
16	1.5	14.1	14.5	102	23.9	29.4	16.4	18	2

ID

ID

* 153759

* 153780

* 153761

* 153782

* 153762

* 153783

* 153764

* 153785

* 153765

* 153786

* 153766

* 153787

* 153767

* 153788

Ø D ₁ MF	P mm	d ₁ mm	d ₁₀ mm	l ₁₁ mm	l ₂ mm	l ₁ mm	d ₅ mm	d ₂ mm	
6	0.75	5	5.25	62	12	14.4	6.2	8	2
8	1	6.75	7	74	16	19	8.2	10	2
10	1	8.75	9	80	20	23.5	10.3	12	2
12	1	10.7	11	90	24	27.9	12.3	14	2
12	1.5	10.2	10.5	90	23.9	28.5	12.3	14	2
14	1.5	12.1	12.5	102	26.9	32	14.4	16	2

ID

ID

* 153802

* 153824

* 153804

* 153826

* 153805

* 153827

* 153807

* 153829

* 153808

* 153830

* 153809

* 153831