

SHOULDER MILLING

- Shoulder milling is a machining process in which the cutter is positioned at an angle relative to the workpiece, rather than perpendicular to it.
- A 90-degree shoulder is the most common angle, but other angles can be used depending on the application.
- Our Popular Shoulder milling insert XDMT (2 Corner), LNKX (4 Corner), WNMX (6 Corner), SNMU (8 Corners)

SHOULDER MILLING INDEX

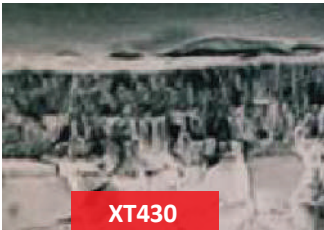
Shoulder Milling

311-328

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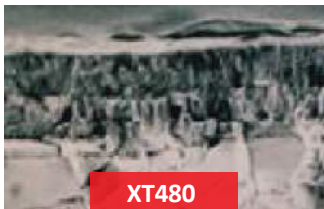


GRADE INFORMATION



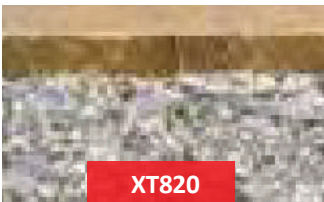
P10-P25 | M10-M20 | K05-K15

PVD coated grade, suitable for cast iron & processing whenever it is required high toughness and excellent resistance. Used with coolant in medium cutting speed, this quality ensures a remarkable insert life.



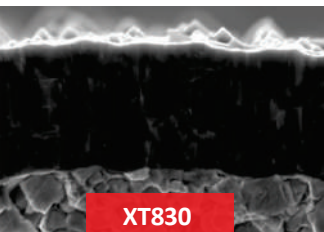
P05-P25 | K05-K30

Uses heat-resistance PVD Al₂O₃ coating which has best hot hardness compared to previous PVD coatings, has better wear resistance. The smooth rake face and sharp cutting edge due to advanced technology with PVD coating, to ensure the workpiece without burr, also reduce the built-up edge. Suitable for Steels & Cast Iron



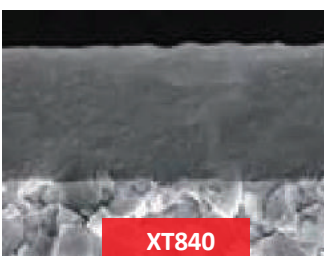
M10-M35 | P10-P35 | S05-515

Composition: Co 10.0% other 1.5%; rest TC | Grain size: coarse Coating: PVD TiAlTiN
Particularly suitable for the machining of high-alloy steels, Stainless Steels and Superalloys (austenitic).



P05-P30 M05-M20 | K05-K20 | 505-515 | H05-H10

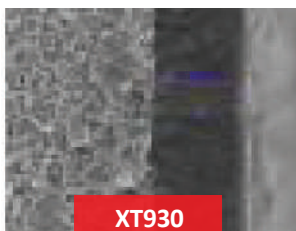
PVD coating with optimal thermal resistance & added strength. Tough carbide substrate designed for demanding application. Suitable for all materials from steels to superalloys



P10-P30 | K10-K25 | M10-M25

Composition: Co 10.5 %; mixed carbides 2.0 %; WC balance | Grain size: 1-2 μm | Hardness: HV30 1400 Coating specification: PVD TiAlTiN First choice for dry machining of steels and CI at high cutting speeds

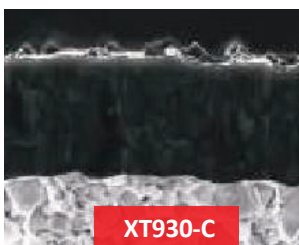
GRADE INFORMATION



XT930

M10-M35 | P10-P35 | S05-S15

Composition: Co 10.0 %; other 1.5 %; rest TC | Grain size: coarse |Coating: PVD TiAlTaN
Particularly suitable for the machining of high-alloy steels, Stainless Steels and Superalloys (austenitic).



XT930-C

P15-P35 | M15-M35 | H05-H15

Ultra find grade with Nano coating for high heat resistance and toughness. Special AlTIMEN coating gives it a bronze shade and higher temperature resistance! The first choice for general-purpose machining of stainless steel. It can be used for supplementary machining of soft steels.



XT960

P05-P30 | M05-M20 | K05-K30

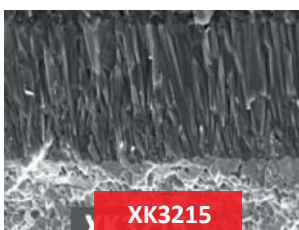
Composition: Co 10.0%; other 1.5%; rest TC | Grain size: coarse Coating: PVD TiAlTaN
Particularly suitable for the machining of high-alloy steels, Stainless Steels and Super alloys (austenitic).



XT1010

H10-H20 | S05-S15

- Low cobalt, ultra-fine wear-resistant and heat-resistant grain structure.
- PVD high alumina coating to improve oxidation and wear resistance.
- Suitable for high feed milling of hardened materials & superalloys



XK3215

K10-K25 | P10-P20

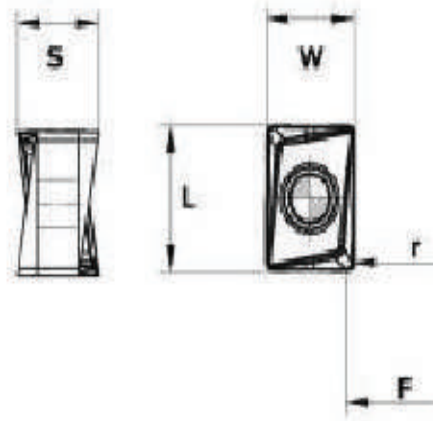
Ultra find grade with Nano coating for high heat resistance and toughness. Special AlTiMeN coating gives it a bronze shade and higher temperature resistance! The first choice for general-purpose machining of stainless steel. It can be used for supplementary machining of soft steels.

RECOMMENDED CUTTING CONDITIONS

ISO	Material Group	Relative Materials (DIN)	Hardness HB	Cutting speed (m/min)				
				XT 430	XT480	XT820	XT 830	XT840
P	Non-alloy steel	9 SMn 28, C35C50, C40E, C45E, 49 CrMo 4	125 - 250	90-250	80 -180	90 -250	100 - 250	90 -250
	Low alloy steel	13 CrMo 44, 40NiCrM022, 58 CrV 4	200 - 350	80-200	80 -180	80 -220	100 - 200	80 -220
	High alloy steel	X 40 CrMoV 5 1, X100 CrMoV 5 1, S6-5-5	200 - 325		80 -130	80 -180	80 - 130	80 -180
M	Ferritic/martensitic Stainless steel	X6Cr13, X10CrA118, X20CrNi175	200 - 240	80-200			130 - 190	
	Austenitic Stainless steel	X5 CrNi 18 9, X5 CrNiMo 17 13 3, X6 CrNiTi 18 9	180	60-180			100 - 200	
K	Grey cast iron	GG15, GG20, GGG40, GG-35	180 - 260	90 - 200	90 -200		160 - 200	90 - 200
	Malleable castiron	GTS-35-10, GTS-35,GTS70-02, 20mN5	130 - 230	90 - 200	90 -200	90 -240	130 - 180	90 - 200
S	Fe, Ni or Co based	X12 NiCrAlTi 31 20, TiAl5Sn2	200 - 350				30 - 50	
	Titanium and Ti-alloy based	TiCu2, TiAl6V4, TiAl6V4ELI					35- 75	
H	Hardened steel	C 105 W1,75 CrMoNiW 6 7	55 - 60 HRC				55 - 65	
	Chilled cast iron	G-X 260 NiCr 4 2, X15 CrNiSi 25 20	400				45 - 55	
	Cast iron	G-X 300 CrMo 15 3	55 HRC				55 - 65	

ISO	Material Group	Relative Materials (DIN)	Hardness HB	XT 930	XT 930-C	XT 960	XT 1010	XK3215
P	Non-alloy steel	9 SMn 28, C35C50, C40E, C45E, 49 CrMo 4	125 - 250		80 - 200			
	Low alloy steel	13 CrMo 44, 40NiCrM022, 58 CrV 4	200 - 350	80-220	80 -180			
	High alloy steel	X 40 CrMoV 5 1, X100 CrMoV 5 1, S6-5-5	200 - 325	80-180	60 -160			
M	Ferritic/martensitic Stainless steel	X6Cr13, X10CrA118, X20CrNi175	200 - 240	80-220	60 -220		60 -140	
	Austenitic Stainless steel	X5 CrNi 18 9, X5 CrNiMo 17 13 3, X6 CrNiTi 18 9	180	80 -200	60 -180			
K	Grey cast iron	GG15, GG20, GGG40, GG-35	180 - 260					70-350
	Malleable cast iron	GTS-35-10, GTS-35, GTS70-02, 20mN5	130 - 230					70-280
S	Fe, Ni or Co based	X12 NiCrAlTi 31 20, TiAl5Sn2	200 - 350	40 -120	40 -120	50 -110	30 -90	
	Titanium and Ti-alloy based	TiCu2, TiAl6V4, TiAl6V4ELI		30 -100	30 -100	40 -85		
H	Hardened steel	C 105 W1,75 CrMoNiW 6 7	55 - 60 HRc	30 -90	30 -120		30 -120	
	Chilled cast iron	G-X 260 NiCr 4 2, X15 CrNiSi 25 20	400					50-150
	Cast iron	G-X 300 CrMo 15 3	55 HRc					50-120

LNKU1206



90 DEGREE LEAD ANGLE INSERT - 4 CUTTING EDGES
SUITABLE FOR POCKET, FACE, SLOT, ANGLED & SHOULDER MILLING
LOW POWER CONSUMPTION, MAXIMUM CHIP REMOVAL RATE

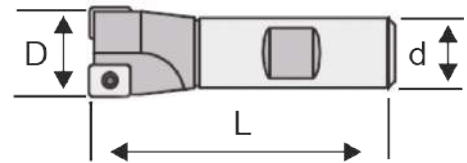
DESIGNATION	DIMENSIONS					FEED (MM/TOOTH)		DEPTH OF CUT (MM)		XT840	XT930
	W	F	S	r	L	MIN	MAX	MIN	MAX		
LNKU120608HP	12.0	3.8	8.2	0.8	14.0	0.07	0.30	0.50	3.50	●	
LNKU120608SM	12.0	3.8	8.2	0.8	14.0	0.07	0.30	0.50	3.50		●

● STOCKABLE ○ NON STOCKABLE

END MILL TYPE

DESIGNATION	D	d	L1	L	Z	AVAILABILITY
XTEM-2525-Z2-200L-LNKU12-PRE	25	25	60	200	2	●
XTEM-3232-Z3-200L-LNKU12-PRE	32	32	60	200	3	●

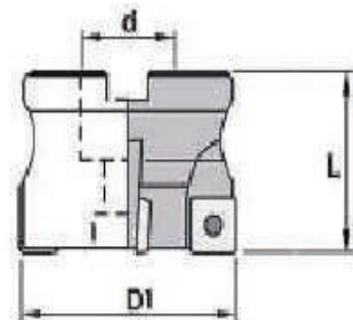
● STOCKABLE ○ NON STOCKABLE



SHELL CUTTER

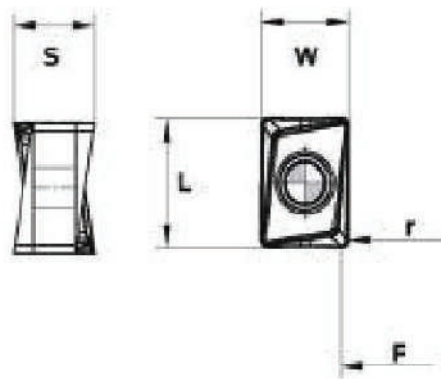
DESIGNATION	D	d	H	Z	AVAILABILITY
XTSM-D40-A16-Z4-LNKU12-PRE	40	16	40	4	●
XTSM-D50-A22-Z5-LNKU12-PRE	50	22	40	5	●
XTSM-D63-A22-Z6-LNKU12-PRE	63	22	50	6	●
XTSM-D80-A27-Z7-LNKU12-PRE	80	27	50	7	●
XTSM-D100-A32-Z8-LNKU12-PRE	100	32	50	8	○
XTSM-D125-A40-Z9-LNKU12-PRE	125	40	63	9	○

● STOCKABLE ○ NON STOCKABLE



SCREW - SCREW M4 FOR LNKU12

LNKX0904



90 DEGREE LEAD ANGLE INSERT - 4 CUTTING EDGES
 HIGH RAKE ALLOWS FOR SMOOTH OPERATION
 SUITABLE FOR POCKET, FACE, SLOT, ANGLED & SHOULDER MILLING

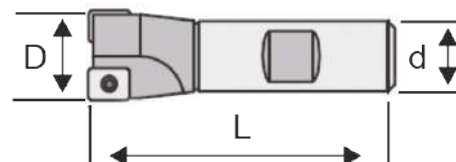
DESIGNATION	DIMENSIONS					FEED (MM/TOOTH)		DEPTH OF CUT(MM)		XT480	XT930-C
	W	F	S	r	L	MIN	MAX	MIN	MAX		
LNKX090408	12.0	3.8	8.2	0.8	14.0	0.07	0.30	0.50	3.50	●	●

● STOCKABLE ○ NON STOCKABLE

SHELL MILL CUTTER

DESIGNATION	D	D1	D	L	AVAILABILITY
H-SASF90-1616-T2-0904-125	16	16	2	125	●
H-SASF90-2020-T3-0904-125	20	20	3	125	●
H-SASF90-2525-T4-0904-125	20	20	4	125	●

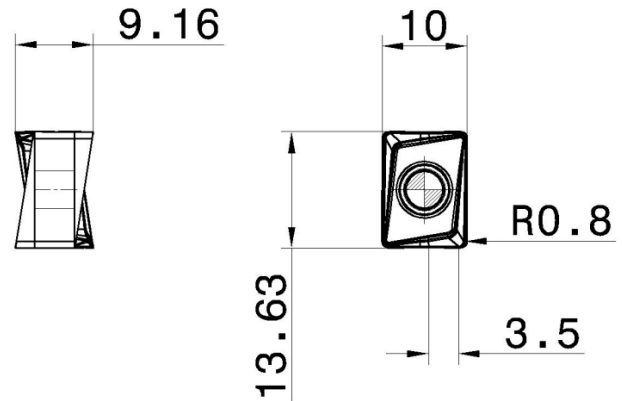
● STOCKABLE ○ NON STOCKABLE



MILLING

SCREW - SCREW FOR LNKX09

LNKX1205



90 DEGREE LEAD ANGLE INSERT - 4 CUTTING EDGES
HIGH RAKE ALLOWS FOR SMOOTH OPERATION
SUITABLE FOR POCKET, FACE, SLOT, ANGLED & SHOULDER MILLING

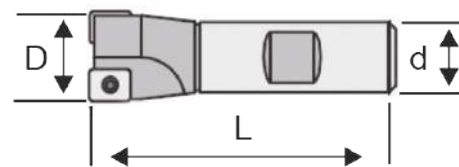
DESIGNATION	DIMENSIONS					FEED (MM/TOOTH)		DEPTH OF CUT (MM)		XT480	XT930	XT930-C
	W	F	S	r	L	MIN	MAX	MIN	MAX			
LNKX120508	10.0	3.8	9.15	0.8	13.7	0.07	0.2	1	6	●	●	●

END MILL TYPE

● STOCKABLE ○ NON STOCKABLE

DESIGNATION	D	d	Z	L	AVAILABILITY
H-SASF90-2525-T2-1205-120	25	25	2	120	●
H-SASF90-3232-T3-1205-160	32	32	3	160	●
H-SASF90-4040-T4-1205-200	40	40	4	200	●

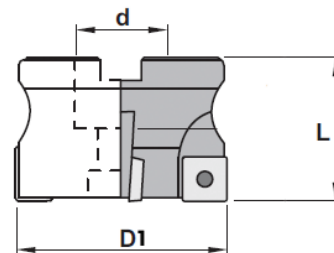
● STOCKABLE ○ NON STOCKABLE



SHELL CUTTER

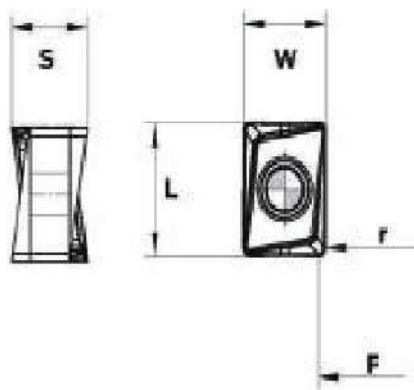
DESIGNATION	D	d	H	Z	AVAILABILITY
H-SASF90-D40-04-16-1205R	40	16	40	4	●
H-SASF90-D50-05-22-1205R	50	22	40	5	●
H-SASF90-D63-06-27-1205R	63	22	50	6	●
H-SASF90-D80-07-27-1205R	80	27	50	7	●
H-SASF90-D100-08-32-1205R	100	32	50	8	○
H-SASF90-D125-09-40-1205R	125	40	63	9	○

● STOCKABLE ○ NON STOCKABLE



SCREW - SCREW M4 FOR LNKU12

LNKX1706



90 DEGREE LEAD ANGLE INSERT - 4 CUTTING EDGES
 HIGH RAKE ALLOWS FOR SMOOTH OPERATION
 SUITABLE FOR POCKET, FACE, SLOT, ANGLED & SHOULDER MILLING

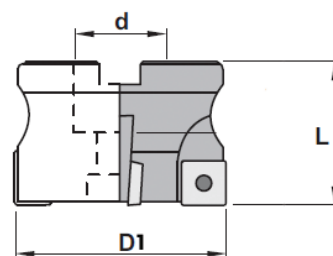
DESIGNATION	DIMENSIONS					FEED (MM/TOOTH)		DEPTH OF CUT (MM)		XT480	XT930-C
	W	F	S	r	L	MIN	MAX	MIN	MAX		
LNKX170608	11.2	4.7	10.4	0.8	16.7	0.07	0.2	1	10	●	○

● STOCKABLE ○ NON STOCKABLE

SHELL MILL CUTTER

DESIGNATION	D	D1	L	Z	AVAILABILITY
H-SASF90-D50-04-22-1706R	50	22	40	4	●
H-SASF90-D63-05-27-1706R	63	27	50	5	●
H-SASF90-D80-07-27-1706R	80	27	50	6	○
H-SASF90-D100-08-32-1706R	100	32	50	7	○

● STOCKABLE ○ NON STOCKABLE



SCREW - SCREW FOR LNKX17

SDMT1204



90 DEGREE LEAD ANGLE INSERT - 4 CUTTING EDGES
SUITABLE FOR POCKET, FACE, SLOT, ANGLED & SHOULDER MILLING

Insert Details

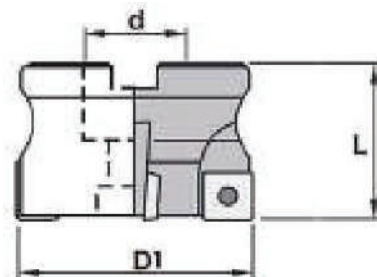
DESIGNATION	DIMENSIONS					FEED (MM/TOOTH)		DEPTH OF CUT(MM)		XT820	XT830
	I	D	S	Ø	R	MIN	MAX	MIN	MAX		
SDMT1204PDER	-	12.7	4.76	15	0.4	0.07	0.29	0.5	5.0		●
SDMT120408-F57	-	12.7	4.76	15	0.8	0.07	0.29	0.5	5.0	●	

● STOCKABLE ○ NON STOCKABLE

SHELL CUTTER

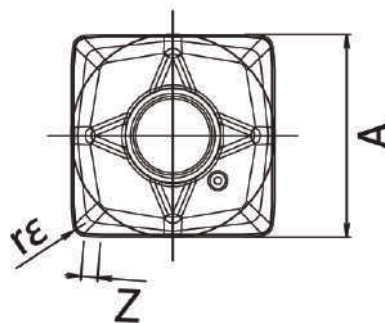
DESIGNATION	D	d	H	Z	AVAILABILITY
XTSM-D50-A22-Z4-SDMT1204	50	22	40	4	●
XTSM-D63-A22-Z5-SDMT1204	63	22	50	5	●
XTSM-D80-A27-Z6-SDMT1204	80	27	50	6	●
XTSM-D100-A32-Z7-SDMT1204	100	32	50	7	○
XTSM-D125-A40-Z8-SDMT1204	125	40	50	8	○

● STOCKABLE ○ NON STOCKABLE



SCREW - SCREW M4 FOR SDMT12

SNMU1206



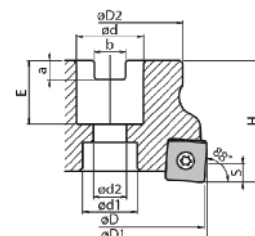
88 DEGREE MILLING INSERT - 8 CUTTING EDGES
 SUITABLE FOR POCKET MILLING, FACING & SURFACING
 INSERT DESIGN ENABLES LOW CUTTING FORCE TO REDUCE CHATTERING
 CUTTER DIAMETER AVAILABLE FROM 50 TO 125MM

DESIGNATION	DIMENSIONS				FEED (MM/TOOTH)		DEPTH OF CUT(MM)		XT430	XT840	XT930-C
	A	T	Z	rε	MIN	MAX	MIN	MAX			
SNMU1206EN-GM	13	5.51	1	0.8	0.08	0.24	0.5	3.5	●	●	●

● STOCKABLE ○ NON STOCKABLE

SHELL MILL CUTTER

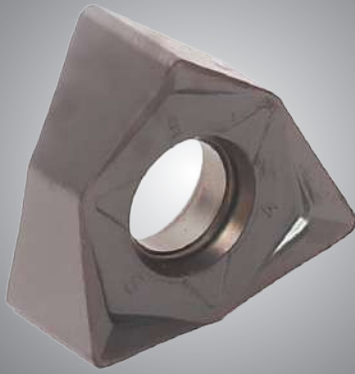
DESIGNATION	DIMENSIONS										AVAILABILITY
	ØD	ØD1	ØD2	ØD	Ød1	Ød2	H	E	a	b	
XTSM-D40-Z2-SNMU1206-88°	40	52	48	22	17.5	11	40	21	6.3	10.4	●
XTSM-D50-Z4-SNMU1206-88°	50	65	48	22	18	11	40	21	6.3	10.4	●
XTSM-D63-Z5-SNMU1206-88°	63	82	70	27	20	13	50	24	7	12.4	●
XTSM-D80-Z7-SNMU1206-88°	80	102	78	32	45	-	50	30	8	14.4	●
XTSM-D100-A32-Z7-SNMU1206-88°	100	127	89	40	55		63	33	9	16.4	●
XTSM-D125-A40-Z9-SNMU1206-88°	125	162	110	40	55		63	33	9	16.4	○



● STOCKABLE ○ NON STOCKABLE

SCREW M4 FOR SNMU / SNMX 1206

WNMX08



90 DEGREE LEAD ANGLE INSERT 6 CUTTING EDGES
SUITABLE FOR POCKET, FACE, SLOT, ANGLED & SHOULDER MILLING

Insert Details

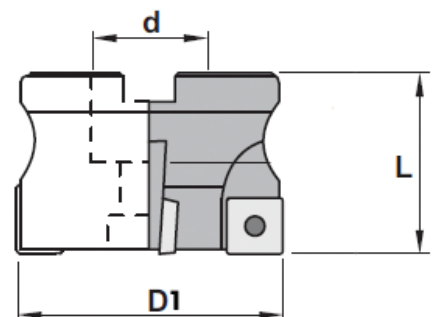
DESIGNATION	DIMENSIONS					FEED (MM/TOOTH)		DEPTH OF CUT(MM)		XT125	XT430	XT820	XT840	XT930-C	XK3215
	D1	S	BS	IC	RE	MIN	MAX	MIN	MAX						
WNMX080608-GM	6.2	6.65	1.3	14.02	0.8	0.08	0.4	0.5	7	●	●	●	●	●	●

● STOCKABLE ○ NON STOCKABLE

SHELL CUTTER

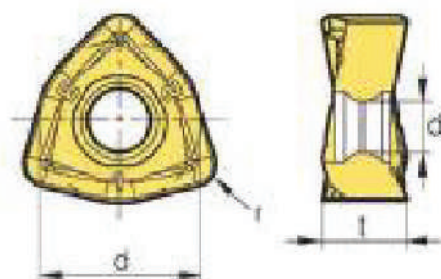
DESIGNATION	ØD	Ød	L	Z	AVAILABILITY
XTSM-D50-A22-Z4-WNMX08-PRE	50	22	40	4	●
XTSM-D63-A22-Z4-WNMX08-PRE	63	22	40	4	●
XTSM-D63-A22-Z5-WNMX08-PRE	63	22	40	5	●
XTSM-D80-A27-Z5-WNMX08-PRE	80	27	50	5	●
XTSM-D80-A27-Z7-WNMX08-PRE	80	27	50	7	●
XTSM-D100-A32-Z7-WNMX08-PRE	100	32	50	7	●
XTSM-D100-A32-Z9-WNMX08-PRE	100	32	50	9	●
XTSM-D125-A40-Z8-WNMX08-PRE	125	40	63	8	○
XTSM-D160-A40-Z10-WNMX08-PRE	160	40	63	10	○

● STOCKABLE ○ NON STOCKABLE



SCREW - SCREW FOR WNMX08-M5X14

XNEX08



90 DEGREE LEAD ANGLE INSERT 6 CUTTING EDGES
SUITABLE FOR POCKET MILLING, COPYING & SURFACING

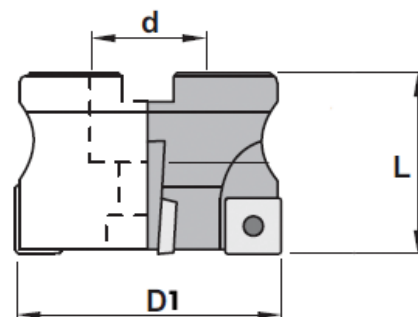
DESIGNATION	DIMENSIONS				FEED (MM/TOOTH)		DEPTH OF CUT(MM)		XT430	XT820	XK3215
	d	t	d1	r	MIN	MAX	MIN	MAX			
XNEX080608	12.5	6.56	7.5	0.8	0.08	0.4	0.5	7	○	●	○

● STOCKABLE ○ NON STOCKABLE

SHELL MILL CUTTER

DESIGNATION	∅D	∅D	F	Z	AVAILABILITY
XTSM-D50-Z4-XNEX08-90	50	22	40	4	○
XTSM-D63-Z6-XNEX08-90	50	22	40	5	○
XTSM-D80-Z7-XNEX08-90	63	27	40	6	○
XTSM-D100-Z8-XNEX08-90	80	27	50	7	○
XTSM-D125-Z10-XNEX08-90	100	32	50	8	○

● STOCKABLE ○ NON STOCKABLE



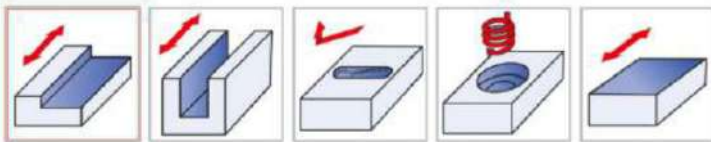
MILLING

SCREW - SCREW FOR XNEX08

XDMT11**XDMT17**

Applications

- Shoulder Milling, Side Milling and Helical Interpolation



- 90° End mills and Face mills with high positive two helical cutting edges of size 11 & 17 inserts
Available in 0.8, 1.6 and 2.4 radii depending on the application
- Cutter diameter available from 16mm to 63mm

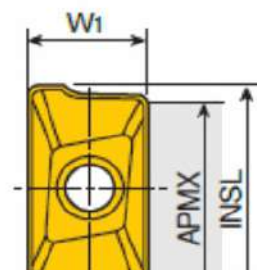
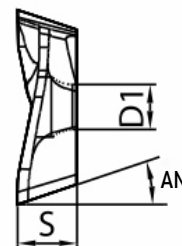
Benefits

- Multiple grades for different applications
- Extremely effective on die and mould as well as production applications

Insert Details

DESIGNATION	Angle						AP(mm)	fn(mm/rev)	XT840	XT930-C	XT960
	S	D1	L	RE	AN	MAX					
XDMT1T308ER-JT	0.3	0.150	0.110	0.8	18°	13°	0.5 - 6.0	0.06 - 0.25	●	●	●
XDMT1T316ER-JT	0.3	0.150	0.110	1.6	18°	13°	0.8 - 8.0	0.08 - 0.30	●	●	●

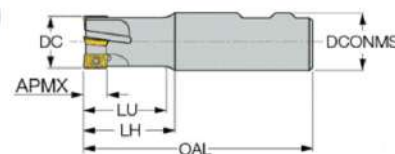
● STOCKABLE ○ NON STOCKABLE



Insert Details

DESIGNATION	INSL	W1	S	BS	RE	APMX	ap (min)	ap (max)	fz(min)	fz(max)	XT840	XT930-C	XT960
XDMT1705PDER-EM	18.50	10.70	6	3	0.80	16.00	0.8	13.00	0.090	0.350	●	●	●
XDMT170516PDER-EM	18.50	10.70	6	3	1	16.00	1	13.00	0.090	0.350	●	●	●
XDMT170524PDER-EM	18.50	10.70	6	3	1.2	16.00	1.2	13.00	0.090	0.350	●	●	●

● STOCKABLE ○ NON STOCKABLE



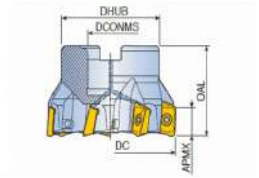
Tool Holder Dimensions

DESIGNATION	NO. OF INSERTS	DIMENSIONS					AVAILABILITY	
		DC	LU	LH	OAL	APMX		
XDMT11-1616-Z2-200L	2	16	38	40	200	10	●	
XDMT11-2020-Z2-200L	2	20	48	50			●	
XDMT11-2020-Z3-200L	3	20					●	
XDMT11-2525-Z3-200L	3	25					●	
XDMT11-2525-Z4-200L	4	25					●	
XDMT11-3232-Z3-300L	3	32					●	
XDMT17-2525-Z2-200L	2	25					15	●
XDMT17-3232-Z3-200L	3	32						●

● STOCKABLE ○ NON STOCKABLE

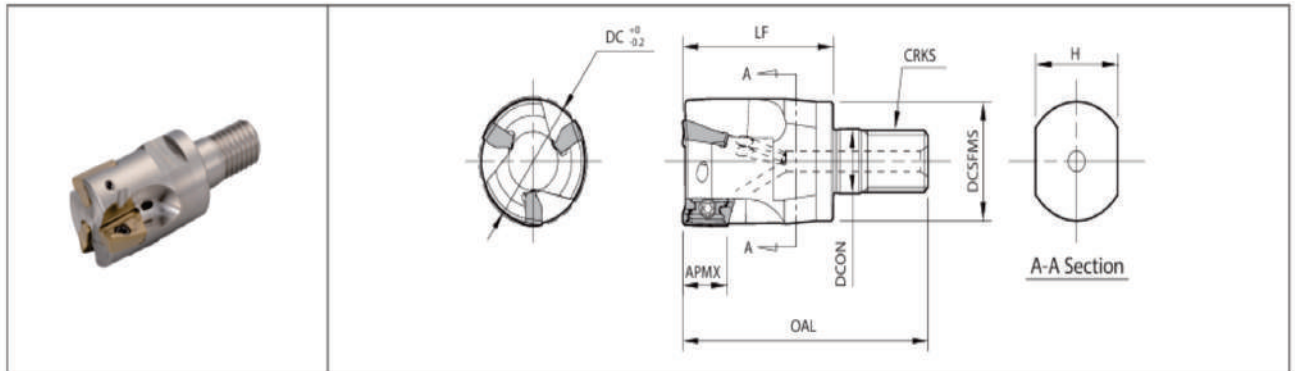
Tool Holder Dimensions

DESIGNATION	NO. OF INSERTS	DIMENSIONS					AVAILABILITY
		DC	DCONMS	DHUB	OAL	APMX	
XTSM-D50-A22-Z4-XDMT17	4	50	22	45	40	15	●
XTSM-D50-A22-Z5-XDMT17	5	50		●			
XTSM-D63-A22-Z5-XDMT17	5	63		●			
XTSM-D63-A22-Z6-XDMT17	6	63		●			



Other cutter diameter available on request.

XDMT-MODULAR



DESCRIPTION	Inserts(z)	DIMENSION								AVAILABILITY
		DC	DCON	DCSFMS	OAL	LF	APMX	CRKS	H	
XMH-XDMT11-16-M8-2T	2	16	8.5	14.7	42	25	10	M8x1.25	12	○
XMH-XDMT11-20-M10-3T	3	20	10.5	18.7	48	30		M10x1.5	15	○
XMH-XDMT11-25-M12-4T	4	25	12.5	23	56	35		M12x1.75	19	○
XMH-XDMT11-32-M16-4T	4	32	17	30	62	40		M16x2.05	24	○

● STOCKABLE ○ NON STOCKABLE

Parameters for XDMT 11 / 17 & Spare Parts

WORKPIECE MATERIALS	RECOMMENDED INSERT GRADES (CUTTING SPEED VC: M/MIN)		
	XT960	XT930-C	Xt840
ALLOY STEEL	-	100-160-200	100-140-180
STAINLESS STEEL	100-160-200	100-160-200	-
NODULAR CAST IRON	-	100-150-200	100-150 - 200
TITANIUM ALLOYS	40-60-80	30-50-70	-

INSERTS	SCREW SIZE	KEY	AVAILABILITY
XDMT11	M2.5x6	T8	●
XDMT17	M4x9	T15	●