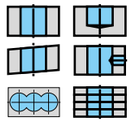
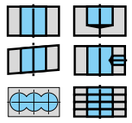
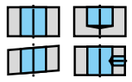
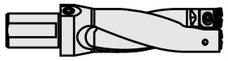
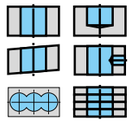
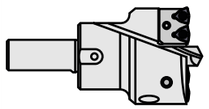
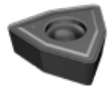
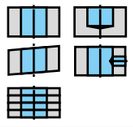
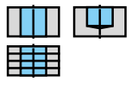
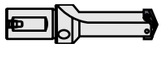
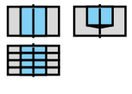
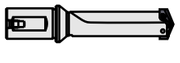
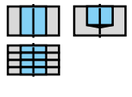
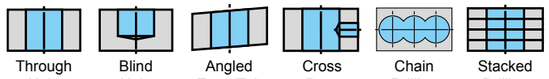
Clarkson

EUROPA TOOL

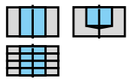
Bohren mit Wendeplatten

APPLICATION GUIDE & INDEX

Holder	Type	Application	Size Range	Page No	Insert	Page No.
QXF 3xD			Ø13mm - Ø50mm	126-127	SPMX	135
QXF 4xD			Ø16mm - Ø33mm	128-129		
QXF 5xD			Ø13mm - Ø40mm	130-131		
CXF 2.5xD			Ø51mm - Ø117mm	132		
HXF			Ø70mm - Ø160mm	133	 WCMX	136
IXF 3xD			Ø10mm - Ø33mm	138	IX10 - IX32	141-146
IXF 5xD			Ø10mm - Ø33mm	139		
IXF 8xD			Ø10mm - Ø33mm	140		
SPADE SS ST/FLUTE STUB			Ø9.5mm - Ø35mm	148	SERIES Y - 2	161-176
SPADE SS ST/FLUTE SHORT			Ø9.5mm - Ø65mm	149	SERIES Y - 4	

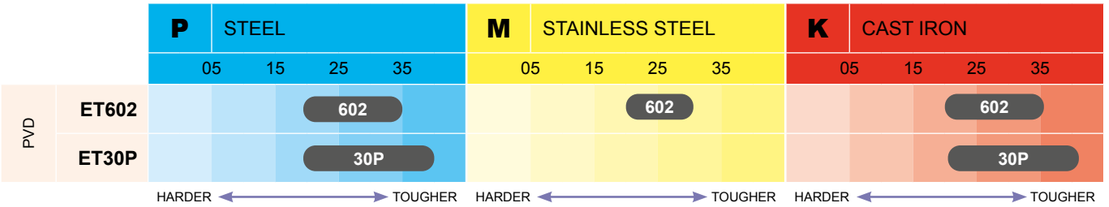


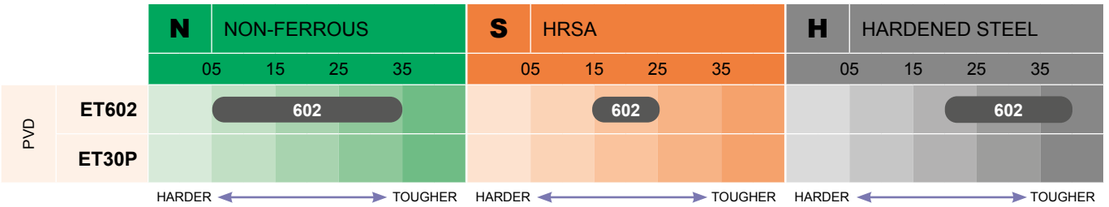
APPLICATION GUIDE & INDEX

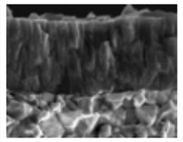
Holder	Type	Application	Size Range	Page No	Insert	Page No.
SPADE SS SP/FLUTE INTERMEDIATE			Ø18mm - Ø47mm	150	SERIES 1 - 3	161-176
SPADE SS SP/FLUTE STANDARD			Ø9.5mm - Ø65mm	151	SERIES Y - 4	
SPADE SS SP/FLUTE EXTENDED			Ø9.5mm - Ø35mm	152	SERIES Y - 2	
SPADE SS ST/FLUTE EXTENDED			Ø35.7mm - Ø65mm	153	SERIES 3 - 4	
SPADE MTS ST/FLUTE SHORT			Ø9.5mm - Ø114mm	154	SERIES Y - 8	
SPADE MTS SP/FLUTE INTERMEDIATE			Ø18mm - Ø47mm	155	SERIES 1 - 3	
SPADE MTS SP/FLUTE STANDARD			Ø9.5mm - Ø114mm	156	SERIES Y - 8	
SPADE MTS SP/FLUTE EXTENDED			Ø9.5mm - Ø35mm	157	SERIES Y - 2	
SPADE MTS ST/FLUTE EXTENDED			Ø35.7mm - Ø114mm	158	SERIES 3 - 8	

SPADE DRILL ACCESSORIES	159

INSERT GRADE GUIDE







P20 - P35	**ET602**
M20 - M40	Ultra dense PVD coating optimised for drilling applications, suitable for most materials
K20 - K35	
N05 - N35	
S15 - S25	
H20 - H40	PVD - TiAlN

P20 - P40	**ET30P**
	Multi layer PVD coating optimised for thermal resistance and higher shear strength
K20 - K40	
	PVD - TiSiNX

SPMX EDGE PREPARATION GUIDE

P	M	K	N	S	H	Edge Preparation Guide		
●	○	●	○		○		Standard Edge Preparation	General machining, first choice
○	●			●			**MS**	Sharp geometry for Stainless Steel and HRSA

SPADE INSERT TYPES

4F POINT

Four facet point, for high stability and hole straightness with less thrust force. Ideal choice for all steels.

FLAT BOTTOM

For holes requiring flat bottom and drilling on sloping or inclined surface.

STANDARD POINT

For drilling in a wide range of materials.

SPADE DRILL INSERT GUIDE

CARBIDE P40A
4F POINT, TiAlN COATED
Four facet point, for high stability and hole straightness with less thrust force. Ideal choice for all steels.

P	M	K	N	S	H
●					○

CARBIDE K10A
TiAlN COATED
High performance in cast iron drilling over 220 HB.

P	M	K	N	S	H
		●			

CARBIDE K10T
TiN COATED
High performance in malleable cast iron.

P	M	K	N	S	H
		○			

CARBIDE K20A
TiAlN COATED
For stainless steel and high temperature alloys. Also suitable for cast iron.

P	M	K	N	S	H
	●	○	○	●	

CARBIDE K20T
TiN COATED
Excellent performance in aluminium and cast iron.

P	M	K	N	S	H
	○	○	●	○	

CARBIDE P40A
TiAlN COATED
For carbon steel and high alloy steel.

P	M	K	N	S	H
●					○

CARBIDE P40T
TiN COATED
For long tool life in low carbon steel.

P	M	K	N	S	H
○					○

HSS T15A
4F POINT, TiAlN COATED
Four facet point, for high stability and hole straightness with less thrust force. Ideal choice for all steels and nickel alloys.

P	M	K	N	S	H
●		○		●	○

HSS T15A
TiAlN COATED
Ideal choice for tool steels and softer nickel alloys

P	M	K	N	S	H
●				●	○

HSS T15T
TiN COATED
For carbon steels and alloy steels.

P	M	K	N	S	H
●				○	○

HSS M4A
TiAlN COATED
For carbon steel, alloy steel, stainless steel and cast iron.

P	M	K	N	S	H
●	●	●	○		

HSS M4T
TiN COATED
For carbon steel, cast iron and aluminium.

P	M	K	N	S	H
●	○	●	●		

HSS M48A
TiAlN COATED
For tool steel, hard cast iron and high temperature alloys.

P	M	K	N	S	H
●		●		●	○

HSS M48T
TiN COATED
For carbon steel and softer nickel alloys.

P	M	K	N	S	H
●		●		○	○

HSS T15A
FLAT BOTTOM, TiAlN COATED
For holes requiring flat bottom and drilling on sloping or inclined surface.

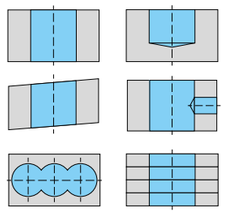
P	M	K	N	S	H
●	○	●	○	○	○

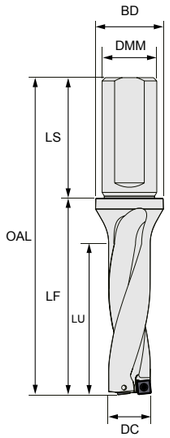
INDEXABLE DRILLING

4 CORNER INSERT

UNIMASTER QX

3xD





Insert Type	
	SPMX 0502.. SPMX 0602.. SPMX 07T3.. SPMX 0904.. SPMX 1104.. SPMX 1405..

EDP Code	TOOL CODE	DC	DMM	BD	LS	LU	LF	OAL	Insert	Screw	Wrench
QXF3D1300	**QXF3D1300**	**13.0**	20	25	50	39	57	107	SPMX 05	TXS2043	TXW05
QXF3D1400	**QXF3D1400**	**14.0**				42	60	110			
QXF3D1500	**QXF3D1500**	**15.0**				45	63	113			
QXF3D1600	**QXF3D1600**	**16.0**	25	32	56	48	69	125	SPMX 06	TXS2205	TXW07
QXF3D1650	**QXF3D1650**	**16.5**				49.5	70.5	126.5			
QXF3D1700	**QXF3D1700**	**17.0**				51	72	128			
QXF3D1750	**QXF3D1750**	**17.5**				52.5	73.5	129.5			
QXF3D1800	**QXF3D1800**	**18.0**				54	75	131			
QXF3D1850	**QXF3D1850**	**18.5**				55.5	76.5	132.5			
QXF3D1900	**QXF3D1900**	**19.0**				57	78	134			
QXF3D1950	**QXF3D1950**	**19.5**				58.5	79.5	135.5			
QXF3D2000	**QXF3D2000**	**20.0**				60	82	138			
QXF3D2050	**QXF3D2050**	**20.5**				61.5	83.5	139.5			
QXF3D2100	**QXF3D2100**	**21.0**				63	85	141			
QXF3D2150	**QXF3D2150**	**21.5**				64.5	86.5	142.5			
QXF3D2200	**QXF3D2200**	**22.0**	32	45	60	66	96	156	SPMX 07	TXS2507	TXW08
QXF3D2250	**QXF3D2250**	**22.5**				67.5	97.5	157.5			
QXF3D2300	**QXF3D2300**	**23.0**				69	99	159			
QXF3D2350	**QXF3D2350**	**23.5**				70.5	100.5	160.5			
QXF3D2400	**QXF3D2400**	**24.0**				72	102	162			
QXF3D2450	**QXF3D2450**	**24.5**				73.5	103.5	163.5			
QXF3D2500	**QXF3D2500**	**25.0**				75	105	165			
QXF3D2550	**QXF3D2550**	**25.5**				76.5	106.5	166.5			
QXF3D2600	**QXF3D2600**	**26.0**				78	108	168			
QXF3D2650	**QXF3D2650**	**26.5**				79.5	109.5	169.5			
QXF3D2700	**QXF3D2700**	**27.0**				81	111	171			
QXF3D2750	**QXF3D2750**	**27.5**				82.5	112.5	172.5			

▸ ABS and Plain shanks available to order

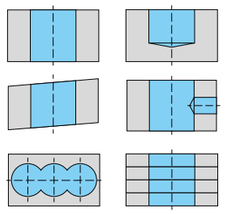
DRILLING

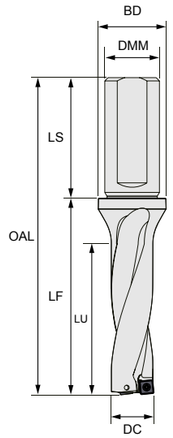
INDEXABLE DRILLING

4 CORNER INSERT

UNIMASTER QX

3xD





Insert Type	
	SPMX 0502.. SPMX 0602.. SPMX 07T3.. SPMX 0904.. SPMX 1104.. SPMX 1405..

EDP Code	TOOL CODE	DC	DMM	BD	LS	LU	LF	OAL	Insert	Screw	Wrench
QXF3D2800	**QXF3D2800**	**28.0**	32	45	60	84	114	174	SPMX 09	TXS3509	TXW10
QXF3D2850	**QXF3D2850**	**28.5**				85.5	115.5	175.5			
QXF3D2900	**QXF3D2900**	**29.0**				87	117	177			
QXF3D2950	**QXF3D2950**	**29.5**				88.5	118.5	178.5			
QXF3D3000	**QXF3D3000**	**30.0**		55		90	121	181			
QXF3D3050	**QXF3D3050**	**30.5**				91.5	122.5	182.5			
QXF3D3100	**QXF3D3100**	**31.0**				93	124	184			
QXF3D3150	**QXF3D3150**	**31.5**				94.5	125.5	185.5			
QXF3D3200	**QXF3D3200**	**32.0**				96	127	187			
QXF3D3250	**QXF3D3250**	**32.5**				97.5	128.5	188.5			
QXF3D3300	**QXF3D3300**	**33.0**				99	130	190			
QXF3D3400	**QXF3D3400**	**34.0**	32	55	60	102	133	193	SPMX 11	TXS4010	TXW15
QXF3D3500	**QXF3D3500**	**35.0**				105	136	196			
QXF3D3600	**QXF3D3600**	**36.0**				108	139	199			
QXF3D3700	**QXF3D3700**	**37.0**	40	58	70	111	147	217			
QXF3D3800	**QXF3D3800**	**38.0**				114	151	221			
QXF3D3900	**QXF3D3900**	**39.0**				117	154	224			
QXF3D4000	**QXF3D4000**	**40.0**				120	158	228			
QXF3D4100	**QXF3D4100**	**41.0**				123	162	232			
QXF3D4200	**QXF3D4200**	**42.0**	40	58	70	126	165	235	SPMX 14	TXS5010	TXW20
QXF3D4300	**QXF3D4300**	**43.0**				129	169	239			
QXF3D4400	**QXF3D4400**	**44.0**				132	172	242			
QXF3D4500	**QXF3D4500**	**45.0**				135	177	247			
QXF3D4600	**QXF3D4600**	**46.0**				138	181	251			
QXF3D4700	**QXF3D4700**	**47.0**				141	184	254			
QXF3D4800	**QXF3D4800**	**48.0**				144	188	258			
QXF3D4900	**QXF3D4900**	**49.0**				147	191	261			
QXF3D5000	**QXF3D5000**	**50.0**				150	195	265			

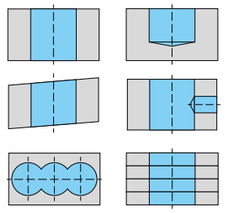
▸ ABS and Plain shanks available to order

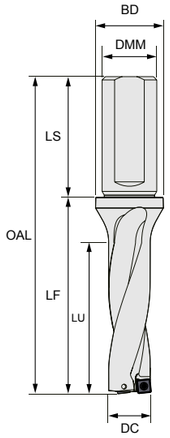
INDEXABLE DRILLING

4 CORNER INSERT

UNIMASTER QX

4xD





Insert Type	
	SPMX 0602.. SPMX 07T3.. SPMX 0904..

EDP Code	TOOL CODE	DC	DMM	BD	LS	LU	LF	OAL	Insert	Screw	Wrench
QXF4D1600	**QXF4D1600**	**16.0**	25	32	56	64	85	141	SPMX 06	TXS2205	TXW07
QXF4D1700	**QXF4D1700**	**17.0**				68	89	145			
QXF4D1750	**QXF4D1750**	**17.5**				70	91	147			
QXF4D1800	**QXF4D1800**	**18.0**				72	93	149			
QXF4D1850	**QXF4D1850**	**18.5**				74	95	151			
QXF4D1900	**QXF4D1900**	**19.0**				76	97	153			
QXF4D1950	**QXF4D1950**	**19.5**				78	99	155			
QXF4D2000	**QXF4D2000**	**20.0**				80	102	158			
QXF4D2050	**QXF4D2050**	**20.5**				82	104	160			
QXF4D2100	**QXF4D2100**	**21.0**				84	106	162			
QXF4D2150	**QXF4D2150**	**21.5**				86	108	164			
QXF4D2200	**QXF4D2200**	**22.0**	32	45	60	88	118	178	SPMX 07	TXS2207	TXW08
QXF4D2250	**QXF4D2250**	**22.5**				90	120	180			
QXF4D2300	**QXF4D2300**	**23.0**				92	122	182			
QXF4D2350	**QXF4D2350**	**23.5**				94	124	184			
QXF4D2400	**QXF4D2400**	**24.0**				96	126	186			
QXF4D2450	**QXF4D2450**	**24.5**				98	128	188			
QXF4D2500	**QXF4D2500**	**25.0**				100	130	190			
QXF4D2550	**QXF4D2550**	**25.5**				102	132	192			
QXF4D2600	**QXF4D2600**	**26.0**				104	134	194			
QXF4D2650	**QXF4D2650**	**26.5**				106	136	196			
QXF4D2700	**QXF4D2700**	**27.0**				108	138	198			
QXF4D2750	**QXF4D2750**	**27.5**				110	140	200			

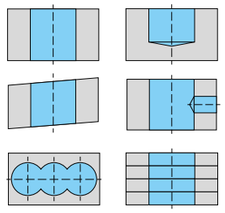
▸ ABS and Plain shanks available to order

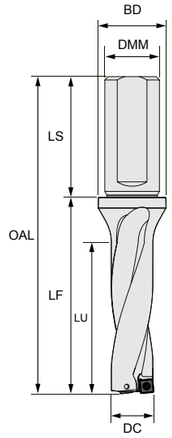
INDEXABLE DRILLING

4 CORNER INSERT

UNIMASTER QX

4xD





Insert Type	
	SPMX 0602.. SPMX 07T3.. SPMX 0904..

EDP Code	TOOL CODE	DC	DMM	BD	LS	LU	LF	OAL	Insert	Screw	Wrench
QXF4D2800	**QXF4D2800**	**28.0**	32	45	60	112	142	202	SPMX 09	TXS3509	TXW10
QXF4D2850	**QXF4D2850**	**28.5**				114	144	204			
QXF4D2900	**QXF4D2900**	**29.0**				116	146	206			
QXF4D2950	**QXF4D2950**	**29.5**				118	148	208			
QXF4D3000	**QXF4D3000**	**30.0**				120	151	211			
QXF4D3050	**QXF4D3050**	**30.5**				122	153	213			
QXF4D3100	**QXF4D3100**	**31.0**				124	155	215			
QXF4D3150	**QXF4D3150**	**31.5**				126	157	217			
QXF4D3200	**QXF4D3200**	**32.0**				128	159	219			
QXF4D3250	**QXF4D3250**	**32.5**				130	161	221			
QXF4D3300	**QXF4D3300**	**33.0**				132	163	223			

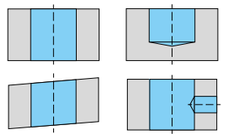
▸ ABS and Plain shanks available to order

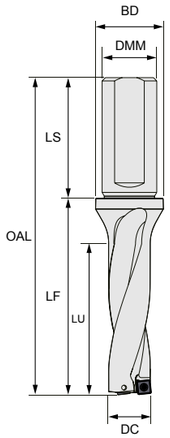
INDEXABLE DRILLING

4 CORNER INSERT

UNIMASTER QX

5xD





Insert Type	
	SPMX 0502.. SPMX 0602.. SPMX 07T3.. SPMX 0904.. SPMX 1104..

EDP Code	TOOL CODE	DC	DMM	BD	LS	LU	LF	OAL	Insert	Screw	Wrench
QXF5D1300	**QXF5D1300**	**13.0**	20	25	50	65	83	133	SPMX 05	TXS2043	TXW05
QXF5D1400	**QXF5D1400**	**14.0**				70	88	138			
QXF5D1500	**QXF5D1500**	**15.0**				75	93	143			
QXF5D1600	**QXF5D1600**	**16.0**	25	32	56	80	101	157	SPMX 06	TXS2205	TXW07
QXF5D1700	**QXF5D1700**	**17.0**				85	106	162			
QXF5D1800	**QXF5D1800**	**18.0**				90	111	167			
QXF5D1900	**QXF5D1900**	**19.0**				95	116	172			
QXF5D2000	**QXF5D2000**	**20.0**				100	122	178			
QXF5D2100	**QXF5D2100**	**21.0**				105	127	183			
QXF5D2200	**QXF5D2200**	**22.0**	32	45	60	110	140	200	SPMX 07	TXS2507	TXW08
QXF5D2300	**QXF5D2300**	**23.0**				115	145	205			
QXF5D2400	**QXF5D2400**	**24.0**				120	150	210			
QXF5D2500	**QXF5D2500**	**25.0**				125	155	215			
QXF5D2600	**QXF5D2600**	**26.0**				130	160	220			
QXF5D2700	**QXF5D2700**	**27.0**				135	165	225			
QXF5D2800	**QXF5D2800**	**28.0**	32	45	60	140	170	230	SPMX 09	TXS3509	TXW10
QXF5D2900	**QXF5D2900**	**29.0**				145	175	235			
QXF5D3000	**QXF5D3000**	**30.0**		55		150	181	241			
QXF5D3100	**QXF5D3100**	**31.0**				155	186	246			
QXF5D3200	**QXF5D3200**	**32.0**				160	191	251			
QXF5D3300	**QXF5D3300**	**33.0**				165	196	256			

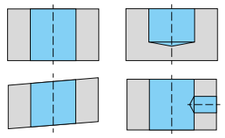
▸ ABS and Plain shanks available to order

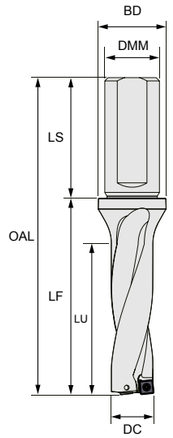
INDEXABLE DRILLING

4 CORNER INSERT

UNIMASTER QX

5xD





Insert Type	
	SPMX 0502.. SPMX 0602.. SPMX 07T3.. SPMX 0904.. SPMX 1104..

EDP Code	TOOL CODE	DC	DMM	BD	LS	LU	LF	OAL	Insert	Screw	wrench
QXF5D3400	**QXF5D3400**	**34.0**	40	54	70	170	203	273	SPMX 11	TXS4010	TXW15
QXF5D3500	**QXF5D3500**	**35.0**				175	209	279			
QXF5D3600	**QXF5D3600**	**36.0**				180	215	285			
QXF5D3700	**QXF5D3700**	**37.0**				185	221	291			
QXF5D3800	**QXF5D3800**	**38.0**				190	227	297			
QXF5D3900	**QXF5D3900**	**39.0**				195	232	302			
QXF5D4000	**QXF5D4000**	**40.0**				200	238	308			

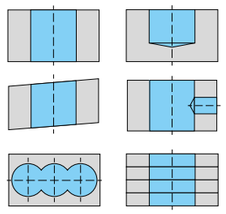
▸ ABS and Plain shanks available to order

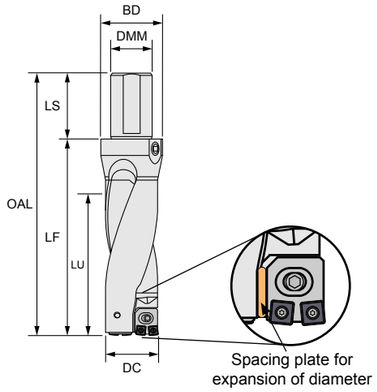
INDEXABLE DRILLING

4 CORNER INSERT, CARTRIDGE TYPE

UNIMASTER CX

2.5xD





Insert Type	
	SPMX 07T3.. SPMX 0904.. SPMX 1104.. SPMX 1405..

AVAILABLE ON REQUEST

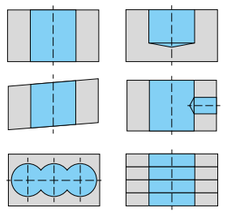
EDP Code	TOOL CODE	DC	DMM	BD	LS	LU	LF	OAL	Insert	Screw	Wrench	Cartridge Outer	Cartridge Inner	Spacing Plate	Spacing Plate Screw
CXF25D5100	**CXF25D5100**	**51.0**	50	75	80	133	170	250	SPMX 07	TXS2507	TXW08	CA07P1	CA07C1	-	-
		52.0												P071	PS20043
		53.0												P072	
CXF25D5400	**CXF25D5400**	**54.0**				140	180	260	SPMX 07	TXS2507	TXW08	CA07P2	CA07C2	-	-
		55.0												P071	PS20043
		56.0												P072	
CXF25D5700	**CXF25D5700**	**57.0**				155	201	281	SPMX 09	TXS3509	TXW10	CA09P1	CA09C1	-	-
		58.0												P091	PS30055
		59.0												P092	
		60.0												P093	
		61.0												P094	
		62.0												P095	
CXF25D6300	**CXF25D6300**	**63.0**				165	215	295	SPMX 09	TXS3509	TXW10	CA09P2	CA09C2	-	-
		64.0												P091	PS30055
		65.0												P092	
		66.0												P093	
CXF25D6700	**CXF25D6700**	**67.0**				183	240	320	SPMX 11	TXS4010	TXW15	CA11P1	CA11C1	-	-
		68.0												P111	PS30055
		69.0												P112	
		70.0												P113	
		71.0												P114	
		72.0												P115	
		73.0												P116	

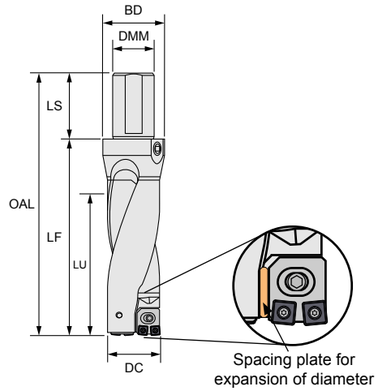
INDEXABLE DRILLING

4 CORNER INSERT, CARTRIDGE TYPE

UNIMASTER CX

2.5xD





Insert Type	
	SPMX 07T3.. SPMX 0904.. SPMX 1104.. SPMX 1405..

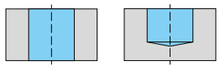
AVAILABLE ON REQUEST

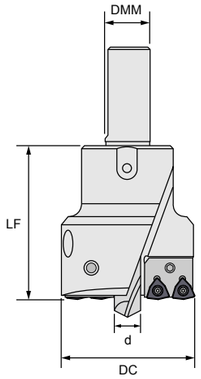
EDP Code	TOOL CODE	DC	DMM	BD	LS	LU	LF	OAL	Insert	Screw	Wrench	Cartridge Outer	Cartridge Inner	Spacing Plate	Spacing Plate Screw
CXF25D7400	**CXF25D7400**	**74.0**	50	80	80	200	240	320	SPMX 11	TXS4010	TXW15	CA11D1	CA11M1	P091	PS30055
		79.0												P092	
CXF25D8000	**CXF25D8000**	**80.0**	50	84	80	213	253	333	SPMX 14	TXS5010	TXW20	CA14D	CA14M	P091	PS30055
		85.0												P092	
CXF25D8500	**CXF25D8500**	**85.0**	60	89	100	225	265	345	SPMX 14	TXS5010	TXW20	CA14D1	CA14M1	P091	PS30055
		90.0												P092	
CXF25D9000	**CXF25D9000**	**90.0**	60	94	100	235	275	355	SPMX 11	TXS4010	TXW15	CA11D2	CA11M2	P111	PS30055
		95.0												P112	
CXF25D9600	**CXF25D9600**	**96.0**	60	99	100	248	288	388	SPMX 11	TXS4010	TXW15	CA11D3	CA11M3	P111	PS30055
		100.0												P112	
CXF25D1010	**CXF25D1010**	**101.0**	60	104	100	260	300	400	SPMX 11	TXS4010	TXW15	CA11D4	CA11M4	P111	PS30055
		105.0												P112	
CXF25D1060	**CXF25D1060**	**106.0**	60	109	100	273	313	413	SPMX 14	TXS5010	TXW20	CA14D2	CA14M2	P111	PS30055
		111.0												P112	
CXF25D1120	**CXF25D1120**	**112.0**	60	114	100	285	325	425	SPMX 14	TXS5010	TXW20	CA14D3	CA14M3	P111	PS30055
		117.0												P112	

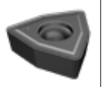
INDEXABLE DRILLING

3 CORNER INSERT, CARTRIDGE TYPE

UNIMASTER HX



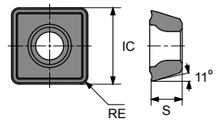


Insert Type	
	WCMX 0804..

AVAILABLE ON REQUEST

EDP Code	TOOL CODE	DC	DMM	LF	d	Insert	Screw	Wrench	Cartridge Outer	Cartridge Inner	Cartridge Screw
HXF7000	**HXF7000**	**70.0**	32	100	16	WCMX 08	TXS3511	TXW15	CA70P	CA70C	M6X20IMB
HXF7500	**HXF7500**	**75.0**							CA75P	CA75C	
HXF8000	**HXF8000**	**80.0**							CA80P	CA80C	
HXF8500	**HXF8500**	**85.0**							CA85P	CA85C	
HXF9000	**HXF9000**	**90.0**							CA90P	CA90C	
HXF9500	**HXF9500**	**95.0**							CA95P	CA95C	
HXF10000	**HXF10000**	**100.0**	42	105	20				CA100P	CA100C	M6X30IMB
HXF10500	**HXF10500**	**105.0**							CA105P	CA105C	
HXF11000	**HXF11000**	**110.0**							CA110P	CA110C	
HXF11500	**HXF11500**	**115.0**							CA115P	CA115C	
HXF12000	**HXF12000**	**120.0**	50						CA120P	CA120C	
HXF12500	**HXF12500**	**125.0**							CA125P	CA125C	
HXF13000	**HXF13000**	**130.0**							CA130P	CA130C	
HXF13500	**HXF13500**	**135.0**							CA135P	CA135C	
HXF14000	**HXF14000**	**140.0**							CA140P	CA140C	
HXF14500	**HXF14500**	**145.0**							CA145P	CA145C	
HXF15000	**HXF15000**	**150.0**							CA150P	CA150C	
HXF15500	**HXF15500**	**155.0**							CA155P	CA155C	
HXF16000	**HXF16000**	**160.0**							CA160P	CA160C	

INSERT	IC	S	INSERT	IC	S
SPMX 0502	5.0	2.38	SPMX 0904	9.8	4.30
SPMX 0602	6.0	2.38	SPMX 1104	11.5	4.90
SPMX 07T3	7.94	3.97	SPMX 1405	14.3	5.30

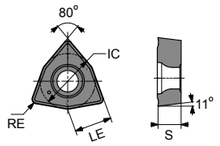


▸ EDP Code DI..... Example: SPMX 050204-MS ET602 = DI00012

SPMX	ISO DESIGNATION	RE (mm)	fn (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
				PVD													
P				●	●					●	○	●	●	●	●	●	●
M				●				●	○					●	○		
K				●	●	●	○	○	○					●	●	●	●
N				○				○	●					○	●		
S				●				○	○			●	○			●	○
H				○						○	○	○	○			○	○
	SPMX 050204-MS	0.4	0.02 - 0.11	● 00012													
	SPMX 060204-MS	0.4	0.03 - 0.11	● 00013													
	SPMX 07T308-MS	0.8	0.03 - 0.11	● 00014													
	SPMX 090408-MS	0.8	0.04 - 0.12	● 00015													
	SPMX 050204	0.4	0.05 - 0.14	● 00001													
	SPMX 060204	0.4	0.05 - 0.16	● 00002													
	SPMX 07T308	0.8	0.06 - 0.16	● 00003													
	SPMX 090408	0.8	0.06 - 0.16	● 00004													
	SPMX 110408	0.8	0.06 - 0.16	● 00005													
	SPMX 140512	1.2	0.06 - 0.18	● 00011													

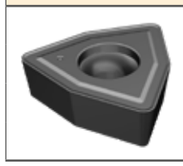
ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
vc (m/min)	**ET602**	**140 - 240**	**120 - 220**	**70 - 150**	**140 - 250**	**120 - 200**	**140 - 220**	**150 - 240**	**250 - 600**	**24 - 45**	**40 - 80**
	ET30P	**58 - 126**	**47 - 95**	**42 - 68**	**-**	**-**	**79 - 131**	**79 - 131**	**-**	**-**	**-**
	K10A	**-**	**-**	**-**	**-**	**-**	**79 - 111**	**125 - 137**	**-**	**-**	**-**
	K10T	**-**	**-**	**-**	**-**	**-**	**56 - 75**	**80 - 98**	**-**	**-**	**-**
	K20A	**-**	**-**	**-**	**50 - 62**	**46 - 52**	**79 - 111**	**125 - 137**	**244 - 366**	**24 - 30**	**-**
	K20T	**-**	**-**	**-**	**42 - 50**	**38 - 44**	**56 - 75**	**80 - 98**	**291 - 427**	**20 - 26**	**-**
	P40A	**84 - 125**	**64 - 102**	**50 - 67**	**-**	**-**	**-**	**-**	**-**	**-**	**47 - 62**
	P40T	**52 - 101**	**83 - 82**	**37 - 50**	**-**	**-**	**-**	**-**	**-**	**-**	**37 - 49**
	T15A	**-**	**41 - 58**	**26 - 34**	**-**	**-**	**41 - 52**	**-**	**-**	**11 - 12**	**21 - 35**
	T15T	**-**	**36 - 42**	**19 - 25**	**-**	**-**	**29 - 35**	**-**	**-**	**8 - 9**	**16 - 19**
	M4A	**66 - 84**	**41 - 75**	**-**	**29 - 34**	**27 - 29**	**-**	**58 - 75**	**92 - 187**	**-**	**-**
	M4T	**45 - 63**	**36 - 52**	**-**	**20 - 24**	**18 - 20**	**-**	**42 - 52**	**137 - 244**	**-**	**-**
	M48A	**-**	**41 - 58**	**26 - 34**	**-**	**-**	**41 - 52**	**-**	**-**	**11 - 12**	**21 - 35**
	M48T	**-**	**36 - 42**	**19 - 25**	**-**	**-**	**29 - 35**	**-**	**-**	**8 - 9**	**16 - 19**

INSERT	IC	S
WCMX 0402	6.35	2.38
WCMX 0503	7.94	3.18
WCMX 06T3	9.52	3.97
WCMX 0804	12.7	4.76



▸ EDP Code DI..... Example:WCMX 040208 ET602 = DI00007

	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P	●	●					●	○	●	●	●	●	●	●
M	●				●	○					●	○		
K	●	●	●	○	○	○					●	●	●	●
N	○				○	●					○	●		
S	●				○	○			●	○			●	○
H	○						○	○	○	○			○	○

WCMX	ISO DESIGNATION	RE (mm)	f_n (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
				PVD													
	**WCMX 040208**	0.8	0.05 - 0.13	● 00007													
	WCMX 050308	0.8	0.05 - 0.13	● 00008													
	WCMX 06T308	0.8	0.06 - 0.14	● 00009													
	WCMX 080412	1.2	0.06 - 0.16	● 00010													

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	**ET602**	**140 - 240**	**120 - 220**	**70 - 150**	**140 - 250**	**120 - 200**	**140 - 220**	**150 - 240**	**250 - 600**	**24 - 45**	**40 - 80**
	ET30P	**58 - 126**	**47 - 95**	**42 - 68**	**-**	**-**	**79 - 131**	**79 - 131**	**-**	**-**	**-**
	K10A	**-**	**-**	**-**	**-**	**-**	**79 - 111**	**125 - 137**	**-**	**-**	**-**
	K10T	**-**	**-**	**-**	**-**	**-**	**56 - 75**	**80 - 98**	**-**	**-**	**-**
	K20A	**-**	**-**	**-**	**50 - 62**	**46 - 52**	**79 - 111**	**125 - 137**	**244 - 366**	**24 - 30**	**-**
	K20T	**-**	**-**	**-**	**42 - 50**	**38 - 44**	**56 - 75**	**80 - 98**	**291 - 427**	**20 - 26**	**-**
	P40A	**84 - 125**	**64 - 102**	**50 - 67**	**-**	**-**	**-**	**-**	**-**	**-**	**47 - 62**
	P40T	**52 - 101**	**83 - 82**	**37 - 50**	**-**	**-**	**-**	**-**	**-**	**-**	**37 - 49**
	T15A	**-**	**41 - 58**	**26 - 34**	**-**	**-**	**41 - 52**	**-**	**-**	**11 - 12**	**21 - 35**
	T15T	**-**	**36 - 42**	**19 - 25**	**-**	**-**	**29 - 35**	**-**	**-**	**8 - 9**	**16 - 19**
	M4A	**66 - 84**	**41 - 75**	**-**	**29 - 34**	**27 - 29**	**-**	**58 - 75**	**92 - 187**	**-**	**-**
	M4T	**45 - 63**	**36 - 52**	**-**	**20 - 24**	**18 - 20**	**-**	**42 - 52**	**137 - 244**	**-**	**-**
	M48A	**-**	**41 - 58**	**26 - 34**	**-**	**-**	**41 - 52**	**-**	**-**	**11 - 12**	**21 - 35**
	M48T	**-**	**36 - 42**	**19 - 25**	**-**	**-**	**29 - 35**	**-**	**-**	**8 - 9**	**16 - 19**

UNIMASTER IX

Optimized point geometry
- Radius thinned point for chip breaking and self centering
- Negative land for high process reliability

Optimized flute design
- Excellent chip evacuation
- Body clearance to avoid clogging and workpiece contact
- Nickel plated for added wear resistance

Insert Grade ET30P
- Multi-layer PVD coating
- Optimised for thermal resistance and higher shear strength
- Tough carbide substrate, ideal for demanding applications

Test Condition

Tool: **IXF14**

Method: **Blind hole**

Insert: **IX14**

Material: **42CrMo4 alloy steel (HRc30)**

v_c: **80 m/min**

n: **1820 rev/min**

f: **328 mm/min**

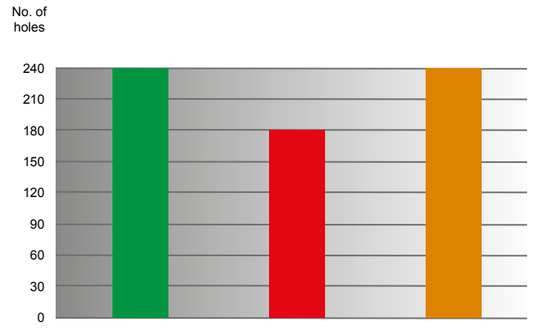
f_n: **0.18 mm/rev**

a_p: **65.0 mm (5xD)**

Coolant: **9% Emulsion**

Machine: **Vertical Machining Centre**

Result



Tool	Unimaster IX	COMPETITOR A	COMPETITOR B
No. of holes	240	180	240
Edge Condition	Wear	Chipped	Wear
Wear (μm)	22	300	60

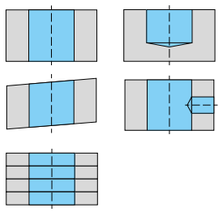
Test was stopped at 240 holes, high spindle load from competitor B

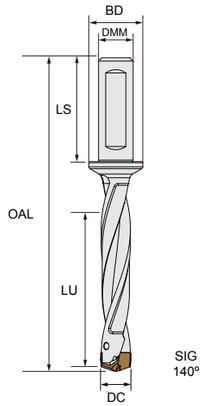
INDEXABLE DRILLING

EXCHANGEABLE HEAD TYPE

UNIMASTER IX

3xD





Insert Series	
	IX10 to IX32

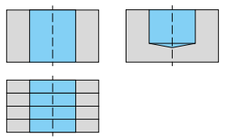
EDP Code	TOOL CODE	DC (Min)	DCX (Max)	DMM	BD	LS	LU	OAL	Insert Series	Screw	Wrench
IXF3D1000	**IXF3D1000**	**10.00**	**10.40**	16	23	48	31.5	103.0	IX10	TXS1011	TXW05
IXF3D1050	**IXF3D1050**	**10.50**	**10.90**				33.0	104.0			
IXF3D1100	**IXF3D1100**	**11.00**	**11.40**				34.5	105.0			
IXF3D1150	**IXF3D1150**	**11.50**	**11.91**				36.0	106.0			
IXF3D1200	**IXF3D1200**	**12.00**	**12.40**				37.5	109.8	IX12	TXS1213	
IXF3D1250	**IXF3D1250**	**12.50**	**12.90**				39.0	110.8			
IXF3D1300	**IXF3D1300**	**13.00**	**13.49**				40.5	112.8			
IXF3D1350	**IXF3D1350**	**13.50**	**13.90**				42.0	113.8			
IXF3D1400	**IXF3D1400**	**14.00**	**14.40**				43.5	116.3	IX14	TXS1415	TXW07
IXF3D1450	**IXF3D1450**	**14.50**	**14.90**				45.0	118.3			
IXF3D1500	**IXF3D1500**	**15.00**	**15.48**				46.5	120.3			
IXF3D1550	**IXF3D1550**	**15.50**	**15.90**				48.0	121.3			
IXF3D1600	**IXF3D1600**	**16.00**	**16.90**	20	25	50	51.0	127.0	IX16	TXS1617	
IXF3D1700	**IXF3D1700**	**17.00**	**17.90**				54.0	130.0		TXS1718	
IXF3D1800	**IXF3D1800**	**18.00**	**18.90**	25	32	56	57.0	141.3	IX18	TXS1819	TXW09
IXF3D1900	**IXF3D1900**	**19.00**	**19.90**				60.0	145.3		TXS1920	
IXF3D2000	**IXF3D2000**	**20.00**	**20.90**				63.0	147.5	IX20	TXS2021	
IXF3D2100	**IXF3D2100**	**21.00**	**21.90**				66.0	150.5		TXS2122	
IXF3D2200	**IXF3D2200**	**22.00**	**22.90**				69.0	153.4	IX22	TXS2223	
IXF3D2300	**IXF3D2300**	**23.00**	**23.90**				72.0	157.4		TXS2324	
IXF3D2400	**IXF3D2400**	**24.00**	**24.90**	32	37	60	75.0	165.8	IX24	TXS2425	TXW10
IXF3D2500	**IXF3D2500**	**25.00**	**25.90**				78.0	170.8		TXS2526	
IXF3D2600	**IXF3D2600**	**26.00**	**26.99**				81.0	172.2	IX26	TXS2627	
IXF3D2700	**IXF3D2700**	**27.00**	**27.78**				84.0	175.2		TXS2728	
IXF3D2800	**IXF3D2800**	**28.00**	**28.97**				87.0	179.2	IX28	TXS2829	
IXF3D2900	**IXF3D2900**	**29.00**	**29.77**				90.0	183.2		TXS2930	
IXF3D3000	**IXF3D3000**	**30.00**	**30.96**				93.0	187.0	IX30	TXS3031	TXW15
IXF3D3100	**IXF3D3100**	**31.00**	**31.75**				96.0	191.0		TXS3132	
IXF3D3200	**IXF3D3200**	**32.00**	**32.94**				99.0	197.2	IX32	TXS3233	
IXF3D3300	**IXF3D3300**	**33.00**	**33.73**				102.0	201.2		TXS3334	

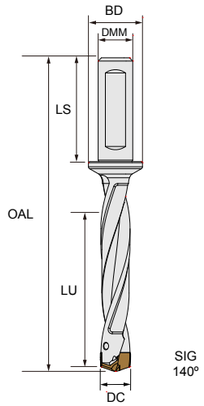
INDEXABLE DRILLING

EXCHANGEABLE HEAD TYPE

UNIMASTER IX

5xD





Insert Series	
	IX10 to IX32

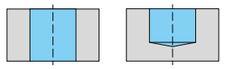
EDP Code	TOOL CODE	DC (Min)	DCX (Max)	DMM	BD	LS	LU	OAL	Insert Series	Screw	Wrench
IXF5D1000	**IXF5D1000**	**10.00**	**10.40**	16	23	48	52.5	123.0	IX10	TXS1011	TXW05
IXF5D1050	**IXF5D1050**	**10.50**	**10.90**				55.0	125.0			
IXF5D1100	**IXF5D1100**	**11.00**	**11.40**				57.5	127.0			
IXF5D1150	**IXF5D1150**	**11.50**	**11.91**				60.0	129.0			
IXF5D1200	**IXF5D1200**	**12.00**	**12.40**				62.5	133.8	IX12	TXS1213	
IXF5D1250	**IXF5D1250**	**12.50**	**12.90**				65.0	135.8			
IXF5D1300	**IXF5D1300**	**13.00**	**13.49**				67.5	138.8			
IXF5D1350	**IXF5D1350**	**13.50**	**13.90**				70.0	140.8			
IXF5D1400	**IXF5D1400**	**14.00**	**14.40**				72.5	144.3	IX14	TXS1415	TXW07
IXF5D1450	**IXF5D1450**	**14.50**	**14.90**				75.0	147.3			
IXF5D1500	**IXF5D1500**	**15.00**	**15.48**				77.5	150.3			
IXF5D1550	**IXF5D1550**	**15.50**	**15.90**				80.0	152.3			
IXF5D1600	**IXF5D1600**	**16.00**	**16.90**	20	25	50	85.0	160.0	IX16	TXS1617	
IXF5D1700	**IXF5D1700**	**17.00**	**17.90**				90.0	165.0		TXS1718	
IXF5D1800	**IXF5D1800**	**18.00**	**18.90**	25	32	56	95.0	178.3	IX18	TXS1819	TXW09
IXF5D1900	**IXF5D1900**	**19.00**	**19.90**				100.0	184.3		TXS1920	
IXF5D2000	**IXF5D2000**	**20.00**	**20.90**				105.0	188.5	IX20	TXS2021	
IXF5D2100	**IXF5D2100**	**21.00**	**21.90**				110.0	193.5		TXS2122	
IXF5D2200	**IXF5D2200**	**22.00**	**22.90**				115.0	198.4	IX22	TXS2223	
IXF5D2300	**IXF5D2300**	**23.00**	**23.90**				120.0	204.4		TXS2324	
IXF5D2400	**IXF5D2400**	**24.00**	**24.90**	32	37	60	125.0	214.8	IX24	TXS2425	TXW10
IXF5D2500	**IXF5D2500**	**25.00**	**25.90**				130.0	221.8		TXS2526	
IXF5D2600	**IXF5D2600**	**26.00**	**26.99**				135.0	225.2	IX26	TXS2627	
IXF5D2700	**IXF5D2700**	**27.00**	**27.78**				140.0	230.2		TXS2728	
IXF5D2800	**IXF5D2800**	**28.00**	**28.97**				145.0	236.2	IX28	TXS2829	
IXF5D2900	**IXF5D2900**	**29.00**	**29.77**				150.0	242.2		TXS2930	
IXF5D3000	**IXF5D3000**	**30.00**	**30.96**				155.0	248.0	IX30	TXS3031	TXW15
IXF5D3100	**IXF5D3100**	**31.00**	**31.75**				160.0	254.0		TXS3132	
IXF5D3200	**IXF5D3200**	**32.00**	**32.94**				165.0	262.2	IX32	TXS3233	
IXF5D3300	**IXF5D3300**	**33.00**	**33.73**				170.0	268.2		TXS3334	

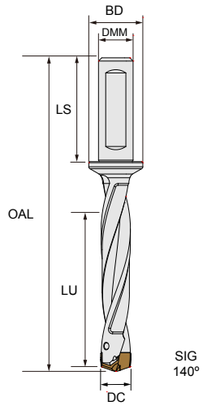
INDEXABLE DRILLING

EXCHANGEABLE HEAD TYPE

UNIMASTER IX

8xD





Insert Series	
	IX10 to IX32

EDP Code	TOOL CODE	DC (Min)	DCX (Max)	DMM	BD	LS	LU	OAL	Insert Series	Screw	Wrench
IXF8D1000	**IXF8D1000**	**10.00**	**10.40**	16	23	48	84.0	153.0	IX10	TXS1011	TXW05
IXF8D1050	**IXF8D1050**	**10.50**	**10.90**				88.0	156.5			
IXF8D1100	**IXF8D1100**	**11.00**	**11.40**				92.0	160.0			
IXF8D1150	**IXF8D1150**	**11.50**	**11.91**				96.0	163.5			
IXF8D1200	**IXF8D1200**	**12.00**	**12.40**				100.0	169.8	IX12	TXS1213	
IXF8D1250	**IXF8D1250**	**12.50**	**12.90**				104.0	173.3			
IXF8D1300	**IXF8D1300**	**13.00**	**13.49**				108.0	177.8			
IXF8D1350	**IXF8D1350**	**13.50**	**13.90**				112.0	181.3			
IXF8D1400	**IXF8D1400**	**14.00**	**14.40**				116.0	186.3	IX14	TXS1415	TXW07
IXF8D1450	**IXF8D1450**	**14.50**	**14.90**				120.0	190.8			
IXF8D1500	**IXF8D1500**	**15.00**	**15.48**				124.0	195.3			
IXF8D1550	**IXF8D1550**	**15.50**	**15.90**				128.0	198.8			
IXF8D1600	**IXF8D1600**	**16.00**	**16.90**	20	25	50	136.0	209.5	IX16	TXS1617	
IXF8D1700	**IXF8D1700**	**17.00**	**17.90**				144.0	217.5		TXS1718	
IXF8D1800	**IXF8D1800**	**18.00**	**18.90**	25	32	56	152.0	233.8	IX18	TXS1819	TXW09
IXF8D1900	**IXF8D1900**	**19.00**	**19.90**				160.0	242.8		TXS1920	
IXF8D2000	**IXF8D2000**	**20.00**	**20.90**				168.0	250.0	IX20	TXS2021	
IXF8D2100	**IXF8D2100**	**21.00**	**21.90**				176.0	258.0		TXS2122	
IXF8D2200	**IXF8D2200**	**22.00**	**22.90**				184.0	265.9	IX22	TXS2223	
IXF8D2300	**IXF8D2300**	**23.00**	**23.90**				192.0	274.9		TXS2324	
IXF8D2400	**IXF8D2400**	**24.00**	**24.90**	32	37	60	200.0	288.3	IX24	TXS2425	TXW10
IXF8D2500	**IXF8D2500**	**25.00**	**25.90**				208.0	298.3		TXS2526	
IXF8D2600	**IXF8D2600**	**26.00**	**26.99**				216.0	304.7	IX26	TXS2627	
IXF8D2700	**IXF8D2700**	**27.00**	**27.78**				224.0	312.7		TXS2728	
IXF8D2800	**IXF8D2800**	**28.00**	**28.97**				232.0	321.7	IX28	TXS2829	
IXF8D2900	**IXF8D2900**	**29.00**	**29.77**				240.0	330.7		TXS2930	
IXF8D3000	**IXF8D3000**	**30.00**	**30.96**				248.0	339.5	IX30	TXS3031	TXW15
IXF8D3100	**IXF8D3100**	**31.00**	**31.75**				256.0	348.5		TXS3132	
IXF8D3200	**IXF8D3200**	**32.00**	**32.94**				264.0	359.7	IX32	TXS3233	
IXF8D3300	**IXF8D3300**	**33.00**	**33.73**				272.0	368.7		TXS3334	

▸ EDP Code IX..Z..... Example: Series IX10 10.00mm ET30P = IX10Z1000

▸ IX10 Series No. IX10Z

▸ IX12 Series No. IX12Z

	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P	●	●					●	○	●	●	●	●	●	●
M	●				●	○					●	○		
K	●	●	●	○	○	○					●	●	●	●
N	○				○	●					○	●		
S	●				○	○			●	○			●	○
H	○						○	○	○	○			○	○
	PVD													

IX	SERIES	ORD Code	Size	fn (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	IX10	-1000	**10.00**	0.09 - 0.24		●												
		-1010	**10.10**			●												
		-1020	**10.20**			●												
		-1030	**10.30**			●												
		-1040	**1040**			●												
		-1050	**10.50**			●												
		-1060	**10.60**			●												
		-1070	**10.70**			●												
		-1080	**10.80**			●												
		-1090	**10.90**			●												
		-1100	**11.00**			●												
		-1110	**11.10**			●												
		-1120	**11.20**			●												
		-1130	**11.30**			●												
		-1140	**11.40**			●												
		-1150	**11.50**			●												
		-1160	**11.60**			●												
		-1170	**11.70**			●												
		-1180	**11.80**			●												
		-1190	**11.90**			●												
	IX12	-1200	**12.00**	0.09 - 0.29		●												
		-1210	**12.10**			●												
		-1220	**12.20**			●												
		-1230	**12.30**			●												
		-1240	**12.40**			●												
		-1250	**12.50**			●												
		-1260	**12.60**			●												
		-1270	**12.70**			●												
		-1280	**12.80**			●												
		-1290	**12.90**			●												
		-1300	**13.00**			●												
		-1310	**13.10**			●												

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	**ET30P**	**58 - 126**	**47 - 95**	**42 - 68**	-	-	**79 - 131**	**79 - 131**	-	-	-

EDP Code IX..Z..... Example: Series IX12 13.20mm ET30P = IX12Z1320

- IX10 Series No. IX10Z
- IX12 Series No. IX12Z
- IX16 Series No. IX16Z

	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P	●	●					●	○	●	●	●	●	●	●
M	●				●	○					●	○		
K	●	●	●	○	○	○					●	●	●	●
N	○				○	●					○	●		
S	●				○	○			●	○			●	○
H	○						○	○	○	○			○	○
	PVD													

IX	SERIES	ORD Code	Size	fn (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	IX12	-1320	**13.20**	0.09 - 0.29		●												
		-1330	**13.30**			●												
		-1340	**13.40**			●												
		-1350	**13.50**			●												
		-1360	**13.60**			●												
		-1370	**13.70**			●												
		-1380	**13.80**			●												
		-1390	**13.90**			●												
	IX14	-1400	**14.00**	0.09 - 0.29		●												
		-1410	**14.10**			●												
		-1420	**14.20**			●												
		-1430	**14.30**			●												
		-1440	**14.40**			●												
		-1450	**14.50**			●												
		-1460	**14.60**			●												
		-1470	**14.70**			●												
		-1480	**14.80**			●												
		-1490	**14.90**			●												
		-1500	**15.00**	0.12 - 0.41		●												
		-1510	**15.10**			●												
		-1520	**15.20**			●												
		-1530	**15.30**			●												
		-1540	**15.40**			●												
		-1550	**15.50**			●												
		-1560	**15.60**			●												
		-1570	**15.70**			●												
		-1580	**15.80**			●												
		-1590	**15.90**			●												
	IX16	-1600	**16.00**	0.12 - 0.41		●												
		-1610	**16.10**			●												
		-1620	**16.20**			●												
		-1630	**16.30**			●												

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	ET30P	**58 - 126**	**47 - 95**	**42 - 68**	-	-	**79 - 131**	**79 - 131**	-	-	-

EDP Code IX..Z..... Example: Series IX16 16.40mm ET30P = IX16Z1640

- IX16 Series No. IX16Z
- IX18 Series No. IX18Z

	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P	●	●					●	○	●	●	●	●	●	●
M	●				●	○					●	○		
K	●	●	●	○	○	○					●	●	●	●
N	○				○	●					○	●		
S	●				○	○			●	○			●	○
H	○						○	○	○	○			○	○
	PVD													

IX	SERIES	ORD Code	Size	fn (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	IX16	-1640	**16.40**	0.12 - 0.41		●												
		-1650	**16.50**			●												
		-1660	**16.60**			●												
		-1670	**16.70**			●												
		-1680	**16.80**			●												
		-1690	**16.90**			●												
		-1700	**17.00**			●												
		-1710	**17.10**			●												
		-1720	**17.20**			●												
		-1730	**17.30**			●												
		-1740	**17.40**			●												
		-1750	**17.50**			●												
		-1760	**17.60**			●												
		-1770	**17.70**			●												
		-1780	**17.80**			●												
		-1790	**17.90**			●												
	IX18	-1800	**18.00**	0.20 - 0.46		●												
		-1810	**18.10**			●												
		-1820	**18.20**			●												
		-1830	**18.30**			●												
		-1840	**18.40**			●												
		-1850	**18.50**			●												
		-1860	**18.60**			●												
		-1870	**18.70**			●												
		-1880	**18.80**			●												
		-1890	**18.90**			●												
		-1900	**19.00**			●												
		-1910	**19.10**			●												
		-1920	**19.20**			●												
		-1930	**19.30**			●												
		-1940	**19.40**			●												
		-1950	**19.50**			●												

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	ET30P	**58 - 126**	**47 - 95**	**42 - 68**	-	-	**79 - 131**	**79 - 131**	-	-	-

▸ EDP Code IX..Z..... Example: Series IX18 19.60mm ET30P = IX18Z1960

▸ IX18 Series No. IX18Z
▸ IX20 Series No. IX20Z
▸ IX22 Series No. IX22Z

	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P	●	●					●	○	●	●	●	●	●	●
M	●				●	○					●	○		
K	●	●	●	○	○	○					●	●	●	●
N	○				○	●					○	●		
S	●				○	○			●	○			●	○
H	○						○	○	○	○			○	○
	PVD													

IX	SERIES	ORD Code	Size	fn (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	IX18	-1960	**19.60**	0.20 - 0.46		●												
		-1970	**19.70**			●												
		-1980	**19.80**			●												
		-1990	**19.90**			●												
	IX20	-2000	**20.00**	0.20 - 0.46		●												
		-2010	**20.10**			●												
		-2020	**20.20**			●												
		-2030	**20.30**			●												
		-2040	**20.40**			●												
		-2050	**20.50**			●												
		-2060	**20.60**			●												
		-2070	**20.70**			●												
		-2080	**20.80**			●												
		-2090	**20.90**			●												
		-2100	**21.00**			●												
		-2110	**21.10**			●												
		-2120	**21.20**			●												
		-2130	**21.30**			●												
		-2140	**21.40**			●												
		-2150	**21.50**			●												
		-2160	**21.60**			●												
		-2170	**21.70**			●												
		-2180	**21.80**			●												
		-2190	**21.90**			●												
	IX22	-2200	**22.00**	0.22 - 0.57		●												
		-2210	**22.10**			●												
		-2220	**22.20**			●												
		-2230	**22.30**			●												
		-2240	**22.40**			●												
		-2250	**22.50**			●												
		-2260	**22.60**			●												
		-2270	**22.70**			●												

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	ET30P	58 - 126	47 - 95	42 - 68	-	-	79 - 131	79 - 131	-	-	-

▸ EDP Code IX..Z..... Example: Series IX22 22.80mm ET30P = IX22Z22800

▸ IX22 Series No. IX22Z
▸ IX24 Series No. IX24Z

	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P	●	●					●	○	●	●	●	●	●	●
M	●				●	○					●	○		
K	●	●	●	○	○	○					●	●	●	●
N	○				○	●					○	●		
S	●				○	○			●	○			●	○
H	○						○	○	○	○			○	○
	PVD													

IX	SERIES	ORD Code	Size	fn (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	IX22	-2280	**22.80**	0.22 - 0.57		●												
		-2290	**22.90**			●												
		-2300	**23.00**			●												
		-2310	**23.10**			●												
		-2320	**23.20**			●												
		-2330	**23.30**			●												
		-2340	**23.40**			●												
		-2350	**23.50**			●												
		-2360	**23.60**			●												
		-2370	**23.70**			●												
		-2380	**23.80**			●												
		-2390	**23.90**			●												
	IX24	-2400	**24.00**	0.22 - 0.57		●												
		-2410	**24.10**			●												
		-2420	**24.20**			●												
		-2430	**24.30**			●												
		-2440	**24.40**			●												
		-2450	**24.50**			●												
		-2460	**24.60**			●												
		-2470	**24.70**			●												
		-2480	**24.80**			●												
		-2490	**24.90**			●												
		-2500	**25.00**			●												
		-2510	**25.10**			●												
		-2520	**25.20**			●												
		-2530	**25.30**			●												
		-2540	**25.40**			●												
		-2550	**25.50**			●												
		-2560	**25.60**			●												
		-2570	**25.70**			●												
		-2580	**25.80**			●												
		-2590	**25.90**			●												

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	ET30P	58 - 126	47 - 95	42 - 68	-	-	79 - 131	79 - 131	-	-	-

- IX26 Series No. IX26Z
- IX28 Series No. IX28Z
- IX30 Series No. IX30Z
- IX32 Series No. IX32Z

EDP Code IX..Z..... Example: Series IX26 26.0mm ET30P = IX26Z2600

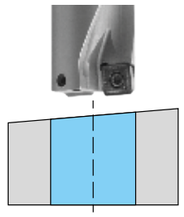
	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P	●	●					●	○	●	●	●	●	●	●
M	●				●	○					●	○		
K	●	●	●	○	○	○					●	●	●	●
N	○				○	●					○	●		
S	●				○	○			●	○			●	○
H	○						○	○	○	○			○	○
	PVD													

IX	SERIES	ORD Code	Size	fn (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	IX26	-2600	**26.00**	0.22 - 0.57		●												
		-2650	**26.50**			●												
		-2700	**27.00**	0.26 - 0.61		●												
		-2750	**27.50**			●												
	IX28	-2800	**28.00**	0.26 - 0.61		●												
		-2850	**28.50**			●												
		-2900	**29.00**			●												
		-2950	**29.50**			●												
	IX30	-3000	**30.00**	0.26 - 0.61		●												
		-3050	**30.50**			●												
		-3100	**31.00**			●												
		-3150	**31.50**			●												
	IX32	-3200	**32.00**	0.26 - 0.61		●												
		-3250	**32.50**			●												
		-3300	**33.00**			●												
		-3350	**33.50**			●												

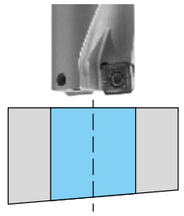
ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
vc (m/min)	**ET30P**	**58 - 126**	**47 - 95**	**42 - 68**	**-**	**-**	**79 - 131**	**79 - 131**	**-**	**-**	**-**

DRILLING

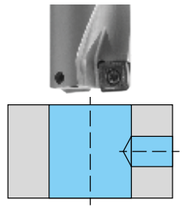
TYPICAL DRILLING ISSUES



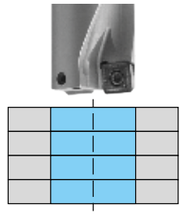
ANGLED SURFACE
- Reduce feed when starting
- <5º reduce by ≤30%
- <10º reduce by ≤40%
- <25º reduce by ≤50%
- >25º reduce by ≤60%
- Use shortest drill possible
- If possible, use flat bottom carbide drill or spade drill



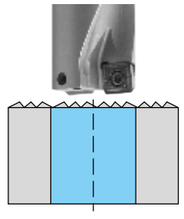
ANGLED EXIT
- At point of exit, reduce feed by ≤50%



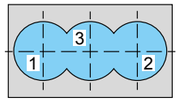
CROSS BORE
- Reduce feed by ≤50% at start of interrupted cut
- Increase feed once cross bore has been cleared
- Be wary of chip clogging



STACKED DRILLING
- Plates must be clamped rigidly
- Maximium permissible gap 0.5mm - 1.0mm



UNEVEN SURFACE
- Reduce feed when starting by ≤50% depending on depth of unevenness
- If possible, spot face surface first

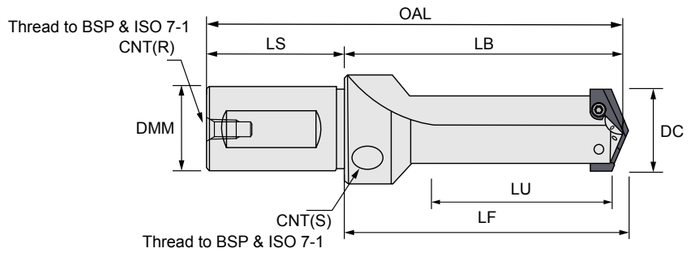


CHAIN DRILLING
- Drill holes 1 & 2 first
- When drilling hole 3, reduce feed by ≤50% to cater for interrupted cut
- Make overlap <1.5mm on diameter if possible

SPADE DRILLING - STRAIGHT SHANK

STRAIGHT FLUTE, STUB

- Inserts: Carbide - pages 161-166
- Inserts: HSS - pages 167-183



TOOL CODE	DC (Min)	DCX (Max)	LU	LB	LF	OAL	DMM	LS	CNT(R)	CNT(S)	Holder Type	Insert Series
8Y115016FM	**9.50**	**11.00**	19.1	47.6	50.0	89.5	16.0	41.9	1/16"	1/8"	**Y**	**Y**
8Z115016FM	**11.11**	**12.70**	19.1	47.6	50.0	89.5	16.0	41.9	1/16"	1/8"	**Z**	**Z**
80115020FM	**13.00**	**17.65**	22.2	47.6	50.4	89.5	20.0	41.9	1/8"	1/8"	**0**	**0**
81115020FM	**15.50**	**17.65**	22.2	47.6	50.4	89.5	20.0	41.9	1/8"	1/8"	**0.5**	**0**
82115025FM	**17.86**	**24.00**	47.6	75.8	79.4	128.9	25.0	53.1	1/8"	1/8"	**1**	**1**
83115025FM	**22.00**	**24.00**	57.2	88.5	92.1	141.6	25.0	53.1	1/8"	1/8"	**1.5**	**1**
84115032FM	**24.61**	**35.00**	57.2	88.5	92.1	146.4	32.0	57.9	1/4"	1/8"	**2**	**2**

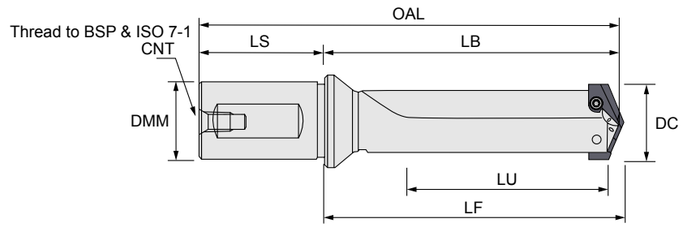
FOR HOLDER TYPE	TORX SCREW	TORX DRIVER
Y	**TXS2004**	**TXW07**
Z	**TXS2005**	**TXW07**
0, 0.5	**TXS25065**	**TXW08**
1, 1.5	**TXS3007**	**TXW09**
2	**TXS40095**	**TXW15**

** Note : Replacement screws in packs of 10

SPADE DRILLING - STRAIGHT SHANK

STRAIGHT FLUTE, SHORT

- Inserts: Carbide - pages 161-166
- Inserts: HSS - pages 167-183



TOOL CODE	DC (Min)	DCX (Max)	LU	LB	LF	OAL	DMM	LS	CNT	Holder Type	Insert Series
8Y215020FM	**9.50**	**11.00**	31.8	61.1	63.5	103.0	20.0	41.9	1/8"	**Y**	**Y**
8Z215020FM	**11.11**	**12.70**	31.8	61.1	63.5	103.0	20.0	41.9	1/8"	**Z**	**Z**
80215020FM	**13.00**	**17.65**	34.9	63.5	66.3	105.4	20.0	41.9	1/8"	**0**	**0**
81215020FM	**15.50**	**17.65**	34.9	63.5	66.3	105.4	20.0	41.9	1/8"	**0.5**	**0**
82215025FM	**17.86**	**24.00**	66.7	107.2	110.7	160.2	25.0	53.1	1/8"	**1**	**1**
83215025FM	**22.00**	**24.00**	66.7	107.2	110.7	160.2	25.0	53.1	1/8"	**1.5**	**1**
84215032FM	**24.61**	**35.00**	85.7	128.6	132.2	186.5	32.0	57.9	1/4"	**2**	**2**
85215032FM	**30.00**	**35.00**	85.7	128.6	132.2	186.5	32.0	57.9	1/4"	**2.5**	**2**
86215040FM	**35.72**	**47.63**	120.7	173.0	177.8	243.1	40.0	70.1	1/4"	**3**	**3**
87215040FM	**48.00**	**65.09**	130.2	179.4	184.2	249.5	40.0	70.1	1/4"	**4**	**4**

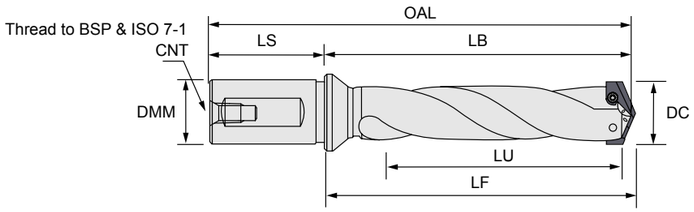
FOR HOLDER TYPE	TORX SCREW	TORX DRIVER
Y	**TXS2004**	**TXW07**
Z	**TXS2005**	**TXW07**
0, 0.5	**TXS25065**	**TXW08**
1, 1.5	**TXS3007**	**TXW09**
2, 2.5	**TXS40095**	**TXW15**
3, 4	**TXS5015**	**TXW20**

** Note : Replacement screws in packs of 10

SPADE DRILLING - STRAIGHT SHANK

SPIRAL FLUTE, INTERMEDIATE

- Inserts: Carbide - pages 161-166
- Inserts: HSS - pages 167-183



TOOL CODE	DC (Min)	DCX (Max)	LU	LB	LF	OAL	DMM	LS	CNT	Holder Type	Insert Series
82325025FM	**17.86**	**24.00**	117.5	154.8	158.4	207.9	25.0	53.1	1/8"	**1**	**1**
83325025FM	**22.00**	**24.00**	117.5	154.8	158.4	207.9	25.0	53.1	1/8"	**1.5**	**1**
84325032FM	**24.61**	**35.00**	136.5	179.4	183.0	237.3	32.0	57.9	1/4"	**2**	**2**
85325032FM	**30.00**	**35.00**	136.5	179.4	183.0	237.3	32.0	57.9	1/4"	**2.5**	**2**
86325040FM	**35.72**	**47.63**	165.1	217.5	222.3	287.6	40.0	70.1	1/4"	**3**	**3**

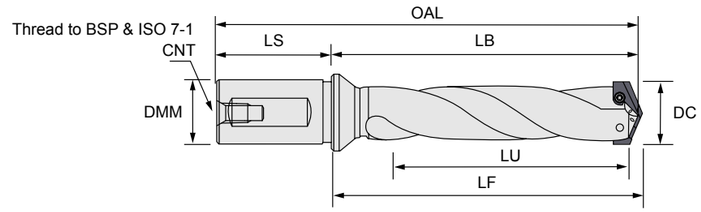
FOR HOLDER TYPE	TORX SCREW	TORX DRIVER
1, 1.5	**TXS3007**	**TXW09**
2, 2.5	**TXS40095**	**TXW15**
3	**TXS5015**	**TXW20**

** Note : Replacement screws in packs of 10

SPADE DRILLING - STRAIGHT SHANK

SPIRAL FLUTE, STANDARD

- Inserts: Carbide - pages 161-166
- Inserts: HSS - pages 167-183



TOOL CODE	DC (Min)	DCX (Max)	LU	LB	LF	OAL	DMM	LS	CNT	Holder Type	Insert Series
8Y325020FM	**9.50**	**11.00**	60.3	89.7	92.1	131.6	20.0	41.9	1/8"	**Y**	**Y**
8Z425020FM	**11.11**	**12.70**	60.3	89.7	92.1	131.6	20.0	41.9	1/8"	**Z**	**Z**
80425020FM	**13.00**	**17.65**	63.5	92.1	94.9	134.0	20.0	41.9	1/8"	**0**	**0**
81425020FM	**15.50**	**17.65**	63.5	92.1	94.9	134.0	20.0	41.9	1/8"	**0.5**	**0**
82425025FM	**17.86**	**24.00**	168.3	205.6	209.2	258.7	25.0	53.1	1/8"	**1**	**1**
83425025FM	**22.00**	**24.00**	168.3	205.6	209.2	258.7	25.0	53.1	1/8"	**1.5**	**1**
84425032FM	**24.61**	**35.00**	187.3	230.2	233.8	288.1	32.0	57.9	1/4"	**2**	**2**
85425032FM	**30.00**	**35.00**	187.3	230.2	233.8	288.1	32.0	57.9	1/4"	**2.5**	**2**
86425040FM	**35.72**	**47.63**	209.6	261.9	266.7	332.0	40.0	70.1	1/4"	**3**	**3**
87425040FM	**48.00**	**65.09**	231.8	281.0	285.8	351.1	40.0	70.1	1/4"	**4**	**4**

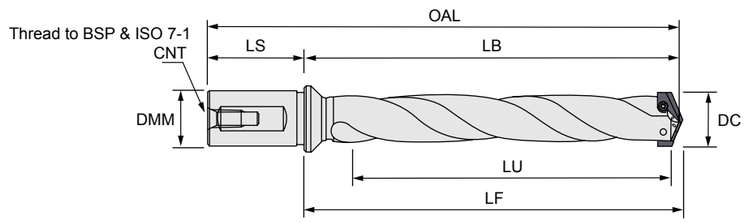
FOR HOLDER TYPE	TORX SCREW	TORX DRIVER
Y	**TXS2004**	**TXW07**
Z	**TXS2005**	**TXW07**
0, 0.5	**TXS25065**	**TXW08**
1, 1.5	**TXS3007**	**TXW09**
2, 2.5	**TXS40095**	**TXW15**
3, 4	**TXS5015**	**TXW20**

** Note : Replacement screws in packs of 10

SPADE DRILLING - STRAIGHT SHANK

SPIRAL FLUTE, EXTENDED

- Inserts: Carbide - pages 161-166
- Inserts: HSS - pages 167-183



TOOL CODE	DC (Min)	DCX (Max)	LU	LB	LF	OAL	DMM	LS	CNT	Holder Type	Insert Series
8Y425020FM	**9.50**	**11.00**	111.1	140.5	142.9	182.4	20.0	41.9	1/8"	**Y**	**Y**
8Z525020FM	**11.11**	**12.70**	111.1	140.5	142.9	182.4	20.0	41.9	1/8"	**Z**	**Z**
80525020FM	**13.00**	**17.65**	114.3	142.9	145.7	184.8	20.0	41.9	1/8"	**0**	**0**
81525020FM	**15.50**	**17.65**	114.3	142.9	145.7	184.8	20.0	41.9	1/8"	**0.5**	**0**
82525025FM	**17.86**	**24.00**	269.9	307.2	310.8	360.3	25.0	53.1	1/8"	**1**	**1**
83525025FM	**22.00**	**24.00**	269.9	307.2	310.8	360.3	25.0	53.1	1/8"	**1.5**	**1**
84525032FM	**24.61**	**35.00**	288.9	331.8	335.4	389.7	32.0	57.9	1/4"	**2**	**2**
85525032FM	**30.00**	**35.00**	288.9	331.8	335.4	389.7	32.0	57.9	1/4"	**2.5**	**2**

FOR HOLDER TYPE	TORX SCREW	TORX DRIVER
Y	**TXS2004**	**TXW07**
Z	**TXS2005**	**TXW07**
0, 0.5	**TXS25065**	**TXW08**
1, 1.5	**TXS3007**	**TXW09**
2, 2.5	**TXS40095**	**TXW15**

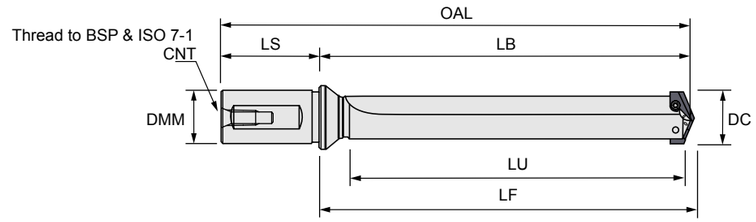
** Note : Replacement screws in packs of 10

DRILLING

SPADE DRILLING - STRAIGHT SHANK

STRAIGHT FLUTE, EXTENDED

- Inserts: Carbide - pages 161-166
- Inserts: HSS - pages 167-183



TOOL CODE	DC (Min)	DCX (Max)	LU	LB	LF	OAL	DMM	LS	CNT	Holder Type	Insert Series
86515040FM	**35.72**	**47.63**	349.3	401.6	406.4	471.7	40.0	70.1	1/4"	**3**	**3**
87515040FM	**48.00**	**65.09**	422.3	471.5	476.3	541.6	40.0	70.1	1/4"	**4**	**4**

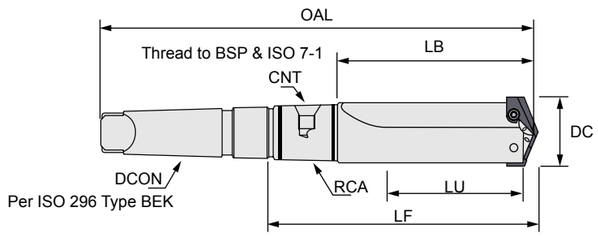
FOR HOLDER TYPE	TORX SCREW	TORX DRIVER
3, 4	**TXS5015**	**TXW20**

** Note : Replacement screws in packs of 10

SPADE DRILLING - TAPER SHANK

STRAIGHT FLUTE, SHORT

- Inserts: Carbide - pages 161-166
- Inserts: HSS - pages 167-183



TOOL CODE	DC (Min)	DCX (Max)	LU	LB	LF	OAL	DCON (MT)	CNT	RCA	Holder Type	Insert Series
8Y2150002M	**9.50**	**11.00**	31.7	51.5	88.0	160.3	#2	1/16"	SP0107	**Y**	**Y**
8Z2150002M	**11.11**	**12.70**	31.7	51.5	88.0	160.3	#2	1/16"	SP0107	**Z**	**Z**
802150002M	**13.00**	**17.65**	34.9	55.5	92.4	164.3	#2	1/16"	SP0107	**0**	**0**
812150002M	**15.50**	**17.65**	34.9	55.5	92.4	164.3	#2	1/16"	SP0107	**0.5**	**0**
822150003M	**17.86**	**24.00**	69.8	98.4	142.5	232.5	#3	1/8"	SP0108	**1**	**1**
832150003M	**22.00**	**24.00**	69.8	98.4	142.5	232.5	#3	1/8"	SP0108	**1.5**	**1**
842150004M	**24.61**	**35.00**	85.7	114.3	160.4	273.8	#4	1/8"	SP0108	**2**	**2**
852150004M	**30.00**	**35.00**	85.7	114.3	167.6	281.0	#4	1/4"	SP0109	**2.5**	**2**
862150004M	**35.72**	**47.63**	120.6	152.4	206.4	319.1	#4	1/4"	SP0109	**3**	**3**
872150005M	**48.00**	**65.09**	130.1	165.1	219.1	363.5	#5	1/4"	SP0110	**4**	**4**
882150005M	**63.50**	**88.90**	171.1	215.9	287.3	430.2	#5	1/2"	SP0111	**5**	**5, 6**
892150005M	**89.69**	**114.30**	171.1	225.4	296.8	439.7	#5	1/2"	SP0111	**7**	**7, 8**

- Rotary Coolant Apaptor can be applied for internal cooling, refer to page 143

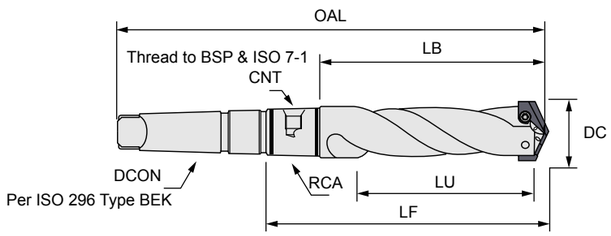
FOR HOLDER TYPE	TORX SCREW	TORX DRIVER
Y	**TXS2004**	**TXW07**
Z	**TXS2005**	**TXW07**
0, 0.5	**TXS25065**	**TXW08**
1, 1.5	**TXS3007**	**TXW09**
2, 2.5	**TXS40095**	**TXW15**
3, 4	**TXS5015**	**TXW20**
5, 7	**TXS6019**	**TXW25**

** Note : Replacement screws in packs of 10

SPADE DRILLING - TAPER SHANK

SPIRAL FLUTE, INTERMEDIATE

- Inserts: Carbide - pages 161-166
- Inserts: HSS - pages 167-183



TOOL CODE	DC (Min)	DCX (Max)	LU	LB	LF	OAL	DCON (MT)	CNT	RCA	Holder Type	Insert Series
823250003M	**17.86**	**24.00**	120.7	149.2	193.3	283.3	#3	1/8"	SP0108	**1**	**1**
833250003M	**22.00**	**24.00**	120.7	149.2	193.3	283.3	#3	1/8"	SP0108	**1.5**	**1**
843250004M	**24.61**	**35.00**	136.5	165.1	211.2	324.6	#4	1/8"	SP0108	**2**	**2**
853250004M	**30.00**	**35.00**	136.5	165.1	218.4	331.8	#4	1/4"	SP0109	**2.5**	**2**
863250004M	**35.72**	**47.63**	165.1	196.9	250.9	363.6	#4	1/4"	SP0109	**3**	**3**

- Rotary Coolant Apaptor can be applied for internal cooling, refer to page 143

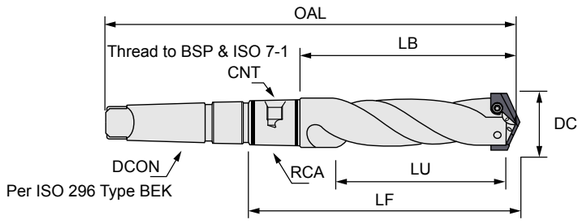
FOR HOLDER TYPE	TORX SCREW	TORX DRIVER
1, 1.5	**TXS3007**	**TXW09**
2, 2.5	**TXS40095**	**TXW15**
3	**TXS5015**	**TXW20**

** Note : Replacement screws in packs of 10

SPADE DRILLING - TAPER SHANK

SPIRAL FLUTE, STANDARD

- Inserts: Carbide - pages 161-166
- Inserts: HSS - pages 167-183



TOOL CODE	DC (Min)	DCX (Max)	LU	LB	LF	OAL	DCON (MT)	CNT	RCA	Holder Type	Insert Series
8Y4250002M	**9.50**	**11.00**	60.3	80.2	116.7	188.9	#2	1/16"	SP0107	**Y**	**Y**
8Z4250002M	**11.11**	**12.70**	60.3	80.2	116.7	188.9	#2	1/16"	SP0107	**Z**	**Z**
804250002M	**13.00**	**17.65**	63.5	84.1	121.0	192.9	#2	1/16"	SP0107	**0**	**0**
814250002M	**15.50**	**17.65**	63.5	84.1	121.0	192.9	#2	1/16"	SP0107	**0.5**	**0**
824250003M	**17.86**	**24.00**	171.5	200.0	244.1	334.2	#3	1/8"	SP0108	**1**	**1**
834250003M	**22.00**	**24.00**	171.5	200.0	244.1	334.2	#3	1/8"	SP0108	**1.5**	**1**
844250004M	**24.61**	**35.00**	187.3	215.9	262.0	375.4	#4	1/8"	SP0108	**2**	**2**
854250004M	**30.00**	**35.00**	187.3	215.9	269.2	382.6	#4	1/4"	SP0109	**2.5**	**2**
864250004M	**35.72**	**47.63**	209.5	241.3	295.3	408.0	#4	1/4"	SP0109	**3**	**3**
874250005M	**48.00**	**65.09**	231.8	266.7	320.7	465.1	#5	1/4"	SP0110	**4**	**4**
884250005M	**63.50**	**88.90**	273.1	317.5	388.9	531.8	#5	1/2"	SP0111	**5**	**5, 6**
894250005M	**89.69**	**114.30**	273.1	327.0	398.5	541.3	#5	1/2"	SP0111	**7**	**7, 8**

- Rotary Coolant Apaptor can be applied for internal cooling, refer to page 143

FOR HOLDER TYPE	TORX SCREW	TORX DRIVER
Y	**TXS2004**	**TXW07**
Z	**TXS2005**	**TXW07**
0, 0.5	**TXS25065**	**TXW08**
1, 1.5	**TXS3007**	**TXW09**
2, 2.5	**TXS40095**	**TXW15**
3, 4	**TXS5015**	**TXW20**
5, 7	**TXS6019**	**TXW25**

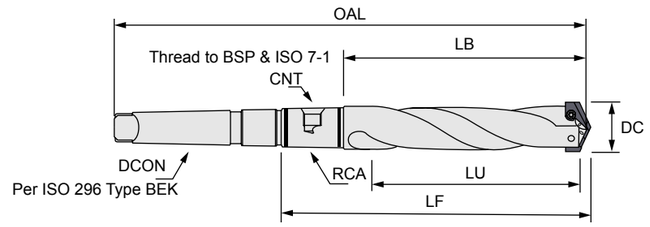
** Note : Replacement screws in packs of 10

DRILLING

SPADE DRILLING - TAPER SHANK

SPIRAL FLUTE, EXTENDED

- Inserts: Carbide - pages 161-166
- Inserts: HSS - pages 167-183



TOOL CODE	DC (Min)	DCX (Max)	LU	LB	LF	OAL	DCON (MT)	CNT	RCA	Holder Type	Insert Series
8Y5250002M	**9.50**	**11.00**	111.1	130.9	167.4	239.7	#2	1/16"	SP0107	**Y**	**Y**
8Z5250002M	**11.11**	**12.70**	111.1	130.9	167.4	239.7	#2	1/16"	SP0107	**Z**	**Z**
805250002M	**13.00**	**17.65**	114.3	135.0	171.8	243.7	#2	1/16"	SP0107	**0**	**0**
815250002M	**15.50**	**17.65**	114.3	135.0	171.8	243.7	#2	1/16"	SP0107	**0.5**	**0**
825250003M	**17.86**	**24.00**	273.1	301.6	345.7	435.8	#3	1/8"	SP0108	**1**	**1**
835250003M	**22.00**	**24.00**	273.1	301.6	345.7	435.8	#3	1/8"	SP0108	**1.5**	**1**
845250004M	**24.61**	**35.00**	289.0	317.5	363.6	477.0	#4	1/8"	SP0108	**2**	**2**
855250004M	**30.00**	**35.00**	289.0	317.5	370.8	484.2	#4	1/4"	SP0109	**2.5**	**2**

- Rotary Coolant Apaptor can be applied for internal cooling, refer to page 143

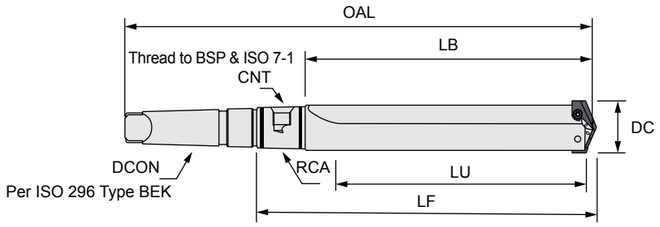
FOR HOLDER TYPE	TORX SCREW	TORX DRIVER
Y	**TXS2004**	**TXW07**
Z	**TXS2005**	**TXW07**
0, 0.5	**TXS25065**	**TXW08**
1, 1.5	**TXS3007**	**TXW09**
2, 2.5	**TXS40095**	**TXW15**

** Note : Replacement screws in packs of 10

SPADE DRILLING - TAPER SHANK

STRAIGHT FLUTE, STANDARD

- Inserts: Carbide - pages 161-166
- Inserts: HSS - pages 167-183



TOOL CODE	DC (Min)	DCX (Max)	LU	LB	LF	OAL	DCON (MT)	CNT	RCA	Holder Type	Insert Series
865150004M	**35.72**	**47.63**	349.3	381.0	435.0	547.7	#4	1/4"	SP0109	**3**	**3**
875150005M	**48.00**	**65.09**	422.3	457.2	511.2	655.6	#5	1/4"	SP0110	**4**	**4**
885150005M	**63.50**	**88.90**	463.6	508.0	579.4	722.3	#5	1/2"	SP0111	**5**	**5, 6**
895150005M	**89.69**	**114.30**	555.6	609.6	681.1	823.9	#5	1/2"	SP0111	**7**	**7, 8**

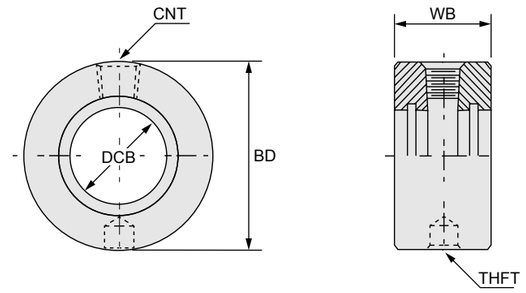
- Rotary Coolant Apaptor can be applied for internal cooling, refer to page 143

FOR HOLDER TYPE	TORX SCREW	TORX DRIVER
3, 4	**TXS5015**	**TXW20**
5, 7	**TXS6019**	**TXW25**

** Note : Replacement screws in packs of 10

ROTARY COOLANT ADAPTOR

FOR TAPER SHANK SPADE DRILLS

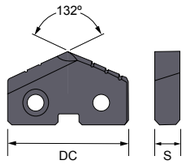


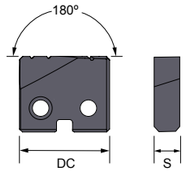
TOOL CODE	DCB	BD	WB	THFT	CNT
SP0107	19.05	44.45	22.23	M8 X 1.25	1/8"
SP0108	25.40	53.97	28.57	M8 X 1.25	1/8"
SP0109	31.75	63.50	34.92	M10 X 1.5	1/4"
SP0110	44.45	76.20	34.92	M10 X 1.5	1/4"
SP0111	57.15	95.27	44.45	M12 X 1.75	1/2"

Thread to BSP & ISO 7-1

SPADE DRILL INSERT DIMENSIONS

INSERT SERIES	DC MIN	DC MAX	S
Y	9.50	11.07	2.4
Z	11.11	12.95	2.4
0	12.98	17.65	3.2
1	17.53	24.38	4.0
2	24.41	35.05	4.8
3	34.37	47.80	6.4
4	46.99	65.28	7.9
5	62.38	76.20	11.1
6	76.23	89.08	11.1
7	87.76	101.60	11.1
8	101.63	114.48	11.1





SERIES NO. FOR EDP CODE

HSS		CARBIDE	
GRADE	SERIES No.	GRADE	SERIES No.
T15A 4F POINT	834327	P40A 4F POINT	834523
T15A FLAT	828327	P40A	831323
T15A	808327	P40T	831308
T15T	808317	K10A	832323
M4A	807326	K10T	832308
M4T	807304	K20A	830323
M48A	809321	K20T	830308
M48T	809305		

▸ EDP Code example: 9.50mm K10A = 8323230950

▸ EDP Code example: P40A 4F 9.50mm = 8345230950

▸ Series No. 834523

CARBIDE 4F POINT	SERIES	ORD Code	Size	f_n (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
					PVD													
P					●	●					●	○	●	●	●	●	●	●
M					●				●	○					●	○		
K					●	●	●	○	○	○					●	●	●	●
N					○				○	●					○	●		
S					●				○	○			●	○			●	○
H					○						○	○	○	○			○	○
	Y	-0950	**9.50**	0.10 - 0.20							●							
		-0980	**9.80**								●							
		-1000	**10.00**								●							
		-1020	**10.20**								●							
		-1050	**10.50**								●							
		-1080	**10.80**								●							
		-1100	**11.00**								●							
	Z	-1150	**11.50**	0.10 - 0.20							●							
		-1200	**12.00**								●							
		-1250	**12.50**								●							
	0	-1300	**13.00**	0.18 - 0.28							●							
		-1350	**13.50**								●							
		-1400	**14.00**								●							
		-1450	**14.50**								●							
		-1500	**15.00**								●							
		-1550	**15.50**								●							
		-1600	**16.00**								●							
		-1650	**16.50**								●							
		-1700	**17.00**								●							
		-1750	**17.50**								●							

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

EDP Code example: P40A 4F 18.00mm = 8345231800

Series No. 834523

	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P	●	●					●	○	●	●	●	●	●	●
M	●				●	○					●	○		
K	●	●	●	○	○	○					●	●	●	●
N	○				○	●					○	●		
S	●				○	○			●	○			●	○
H	○						○	○	○	○			○	○
	PVD													

CARBIDE 4F POINT	SERIES	ORD Code	Size	fn (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	1	-1800	**18.00**	0.20 - 0.36							●							
		-1850	**18.50**								●							
		-1900	**19.00**								●							
		-1950	**19.50**								●							
		-2000	**20.00**								●							
		-2050	**20.50**								●							
		2100	**21.00**								●							
		-2200	**22.00**								●							
		-2300	**23.00**								●							
		-2400	**24.00**								●							
	2	-2500	**25.00**	0.27 - 0.44							●							
		-2600	**26.00**								●							
		-2700	**27.00**								●							
		-2800	**28.00**								●							
		-2900	**29.00**								●							
		-3000	**30.00**								●							
		-3100	**31.00**								●							
		-3200	**32.00**								●							
		-3300	**33.00**								●							
		-3400	**34.00**								●							
		-3500	**35.00**								●							

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

EDP Code example: P40A 4F 36.00mm = 8345233600

Series No. 834523

	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P	●	●					●	○	●	●	●	●	●	●
M	●				●	○					●	○		
K	●	●	●	○	○	○					●	●	●	●
N	○				○	●					○	●		
S	●				○	○			●	○			●	○
H	○						○	○	○	○			○	○
	PVD													

CARBIDE 4F POINT	SERIES	ORD Code	Size	fn (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	3	-3600	**36.00**	0.30 - 0.50							●							
		-3700	**37.00**								●							
		-3800	**38.00**								●							
		-3900	**39.00**								●							
		-4000	**40.00**								●							
		-4100	**41.00**								●							
		-4200	**42.00**								●							
		-4300	**43.00**								●							
		-4400	**44.00**								●							
		-4500	**45.00**								●							
		-4600	**46.00**								●							
		-4700	**47.00**								●							

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

- K10A Series No. 832323
- K10T Series No. 832308
- K20A Series No. 830323
- K20T Series No. 830308
- P40A Series No. 831323
- P40T Series No. 831308

▸ EDP Code example:K10A 9.50mm = 8323230950

	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P	●	●					●	○	●	●	●	●	●	●
M	●				●	○					●	○		
K	●	●	●	○	○	○					●	●	●	●
N	○				○	●					○	●		
S	●				○	○			●	○			●	○
H	○						○	○	○	○			○	○

CARBIDE	SERIES	ORD Code	Size	f_n (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
					PVD													
	Y	-0950	**9.50**	0.10 - 0.24			●	●	●	●	●	●						
		-0980	**9.80**				●	●	●	●	●	●						
		-1000	**10.00**				●	●	●	●	●	●						
		-1020	**10.20**				●	●	●	●	●	●						
		-1050	**10.50**				●	●	●	●	●	●						
		-1080	**10.80**				●	●	●	●	●	●						
		-1100	**11.00**				●	●	●	●	●	●						
	Z	-1150	**11.50**	0.10 - 0.24			●	●	●	●	●	●						
		-1200	**12.00**				●	●	●	●	●	●						
		-1250	**12.50**				●	●	●	●	●	●						
	0	-1300	**13.00**	0.14 - 0.38			●	●	●	●	●	●						
		-1350	**13.50**				●	●	●	●	●	●						
		-1400	**14.00**				●	●	●	●	●	●						
		-1450	**14.50**				●	●	●	●	●	●						
		-1500	**15.00**				●	●	●	●	●	●						
		-1550	**15.50**				●	●	●	●	●	●						
		-1600	**16.00**				●	●	●	●	●	●						
		-1650	**16.50**				●	●	●	●	●	●						
		-1700	**17.00**				●	●	●	●	●	●						
		-1750	**17.50**				●	●	●	●	●	●						

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

- K10A Series No. 832323
- K10T Series No. 832308
- K20A Series No. 830323
- K20T Series No. 830308
- P40A Series No. 831323
- P40T Series No. 831308

▸ EDP Code example: K10A 18.00mm = 8323231800

	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P	●	●					●	○	●	●	●	●	●	●
M	●				●	○					●	○		
K	●	●	●	○	○	○					●	●	●	●
N	○				○	●					○	●		
S	●				○	○			●	○			●	○
H	○						○	○	○	○			○	○

CARBIDE	SERIES	ORD Code	Size	f_n (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
					PVD													
	1	-1800	**18.00**	0.18 - 0.45			●	●	●	●	●	●						
		-1850	**18.50**				●	●	●	●	●	●						
		-1900	**19.00**				●	●	●	●	●	●						
		-1950	**19.50**				●	●	●	●	●	●						
		-2000	**20.00**				●	●	●	●	●	●						
		-2050	**20.50**				●	●	●	●	●	●						
		2100	**21.00**				●	●	●	●	●	●						
		-2200	**22.00**				●	●	●	●	●	●						
		-2300	**23.00**				●	●	●	●	●	●						
		-2400	**24.00**				●	●	●	●	●	●						
	2	-2500	**25.00**	0.19 - 0.50			●	●	●	●	●	●						
		-2600	**26.00**				●	●	●	●	●	●						
		-2700	**27.00**				●	●	●	●	●	●						
		-2800	**28.00**				●	●	●	●	●	●						
		-2900	**29.00**				●	●	●	●	●	●						
		-3000	**30.00**				●	●	●	●	●	●						
		-3100	**31.00**				●	●	●	●	●	●						
		-3200	**32.00**				●	●	●	●	●	●						
		-3300	**33.00**				●	●	●	●	●	●						
		-3400	**34.00**				●	●	●	●	●	●						
		-3500	**35.00**				●	●	●	●	●	●						

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

EDP Code example: P40A 36.00mm = 8313233600

P40A Series No. 831323

P40T Series No. 831308

CARBIDE	SERIES	ORD Code	Size	fn (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
					PVD													
P					●	●					●	○	●	●	●	●	●	●
M					●				●	○					●	○		
K					●	●	●	○	○	○					●	●	●	●
N					○				○	●					○	●		
S					●				○	○			●	○			●	○
H					○						○	○	○	○			○	○
	3	-3600	**36.00**	0.30 - 0.50							●	●						
		-3700	**37.00**								●	●						
		-3800	**38.00**								●	●						
		-3900	**39.00**								●	●						
		-4000	**40.00**								●	●						
		-4100	**41.00**								●	●						
		-4200	**42.00**								●	●						
		-4300	**43.00**								●	●						
		-4400	**44.00**								●	●						
		-4500	**45.00**								●	●						
		-4600	**46.00**								●	●						
		-4700	**47.00**								●	●						

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
Vc (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

EDP Code example: T15A 4F 9.50mm = 8343270950

Series No. 834327

HSS 4F POINT	SERIES	ORD Code	Size	fn (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
					PVD													
P					●	●					●	○	●	●	●	●	●	●
M					●				●	○					●	○		
K					●	●	●	○	○	○			○		●	●	●	●
N					○				○	●					○	●		
S					●				○	○			●	○			●	○
H					○						○	○	○	○			○	○
	Y	-0950	**9.50**	0.06 - 0.16									●					
		-0980	**9.80**										●					
		-1000	**10.00**										●					
		-1020	**10.20**										●					
		-1050	**10.50**										●					
		-1080	**10.80**										●					
		-1100	**11.00**										●					
	Z	-1150	**11.50**	0.06 - 0.16									●					
		-1200	**12.00**										●					
		-1250	**12.50**										●					
	0	-1300	**13.00**	0.14 - 0.30									●					
		-1350	**13.50**										●					
		-1400	**14.00**										●					
		-1450	**14.50**										●					
		-1500	**15.00**										●					
		-1550	**15.50**										●					
		-1600	**16.00**										●					
		-1650	**16.50**										●					
		-1700	**17.00**										●					
		-1750	**17.50**										●					

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
Vc (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

EDP Code example: T15A 4F 18.00mm = 8343271800

Series No. 834327

	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P	●	●					●	○	●	●	●	●	●	●
M	●				●	○					●	○		
K	●	●	●	○	○	○			○		●	●	●	●
N	○				○	●					○	●		
S	●				○	○			●	○			●	○
H	○						○	○	○	○			○	○
	PVD													

HSS 4F POINT	SERIES	ORD Code	Size	fn (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	1	-1800	**18.00**	0.16 - 0.40									●					
		-1850	**18.50**										●					
		-1900	**19.00**										●					
		-1950	**19.50**										●					
		-2000	**20.00**										●					
		-2050	**20.50**										●					
		2100	**21.00**										●					
		-2200	**22.00**										●					
		-2300	**23.00**										●					
		-2400	**24.00**										●					
	2	-2500	**25.00**	0.19 - 0.49									●					
		-2600	**26.00**										●					
		-2700	**27.00**										●					
		-2800	**28.00**										●					
		-2900	**29.00**										●					
		-3000	**30.00**										●					
		-3100	**31.00**										●					
		-3200	**32.00**										●					
		-3300	**33.00**										●					
		-3400	**34.00**										●					
		-3500	**35.00**										●					

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
vc (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

EDP Code example: T15A 4F 36.00mm = 83432733600

Series No. 834327

	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P	●	●					●	○	●	●	●	●	●	●
M	●				●	○					●	○		
K	●	●	●	○	○	○			○		●	●	●	●
N	○				○	●					○	●		
S	●				○	○			●	○			●	○
H	○						○	○	○	○			○	○
	PVD													

HSS 4F POINT	SERIES	ORD Code	Size	fn (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	3	-3600	**36.00**	0.25 - 0.59									●					
		-3700	**37.00**										●					
		-3800	**38.00**										●					
		-3900	**39.00**										●					
		-4000	**40.00**										●					
		-4100	**41.00**										●					
		-4200	**42.00**										●					
		-4300	**43.00**										●					
		-4400	**44.00**										●					
		-4500	**45.00**										●					
		-4600	**46.00**										●					
		-4700	**47.00**										●					

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
vc (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

EDP Code example: T15A FLAT 9.50mm = 8283270950

Series No. 828327

HSS FLAT	SERIES	ORD Code	Size	fn (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
													PVD					
P					●	●					●	○	●	●	●	●	●	●
M					●				●	○			○		●	○		
K					●	●	●	○	○	○			●		●	●	●	●
N					○				○	●			○		○	●		
S					●				○	○			○	○			●	○
H					○						○	○	○	○			○	○
	Y	-0950	**9.50**	0.05 - 0.13									●					
		-0980	**9.80**										●					
		-1000	**10.00**										●					
		-1020	**10.20**										●					
		-1050	**10.50**										●					
		-1080	**10.80**										●					
		-1100	**11.00**										●					
	Z	-1150	**11.50**	0.05 - 0.13									●					
		-1200	**12.00**										●					
		-1250	**12.50**										●					
	0	-1300	**13.00**	0.10 - 0.25									●					
		-1350	**13.50**										●					
		-1400	**14.00**										●					
		-1450	**14.50**										●					
		-1500	**15.00**										●					
		-1550	**15.50**										●					
		-1600	**16.00**										●					
		-1650	**16.50**										●					
		-1700	**17.00**										●					
		-1750	**17.50**										●					

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
vc (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

EDP Code example: T15A FLAT 18.00mm = 8283271800

Series No. 828327

HSS FLAT	SERIES	ORD Code	Size	fn (mm/rev)	ET602	ET30P	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
													PVD					
P					●	●					●	○	●	●	●	●	●	●
M					●				●	○			○		●	○		
K					●	●	●	○	○	○			●		●	●	●	●
N					○				○	●			○		○	●		
S					●				○	○			○	○			●	○
H					○						○	○	○	○			○	○
	1	-1800	**18.00**	0.12 - 0.35									●					
		-1850	**18.50**										●					
		-1900	**19.00**										●					
		-1950	**19.50**										●					
		-2000	**20.00**										●					
		-2050	**20.50**										●					
		2100	**21.00**										●					
		-2200	**22.00**										●					
		-2300	**23.00**										●					
		-2400	**24.00**										●					
	2	-2500	**25.00**	0.18 - 0.41									●					
		-2600	**26.00**										●					
		-2700	**27.00**										●					
		-2800	**28.00**										●					
		-2900	**29.00**										●					
		-3000	**30.00**										●					
		-3100	**31.00**										●					
		-3200	**32.00**										●					
		-3300	**33.00**										●					
		-3400	**34.00**										●					
		-3500	**35.00**										●					

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
vc (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

- T15A Series No. 808327
- T15T Series No. 808317
- M48A Series No. 809321
- M48T Series No. 809305

▸ EDP Code example: T15A 9.50mm = 8083270950

	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P					●	○	●	●	●	●	●	●
M			●	○					●	○		
K	●	○	○	○					●	●	●	●
N			○	●					○	●		
S			○	○			●	○			●	○
H					○	○	○	○			○	○

HSS	SERIES	ORD Code	Size mm	Size Inch	f_n (mm/rev)	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	Y	-0950	**9.50**		0.06 - 0.16							●	●			●	●
		-0953	**9.53**	**3/8**								●	●			●	●
		-0980	**9.80**									●	●			●	●
		-0992	**9.92**	**25/64**								●	●			●	●
		-1000	**10.00**									●	●			●	●
		-1020	**10.20**									●	●			●	●
		-1032	**10.32**	**13/32**								●	●			●	●
		-1050	**10.50**									●	●			●	●
		-1072	**10.72**	**27/64**								●	●			●	●
		-1080	**10.80**									●	●			●	●
		-1100	**11.00**									●	●			●	●
	Z	-1111	**11.11**	**7/16**	0.06 - 0.16							●	●			●	●
		-1150	**11.50**									●	●			●	●
		-1151	**11.51**	**29/64**								●	●			●	●
		-1191	**11.91**	**15/32**								●	●			●	●
		-1200	**12.00**									●	●			●	●
		-1230	**12.30**	**31/64**								●	●			●	●
		-1250	**12.50**									●	●			●	●
		-1270	**12.70**	**1/2**								●	●			●	●

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

- T15A Series No. 808327
- T15T Series No. 808317
- M48A Series No. 809321
- M48T Series No. 809305

▸ EDP Code example: T15A 13.00mm = 8083271300

	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P					●	○	●	●	●	●	●	●
M			●	○					●	○		
K	●	○	○	○					●	●	●	●
N			○	●					○	●		
S			○	○			●	○			●	○
H					○	○	○	○			○	○

HSS	SERIES	ORD Code	Size mm	Size Inch	f_n (mm/rev)	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	0	-1300	**13.00**		0.14 - 0.30							●	●			●	●
		-1310	**13.10**	**33/64**								●	●			●	●
		-1349	**13.49**	**17/32**								●	●			●	●
		-1350	**13.50**									●	●			●	●
		-1389	**13.89**	**35/64**								●	●			●	●
		-1400	**14.00**									●	●			●	●
		-1429	**14.29**	**9/16**								●	●			●	●
		-1450	**14.50**									●	●			●	●
		-1468	**14.68**	**37/64**								●	●			●	●
		-1500	**15.00**									●	●			●	●
		-1508	**15.08**	**19/32**								●	●			●	●
		-1548	**15.48**	**39/64**								●	●			●	●
		-1550	**15.50**									●	●			●	●
		-1588	**15.88**	**5/8**								●	●			●	●
		-1600	**16.00**									●	●			●	●
		-1627	**16.27**	**41/64**								●	●			●	●
		-1650	**16.50**									●	●			●	●
		-1667	**16.67**	**21/32**								●	●			●	●
		-1700	**17.00**									●	●			●	●
		-1707	**17.07**	**43/64**								●	●			●	●
		-1746	**17.46**	**11/16**								●	●			●	●
		-1750	**17.50**									●	●			●	●

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

- T15A Series No. 808327
- T15T Series No. 808317
- M4A Series No. 807326
- M4T Series No. 807304
- M48A Series No. 809321
- M48T Series No. 809305

▸ EDP Code example: T15A 45/64 = 8083271786

	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P					●	○	●	●	●	●	●	●
M			●	○					●	○		
K	●	○	○	○					●	●	●	●
N			○	●					○	●		
S			○	○			●	○			●	○
H					○	○	○	○			○	○

HSS	SERIES	ORD Code	Size mm	Size Inch	f_n (mm/rev)	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	1	-1786	**17.86**	**45/64**	0.16 - 0.41							●	●	●	●	●	●
		-1800	**18.00**									●	●	●	●	●	●
		-1826	**18.26**	**23/32**								●	●	●	●	●	●
		-1850	**18.50**									●	●	●	●	●	●
		-1865	**18.65**	**47/64**								●	●	●	●	●	●
		-1900	**19.00**									●	●	●	●	●	●
		-1905	**19.05**	**3/4**								●	●	●	●	●	●
		-1945	**19.45**	**49/64**								●	●	●	●	●	●
		-1950	**19.50**									●	●	●	●	●	●
		-1984	**19.84**	**25/32**								●	●	●	●	●	●
		-2000	**20.00**									●	●	●	●	●	●
		-2024	**20.24**	**51/64**								●	●	●	●	●	●
		-2050	**20.50**									●	●	●	●	●	●
		-2064	**20.64**	**13/16**								●	●	●	●	●	●
		-2100	**21.00**									●	●	●	●	●	●
		-2143	**21.43**	**27/32**								●	●	●	●	●	●
		-2183	**21.83**	**55/64**								●	●	●	●	●	●
		-2200	**22.00**									●	●	●	●	●	●
		-2223	**22.23**	**7/8**								●	●	●	●	●	●
		-2262	**22.62**	**57/64**								●	●	●	●	●	●

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

- T15A Series No. 808327
- T15T Series No. 808317
- M4A Series No. 807326
- M4T Series No. 807304
- M48A Series No. 809321
- M48T Series No. 809305

▸ EDP Code example: T15A 23.00mm = 8083272300

	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P					●	○	●	●	●	●	●	●
M			●	○					●	○		
K	●	○	○	○					●	●	●	●
N			○	●					○	●		
S			○	○			●	○			●	○
H					○	○	○	○			○	○

HSS	SERIES	ORD Code	Size mm	Size Inch	f_n (mm/rev)	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	1	-2300	**23.00**		0.16 - 0.41							●	●	●	●	●	●
		-2302	**23.02**	**29/32**								●	●	●	●	●	●
		-2342	**23.42**	**59/64**								●	●	●	●	●	●
		-2381	**23.81**	**15/16**								●	●	●	●	●	●
		-2400	**24.00**									●	●	●	●	●	●
	2	-2461	**24.61**	**31/32**	0.19 - 0.50							●	●	●	●	●	●
		-2500	**25.00**	**63/64**								●	●	●	●	●	●
		-2540	**25.40**	**1**								●	●	●	●	●	●
		-2580	**25.80**	**1.1/64**								●	●	●	●	●	●
		-2600	**26.00**									●	●	●	●	●	●
		-2619	**26.19**	**1.1/32**								●	●	●	●	●	●
		-2659	**26.59**	**1.3/64**								●	●	●	●	●	●
		-2699	**26.99**	**1.1/16**								●	●	●	●	●	●
		-2700	**27.00**									●	●	●	●	●	●
		-2778	**27.78**	**1.3/32**								●	●	●	●	●	●
		-2800	**28.00**									●	●	●	●	●	●
		-2818	**28.18**	**1.7/64**								●	●	●	●	●	●
		-2858	**28.58**	**1.1/8**								●	●	●	●	●	●
		-2900	**29.00**									●	●	●	●	●	●
		-2937	**29.37**	**1.5/32**								●	●	●	●	●	●
		-3000	**30.00**									●	●	●	●	●	●
		-3016	**30.16**	**1.3/16**								●	●	●	●	●	●

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

- T15A Series No. 808327
- T15T Series No. 808317
- M4A Series No. 807326
- M4T Series No. 807304
- M48A Series No. 809321
- M48T Series No. 809305

▸ EDP Code example: T15A 1.17/32 = 8083273096

	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P					●	○	●	●	●	●	●	●
M			●	○					●	○		
K	●	○	○	○					●	●	●	●
N			○	●					○	●		
S			○	○			●	○			●	○
H					○	○	○	○			○	○

HSS	SERIES	ORD Code	Size mm	Size Inch	f_n (mm/rev)	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	2	-3096	**30.96**	**1.7/32**	0.19 - 0.50							●	●	●	●	●	●
		-3100	**31.00**									●	●	●	●	●	●
		-3175	**31.75**	**1.1/4**								●	●	●	●	●	●
		-3200	**32.00**									●	●	●	●	●	●
		-3254	**32.54**	**1.9/32**								●	●	●	●	●	●
		-3300	**33.00**									●	●	●	●	●	●
		-3334	**33.34**	**1.5/16**								●	●	●	●	●	●
		-3400	**34.00**									●	●	●	●	●	●
		-3413	**34.13**	**1.11/32**								●	●	●	●	●	●
		-3493	**34.93**	**1.3/8**								●	●	●	●	●	●
		-3500	**35.00**									●	●	●	●	●	●
	3	-3572	**35.72**	**1.13/32**	0.25 - 0.59							●	●	●	●		
		-3600	**36.00**									●	●	●	●		
		-3651	**36.51**	**1.7/16**								●	●	●	●		
		-3700	**37.00**									●	●	●	●		
		-3731	**37.31**	**1.15/32**								●	●	●	●		
		-3800	**38.00**									●	●	●	●		
		-3810	**38.10**	**1.1/2**								●	●	●	●		
		-3889	**38.89**	**1.17/32**								●	●	●	●		
		-3900	**39.00**									●	●	●	●		
		-3969	**39.69**	**1.9/16**								●	●	●	●		
		-4000	**40.00**									●	●	●	●		

ISO	P			M		K		N	S	H
MATERIAL	Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min) K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

- T15A Series No. 808327
- T15T Series No. 808317
- M4A Series No. 807326
- M4T Series No. 807304

▸ EDP Code example: T15A 1.19/32 = 8083274048

	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P					●	○	●	●	●	●	●	●
M			●	○					●	○		
K	●	○	○	○					●	●	●	●
N			○	●					○	●		
S			○	○			●	○			●	○
H					○	○	○	○			○	○

HSS	SERIES	ORD Code	Size mm	Size Inch	f_n (mm/rev)	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	3	-4048	**40.48**	**1.19/32**	0.25 - 0.59							●	●	●	●		
		-4100	**41.00**									●	●	●	●		
		-4128	**41.28**	**1.5/8**								●	●	●	●		
		-4200	**42.00**									●	●	●	●		
		-4207	**42.07**	**1.21/32**								●	●	●	●		
		-4286	**42.86**	**1.11/16**								●	●	●	●		
		-4300	**43.00**									●	●	●	●		
		-4366	**43.66**	**1.23/32**								●	●	●	●		
		-4400	**44.00**									●	●	●	●		
		-4445	**44.45**	**1.3/4**								●	●	●	●		
		-4500	**45.00**									●	●	●	●		
		-4524	**45.24**	**1.25/32**								●	●	●	●		
		-4600	**46.00**									●	●	●	●		
		-4604	**46.04**	**1.13/16**								●	●	●	●		
		-4683	**46.83**	**1.27/32**								●	●	●	●		
		-4700	**47.00**									●	●	●	●		
		-4763	**47.63**	**1.7/8**								●	●	●	●		
	4	-4800	**48.00**		0.29 - 0.64							●	●	●	●		
		-4842	**48.42**	**1.29/32**								●	●	●	●		
		-4900	**49.00**									●	●	●	●		
		-4921	**49.21**	**1.15/16**								●	●	●	●		
		-5000	**50.00**									●	●	●	●		

ISO	P			M		K		N	S	H
MATERIAL	Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP	1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min) K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

EDP Code example: T15A 1.31/32 = 8083275001

- T15A Series No. 808327
- T15T Series No. 808317
- M4A Series No. 807326
- M4T Series No. 807304

	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P					●	○	●	●	●	●	●	●
M			●	○					●	○		
K	●	○	○	○					●	●	●	●
N			○	●					○	●		
S			○	○			●	○			●	○
H					○	○	○	○			○	○

HSS	SERIES	ORD Code	Size mm	Size Inch	f_n (mm/rev)	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	4	-5001	**50.01**	**1.31/32**	0.29 - 0.64							●	●	●	●		
		-5080	**50.80**	**2**								●	●	●	●		
		-5100	**51.00**									●	●	●	●		
		-5159	**51.59**	**2.1/32**								●	●	●	●		
		-5200	**52.00**	**2.3/64**								●	●	●	●		
		-5239	**52.39**	**2.1/16**								●	●	●	●		
		-5300	**53.00**									●	●	●	●		
		-5318	**53.18**	**2.3/32**								●	●	●	●		
		-5398	**53.98**	**2.1/8**								●	●	●	●		
		-5400	**54..00**									●	●	●	●		
		-5479	**54.79**	**2.5/32**								●	●	●	●		
		-5500	**55.00**									●	●	●	●		
		-5556	**55.56**	**2.3/16**								●	●	●	●		
		-5600	**56.00**									●	●	●	●		
		-5636	**56.36**	**2.7/32**								●	●	●	●		
		-5700	**57.00**									●	●	●	●		
		-5715	**57.15**	**2.1/4**								●	●	●	●		
		-5794	**57.94**	**2.9/32**								●	●	●	●		
		-5800	**58.00**									●	●	●	●		
		-5874	**58.74**	**2.5/16**								●	●	●	●		
		-5900	**59.00**									●	●	●	●		
		-5953	**59.53**	**2.11/32**								●	●	●	●		

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

EDP Code example: T15A 60.00mm = 8083276000

- T15A Series No. 808327
- T15T Series No. 808317
- M4A Series No. 807326
- M4T Series No. 807304

	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P					●	○	●	●	●	●	●	●
M			●	○					●	○		
K	●	○	○	○					●	●	●	●
N			○	●					○	●		
S			○	○			●	○			●	○
H					○	○	○	○			○	○

HSS	SERIES	ORD Code	Size mm	Size Inch	f_n (mm/rev)	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	4	-6000	**60.00**		0.29 - 0.64							●	●	●	●		
		-6033	**60.33**	**2.3/8**								●	●	●	●		
		-6100	**61.00**									●	●	●	●		
		-6112	**61.12**	**2.13/32**								●	●	●	●		
		-6191	**61.91**	**2.7/16**								●	●	●	●		
		-6200	**62.00**									●	●	●	●		
		-6271	**62.71**	**2.15/32**								●	●	●	●		
		-6300	**63.00**									●	●	●	●		
		-6350	**63.50**	**2.1/2**								●	●	●	●		
		-6400	**64.00**									●	●	●	●		
		-6429	**64.29**	**2.17/32**								●	●	●	●		
		-6500	**65.00**									●	●	●	●		
		-6509	**65.09**	**2.9/16**								●	●	●	●		
	5	-6350	**63.50**	**2.1/2**	0.34 - 0.78									●	●		
		-6400	**64.00**											●	●		
		-6429	**64.29**	**2.17/32**										●	●		
		-6509	**65.09**	**2.9/16**										●	●		
		-6588	**65.88**	**2.19/32**										●	●		
		-6600	**66.00**											●	●		
		-6668	**66.68**	**2.5/8**										●	●		
		-6747	**67.47**	**2.21/32**										●	●		
		-6800	**68.00**											●	●		

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

EDP Code example: M4A 2.11/16 = 8073266826

	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P					●	○	●	●	●	●	●	●
M			●	○					●	○		
K	●	○	○	○					●	●	●	●
N			○	●					○	●		
S			○	○			●	○			●	○
H					○	○	○	○			○	○

▸ M4A Series No. 807326
▸ M4T Series No. 807304

HSS	SERIES	ORD Code	Size mm	Size Inch	f_n (mm/rev)	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	5	-6826	**68.26**	**2.11/16**	0.34 - 0.78									●	●		
		-6905	**69.05**	**2.23/32**										●	●		
		-6985	**69.85**	**2.3/4**										●	●		
		-7000	**70.00**											●	●		
		-7064	**70.64**	**2.25/32**										●	●		
		-7144	**71.44**	**2.13/16**										●	●		
		-7200	**72.00**											●	●		
		-7223	**72.23**	**2.27/32**										●	●		
		-7303	**73.03**	**2.7/8**										●	●		
		-7382	**73.82**	**2.29/32**										●	●		
		-7400	**74.00**											●	●		
		-7461	**74.61**	**2.15/16**										●	●		
		-7541	**75.41**	**2.31/32**										●	●		
		-7600	**76.00**											●	●		
		-7620	**76.20**	**3**										●	●		
	6	-7699	**76.99**	**3.1/32**	0.34 - 0.78									●	●		
		-7779	**77.79**	**3.1/16**										●	●		
		-7800	**78.00**											●	●		
		-7858	**78.58**	**3.3/32**										●	●		
		-7938	**79.38**	**3.1/8**										●	●		
		-8000	**80.00**											●	●		
		-8017	**80.17**	**3.5/32**										●	●		

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

EDP Code example:M4A 3.3/16 = 8073268096

	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P					●	○	●	●	●	●	●	●
M			●	○					●	○		
K	●	○	○	○					●	●	●	●
N			○	●					○	●		
S			○	○			●	○			●	○
H					○	○	○	○			○	○

▸ M4A Series No. 807326
▸ M4T Series No. 807304

HSS	SERIES	ORD Code	Size mm	Size Inch	f_n (mm/rev)	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	6	-8096	**80.96**	**3.3/16**	0.34 - 0.78									●	●		
		-8176	**81.76**	**3.7/32**										●	●		
		-8200	**82.00**											●	●		
		-8255	**82.55**	**3.1/4**										●	●		
		-8334	**83.34**	**3.9/32**										●	●		
		-8400	**84.00**											●	●		
		-8414	**84.14**	**3.5/16**										●	●		
		-8493	**84.93**	**3.11/32**										●	●		
		-8573	**85.73**	**3.3/8**										●	●		
		-8600	**86.00**											●	●		
		-8652	**86.52**	**3.13/32**										●	●		
		-8731	**87.31**	**3.7/16**										●	●		
		-8800	**88.00**											●	●		
		-8811	**88.11**	**3.15/32**										●	●		
		-8890	**88.90**	**3.1/2**										●	●		
	7	-8969	**89.69**	**3.17/32**	0.34 - 0.78									●	●		
		-9000	**90.00**											●	●		
		-9049	**90.49**	**3.9/16**										●	●		
		-9128	**91.28**	**3.19/32**										●	●		
		-9200	**92.00**											●	●		
		-9208	**92.08**	**3.5/8**										●	●		
		-9287	**92.87**	**3.21/32**										●	●		

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

EDP Code example: M4A 3.11/16 = 8073269366

M4A Series No. 807326

M4T Series No. 807304

	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P					●	○	●	●	●	●	●	●
M			●	○					●	○		
K	●	○	○	○					●	●	●	●
N			○	●					○	●		
S			○	○			●	○			●	○
H					○	○	○	○			○	○

HSS	SERIES	ORD Code	Size mm	Size Inch	f_n (mm/rev)	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	7	-9366	**93.66**	**3.11/16**	0.34 - 0.78									●	●		
		-9400	**94.00**											●	●		
		-9446	**94.46**	**3.23/32**										●	●		
		-9525	**95.25**	**3.3/4**										●	●		
		-9600	**96.00**											●	●		
		-9604	**96.04**	**3.25/32**										●	●		
		-9684	**96.84**	**3.13/16**										●	●		
		-9763	**97.63**	**3.27/32**										●	●		
		-9800	**98.00**											●	●		
		-9843	**98.43**	**3.7/8**										●	●		
		-9922	**99.22**	**3.29/32**										●	●		
		-10000	**100.00**											●	●		
		-10001	**100.01**	**3.15/16**										●	●		
		-10081	**100.81**	**3.31/32**										●	●		
		-10160	**101.60**	**4**										●	●		
	8	-10200	**102.00**	**4.1/64**	0.34 - 0.78									●	●		
		-10319	**103.19**	**4.1/16**										●	●		
		-10400	**104.00**	**4.3/32**										●	●		
		-10478	**104.78**	**4.1/8**										●	●		
		-10600	**106.00**											●	●		
		-10636	**106.36**	**4.3/16**										●	●		
		-10795	**107.95**	**4.1/4**										●	●		

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19

EDP Code example:M4A 108.00mm = 80732610800

M4A Series No. 807326

M4T Series No. 807304

	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
P					●	○	●	●	●	●	●	●
M			●	○					●	○		
K	●	○	○	○					●	●	●	●
N			○	●					○	●		
S			○	○			●	○			●	○
H					○	○	○	○			○	○

HSS	SERIES	ORD Code	Size mm	Size Inch	f_n (mm/rev)	K10A	K10T	K20A	K20T	P40A	P40T	T15A	T15T	M4A	M4T	M48A	M48T
	8	-10800	**108.00**		0.34 - 0.78									●	●		
		-10954	**109.54**	**4.5/16**										●	●		
		-11000	**110.00**											●	●		
		-11113	**111.13**	**4.3/8**										●	●		
		-11200	**112.00**											●	●		
		-11271	**112.71**	**4.7/16**										●	●		
		-11400	**114.00**											●	●		
		-11430	**114.30**	**4.1/2**										●	●		

ISO		P			M		K		N	S	H
MATERIAL		Non-alloy steel	Low alloy steel	High alloy steel	Ferritic / Martensitic Stainless steel	Austenitic Stainless steel	Grey Cast iron	Nodular Cast iron	Aluminium & Non-ferrous material	Heat Resistant and Super Alloys	Hardened steel
VDI GROUP		1-5	6-9	10-11	12-13	14	15-16	17-20	21-30	31-37	38
v_c (m/min)	K10A	-	-	-	-	-	79 - 111	125 - 137	-	-	-
	K10T	-	-	-	-	-	56 - 75	80 - 98	-	-	-
	K20A	-	-	-	50 - 62	46 - 52	79 - 111	125 - 137	244 - 366	24 - 30	-
	K20T	-	-	-	42 - 50	38 - 44	56 - 75	80 - 98	291 - 427	20 - 26	-
	P40A	84 - 125	64 - 102	50 - 67	-	-	-	-	-	-	47 - 62
	P40T	52 - 101	83 - 82	37 - 50	-	-	-	-	-	-	37 - 49
	T15A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	T15T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19
	M4A	66 - 84	41 - 75	-	29 - 34	27 - 29	-	58 - 75	92 - 187	-	-
	M4T	45 - 63	36 - 52	-	20 - 24	18 - 20	-	42 - 52	137 - 244	-	-
	M48A	-	41 - 58	26 - 34	-	-	41 - 52	-	-	11 - 12	21 - 35
	M48T	-	36 - 42	19 - 25	-	-	29 - 35	-	-	8 - 9	16 - 19