

fueling your machines



ALPHA SERIES

Carbide Inserts
Carbide Endmills & Drills
PCD Inserts
Indexable Drills & Cutter Bodies



MASTER CATALOGUE 2025

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Alumina Alpha Series

ISO Aluminum Inserts
ISO Turning Inserts
ISO Milling Inserts
ISO Grooving Inserts
ISO Threading Inserts
ISO PCD Inserts

Alumina Round Tools

Solid Carbide Endmills - HRC 45 - HRC 55 - HRC 65 - DLC
Solid Carbide Long Neck Endmills
Solid Carbide Dream 65 HRC Drills

Alumina Gold Rush

Gold Rush Indexable Drills For SP / WC Inserts
Milling Cutters For APMT / LNMU

INTRODUCTION



About Us



At Alumina Carbides Inc., with years of expertise under our belt, we have dedicated ourselves to developing high-quality products that are not only efficient but also cost-effective. Our founder's belief in delivering exceptional value drives us to maintain the highest industry standards in all our offerings.

Our global footprint spans over 16 locations in India and beyond, allowing us to serve a diverse clientele with varying tooling needs.

Our Mission

Our mission is simple: to provide our customers with top-tier tooling solutions at nominal costs. We strive to foster long-lasting partnerships built on trust and excellence, empowering our clients to achieve their engineering goals through superior products and services.

Our Values

Quality: We are unwavering in our commitment to deliver only the highest quality products.

Integrity: We operate with transparency and honesty, ensuring that our clients know exactly what to expect from us.

Innovation: We continuously seek out new technologies and methods to enhance our product offerings and service delivery.

Community: As a family-owned business, we believe in giving back to the communities we serve and fostering a positive social impact.

Join us on our journey as we continue to lead the way in the tooling solutions industry. Whether you're an engineer, a project manager, or simply someone who is passionate about exceptional craftsmanship, Alumina Carbides Inc is here to support your success.

Discover the difference with Alumina Carbides Inc.

QUALITY POLICY

Customer first, sustainable management. Continue to serve customers, society, employees initiate to propel long term growth.

CORPORATE VISION

To be the most reliable, one-stop global engineering and machining tools provider with intelligent, innovative technology.

BUSINESS PURPOSE

Honest management, ethical business terms towards to pursuit of perfection.



GRADES & PRODUCT GENRE



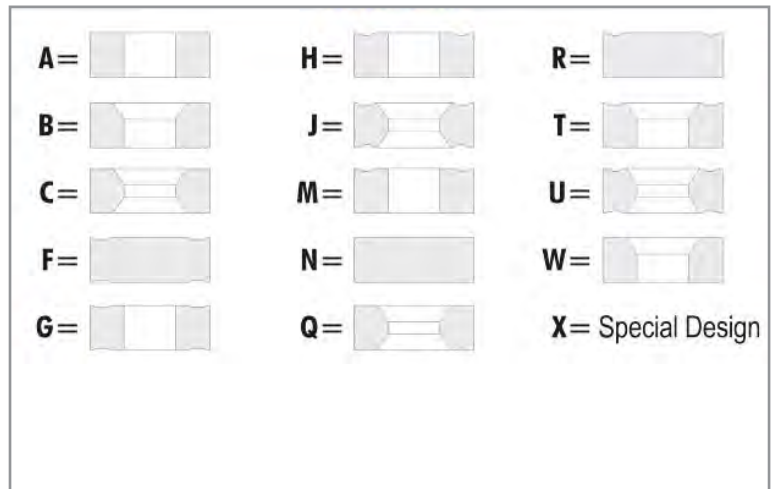
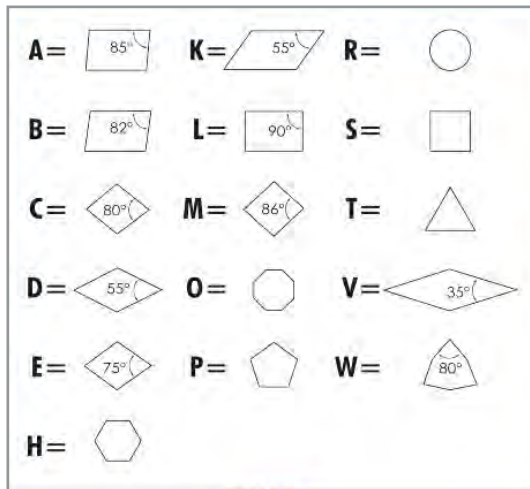
 ALUMINA
POWER MILLING

SC Drill
D18.8*90*155*2T

WARNING
Alumina endmills are micro grade endmills and may shatter if broken. The wearing of safety glasses is required in the vicinity of their use. Grinding produces hazardous dust. To avoid adverse health effects. Use adequate ventilation.

Carbide Inserts Nomenclature

Insert Type Rules

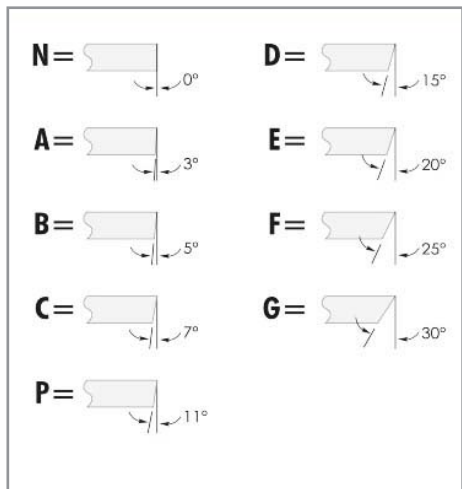


SHAPE CODE

GEOMETRY

C N M G

CUTTING EDGE CLEARANCE



TOLERANCE in mm

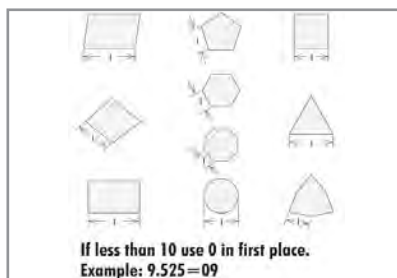
	d	m	t
A	± 0.025	± 0.005	± 0.025
F	± 0.013	± 0.005	± 0.025
C	± 0.025	± 0.013	± 0.025
H	± 0.013	± 0.013	± 0.025
E	± 0.025	± 0.025	± 0.025
G	± 0.025	± 0.025	± 0.130
*J	± 0.05 to ± 0.15	± 0.005	± 0.025
*K	± 0.05 to ± 0.15	± 0.013	± 0.025
*L	± 0.05 to ± 0.15	± 0.025	± 0.025
*M	± 0.05 to ± 0.15	± 0.08 to ± 0.20	± 0.130
*N	± 0.05 to ± 0.15	± 0.08 to ± 0.20	± 0.025
*U	± 0.08 to ± 0.25	± 0.13 to ± 0.38	± 0.130

1 2

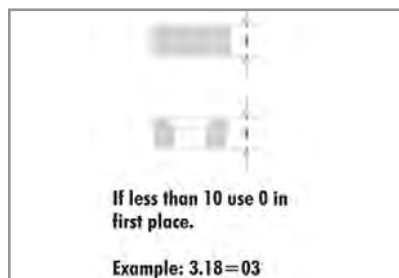
0 4

0 8

LENGTH OF CUTTING EDGE



THICKNESS



CORNER

00=Round Insert	12=1.2mm
00=Sharp Corner	16=1.6mm
02=0.2mm	24=2.4mm
04=0.4mm	32=3.2mm
08=0.8mm	40=4.0mm
A=Square w/45° chamfer	
D=Square w/30° chamfer	
E=Square w/15° chamfer	
K=Square w/15° double chamfer	
N=Truncated triangle insert	
P=Flattened corner triangle	





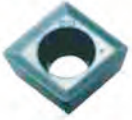
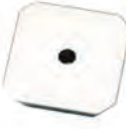






Alumina Grading System

CARBIDE INSERTS

GRADE	ISO	CHARACTERISTIC
AC 3000	P / M / K	<ul style="list-style-type: none">Cermet grade for turning and grooving of alloy steels with high surface quality
AG 9030	P20 / P40	<ul style="list-style-type: none">For general grooving and parting of steelStrengthened shipping and breakage resistanceTiN - TiCN - AL 203 - TiN
AK 1500	K10 / K20	<ul style="list-style-type: none">For medium to high speed turning of ductile cast ironExcellent shipping and heat resistanceTiN + AL 203 +MT(CVD)
ALK 10	K10 / K20	<ul style="list-style-type: none">Polished aluminium inserts for non-ferrous turning and milling
AP 4225	P20 / P40	<ul style="list-style-type: none">For general turning of steel at medium speedsStrengthened shipping and breakage resistanceCVD Double Coated used for steel
APM 30	P30 / M30	<ul style="list-style-type: none">For general turning and milling
AS 20	P20 / M20	<ul style="list-style-type: none">For general turning and milling of steel / medium steel / stainless steel at medium / high speeds
ASM 30	S20 / M30	<ul style="list-style-type: none">Stainless steel gradeSuper alloy hardened material CRC Coated for high performance

Milling Inserts Type

Product Range

APKT-MM	APKT-XM	APMT-DM	APKT-PM	APKT-R	APMT-M2
					
APMT-H2	APMT-DP	APMT-DL	RCET	RDMW	RDMW-MOT
					
ROKW-MO	ROKT-DR	RPMW-MO	RPMT-JS	RPMT-DL	HNMX
					
LNMU	MPHT-DM	OFHW	OFKR-DM	ONHU	ONHU-PM
					
ONMU-NL	SDMT	SEEN	SEKA	SEKN	SEKR
					
SNMX-AFN	SNMX-MM	SNMT-AFN	SEKW-AFN	SPKN	SPKW
					
SPKN-ED	SPKN-XE	TPUN	TPKN	TPKN-PDR	TPKR
					
TPKR-PDSR	WNMU-GM	GLOL	LNE	SNC	LSE
					



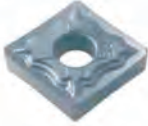


















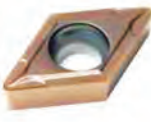



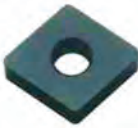






















Milling Inserts Type

Product Range

SPE	SPMG-DG	WCMX	WCMT-X	CPMT	GPS
					
LOGT	TOGT	TOGT	SDMW	SDMW-边R	SDMW-角R
					
SNMG-R	SNMG-LF	SNMG-KH	SPEB	SPMW	SPKW
					
TPMT	AXHN	LNKT	SHYW	XCHT	R420.37
					
R420.37	SPUB				
					



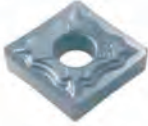



















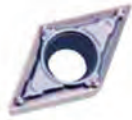


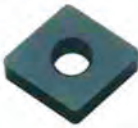






















Turning Inserts Type

Product Range

CCMT	CNMG-MS	CNMG-BA	CNMG-BM	CNMG-MA	CNMG-MSA
					
SNMG-MS	SNMG-MA	SNMG-MSA	TCMT	TNMG-HA	TNMG-BM
					
TNMG-MS	TNMG-MA	TNMG-MSA	VNMG-MS	VNMG-MA	VNMG-MSA
					
WNMG-MS	WNMG-MSA	WNMG-MA	DCMT	DCMT-MV	CCMT-HM
					
CCMT-HF	CNMA	CNMG	CNMG-CQ	CNMG-MPB	CNMG-MR
					
CNMG-PM	CNMG-DR	CNMG-TM	CNMG-43	DCMT-HF	DCMT-HM
					
DNMG-DM	DNMG-PM	SCET	SCMT-TC	SCMT-HF	SCMT-HM
					
SNUN	SNMA	SNMG	SNMG-PM	SNMG-R	SNMG-L
					
















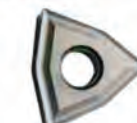
































Turning Inserts Type

Product Range

CCMT	CNMG-MS	CNMG-BA	CNMG-BM	CNMG-MA	CNMG-MSA
					
SNMG-MS	SNMG-MA	SNMG-MSA	TCMT	TNMG-HA	TNMG-BM
					
TNMG-MS	TNMG-MA	TNMG-MSA	VNMG-MS	VNMG-MA	VNMG-MSA
					
WNMG-MS	WNMG-MSA	WNMG-MA	DCMT	DCMT-MV	CCMT-HM
					
CCMT-HF	CNMA	CNMG	CNMG-CQ	CNMG-MPB	CNMG-MR
					
CNMG-PM	CNMG-DR	CNMG-TM	CNMG-43	DCMT-HF	DCMT-HM
					
DNMG-DM	DNMG-PM	SCET	SCMT-TC	SCMT-HF	SCMT-HM
					
SNUN	SNMA	SNMG	SNMG-PM	SNMG-R	SNMG-L
					

Turning Inserts Type

Product Range

TCMT-MT2	TNMG-CQ	TNMG-FSF	TNMG-VFF	TNMG-FGF	TNMG-MTF
					
TNGG-2G	TNGG-F	TPGH-R	TPGH-L	VNMG	VNMG-FGF
					
VNMG-MT	WNMG-FGF	WNMG-HQF	WNMG-MSF	WNMG4-MT	WNMG-MTF
					
WNMG-L	WNMG-TSF	APKT-MA	APGT-G2	CCGT-LH	CNMG-HA
					
DCGT-LH	DNGG-LH	RCGT-LH	RCGT-FX	SCGT-LH	SEET-LH
					
SNMG-VH	TCGT-LH	TNMG-HA	VBGT-LH	VCGT-LH	WCGX-LH
					
WNMG-HA	GIPA6.0-3.0	GIPATZ	GIPA8.0-4.0	CCGW	DCGW
					
DNMA	SCMW	SNR	SNRA	TNR	TNRA
					

Turning Inserts Type

Product Range

VCGW	WNGA	MGGN-C	MGGN-M	MGGN-G	TDC
					
TDJ					
					

Thread Turning Technical Section

Number of Threading Passes Selection for Single Point Inserts

	mm	0.5	0.8	1.0	1.25	1.5	1.75	2.0	2.5	3.0	4.0	6.0
Pitch	TPI	48	32	24	20	16	14	12	10	8	6	4
No. of Passes		3 - 6	4 - 7	4 - 9	6 - 10	5 - 11	9 - 12	6 - 13	7 - 15	8 - 17	10 - 20	11 - 22

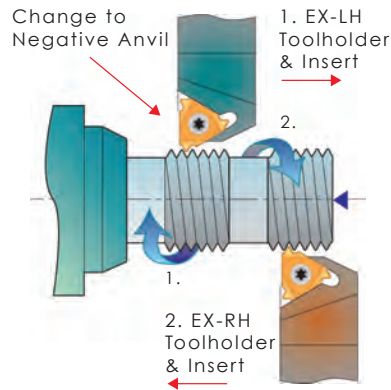
Notes:

- A. For most standard applications, the middle of the range is a good starting point.
- B. For most materials, the tougher the material, the higher the number of cutting passes you select.
- C. As a general rule, less passes are better than more speed.

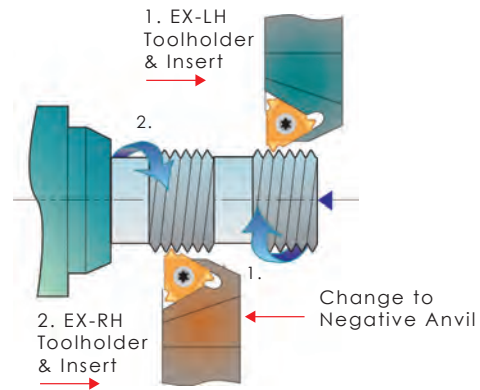
Thread Turning Methods

Thread	Inserts & Tool Holders	Rotation	Feed Direction	Helix Method
Right Hand External	EX RH	Counter Clockwise	Towards Chuck	Regular
	RX LH	Clockwise	From Chuck	Reversed
Right Hand Internal	IN RH	Counter Clockwise	Towards Chuck	Regular
	IN LH	Clockwise	From Chuck	Reversed
Left Hand External	EX LH	Counter Clockwise	Towards Chuck	Regular
	EX RH	Clockwise	From Chuck	Reversed
Left Hand Internal	IN LH	Counter Clockwise	Towards Chuck	Regular
	IN RH	Clockwise	From Chuck	Reversed

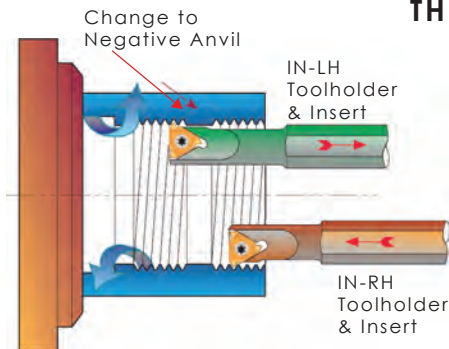
EX-RH THREAD



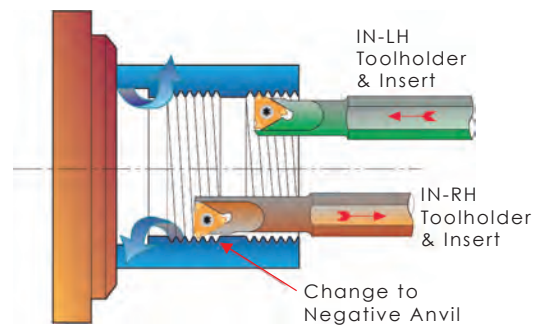
EX-LH THREAD



IN-RH THREAD



IN-LH THREAD



Thread Turning Terminology

EXTERNAL THREAD

A thread on the external surface of a cylinder screw or cone

DEPTH OF THREAD

The distance between the crest and root measured from normal to the axis

PITCH

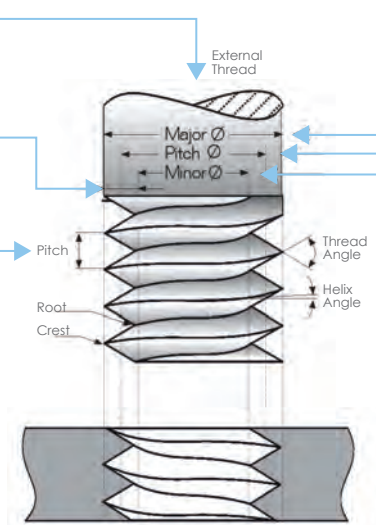
The distance between the corresponding points on adjacent thread forms measured parallel to the axis. The distance can be defined in mm or by TPI (threads per inch), which is the reciprocal of the pitch

NORMINAL DIAMETER

The diameter of which the diameter limits are derived by the application of deviation allowances and tolerances

TAPER THREAD

A thread formed on a cone



INTERNAL THREAD

A thread on the internal surface of a cylinder or cone

MAJOR THREAD

The largest diameter of a screw thread

PITCH DIAMETER

On a straight thread, the diameter of an imaginary cylinder, the surface of which cuts the thread forms where the width of the thread and groove are equal

MINOR DIAMETER

The smallest diameter of a screw thread

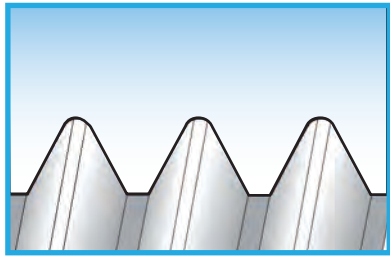
HELIX ANGLE

For a straight thread, where the lead of the thread and the pitch diameter circle circumference form a right angled triangle, the helix angle is the angle opposite of the lead

STRAIGHT THREAD

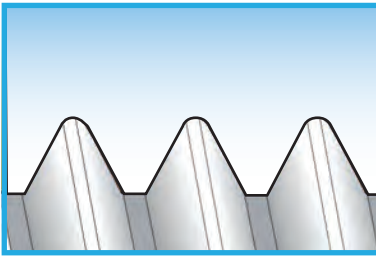
A thread formed on a cylinder

LEFT HANDED THREAD



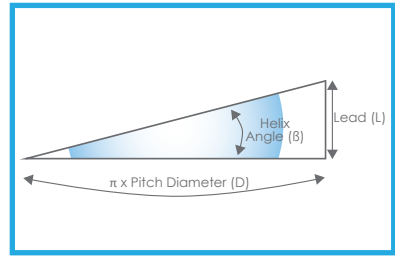
A thread which, when viewed axially, winds in a counter clockwise and receding direction. All left handed threads are designated LH

RIGHT HANDED THREAD



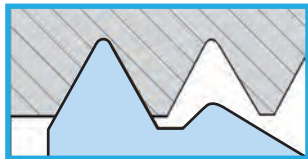
A thread which, when viewed axially, winds in a clockwise and receding direction. Threads are always right handed unless they are specified

THE HELIX ANGLE (β)



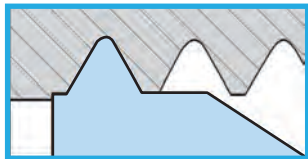
For a straight thread, where the lead of the thread and the pitch diameter circle circumference form a right angled triangle, the helix angle is the the opposite of the lead

PARTIAL PROFILE



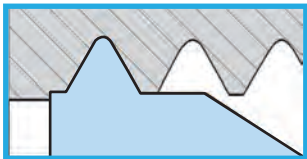
The V partial profile insert cuts without topping the outer diameter of the thread. The same insert can be used for a range of different thread pitches which have a common thread angle

FULL PROFILE



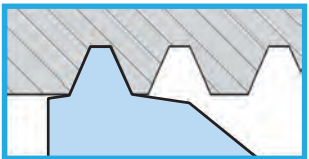
The full profile insert will form a complete thread profile including the crest. For every thread pitch and standard, a separate insert is required

FULL PROFILE FOR FINE PITCHES



The full profile for Fine Pitches will form a complete thread. The topping of the outer diameter is generated by second tooth

SEMI PROFILE



The Semi profile insert will form a complete thread including crest radius but without topping the outer diameter.

Mainly used for trapezoidal profiles

Thread Turning Code System

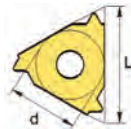
16 • E R • 1.50 ISO • • AG 9030									
1	2	3	4	5	6	7	8	9	10
Insert Size	Insert Style	Insert Type	Hand of Insert	Chipbreaker	Pitch	Standard	API Size & Taper	Teeth	Carbide Grade



1 Insert Size (mm)

16	•	E	R	•	1.50	ISO	•	•	AG 9030
----	---	---	---	---	------	-----	---	---	---------

- 08 : d = 4.76
- 11 : d = 6.35
- 16 : d = 9.525
- 22 : d = 12.7
- 27 : d = 15.875



6 Pitch

16	•	E	R	•	1.50	ISO	•	•	AG 9030
----	---	---	---	---	------	-----	---	---	---------

Full Profile		Partial Profile	
mm	tpi	mm	tpi
0.35 - 6.0	72 - 3	A 0.5 - 1.5	48 - 16
		AG 0.5 - 3.0	48 - 8
		G 1.75 - 3.0	14 - 8
		N 3.5 - 5.0	7 - 5
		Q 5.5 - 6.0	4.5 - 4

2 Insert Style

16	•	E	R	•	1.50	ISO	•	•	AG 9030
----	---	---	---	---	------	-----	---	---	---------



3 Insert Type

16	•	E	R	•	1.50	ISO	•	•	AG 9030
----	---	---	---	---	------	-----	---	---	---------

E : External Thread

I : Internal Thread

4 Hand of Insert

16	•	E	R	•	1.50	ISO	•	•	AG 9030
----	---	---	---	---	------	-----	---	---	---------

R : Right Handed

L : Left Handed

5 Chipbreaker

16	•	E	R	•	1.50	ISO	•	•	AG 9030
----	---	---	---	---	------	-----	---	---	---------

No Code



M : With Chipbreaker



7 Standard

16	•	E	R	•	1.50	ISO	•	•	AG 9030
----	---	---	---	---	------	-----	---	---	---------

- 60° - Partial Profile 60°
- 55° - Partial Profile 55°
- STACME - Stub ACME
- UN - American UN
- W - Whitworth BSW, BSP
- BSPT - British Standard Pipe Thread
- ABUT - American Buttress
- BBUT - British Buttress
- SAGE - Metric Buttress DIN 513
- RD - Round DIN 405
- RD20400 - Round DIN 20400
- BUT - API Buttress Casing
- APIRD - API Round Casing & Tubing
- NPT - NPT
- NPTF - NPTF
- NPS - NPS
- PG - Pg DIN 10130
- API - API
- VAM - VAM
- 1190 - 110-
- ISO - ISO Metric
- UNJ - UNJ
- MJ - ISO 5855
- TR - Trapez DIN 103
- ACME - ACME

8 API Size & Taper

16	•	E	R	•	1.50	ISO	•	•	AG 9030
----	---	---	---	---	------	-----	---	---	---------

- 380.5APIV - 0.38 R
- 382 APIV - 0.038R 1:6
- 383 APIV - 0.038R 1:4
- 403 APIV - 0.040R 1:4
- 502 APIV - 0.050 1:6
- 503 APIV - 0.050 1:4
- 551 APIV - 0.055 1:8

9 No. of Teeth

16	•	E	R	•	1.50	ISO	•	•	AG 9030
----	---	---	---	---	------	-----	---	---	---------

For Multi Tooth Style : 2, 3, 5, 6, 8

10 Carbide Grade

16	•	E	R	•	1.50	ISO	•	•	AG 9030
----	---	---	---	---	------	-----	---	---	---------

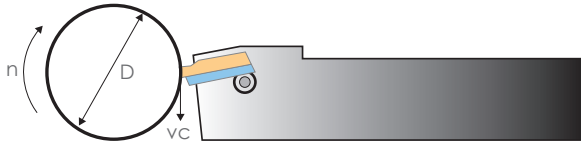
AG 9030

Thread Turning Troubleshooting

Calculation of n [rpm]

$$n = \frac{vc \times 1000}{\pi \times D}$$

$$vc = \frac{\pi \times D \times n}{100}$$



n - Revolution per min
vc - Cutting speed (m/min)
D - Workpiece Diameter (mm)

Problem	Possible Cause	Solution
Increased Flank Wear	Cutting speed too high	Reduce cutting speed / use coated insert
	Depth of cut too low/ too many passes	Increase the depth of cut per pass
	Unsuitable carbide grade	Use a coated carbide grade
Uneven cutting edge wear	Incorrect helix angle	Choose the correct shim
	Wrong infeed method	Use alternating flank infeed method
Extreme plastic deformation	Depth of cut too large	Decrease depth of cut / Increase number of passes
	Insufficient cooling	Increase coolant flow rate
	Cutting speed too high	Reduce cutting speed
	Unsuitable carbide grade	Use a tougher carbide
Cutting edge breakage	Depth of cut too large	Decrease depth of cut ./ Increase number of passes
	Extreme plastic deformation	Use tougher carbide
	Insufficient cooling	Increase coolant flow rate
	Unsuitable carbide grade	Use a coated carbide grade
Built up edge	Incorrect cutting speed	Change the cutting speed
	Unsuitable carbide grade	Use a coated carbide grade
Thread profile too shallow	Tool not at workpiece axis height	Change tool height
	Insert is not machining the crest	Measure the workpiece diameter
Poor surface quality	Too low cutting speed	Increase cutting speed
	Flank infeed method not appropriate	Use alternative flank or radial infeed method

ALUMINA ALPHA SERIES

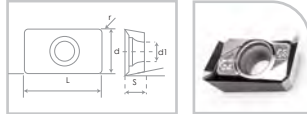


Aluminium Inserts

APGT-ALK 10



Rectangular

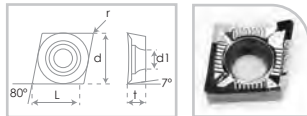


TYPE	DIMENSIONS (mm)					CHIPBREAKER
	L	d	S	d1	r	
1604 G2	16.5	9.525	4.76	1.4	0.8	G2
1135 G2	11	6.35	3.5	1.2	0.8	G2

CCGT-ALK 10



Rhombic 80° Positive Relief Angle: 7°

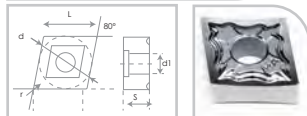


TYPE	DIMENSIONS (mm)					CHIPBREAKER
	L	d	S	d1	r	
060202-AL	6.2	6.35	2.38	2.8	0.2	AK
060204-AL	6.0	6.35	2.38	2.8	0.4	AK
060208-AL	5.6	6.35	2.38	2.8	0.8	AK
09T302-AL	9.4	9.52	3.97	4.4	0.2	AK
09T304-AL	9.2	9.52	3.97	4.4	0.4	AK
09T308-AL	8.8	9.52	3.97	4.4	0.8	AK
120404-AL	12.4	12.7	4.76	5.5	0.4	AK
120408-AL	12.0	12.7	4.76	5.5	0.8	AK

CNMG-ALK 10



Rhombic 80° Negative

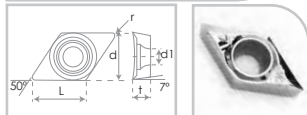


TYPE	DIMENSIONS (mm)					CHIPBREAKER
	L	d	S	d1	r	
120404-AL	12.4	12.7	4.76	5.16	0.4	HA
120408-AL	12.0	12.7	4.76	5.16	0.8	HA

DCGT-ALK 10



Rhombic 50° Positive Relief Angle: 7°



TYPE	DIMENSIONS (mm)					CHIPBREAKER
	L	d	S	d1	r	
070202-AL	7.5	6.35	2.38	2.8	0.2	AK
070204-AL	7.3	6.35	2.38	2.8	0.1	AK
070208-AL	6.8	6.35	2.38	2.8	0.8	AK
11T302-AL	11.4	9.52	3.97	4.4	0.2	AK
11T304-AL	11.2	9.52	3.97	4.4	0.4	AK
11T308-AL	10.8	9.52	3.97	4.4	0.8	AK

Aluminium Inserts

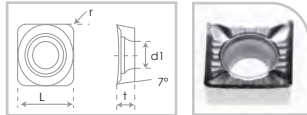
SCGT-ALK 10



Square

90° Positive

Relief Angle: 7°



TYPE	DIMENSIONS (mm)					CHIPBREAKER
	L	d	S	d1	r	
09T304-AL	9.3	9.52	3.97	4.4	0.4	AK
09T308-AL	9.1	9.52	3.97	4.4	0.8	AK
120404-AL	8.7	9.52	3.97	4.4	0.4	AK
120408-AL	12.3	12.7	4.76	5.5	0.8	AK

SEHT-ALK 10



Square

45° Positive



TYPE	DIMENSIONS (mm)					CHIPBREAKER
	L	t	S	d1	r	
1204-AL	12.7	12.7	4.763	9.5	2.7	-

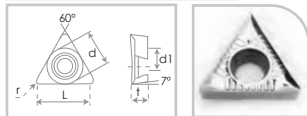
TCGT-ALK 10



Triangular

60° Positive

Relief Angle: 7°



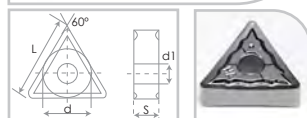
TYPE	DIMENSIONS (mm)					CHIPBREAKER
	L	d	S	d1	r	
090202-AL	9.1	5.56	2.38	2.5	0.2	AK
090204-AL	9.6	5.56	2.38	2.5	0.4	AK
090208-AL	9.6	5.56	2.38	2.5	0.8	AK
110202-AL	10.5	6.35	2.38	2.8	0.2	AK
110204-AL	10	6.35	2.38	2.8	0.4	AK
110208-AL	9	6.35	2.38	2.8	0.8	AK
16T304-AL	15.5	9.52	3.97	4.4	0.4	AK
16T308-AL	14.5	9.52	3.97	4.4	0.8	AK

TNMG-ALK 10



Triangular

60° Negative



TYPE	DIMENSIONS (mm)					CHIPBREAKER
	L	d	S	d1	r	
160404-AL	15.5	9.525	4.76	3.81	3.81	HA
160408-AL	14.5	9.525	4.76	3.81	3.81	HA

Aluminium Inserts

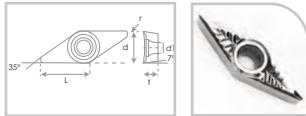
VCGT-ALK 10



Rhombic

35° Positive

Relief Angle: 7°



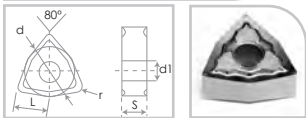
TYPE	DIMENSIONS (mm)					CHIPBREAKER
	L	d	S	d1	r	
110302-AL	10.5	6.35	3.18	2.8	0.2	AK
110304-AL	10.0	6.35	3.18	2.8	0.4	AK
110308-AL	9.0	6.35	3.18	2.8	0.8	AK
160402-AL	16.1	9.52	4.76	4.4	0.2	AK
160404-AL	15.6	9.52	4.76	4.4	0.4	AK
160408-AL	14.0	9.52	4.76	4.4	0.8	AK

WNMG-ALK 10



Trigon

80° Negative

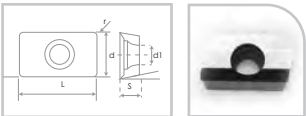


TYPE	DIMENSIONS (mm)					CHIPBREAKER
	L	d	S	d1	r	
060404-AL	6.2	9.525	4.76	3.81	0.4	HA
060408-AL	6.1	9.525	4.76	3.81	0.8	HA
080404-AL	8.4	12.7	4.76	5.16	0.4	HA
080408-AL	8.3	12.7	4.76	5.16	0.8	HA

XPHT-ALK 10



Rectangular



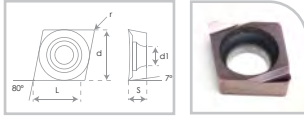
TYPE	DIMENSIONS (mm)					CHIPBREAKER
	L	d	S	d1	r	
160408-AL	15.67	9.525	4.763	1.8	0.8	-

ISO Turning Inserts

CCGT



Rhombic 80° Positive Relief Angle: 7°

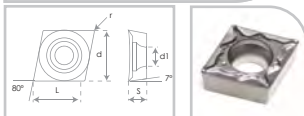


TYPE	DIMENSIONS (mm)					CHIPBREAKER	GRADES														
	L	d	S	d1	r		AC 3000	AK 1500	AP 4225	APM 30	AS 20	ASM 30									
030102 (L/R)	3.0	3.5	1.4		0.2																
030104 (L/R)	3.0	3.5	1.4		0.4																
040102 (L/R)	4.1	4.76	1.8		0.2																
040104 (L/R)	4.1	4.76	1.8		0.4																

CCMT



Rhombic 80° Positive Relief Angle: 7°

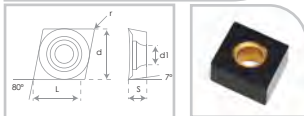


TYPE	DIMENSIONS (mm)					CHIPBREAKER					GRADES										
	L	d	S	d1	r	GM	HM	MP	FG	MA	AC 3000	AK 1500	AP 4225	APM 30	AS 20	ASM 30					
060204	6.0	6.35	2.38	2.8	0.4	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
060208	5.6	6.35	2.38	2.8	0.8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
09T304	9.2	9.52	3.97	4.4	0.4			•	•	•	•	•	•	•	•	•	•	•	•	•	•
09T308	8.8	9.52	3.97	4.4	0.8			•	•	•	•	•	•	•	•	•	•	•	•	•	•
120404	12.4	12.7	4.76	5.5	0.4				•		•	•	•	•	•	•	•	•	•	•	•
120408	12.0	12.7	4.76	5.5	0.8				•		•	•	•	•	•	•	•	•	•	•	•

CNMA



Rhombic 80° Negative

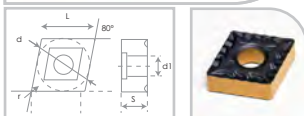


TYPE	DIMENSIONS (mm)					CHIPBREAKER	GRADES														
	L	d	S	d1	r		AC 3000	AK 1500	AP 4225	APM 30	AS 20	ASM 30									
120404	12.0	12.7	4.76	5.5	0.4			•													
120408	12.0	12.7	4.76	5.5	0.8			•													
120412	12.0	12.7	4.76	5.5	1.2			•													

CNMG



Rhombic 80° Negative



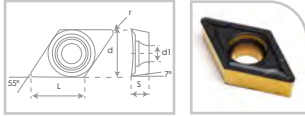
TYPE	DIMENSIONS (mm)					CHIPBREAKER							GRADES								
	L	d	S	d1	r	PM	CQ	FG	BM	BF	TC	GH	AC 3000	AK 1500	AP 4225	APM 30	AS 20	ASM 30			
120404	12.0	12.7	4.76	5.16	0.4	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
120408	12.0	12.7	4.76	5.16	0.8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
120412	12.0	12.7	4.76	5.16	1.2	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•
190608	19.3	19.05	6.35	7.94	0.8	•							•								
190612	19.3	19.05	6.35	7.94	1.2	•							•	•							
190616	19.3	19.05	6.35	7.94	1.6	•							•	•							

ISO Turning Inserts

DCMT



Rhombic 55° Positive Relief Angle: 7°

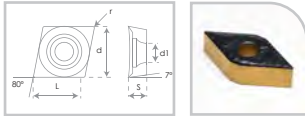
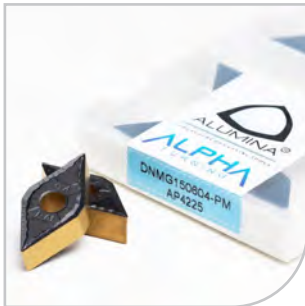


TYPE	DIMENSIONS (mm)					CHIPBREAKER					GRADES					
	L	d	S	d1	r	GM	HM	MP	FG	MA	AC 3000	AK 1500	AP 4225	APM 30	AS 20	ASM 30
070204	7.0	6.35	2.38	2.8	0.4		•				•	•	•			•
070208	7.0	6.35	2.38	2.8	0.8		•				•	•	•			•
11T304	11.0	9.52	3.97	4.4	0.4		•				•	•	•			•
11T308	11.0	9.52	3.97	4.4	0.8		•				•	•	•			•

DNMG



Rhombic 80° Negative

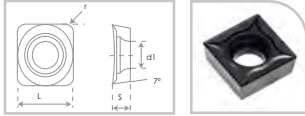
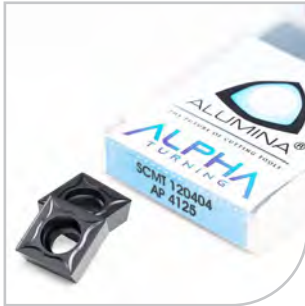


TYPE	DIMENSIONS (mm)					CHIPBREAKER					GRADES					
	L	d	S	d1	r	PM	CQ	FG	BM	BF	AC 3000	AK 1500	AP 4225	APM 30	AS 20	ASM 30
110404	11.0	9.525	4.76	3.81	0.4	•							•			
110408	11.0	9.525	4.76	3.81	0.8	•							•			
150604	15.0	12.7	6.35	5.16	0.4	•			•	•			•			
150608	15.0	12.7	6.35	5.16	0.8	•			•	•			•	•		•
150612	15.0	12.7	6.35	5.16	1.2	•			•	•			•	•		•

SCMT



Square 90° Positive Relief Angle: 7°

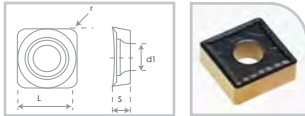


TYPE	DIMENSIONS (mm)					CHIPBREAKER					GRADES					
	L	d	S	d1	r	GM	HM	MP	FG	MA	AC 3000	AK 1500	AP 4225	APM 30	AS 20	ASM 30
09T304	9.0	9.52	3.97	4.4	0.4		•	•					•			•
09T308	9.0	9.52	3.97	4.4	0.8		•	•					•			•
120404	12.0	12.7	4.76	5.5	0.4		•	•					•			•
120408	12.0	12.7	4.76	5.5	0.8		•	•					•			•

SNMG



Square 90° Negative



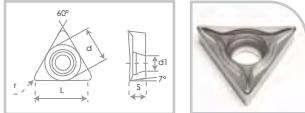
TYPE	DIMENSIONS (mm)					CHIPBREAKER							GRADES					
	L	d	S	d1	r	PM	CQ	FG	BR	MA	TC	GH	AC 3000	AK 1500	AP 4225	APM 30	AS 20	ASM 30
120408	12.7	12.7	4.76	5.16	0.8											•		•
120412	12.7	12.7	4.46	5.16	1.2											•		•
190612	19.05	19.05	6.35	7.94	1.2	•					•				•	•		
190616	19.05	19.05	6.35	7.94	1.6	•					•				•	•		

ISO Turning Inserts

TCMT



Triangular 60° Positive Relief Angle: 7°

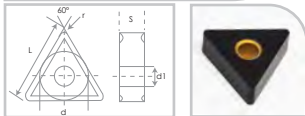


TYPE	DIMENSIONS (mm)					CHIPBREAKER					GRADES					
	L	d	S	d1	r	GM	HM	MP	FG	SL	AC 3000	AK 1500	AP 4225	APM 30	AS 20	ASM 30
110204	11.0	6.35	2.38	2.8	0.4				•	•	•	•	•	•	•	•
110208	11.0	6.35	2.38	2.8	0.8				•	•	•	•	•	•	•	•
16T304	16.0	9.52	3.97	4.4	0.4				•	•	•	•	•	•	•	•
16T308	16.0	9.52	3.97	4.4	0.8				•	•	•	•	•	•	•	•
16T312	16.0	9.52	3.97	4.4	1.2			•							•	

TNMA



Triangular 60° Negative

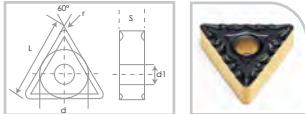
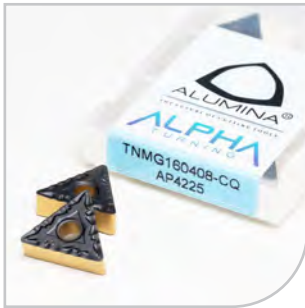


TYPE	DIMENSIONS (mm)					CHIPBREAKER					GRADES					
	L	d	S	d1	r	GM	HM	MP	FG	SL	AC 3000	AK 1500	AP 4225	APM 30	AS 20	ASM 30
160404	16.0	9.525	4.76	3.81	0.4						•	•	•	•	•	•
160408	16.0	9.525	4.76	3.81	0.8						•	•	•	•	•	•
160412	16.0	9.525	4.76	3.81	1.2						•	•	•	•	•	•

TNMG



Triangular 60° Negative

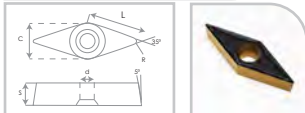


TYPE	DIMENSIONS (mm)					CHIPBREAKER							GRADES						
	L	d	S	d1	r	PM	CQ	FG	BM	BF	TC	GH	AC 3000	AK 1500	AP 4225	APM 30	AS 20	ASM 30	
160404	16.0	9.525	4.76	3.81	0.4	•	•	•	•	•	•	•	•	•	•	•	•	•	•
160408	16.0	9.525	4.76	3.81	0.8	•	•	•	•	•	•	•	•	•	•	•	•	•	•
160412	16.0	9.525	4.76	3.81	1.2	•	•	•	•	•	•	•	•	•	•	•	•	•	•

VBMT



Rhombic 35° Positive Relief Angle: 5°



TYPE	DIMENSIONS (mm)					CHIPBREAKER					GRADES					
	L	C	s	d	R	GM	HM	MV	FG	MA	AC 3000	AK 1500	AP 4225	APM 30	AS 20	ASM 30
160404	16.0	9.525	4.76	4.4	0.4			•	•		•	•	•	•	•	•
160408	16.0	9.525	4.76	4.4	0.8			•	•		•	•	•	•	•	•

ISO Turning Inserts

VNMG

 Rhombic 35° Positive



TYPE	DIMENSIONS (mm)					CHIPBREAKER							GRADES						
	L	d	S	C	R	PM	NF	FG	BM	BF	TC	GH	AC 3000	AK 1500	AP 4225	APM 30	AS 20	ASM 30	
12T304	12.4	3.81	3.97		0.4		•						•		•			•	
12T308	12.4	3.81	3.97		0.8		•						•		•			•	
160404	16.6	3.81	4.76	9.525	0.4	•					•		•		•			•	
160408	16.6	3.81	4.76	9.525	0.8	•					•		•		•			•	
160412	16.6	3.81	4.76	9.525	1.2	•					•		•		•			•	

WBGT

 Trigon 80° Positive



TYPE	DIMENSIONS (mm)					CHIPBREAKER							GRADES						
	L	d	S	d1	r	PM	NF	FG	BM	BF	TC	GH	AC 3000	AK 1500	AP 4225	APM 30	AS 20	ASM 30	
060102 (L/R)	2.18	3.97	1.59	2.24	0.2								•					•	
060104 (L/R)	2.18	3.97	1.59	2.24	0.4								•					•	

WNMA

 Trigon 80° Positive



TYPE	DIMENSIONS (mm)					CHIPBREAKER							GRADES						
	L	d	s	d	R	PM	NF	FG	BM	BF	TC	GH	AC 3000	AK 1500	AP 4225	APM 30	AS 20	ASM 30	
080408	8.0	12.7	4.76	5.16	0.8									•					
080412	8.0	12.7	4.76	5.16	1.2									•					

WNMG

 Trigon 80° Negative



TYPE	DIMENSIONS (mm)					CHIPBREAKER							GRADES						
	L	d	S	d1	R	PM	CQ	BM	BF	TC	GH	AC 3000	AK 1500	AP 4225	APM 30	AS 20	ASM 30		
060404	6.0	9.525	4.76	3.81	0.4	•								•					
060408	6.0	9.525	4.76	3.81	0.8	•	•	•	•	•	•			•	•	•	•	•	•
080404	8.0	12.7	4.76	5.16	0.4	•	•	•	•	•	•			•	•	•	•	•	•
080408	8.0	12.7	4.76	5.16	0.8	•	•	•	•	•	•			•	•	•	•	•	•
080412	8.0	12.7	4.76	5.16	1.2	•	•	•	•	•	•			•	•	•	•	•	•

ISO Milling Inserts

APMT

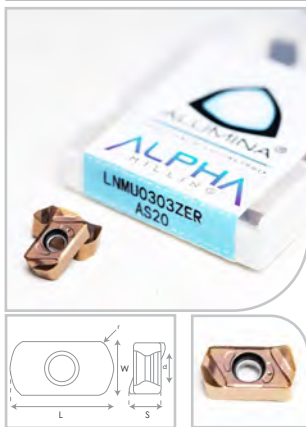
Rectangular



TYPE	DIMENSIONS (mm)					GRADES				
	L	d	W	S	r	AC 3000	AK 1500	APM 30	AS 20	ASM 30
1135 H2	11.0	2.8	6.35	3.5	0.8				•	•
1135 M2	11.0	2.8	6.35	3.5	0.8				•	•
1135 FM	11.0	2.8	6.35	3.5	0.8			•		
1604 H2	16.5	4.4	9.525	4.76	0.8				•	•
1604 KZ	16.5	4.4	9.525	4.76	0.8			•	•	•
1604 M2	16.5	4.4	9.525	4.76	0.8				•	•
160420 HH	16.5	4.4	9.525	4.76	2.0				•	•
160430 HH	16.5	4.4	9.525	4.76	3.0				•	•

LNMU

Rectangular



TYPE	DIMENSIONS (mm)					GRADES				
	L	d	W	S	r	AC 3000	AK 1500	APM 30	AS 20	ASM 30
0303ZER MJ	11.96	2.8	6	3.7	1.2			•	•	•

LOGU

Rectangular



TYPE	DIMENSIONS (mm)					GRADES				
	L	d	W	S	r	AC 3000	AK 1500	APM 30	AS 20	ASM 30
030310 ER GM	11.9	3.45	6.2	3.96	1.0				•	•

ONMU

Polygon

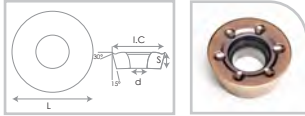


TYPE	DIMENSIONS (mm)					GRADES				
	L	d	W	S	r	AC 3000	AK 1500	APM 30	AS 20	ASM 30
080608	8.3	5.3	6.0	29.2	0.83		•	•		•

ISO Milling Inserts

RDKT

Round



TYPE	DIMENSIONS (mm)				GRADES				
	L	d	I.C	S	AC 3000	AK 1500	APM 30	AS 20	ASM 30
1204	12.0	4.8	12.0	4.7				•	•
1605	16.0	5.5	16.0	5.56				•	•

SDMT

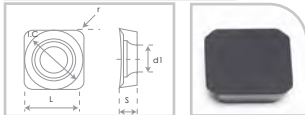
Square



TYPE	DIMENSIONS (mm)					GRADES				
	L	d1	I.C	S	r	AC 3000	AK 1500	APM 30	AS 20	ASM 30
120512	12.7	4.5	12.7	5.6	1.2				•	
150512	15.875	4.6	15.875	5.6	1.2				•	

SEKN

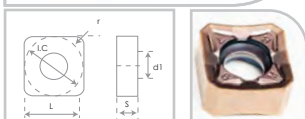
Square



TYPE	DIMENSIONS (mm)					GRADES				
	L	d1	I.C	S	r	AC 3000	AK 1500	APM 30	AS 20	ASM 30
030310 ER GM	11.9	3.45	6.2	3.96	1.0				•	

SNMX

Square



TYPE	DIMENSIONS (mm)					GRADES				
	L	d	I.C	S	r	AC 3000	AK 1500	APM 30	AS 20	ASM 30
1206 ANN	12.7	5.6	12.7	6.27	1.2				•	•
1206 ZNN	12.7	5.6	12.7	6.27	1.2				•	•

ISO Milling Inserts

SPKN

 Square



TYPE	DIMENSIONS (mm)					GRADES				
	L	d	I.C	S	r	AC 3000	AK 1500	APM 30	AS 20	ASM 30
1203	12.7		12.7	3.18				•		
1504	15.875		15.875	4.76				•		



TPKN

 Triangular



TYPE	DIMENSIONS (mm)					GRADES				
	L	d	W	S	r	AC 3000	AK 1500	APM 30	AS 20	ASM 30
1603 PDR	16.5	9.525		3.18				•		
2204 PDR	22.0	12.7		4.76				•		

WNMU

 Trigon



TYPE	DIMENSIONS (mm)					GRADES				
	L	d1	I.C	S	r	AC 3000	AK 1500	APM 30	AS 20	ASM 30
080608	14.2		6.63	6.2	0.8		•		•	•

ISO Grooving Inserts

TDC



TYPE	DIMENSIONS (mm)				GRADES		
	W	r	L	s	AC 3000	AG 9030	ASM 30
2	2	0.2	20	4.0		•	•
3	3	0.2	20	4.1		•	•
4	4	0.3	20	4.15		•	•
5	5	0.3	25	5.05		•	•

TDJ



TYPE	DIMENSIONS (mm)				GRADES		
	W	r	L	s	AC 3000	AG 9030	ASM 30
2	2	0.2	20	3.9		•	•
3	3	0.2	20	4		•	•
4	4	0.3	20	4.05		•	•

TDR



TYPE	DIMENSIONS (mm)				GRADES		
	W	r	L	BW	AC 3000	AG 9030	ASM 30
2	2.0	1.00	20.0	1.7		•	•
3	3.0	1.50	20.0	2.4		•	•
4	4.0	2.00	20.0	3.0		•	•

TDXU



TYPE	DIMENSIONS (mm)				GRADES		
	W	r	L	S	AC 3000	AG 9030	ASM 30
2 E - 0.2	2	0.2	20	4.0	•	•	•
3 E - 0.3	3	0.3	20	4.1	•	•	•
4 E - 0.4	4	0.4	20	4.15	•	•	•

MGMN



TYPE	DIMENSIONS (mm)				GRADES		
	L	I.C	S	r	AP 4225	AG 9030	ASM 30
150	0.15	16.0	1.2	3.5	•	•	•
200	0.2	18.5	2.0	3.75	•	•	•
250	0.2	18.5	2.0	3.75	•	•	•
300	0.4	21.0	2.35	5.0	•	•	•
400	0.2	21.0	3.3	5.0	•	•	•
500	0.8	26.0	4.1	5.8	•	•	•

PARTIAL PROFILE 60°

Type	Picture	Designation (Right)	Designation (Left)	Pitch		Dimensions				
				mm	tpi	d	L	r	x	f
External		ER 11 - A 60	EL 11 - A 60	0.5 ~ 1.5	48 ~ 16	6.35	11	0.05	0.8	0.9
		16 - A 60	16 - A 60	0.5 ~ 1.5	48 ~ 16	9.525	16	0.05	0.8	0.9
		16 - G 60	16 - G 60	1.75 ~ 3.0	14 ~ 8	9.525	16	0.27	1.2	1.7
		16 - AG 60	16 - AG 60	0.5 ~ 3.0	48 ~ 8	9.525	16	0.08	1.2	1.7
		22 - N 60	22 - N 60	3.5 ~ 5.0	7 ~ 5	12.7	22	0.53	1.7	2.5
		27 - Q 60	27 - Q 60	5.5 ~ 6.0	4.5 ~ 4	15.875	27	0.64	2.1	3.1
Internal		IR 08 - A 60	IL 08 - A 60	0.5 ~ 1.5	48 ~ 16	4.76	8	0.05	0.6	0.7
		11 - A 60	11 - A 60	0.5 ~ 1.5	48 ~ 16	6.35	11	0.05	0.8	0.9
		16 - A 60	16 - A 60	0.5 ~ 1.5	48 ~ 16	9.525	16	0.05	0.8	0.9
		16 - G 60	16 - G 60	1.75 ~ 3.0	14 ~ 8	9.525	16	0.16	1.2	1.7
		16 - AG 60	16 - AG 60	0.5 ~ 3.0	48 ~ 8	9.525	16	0.05	1.2	1.7
		22 - N 60	22 - N 60	3.5 ~ 5.0	7 ~ 5	12.7	22	0.30	1.7	2.5
27 - Q 60	27 - Q 60	5.5 ~ 6.0	4.5 ~ 4	15.875	27	0.30	1.8	2.7		

PARTIAL PROFILE 55°

Type	Picture	Designation (Right)	Designation (Left)	Pitch		Dimensions				
				mm	tpi	d	L	r	x	f
External		ER 11 - A55	EL 11 - A55	0.5 - 1.5	48 - 16	6.35	11	0.05	0.8	0.9
		16 - A55	16 - A55	0.5 - 1.5	48 - 16	9.525	16	0.05	0.8	0.9
		16 - G 55	16 - G55	1.75 - 3.0	14 - 8	9.525	16	0.21	1.2	1.7
		16 - AG55	16 - AG55	0.5 - 3.0	48 - 8	9.525	16	0.07	1.2	1.7
		22 - N55	22 - N55	3.5 - 5.0	.7 - 5	12.7	22	0.43	1.7	2.5
		27 - Q55	27 - Q55	5.5 - 6.0	4.5 - 4	15.875	27	0.6	2	2.9
Internal		IR 11 - A55	IL 11 - A55	0.5 - 1.5	48 - 16	6.35	11	0.05	0.8	0.9
		16 - A55	16 - A55	0.5 - 1.5	48 - 16	9.525	16	0.05	0.8	0.9
		16 - G55	16 - G55	1.75 - 3.0	14 - 8	9.525	16	0.21	1.2	1.7
		16 - AG55	16 - AG55	0.5 - 3.0	14 - 18	9.525	16	0.07	1.2	1.7
		22 - N55	22 - N55	3.5 - 5.0	.7 - 5	12.7	22	0.43	1.7	2.5
		27 - Q55	27 - Q55	5.5 - 6.0	4.5 - 4	15.875	27	0.6	2	2.9

ISO Threading Inserts

ISO METRIC EXTERNAL

Type	Picture	Designation (Right)	Designation (Left)	Pitch	Dimensions				
				mm	d	L	hmin	x	f
External		ER 11 - 0.35 ISO	EL 11 - 0.35 ISO	0.35	6.35	11	0.21	0.8	0.4
		11 - 0.4 ISO	11 - 0.4 ISO	0.4	6.35	11	0.25	0.7	0.4
		11 - 0.45 ISO	11 - 0.45 ISO	0.45	6.35	11	0.28	0.7	0.4
		11 - 0.5 ISO	11 - 0.5 ISO	0.5	6.35	11	0.31	0.6	0.4
		11 - 0.6 ISO	11 - 0.6 ISO	0.6	6.35	11	0.37	0.6	0.6
		11 - 0.7 ISO	11 - 0.7 ISO	0.7	6.35	11	0.43	0.6	0.6
		11 - 0.75 ISO	11 - 0.75 ISO	0.75	6.35	11	0.46	0.6	0.6
		11 - 0.8 ISO	11 - 0.8 ISO	0.8	6.35	11	0.49	0.6	0.6
		11 - 1.0 ISO	11 - 1.0 ISO	1	6.35	11	0.61	0.7	0.7
		11 - 1.25 ISO	11 - 1.25 ISO	1.25	6.35	11	0.77	0.8	0.9
		11 - 1.5 ISO	11 - 1.5 ISO	1.5	6.35	11	0.92	0.8	1
		11 - 1.75 ISO	11 - 1.75 ISO	1.75	6.35	11	1.07	0.8	1.1
		16 - 0.35 ISO	16 - 0.35 ISO	0.35	9.525	16	0.21	0.8	0.4
		16 - 0.4 ISO	16 - 0.4 ISO	0.4	9.525	16	0.25	0.7	0.4
		16 - 0.45 ISO	16 - 0.45 ISO	0.45	9.525	16	0.28	0.7	0.4
		16 - 0.5 ISO	16 - 0.5 ISO	0.5	9.525	16	0.31	0.6	0.4
		16 - 0.6 ISO	16 - 0.6 ISO	0.6	9.525	16	0.37	0.6	0.6
		16 - 0.7 ISO	16 - 0.7 ISO	0.7	9.525	16	0.43	0.6	0.6
		16 - 0.75 ISO	16 - 0.75 ISO	0.75	9.525	16	0.46	0.6	0.6
		16 - 0.8 ISO	16 - 0.8 ISO	0.8	9.525	16	0.49	0.6	0.6
		16 - 1.0 ISO	16 - 1.0 ISO	1	9.525	16	0.61	0.7	0.7
		16 - 1.25 ISO	16 - 1.25 ISO	1.25	9.525	16	0.77	0.8	0.9
		16 - 1.5 ISO	16 - 1.5 ISO	1.5	9.525	16	0.92	0.8	1
		16 - 1.75 ISO	16 - 1.75 ISO	1.75	9.525	16	1.07	0.9	1.2
		16 - 2.0 ISO	16 - 2.0 ISO	2	9.525	16	1.23	1	1.3
		16 - 2.5 ISO	16 - 2.5 ISO	2.5	9.525	16	1.53	1.1	1.5
		16 - 3.0 ISO	16 - 3.0 ISO	3	9.525	16	1.84	1.2	1.6
		22 - 3.5 ISO	22 - 3.5 ISO	3.5	12.7	22	2.15	1.6	2.3
		22 - 4.0 ISO	22 - 4.0 ISO	4	12.7	22	2.45	1.6	2.3
		22 - 4.5 ISO	22 - 4.5 ISO	4.5	12.7	22	2.78	1.7	2.4
22 - 5.0 ISO	22 - 5.0 ISO	5	12.7	22	3.07	1.7	2.5		
27 - 5.5 ISO	27 - 5.5 ISO	5.5	15.875	27	3.37	1.9	2.7		
27 - 6.0 ISO	27 - 6.0 ISO	6	15.875	27	3.68	2	2.9		

ISO Threading Inserts

ISO METRIC INTERNAL

Type	Picture	Designation (Right)	Designation (Left)	Pitch	Dimensions				
				mm	d	L	hmin	x	f
Internal		IR 11 - 0.35 ISO	IL 11 - 0.35 ISO	0.35	6.35	11	0.2	0.8	0.3
		11 - 0.4 ISO	11 - 0.4 ISO	0.4	6.35	11	0.23	0.8	0.4
		11 - 0.45 ISO	11 - 0.45 ISO	0.45	6.35	11	0.26	0.8	0.4
		11 - 0.5 ISO	11 - 0.5 ISO	0.5	6.35	11	0.29	0.6	0.4
		11 - 0.6 ISO	11 - 0.6 ISO	0.6	6.35	11	0.35	0.6	0.6
		11 - 0.7 ISO	11 - 0.7 ISO	0.7	6.35	11	0.4	0.6	0.6
		11 - 0.75 ISO	11 - 0.75 ISO	0.75	6.35	11	0.43	0.6	0.6
		11 - 1.8 ISO	11 - 1.8 ISO	0.8	6.35	11	0.46	0.6	0.6
		11 - 1.0 ISO	11 - 1.0 ISO	1	6.35	11	0.58	0.6	0.7
		11 - 1.25 ISO	11 - 1.25 ISO	1.25	6.35	11	0.72	0.8	0.9
		11 - 1.5 ISO	11 - 1.5 ISO	1.5	6.35	11	0.87	0.8	1
		11 - 1.75 ISO	11 - 1.75 ISO	1.75	6.35	11	1.01	0.9	1.1
		11 - 2.0 ISO	11 - 2.0 ISO	2	9.525	16	1.15	0.9	1.1
		11 - 2.5 ISO	11 - 2.5 ISO	2.5	9.525	16	1.44	0.8	1.1
		16 - 0.35 ISO	16 - 0.35 ISO	0.35	9.525	16	0.2	0.8	0.3
		16 - 0.4 ISO	16 - 0.4 ISO	0.4	9.525	16	0.23	0.8	0.4
		16 - 0.45 ISO	16 - 0.45 ISO	0.45	9.525	16	0.26	0.8	0.4
		16 - 0.5 ISO	16 - 0.5 ISO	0.5	9.525	16	0.29	0.6	0.4
		16 - 0.6 ISO	16 - 0.6 ISO	0.6	9.525	16	0.35	0.6	0.6
		16 - 0.7 ISO	16 - 0.7 ISO	0.7	9.525	16	0.4	0.6	0.6
		16 - 0.75 ISO	16 - 0.75 ISO	0.75	9.525	16	0.43	0.6	0.6
		16 - 0.8 ISO	16 - 0.8 ISO	0.8	9.525	16	0.46	0.6	0.6
		16 - 1.0 ISO	16 - 1.0 ISO	1	9.525	16	0.58	0.6	0.7
		16 - 1.25 ISO	16 - 1.25 ISO	1.25	9.525	16	0.72	0.8	0.9
		16 - 1.5 ISO	16 - 1.5 ISO	1.5	9.525	16	0.87	0.8	1
		16 - 1.75 ISO	16 - 1.75 ISO	1.75	9.525	16	1.01	0.9	1.2
		16 - 2.0 ISO	16 - 2.0 ISO	2	9.525	16	1.15	1	1.3
		16 - 2.5 ISO	16 - 2.5 ISO	2.5	9.525	22	1.44	1.1	1.5
		16 - 3.0 ISO	16 - 3.0 ISO	3	9.525	22	1.73	1.1	1.5
		22 - 3.5 ISO	22 - 3.5 ISO	3.5	12.7	22	2.02	1.6	2.3
22 - 4.0 ISO	22 - 4.0 ISO	4	12.7	22	2.31	1.6	2.3		
22 - 4.5 ISO	22 - 4.5 ISO	4.5	12.7	22	2.6	1.6	2.4		
22 - 5.0 ISO	22 - 5.0 ISO	5	12.7	22	2.89	1.6	2.3		
27 - 5.5 ISO	27 - 5.5 ISO	5.5	15.875	27	3.17	1.6	2.3		
27 - 6.0 ISO	27 - 6.0 ISO	6	15.875	27	3.46	1.8	2.5		

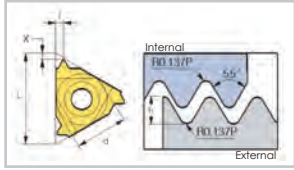
AMERICAN UN EXTERNAL (UN, UNC, UNF, UNEF, UNS)

Type	Picture	Designation (Right)	Designation (Left)	Pitch	Dimensions				
					tpi	d	L	hmin	x
External		ER 11 - 72 UN	EL 11-72 UN	72	6.35	11	0.22	0.8	0.4
		11 - 64 UN	11 - 64 UN	64	6.35	11	0.24	0.8	0.4
		11 - 56 UN	11 - 56 UN	56	6.35	11	0.28	0.7	0.4
		11 - 48 UN	11 - 48 UN	48	6.35	11	0.32	0.6	0.6
		11 - 44 UN	11 - 44 UN	44	6.35	11	0.35	0.6	0.6
		11 - 40 UN	11 - 40 UN	40Z	6.35	11	0.39	0.6	0.6
		11 - 36 UN	11 - 36 UN	36	6.35	11	0.43	0.6	0.6
		11 - 32 UN	11 - 32 UN	32	6.35	11	0.49	0.6	0.6
		11 - 28 UN	11 - 28 UN	28	6.35	11	0.56	0.6	0.7
		11 - 27 UN	11 - 27 UN	27	6.35	11	0.58	0.7	0.8
		11 - 24 UN	11 - 24 UN	24	6.35	11	0.65	0.7	0.8
		11 - 20 UN	11 - 20 UN	20	6.35	11	0.78	0.8	0.9
		11 - 18 UN	11 - 18 UN	18	6.35	11	0.87	0.8	1
		11 - 16 UN	11 - 16 UN	16	6.35	11	0.97	0.9	1.1
		11 - 14 UN	11 - 14 UN	14	6.35	11	1.11	0.9	1.1
		16 - 72 UN	16 - 72 UN	72	9.525	16	0.22	0.8	0.4
		16 - 64 UN	16 - 64 UN	64	9.525	16	0.24	0.8	0.4
		16 - 56 UN	16 - 56 UN	56	9.525	16	0.28	0.7	0.4
		16 - 48 UN	16 - 48 UN	48	9.525	16	0.32	0.6	0.6
		16 - 44 UN	16 - 44 UN	44	9.525	16	0.35	0.6	0.6
		16 - 40 UN	16 - 40 UN	40	9.525	16	0.39	0.6	0.6
		16 - 36 UN	16 - 36 UN	36	9.525	16	0.43	0.6	0.6
		16 - 32 UN	16 - 32 UN	32	9.525	16	0.49	0.6	0.6
		16 - 28 UN	16 - 28 UN	28	9.525	16	0.56	0.6	0.7
		16 - 27 UN	16 - 27 UN	27	9.525	16	0.58	0.7	0.8
		16 - 24 UN	16 - 24 UN	24	9.525	16	0.65	0.7	0.8
		16 - 20 UN	16 - 20 UN	20	9.525	16	0.78	0.8	0.9
		16 - 18 UN	16 - 18 UN	18	9.525	16	0.87	0.8	1
		16 - 16 UN	16 - 16 UN	16	9.525	16	0.97	0.9	1.1
		16 - 14 UN	16 - 14 UN	14	9.525	16	1.11	1	1.2
		16 - 13 UN	16 - 13 UN	13	9.525	16	1.2	1	1.3
		16 - 12 UN	16 - 12 UN	12	9.525	16	1.3	1.1	1.4
16 - 11.5 UN	16 - 11.5 UN	11.5	9.525	16	1.35	1.1	1.5		
16 - 11 UN	16 - 11 UN	11	9.525	16	1.42	1.1	1.5		
16 - 10 UN	16 - 10 UN	10	9.525	16	1.56	1.1	1.5		
16 - 9 UN	16 - 9 UN	9	9.525	16	1.73	1.2	1.7		
16 - 8 UN	16 - 8 UN	8	9.525	16	1.95	1.2	1.6		
22 - 7 UN	22 - 7 UN	7	12.7	22	2.22	1.6	2.3		
22 - 6 UN	22 - 6 UN	6	12.7	22	2.6	1.6	2.3		
22 - 5 UN	22 - 5 UN	5	12.7	22	3.12	1.7	2.5		
27 - 4.5 UN	27 - 4.5 UN	4.5	15.875	27	3.46	1.9	2.7		
27 - 4 UN	27 - 4 UN	4	15.875	27	3.89	2.1	3		

AMERICAN UN INTERNAL (UN, UNC, UNF, UNEF, UNS)

Type	Picture	Designation (Right)	Designation (Left)	Pitch	Dimensions				
				tpi	d	L	hmin	x	f
Internal		IR 11 - 72 UN	IL 11 - 72 UN	72	6.35	11	0.2	0.8	0.3
		11 - 64 UN	11 - 64 UN	64	6.35	11	0.23	0.8	0.4
		11 - 56 UN	11 - 56 UN	56	6.35	11	0.26	0.7	0.4
		11 - 48 UN	11 - 48 UN	48	6.35	11	0.31	0.6	0.6
		11 - 44 UN	11 - 44 UN	44	6.35	11	0.33	0.6	0.6
		11 - 40 UN	11 - 40 UN	40	6.35	11	0.37	0.6	0.6
		11 - 36 UN	11 - 36 UN	36	6.35	11	0.41	0.6	0.6
		11 - 32 UN	11 - 32 UN	32	6.35	11	0.46	0.6	0.6
		11 - 28 UN	11 - 28 UN	28	6.35	11	0.52	0.6	0.7
		11 - 27 UN	11 - 27 UN	27	6.35	11	0.54	0.7	0.8
		11 - 24 UN	11 - 24 UN	24	6.35	11	0.61	0.7	0.8
		11 - 20 UN	11 - 20 UN	20	6.35	11	0.73	0.8	0.9
		11 - 18 UN	11 - 18 UN	18	6.35	11	0.81	0.8	1
		11 - 16 UN	11 - 16 UN	16	6.35	11	0.92	0.9	1.1
		11 - 14 UN	11 - 14 UN	14	6.35	11	1.05	0.9	1.1
		11 - 12 UN	11 - 12 UN	12	6.35	11	1.22	0.8	1.1
		11 - 11 UN	11 - 11 UN	11	6.35	11	1.33	0.8	1.1
		16 - 72 UN	16 - 72 UN	72	9.525	16	0.2	0.8	0.3
		16 - 64 UN	16 - 64 UN	64	9.525	16	0.23	0.8	0.4
		16 - 56 UN	16 - 56 UN	56	9.525	16	0.26	0.7	0.4
		16 - 48 UN	16 - 48 UN	48	9.525	16	0.31	0.6	0.6
		16 - 44 UN	16 - 44 UN	44	9.525	16	0.33	0.6	0.6
		16 - 40 UN	16 - 40 UN	40	9.525	16	0.37	0.6	0.6
		16 - 36 UN	16 - 36 UN	36	9.525	16	0.41	0.6	0.6
		16 - 32 UN	16 - 32 UN	32	9.525	16	0.51	0.6	0.6
		16 - 28 UN	16 - 28 UN	28	9.525	16	0.52	0.6	0.7
		16 - 27 UN	16 - 27 UN	27	9.525	16	0.54	0.7	0.8
		16 - 24 UN	16 - 24 UN	24	9.525	16	0.61	0.7	0.8
		16 - 20 UN	16 - 20 UN	20	9.525	16	0.73	0.8	0.9
		16 - 18 UN	16 - 18 UN	18	9.525	16	0.81	0.8	1
		16 - 16 UN	16 - 16 UN	16	9.525	16	0.92	0.9	1.1
		16 - 14 UN	16 - 14 UN	14	9.525	16	1.05	0.9	1.2
		16 - 13 UN	16 - 13 UN	13	9.525	16	1.13	1	1.3
		16 - 12 UN	16 - 12 UN	12	9.525	16	1.22	1.1	1.4
16 - 11.5 UN	16 - 11.5 UN	11.5	9.525	16	1.28	1.1	1.5		
16 - 11 UN	16 - 11 UN	11	9.525	16	1.33	1.1	1.5		
16 - 10 UN	16 - 10 UN	10	9.525	16	1.47	1.1	1.5		
16 - 9 UN	16 - 9 UN	9	9.525	16	1.63	1.2	1.7		
16 - 8 UN	16 - 8 UN	8	9.525	16	1.83	1.2	1.5		
22 - 7 UN	22 - 7 UN	7	12.7	22	2.09	1.6	2.3		
22 - 6 UN	22 - 6 UN	6	12.7	22	2.44	1.6	2.3		
22 - 5 UN	22 - 5 UN	5	12.7	22	2.93	1.7	2.3		
27 - 4.5 UN	27 - 4.5 UN	4.5	15.875	27	3.26	1.9	2.4		
27 - 4 UN	27 - 4 UN	4	15.875	27	3.67	2.1	2.7		

WHITWORTH EXTERNAL (BSW, BSP, BSB)

Type	Picture	Designation (Right)	Designation (Left)	Pitch	Dimensions				
				tpi	d	L	hmin	x	f
External		ER 11 - 19 W	EL 11 - 19 W	19	6.35	11	0.86	0.8	1
		11 - 18 W	11 - 18 W	18	6.35	11	0.9	0.8	1
		11 - 16 W	11 - 16 W	16	6.35	11	1.02	0.9	1.1
		11 - 14 W	11 - 14 W	14	6.35	11	1.16	1	1.2
		16 - 72 W	16 - 72 W	72	9.525	16	0.23	0.7	0.4
		16 - 60 W	16 - 60 W	60	9.525	16	0.27	0.7	0.4
		16 - 56 W	16 - 56 W	56	9.525	16	0.29	0.7	0.4
		16 - 48 W	16 - 48 W	48	9.525	16	0.34	0.6	0.6
		16 - 40 W	16 - 40 W	40	9.525	16	0.41	0.6	0.6
		16 - 36 W	16 - 36 W	36	9.525	16	0.45	0.6	0.6
		16 - 32 W	16 - 32 W	32	9.525	16	0.51	0.6	0.6
		16 - 30 W	16 - 30 W	30	9.525	16	0.55	0.6	0.7
		16 - 28 W	16 - 28 W	28	9.525	16	0.58	0.6	0.7
		16 - 26 W	16 - 26 W	26	9.525	16	0.63	0.7	0.8
		16 - 24 W	16 - 24 W	24	9.525	16	0.68	0.7	0.8
		16 - 22 W	16 - 22 W	22	9.525	16	0.74	0.8	0.9
		16 - 20 W	16 - 20 W	20	9.525	16	0.81	0.8	0.9
		16 - 19 W	16 - 19 W	19	9.525	16	0.86	0.8	1
		16 - 18 W	16 - 18 W	18	9.525	16	0.9	0.8	1
		16 - 16 W	16 - 16 W	16	9.525	16	1.02	0.9	1.1
		16 - 14 W	16 - 14 W	14	9.525	16	1.16	1	1.2
		16 - 12 W	16 - 12 W	12	9.525	16	1.36	1.1	1.4
		16 - 11 W	16 - 11 W	11	9.525	16	1.48	1.1	1.5
		16 - 10 W	16 - 10 W	10	9.525	16	1.63	1.1	1.5
		16 - 9 W	16 - 9 W	9	9.525	16	1.81	1.2	1.7
		16 - 8 W	16 - 8 W	8	9.525	16	2.03	1.2	1.5
		22 - 7 W	22 - 7 W	7	12.7	22	3.32	1.6	2.3
		22 - 6 W	22 - 6 W	6	12.7	22	2.71	1.6	2.3
		22 - 5 W	22 - 5 W	5	12.7	22	3.25	1.7	2.4
		27 - 4.5 W	27 - 4.5 W	4.5	15.875	27	3.61	1.8	2.6
		27 - 4 W	27 - 4 W	4	15.875	27	4.07	2	2.9

WHITWORTH INTERNAL (BSW, BSP, BSB)

Type	Picture	Designation (Right)	Designation (Left)	Pitch	Dimensions				
				tpi	d	L	hmin	x	f
Internal		IR 11 - 19 W	IL 11 - 19 W	19	6.35	11	0.86	0.8	1
		11 - 18 W	11 - 18 W	18	6.35	11	0.9	0.8	1
		11 - 16 W	11 - 16 W	16	6.35	11	1.02	0.9	1.1
		11 - 14 W	11 - 14 W	14	6.35	11	1.16	1	1.2
		16 - 72 W	16 - 72 W	72	9.525	16	0.23	0.7	0.4
		16 - 60 W	16 - 60 W	60	9.525	16	0.27	0.7	0.4
		16 - 56 W	16 - 56 W	56	9.525	16	0.29	0.7	0.4
		16 - 48 W	16 - 48 W	48	9.525	16	0.34	0.6	0.6
		16 - 40 W	16 - 40 W	40	9.525	16	0.41	0.6	0.6
		16 - 36 W	16 - 36 W	36	9.525	16	0.45	0.6	0.6
		16 - 32 W	16 - 32 W	32	9.525	16	0.51	0.6	0.6
		16 - 30 W	16 - 30 W	30	9.525	16	0.55	0.6	0.7
		16 - 28 W	16 - 28 W	28	9.525	16	0.58	0.6	0.7
		16 - 26 W	16 - 26 W	26	9.525	16	0.63	0.7	0.8
		16 - 24 W	16 - 24 W	24	9.525	16	0.68	0.7	0.8
		16 - 22 W	16 - 22 W	22	9.525	16	0.74	0.8	0.9
		16 - 20 W	16 - 20 W	20	9.525	16	0.81	0.8	0.9
		16 - 19 W	16 - 19 W	19	9.525	16	0.86	0.8	1
		16 - 18 W	16 - 18 W	18	9.525	16	0.9	0.8	1
		16 - 16 W	16 - 16 W	16	9.525	16	1.02	0.9	1.1
		16 - 14 W	16 - 14 W	14	9.525	16	1.16	1	1.2
		16 - 12 W	16 - 12 W	12	9.525	16	1.36	1.1	1.4
		16 - 11 W	16 - 11 W	11	9.525	16	1.48	1.1	1.5
		16 - 10 W	16 - 10 W	10	9.525	16	1.63	1.1	1.5
		16 - 9 W	16 - 9 W	9	9.525	16	1.81	1.2	1.7
		16 - 8 W	16 - 8 W	8	9.525	16	2.03	1.2	1.5
		22 - 7 W	22 - 7 W	7	12.7	22	3.32	1.6	2.3
		22 - 6 W	22 - 6 W	6	12.7	22	2.71	1.6	2.3
		22 - 5 W	22 - 5 W	5	12.7	22	3.25	1.7	2.4
		27 - 4.5 W	27 - 4.5 W	4.5	15.875	27	3.61	1.8	2.6
		27 - 4 W	27 - 4 W	4	15.875	27	4.07	2	2.9

NATIONAL PIPE THREAD (NPT)

Type	Picture	Designation (Right)	Designation (Left)	Pitch	Dimensions				
				tpi	d	L	hmin	x	f
External		ER 11 - 27 NPT	EL 11 - 27 NPT	27	6.35	11	0.66	0.7	0.8
		11 - 18 NPT	11 - 18 NPT	18	6.35	11	1.01	0.8	1
		11 - 14 NPT	11 - 14 NPT	14	6.35	11	1.33	0.8	1
		16 - 27 NPT	16 - 27 NPT	27	9.525	16	0.66	0.7	0.6
		16 - 18 NPT	16 - 18 NPT	18	9.525	16	1.01	0.8	0.9
		16 - 14 NPT	16 - 14 NPT	14	9.525	16	1.33	0.9	1.2
		16 - 11.5 NPT	16 - 11.5 NPT	11.5	9.525	16	1.64	1.1	1.5
Internal		IR 11 - 28 BSPT	IL 11 - 28 BSPT	27	6.35	11	0.66	0.7	0.8
		11 - 19 BSPT	11 - 19 BSPT	18	6.35	11	1.01	0.8	1
		11 - 14 BSPT	11 - 14 BSPT	14	6.35	11	1.33	0.8	1
		16 - 28 BSPT	16 - 28 BSPT	27	9.525	16	0.66	0.7	0.6
		16 - 19 BSPT	16 - 19 BSPT	18	9.525	16	1.01	0.8	0.9
		16 - 14 BSPT	16 - 14 BSPT	14	9.525	16	1.33	0.9	1.2
		16 - 11 BSPT	16 - 11 BSPT	11.5	9.525	16	1.64	1.1	1.5
		16 - 8 NPT	16 - 8 NPT	8	9.525	16	2.42	1.3	1.8

AMERICAN ACME (ACME)

Type	Picture	Designation (Right)	Designation (Left)	Pitch	Dimensions				
				tpi	d	L	hmin	x	f
External		ER 11 - 16 ACME	EL 11 - 16 ACME	16	6.35	11	0.92	1	1.1
		16 - 16 ACME	16 - 16 ACME	16	9.525	16	0.92	1	1.1
		16 - 14 ACME	16 - 14 ACME	14	9.525	16	1.03	1	1.2
		16 - 12 ACME	16 - 12 ACME	12	9.525	16	1.19	1.1	1.2
		16 - 10 ACME	16 - 10 ACME	10	9.525	16	1.52	1.3	1.4
		16 - 8 ACME	16 - 8 ACME	8	9.525	16	1.84	1.4	1.5
		16 - 6 ACME	16 - 6 ACME	6	9.525	16	2.37	1.7	1.9
		22 - 6 ACME	22 - 6 ACME	6	12.7	22	2.37	1.8	2.1
		22 - 5 ACME	22 - 5 ACME	5	12.7	22	2.79	2	2.3
		27 - 4 ACME	27 - 4 ACME	4	15.875	27	3.43	2.4	2.7
Internal		IR 11 - 16 ACME	IL 11 - 16 ACME	16	6.35	11	0.92	0.9	0.9
		16 - 16 ACME	16 - 16 ACME	16	9.525	16	0.92	1	1.1
		16 - 14 ACME	16 - 14 ACME	14	9.525	16	1.03	1.1	1.2
		16 - 12 ACME	16 - 12 ACME	12	9.525	16	1.19	1.2	1.3
		16 - 10 ACME	16 - 10 ACME	10	9.525	16	1.52	1.2	1.3
		16 - 8 ACME	16 - 8 ACME	8	9.525	16	1.84	1.4	1.5
		16 - 6 ACME	16 - 6 ACME	6	9.525	16	2.37	1.7	1.9
		22 - 6 ACME	22 - 6 ACME	6	12.7	22	2.37	1.8	2.1
		22 - 5 ACME	22 - 5 ACME	5	12.7	22	2.79	2	2.3
		27 - 4 ACME	27 - 4 ACME	4	15.875	27	3.43	2.3	2.6

ISO Threading Inserts

ROUND DIN 405

Type	Picture	Designation (Right)	Designation (Left)	Pitch	Dimensions				
				tpi	d	L	hmin	x	f
External		ER 16 - 10RD	EL 16 - 10RD	10	9.525	16	1.27	1.1	1.2
		16 - 8RD	16 - 8RD	8	9.525	16	1.59	1.4	1.3
		16 - 6RD	16 - 6RD	6	9.525	16	2.12	1.5	1.7
		22 - 6RD	22 - 6RD	6	12.7	22	2.12	1.5	1.7
		22 - 4RD	22 - 4RD	4	12.7	22	3.18	2.2	2.3
		27 - 4RD	27 - 4RD	4	15.875	27	3.18	2.2	2.3
Internal		IR 16 - 10RD	IL 16 - 10RD	10	9.525	16	1.27	1.1	1.2
		16 - 8RD	16 - 8RD	8	9.525	16	1.59	1.4	1.3
		16 - 6RD	16 - 6RD	6	9.525	16	2.12	1.5	1.7
		22 - 6RD	22 - 6RD	6	12.7	22	2.12	1.5	1.7
		22 - 4RD	22 - 4RD	4	12.7	22	3.18	2.2	2.3
		27 - 4RD	27 - 4RD	4	15.875	27	3.18	2.2	2.3

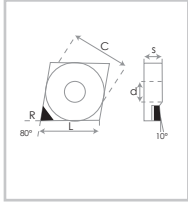
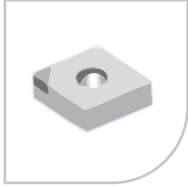
TRAPEZ DIN (TR)

Type	Picture	Designation (Right)	Designation (Left)	Pitch	Dimensions				
				tpi	d	L	hmin	x	f
External		ER 11 - 1.5 TR	EL 11 - 1.5 TR	1.5	6.35	11	0.9	0.8	0.9
		16 - 1.5 TR	16 - 1.5 TR	1.5	9.525	16	0.9	1	1.1
		16 - 2.0 TR	16 - 2.0 TR	2	9.525	16	1.25	1.1	1.3
		16 - 3.0 TR	16 - 3.0 TR	3	9.525	16	1.75	1.7	1.5
		22 - 4.0 TR	22 - 4.0 TR	4	12.7	22	2.25	2.1	1.9
		22 - 5.0 TR	22 - 5.0 TR	5	12.7	22	2.75	2.1	2.5
		27 - 6.0 TR	27 - 6.0 TR	6	15.875	27	3.5	2.3	2.7
Internal		IR 11 - 1.5 TR	IL11 - 1.5 TR	1.5	6.35	11	0.9	0.8	0.9
		16 - 1.5 TR	16 - 1.5 TR	1.5	9.525	16	0.9	1	1.1
		16 - 2.0 TR	16 - 2.0 TR	2	9.525	16	1.25	1.1	1.3
		16 - 2.5 TR	16 - 2.5 TR	2.5	9.525	16	1.53	1.2	1.4
		16 - 3.0 TR	16 - 3.0 TR	3	9.525	16	1.75	1.3	1.5
		22 - 4.0 TR	22 - 4.0 TR	4	12.7	22	2.25	1.7	1.9
		22 - 5.0 TR	22 - 5.0 TR	5	12.7	22	2.75	2.1	2.5
		27 - 6.0 TR	27 - 6.0 TR	6	15.8	27	3.5	2.3	2.7

PCD Inserts

CNMA

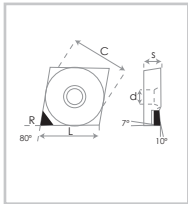
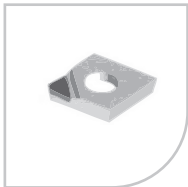
 Rhombic 80° Negative



TYPE	DIMENSIONS (mm)				
	L	C	s	d	R
CNMA 120404	12.9	12.7	4.76	5.16	0.4
CNMA 120408	12.9	12.7	4.76	5.16	0.8
CNMA 120412	12.9	12.7	4.76	5.16	1.2

CCMT

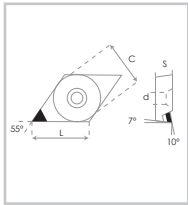
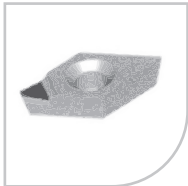
 Rhombic 80° Positive



TYPE	DIMENSIONS (mm)				
	L	C	s	d	R
CCMT 060202	6.4	6.35	2.38	2.8	0.2
CCMT 060204	6.4	6.35	2.38	2.8	0.4
CCMT 060208	6.4	6.35	2.38	2.8	0.8
CCMT 09T302	9.7	9.525	3.97	4.4	0.2
CCMT 09T304	9.7	9.525	3.97	4.4	0.4
CCMT 09T308	9.7	9.525	3.97	4.4	0.8

DCMT

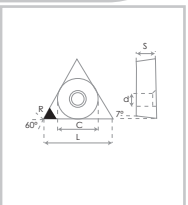
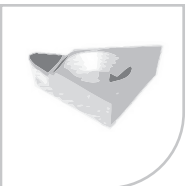
 Rhombic 55° Positive



TYPE	DIMENSIONS (mm)				
	L	C	s	d	R
DCMT 070202	7.7	6.35	2.38	2.8	0.2
DCMT 070204	7.7	6.35	2.38	2.8	0.4
DCMT 070208	7.7	6.35	2.38	2.8	0.8
DCMT 11T302	11.6	9.525	3.97	4.4	0.2
DCMT 11T304	11.6	9.525	3.97	4.4	0.4
DCMT 11T308	11.6	9.525	3.97	4.4	0.8

TCMW

 Triangular 60° Positive



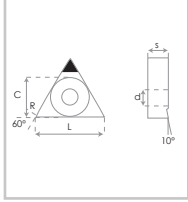
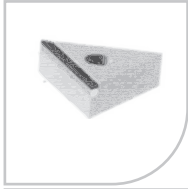
TYPE	DIMENSIONS (mm)				
	L	C	s	d	R
TCGW 090202	9.6	5.56	2.38	2.5	0.2
TCGW 090204	9.6	5.56	2.38	2.5	0.4
TCGW 090208	9.6	5.56	2.38	2.5	0.8
TCGW 110204	11.0	6.35	2.38	2.8	0.4
TCGW 110208	11.0	6.35	2.38	2.8	0.8
TCGW 16T304	16.5	9.525	3.97	4.3	0.4
TCGW 16T308	16.5	9.525	3.97	4.3	0.8

PCD Inserts

TNMA



Triangular 60° Negative

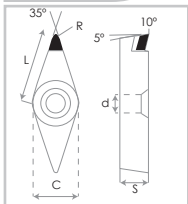
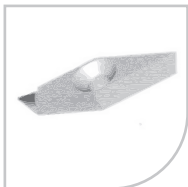


TYPE	DIMENSIONS (mm)				
	L	C	s	d	R
TNMA 160404	16.5	9.525	4.76	3.81	0.4
TNMA 160408	16.5	9.525	4.76	3.81	0.8
TNMA 160412	16.5	9.525	4.76	3.81	1.2

VBMT



Rhombic 35° Positive

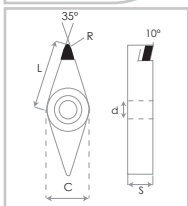
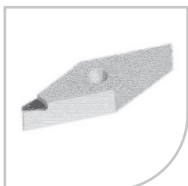


TYPE	DIMENSIONS (mm)				
	L	C	s	d	R
VBMT 110302	11.1	6.35	3.18	2.8	0.2
VBMT 110304	11.1	6.35	3.18	2.8	0.4
VBMT 110308	11.1	6.35	3.18	2.8	0.8
VBMT 160404	16.6	9.525	4.76	4.4	0.4
VBMT 160408	16.6	9.525	4.76	4.4	0.8
VBMT 160412	16.6	9.525	4.76	4.4	1.2

VNMA



Rhombic 35° Negative

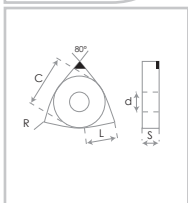
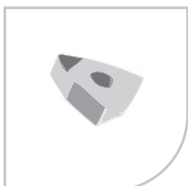


TYPE	DIMENSIONS (mm)				
	L	C	s	d	R
VNMA 160402	16.6	9.525	4.76	3.81	0.2
VNMA 160404	16.6	9.525	4.76	3.81	0.4
VNMA 160408	16.6	9.525	4.76	3.81	0.8
VNMA 160412	16.6	9.525	4.76	3.81	1.2

WNMA



Trigon 80° Negative



TYPE	DIMENSIONS (mm)				
	L	C	s	d	R
WNMA 080404	8.7	12.7	4.76	5.16	0.4
WNMA 080408	8.7	12.7	4.76	5.16	0.8
WNMA 080412	8.7	12.7	4.76	5.16	1.2

ALUMINA ROUND TOOLS



Solid Carbide Endmills HRC 45 - HRC 55 - HRC 65 - DLC



3 FLUTE FLAT DLC ENDMILL - STANDARD LENGTH

SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
1	2.5	50
1.5	4	50
2	5	50
3	8	50
4	10	50
5	13	50
6	18	50

SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
8	20	60
10	25	75
12	30	75
14	40	100
16	40	100
16	50	100



4 FLUTE FLAT & BALL ENDMILL - STANDARD LENGTH

SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
1	2.5	50
1.5	4	50
2	5	50
2.5	7	50
3	8	50
3.5	9	50
4	10	50
5	13	50
6	18	50

SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
8	20	60
10	25	75
12	30	75
14	40	100
16	40	100
16	50	100
18	50	100
20	50	100
25	50	100



4 FLUTE FLAT & BALL ENDMILL - LONG SERIES

SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
1	15	75
1.5	15	75
2	15	75
2.5	15	75
3	25	75
4	50	100

SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
5	50	100
6	50	100
8	50	100
10	50	100
12	50	100



4 FLUTE FLAT & BALL ENDMILL - EXTRA LONG SERIES

SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
6	75	150
8	75	150
10	75	150
12	75	150

SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
14	75	150
16	75	150
20	75	150
25	75	150

Solid Carbide Long Neck Endmills

4 FLUTE FLAT & 2 FLUTE BALL ENDMILL - 10mm

SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
1	10	50
1.5	10	50
2	10	50
2.5	10	50
3	10	50

SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
R 0.50	10	50
R 0.75	10	50
R1.00	10	50
R1.25	10	50
R1.50	10	50



4 FLUTE FLAT & 2 FLUTE BALL ENDMILL - 12mm

SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
1	12	50
1.5	12	50
2	12	50
2.5	12	50
3	12	50

SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
R 0.50	12	50
R 0.75	12	50
R1.00	12	50
R1.25	12	50
R1.50	12	50



4 FLUTE FLAT & 2 FLUTE BALL ENDMILL - 14mm

SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
1	14	50
1.5	14	50
2	14	50
2.5	14	50
3	14	50

SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
R 0.50	14	50
R 0.75	14	50
R1.00	14	50
R1.25	14	50
R1.50	14	50

4 FLUTE FLAT & 2 FLUTE BALL ENDMILL - 16mm

SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
1	16	50
1.5	16	50
2	16	50
2.5	16	50
3	16	50

SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
R 0.50	16	50
R 0.75	16	50
R1.00	16	50
R1.25	16	50
R1.50	16	50

4 FLUTE FLAT & 2 FLUTE BALL ENDMILL - 20mm

SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
1	20	50
1.5	20	50
2	20	50
2.5	20	50
3	20	50

SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
R 0.50	20	50
R 0.75	20	50
R1.00	20	50
R1.25	20	50
R1.50	20	50

Solid Carbide Dream 65 HRC Drills

DREAM 65 HRC DRILLS



SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
3	20	62
3.25	20	62
3.3	20	62
3.4	20	62
3.5	20	62
3.7	20	62
4	24	66
4.2	24	66
4.3	24	66
4.5	24	66
4.65	24	66
4.8	28	66
5	28	66
5.1	28	66
5.2	28	66
5.5	28	66
5.55	28	66
5.8	28	66
6	28	66
6.1	34	79
6.2	34	79
6.3	34	79
6.5	34	79
6.6	34	79
6.8	34	79
6.9	34	79
7	34	79
7.1	41	79
7.4	41	79
7.5	41	79
7.8	41	79
8	41	79
8.1	47	89
8.4	47	89
8.5	47	89
8.7	47	89
8.8	47	89
9	47	89
9.3	47	89
9.5	47	89
9.6	47	89
9.8	47	89
10	47	89
10.2	55	102

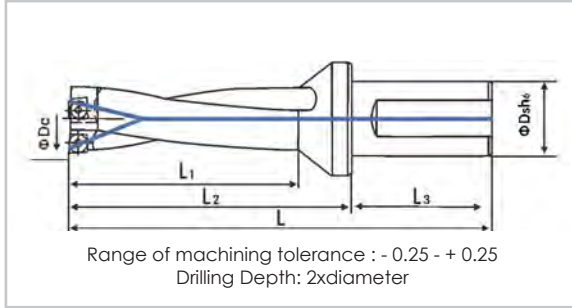
SIZE	DIMENSIONS (mm)	
	Flute Length	Overall Length
10.3	55	102
10.4	55	102
10.5	55	102
10.6	55	102
10.8	55	102
10.9	55	102
11	55	102
11.2	55	102
11.5	55	102
11.8	55	102
12	55	102
12.2	60	107
12.25	60	107
12.5	60	107
12.7	60	107
12.75	60	107
12.8	60	107
13	60	107
13.1	60	107
13.5	60	107
13.8	60	107
14	60	107
14.25	65	115
14.5	65	115
14.75	65	115
14.8	65	115
15	65	115
15.1	65	115
15.5	65	115
15.8	65	115
16	65	115
16.5	73	123
16.75	73	123
16.8	73	123
17	73	123
17.5	73	123
17.8	73	123
18	90	150
18.5	90	155
18.8	90	155
19	90	155
19.5	90	155
19.8	90	155
20	90	155

ALUMINA GOLD RUSH



Indexable Drills

TDR 2XD INDEXABLE DRILLS with SP INSERTS

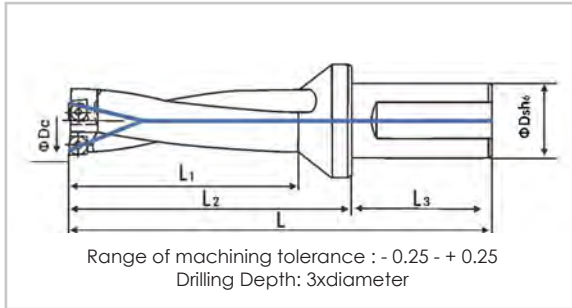


TYPE	DIMENSIONS (mm)							
	Dc	Ds	L	L1	L2	L3		
2D 10 - 22 SP04	10	20	85.5	22	35.5	45		
2D 10.5 - 23 SP04	10.5		86.5	22	35.5			
2D 11 - 24 SP04	11		87.5	24	36.5			
2D 11.5 - 24 SP04	11.5		88	24	38			
2D 12 - 26 SP04	12		90	25	40			
2D 12.5 - 27 SP04	12.5		93	27	43			
2D 13 - 29 SP05	13		88	29	44			
2D 13.5 - 30 SP05	13.5		89	30	45			
2D 14 - 31 SP05	14		90	31	46			
2D 14.5 - 32 SP05	14.5		91	32	47			
2D 15 - 33 SP05	15		92	33	48			
2D 15.5 - 34 SP05	15.5		93	34	49			
2D 16 - 35 SP06	16		94	35	50			
2D 16.5 - 36 SP06	16.5		95	36	51			
2D 17 - 37 SP06	17		96	37	52			
2D 17.5 - 38 SP06	17.5		25	109	38		53	56
2D 18 - 39 SP06	18			110	39		54	
2D 18.5 - 40 SP06	18.5	111		40	55			
2D 19 - 41 SP06	19	112		41	56			
2D 19.5 - 42 SP06	19.5	113		42	57			
2D 20 - 43 SP06	20	114		43	58			
2D 20.5 - 44 SP06	20.5	115		44	59			
2D 21 - 45 SP06	21	116		45	60			
2D 21.5 - 46 SP06	21.5	117		46	61			
2D 22 - 47 SP07	22	118		47	62			
2D 22.5 - 48 SP07	22.5	119		48	63			
2D 23 - 49 SP07	23	123		49	67			
2D 23.5 - 50 SP07	23.5	124		50	68			
2D 24 - 51 SP07	24	125		51	69			
2D 24.5 - 52 SP07	24.5	126		52	70			
2D 25 - 53 SP07	25	127		53	71			
2D 25.5 - 54 SP07	25.5	32		134	54	74	60	
2D 26 - 55 SP07	26		135	55	75			
2D 26.5 - 56 SP07	26.5		136	56	76			
2D 27 - 57 SP07	27		137	57	77			
2D 27.5 - 58 SP07	27.5		138	58	78			
2D 28 - 59 SP07/9	28		139	59	79			
2D 28.5 - 60 SP07/9	28.5		140	60	80			
2D 29 - 62 SP09	29		143	62	83			
2D 29.5 - 63 SP09	29.5		144	63	84			
2D 30 - 64 SP09	30		148	64	88			
2D 30.5 - 65 SP09	30.5		149	65	89			
2D 31 - 66 SP09	31		150	66	90			
2D 31.5 - 67 SP09	31.5		151	67	91			
2D 32 - 68 SP09	32		152	68	92			
2D 32.5 - 69 SP09	32.5		153	69	93			
2D 33 - 70 SP09	33		154	70	94			
2D 33.5 - 71 SP09	33.5		155	71	95			

TYPE	DIMENSIONS (mm)							
	Dc	Ds	L	L1	L2	L3		
2D 34 - 72 SP09/11	34	32	156	72	96	60		
2D 34.5 - 73 SP09/11	34.5		157	73	97			
2D 35 - 74 SP11	35		158	74	98			
2D 35.5 - 75 SP11	35.5		159	75	99			
2D 36 - 76 SP11	36		160	76	100			
2D 36.5 - 77 SP11	36.5		161	77	101			
2D 37 - 79 SP11	37		169	79	109			
2D 37.5 - 80 SP11	37.5		170	80	110			
2D 38 - 81 SP11	38		171	81	111			
2D 38.5 - 82 SP11	38.5		172	82	112			
2D 39 - 83 SP11	39		173	83	113			
2D 39.5 - 84 SP11	39.5		174	84	114			
2D 40 - 85 SP11	40		40	185	85		115	70
2D 40.5 - 86 SP11	40.5			186	86		116	
2D 41 - 87 SP11	41			187	87		117	
2D 41.5 - 88 SP11	41.5			188	88		118	
2D 42 - 89 SP14	42			189	89		119	
2D 42.5 - 90 SP14	42.5	190		80	120			
2D 43 - 91 SP14	43	191		91	121			
2D 43.5 - 92 SP14	43.5	192		92	122			
2D 44 - 93 SP14	44	193		93	123			
2D 44.5 - 94 SP14	44.5	194		94	124			
2D 45 - 95 SP14	45	195		95	125			
2D 45.5 - 96 SP14	45.5	196		96	126			
2D 46 - 97 SP14	46	197		97	127			
2D 46.5 - 98 SP14	46.5	198		98	128			
2D 47 - 99 SP14	47	199		99	129			
2D 47.5 - 100 SP14	47.5	200		100	130			
2D 48 - 101 SP14	48	201		101	131			
2D 48.5 - 102 SP14	48.5	202	102	132				
2D 49 - 103 SP14	49	203	103	133				
2D 49.5 - 105 SP14	49.5	204	104	134				
2D 50 - 105 SP14	50	205	105	135				
2D 51 - 107 SP14	51	207	107	137				
2D 52 - 109 SP14	52	209	109	139				
2D 53 - 111 SP14	53	211	111	141				
2D 54 - 113 SP14	54	213	113	143				
2D 55 - 115 SP14	55	215	115	145				
2D 56 - 120 SP14	56	222	120	152				
2D 57 - 122 SP14	57	224	122	154				
2D 58 - 124 SP14	58	226	124	156				
2D 59 - 126 SP14	59	228	126	158				
2D 60 - 128 SP14	60	230	128	160				

Indexable Drills

TDR 3XD INDEXABLE DRILLS with SP INSERTS

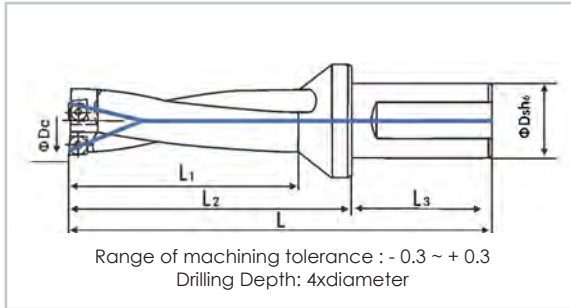


TYPE	DIMENSIONS (mm)							
	Dc	Ds	L	L1	L2	L3		
3D 10 - 32 SP04	10	20	97	32	47	44		
3D 10.5 - 34 SP04	10.5		97.5	34	47.5			
3D 11 - 34 SP04	11		98.5	34	48.5			
3D 11.5 - 37 SP04	11.5		100	37	50			
3D 12 - 38 SP04	12		102	38	52			
3D 12.5 - 41 SP04	12.5		105	41	55			
3D 13 - 42 SP05	13		101	42	57			
3D 13.5 - 44 SP05	13.5		103	44	59			
3D 14 - 45 SP05	14		104	45	60			
3D 14.5 - 47 SP05	14.5		106	47	62			
3D 15 - 48 SP05	15		107	48	63			
3D 15.5 - 50 SP05	15.5		109	50	65			
3D 16 - 51 SP06	16		110	51	66			
3D 16.5 - 53 SP06	16.5		112	53	68			
3D 17 - 54 SP06	17		113	54	69			
3D 17.5 - 56 SP06	17.5		25	127	56		71	56
3D 18 - 57 SP06	18			128	57		72	
3D 18.5 - 59 SP06	18.5	130		59	74			
3D 19 - 60 SP06	19	131		60	75			
3D 19.5 - 62 SP06	19.5	133		62	77			
3D 20 - 63 SP06	20	134		63	78			
3D 20.5 - 65 SP06	20.5	136		65	80			
3D 21 - 66 SP06	21	137		66	81			
3D 21.5 - 68 SP06	21.5	139		68	83			
3D 22 - 69 SP07	22	140		69	84			
3D 22.5 - 71 SP07	22.5	142		71	86			
3D 23 - 72 SP07	23	146		72	90			
3D 23.5 - 74 SP07	23.5	148		74	92			
3D 24 - 75 SP07	24	149		75	93			
3D 24.5 - 77 SP07	24.5	151		77	95			
3D 25 - 78 SP07	25	152		78	96			
3D 25.5 - 80 SP07	25.5	32		160	80	100	60	
3D 26 - 81 SP07	26		161	81	101			
3D 26.5 - 83 SP07	26.5		163	83	103			
3D 27 - 84 SP07	27		164	84	104			
3D 27.5 - 86 SP07	27.5		166	86	106			
3D 28 - 87 SP07/9	28		167	87	107			
3D 28.5 - 89 SP07/9	28.5		169	89	109			
3D 29 - 91 SP09	29		172	91	112			
3D 29.5 - 93 SP09	29.5		174	93	114			
3D 30 - 94 SP09	30		178	94	118			
3D 30.5 - 96 SP09	30.5		180	96	120			
3D 31 - 97 SP09	31		181	97	121			
3D 31.5 - 99 SP09	31.5		183	99	123			
3D 32 - 100 SP09	32		184	100	124			
3D 32.5 - 102 SP09	32.5		186	102	126			
3D 33 - 103 SP09	33		187	103	127			
3D 33.5 - 105 SP09	33.5		189	105	129			

TYPE	DIMENSIONS (mm)							
	Dc	Ds	L	L1	L2	L3		
3D 34 - 106 SP09/11	34	32	190	106	130	60		
3D 34.5 - 108 SP09/11	34.5		192	108	132			
3D 35 - 109 SP11	35		193	109	133			
3D 35.5 - 111 SP11	35.5		195	111	135			
3D 36 - 112 SP11	36		196	112	136			
3D 36.5 - 114 SP11	36.5		198	114	138			
3D 37 - 116 SP11	37		206	116	146			
3D 37.5 - 118 SP11	37.5		208	118	148			
3D 38 - 119 SP11	38		209	119	149			
3D 38.5 - 121 SP11	38.5		211	121	151			
3D 39 - 122 SP11	39		212	122	152			
3D 39.5 - 124 SP11	39.5		214	124	154			
3D 40 - 125 SP11	40		40	225	125		155	70
3D 40.5 - 127 SP11	40.5			227	127		157	
3D 41 - 128 SP11	41			228	128		158	
3D 41.5 - 129 SP11	41.5			229	129		159	
3D 42 - 131 SP14	42			231	131		161	
3D 42.5 - 133 SP14	42.5	233		133	163			
3D 43 - 134 SP14	43	234		134	164			
3D 43.5 - 136 SP14	43.5	236		136	166			
3D 44 - 137 SP14	44	237		137	167			
3D 44.5 - 137 SP14	44.5	237		137	167			
3D 45 - 140 SP14	45	240		140	170			
3D 45.5 - 142 SP14	45.5	242		142	172			
3D 46 - 143 SP14	46	243		143	173			
3D 46.5 - 145 SP14	46.5	245		145	175			
3D 47 - 146 SP14	47	246		146	176			
3D 47.5 - 146 SP14	47.5	246		146	176			
3D 48 - 149 SP14	48	249		149	179			
3D 48.5 - 152 SP14	48.5	252	152	182				
3D 49 - 152 SP14	49	252	152	182				
3D 49.5 - 155 SP14	49.5	255	155	185				
3D 50 - 155 SP14	50	255	155	185				
3D 51 - 158 SP14	51	258	158	188				
3D 52 - 161 SP14	52	261	161	191				
3D 53 - 164 SP14	53	264	164	194				
3D 54 - 167 SP14	54	267	167	197				
3D 55 - 170 SP14	55	270	170	200				
3D 56 - 176 SP14	56	278	176	208				
3D 57 - 179 SP14	57	281	179	211				
3D 58 - 182 SP14	58	284	182	214				
3D 59 - 185 SP14	59	287	185	217				
3D 60 - 188 SP14	60	290	188	220				

Indexable Drills

TDR 4XD INDEXABLE DRILLS with SP INSERTS

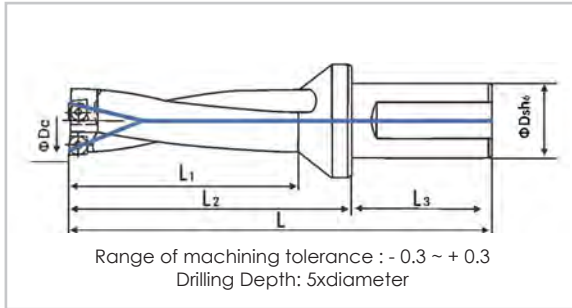


TYPE	DIMENSIONS (mm)					
	Dc	Ds	L	L1	L2	L3
4D 11.5 - 47 SP04	11.5		111	47	61	
4D 12 - 50 SP04	12		115	50	65	
4D 12.5 - 52 SP04	12.5		117	52	67	
4D 13 - 55 SP05	13		114	55	60	
4D 13.5 - 57 SP05	13.5		116	57	72	
4D 14 - 59 SP05	14	20	118	59	74	44
4D 14.5 - 61 SP05	14.5		120	61	76	
4D 15 - 63 SP05	15		122	63	78	
4D 15.5 - 65 SP05	15.5		124	65	80	
4D 16 - 67 SP06	16		126	67	82	
4D 16.5 - 69 SP06	16.5		128	69	84	
4D 17 - 71 SP06	17		130	71	86	
4D 17.5 - 73 SP06	17.5		144	73	88	
4D 18 - 75 SP06	18		146	75	90	
4D 18.5 - 77 SP06	18.5		148	77	92	
4D 19 - 79 SP06	19		150	79	94	
4D 19.5 - 81 SP06	19.5		152	81	96	
4D 20 - 83 SP06	20		154	83	98	
4D 20.5 - 85 SP06	20.5		156	85	100	
4D 21 - 87 SP06	21	25	158	87	102	56
4D 21.5 - 89 SP06	21.5		160	89	104	
4D 22 - 91 SP07	22		162	91	106	
4D 22.5 - 93 SP07	22.5		164	93	108	
4D 23 - 95 SP07	23		169	95	113	
4D 23.5 - 97 SP07	23.5		171	97	115	
4D 24 - 99 SP07	24		173	99	117	
4D 24.5 - 101 SP07	24.5		175	101	119	
4D 25 - 103 SP07	25		177	103	121	
4D 25.5 - 105 SP07	25.5		185	105	125	
4D 26 - 107 SP07	26		187	107	127	
4D 26.5 - 109 SP07	26.5		189	109	129	
4D 27 - 111 SP07	27		191	111	131	
4D 27.5 - 113 SP07	27.5		193	113	133	
4D 28 - 115 SP07/09	28		195	115	135	
4D 28.5 - 117 SP07/09	28.5		197	117	137	
4D 29 - 120 SP09	29		201	120	141	
4D 29.5 - 122 SP09	29.5		203	122	143	
4D 30 - 124 SP09	30	32	208	124	148	60
4D 30.5 - 126 SP09	30.5		210	126	150	
4D 31 - 128 SP09	31		212	128	152	
4D 31.5 - 130 SP09	31.5		214	130	154	
4D 32 - 132 SP09	32		216	132	156	
4D 32.5 - 134 SP09	32.5		218	134	158	
4D 33 - 136 SP09	33		220	136	160	
4D 33.5 - 138 SP09	33.5		222	138	162	
4D 34 - 140 SP09/11	34		224	140	164	
4D 34.5 - 142 SP09/11	34.5		226	142	166	
4D 35 - 144 SP11	35		228	144	168	

TYPE	DIMENSIONS (mm)					
	Dc	Ds	L	L1	L2	L3
4D 35.5 - 146 SP11	35.5		230	146	170	
4D 36 - 148 SP11	36		232	148	172	
4D 36.5 - 150 SP11	36.5		236	150	174	
4D 37 - 153 SP11	37		243	153	183	
4D 37.5 - 155 SP11	37.5	32	245	155	185	60
4D 38 - 157 SP11	38		247	157	187	
4D 38.5 - 159 SP11	38.5		249	159	189	
4D 39 - 161 SP11	39		251	161	191	
4D 39.5 - 163 SP11	39.5		253	163	193	
4D 40 - 165 SP11	40		265	165	195	
4D 40.5 - 167 SP11	40.5		267	167	197	
4D 41 - 169 SP11	41		269	169	199	
4D 41.5 - 171 SP11	41.5		271	171	201	
4D 42 - 173 SP14	42		273	173	203	
4D 42.5 - 175 SP14	42.5		275	175	205	
4D 43 - 177 SP14	43		277	177	207	
4D 43.5 - 179 SP14	43.5		279	179	209	
4D 44 - 181 SP14	44		281	181	211	
4D 44.5 - 183 SP14	44.5		283	183	213	
4D 45 - 185 SP14	45		285	185	215	
4D 45.5 - 187 SP14	45.5		287	187	217	
4D 46 - 189 SP14	46		289	189	219	
4D 46.5 - 191 SP14	46.5		291	191	221	
4D 47 - 193 SP14	47		293	193	223	
4D 47.5 - 193 SP14	47.5	40	295	195	225	70
4D 48 - 197 SP14	48		297	197	227	
4D 48.5 - 199 SP14	48.5		299	199	229	
4D 49 - 201 SP14	49		301	201	231	
4D 49.5 - 204 SP14	49.5		303	203	233	
4D 50 - 205 SP14	50		305	205	235	
4D 51 - 209 SP14	51		309	209	239	
4D 52 - 213 SP14	52		313	213	243	
4D 53 - 217 SP14	53		317	217	247	
4D 54 - 221 SP14	54		321	221	251	
4D 55 - 225 SP14	55		325	225	255	
4D 56 - 232 SP14	56		334	232	264	
4D 57 - 236 SP14	57		338	236	268	
4D 58 - 240 SP14	58		342	240	272	
4D 59 - 244 SP14	59		346	244	276	
4D 60 - 248 SP14	60		350	248	280	

Indexable Drills

TDR 5XD INDEXABLE DRILLS with SP INSERTS

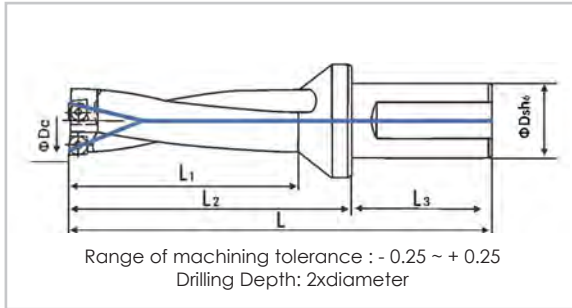


TYPE	DIMENSIONS (mm)					
	Dc	Ds	L	L1	L2	L3
5D 13 - 68 SP05	13		129	68	85	
5D 13.5 - 71 SP05	13.5		131	71	87	
5D 14 - 73 SP05	14		133	73	89	
5D 14.5 - 76 SP05	14.5		135	76	91	
5D 15 - 78 SP05	15	20	37	78	93	44
5D 15.5 - 80 SP05	15.5		140	80	95	
5D 16 - 83 SP06	16		142	83	98	
5D 16.5 - 86 SP06	16.5		145	86	101	
5D 17 - 88 SP06	17		147	88	103	
5D 17.5 - 91 SP06	17.5		162	91	106	
5D 18 - 93 SP06	18		164	93	108	
5D 18.5 - 96 SP06	18.5		167	96	111	
5D 19 - 98 SP06	19		169	98	113	
5D 19.5 - 101 SP06	19.5		172	101	116	
5D 20 - 106 SP06	20		174	103	118	
5D 20.5 - 106 SP06	20.5		177	106	121	
5D 21 - 108 SP06	21	25	179	108	123	56
5D 21.5 - 111 SP06	21.5		182	111	126	
5D 22 - 113 SP07	22		184	113	128	
5D 22.5 - 116 SP07	22.5		187	116	131	
5D 23 - 118 SP07	23		192	118	136	
5D 23.5 - 121 SP07	23.5		195	121	139	
5D 24 - 123 SP07	24		197	123	141	
5D 24.5 - 126 SP07	24.5		200	126	144	
5D 25 - 128 SP07	25		202	128	146	
5D 25.5 - 131 SP07	25.5		213	131	153	
5D 26 - 133 SP07	26		216	133	156	
5D 26.5 - 136 SP07	26.5		217	136	157	
5D 27 - 138 SP07	27		218	138	158	
5D 27.5 - 141 SP07	27.5		221	141	161	
5D 28 - 143 SP07/09	28		223	143	163	
5D 28.5 - 146 SP07/09	28.5		226	146	166	
5D 29 - 149 SP09	29		230	149	170	
5D 29.5 - 151 SP09	29.5		233	151	173	
5D 30 - 154 SP09	30		238	154	178	
5D 30.5 - 157 SP09	30.5		241	157	181	
5D 31 - 159 SP09	31	32	243	159	183	60
5D 31.5 - 162 SP09	31.5		245	162	185	
5D 32 - 164 SP09	32		248	164	188	
5D 32.5 - 167 SP09	32.5		251	167	191	
5D 33 - 169 SP09	33		253	169	193	
5D 33.5 - 172 SP09	33.5		255	172	195	
5D 34 - 174 SP09/11	34		258	174	198	
5D 34.5 - 177 SP09/11	34.5		261	177	201	
5D 35 - 179 SP11	35		263	179	203	
5D 35.5 - 182 SP11	35.5		265	182	205	
5D 36 - 184 SP11	36		268	184	208	
5D 36.5 - 187 SP11	36.5		271	187	211	

TYPE	DIMENSIONS (mm)					
	Dc	Ds	L	L1	L2	L3
5D 37 - 190 SP11	37		280	190	220	
5D 37.5 - 193 SP11	37.5		283	193	223	
5D 38 - 195 SP11	38	32	285	195	225	60
5D 38.5 - 198 SP11	38.5		288	198	228	
5D 39 - 200 SP11	39		290	200	230	
5D 39.5 - 203 SP11	39.5		293	203	233	
5D 40 - 205 SP11	40		305	205	235	
5D 40.5 - 207 SP11	40.5		307	207	237	
5D 41 - 210 SP11	41		310	210	240	
5D 41.5 - 212 SP11	41.5		312	212	242	
5D 42 - 215 SP14	42		315	215	245	
5D 42.5 - 217 SP14	42.5		317	217	247	
5D 43 - 220 SP14	43		320	220	250	
5D 43.5 - 223 SP14	43.5		323	223	253	
5D 44 - 225 SP14	44		325	225	255	
5D 44.5 - 225 SP14	44.5		325	225	255	
5D 45 - 230 SP14	45		330	230	260	
5D 45.5 - 232 SP14	45.5		332	232	262	
5D 46 - 235 SP14	46		335	235	265	
5D 46.5 - 235 SP14	46.5		335	235	265	
5D 47 - 240 SP14	47		340	240	270	
5D 47.5 - 240 SP14	47.5	40	340	240	270	70
5D 48 - 245 SP14	48		345	245	275	
5D 48.5 - 250 SP14	48.5		350	250	280	
5D 49 - 250 SP14	49		350	250	280	
5D 49.5 - 252 SP14	49.5		352	252	282	
5D 50 - 255 SP14	50		355	255	285	
5D 51 - 260 SP14	50.5		360	260	290	
5D 52 - 265 SP14	51		365	265	295	
5D 53 - 270 SP14	51.5		370	270	300	
5D 54 - 275 SP14	52		375	275	305	
5D 55 - 280 SP14	52.5		380	280	310	
5D 56 - 285 SP14	53		385	285	315	
5D 57 - 290 SP14	53.5		390	290	320	
5D 58 - 295 SP14	54		395	295	325	
5D 59 - 300 SP14	54.5		400	300	330	
5D 60 - 305 SP14	55		405	305	335	

Indexable Drills

TDR 2XD INDEXABLE DRILLS with WC INSERTS

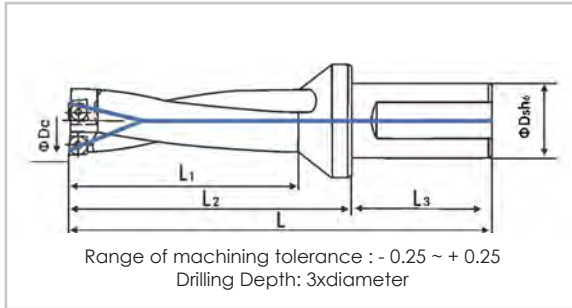


TYPE	DIMENSIONS (mm)					
	Dc	Ds	L	L1	L2	L3
2D 10 - 22 WC02	10	20	85.5	22	35.5	44
2D 10.5 - 23 WC02	10.5		86.5	22	35.5	
2D 11 - 24 WC02	11		87.5	24	36.5	
2D 11.5 - 24 WC02	11.5		88	24	38	
2D 12 - 26 WC02	12		90	25	40	
2D 12.5 - 27 WC02	12.5		93	27	43	
2D 13 - 29 WC02	13	20 / 25	88	29	44	44
2D 13.5 - 30 WC02	13.5		89	30	45	
2D 14 - 31 WC02/03	14		90	31	46	
2D 14.5 - 32 WC02/03	14.5		91	32	47	
2D 15 - 33 WC03	15		92	33	48	
2D 15.5 - 34 WC03	15.5		93	34	49	
2D 16 - 35 WC03	16		94	35	50	
2D 16.5 - 36 WC03	16.5		95	36	51	
2D 17 - 37 WC03	17		96	37	52	
2D 17.5 - 38 WC03	17.5		25	109	38	
2D 18 - 39 WC03	18	110		39	54	
2D 18.5 - 40 WC03	18.5	111		40	55	
2D 19 - 41 WC03	19	112		41	56	
2D 19.5 - 42 WC03	19.5	113		42	57	
2D 20 - 43 WC03	20	114		43	58	
2D 20.5 - 44 WC03	20.5	115		44	59	
2D 21 - 45 WC04	21	116		45	60	
2D 21.5 - 46 WC04	21.5	117		46	61	
2D 22 - 47 WC04	22	118		47	62	
2D 22.5 - 48 WC04	22.5	119		48	63	
2D 23 - 49 WC04	23	123		49	67	
2D 23.5 - 50 WC04	23.5	124		50	68	
2D 24 - 51 WC04	24	125		51	69	
2D 24.5 - 52 WC04	24.5	126	52	70		
2D 25 - 53 WC05	25	127	53	71		
2D 25.5 - 54 WC05	25.5	32	134	54	74	60
2D 26 - 55 WC05	26		135	55	75	
2D 26.5 - 56 WC05	26.5		136	56	76	
2D 27 - 57 WC05	27		137	57	77	
2D 27.5 - 58 WC05	27.5		138	58	78	
2D 28 - 59 WC05	28		139	59	79	
2D 28.5 - 60 WC05	28.5		140	60	80	
2D 29 - 62 WC05	29		143	62	83	
2D 29.5 - 63 WC05	29.5		144	63	84	
2D 30 - 64 WC05	30		148	64	88	
2D 30.5 - 65 WC05	30.5	149	65	89		
2D 31 - 66 WC06	31	150	66	90		
2D 31.5 - 67 WC06	31.5	151	67	91		
2D 32 - 68 WC06	32	152	68	92		
2D 32.5 - 69 WC06	32.5	153	69	93		
2D 33 - 70 WC06	33	154	70	94		
2D 33.5 - 71 WC06	33.5	155	71	95		

TYPE	DIMENSIONS (mm)					
	Dc	Ds	L	L1	L2	L3
2D 34 - 72 WC06	34	32	156	72	96	60
2D 34.5 - 73 WC06	34.5		157	73	97	
2D 35 - 74 WC06	35		158	74	98	
2D 35.5 - 75 WC06	35.5		159	75	99	
2D 36 - 76 WC06	36		160	76	100	
2D 36.5 - 77 WC06	36.5		161	77	101	
2D 37 - 79 WC06	37		169	79	109	
2D 37.5 - 80 WC06	37.5		170	80	110	
2D 38 - 81 WC06	38		171	81	111	
2D 38.5 - 82 WC06	38.5		172	82	112	
2D 39 - 83 WC06	39	173	83	113		
2D 39.5 - 84 WC06	39.5	174	84	114		
2D 40 - 85 WC06	40	40	185	85	115	70
2D 41 - 87 WC06	41		187	87	117	
2D 42 - 89 WC08	42		189	89	119	
2D 43 - 91 WC08	43		191	91	121	
2D 44 - 93 WC08	44		193	93	123	
2D 45 - 95 WC08	45		195	95	125	
2D 46 - 97 WC08	46		197	97	127	
2D 47 - 99 WC08	47		199	99	129	
2D 48 - 101 WC08	48		201	101	131	
2D 49 - 103 WC08	49		203	103	133	
2D 50 - 105 WC08	50		205	105	135	
2D 51 - 107 WC08	51		207	107	137	
2D 52 - 109 WC08	52		209	109	139	
2D 53 - 111 WC08	53		211	111	141	
2D 54 - 113 WC08	54	213	113	143		
2D 55 - 115 WC08	55	215	115	145		
2D 56 - 120 WC08	56	222	120	152		
2D 57 - 122 WC08	57	224	122	154		
2D 58 - 124 WC08	58	226	124	156		
2D 59 - 126 WC08	59	228	126	158		
2D 60 - 128 WC08	60	230	128	160		
2D 61 - 130 WC06	61	232	130	162		
2D 62 - 132 WC06	62	234	132	164		
2D 63 - 134 WC06	63	236	134	166		
2D 64 - 136 WC06	64	238	136	168		
2D 65 - 138 WC06	65	240	138	170		
2D 66 - 140 WC06	66	242	140	172		
2D 67 - 142 WC06	67	244	142	174		
2D 68 - 144 WC06	68	246	144	176		
2D 69 - 146 WC06	69	248	146	178		
2D 70 - 148 WC06	70	250	148	180		
2D 71 - 150 WC06	71	252	150	182		
2D 72 - 152 WC06	72	254	152	184		
2D 73 - 154 WC06	73	256	154	186		
2D 74 - 156 WC06	74	258	156	188		
2D 75 - 158 WC06	75	260	158	190		

Indexable Drills

TDR 3XD INDEXABLE DRILLS with WC INSERTS

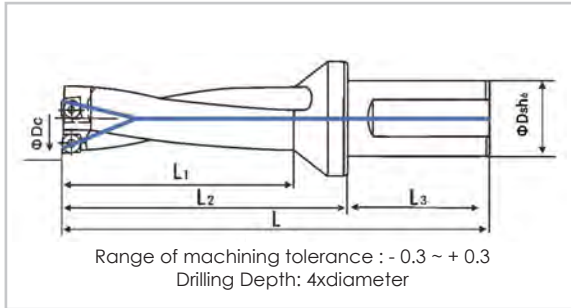


TYPE	DIMENSIONS (mm)					
	Dc	Ds	L	L1	L2	L3
3D 10 - 32 WC02	10		97	32	47	
3D 10.5 - 34 WC02	10.5		97.5	34	47.5	
3D 11 - 34 WC02	11	20	98.5	34	48.5	
3D 11.5 - 37 WC02	11.5		100	37	50	
3D 12 - 38 WC02	12		102	38	52	
3D 12.5 - 41 WC02	12.5		105	41	55	
3D 13 - 42 WC02	13		101	42	5	
3D 13.5 - 44 WC02	13.5		103	44	759	44
3D 14 - 45 WC02/03	14		104	45	60	
3D 14.5 - 47 WC02/03	14.5	20 / 25	106	47	62	
3D 15 - 48 WC03	15		107	48	63	
3D 15.5 - 50 WC03	15.5		109	50	65	
3D 16 - 51 WC03	16		110	51	66	
3D 16.5 - 53 WC03	16.5		112	53	68	
3D 17 - 54 WC03	17		113	54	69	
3D 17.5 - 56 WC03	17.5		127	56	71	
3D 18 - 57 WC03	18		128	57	72	
3D 18.5 - 59 WC03	18.5		130	59	74	
3D 19 - 60 WC03	19		131	60	75	
3D 19.5 - 62 WC03	19.5		133	62	77	
3D 20 - 63 WC03	20		134	63	78	
3D 20.5 - 65 WC03	20.5		136	65	80	
3D 21 - 66 WC04	21	25	137	66	81	56
3D 21.5 - 68 WC04	21.5		139	68	83	
3D 22 - 69 WC04	22		140	69	84	
3D 22.5 - 71 WC04	22.5		142	71	86	
3D 23 - 72 WC04	23		146	72	90	
3D 23.5 - 74 WC04	23.5		148	74	92	
3D 24 - 75 WC04	24		149	75	93	
3D 24.5 - 77 WC04	24.5		151	77	95	
3D 25 - 78 WC05	25		152	78	96	
3D 25.5 - 80 WC05	25.5		160	80	100	
3D 26 - 81 WC05	26		161	81	101	
3D 26.5 - 83 WC05	26.5		163	83	103	
3D 27 - 84 WC05	27		164	84	104	
3D 27.5 - 86 WC05	27.5		166	86	106	
3D 28 - 87 WC05	28		167	87	107	
3D 28.5 - 89 WC05	28.5		169	89	109	
3D 29 - 91 WC05	29	32	172	91	112	60
3D 29.5 - 93 WC05	29.5		174	93	114	
3D 30 - 94 WC05	30		178	94	118	
3D 30.5 - 96 WC05	30.5		180	96	120	
3D 31 - 96 WC06	31		181	97	121	
3D 31.5 - 99 WC06	31.5		183	99	123	
3D 32 - 100 WC06	32		184	100	124	
3D 32.5 - 102 WC06	32.5		186	102	126	
3D 33 - 103 WC06	33		187	103	127	
3D 33.5 - 105 WC06	33.5		189	105	129	

TYPE	DIMENSIONS (mm)					
	Dc	Ds	L	L1	L2	L3
3D 34 - 106 WC06	34		190	106	130	
3D 34.5 - 108 WC06	34.5		192	108	132	
3D 35 - 109 WC06	35		193	109	133	
3D 35.5 - 111 WC06	35.5		195	111	135	
3D 36 - 112 WC06	36		196	112	136	
3D 36.5 - 114 WC06	36.5	32	198	114	138	60
3D 37 - 116 WC06	37		206	116	146	
3D 37.5 - 118 WC06	37.5		208	118	148	
3D 38 - 119 WC06	38		209	119	149	
3D 38.5 - 121 WC06	38.5		211	121	151	
3D 39 - 122 WC06	39		212	122	152	
3D 39.5 - 124 WC06	39.5		214	124	154	
3D 40 - 125 WC06	40		225	125	155	
3D 41 - 128 WC06	41		228	128	158	
3D 42 - 131 WC08	42		231	131	161	
3D 43 - 134 WC08	43		234	134	164	
3D 44 - 137 WC08	44		237	137	167	
3D 45 - 140 WC08	45		240	140	170	
3D 46 - 143 WC08	46		243	143	173	
3D 47 - 146 WC08	47		246	146	176	
3D 48 - 149 WC08	48		249	149	179	
3D 49 - 152 WC08	49		252	152	182	
3D 50 - 155 WC08	50		255	155	185	
3D 51 - 158 WC08	51		258	158	188	
3D 52 - 161 WC08	52		261	161	191	
3D 53 - 164 WC08	53		264	164	194	
3D 54 - 167 WC08	54		267	167	197	
3D 55 - 170 WC08	55		270	170	200	
3D 56 - 176 WC08	56		278	176	208	
3D 57 - 179 WC08	57		281	179	211	
3D 58 - 182 WC08	58	40	284	182	214	70
3D 59 - 185 WC08	59		287	185	217	
3D 60 - 188 WC08	60		290	188	220	
3D 61 - 191 WC06	61		291	191	221	
3D 62 - 194 WC06	62		296	194	226	
3D 63 - 197 WC06	63		299	197	229	
3D 64 - 200 WC06	64		302	200	232	
3D 65 - 203 WC06	65		305	203	235	
3D 66 - 206 WC06	66		308	206	238	
3D 67 - 209 WC06	67		311	209	241	
3D 68 - 212 WC06	68		314	212	244	
3D 69 - 215 WC06	69		317	215	247	
3D 70 - 218 WC06	70		320	218	250	
3D 71 - 221 WC06	71		323	221	253	
3D 72 - 224 WC06	72		326	224	256	
3D 73 - 227 WC06	73		329	227	259	
3D 74 - 230 WC06	74		332	230	262	
3D 75 - 233 WC06	75		335	233	265	

Indexable Drills

TDR 4XD INDEXABLE DRILLS with WC INSERTS

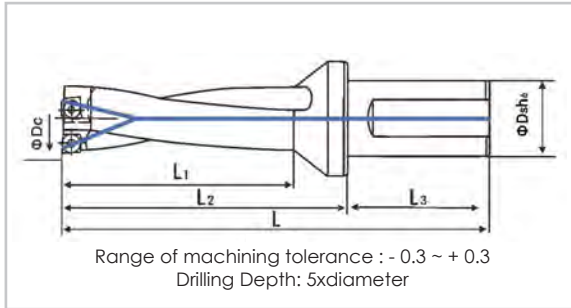


TYPE	DIMENSIONS (mm)					
	Dc	Ds	L	L1	L2	L3
4D 11.5 - 47 WC02	11.5		111	47	61	
4D 12 - 50 WC02	12	20	115	50	65	
4D 12.5 - 52 WC02	12.5		117	52	67	
4D 13 - 55 WC02	13		114	55	60	
4D 13.5 - 57 WC02	13.5		116	57	72	
4D 14 - 59 WC02/03	14		118	59	74	44
4D 14.5 - 61 WC02/03	14.5	20 / 25	120	61	76	
4D 15 - 63 WC03	15		122	63	78	
4D 15.5 - 65 WC03	15.5		124	65	80	
4D 16 - 67 WC03	16		126	67	82	
4D 16.5 - 69 WC03	16.5		128	69	84	
4D 17 - 71 WC03	17		130	71	86	
4D 17.5 - 73 WC03	17.5		144	73	88	
4D 18 - 75 WC03	18		146	75	90	
4D 18.5 - 77 WC03	18.5		148	77	92	
4D 19 - 79 WC03	19		150	79	94	
4D 19.5 - 81 WC03	19.5		152	81	96	
4D 20 - 83 WC03	20		154	83	98	
4D 20.5 - 85 WC03	20.5		156	85	100	
4D 21 - 87 WC04	21	25	158	87	102	56
4D 21.5 - 89 WC04	21.5		160	89	104	
4D 22 - 91 WC04	22		162	91	106	
4D 22.5 - 93 WC04	22.5		164	93	108	
4D 23 - 95 WC04	23		169	95	113	
4D 23.5 - 97 WC04	23.5		171	97	115	
4D 24 - 99 WC04	24		173	99	117	
4D 24.5 - 101 WC04	24.5		175	101	119	
4D 25 - 103 WC05	25		177	103	121	
4D 25.5 - 105 WC05	25.5		185	105	125	
4D 26 - 107 WC05	26		187	107	127	
4D 26.5 - 109 WC05	26.5		189	109	129	
4D 27 - 111 WC05	27		191	111	131	
4D 27.5 - 113 WC05	27.5		193	113	133	
4D 28 - 115 WC05	28		195	115	135	
4D 28.5 - 117 WC05	28.5		197	117	137	
4D 29 - 120 WC05	29		201	120	141	
4D 29.5 - 122 WC05	29.5		203	122	143	
4D 30 - 124 WC05	30	32	208	124	148	60
4D 30.5 - 126 WC05	30.5		210	126	150	
4D 31 - 128 WC06	31		212	128	152	
4D 31.5 - 130 WC06	31.5		214	130	154	
4D 32 - 132 WC06	32		216	132	156	
4D 32.5 - 134 WC06	32.5		218	134	158	
4D 33 - 136 WC06	33		220	136	160	
4D 33.5 - 138 WC06	33.5		222	138	162	
4D 34 - 140 WC06	34		224	140	164	
4D 34.5 - 142 WC06	34.5		226	142	166	
4D 35 - 144 WC06	35		228	144	168	

TYPE	DIMENSIONS (mm)					
	Dc	Ds	L	L1	L2	L3
4D 37 - 153 WC06	37		243	153	183	
4D 37.5 - 155 WC06	37.5		245	155	185	
4D 38 - 157 WC06	38	32	247	157	187	60
4D 38.5 - 159 WC06	38.5		249	159	189	
4D 39 - 161 WC06	39		251	161	191	
4D 39.5 - 163 WC06	39.5		253	163	193	
4D 40 - 165 WC08	40		265	165	195	
4D 41 - 169 WC08	41		269	169	199	
4D 42 - 173 WC08	42		273	173	203	
4D 43 - 177 WC08	43		277	177	207	
4D 44 - 181 WC08	44		281	181	211	
4D 45 - 185 WC08	45		285	185	215	
4D 46 - 189 WC08	46		289	189	219	
4D 47 - 193 WC08	47		293	193	223	
4D 48 - 197 WC08	48		297	197	227	
4D 49 - 201 WC08	49		301	201	231	
4D 50 - 205 WC08	50		305	205	235	
4D 51 - 209 WC08	51		309	209	239	
4D 52 - 213 WC08	52		313	213	243	
4D 53 - 217 WC08	53		317	217	247	
4D 54 - 221 WC08	54		321	221	251	
4D 55 - 225 WC08	55		325	225	255	
4D 56 - 232 WC08	56		334	232	264	
4D 57 - 236 WC08	57		338	236	268	
4D 58 - 240 WC08	58		342	240	272	
4D 59 - 244 WC08	59		346	244	276	
4D 60 - 248 WC08	60	40	350	248	280	70
4D 61 - 251 WC06	61		354	252	284	
4D 62 - 256 WC06	62		358	256	288	
4D 63 - 260 WC06	63		362	260	292	
4D 64 - 264 WC06	64		366	264	296	
4D 65 - 268 WC06	65		370	268	300	
4D 66 - 272 WC06	66		374	272	304	
4D 67 - 276 WC06	67		378	276	308	
4D 68 - 280 WC06	68		382	280	312	
4D 69 - 284 WC06	69		386	284	316	
4D 70 - 288 WC06	70		390	288	320	
4D 71 - 292 WC06	71		394	292	324	
4D 72 - 296 WC06	72		398	296	328	
4D 73 - 300 WC06	73		402	300	332	
4D 74 - 304 WC06	74		406	304	336	
4D 75 - 308 WC06	75		410	308	340	
4D 76 - 312 WC06	76		414	312	344	
4D 77 - 316 WC06	77		418	316	348	
4D 78 - 320 WC06	78		422	320	352	
4D 79 - 324 WC06	79		426	324	356	
4D 80 - 328 WC06	80		430	328	360	

Indexable Drills

TDR 5XD INDEXABLE DRILLS with WC INSERTS



TYPE	DIMENSIONS (mm)					
	Dc	Ds	L	L1	L2	L3
5D 13 - 68 WC02	13		129	68	85	
5D 13.5 - 71 WC02	13.5		131	71	87	
5D 14 - 73 WC03	14		133	73	89	
5D 14.5 - 76 WC03	14.5		135	76	91	
5D 15 - 78 WC03	15	20 / 25	37	78	93	44
5D 15.5 - 81 WC03	15.5		140	80	95	
5D 16 - 83 WC03	16		142	83	98	
5D 16.5 - 86 WC03	16.5		145	86	101	
5D 17 - 88 WC03	17		147	88	103	
5D 17.5 - 91 WC03	17.5		162	91	106	
5D 18 - 93 WC03	18		164	93	108	
5D 18.5 - 96 WC03	18.5		167	96	111	
5D 19 - 98 WC03	19		169	98	113	
5D 19.5 - 101 WC03	19.5		172	101	116	
5D 20 - 106 WC03	20		174	103	118	
5D 20.5 - 106 WC03	20.5		177	106	121	
5D 21 - 108 WC04	21	25	179	108	123	56
5D 21.5 - 111 WC04	21.5		182	111	126	
5D 22 - 113 WC04	22		184	113	128	
5D 22.5 - 116 WC04	22.5		187	116	131	
5D 23 - 118 WC04	23		192	118	136	
5D 23.5 - 121 WC04	23.5		195	121	139	
5D 24 - 123 WC04	24		197	123	141	
5D 24.5 - 126 WC04	24.5		200	126	144	
5D 25 - 128 WC05	25		202	128	146	
5D 25.5 - 131 WC05	25.5		213	131	153	
5D 26 - 133 WC05	26		216	133	156	
5D 26.5 - 136 WC05	26.5		217	136	157	
5D 27 - 138 WC05	27		218	138	158	
5D 27.5 - 141 WC05	27.5		221	141	161	
5D 28 - 143 WC05	28		223	143	163	
5D 28.5 - 146 WC05	28.5		226	146	166	
5D 29 - 149 WC05	29		230	149	170	
5D 29.5 - 151 WC05	29.5		233	151	173	
5D 30 - 154 WC05	30		238	154	178	
5D 30.5 - 157 WC05	30.5		241	157	181	
5D 31 - 159 WC06	31	32	243	159	183	60
5D 31.5 - 162 WC06	31.5		245	162	185	
5D 32 - 164 WC06	32		248	164	188	
5D 32.5 - 167 WC06	32.5		251	167	191	
5D 33 - 169 WC06	33		253	169	193	
5D 33.5 - 172 WC06	33.5		255	172	195	
5D 34 - 174 WC06	34		258	174	198	
5D 34.5 - 177 WC06	34.5		261	177	201	
5D 35 - 179 WC06	35		263	179	203	
5D 35.5 - 182 WC06	35.5		265	182	205	
5D 36 - 184 WC06	36		268	184	208	
5D 36.5 - 187 WC06	36.5		271	187	211	

TYPE	DIMENSIONS (mm)					
	Dc	Ds	L	L1	L2	L3
5D 37 - 190 WC06	37		280	190	220	
5D 37.5 - 193 WC06	37.5		283	193	223	
5D 38 - 195 WC06	38	32	285	195	225	60
5D 38.5 - 198 WC06	38.5		288	198	228	
5D 39 - 200 WC06	39		290	200	230	
5D 39.5 - 203 WC06	39.5		293	203	233	
5D 40 - 205 WC06	40		305	205	235	
5D 41 - 210 WC08	41		310	210	240	
5D 42 - 215 WC08	42		315	215	245	
5D 43 - 220 WC08	43		320	220	250	
5D 44 - 225 WC08	44		325	225	255	
5D 45 - 230 WC08	45		330	230	260	
5D 46 - 235 WC08	46		335	235	265	
5D 47 - 240 WC08	47		340	240	270	
5D 48 - 245 WC08	48		345	245	275	
5D 49 - 250 WC08	49		350	250	280	
5D 50 - 255 WC08	50		355	255	285	
5D 51 - 260 WC08	51		360	260	290	
5D 52 - 265 WC08	52		365	265	295	
5D 53 - 270 WC08	53		370	270	300	
5D 54 - 275 WC08	54		375	275	305	
5D 55 - 280 WC08	55	40	380	280	310	70
5D 56 - 285 WC08	56		385	285	315	
5D 57 - 295 WC08	57		390	295	320	
5D 58 - 300 WC08	58		395	300	325	
5D 59 - 305 WC08	59		400	305	330	
5D 60 - 310 WC08	60		405	310	335	
5D 61 - 315 WC08	61		410	315	340	
5D 62 - 320 WC08	62		415	320	345	
5D 63 - 325 WC08	63		420	325	350	
5D 64 - 330 WC08	64		425	330	355	
5D 65 - 335 WC08	65		430	335	360	
5D 66 - 340 WC08	66		435	340	365	
5D 67 - 345 WC08	67		440	345	370	
5D 68 - 350 WC08	68		445	350	375	
5D 69 - 355 WC08	69		450	355	380	
5D 70 - 360 WC08	70		455	360	385	

Indexable Milling Cutters

CUTTER BODY



APMT 16/11

SIZE	DIMENSIONS (mm)		
	Dia	Type	Length
APMT 1604	16	Cutter Body	150-L
APMT 1604	20	Cutter Body	150-L
APMT 1604	25	Cutter Body	150-L
APMT 1604	32	Cutter Body	150-L
APMT 1604	16	Cutter Body	200-L
APMT 1604	20	Cutter Body	200-L
APMT 1604	25	Cutter Body	200-L
APMT 1604	32	Cutter Body	200-L
APMT 1604	16	Cutter Body	250-L
APMT 1604	20	Cutter Body	250-L
APMT 1604	25	Cutter Body	250-L
APMT 1604	32	Cutter Body	250-L
APMT 1604	16	Cutter Body	300-L
APMT 1604	20	Cutter Body	300-L
APMT 1604	25	Cutter Body	300-L
APMT 1604	32	Cutter Body	300-L
APMT 1135	16	Cutter Body	150-L
APMT 1135	20	Cutter Body	150-L
APMT 1135	25	Cutter Body	150-L
APMT 1135	32	Cutter Body	150-L
APMT 1135	16	Cutter Body	200-L
APMT 1135	20	Cutter Body	200-L
APMT 1135	25	Cutter Body	200-L
APMT 1135	32	Cutter Body	200-L
APMT 1135	16	Cutter Body	250-L
APMT 1135	20	Cutter Body	250-L
APMT 1135	25	Cutter Body	250-L
APMT 1135	32	Cutter Body	250-L
APMT 1135	16	Cutter Body	300-L
APMT 1135	20	Cutter Body	300-L
APMT 1135	25	Cutter Body	300-L
APMT 1135	32	Cutter Body	300-L

LNMU 03

SIZE	DIMENSIONS (mm)		
	Dia	Type	Length
LNMU 03	16	Cutter Body	150-L
LNMU 03	20	Cutter Body	150-L
LNMU 03	25	Cutter Body	150-L
LNMU 03	32	Cutter Body	150-L
LNMU 03	16	Cutter Body	200-L
LNMU 03	20	Cutter Body	200-L
LNMU 03	25	Cutter Body	200-L
LNMU 03	32	Cutter Body	200-L
LNMU 03	16	Cutter Body	250-L
LNMU 03	20	Cutter Body	250-L
LNMU 03	25	Cutter Body	250-L
LNMU 03	32	Cutter Body	250-L
LNMU 03	16	Cutter Body	300-L
LNMU 03	20	Cutter Body	300-L
LNMU 03	25	Cutter Body	300-L
LNMU 03	32	Cutter Body	300-L

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FARIDABAD	RAJKOT
GOA	SURAT
GURGAON	VADODARA

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KOREA
SINGAPORE
SRI LANKA
UAE
USA

CORPORATE OFFICE

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