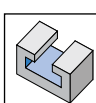
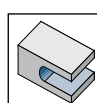
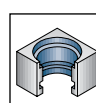
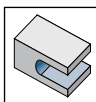
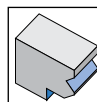
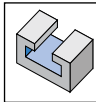
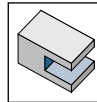
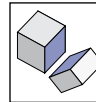
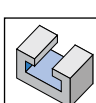
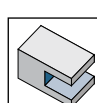
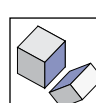
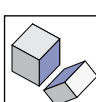
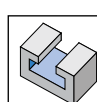
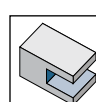
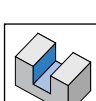
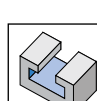
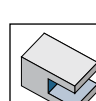
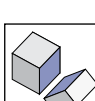
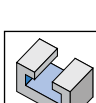
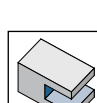


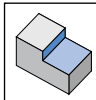
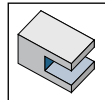
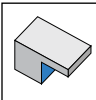
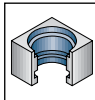
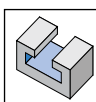
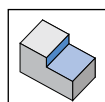
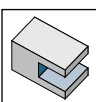
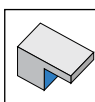
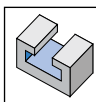
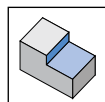
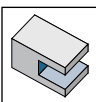
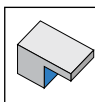
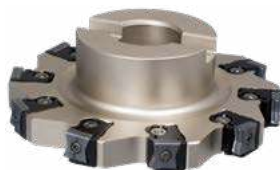
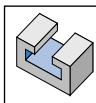
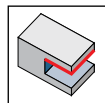
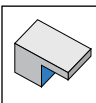
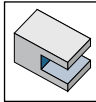
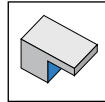
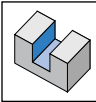
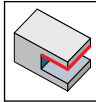
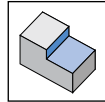
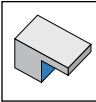
SLOTTING & SLITTING CUTTERS



Application Range

MM TS/GRIT- pages 321-326						
		0.7-13.0				
		7.7-27.7				
MM GRIT Dovetail - page 327						
		5.0-10.1				
		27.7				
DGSM-M/MM-JHP- page 333						
		2.0-3.0				
		16.0-22.0				
TGSF-M/MM-JHP- pages 365-366						
		2.0-3.0				
		50.0				
SGSF/A-M/MM-JHP- pages 371-372						
		2.0-3.0				
		32.0-40.0				
SGSF-W- page 369						
		1.5-2.7				
		32.0-40.00				
SD-SP- page 328						
		1.0-12.0				
		31.7-49.7				

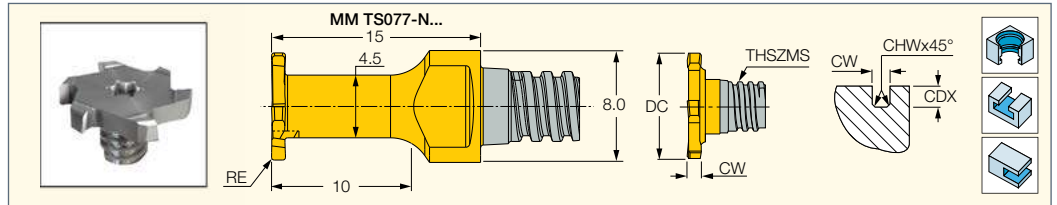
Application Range

TRIB- pages 331-332						
		1.2-6.5				
		32.2-80				
ETS T-Slot - pages 334-341						
		3.0-22				
		21-63				
FDN - pages 342-352						
		3-25				
		50-250				
FST - page 361						
		9.0				
		100-125				
SDN - pages 353-361						
		3-25				
		63-250				
SSB...R/L - page 362						
		12-24				
		100-200				

Application Range

TGSF - pages 364-366				SGSF with Drive Flange			
		1.6-4				2.4-6.4	
		50-160				50-425	
							
SGSF - pages 370-372				SGSF with Drive Shank S, SW			
		1.3-6.5				1.5-6.4	
		32-425				50-125	
							
SGSA - page 372							
		2.7-4					
		32-100					
							
GM-DG - page 374							
		2.7-4.35					
		100-200					
							

MM TS-N

Interchangeable Solid Carbide
T-Slot Milling Heads


Designation	Dimensions										Tough ↔ Hard		
	DC	DCTOLL	CW	NOF ⁽¹⁾	THSZMS	CDX ⁽²⁾	RE	CHW			IC328	IC928	IC908
MM TS077-N07A-4T05	7.70	-0.0500	0.70	4	T05	1.20	0.20	-	MM KEY 6X4*				●
MM TS077-N08A-4T05	7.70	-0.0500	0.80	4	T05	1.20	0.20	-	MM KEY 6X4*				●
MM TS077-N09A-4T05	7.70	-0.0500	0.90	4	T05	1.20	0.20	-	MM KEY 6X4*				●
MM TS077-N10A-4T05	7.70	-0.0500	1.00	4	T05	1.20	0.20	-	MM KEY 6X4*				●
MM TS077-N15A-4T05	7.70	-0.0500	1.50	4	T05	1.20	0.20	-	MM KEY 6X4*				●
MM TS077-N20A-4T05	7.70	-0.0500	2.00	4	T05	1.20	0.20	-	MM KEY 6X4*				●
MM TS105-N20D-06T04	10.50	-0.0500	2.00	6	T04	2.00	0.40	-		T-15/3*		●	
MM TS.500-N062P-06T05	12.70	-0.0500	1.58	6	T05	2.25	-	0.15		T-20/3*	●		●
MM TS.500-N078P-06T05	12.70	-0.0500	1.98	6	T05	2.25	-	0.15		T-20/3*	●		●
MM TS135-N20P-06T05	13.50	-0.0500	2.00	6	T05	2.65	-	0.20		T-20/3*	●		●
MM TS135-N25P-06T05	13.50	-0.0500	2.50	6	T05	2.65	-	0.20		T-20/3*	●		●

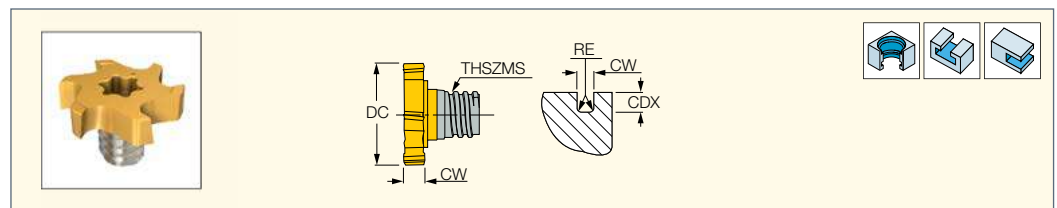
- For shanks, see pages 84-91
- For tightening torques and clamping instructions, see pages 91-92
- Do not apply lubricant to the threaded connection
- For user guide, see pages 377-383

⁽¹⁾ Number of flutes

⁽²⁾ Cutting depth maximum

* Optional, should be ordered separately

MM TS-H

Interchangeable Solid Carbide
T-Slot Milling Heads with
Various Corner Radii


Designation	Dimensions									Tough ↔ Hard		
	DC	DCTOLL	CW	CDX ⁽¹⁾	NOF ⁽²⁾	RE	THSZMS				IC328	IC908
MM TS135-H30D-06T05	13.50	-0.0500	3.00	2.65	6	0.40	T05	T-20/3*		•		•
MM TS135-H40D-06T05	13.50	-0.0500	4.00	2.65	6	0.40	T05	T-20/3*		•		•
MM TS165-H40A-06T05	16.50	-0.0500	4.00	4.25	6	0.20	T05	T-20/3*		•		•
MM TS160-H20D-06T06	16.00	-0.0500	2.00	3.00	6	0.40	T06	T-20/3*		•		•
MM TS160-H30D-06T06	16.00	-0.0500	3.00	3.00	6	0.40	T06	T-25/3*		•		•
MM TS160-H40D-06T06	16.00	-0.0500	4.00	3.00	6	0.40	T06	T-25/3*		•		•
MM TS165-H20D-06T06	16.50	-0.0500	2.00	3.25	6	0.40	T06	T-20/3*		•		•
MM TS165-H30D-06T06	16.50	-0.0500	3.00	3.25	6	0.40	T06	T-25/3*		•		•
MM TS165-H40D-06T06	16.50	-0.0500	4.00	3.25	6	0.40	T06	T-25/3*		•		•
MM TS195-H60A-06T06	19.50	-0.0500	6.00	4.45	6	0.20	T06	T-25/3*		•		•
MM TS225-H60A-06T06	22.50	-0.0500	6.00	5.95	6	0.20	T06	T-25/3*		•		•
MM TS195-H40D-06T08	19.50	-0.0500	4.00	3.45	6	0.40	T08	T-30/3 L*		•		•
MM TS195-H50D-06T08	19.50	-0.0500	5.00	3.45	6	0.40	T08	T-30/3 L*		•		•
MM TS195-H60D-06T08	19.50	-0.0500	6.00	3.45	6	0.40	T08	T-30/3 L*		•		•
MM TS225-H40D-06T08	22.50	-0.0500	4.00	4.90	6	0.40	T08	T-40/3 L*		•		•
MM TS225-H50D-06T08	22.50	-0.0500	5.00	4.95	6	0.40	T08	T-40/3 L*		•		•
MM TS225-H60D-06T08	22.50	-0.0500	6.00	4.95	6	0.40	T08	T-40/3 L*		•		•
MM TS225-H80D-06T08	22.50	-0.0500	8.00	4.95	6	0.40	T08	T-40/3 L*		•		•
MM TS250-H50D-06T08	25.00	-0.0500	5.00	5.90	6	0.40	T08	T-50/3 L*		•		•
MM TS250-H60D-06T08	25.00	-0.0500	6.00	5.90	6	0.40	T08	T-50/3 L*		•		•
MM TS250-H80D-06T08	25.00	-0.0500	8.00	5.90	6	0.40	T08	T-50/3 L*		•		•
MM TS250-H50D-06T10	25.00	-0.0500	5.00	4.30	6	0.40	T10	T-50/3 L*		•		•
MM TS250-H60D-06T10	25.00	-0.0500	6.00	4.30	6	0.40	T10	T-50/3 L*		•		•
MM TS250-H80D-06T10	25.00	-0.0500	8.00	4.30	6	0.40	T10	T-50/3 L*		•		•

- Inserts in 5 mm and wider feature chip splitting edges
- For tightening torques and clamping instructions, see pages 91-92
- Do not apply lubricant to the threaded connection
- For shanks, see pages 84-91
- For user guide, see pages 377-383

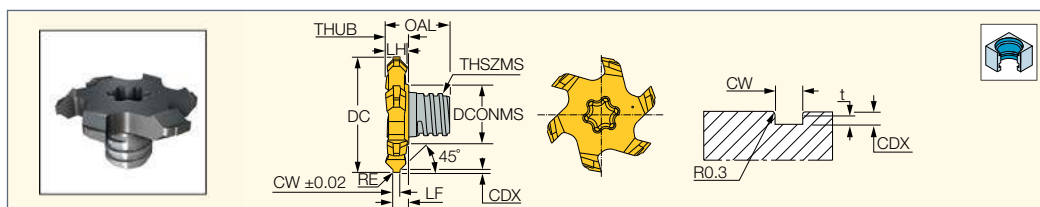
⁽¹⁾ Cutting depth maximum

⁽²⁾ Number of flutes

* Optional, should be ordered separately

MULTI-MASTER
 INDEXABLE SOLID CARBIDE LINE

MM TS-C

 Interchangeable Solid Carbide
 Circlip Groove Milling Heads
 According to DIN 471/472


Designation	Dimensions													IC928
	DC	CW	CDX	LF	t	RE	THUB	LH	OAL	DCONMS	NOF ⁽¹⁾	THSZMS	✓	
MM TS127C118T035-6T05	12.70	1.18	0.35	2.23	0.27	0.05	3.00	2.7	8.43	7.70	6	T05	T-20/3*	●
MM TS127C118T040-6T05	12.70	1.18	0.40	2.23	0.32	0.05	3.00	2.7	8.43	7.70	6	T05	T-20/3*	●
MM TS127C118T050-6T05	12.70	1.18	0.50	2.23	0.42	0.05	3.00	2.7	8.43	7.70	6	T05	T-20/3*	●
MM TS127C138T050-6T05	12.70	1.38	0.50	2.23	0.42	0.05	3.00	2.7	8.63	7.70	6	T05	T-20/3*	●
MM TS225C138T060-6T08	22.50	1.38	0.60	3.08	0.50	0.05	4.50	4.2	9.48	11.70	6	T08	T-40/3 L*	●
MM TS225C138T070-6T08	22.50	1.38	0.70	3.08	0.60	0.05	4.50	4.2	9.48	11.70	6	T08	T-40/3 L*	●
MM TS225C138T085-6T08	22.50	1.38	0.85	3.08	0.74	0.05	4.50	4.2	9.48	11.70	6	T08	T-40/3 L*	●
MM TS225C168T070-6T08	22.50	1.68	0.70	3.23	0.60	0.10	4.50	4.2	9.78	11.70	6	T08	T-40/3 L*	●
MM TS225C168T085-6T08	22.50	1.68	0.85	3.23	0.74	0.10	4.50	4.2	9.78	11.70	6	T08	T-40/3 L*	●
MM TS225C168T100-6T08	22.50	1.68	1.00	3.23	0.89	0.10	4.50	4.2	9.78	11.70	6	T08	T-40/3 L*	●
MM TS225C193T100-6T08	22.50	1.93	1.00	3.35	0.89	0.10	4.50	4.2	10.03	11.70	6	T08	T-40/3 L*	●
MM TS225C193T125-6T08	22.50	1.93	1.25	3.35	1.13	0.10	4.50	4.2	10.03	11.70	6	T08	T-40/3 L*	●
MM TS225C223T150-6T08	22.50	2.23	1.50	3.50	1.38	0.10	4.50	4.2	10.33	11.70	6	T08	T-40/3 L*	●
MM TS225C273T150-6T08	22.50	2.73	1.50	3.77	1.39	0.20	4.50	4.1	10.83	11.70	6	T08	T-40/3 L*	●
MM TS225C273T175-6T08	22.50	2.73	1.75	3.77	1.64	0.20	4.40	3.9	10.83	11.70	6	T08	T-40/3 L*	●
MM TS225C325T175-6T08	22.50	3.25	1.75	4.40	1.64	0.20	5.10	4.6	11.35	11.70	6	T08	T-40/3 L*	●

• For shanks, see pages 84-91 • For tightening torques and clamping instructions, see pages 91-92 • Do not apply lubricant to the threaded connection

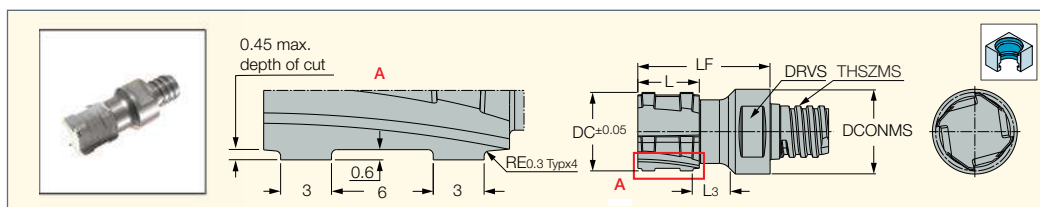
• For user guide, see pages 377-383

⁽¹⁾ Number of flutes

* Optional, should be ordered separately

MULTI-MASTER
 INDEXABLE SOLID CARBIDE LINE

MM TS-DG

 Double-Groove Internal
 Grooving Heads with Threaded
 Connection for Tube Sheets
 of Heat Exchangers


Designation	Dimensions										IC908
	DC	DCONMS	PHD ⁽¹⁾	THSZMS	NOF ⁽²⁾	LF	L3	L	DRVS ⁽³⁾	✓	
MM TS155-04T10-8238	15.50	16.00	15.88	T10	4	34.00	18.10	14.10	10.0	MM KEY 10x7*	●
MM TS185-04T12-8239	18.50	18.45	19.05	T12	4	34.50	18.30	14.50	13.0	MM KEY 13x8*	●
MM TS245-04T15-8240	24.50	23.90	25.40	T15	4	37.40	11.00	14.40	20.0	MM KEY 20*	●

• For shanks, see pages 84-91 • For clamping keys (should be ordered separately), tightening torques and clamping instructions, see pages 91-92

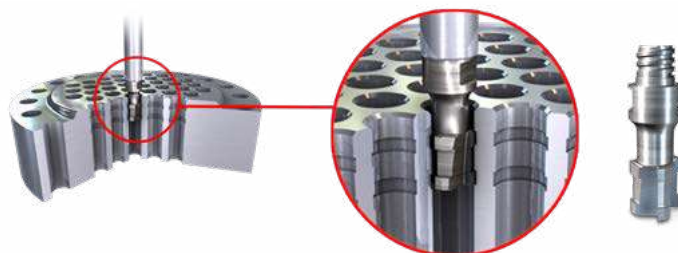
• Do not apply lubricant to the threaded connection • For user guide, see pages 377-383

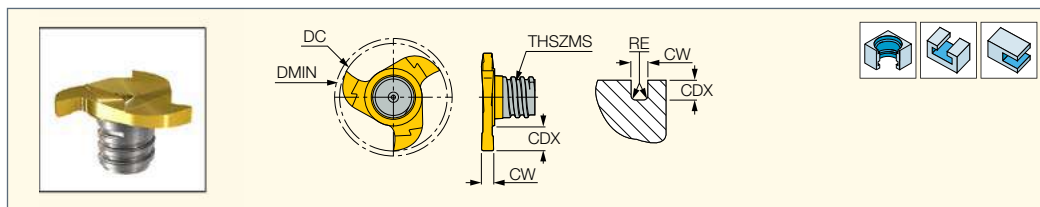
⁽¹⁾ For minimum tube outer diameter

⁽²⁾ Number of flutes

⁽³⁾ Clamping wrench size

* Optional, should be ordered separately



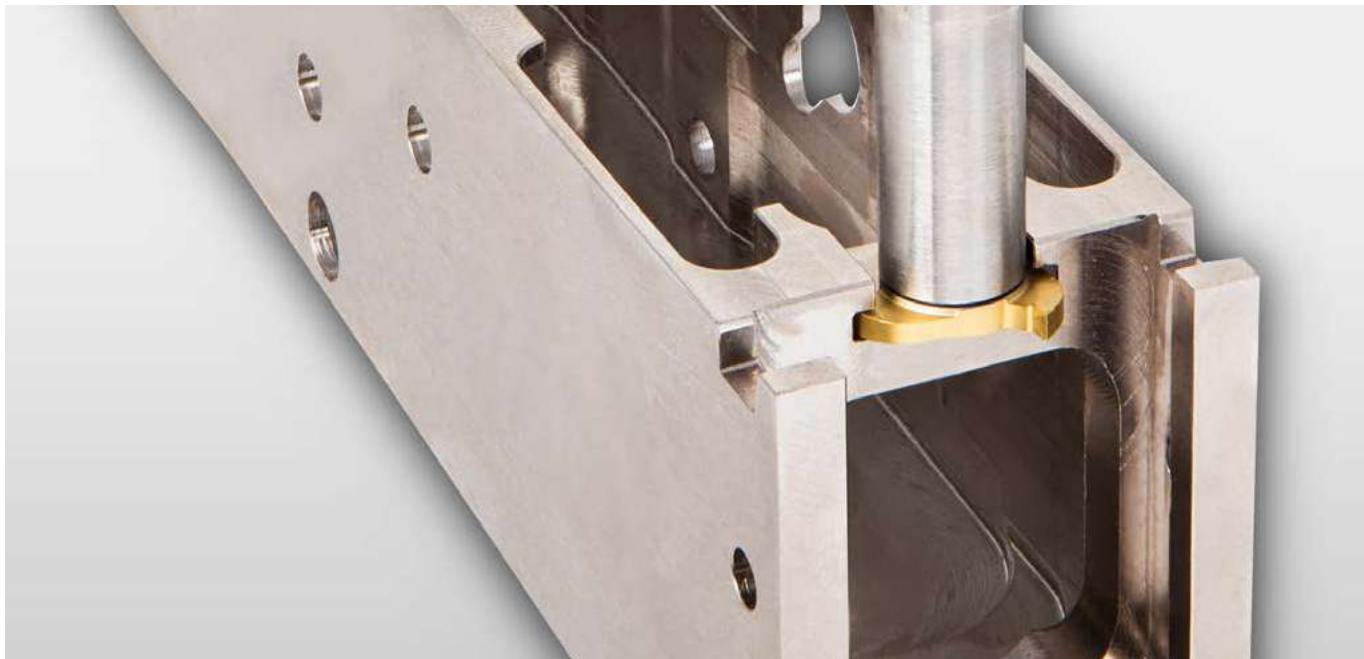


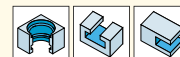
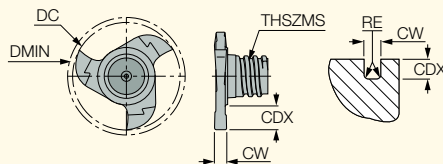
Designation	Dimensions								IC528
	DC	CW	CDX ⁽²⁾	NOF ⁽³⁾	RE	DMIN ⁽⁴⁾	THSZMS		
MM GRIT 16K-1.50-0.10	15.70	1.50	2.80	3	0.10	16.00	T06	MM EGR 16-18*	●
MM GRIT 16P-1.50-0.10	15.70	1.50	2.80	3	0.10	16.00	T06	MM EGR 16-18*	●
MM GRIT 16K-1.57-0.20	15.70	1.57	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 16K-2.00-0.20	15.70	2.00	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 16P-2.20-1.10	15.70	2.20	2.80	3	1.10	16.00	T06	MM EGR 16-18*	●
MM GRIT 16K-2.39-0.20	15.70	2.39	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 16K-2.50-0.20	15.70	2.50	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 16K-3.00-0.20	15.70	3.00	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 16P-3.00-0.20	15.70	3.00	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 16K-3.17-0.20	15.70	3.17	2.80	3	0.20	16.00	T06	MM EGR 16-18*	●
MM GRIT 18K-1.20-0.05 ⁽¹⁾	17.70	1.20	3.80	3	0.05	18.00	T06	MM EGR 16-18*	●
MM GRIT 18P-1.20-0.60	17.70	1.20	3.80	3	0.60	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-1.40-0.05 ⁽¹⁾	17.70	1.40	3.80	3	0.05	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-1.50-0.10	17.70	1.50	3.80	3	0.10	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-1.57-0.20	17.70	1.57	3.80	3	0.20	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-1.70-0.05 ⁽¹⁾	17.70	1.70	3.80	3	0.05	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-2.00-0.20	17.70	2.00	3.80	3	0.20	18.00	T06	MM EGR 16-18*	●
MM GRIT 18P-2.00-1.00	17.70	2.00	3.80	3	1.00	18.00	T06	MM EGR 16-18*	●
MM GRIT 18P-2.20-1.10	17.70	2.20	3.80	3	1.10	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-2.39-0.20	17.70	2.39	3.80	3	0.20	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-2.50-0.20	17.70	2.50	3.80	3	0.20	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-3.00-0.20	17.70	3.00	3.80	3	0.20	18.00	T06	MM EGR 16-18*	●
MM GRIT 18P-3.00-1.50	17.70	3.00	3.80	3	1.50	18.00	T06	MM EGR 16-18*	●
MM GRIT 18K-3.17-0.20	17.70	3.17	3.80	3	0.20	18.00	T06	MM EGR 16-18*	●

- Recommended for O-rings and retaining rings • MM EGR clamping key is supplied with each MM GRT... shank • Modification options on request
- Do not apply lubricant to the threaded connection • For clamping instructions, see pages 91-92 • For user guide, see pages 377-383
- For shanks, see pages 84-91
- K - For general steel machining • P - Positive geometry for soft and gummy materials
- ⁽¹⁾ For circle clips according to DIN 471/472 and ANSI B27.7M
- ⁽²⁾ Cutting depth maximum
- ⁽³⁾ Number of flutes
- ⁽⁴⁾ Minimum bore diameter
- * Optional, should be ordered separately

K-Type - For general steel machining.

P-Type - Positive geometry for soft and gummy materials.



MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE**MM GRIT-16K/P,18K/P 3T6**Interchangeable Solid
Carbide Small Diameter
Groove Milling Heads

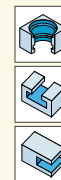
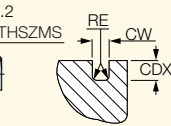
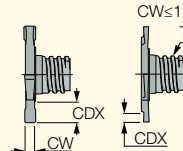
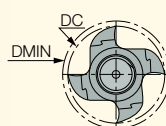
Designation	Dimensions								IC908
	DC	CW	CDX ⁽¹⁾	NOF ⁽²⁾	RE	DMIN ⁽³⁾	THSZMS	↙	
MM GRIT16K150-010-3T6	15.70	1.50	2.80	3	0.10	16.00	T06	T-20/3*	●
MM GRIT16P150-010-3T6	15.70	1.50	2.80	3	0.10	16.00	T06	T-20/3*	●
MM GRIT16K157-020-3T6	15.70	1.57	2.80	3	0.20	16.00	T06	T-25/3*	●
MM GRIT16K200-020-3T6	15.70	2.00	2.80	3	0.20	16.00	T06	T-20/3*	●
MM GRIT16P220-110-3T6	15.70	2.20	2.80	3	1.10	16.00	T06	T-20/3*	●
MM GRIT16K239-020-3T6	15.70	2.39	2.80	3	0.20	16.00	T06	T-25/3*	●
MM GRIT16K250-020-3T6	15.70	2.50	2.80	3	0.20	16.00	T06	T-25/3*	●
MM GRIT16K300-020-3T6	15.70	3.00	2.80	3	0.20	16.00	T06	T-25/3*	●
MM GRIT16P300-020-3T6	15.70	3.00	2.80	3	0.20	16.00	T06	T-25/3*	●
MM GRIT16K317-020-3T6	15.70	3.17	2.80	3	0.20	16.00	T06	T-25/3*	●
MM GRIT18K120-005-3T6	17.70	1.20	3.80	3	0.05	18.00	T06	T-20/3*	●
MM GRIT18P120-060-3T6	17.70	1.20	3.80	3	0.60	18.00	T06	T-20/3*	●
MM GRIT18K140-005-3T6	17.70	1.40	3.80	3	0.05	18.00	T06	T-20/3*	●
MM GRIT18K150-010-3T6	17.70	1.50	3.80	3	0.10	18.00	T06	T-20/3*	●
MM GRIT18K157-020-3T6	17.70	1.57	3.80	3	0.20	18.00	T06	T-20/3*	●
MM GRIT18K170-005-3T6	17.70	1.70	3.80	3	0.05	18.00	T06	T-20/3*	●
MM GRIT18K200-020-3T6	17.70	2.00	3.80	3	0.20	18.00	T06	T-20/3*	●
MM GRIT18P200-100-3T6	17.70	2.00	3.80	3	1.00	18.00	T06	T-20/3*	●
MM GRIT18P220-110-3T6	17.70	2.20	3.80	3	1.10	18.00	T06	T-20/3*	●
MM GRIT18K239-020-3T6	17.70	2.39	3.80	3	0.20	18.00	T06	T-20/3*	●
MM GRIT18K250-020-3T6	17.70	2.50	3.80	3	0.20	18.00	T06	T-20/3*	●
MM GRIT18K300-020-3T6	17.70	3.00	3.80	3	0.20	18.00	T06	T-25/3*	●
MM GRIT18P300-150-3T6	17.70	3.00	3.80	3	1.50	18.00	T06	T-25/3*	●
MM GRIT18K317-020-3T6	17.70	3.17	3.80	3	0.20	18.00	T06	T-25/3*	●

- Recommended for O-rings and retaining rings
- Modification options on request
- Do not apply lubricant to the threaded connection
- For clamping instructions, see pages 91-92
- For user guide, see pages 377-383
- For shanks, see pages 84-91
- K-Type - For general steel machining
- P-Type - Positive geometry for soft and gummy materials

⁽¹⁾ Cutting depth maximum⁽²⁾ Number of flutes⁽³⁾ Minimum bore diameter

* Optional, should be ordered separately

MM GRIT-22K/P,28K/P
4T8/6T10

Interchangeable Solid
Carbide Small Diameter
Groove Milling Heads


Designation	Dimensions								IC908
	DC	CW	CDX ⁽¹⁾	NOF ⁽²⁾	RE	DMIN ⁽³⁾	THSZMS	✓	
MM GRIT22K076-000-4T8	21.70	0.76	1.50	4	0.00	22.00	T08	T-25/3*	●
MM GRIT22K086-000-4T8	21.70	0.86	1.70	4	0.00	22.00	T08	T-25/3*	●
MM GRIT22K096-000-4T8	21.70	0.96	1.90	4	0.00	22.00	T08	T-25/3*	●
MM GRIT22K100-005-4T8	21.70	1.00	2.00	4	0.05	22.00	T08	T-25/3*	●
MM GRIT22P100-005-4T8	21.70	1.00	2.00	4	0.05	22.00	T08	T-25/3*	●
MM GRIT22K120-005-4T8	21.70	1.20	4.50	4	0.05	22.00	T08	T-25/3*	●
MM GRIT22K140-005-4T8	21.70	1.40	4.50	4	0.05	22.00	T08	T-25/3*	●
MM GRIT22K157-000-4T8	21.70	1.57	4.50	4	0.00	22.00	T08	T-25/3*	●
MM GRIT22K170-010-4T8	21.70	1.70	4.50	4	0.10	22.00	T08	T-25/3*	●
MM GRIT22P170-010-4T8	21.70	1.70	4.50	4	0.10	22.00	T08	T-25/3*	●
MM GRIT22K195-020-4T8	21.70	1.95	4.50	4	0.20	22.00	T08	T-25/3*	●
MM GRIT22K200-020-4T8	21.70	2.00	4.50	4	0.20	22.00	T08	T-25/3*	●
MM GRIT22P200-020-4T8	21.70	2.00	4.50	4	0.20	22.00	T08	T-25/3*	●
MM GRIT22K225-020-4T8	21.70	2.25	4.50	4	0.20	22.00	T08	T-25/3*	●
MM GRIT22K239-020-4T8	21.70	2.39	4.50	4	0.20	22.00	T08	T-25/3*	●
MM GRIT22K250-020-4T8	21.70	2.50	4.50	4	0.20	22.00	T08	T-25/3*	●
MM GRIT22P250-020-4T8	21.70	2.50	4.50	4	0.20	22.00	T08	T-25/3*	●
MM GRIT22K275-020-4T8	21.70	2.75	4.50	4	0.20	22.00	T08	T-25/3*	●
MM GRIT22K300-020-4T8	21.70	3.00	4.50	4	0.20	22.00	T08	T-30/3 L*	●
MM GRIT22P300-020-4T8	21.70	3.00	4.50	4	0.20	22.00	T08	T-30/3 L*	●
MM GRIT22K317-020-4T8	21.70	3.17	4.50	4	0.20	22.00	T08	T-30/3 L*	●
MM GRIT22K325-020-4T8	21.70	3.25	4.50	4	0.20	22.00	T08	T-30/3 L*	●
MM GRIT22P381-020-4T8	21.70	3.81	4.50	4	0.20	22.00	T08	T-30/3 L*	●
MM GRIT22K400-020-4T8	21.70	4.00	4.50	4	0.20	22.00	T08	T-30/3 L*	●
MM GRIT22P400-020-4T8	21.70	4.00	4.50	4	0.20	22.00	T08	T-30/3 L*	●
MM GRIT22P400-200-4T8	21.70	4.00	4.50	4	2.00	22.00	T08	T-30/3 L*	●
MM GRIT22K425-020-4T8	21.70	4.25	4.50	4	0.20	22.00	T08	T-30/3 L*	●
MM GRIT22K425-120-4T8	21.70	4.25	4.50	4	1.20	22.00	T08	T-30/3 L*	●
MM GRIT22K475-020-4T8	21.70	4.75	4.50	4	0.20	22.00	T08	T-30/3 L*	●
MM GRIT22K525-020-4T8	21.70	5.25	4.50	4	0.20	22.00	T08	T-30/3 L*	●
MM GRIT22K600-300-4T8	21.70	6.00	4.50	4	3.00	22.00	T08	T-30/3 L*	●
MM GRIT28K250-020-6T10	27.70	2.50	6.00	6	0.20	28.00	T10	T-40/3 L*	●
MM GRIT28K525-020-6T10	27.70	5.25	6.00	6	0.20	28.00	T10	T-40/3 L*	●
MM GRIT28P700-350-6T10	27.70	7.00	6.00	6	0.20	28.00	T10	T-40/3 L*	●
MM GRIT28K1000-020-6T10	27.70	10.00	6.00	6	0.20	28.00	T10	T-40/3 L*	●
MM GRIT28K1100-020-6T10	27.70	11.00	6.00	6	0.20	28.00	T10	T-40/3 L*	●
MM GRIT28K1200-020-6T10	27.70	12.00	6.00	6	0.20	28.00	T10	T-40/3 L*	●
MM GRIT28K1300-020-6T10	27.70	13.00	6.00	6	0.20	28.00	T10	T-40/3 L*	●

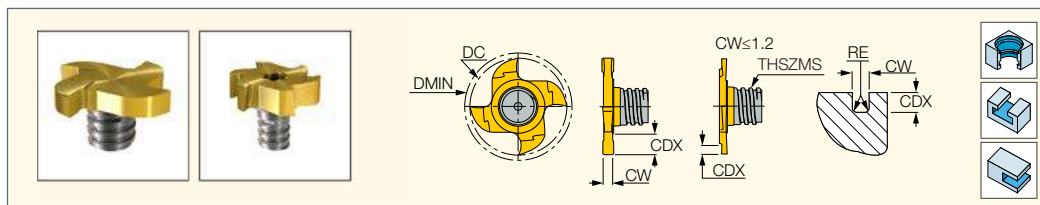
- Recommended for Orings and retaining rings • K - for general steel & cast iron machining P - for soft and gummy materials
- Modification options on request • Do not apply lubricant to the threaded connection • For clamping instructions, see pages 91-92
- For user guide, see pages 377-383 • For shanks, see pages 84-91

⁽¹⁾ Cutting depth maximum

⁽²⁾ Number of flutes

⁽³⁾ Minimum bore diameter

* Optional, should be ordered separately

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE**MM GRIT-22K/P,28K/P**Interchangeable Solid
Carbide Small Diameter
Groove Milling Heads

Designation	Dimensions								IC528
	DC	CW	CDX ⁽²⁾	NOF ⁽³⁾	RE	DMIN ⁽⁴⁾	THSZMS	✓	
MM GRIT 22K-0.76-0.00 ⁽¹⁾	21.70	0.76	1.50	4	0.00	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-0.86-0.00 ⁽¹⁾	21.70	0.86	1.70	4	0.00	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-0.96-0.00 ⁽¹⁾	21.70	0.96	1.90	4	0.00	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-1.00-0.05	21.70	1.00	2.00	4	0.05	22.00	T08	MM EGR 20-22*	●
MM GRIT 22P-1.00-0.05	21.70	1.00	2.00	4	0.05	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-1.20-0.05 ⁽¹⁾	21.70	1.20	4.50	4	0.05	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-1.40-0.05 ⁽¹⁾	21.70	1.40	4.50	4	0.05	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-1.57-0.00	21.70	1.57	4.50	4	0.00	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-1.70-0.10 ⁽¹⁾	21.70	1.70	4.50	4	0.10	22.00	T08	MM EGR 20-22*	●
MM GRIT 22P-1.70-0.10 ⁽¹⁾	21.70	1.70	4.50	4	0.10	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-1.95-0.20 ⁽¹⁾	21.70	1.95	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-2.00-0.20	21.70	2.00	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22P-2.00-0.20	21.70	2.00	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-2.25-0.20 ⁽¹⁾	21.70	2.25	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-2.39-0.20	21.70	2.39	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-2.50-0.20	21.70	2.50	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22P-2.50-0.20	21.70	2.50	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-2.75-0.20 ⁽¹⁾	21.70	2.75	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-3.00-0.20	21.70	3.00	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22P-3.00-0.20	21.70	3.00	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-3.17-0.20	21.70	3.17	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-3.25-0.20 ⁽¹⁾	21.70	3.25	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22P-3.81-0.20	21.70	3.81	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-4.00-0.20	21.70	4.00	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22P-4.00-0.20	21.70	4.00	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22P-4.00-2.00	21.70	4.00	4.50	4	2.00	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-4.25-0.20 ⁽¹⁾	21.70	4.25	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-4.25-1.20 ⁽¹⁾	21.70	4.25	4.50	4	1.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-4.75-0.20	21.70	4.75	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-5.25-0.20 ⁽¹⁾	21.70	5.25	4.50	4	0.20	22.00	T08	MM EGR 20-22*	●
MM GRIT 22K-6.00-3.00	21.70	6.00	4.50	4	3.00	22.00	T08	MM EGR 20-22*	●
MM GRIT 28K-2.50-0.2	27.70	2.50	6.00	6	0.20	28.00	T10	T-40/3 L*	●
MM GRIT 28K-5.25-0.2	27.70	5.25	6.00	6	0.20	28.00	T10	T-40/3 L*	●
MM GRIT 28P-7.0-3.5	27.70	7.00	5.70	6	3.50	28.00	T10	T-40/3 L*	●
MM GRIT 28K-10.0-0.2	27.70	10.00	6.00	6	0.20	28.00	T10	T-40/3 L*	●

- Recommended for Orings and retaining rings • K - for general steel & cast iron machining P for soft and gummy materials
- Modification options on request • Do not apply lubricant to the threaded connection • For clamping instructions, see pages 91-92
- For user guide, see pages 377-383 • For shanks, see pages 84-91

⁽¹⁾ For circle clips according to DIN471/472 and ANSI B27.7M⁽²⁾ Cutting depth maximum⁽³⁾ Number of flutes⁽⁴⁾ Minimum bore diameter

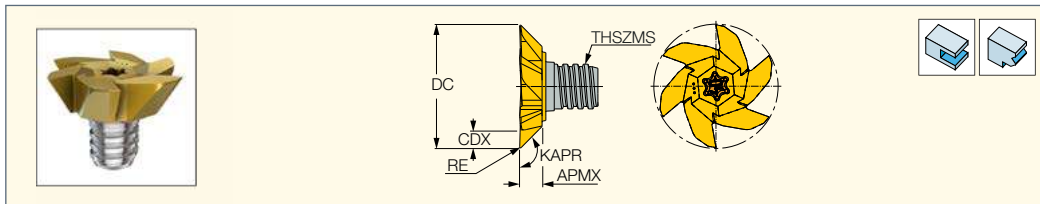
* Optional, should be ordered separately

K-Type - For general steel and cast iron machining.

P-Type - Positive geometry for soft and gummy materials.

MM GRIT Dovetail

Interchangeable Solid Carbide Heads



Designation	Dimensions								Tough ↔ Hard	
	DC	KAPR ⁽¹⁾	CDX ⁽²⁾	APMX	RE	THSZMS	NOF ⁽³⁾	∠	IC528	IC908
MM GRIT 28K-45D-6T10	27.70	135.0	4.00	5.00	0.20	T10	6	T-40/3 L*	●	●
MM GRIT 28K-60D-6T10	27.70	120.0	4.00	7.80	0.20	T10	6	T-40/3 L*	●	●
MM GRIT 28K-75D-6T10	27.70	105.0	2.20	10.10	0.20	T10	6	T-40/3 L*	●	●

• Use carbide shanks for groove milling heads • For user guide, see pages 377-383

⁽¹⁾ Tool cutting edge angle

⁽²⁾ Cutting depth maximum

⁽³⁾ Number of flutes

* Optional, should be ordered separately



MM GRIT 28K-45D-6T10



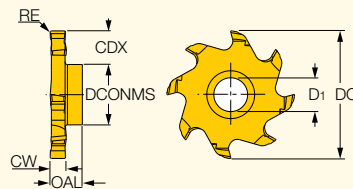
MM GRIT 28K-60D-6T10



MM GRIT 28K-75D-6T10



T-SLOT
SD-SP

Interchangeable Solid Carbide
T-Slot Milling Heads


Designation	Dimensions								IC908
	DC	CW	CDX ⁽²⁾	NOF ⁽³⁾	RE	D1	DCONMS	OAL	
SD D32-2.0-R0.2-SP11	31.70	2.00	10.00	8	0.20	7.20	11.00	6.75	●
SD D32-3.0-R0.4-SP11	31.70	3.00	10.00	8	0.40	7.20	11.00	6.75	●
SD D32-1.0-R0.2-SP15	31.70	1.00	8.00	8	0.20	8.40	15.00	8.00	●
SD D32-1.5-R0.2-SP15	31.70	1.50	8.00	8	0.20	8.40	15.00	8.00	●
SD D32-2.0-R0.2-SP15	31.70	2.00	8.00	8	0.20	8.40	15.00	8.00	●
SD D32-2.5-R0.4-SP15	31.70	2.50	8.00	8	0.40	8.40	15.00	8.00	●
SD D32-3.0-R0.4-SP15	31.70	3.00	8.00	8	0.40	8.40	15.00	8.00	●
SD D32-3.5-R0.4-SP15	31.70	3.50	8.00	8	0.40	8.40	15.00	8.00	●
SD D32-4.0-R0.4-SP15	31.70	4.00	8.00	8	0.40	8.40	15.00	8.00	●
SD D32-4.0-R1.6-SP15	31.70	4.00	8.00	8	1.60	8.40	15.00	8.00	●
SD D32-4.5-R0.4-SP15	31.70	4.50	8.00	8	0.40	8.40	15.00	8.00	●
SD D32-5.0-R0.4-SP15	31.70	5.00	8.00	8	0.40	8.40	15.00	8.00	●
SD D32-5.0-R1.6-SP15	31.70	5.00	8.00	8	1.60	8.40	15.00	8.00	●
SD D32-5.5-R0.4-SP15	31.70	5.50	8.00	8	0.40	8.40	15.00	8.00	●
SD D32-6.0-R0.4-SP15	31.70	6.00	8.00	8	0.40	8.40	15.00	8.00	●
SD D32-6.0-R1.6-SP15	31.70	6.00	8.00	8	1.60	8.40	15.00	8.00	●
SD D32-6.5-R0.4-SP15	31.70	6.50	8.00	8	0.40	8.40	15.00	8.00	●
SD D32-7.0-R0.4-SP15	31.25	7.00	7.75	8	0.40	8.40	15.00	8.00	●
SD D32-7.0-R1.6-SP15	31.70	7.00	7.75	8	1.60	8.40	15.00	8.00	●
SD D32-7.5-R0.4-SP15	31.25	7.50	7.75	8	0.40	8.40	15.00	8.00	●
SD D32-8.0-R0.4-SP15	31.25	8.00	7.75	8	0.40	8.40	15.00	8.00	●
SD D32-8.0-R1.6-SP15	31.70	8.00	7.75	8	1.60	8.40	15.00	8.00	●
SD D32-8.5-R0.4-SP15	31.25	8.50	7.75	8	0.40	8.40	15.00	8.00	●
SD D40-1.0-R0.2SP13	39.70	1.00	13.00	10	0.20	7.50	13.00	7.30	●
SD D40-2.0-R0.2SP13	39.70	2.00	13.00	10	0.20	7.50	13.00	7.30	●
SD D40-3.0-R0.4SP13	39.70	3.00	13.00	10	0.40	7.50	13.00	7.30	●
SD D40-4.0-R0.4SP13 ⁽¹⁾	39.70	4.00	13.00	10	0.40	7.50	13.00	7.30	●
SD D40-4.0-R0.4SP17	39.70	4.00	11.00	10	0.40	7.50	17.00	10.00	●
SD D40-5.0-R0.4SP17	39.70	5.00	11.00	10	0.40	9.80	17.00	10.00	●
SD D40-6.0-R0.4SP17	39.70	6.00	11.00	10	0.40	9.80	17.00	10.00	●
SD D40-7.0-R0.4SP17	39.70	7.00	11.00	10	0.40	9.80	17.00	10.00	●
SD D40-8.0-R0.4SP17	39.70	8.00	11.00	10	0.40	9.80	17.00	10.00	●
SD D40-9.0-R0.4SP17	39.70	9.00	11.00	10	0.40	9.80	17.00	10.00	●
SD D40-10-R0.4SP17	39.70	10.00	11.00	10	0.40	9.80	17.00	10.00	●
SD D50-4.0-R0.4-SP19	49.70	4.00	15.00	12	0.40	9.80	19.00	14.00	●
SD D50-5.0-R0.4-SP19	49.70	5.00	15.00	12	0.40	9.80	19.00	14.00	●
SD D50-6.0-R0.4-SP19	49.70	6.00	15.00	12	0.40	9.80	19.00	14.00	●
SD D50-7.0-R0.4-SP19	49.70	7.00	15.00	12	0.40	9.80	19.00	14.00	●
SD D50-8.0-R0.4-SP19	49.70	8.00	15.00	12	0.40	9.80	19.00	14.00	●
SD D50-9.0-R0.4-SP19	49.70	9.00	15.00	12	0.40	9.80	19.00	14.00	●
SD D50-10-R0.4-SP19	49.70	10.00	15.00	12	0.40	9.80	19.00	14.00	●
SD D50-12-R0.4-SP19	49.70	12.00	15.00	12	0.40	9.80	19.00	14.00	●

• For shanks, see pages 329-331 • For user guide, see pages 377-383

⁽¹⁾ Maximum feed: 0.1 mm/tooth

⁽²⁾ Cutting depth maximum

⁽³⁾ Number of flutes

Cutting Data for SD-SP Milling Heads

ISO class DIN/ ISO 513	Description	ISCAR mat. group*	Workpiece Material			Cutting Speed V _c m/min	Feed for SP11	Feed for SP13	Feed for SP15	Feed for SP17	Feed for SP19
			Typical Representative		Hardness HB		f _z	f _z	f _z	f _z	f _z
			AISI/SAE/ ASTM	DIN W.-Nr.			mm/tooth	mm/tooth	mm/tooth	mm/tooth	mm/tooth
P	Non-alloy steel	1	1020	1.0402	130-180	130-200	0.06-0.12	0.06-0.12	0.07-0.15	0.07-0.15	0.07-0.15
	Low alloy steel	8	4340	1.6511	260-300	120-170	0.06-0.12	0.06-0.12	0.07-0.15	0.07-0.15	0.07-0.15
	Low alloy steel	9	3135	1.5710	HRC 35-40*	80-120	0.02-0.06	0.02-0.06	0.03-0.12	0.04-0.12	0.04-0.13
	High alloy steel	10	H13	1.2344	200-220	100-140	0.04-0.07	0.04-0.07	0.04-0.12	0.04-0.12	0.05-0.13
	Martensitic s.s.	12	420	1.4021	200	100-140	0.03-0.06	0.03-0.06	0.04-0.12	0.04-0.12	0.04-0.13
M	Austenitic s.s.	14	304L	1.4306	200	80-120	0.02-0.06	0.02-0.06	0.03-0.10	0.03-0.12	0.03-0.12
K	Grey cast iron	16	Class 40	0.6025 (GG25)	250	160-200	0.05-0.12	0.05-0.12	0.05-0.20	0.06-0.20	0.06-0.20
	Nodular cast iron	17	Class 65-45-12	0.7050 (GGG50)	200	140-180	0.05-0.11	0.05-0.11	0.05-0.18	0.06-0.18	0.06-0.20
S	High temperature alloys	34	Inconel 718	2.4668	HRC 36-40	20-30	0.02-0.12	0.02-0.12	0.02-0.12	0.02-0.12	0.02-0.13
		37	AMS R56400	3.7165 (Ti6Al4V)	HRC 40-45	35-45	0.02-0.06	0.02-0.06	0.02-0.12	0.02-0.12	0.02-0.13

* ISCAR material group in accordance with VDI 3323 standard

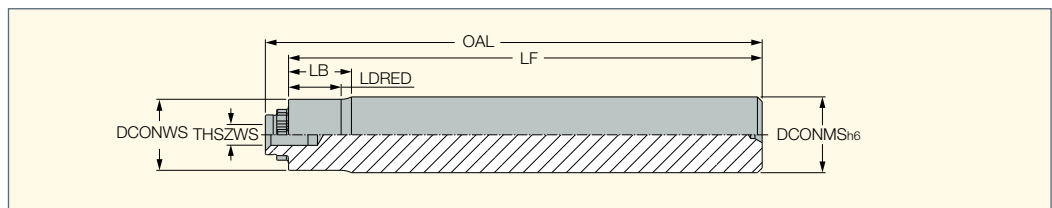
** Quenched and tempered

When machining in unstable conditions, the table values should be reduced by 20-30%.

T-SLOT

SD S-A-SP

Stepped Cylindrical Shanks
for Interchangeable Solid
Carbide Milling Heads



Designation	DCONMS	DCONWS	THSZWS	LDRED	LB	LF	OAL	Shank m. ⁽¹⁾	kg
SD S-A-L90-C12-SP11	12.00	11.00	M4x0.5	10.50	12.7	90.00	94.00	S	0.08
SD S-A-L100-C16-SP13	16.00	13.00	M4x0.5	13.00	16.6	100.00	104.00	S	0.15
SD S-A-L100-C16-SP15	16.00	15.00	M5x0.5	16.00	18.2	100.00	105.00	S	0.16
SD S-A-L130-C16-SP15	16.00	15.00	M5x0.5	16.00	18.2	130.00	135.00	S	0.20
SD S-A-L130-C16-SP15-C	16.00	15.00	M5x0.5	16.00	18.2	130.00	135.00	C	0.36
SD S-A-L150-C16-SP15-C	16.00	15.00	M5x0.5	16.00	18.2	150.00	155.00	C	0.41
SD S-A-L140-C20-SP17	20.00	17.00	M6x0.5	20.20	23.8	140.00	146.00	S	0.33
SD S-A-L150-C25-SP19	25.00	19.00	M6x0.5	20.00	27.9	150.00	158.50	S	0.55

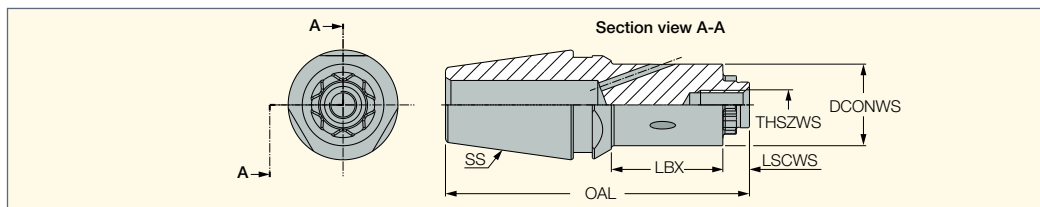
• Apply lubricant to the clamping screw

⁽¹⁾ S-steel C-solid carbide

Spare Parts

Designation			
SD S-A-L90-C12-SP11	SR M4X0.5-SP11 HG	BLD T15/S7	SW6-T-SH
SD S-A-L100-C16-SP13	SR M4X0.5-SP13-IP15-HG	BLD IP15/S7	SW6-T-SH
SD S-A-L100-C16-SP15	SR M5X0.5-SP15-IP20-HG	BLD IP20/S7	SW6-T-SH
SD S-A-L130-C16-SP15	SR M5X0.5-SP15-IP20-HG	BLD IP20/S7	SW6-T-SH
SD S-A-L130-C16-SP15-C	SR M5X0.5-SP15-IP20-HG	BLD IP20/S7*	SW6-T-SH
SD S-A-L150-C16-SP15-C	SR M5X0.5-SP15-IP20-HG	BLD IP20/S7	SW6-T-SH
SD S-A-L140-C20-SP17	SR M6X0.5-SP17-IP20-HG	BLD IP20/S7	SW6-T-SH
SD S-A-L150-C25-SP19	SR M6X0.5-SP17-IP20-HG	BLD IP20/S7	SW6-T-SH

* Optional, should be ordered separately

NEOCOLLET
INTEGRAL COLLET**SD-S-A-ER-SP**Solid ER Collets with SD
Spline Connection (SP)

Designation	SS	LBX ⁽¹⁾	DCONWS	THSZWS	LSCWS	OAL	kg
SD-S-A-H05-ER16-SP11-C	ER16	5.00	11.00	M4X0.5	3.85	36.35	0.03
SD-S-A-H20-ER16-SP11-C	ER16	20.00	11.00	M4X0.5	3.85	51.35	0.04
SD-S-A-H05-ER20-SP11-C	ER20	5.00	11.00	M4X0.5	3.85	39.85	0.05
SD-S-A-H05-ER20-SP13-C	ER20	5.00	13.00	M4X0.5	4.35	40.35	0.05
SD-S-A-H05-ER20-SP15-C	ER20	5.00	15.00	M5X0.5	4.90	40.90	0.05
SD-S-A-H20-ER20-SP11-C	ER20	20.00	11.00	M4X0.5	3.85	54.85	0.06
SD-S-A-H20-ER20-SP13-C	ER20	20.00	13.00	M4X0.5	4.35	55.35	0.07
SD-S-A-H20-ER20-SP15-C	ER20	20.00	15.00	M5X0.5	4.90	55.90	0.08
SD-S-A-H05-ER25-SP11-C	ER25	5.00	11.00	M4X0.5	3.85	42.85	0.09
SD-S-A-H05-ER25-SP13-C	ER25	5.00	13.00	M4X0.5	4.35	43.35	0.09
SD-S-A-H05-ER25-SP15-C	ER25	5.00	15.00	M5X0.5	4.90	43.90	0.09
SD-S-A-H05-ER25-SP17-C	ER25	5.00	17.00	M6X0.5	6.00	45.00	0.09
SD-S-A-H05-ER25-SP19-C	ER25	5.00	19.00	M6X0.5	8.50	47.50	0.09
SD-S-A-H20-ER25-SP11-C	ER25	20.00	11.00	M4X0.5	3.85	57.85	0.10
SD-S-A-H20-ER25-SP13-C	ER25	20.00	13.00	M4X0.5	4.35	58.35	0.10
SD-S-A-H20-ER25-SP15-C	ER25	20.00	15.00	M5X0.5	4.90	58.90	0.11
SD-S-A-H20-ER25-SP17-C	ER25	20.00	17.00	M6X0.5	6.00	60.00	0.12
SD-S-A-H20-ER25-SP19-C	ER25	20.00	19.00	M6X0.5	8.50	62.50	0.13
SD-S-A-H05-ER32-SP13-C	ER32	5.00	13.00	M4X0.5	4.35	49.35	0.14
SD-S-A-H05-ER32-SP15-C	ER32	5.00	15.00	M5X0.5	4.90	49.90	0.15
SD-S-A-H05-ER32-SP17-C	ER32	5.00	17.00	M6X0.5	6.00	51.00	0.15
SD-S-A-H05-ER32-SP19-C	ER32	5.00	19.00	M6X0.5	8.50	53.50	0.15
SD-S-A-H20-ER32-SP13-C	ER32	20.00	13.00	M4X0.5	4.35	64.35	0.16
SD-S-A-H20-ER32-SP15-C	ER32	20.00	15.00	M5X0.5	4.90	64.90	0.16
SD-S-A-H20-ER32-SP17-C	ER32	20.00	17.00	M6X0.5	6.00	66.00	0.17
SD-S-A-H20-ER32-SP19-C	ER32	20.00	19.00	M6X0.5	8.50	68.50	0.18
SD-S-A-H05-ER40-SP17-C	ER40	5.00	17.00	M6X0.5	6.00	57.00	0.26
SD-S-A-H05-ER40-SP19-C	ER40	5.00	19.00	M6X0.5	8.50	59.20	0.27
SD-S-A-H20-ER40-SP17-C	ER40	20.00	17.00	M6X0.5	6.00	72.00	0.29
SD-S-A-H20-ER40-SP19-C	ER40	20.00	19.00	M6X0.5	8.50	74.50	0.30

⁽¹⁾ After the nut is mounted**Spare Parts**

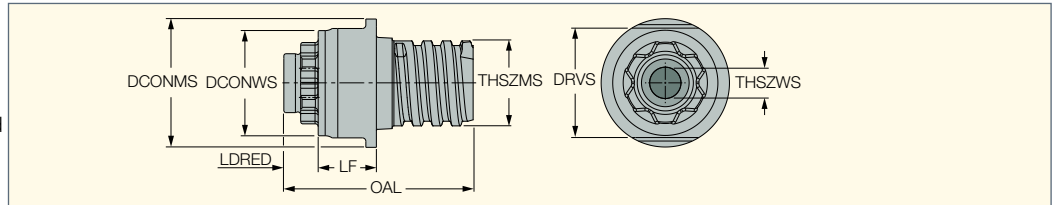
Designation			
SD-S-A-H05-ER16-SP11-C	SR M4X0.5-SP11 HG	SW6-T-SH	BLD T15/S7
SD-S-A-H20-ER16-SP11-C	SR M4X0.5-SP11 HG	SW6-T-SH	BLD T15/S7
SD-S-A-H05-ER20-SP11-C	SR M4X0.5-SP11 HG	SW6-T-SH	BLD T15/S7
SD-S-A-H05-ER20-SP13-C	SR M4X0.5-SP13-IP15-HG	SW6-T-SH	BLD IP15/S7
SD-S-A-H05-ER20-SP15-C	SR M5X0.5-SP15-IP20-HG	SW6-T-SH	BLD IP20/S7
SD-S-A-H20-ER20-SP11-C	SR M4X0.5-SP11 HG	SW6-T-SH	BLD T15/S7
SD-S-A-H20-ER20-SP13-C	SR M4X0.5-SP13-IP15-HG	SW6-T-SH	BLD IP15/S7
SD-S-A-H20-ER20-SP15-C	SR M5X0.5-SP15-IP20-HG	SW6-T-SH	BLD IP20/S7
SD-S-A-H05-ER25-SP11-C	SR M4X0.5-SP11 HG	SW6-T-SH	BLD T15/S7
SD-S-A-H05-ER25-SP13-C	SR M4X0.5-SP13-IP15-HG	SW6-T-SH	BLD IP15/S7
SD-S-A-H05-ER25-SP15-C	SR M5X0.5-SP15-IP20-HG	SW6-T-SH	BLD IP20/S7
SD-S-A-H05-ER25-SP17-C	SR M6X0.5-SP17-IP20-HG	SW6-T-SH	BLD IP20/S7
SD-S-A-H05-ER25-SP19-C	SR M6X0.5-SP17-IP20-HG	SW6-T-SH	BLD IP20/S7
SD-S-A-H20-ER25-SP11-C	SR M4X0.5-SP11 HG	SW6-T-SH	BLD T15/S7
SD-S-A-H20-ER25-SP13-C	SR M4X0.5-SP13-IP15-HG	SW6-T-SH	BLD IP15/S7
SD-S-A-H20-ER25-SP15-C	SR M5X0.5-SP15-IP20-HG	SW6-T-SH	BLD IP20/S7
SD-S-A-H20-ER25-SP17-C	SR M6X0.5-SP17-IP20-HG	SW6-T-SH	BLD IP20/S7
SD-S-A-H20-ER25-SP19-C	SR M6X0.5-SP17-IP20-HG	SW6-T-SH	BLD IP20/S7
SD-S-A-H05-ER32-SP13-C	SR M4X0.5-SP13-IP15-HG	SW6-T-SH	BLD IP15/S7
SD-S-A-H05-ER32-SP15-C	SR M5X0.5-SP15-IP20-HG	SW6-T-SH	BLD IP20/S7
SD-S-A-H05-ER32-SP17-C	SR M6X0.5-SP17-IP20-HG	SW6-T-SH	BLD IP20/S7
SD-S-A-H05-ER32-SP19-C	SR M6X0.5-SP17-IP20-HG	SW6-T-SH	BLD IP20/S7
SD-S-A-H20-ER32-SP13-C	SR M4X0.5-SP13-IP15-HG	SW6-T-SH	BLD IP15/S7
SD-S-A-H20-ER32-SP15-C	SR M5X0.5-SP15-IP20-HG	SW6-T-SH	BLD IP20/S7
SD-S-A-H20-ER32-SP17-C	SR M6X0.5-SP17-IP20-HG	SW6-T-SH	BLD IP20/S7
SD-S-A-H20-ER32-SP19-C	SR M6X0.5-SP17-IP20-HG	SW6-T-SH	BLD IP20/S7
SD-S-A-H05-ER40-SP17-C	SR M6X0.5-SP17-IP20-HG	SW6-T-SH	BLD IP20/S7
SD-S-A-H05-ER40-SP19-C	SR M6X0.5-SP17-IP20-HG	SW6-T-SH	BLD IP20/S7
SD-S-A-H20-ER40-SP17-C	SR M6X0.5-SP17-IP20-HG	SW6-T-SH	BLD IP20/S7
SD-S-A-H20-ER40-SP19-C	SR M6X0.5-SP17-IP20-HG	SW6-T-SH	BLD IP20/S7

T-SLOT

MULTI-MASTER

SD CAB

Adapters for Connecting SD Solid Carbide T-Slot Milling Heads and MULTI-MASTER Shanks



Designation	THSZWS	THSZMS	LF	LDRED	OAL	DCONWS	DCONMS	DRVS ⁽¹⁾	kg
SD CAB T10-14/0.55-SP11	M4x0.5	T10	14.00	3.9	29.15	11.00	15.20	13.0	0.02
SD CAB T12-14/0.55-SP13	M4x0.5	T12	14.00	4.3	31.65	13.00	18.30	16.0	0.04
SD CAB T12-14/0.55-SP15	M5x0.5	T12	14.00	4.9	32.70	15.00	18.30	16.0	0.04
SD CAB T15-14/0.55-SP17	M6x0.5	T15	14.00	6.0	37.00	17.00	23.90	20.0	0.07
SD CAB T15-14/0.55-SP19	M6x0.5	T15	14.00	8.5	39.50	19.00	23.90	20.0	0.07

* Note: Apply lubricant to the MULTI-MASTER threaded connection and to the slotting head clamping screw

⁽¹⁾ Clamping wrench size

Spare Parts

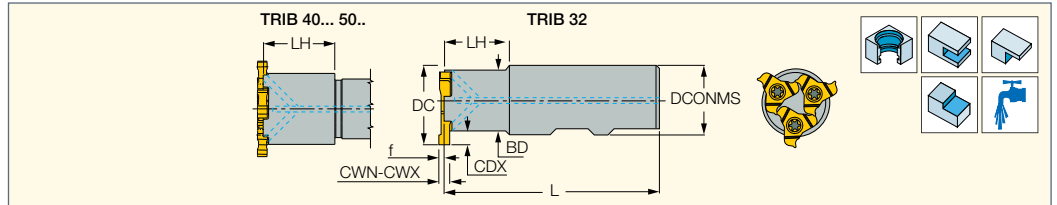
Designation				
SD CAB T10-14/0.55-SP11	SR M4X0.5-SP11 HG	BLD T15/S7	SW6-T-SH	MM KEY 13X8*
SD CAB T12-14/0.55-SP13	SR M4X0.5-SP13-IP15-HG	BLD IP15/S7	SW6-T-SH	
SD CAB T12-14/0.55-SP15	SR M5X0.5-SP15-IP20-HG	BLD IP20/S7	SW6-T-SH	
SD CAB T15-14/0.55-SP17	SR M6X0.5-SP17-IP20-HG	BLD IP20/S7	SW6-T-SH	
SD CAB T15-14/0.55-SP19	SR M6X0.5-SP17-IP20-HG	BLD IP20/S7	SW6-T-SH	

* Optional, should be ordered separately

CHAMSLIT

TRIB

Slitting Shanks Carrying Triple-Edged Precision Ground Inserts



Designation	DC	CWN ⁽²⁾	CWX ⁽³⁾	CDX ⁽⁴⁾	CICT ⁽⁵⁾	BD	LH	L	DCONMS	Shank ⁽⁶⁾	kg
TRIB 32-25W-3Z ⁽¹⁾	32.20	1.20	4.00	4.80	3	21.70	52.3	110.00	25.00	W	0.35
TRIB 32-25W-3Z-B ⁽¹⁾	32.20	4.01	6.50	4.80	3	21.70	52.3	110.00	25.00	W	0.34
TRIB 40-25W-4Z	40.00	1.20	4.00	4.80	4	29.70	30.0	110.00	25.00	W	0.44
TRIB 40-25W-4Z-B	40.00	4.01	6.50	4.80	4	29.70	30.0	110.00	25.00	W	0.44
TRIB 50-32W-6Z	50.00	1.20	4.00	4.80	6	39.70	30.0	110.00	32.00	W	0.75

* W, Tmax, f, Refer to insert data • For inserts with W=4.01-6.50 mm, order tools with -B suffix (deeper pockets). For example: TRIB 50-32W-6Z-B

⁽¹⁾ Minimum bore diameter = 33 mm

⁽²⁾ Minimum cutting width

⁽³⁾ Maximum cutting width

⁽⁴⁾ Refer to insert data

⁽⁵⁾ Number of inserts

⁽⁶⁾ W-Weldon

For inserts, see pages: TRI (492)

Dimensions Related to Inserts

Insert	Tmax	TRIB ...Z f	TRIB ...Z-B f
TRI 16RK-1.2-0.05	4.6	0.5	
TRI 16RK-1.4-0.1	4.8	0.5	
TRI 16RK-1.5-0.1	4.8	0.5	
TRI 16RK-1.7-0.1	4.8	0.5	
TRI 16RK-1.95-0.15	4.8	0.5	
TRI 16RK-2.0-0.2	4.8	0.5	
TRI 16RK-2.25-0.15	4.8	0.75	
TRI 16RK-2.75-0.15	4.8	1.39	
TRI 16RK-3.0-0.2	4.8	1.39	
TRI 16RK-3.25-0.15	4.8	1.39	
TRI 16RK-4.0-0.2	4.8	2.43	
TRI 16RK-4.25-0.15	4.8		0.95
TRI 16RK-5.0-0.2	4.8		2.15
TRI 16RK-5.25-0.15	4.8		2.15
TRI 16RK-6.0-0.2	4.8		3.15

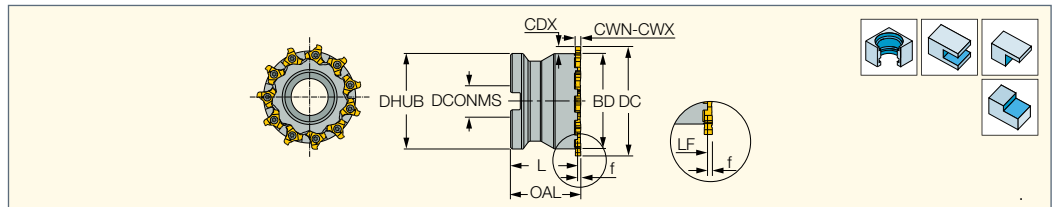
Spare Parts

Designation			
TRIB 32-25W-3Z	SR 16-236 08223	BLD T15/S7	SW6-T
TRIB 32-25W-3Z-B	SR 16-236	BLD T15/S7	SW6-T
TRIB 40-25W-4Z	SR 16-236 08223	BLD T15/S7	SW6-T
TRIB 40-25W-4Z-B	SR 16-236	BLD T15/S7	SW6-T
TRIB 50-32W-6Z	SR 16-236 08223	BLD T15/S7	SW6-T

CHAMSLIT

TRIB-SM

Grooving Shell Mills with Triple-Edged Precision Ground Inserts



Designation	DC	CWN ⁽¹⁾	CWX ⁽²⁾	CDX ⁽³⁾	CICT ⁽⁴⁾	BD	DHUB	DCONMS	L	Arbor ⁽⁵⁾		OAL
TRIB 50-22SM 6Z	50.00	1.20	4.00	4.80	6	39.70	39.70	22.00	39.00	B	0.24	39.50
TRIB 50-22SM 6Z-B	50.00	4.00	6.50	4.80	6	39.70	39.70	22.00	39.00	B	0.24	41.15
TRIB 63-22SM 8Z	63.00	1.20	4.00	4.80	8	52.70	40.00	22.00	39.00	B	0.40	39.50
TRIB 63-22SM 8Z-B	63.00	4.01	6.50	4.80	8	52.70	40.00	22.00	39.00	B	0.39	41.15
TRIB 80-27SM 11Z	80.00	1.20	4.00	4.80	11	69.70	69.70	27.00	49.00	B	0.92	49.50
TRIB 80-27SM 11Z-B	80.00	4.01	6.50	4.80	11	69.70	69.70	27.00	49.00	B	0.91	51.15

• CWN, CWX, CDX, f, Refer to insert data • For inserts with CW=4.01-6.50 mm, order tools with -B suffix (deeper pockets) for example: TRIB 63-22SM-8Z-B

(1) Minimum cutting width

(2) Maximum cutting width

(3) Cutting depth maximum

(4) Number of inserts

(5) For adaptation options, see page 548

For inserts, see pages: TRI (492)

Dimensions Related to Inserts

Insert	Tmax	TRIB ...Z f	TRIB ...Z-B f
TRI 16RK-1.2-0.05	4.6	0.5	
TRI 16RK-1.4-0.1	4.8	0.5	
TRI 16RK-1.5-0.1	4.8	0.5	
TRI 16RK-1.7-0.1	4.8	0.5	
TRI 16RK-1.95-0.15	4.8	0.5	
TRI 16RK-2.0-0.2	4.8	0.5	
TRI 16RK-2.25-0.15	4.8	0.75	
TRI 16RK-2.75-0.15	4.8	1.39	
TRI 16RK-3.0-0.2	4.8	1.39	
TRI 16RK-3.25-0.15	4.8	1.39	
TRI 16RK-4.0-0.2	4.8	2.43	
TRI 16RK-4.25-0.15	4.8		0.95
TRI 16RK-5.0-0.2	4.8		2.15
TRI 16RK-5.25-0.15	4.8		2.15
TRI 16RK-6.0-0.2	4.8		3.15

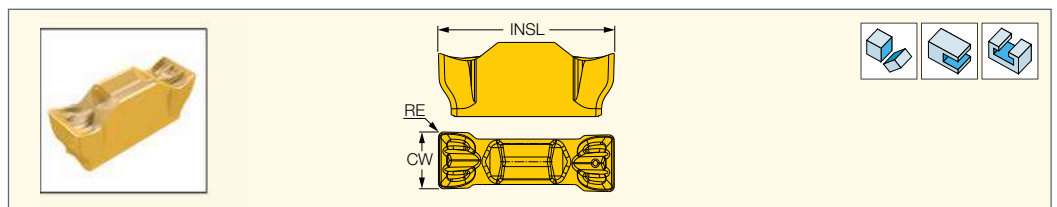
Spare Parts

Designation			
TRIB 50-22SM 6Z	SR 16-236 08223	BLD T15/S7	SW6-T
TRIB 50-22SM 6Z-B	SR 16-236	BLD T15/S7	SW6-T
TRIB 63-22SM 8Z	SR 16-236 08223	BLD T15/S7	SW6-T
TRIB 63-22SM 8Z-B	SR 16-236	BLD T15/S7	SW6-T
TRIB 80-27SM 11Z	SR 16-236 08223	BLD T15/S7	SW6-T
TRIB 80-27SM 11Z-B	SR 16-236	BLD T15/S7	SW6-T

MINSLIT

DGM-V

Miniature Double-Sided Inserts with Ridged Positive Chipformer for Slitting and Grooving a Wide Range of Materials

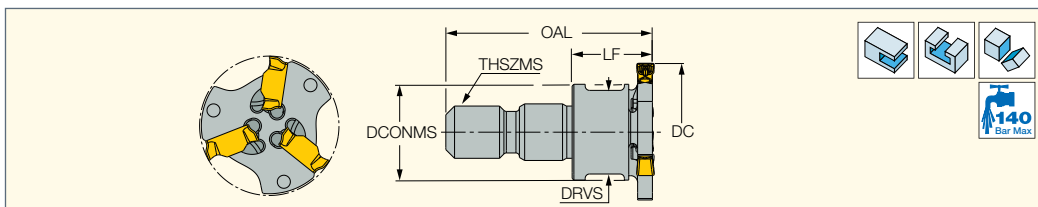


Designation	Dimensions			IC1008	Recommended Machining Data
	CW	RE	INSL		f groove (mm/t)
DGM 2002V	2.00	0.20	6.20	•	0.03-0.10
DGM 3002V	3.00	0.20	6.20	•	0.04-0.15

For tools, see pages: DGSM-M-JHP (333) • DGSM-MM-JHP (333)

DGSM-M-JHP

Groove Milling and Slitting
Small Diameter Cutters with
FLEXFIT Threaded Adaptation



Designation	DC	CW	CDX	CICT ⁽¹⁾	DCONMS	THSZMS	LF	OAL	DRVS ⁽²⁾	Insert		
DGSM 16-2-M06-3Z-JHP	16.00	2.00	3.70	3	10.00	M06	9.65	24.15	8.0	DGM 2002V	ESM 2-3	MM KEY 8X5
DGSM 16-3-M06-3Z-JHP	16.00	3.00	3.70	3	10.00	M06	8.30	22.50	8.0	DGM 3002V	ESM 2-3	MM KEY 8X5
DGSM 18-2-M06-3Z-JHP	18.00	2.00	4.70	3	10.00	M06	9.65	24.15	8.0	DGM 2002V	ESM 2-3	MM KEY 8X5
DGSM 18-3-M06-3Z-JHP	18.00	3.00	4.70	3	10.00	M06	9.80	24.00	8.0	DGM 3002V		
DGSM 22-2-M08-4Z-JHP	22.00	2.00	5.70	4	12.00	M08	8.65	26.15	10.0	DGM 2002V		
DGSM 22-3-M08-4Z-JHP	22.00	3.00	5.70	4	12.00	M08	9.30	26.50	10.0	DGM 3002V		

⁽¹⁾ Number of inserts

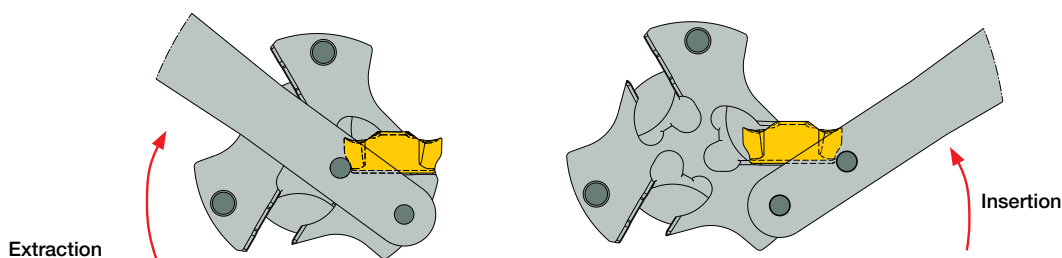
⁽²⁾ Torque key size

For inserts, see pages: DGM-V (332)

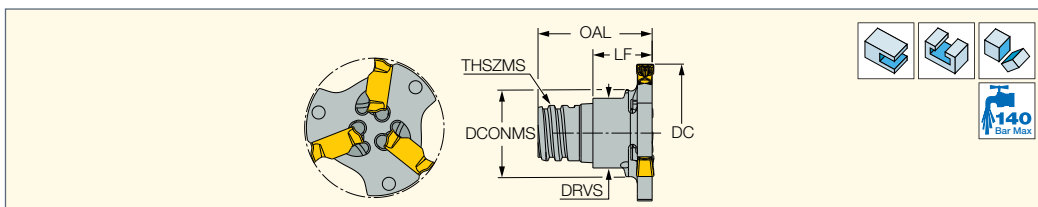
For holders, see pages: BT-ODP (FLEXFIT) (314) • CAB M-M (FLEXFIT) (312) • DIN69871-ODP (315) • ER-ODP (315) • HSK A-ODP (FLEXFIT) (316)

• S M (312)

• S M-C-H (312)


DGSM-MM-JHP

Groove Milling and Slitting
Small Diameter Cutters with
MULTI-MASTER
Threaded Adaptation



Designation	DC	CW	CDX	CICT ⁽¹⁾	DCONMS	THSZMS	LF	OAL	DRVS ⁽²⁾	Insert		
DGSM 16-2-MMT06-3Z-JHP	16.00	2.00	3.70	3	10.00	T06	9.65	15.95	8.0	DGM 2002V		
DGSM 16-3-MMT06-3Z-JHP	16.00	3.00	3.70	3	10.00	T06	9.70	14.30	8.0	DGM 3002V	ESM 2-3	MM KEY 8X5
DGSM 18-2-MMT06-3Z-JHP	18.00	2.00	4.70	3	10.00	T06	9.65	15.95	8.0	DGM 2002V		
DGSM 18-3-MMT06-3Z-JHP	18.00	3.00	4.70	3	10.00	T06	9.90	16.25	8.0	DGM 3002V		
DGSM 22-2-MMT08-4Z-JHP	22.00	2.00	5.70	4	12.00	T08	8.50	15.80	10.0	DGM 2002V		
DGSM 22-3-MMT08-4Z-JHP	22.00	3.00	5.70	4	12.00	T08	9.15	16.40	10.0	DGM 3002V		

⁽¹⁾ Number of inserts

⁽²⁾ Torque key size

For inserts, see pages: DGM-V (332)

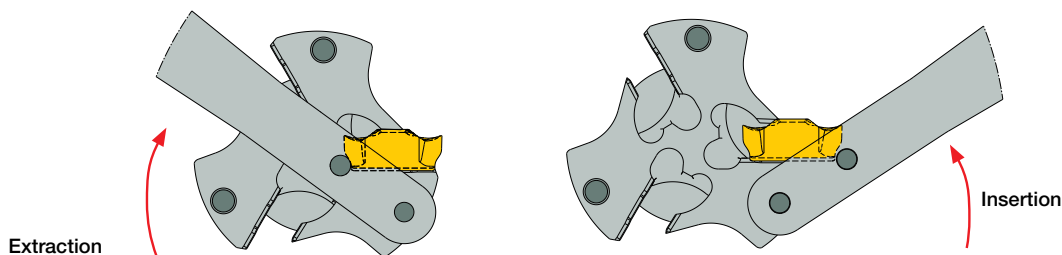
For holders, see pages: MM CAB (667) • MM CAB-T-T (91) • MM GRT (shanks) (86) • MM S-A (stepped shanks) (84) • MM S-A (straight shanks) (87)

• MM S-A-C# (86)

• MM S-A-HSK (609) • MM S-A-N (85) • MM S-A-SK (90) • MM S-B (85° conical shanks) (87) • MM S-D (89° conical shanks) (88)

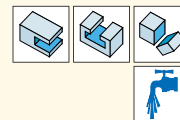
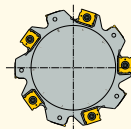
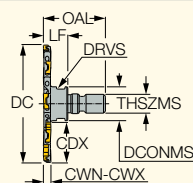
• MM S-ER (89) • MM S-ER-H (89)

• MM TS-A (86)



MINI-TANGSLOT**FLEXFIT****ETS-LN08-M**

Grooving and Slitting Cutters with FLEXFIT Threaded Adaptation



Designation	DC	CWN ⁽¹⁾	CWX ⁽²⁾	CDX ⁽³⁾	NOF ⁽⁴⁾	ZEFP	DCONMS	THSZMS	LF	OAL	DRVS ⁽⁵⁾	TQ_3 ⁽⁶⁾
ETS D032-03-LN08-M08	32.00	3.00 ⁽⁷⁾	3.00 ⁽⁷⁾	9.30	4	2	13.00	M08	13.00	30.50	10.0	20
ETS D032-04-LN08-M08	32.00	4.00 ⁽⁸⁾	4.50 ⁽¹¹⁾	9.30	4	2	13.00	M08	13.00	30.50	10.0	20
ETS D032-05-LN08-M10	32.00	5.00 ⁽⁹⁾	5.50 ⁽¹²⁾	7.00	4	2	18.00	M10	13.00	33.00	16.0	29
ETS D032-06-LN08-M10	32.00	6.00 ⁽¹⁰⁾	6.50 ⁽¹³⁾	7.00	4	2	18.00	M10	13.00	33.00	16.0	29
ETS D040-03-LN08-M08	40.00	3.00 ⁽⁷⁾	3.00 ⁽⁷⁾	13.00	6	3	13.00	M08	13.00	30.50	10.0	20
ETS D040-04-LN08-M08	40.00	4.00 ⁽⁸⁾	4.50 ⁽¹¹⁾	13.00	6	3	13.00	M08	13.00	30.50	10.0	20
ETS D040-05-LN08-M10	40.00	5.00 ⁽⁹⁾	5.50 ⁽¹²⁾	11.00	6	3	18.00	M10	13.00	33.00	16.0	29
ETS D040-06-LN08-M10	40.00	6.00 ⁽¹⁰⁾	6.50 ⁽¹³⁾	11.00	6	3	18.00	M10	13.00	33.00	16.0	29
ETS D050-03-LN08-M10	50.00	3.00 ⁽⁷⁾	3.00 ⁽⁷⁾	15.50	8	4	18.00	M10	13.00	33.00	16.0	29
ETS D050-04-LN08-M10	50.00	4.00 ⁽⁸⁾	4.50 ⁽¹¹⁾	15.50	8	4	18.00	M10	13.00	33.00	16.0	29
ETS D050-05-LN08-M12	50.00	5.00 ⁽⁹⁾	5.50 ⁽¹²⁾	14.50	8	4	21.00	M12	13.00	35.00	17.0	33
ETS D050-06-LN08-M12	50.00	6.00 ⁽¹⁰⁾	6.50 ⁽¹³⁾	14.50	8	4	21.00	M12	13.00	35.00	17.0	33
ETS D063-03-LN08-M10	63.00	3.00 ⁽⁷⁾	3.00 ⁽⁷⁾	22.00	10	5	18.00	M10	13.00	33.00	16.0	29
ETS D063-04-LN08-M10	63.00	4.00 ⁽⁸⁾	4.50 ⁽¹¹⁾	22.00	10	5	18.00	M10	13.00	33.00	16.0	29
ETS D063-05-LN08-M12	63.00	5.00 ⁽⁹⁾	5.50 ⁽¹²⁾	21.00	10	5	21.00	M12	13.00	35.00	17.0	33
ETS D063-06-LN08-M12	63.00	6.00 ⁽¹⁰⁾	6.50 ⁽¹³⁾	21.00	10	5	21.00	M12	13.00	35.00	17.0	33

• For user guide, see pages 377-383 • When mounting items with FLEXFIT threaded adaptation to their holders, the mating surfaces and threaded areas must be thoroughly cleaned. Apply appropriate tightening torque to eliminate a gap between the mating faces. Estimated torque values are specified in the TQ_3 parameter

⁽¹⁾ Minimum cutting width

⁽²⁾ Maximum cutting width

⁽³⁾ Cutting depth maximum

⁽⁴⁾ Number of flutes

⁽⁵⁾ Clamping wrench size

⁽⁶⁾ Tool tightening torque NxM (lbfxin)

⁽⁷⁾ Use LNET 0818... insert with SR 114-018-L2.50 screw

⁽⁸⁾ Use LNET 0826... insert with SR 114-018-L3.40 screw

⁽⁹⁾ Use LNET 0830... insert with SR 114-018-L4.40 screw

⁽¹⁰⁾ Use LNET 0835... insert with SR 114-018-L5.30 screw

⁽¹¹⁾ Use LNET 0828... insert with SR 114-018-L3.40 screw

⁽¹²⁾ Use LNET 0832... insert with SR 114-018-L4.40 screw

⁽¹³⁾ Use LNET 0837... insert with SR 114-018-L5.30

For inserts, see pages: LNET 08 (492)

For holders, see pages: BT-ODP (FLEXFIT) (314) • C#-ODP (FLEXFIT) (314) • CAB M-M (FLEXFIT) (312) • DIN69871-ODP (315) • ER-ODP (315)

• HSK A-ODP (FLEXFIT) (316) • S M (312) • S M-C-H (312) • S M-CF (313)

Cutter Designation	CWN-CWX	Inserts
ETS D...-03-...-LN08	3	LN08 081804-TN-N
ETS D...-04-...-LN08	4	LN08 082604-TN-N
ETS D...-05-...-LN08	5	LN08 0830-TN-N
ETS D...-06-...-LN08	6	LN08 0835-TN-N
ETS D...-06-...-LN08	6.5	LN08 0837-TN-N

Spare Parts

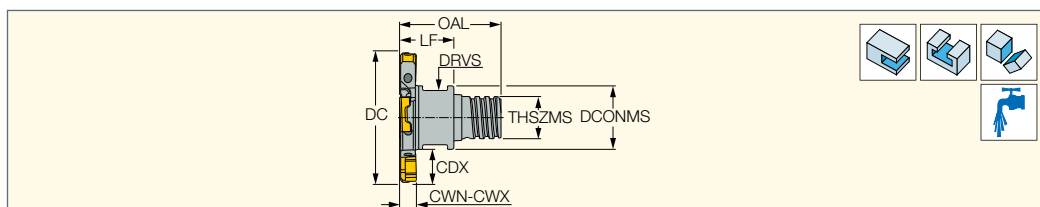
Designation				
ETS D032-03-LN08-M08	SR 114-018-L2.50	T-6/3-L	T-6/5	
ETS D032-04-LN08-M08	SR 114-018-L3.40	T-6/3-L	T-6/5	
ETS D032-05-LN08-M10	SR 114-018-L4.40	T-6/3-L	T-6/5	MM KEY 16X9*
ETS D032-06-LN08-M10	SR 114-018-L5.30	T-6/3-L	T-6/5	MM KEY 16X9*
ETS D040-03-LN08-M08	SR 114-018-L2.50	T-6/3-L	T-6/5	
ETS D040-04-LN08-M08	SR 114-018-L3.40	T-6/3-L	T-6/5	
ETS D040-05-LN08-M10	SR 114-018-L4.40	T-6/3-L	T-6/5	MM KEY 16X9*
ETS D040-06-LN08-M10	SR 114-018-L5.30	T-6/3-L	T-6/5	MM KEY 16X9*
ETS D050-03-LN08-M10	SR 114-018-L2.50	T-6/3-L	T-6/5	
ETS D050-04-LN08-M10	SR 114-018-L3.40	T-6/3-L	T-6/5	
ETS D050-05-LN08-M12	SR 114-018-L4.40	T-6/3-L	T-6/5	WRENCH ER11*
ETS D050-06-LN08-M12	SR 114-018-L5.30	T-6/3-L	T-6/5	WRENCH ER11*
ETS D063-03-LN08-M10	SR 114-018-L2.50	T-6/3-L	T-6/5	
ETS D063-04-LN08-M10	SR 114-018-L3.40	T-6/3-L	T-6/5	
ETS D063-05-LN08-M12	SR 114-018-L4.40	T-6/3-L	T-6/5	WRENCH ER11*
ETS D063-06-LN08-M12	SR 114-018-L5.30	T-6/3-L	T-6/5	WRENCH ER11*

* Optional, should be ordered separately

MINI-TANGSLOT MULTI-MASTER

ETS-LN08-MM

Grooving and Slitting Cutters
with MULTI-MASTER
Threaded Adaptation



Designation	DC	CWN ⁽¹⁾	CWX ⁽²⁾	CDX ⁽³⁾	NOF ⁽⁴⁾	ZEFP	DCONMS	THSZMS	LF	OAL	DRVS ⁽⁵⁾
ETS D32/1.26-4-LN08-MMT10	32.00	4.00 ⁽⁶⁾	4.50 ⁽⁷⁾	8.20	4	2	15.20	T10	13.00	24.30	13.0
ETS D40/1.57-4-LN08-MMT12	40.00	4.00 ⁽⁶⁾	4.50 ⁽⁷⁾	10.40	6	3	18.20	T12	13.00	26.30	16.0

• For user guide, see pages 377-383

⁽¹⁾ Minimum cutting width

⁽²⁾ Maximum cutting width

⁽³⁾ Cutting depth maximum

⁽⁴⁾ Number of flutes

⁽⁵⁾ Torque key size

⁽⁶⁾ Use LNET 0826.. insert with SR 114-018-L3.40 screw

⁽⁷⁾ Use LNET 0828.. insert with SR 114-018-L3.40 screw

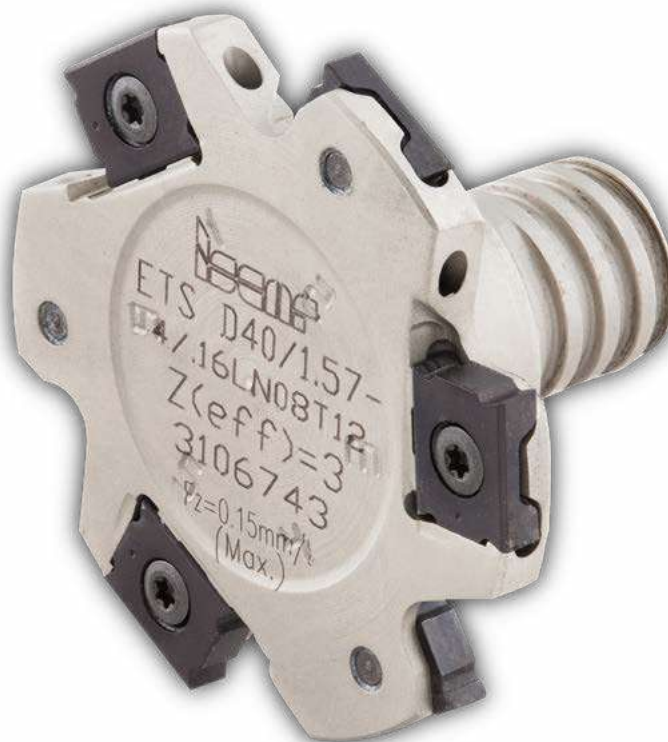
For inserts, see pages: LNET 08 (492)

For holders, see pages: MM S-A (stepped shanks) (84) • MM S-A (straight shanks) (87) • MM S-A-C# (86) • MM S-A-HSK (609) • MM S-A-N (85) • MM S-A-SK (90)

• MM S-B (85° conical shanks) (87) • MM S-D (89° conical shanks) (88) • MM S-ER (89) • MM S-ER-H (89) • MM TS-A (86)

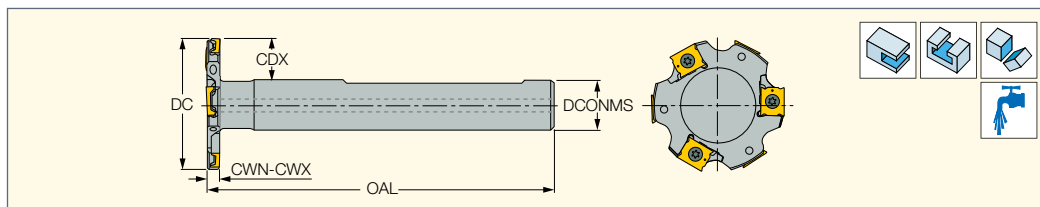
Spare Parts

Designation			
ETS-LN08-MM	SR 114-018-L3.40	T-6/5	T-6/3-L



MINI-TANGSLOT**ETS-LN08**

Grooving and Slitting Cutters



Designation	DC	CWN ⁽²⁾	CWX ⁽³⁾	CDX ⁽⁴⁾	NOF ⁽⁵⁾	ZEFP	DCONMS	Shank ⁽⁶⁾	OAL	kg
ETS D032-03-W16-LN08	32.00	3.00 ⁽⁷⁾	3.00 ⁽⁷⁾	7.90	4	2	16.00	W	90.00	0.14
ETS D032-04-W16-LN08	32.00	4.00 ⁽⁸⁾	4.50 ⁽¹²⁾	7.90	4	2	16.00	W	90.00	0.14
ETS D032-05-W16-LN08	32.00	5.00 ⁽⁹⁾	5.50 ⁽¹³⁾	7.90	4	2	16.00	W	90.00	0.14
ETS D032-06-W16-LN08	32.00	6.00 ⁽¹⁰⁾	6.50 ⁽¹⁴⁾	7.90	4	2	16.00	W	90.00	0.14
ETS D032-07-W16-LN08 ⁽¹⁾	32.00	7.00 ⁽¹¹⁾	8.00 ⁽¹⁵⁾	7.90	4	2	16.00	W	90.00	0.14
ETS D040-03-W16-LN08	40.00	3.00 ⁽⁷⁾	3.00 ⁽⁷⁾	11.90	6	3	16.00	W	104.00	0.16
ETS D040-04-W16-LN08	40.00	4.00 ⁽⁸⁾	4.50 ⁽¹²⁾	11.90	6	3	16.00	W	104.00	0.16
ETS D040-05-W16-LN08	40.00	5.00 ⁽⁹⁾	5.50 ⁽¹³⁾	11.90	6	3	16.00	W	104.00	0.16
ETS D040-06-W16-LN08	40.00	6.00 ⁽¹⁰⁾	6.50 ⁽¹⁴⁾	11.90	6	3	16.00	W	104.00	0.17
ETS D040-07-W16-LN08 ⁽¹⁾	40.00	7.00 ⁽¹¹⁾	8.00 ⁽¹⁵⁾	11.70	6	3	16.00	W	104.00	0.17
ETS D050-03-W20-LN08	50.00	3.00 ⁽⁷⁾	3.00 ⁽⁷⁾	14.90	8	4	20.00	W	110.00	0.26
ETS D050-04-W20-LN08	50.00	4.00 ⁽⁸⁾	4.50 ⁽¹²⁾	14.90	8	4	20.00	W	110.00	0.27
ETS D050-05-W20-LN08	50.00	5.00 ⁽⁹⁾	5.50 ⁽¹³⁾	14.90	8	4	20.00	W	110.00	0.28
ETS D050-06-W20-LN08	50.00	6.00 ⁽¹⁰⁾	6.50 ⁽¹⁴⁾	14.90	8	4	20.00	W	110.00	0.28
ETS D050-07-W20-LN08 ⁽¹⁾	50.00	7.00 ⁽¹¹⁾	8.00 ⁽¹⁵⁾	14.70	8	4	20.00	W	110.00	0.29
ETS D063-03-W20-LN08	63.00	3.00 ⁽⁷⁾	3.00 ⁽⁷⁾	21.40	10	5	20.00	W	110.00	0.28
ETS D063-04-W20-LN08	63.00	4.00 ⁽⁸⁾	4.50 ⁽¹²⁾	21.40	10	5	20.00	W	110.00	0.29
ETS D063-05-W20-LN08	63.00	5.00 ⁽⁹⁾	5.50 ⁽¹³⁾	21.40	10	5	20.00	W	110.00	0.31
ETS D063-06-W20-LN08	63.00	6.00 ⁽¹⁰⁾	6.50 ⁽¹⁴⁾	21.40	10	5	20.00	W	110.00	0.32
ETS D063-07-W20-LN08 ⁽¹⁾	63.00	7.00 ⁽¹¹⁾	8.00 ⁽¹⁵⁾	21.20	10	5	20.00	W	110.00	0.34

• Adjustable overhang design • For user guide, see pages 377-383

(1) For $a_p=7.5$ use LNET 084204-TN-N insert with SR 114-018-L5.30-HG screw

(2) Minimum cutting width

(3) Maximum cutting width

(4) Cutting depth maximum

(5) Number of flutes

(6) W-Weldon

(7) Use LNET 0818.. insert with SR 114-018-L2.50 screw

(8) Use LNET 0826.. insert with SR 114-018-L3.40 screw

(9) Use LNET 0830.. insert with SR 114-018-L4.40 screw

(10) Use LNET 0835.. insert with SR 114-018-L5.30 screw

(11) Use LNET 0840.. insert with SR 114-018-L5.30-HG

(12) Use LNET 0828.. insert with SR 114-018-L3.40 screw

(13) Use LNET 0832.. insert with SR 114-018-L4.40 screw

(14) Use LNET 0837.. insert with SR 114-018-L5.30

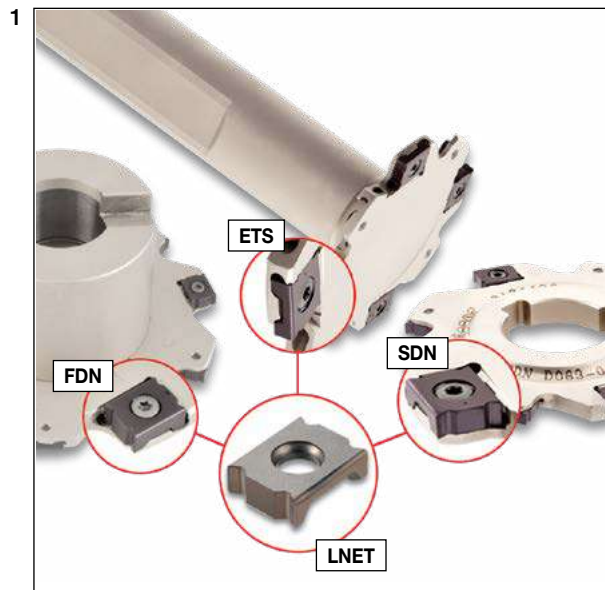
(15) Use LNET 0845.. insert with SR 114-018-L5.30-HG

For inserts, see pages: LNET 08 (492)

Spare Parts

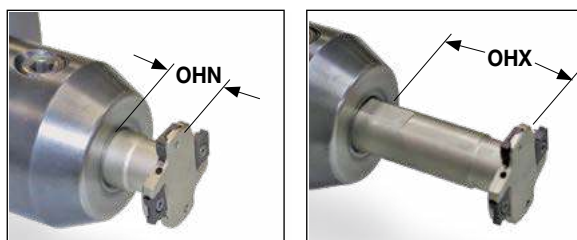
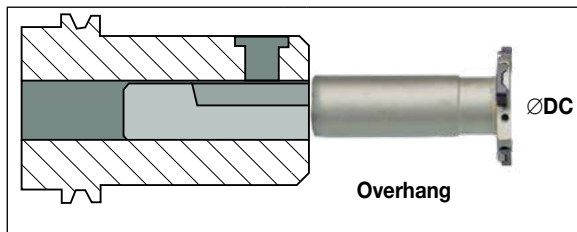
Designation			
ETS D032-03-W16-LN08	SR 114-018-L2.50	T-6/3-L	T-6/5
ETS D032-04-W16-LN08	SR 114-018-L3.40	T-6/3-L	T-6/5
ETS D032-05-W16-LN08	SR 114-018-L4.40	T-6/3-L	T-6/5
ETS D032-06-W16-LN08	SR 114-018-L5.30	T-6/3-L	T-6/5
ETS D032-07-W16-LN08	SR 114-018-L5.30-HG	T-6/3-L	T-6/5
ETS D040-03-W16-LN08	SR 114-018-L2.50	T-6/3-L	T-6/5
ETS D040-04-W16-LN08	SR 114-018-L3.40	T-6/3-L	T-6/5
ETS D040-05-W16-LN08	SR 114-018-L4.40	T-6/3-L	T-6/5
ETS D040-06-W16-LN08	SR 114-018-L5.30	T-6/3-L	T-6/5
ETS D040-07-W16-LN08	SR 114-018-L5.30-HG	T-6/3-L	T-6/5
ETS D050-03-W20-LN08	SR 114-018-L2.50	T-6/3-L	T-6/5
ETS D050-04-W20-LN08	SR 114-018-L3.40	T-6/3-L	T-6/5
ETS D050-05-W20-LN08	SR 114-018-L4.40	T-6/3-L	T-6/5
ETS D050-06-W20-LN08	SR 114-018-L5.30	T-6/3-L	T-6/5
ETS D050-07-W20-LN08	SR 114-018-L5.30-HG	T-6/3-L	T-6/5
ETS D063-03-W20-LN08	SR 114-018-L2.50	T-6/3-L	T-6/5
ETS D063-04-W20-LN08	SR 114-018-L3.40	T-6/3-L	T-6/5
ETS D063-05-W20-LN08	SR 114-018-L4.40	T-6/3-L	T-6/5
ETS D063-06-W20-LN08	SR 114-018-L5.30	T-6/3-L	T-6/5
ETS D063-07-W20-LN08	SR 114-018-L5.30-HG	T-6/3-L	T-6/5

Cutter Designation	CWN-CWX	Insert
...D...-03...-LN08	3	LN08 081804-TN-N
...D...-04...-LN08	4	LN08 082604-TN-N
	4.5	LN08 082804-TN-N
...D...-05...-LN08	5	LN08 083004-TN-N
	5.5	LN08 083204-TN-N
...D...-06...-LN 08	6	LN08 083504-TN-N
	6.5	LN08 083704-TN-N
	7	LN08 084004-TN-N
...D...-07...-LN08	7.5	LN08 084204-TN-N
	8.0	LN08 084504-TN-N



2 Setting the Overhang

ETS... T-type Slotting Cutters			
Designation	DC	Overhang	
		OHN (min)	OHX (max)
ETS D32	32	20	49
ETS D40	40	34	63
ETS D50	50	27	66
ETS D63	63	27	66



3 Lubrication - Important!

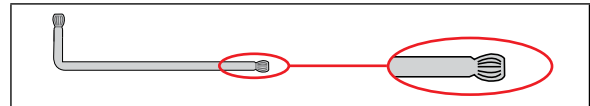
For every indexing, lubricate screws before mounting. Grease should cover the screw's thread and cone head.



4 Indexing

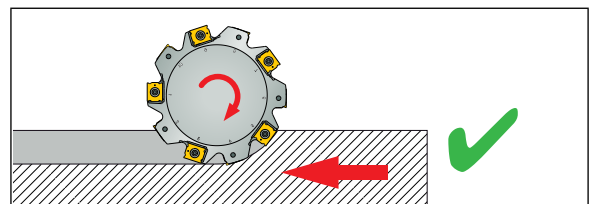


L -type key is added to the cutter package. It has a ball shape on the end of its longer side.

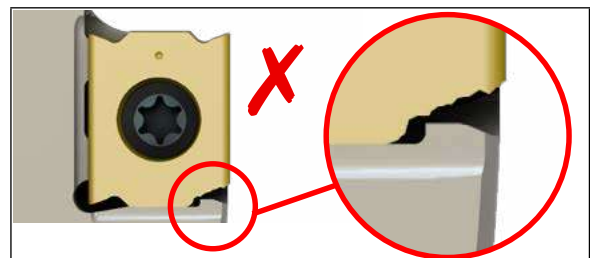


Feed Direction:

Down (climb) milling is recommended.



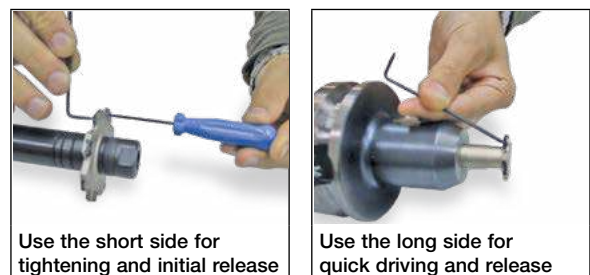
Do not clamp insert with a broken corner in the outer bottom position.



5 Tightening Torque

60-70 N x cm

6 Tightening



Important note: To avoid indexing problems, insert clamping screws and replace keys on a regular basis according to their wear.

7 Width of Cut

for $a_p=3 - 6.5\text{mm}$ - use the following table

a_p	Insert	Screw	Key
3.00	LNET 081804-TN-N	SR 114-018-L2.50	T-6/5 T-6/5-L
4.00	LNET 082604-TN-N	SR 114-018-L3.40	
4.50	LNET 082804-TN-N		
5.00	LNET 083004-TN-N	SR 114-018-L4.40	
5.50	LNET 083204-TN-N	SR 114-018-L4.40	
6.00	LNET 083504-TN-N	SR 114-018-L5.30	
6.50	LNET 083704-TN-N		

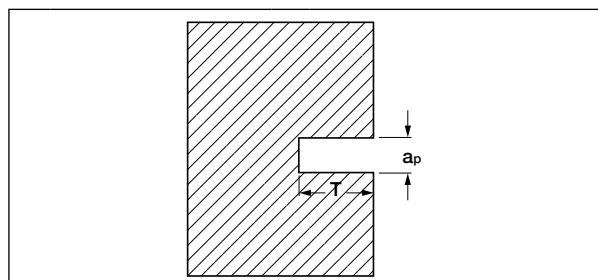
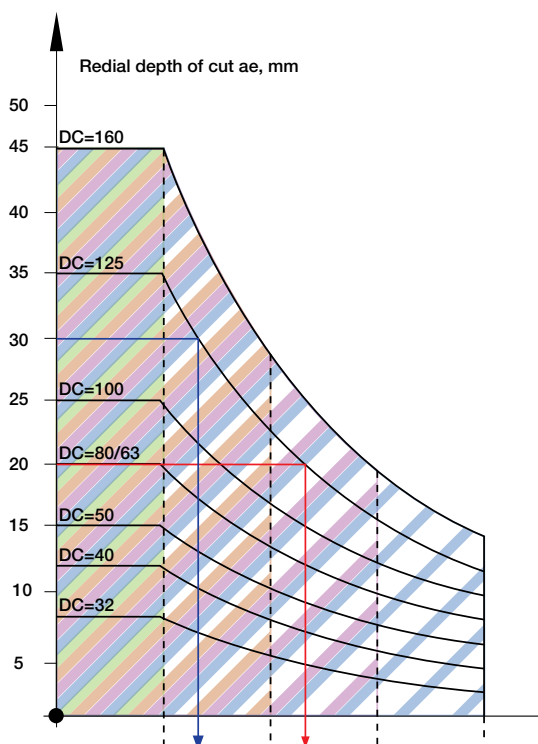
8 Recommended Cutting Speed

Workpiece Material									
ISO class DIN/ISO 513	Description	Typical Example			ISCAR mat. group**	Cutting speed V _c , m/min			
		AISI/SAE/ ASTM	DIN W.-Nr.	Hardness HB					
P	Non-alloy steel and cast steel, free cutting steel	1020	1.0402	130-180	1	130-200	LN....08	IC928	Air blow
	Alloy steel	4340	1.6582	260-300	8	120-170	LN....08	IC928	
	Alloy steel	3135	1.5710	HRC 35-40*	9	100-120	LN....08	IC928	
	High alloy steel	H13	1.2344	200-220	10	100-150	LN....08	IC928	
	Martensitic s.s.	420	1.4021	200	12	100-140	LN....08	IC928	
M	Austenitic s.s.	304L	1.4306	200	14	70-120	LN....08	IC928	Wet (emulsion)
	Austenitic s.s.	316L	1.4404	140	14	80-120	LN....08	IC928	
K	Grey cast iron	Class 40	0.6025 (GG25)	250	16	180-230	LN....08	IC910	Air blow
	Nodular cast iron	Class 65-45-12	0.7050 (GGG50)	200	17	150-200	LN....08	IC910	
S	High temp. alloys	AMS R56400	3.7165 (Ti6Al4V)	HRC 40-45	37	35-45	LN....08	IC928	Wet (emulsion)

* Quenched and tempered

** ISCAR material group in accordance with VDI 3323 standard

Recommended feed per tooth for MINI-TANGSLOT cutters carrying LN..08... inserts for 3 mm $\leq a_p < 7$ mm



Example

Material - Alloy steel DIN 40NiCrMo6, W.-Nr.16565

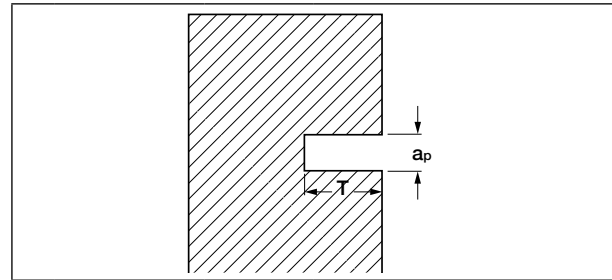
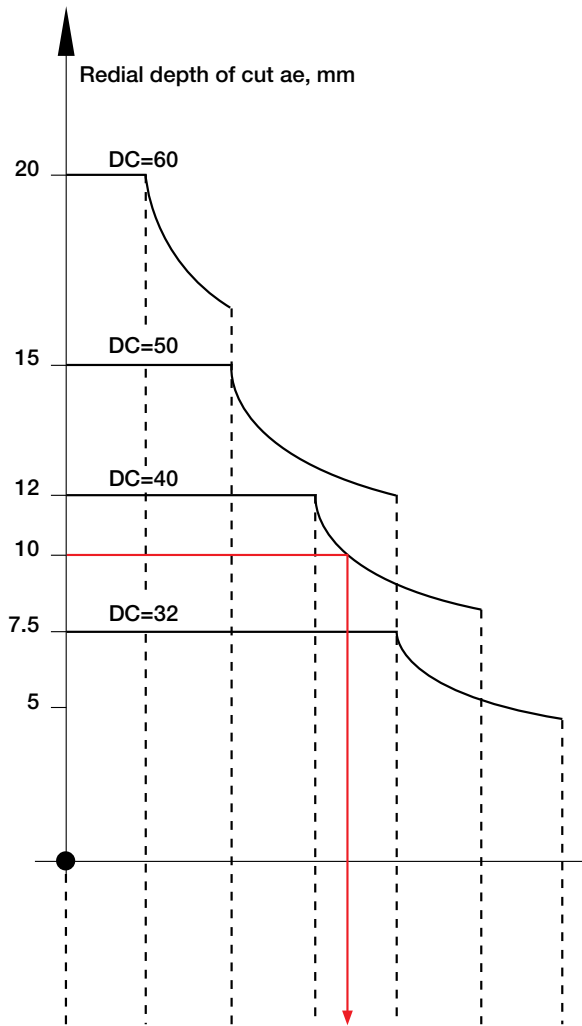
$D = 125$ mm
 $a_e = 30$ mm
 $a_p = 4$ mm
 $f_z = 0.2 \times 0.75^* = 0.15$ mm/tooth

$D = 125$ mm
 $a_e = 20$ mm
 $a_p = 6$ mm
 $f_z = 0.25 \times 1 = 0.25$ mm/tooth

$$f_z = f_z \times K$$

a_p mm	K
from 3 to 4	0.60
from 4 up to 5	0.75
over 5 to 7	1

0.17	0.22	0.27	0.32	Non-alloy steel and cast steel, free cutting steel	1020 (DIN 1.0402)	1	P
0.15	0.2	0.25	0.3	Alloy steel	4340 (DIN 1.6582)	8	
0.1	0.13	0.15	0.2	Alloy steel	3135 (DIN 1.5710)	9	
0.1	0.13	0.16	0.22	High alloy steel	H13 (DIN 1.2344)	10	
0.13	0.16	0.2	0.25	Martensitic s.s.	420 (DIN 1.4021)	12	
0.1	0.13	0.16	0.22	Austenitic s.s.	316L (DIN 1.4404)	14	M
0.2	0.25	0.3	0.35	Grey cast iron	Class 40 (DIN 0.6025) (GG25)	16	K
0.15	0.2	0.25	0.3	Nodular cast iron	Class 65-45-12 (DIN 0.7050) (GGG50)	17	
0.1	0.13	0.16	0.22	High temp. alloys	AMS R56400 (DIN 3.7165)	37	S
Basic feed f_{z0} , mm/tooth				Description	AISI / SAE / ASTM (DIN W.-Nr.)	ISCAR Mat. Group	DIN/ISO
				Workpiece Material			

9 Recommended feed per tooth for MINI-TANGSLOT cutters carrying LN..08... inserts for $a_p=7-8$ mm

Example

Material - Alloy steel DIN 40NiCrMo6, W.-Nr.16565

 $D = 40$ mm

 $a_e = 10$ mm

 $a_p = 8$ mm

 $f_z = 0.09 \times 0.8 = 0.072$ mm/tooth

 $f_z = f_z \times K$

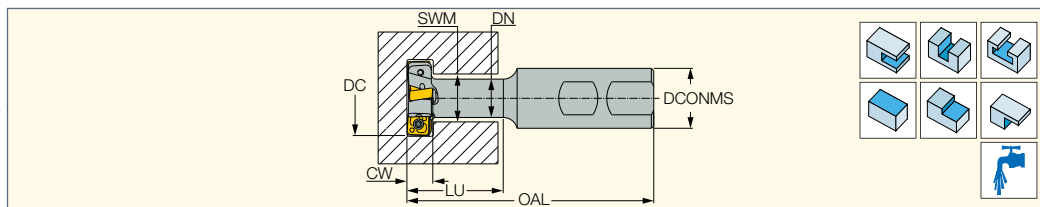
a_p mm	K
from 7 up to 7.5	1
over 7.5 up to 8	0.80

0.045	0.060	0.090	0.105	0.120	0.135	Non-alloy steel and cast steel, free cutting steel	1020 (DIN 1.0402)	1	P
0.045	0.060	0.075	0.090	0.105	0.120	Alloy steel	4340 (DIN 1.6582)	8	
0.030	0.045	0.052	0.060	0.068	0.075	Alloy steel	3135 (DIN 1.5710)	9	
0.030	0.045	0.052	0.060	0.075	0.090	High alloy steel	H13 (DIN 1.2344)	10	
0.030	0.052	0.068	0.082	0.090	0.105	Martensitic s.s.	420 (DIN 1.4021)	12	
0.030	0.045	0.052	0.068	0.075	0.090	Austenitic s.s.	316L (DIN 1.4404)	14	M
0.068	0.090	0.105	0.120	0.135	0.150	Grey cast iron	Class 40 (DIN 0.6025) (GG25)	16	K
0.045	0.075	0.090	0.105	0.120	0.135	Nodular cast iron	Class 65-45-12 (DIN 0.7050) (GGG50)	17	
0.030	0.045	0.052	0.060	0.075	0.090	High temp. alloys	AMS R56400 (DIN 3.7165)	37	S
Basic feed f_z , mm/tooth						Description	AISI / SAE / ASTM / DIN	ISCAR mat. group	DIN/ISO
						Workpiece material			

HELISLOT

ETS-XN09

T-SLOT Endmills Carrying XN MU
0904 Square Inserts with 4 Right-
and 4 Left-Hand Cutting Edges



Designation	DC	CICT ⁽¹⁾	ZEFP	DN	SWM	CW	LU	OAL	DCONMS	Shank	kg
ETS D32-10-W16-XN09	31.70	4	2	15.50	18.00	9.90	35.00	85.00	16.00	W	0.02
ETS D32-11-W20-XN09	31.70	4	2	16.00	18.00	10.80	41.00	95.00	20.00	W	0.27
ETS D32-11-W25-XN09	31.70	4	2	16.00	18.00	10.80	41.00	105.00	25.00	W	0.62
ETS D32-14-W25-XN09	31.70	4	2	16.00	18.00	13.80	41.00	105.00	25.00	W	0.27
ETS D32-14-W32-XN09	31.70	4	2	16.00	18.00	13.80	45.00	110.00	32.00	W	0.88

• For user guide, see pages 377-383

⁽¹⁾ Number of inserts

For inserts, see pages: XN MU 0904PN (514)

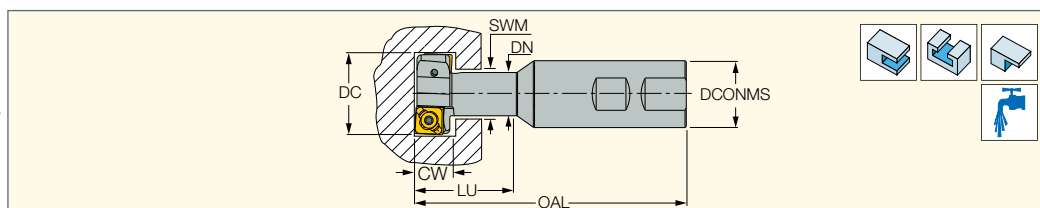
Spare Parts

Designation		
ETS-XN09	SR 10508600	T-9/51

HELISLOT

ETS-XN13

T-Slot Endmills Carrying XN MU
1306 Square Inserts with 4 Right-
and 4 Left-Hand Cutting Edges



Designation	DC	NOF ⁽¹⁾	ZEFP	DN	SWM	CW	LU	OAL	DCONMS	Shank ⁽²⁾	kg
ETS D40-18-W32-XN13	40.00	2	1	21.00	22.00	18.00	47.0	120.00	32.00	W	0.55
ETS D48-22-W32-XN13	48.00	4	2	27.00	28.00	22.00	58.0	130.00	32.00	W	0.70

• For user guide, see pages 377-383

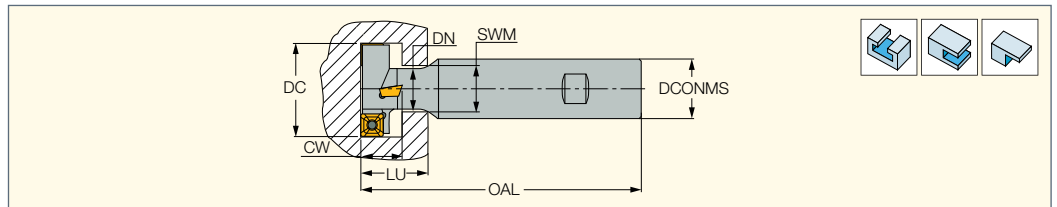
⁽¹⁾ Number of flutes

⁽²⁾ W-Weldon

For inserts, see pages: XN MU 13 (514)

Spare Parts

Designation			
ETS-XN13	SR M4-L15-D4.5	BLD IP15/S7	SW6-T-SH



Designation	DC	NOF ⁽¹⁾	ZEFP	DN	SWM	CW	LU	OAL	DCONMS	Shank ⁽²⁾	kg	MIID ⁽³⁾
ETS D21-9-W16-06	21.10	2	1	10.80	12.00	8.85	26.9	90.00	16.00	W	0.11	XOMT 060204-HQ
ETS D25-11-W16-06	24.80	4	2	12.80	14.00	10.80	23.7	90.00	16.00	W	0.12	XOMT 060204-HQ
ETS D25-11-W25-06	24.80	4	2	12.80	14.00	10.80	24.4	120.00	25.00	W	0.36	XOMT 060204-HQ
ETS D32-14-W32-10	31.70	2	1	16.70	18.00	13.85	40.0	120.00	32.00	W	0.54	XPMT 100408-HQ
ETS D32-14-W16-10	31.70	4	2	16.00	18.00	13.85	52.0 ⁽⁴⁾	90.00	16.00	W	0.14	XPMT 100408-HQ
ETS D32-16-W32-A10	31.70	4	2	16.80	18.00	15.85	39.0	110.00	32.00	W	0.48	APKT 1003PDTR/L-RM
ETS D40-18-W32-10	39.70	4	2	20.70	22.00	17.85	50.0	130.00	32.00	W	0.62	XPMT 100408-HQ
ETS D48-22-W32-15	48.50	4	2	26.00	27.00	21.85	51.3	130.00	32.00	W	0.73	ADKT 1505...R/L...

• For user guide, see pages 377-383

⁽¹⁾ Number of flutes

⁽²⁾ W-Weldon

⁽³⁾ Master insert identification

⁽⁴⁾ Adjustable overhang design: LUmin=19, LUmax=52

For inserts, see pages: ADKR 1505PDR/L-HM (456) • ADKT 1505..R/L-HM (459) • ADKT 1505PDR/L-HM (458) • ADKT 1505PDTR/L-RM (458)

• APKT 1003PDTR/L-RM (452) • QOMT-HQ (494) • XOMT-HQ (494) • XPMT-HQ (496)

Spare Parts

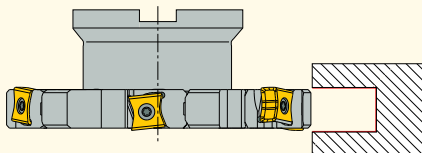
Designation		
ETS D21-9-W16-06	SR 34-508/L	T-7/51
ETS D25-11-W16-06	SR 34-508/L	T-7/51
ETS D25-11-W25-06	SR 34-508/L	T-7/51
ETS D32-14-W32-10	SR 14-544/S	T-15/51
ETS D32-14-W16-10	SR 14-506	T-15/51
ETS D32-16-W32-A10	SR 34-505/LHG	T-8/53
ETS D40-18-W32-10	SR 14-544/S	T-15/51
ETS D48-22-W32-15	SR 14-544/S	T-15/51



ISCARMILL

FDN

Full Slot Flange Type

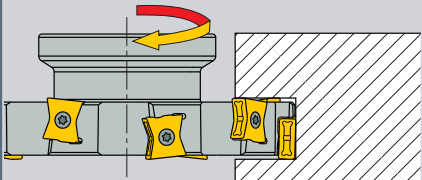
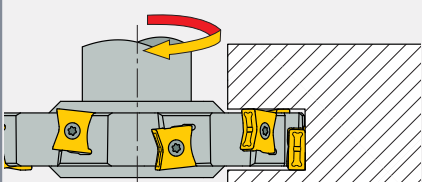
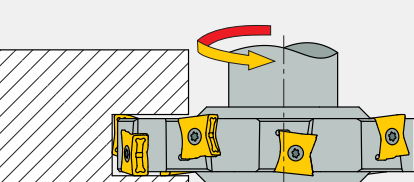
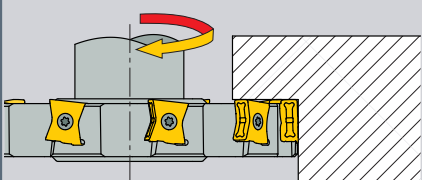
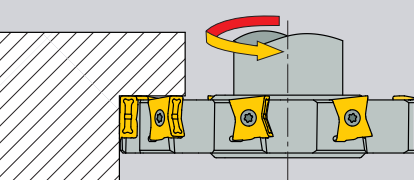
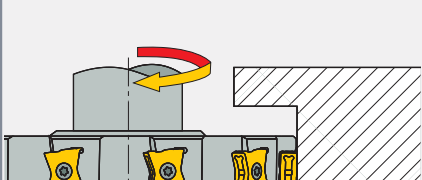
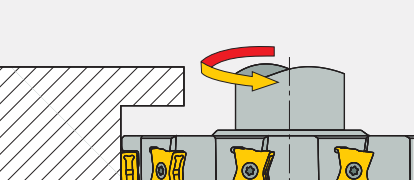
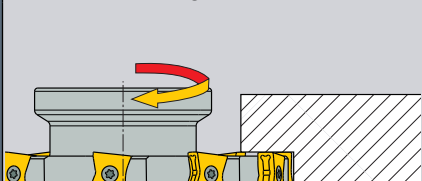


Tool Diameter							Width of Cutter																				Type of Insert						
63	80	100	125	160	200	250	3	4	4.5	5	5.5	6	6.5	7	8	8.5	9	10	10.5	12	13	14	14.6	16	17	18	19	20	23	25.6			
●	●	●					✓																								LNET 081804		
●	●	●						✓																							LNET 082604		
●	●	●							✓																						LNET 082804		
●	●	●								✓																					LNET 083004		
●	●	●									✓																				LNET 083204		
●	●	●										✓																			LNET 083504		
●	●	●											✓																		LNET 083704		
	●	●	●											✓																	LNET 1240		
	●	●	●		●										✓																LNET 1245		
	●	●	●		●											✓															LNET 1248		
	●	●	●	●	●	●											✓														LNET 1255		
	●	●	●	●	●	●												✓													LNET 1257		
	●	●	●	●	●	●													✓												LNET 1265		
		●	●	●		●																									LNET 12...		
	●	●	●	●														✓													XNMU 09..		
	●	●	●	●															✓												XNMU 13..		
		●	●																		✓												
			●																				✓										
				●																				✓									
					●																				✓								
						●																				✓							
●	●	●													✓																XOMT 0602.. QOMT 060208		
		●	●															✓															
			●	●																✓											XPMT 1004... QPMT 1004...		
			●	●																				✓							QPMT 1004...		
				●																					✓								
				●																						✓					QDMT 1205... QDCT 1205		
					●	●																						✓				LN...11	
			●	●	●	●																										LN...13	
			●	●	●	●																										LN...15	

● With adjustable cartridges

Face and Slot Milling Cutters

Cutter Types for Right and Left-Hand, Top and Bottom Milling

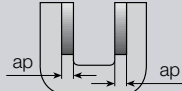
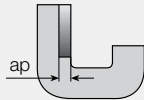
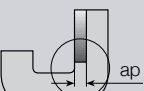
	Right-Hand Spindle Rotation	Left-Hand Spindle Rotation
Full Side - Flange Type (Pages 345-352)	FDN...-R 	
Full Side - Disk Type (Pages 354-361)	SDN 	SDN 
Half Side - Top Disk Type (Page 362)	SSB...-R 	SSB...-R 
Half Side - Bottom Disk Type (Page 362)	SSB...-L 	SSB...-L 
Half Side - Top Flange Type (Page 361)	FST...-R 	

Ordering Examples

Integral Pocket Cutter FDN D125-10-27-LN12 Cutter diameter: 125 mm Slot width: 10.00 mm	Adjustable Cutter with Cartridges FDN D100-0810-32-CALN12 Cutter diameter: 100 mm Slot width range: 8.00-10.5 mm	Pre-Adjusted Specific Width (the cutter will be set to 9.52 mm). FDN D125-09.52-40-CALN12 Cutter diameter: 125 mm Slot width: 9.52 mm (The cutter can be adjusted to a width of 8.0-10.5 mm)
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Single or Double-Face Milling Configuration Guide

Configuration Guide for FDN/SDN/SSB/FST/FSB... CALN15 Cutters

Designation	Number of Cutting Edges ⁽¹⁾	Bottom Flatness $a_p \leq 7$ H (mm)	Bottom Flatness $a_p = 14$ H (mm)	Application	Half Side Tools Axial Depth of Cut a_p (mm)
LNKX 1506...	4R+4L	Flat	0.65	Double Face Milling 	Stock=0-14
LNMT 1506...	4R+4L	Flat	0.65		Stock=0-14
LNAT 1506...	4R+4L	Flat	0.4-0.65		Stock=0-14 ⁽²⁾
LNHT 1506...-N ⁽³⁾	2R+2L	Flat	Flat		Stock=0-14
LNKX 1506...	4R	Flat	0.65	Half Side Milling 	Stock=0-14
LNMT 1506...	4R	Flat	0.65		Stock=0-14
LNAT 1506...	4R	Flat	0.4-0.65		Stock=0-14 ⁽²⁾
LNHT 1506...-R ⁽⁴⁾	4R	Flat	Flat		Stock=0-14 ⁽²⁾
LNKX 1506...	4L	Flat	0.65	Half Side Milling 	Stock=0-14
LNMT 1506...	4L	Flat	0.65		Stock=0-14
LNAT 1506...	4L	Flat	0.4-0.65		Stock=0-14 ⁽²⁾
LNHT 1506...-N ⁽³⁾	4L	Flat	Flat		Stock=0-14 ⁽²⁾

⁽¹⁾ Use of 8 cutting edges (4R+4L) is possible only when $a_p \leq 7$ mm, otherwise 4 cutting edges (2R+2L) can be used.

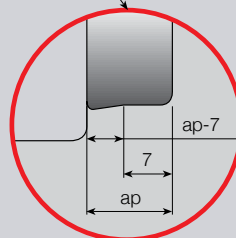
⁽²⁾ Max a_p for radius inserts

LNAT 150616...=12.80

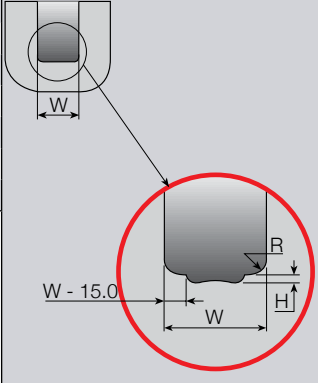
LNAT 150625...=12.25

LNAT 150632...=11.60

LNAT 150640...=14.00



Configuration Guide for Full Slot FDN/SDN... CALN15 Cutters

Designation	Number of Cutting Edges	Bottom Slot Flatness H (mm)	Insert Radius R (mm)	Application	Half Side Tools Axial Depth of Cut W (mm)
LNKX 1506...	2R+2L	0.65	0.8		W=18.9-25.6
LNMT 1506...	2R+2L	0.65	0.8		W=18.9-25.6
LNAT 150616PN-N-HM	2R+2L	0.55	1.6		W=18.9-25.6
LNAT 150625PN-N-NM	2R+2L	0.45	2.5		W=18.9-24.5
LNAT 150632PN-N-NM	2R+2L	0.40	3.2		W=18.9-23.2
LNAT 150640PN-N-NM	2R+2L	0.65	4.0		W=18.9-25.6
LNHT 1506...-N ⁽³⁾	2R+2L	Flat	0.8		W=18.9-25.6

LNHT	1506...-N R.H./L.H	LNKX 1506... LNMT 1506... R.H./L.H.	LNHT 1506...-R R.H. only
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Page 487

Pages 486-488

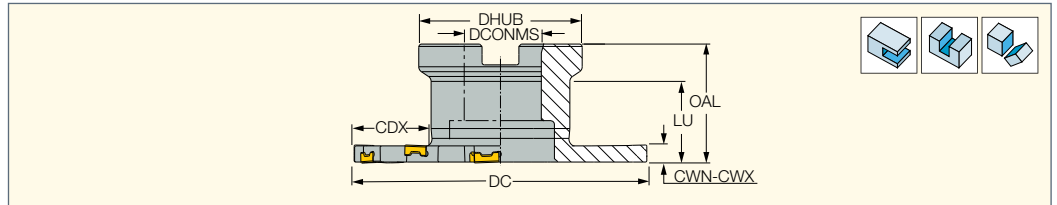
Page 487



MINI-TANGSLOT

FDN-LN08

Full Slot Shell Mill Cutters
Carrying LNET 08...
Tangentially Mounted Inserts



Designation	DC	CWN ⁽¹⁾	CWX ⁽²⁾	CDX ⁽³⁾	CICT ⁽⁴⁾	ZEFP	DHUB	DCONMS	LU	OAL	Arbor ⁽⁵⁾		MIID ⁽⁶⁾
FDN D063-03-16-LN08	63.00	3.00 ⁽⁷⁾	3.00 ⁽⁷⁾	14.50	8	4	38.40	16.00	25.0	35.00	A	0.22	LN08 081804-TN-N
FDN D063-04-16-LN08	63.00	4.00 ⁽⁸⁾	4.50 ⁽¹¹⁾	14.50	8	4	38.40	16.00	25.0	35.00	A	0.23	LN08 082604-TN-N
FDN D063-05-16-LN08	63.00	5.00 ⁽⁹⁾	5.50 ⁽¹²⁾	14.50	8	4	38.40	16.00	25.0	35.00	A	0.25	LN08 083004-TN-N
FDN D063-06-16-LN08	63.00	6.00 ⁽¹⁰⁾	6.50 ⁽¹³⁾	14.50	8	4	38.40	16.00	25.0	35.00	A	0.26	LN08 083504-TN-N
FDN D080-03-22-LN08	80.00	3.00 ⁽⁷⁾	3.00 ⁽⁷⁾	22.50	10	5	45.00	22.00	28.0	40.00	A	0.28	LN08 081804-TN-N
FDN D080-04-22-LN08	80.00	4.00 ⁽⁸⁾	4.50 ⁽¹¹⁾	22.50	10	5	45.00	22.00	28.0	40.00	A	0.31	LN08 082604-TN-N
FDN D080-05-22-LN08	80.00	5.00 ⁽⁹⁾	5.50 ⁽¹²⁾	22.50	10	5	45.00	22.00	28.0	40.00	A	0.33	LN08 083004-TN-N
FDN D080-06-22-LN08	80.00	6.00 ⁽¹⁰⁾	6.50 ⁽¹³⁾	22.50	10	5	45.00	22.00	28.0	40.00	A	0.36	LN08 083504-TN-N
FDN D100-03-27-LN08	100.00	3.00 ⁽⁷⁾	3.00 ⁽⁷⁾	26.00	12	6	55.00	27.00	28.5	40.00	B	0.43	LN08 081804-TN-N
FDN D100-04-27-LN08	100.00	4.00 ⁽⁸⁾	4.50 ⁽¹¹⁾	26.00	12	6	55.00	27.00	28.5	40.00	B	0.47	LN08 082604-TN-N
FDN D100-05-27-LN08	100.00	5.00 ⁽⁹⁾	5.50 ⁽¹²⁾	26.00	12	6	55.00	27.00	28.5	40.00	B	0.50	LN08 083004-TN-N
FDN D100-06-27-LN08	100.00	6.00 ⁽¹⁰⁾	6.50 ⁽¹³⁾	26.00	12	6	55.00	27.00	28.5	40.00	B	0.54	LN08 083504-TN-N

(1) Minimum cutting width

(2) Maximum cutting width

(3) Cutting depth maximum

(4) Number of inserts

(5) For adaptation options, see page 548

(6) Master insert identification

(7) Use LNET 0818.. insert with SR 114-018-L2.50 screw

(8) Use LNET 0826.. insert with SR 114-018-L3.40 screw

(9) Use LNET 0830.. insert with SR 114-018-L4.40 screw

(10) Use LNET 0835.. insert with SR 114-018-L5.30 screw

(11) Use LNET 0828.. insert with SR 114-018-L3.40 screw

(12) Use LNET 0832.. insert with SR 114-018-L4.40 screw

(13) Use LNET 0837.. insert with SR 114-018-L5.30 screw

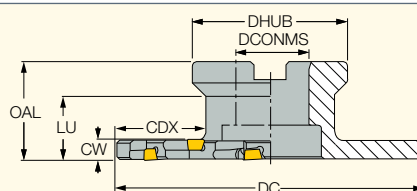
For inserts, see pages: LNET 08 (492)

Cutter Designation	CWN-CWX	Inserts
FDN D...-03-...LN08	3	LN08 081804-TN-N
FDN D...-04-...LN08	4	LN08 082604-TN-N
FDN D...-05-...LN08	5	LN08 083004-TN-N
FDN D...-06-...LN08	6	LN08 083504-TN-N
	6.5	LN08 083704-TN-N

Spare Parts

Designation				
FDN D063-03-16-LN08	SR 114-018-L2.50	T-6/5	T-6/3-L	SR M8X25DIN912
FDN D063-04-16-LN08	SR 114-018-L3.40	T-6/5	T-6/3-L	SR M8X25DIN912
FDN D063-05-16-LN08	SR 114-018-L4.40	T-6/5	T-6/3-L	SR M8X25DIN912
FDN D063-06-16-LN08	SR 114-018-L5.30	T-6/5	T-6/3-L	SR M8X25DIN912
FDN D080-03-22-LN08	SR 114-018-L2.50	T-6/5	T-6/3-L	SR M10X25 DIN912
FDN D080-04-22-LN08	SR 114-018-L3.40	T-6/5	T-6/3-L	SR M10X25 DIN912
FDN D080-05-22-LN08	SR 114-018-L4.40	T-6/5	T-6/3-L	SR M10X25 DIN912
FDN D080-06-22-LN08	SR 114-018-L5.30	T-6/5	T-6/3-L	SR M10X25 DIN912
FDN D100-03-27-LN08	SR 114-018-L2.50	T-6/5	T-6/3-L	
FDN D100-04-27-LN08	SR 114-018-L3.40	T-6/5	T-6/3-L	
FDN D100-05-27-LN08	SR 114-018-L4.40	T-6/5	T-6/3-L	
FDN D100-06-27-LN08	SR 114-018-L5.30	T-6/5	T-6/3-L	

TANGSLOT
FDN-LN12

Full Slot Cutters Carrying LNET
12... Tangentially Mounted Inserts


Designation	DC	CICT(4)	ZEFP	DCONMS	DHUB	CDX	LU	OAL	Arbor(5)	 kg	CW	Inserts
FDN D080-07-22-LN12(1)	80.00	8	4	22.00	45.00	22.00	28.20	40.00	A	0.40	7.0 8.0 8.5	LN12 1240.. LN12 1245.. LN12 1248..
FDN D080-10-22-LN12(2)	80.00	8	4	22.00	45.00	22.00	28.20	40.00	A	0.40	10.0 10.5 12.0	LN12 1255.. LN12 1257.. LN12 1265...
FDN D100-07-27-LN12(1)	100.00	10	5	27.00	55.00	25.00	28.50	40.00	B	0.44	7.0 8.0 8.5	LN12 1240.. LN12 1245.. LN12 1248...
FDN D100-10-27-LN12(2)	100.00	10	5	27.00	55.00	25.00	28.50	40.00	B	0.61	10.0 10.5 12.0	LN12 1255.. LN12 1257.. LN12 1265...
FDN D125-07-32-LN12(1)	125.00	12	6	32.00	65.00	34.50	32.00	45.00	B	0.60	7.0 8.0 8.5	LN12 1240.. LN12 1245.. LN12 1248...
FDN D125-10-32-LN12(2)	125.00	12	6	32.00	65.00	34.50	32.00	45.00	B	1.30	10.0 10.5 12.0	LN12 1255.. LN12 1257.. LN12 1265...
FDN D160-10-40-LN12(2)	160.00	16	8	40.00	80.00	44.00	33.50	50.00	B	1.76	10.0 10.5 12.0	LN12 1255.. LN12 1257.. LN12 1265...
FDN D200-08-40-LN12(3)	200.00	20	10	40.00	92.00	51.50	49.50	50.00	C	2.63	8.0 8.5 9.0 10.0	LN12 1245.. LN12 1248.. LN12 1250.. LN12 1255...
FDN D200-10-40-LN12(2)	200.00	20	10	40.00	92.00	51.50	49.50	50.00	C	2.95	10.0 10.5 12.0	LN12 1255.. LN12 1257.. LN12 1265...
FDN D250-10-60-LN12(2)	250.00	26	13	40.00	132.00	56.50	62.50	63.00	C	5.91	10.0 10.5 12.0	LN12 1255.. LN12 1257.. LN12 1265...

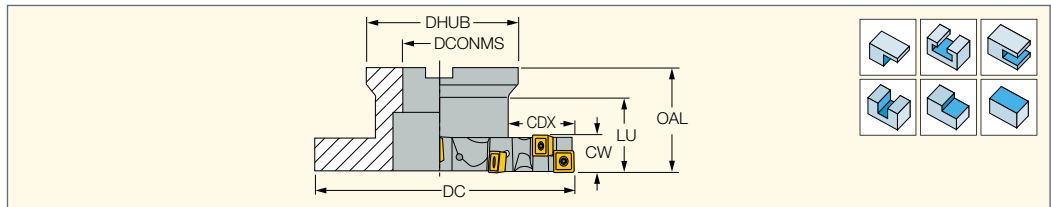
- Slot width depends on the selected insert width
 - Each tool is supplied with screws for the thinnest specified insert
 - Verify use of correct screw for the insert being used
 - For user guide, see
 - (1) For $a_p=7.0$ use screw SR 14-500-L5.9
 - For $a_p=8.0$ use screw SR 14-500-L6.5
 - For $a_p=8.5$ use screw SR 14-500-L7.0
 - (2) For $a_p=10.0$ and 10.5 use screw SR 14-500-L8.5
 - For $a_p=12.0$ use screw SR 14-500-L10.0
 - (3) For $a_p=8.0$ and 8.5 use screw SR 14-500-L7.0
 - For $a_p=9.0$ use screw SR 14-500-L8.0
 - For $a_p=10.0$ use screw SR 14-500-L8.5
 - (5) Number of inserts
 - (6) For adaptation options, see page 548
- For inserts, see pages:** LNET 12-TN (493) • LNET 12-TN-MM (493)

Spare Parts

Designation			
FDN D080-07-22-LN12	SR 14-500-L5.9	RATCHET WRENCH KEY	T-15/51-BE
FDN D080-10-22-LN12	SR 14-500-L8.5	RATCHET WRENCH KEY	T-15/51-BE
FDN D100-07-27-LN12	SR 14-500-L5.9	RATCHET WRENCH KEY	T-15/51-BE
FDN D100-10-27-LN12	SR 14-500-L8.5	RATCHET WRENCH KEY	T-15/51-BE
FDN D125-07-32-LN12	SR 14-500-L5.9	RATCHET WRENCH KEY	T-15/51-BE
FDN D125-10-32-LN12	SR 14-500-L8.5	RATCHET WRENCH KEY	T-15/51-BE
FDN D160-10-40-LN12	SR 14-500-L8.5	RATCHET WRENCH KEY	T-15/51-BE
FDN D200-08-40-LN12	SR 14-500-L7.0	RATCHET WRENCH KEY	T-15/51-BE
FDN D200-10-40-LN12	SR 14-500-L8.5	RATCHET WRENCH KEY	T-15/51-BE
FDN D250-10-60-LN12	SR 14-500-L8.5	RATCHET WRENCH KEY	T-15/51-BE

FDN

Full Slot Flange-Type
Slotting Cutters



Designation	DC	CW	CDX ⁽¹⁾	CICT ⁽²⁾	ZEFP	DHUB	DCONMS	LU	OAL	Arbor ⁽³⁾	kg	MIID ⁽⁴⁾
FDN D080-08-22-R06	80.00	8.00	22.70	14	7	45.00	22.00	28.1	40.00	A	0.34	XOMT 060204-HQ
FDN D100-08-27-R06	100.00	8.00	26.40	16	8	55.00	27.00	28.8	40.00	B	0.53	XOMT 060204-HQ
FDN D100-10-27-R06	100.00	10.00	26.50	16	8	55.00	27.00	29.5	40.00	B	0.59	XOMT 060204-HQ
FDN D125-10-32-R06	125.00	10.00	35.50	20	10	65.00	32.00	32.0	45.00	B	0.94	XOMT 060204-HQ
FDN D125-12-32-R10	125.00	12.00	35.50	14	7	65.00	32.00	32.0	45.00	B	1.00	XPMT 100408-HQ
FDN D125-16-32-R10	125.00	16.00	34.00	14	7	65.00	32.00	37.0	50.00	B	1.25	XPMT 100408-HQ
FDN D160-12-40-R10	160.00	12.00	46.90	16	8	80.00	40.00	33.5	50.00	B	1.77	XPMT 100408-HQ
FDN D160-16-40-R10	160.00	16.00	46.50	16	8	80.00	40.00	43.5	60.00	B	2.13	XPMT 100408-HQ
FDN D160-16-40-R12	160.00	16.00	46.90	14	7	80.00	40.00	43.5	60.00	B	2.08	QDMT 1205PDN-RM
FDN D200-20-40-R12	200.00	20.00	62.00	16	8	92.00	40.00	41.0	63.00	E	3.57	QDMT 1205PDN-RM
FDN D250-20-60-R12	250.00	20.00	60.00	18	9	130.00	60.00	50.0	63.00	C	7.13	QDMT 1205PDN-RM

• For user guide, see pages 377-383

⁽¹⁾ Cutting depth maximum

⁽²⁾ Number of inserts

⁽³⁾ For adaptation options, see page 548

⁽⁴⁾ Master insert identification

For inserts, see pages: QDCT-PDN (497) • QDMT 1205..PDN-M (498) • QOMT-HQ (494) • QPMT 100408PDN (495) • XOMT-HQ (494)

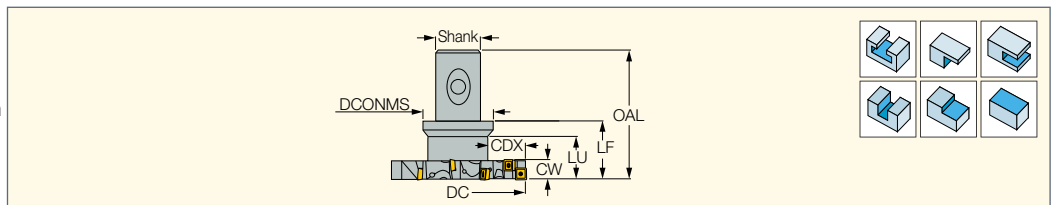
• XPMT-HQ (496)

Spare Parts

Designation					
FDN D080-08-22-R06	SR 34-514	T-7/51			
FDN D100-08-27-R06	SR 34-514	T-7/51			
FDN D100-10-27-R06	SR 34-514	T-7/51			
FDN D125-10-32-R06	SR 34-514	T-7/51			
FDN D125-12-32-R10	SR 14-544/S	T-15/51			
FDN D125-16-32-R10	SR 14-544/S	T-15/51			
FDN D160-12-40-R10	SR 14-544/S	T-15/51			
FDN D160-16-40-R10	SR 14-544/S	T-15/51			
FDN D160-16-40-R12	SR 14-544		BLD T15/M7	SW6-T	PN 3-4
FDN D200-20-40-R12	SR 34-510		BLD T15/L7	SW6-T	PN 3-4
FDN D250-20-60-R12	SR 34-510		BLD T15/L7	SW6-T	PN 3-4

HELICUTCLICKFIT
FDN-CF4

Full Slot Flange-Type Slotting
Cutters with CLICKFIT Adaptation



Designation	DC	CICT ⁽¹⁾	CW	CDX ⁽²⁾	OAL	LF	LU	DCONMS	Shank	kg		
FDN D050-08-CF4-06	50.00	8	8.00	13.90	90.00	48.00	32.0	44.00	CF4	0.44	SR 34-514	T-7/51
FDN D063-08-CF4-06	63.00	10	8.00	18.90	90.00	48.00	33.0	44.00	CF4	0.51	SR 34-514	T-7/51

• For user guide, see pages 377-383

⁽¹⁾ Number of inserts

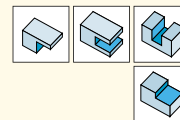
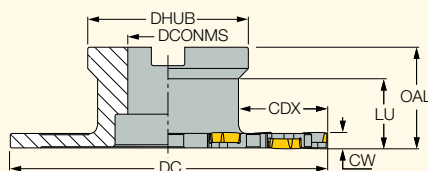
⁽²⁾ Cutting depth maximum

For inserts, see pages: QOMT-HQ (494) • XOMT-HQ (494)

TANGSLOT

FDN-CALN12

Full Slot Adjustable Slotting
Cutters with Cartridges
Carrying LNET 12 Inserts



Designation	DC	CICT ⁽⁴⁾	ZEFP	DCONMS	DHUB	CDX	LUmin	LUmax	OALmin	OALmax	kg	Inserts	Width of Range [a _p]
FDN D100-0608-27R-CALN12⁽¹⁾	100.00	6	3	27.00	55.00	26.00	28.4	29.5	40.0	41.1	0.48	LNET 1235...	6.0-6.5
												LNET 1240...	6.5-7.2
												LNET 1245...	7.0-8.2
FDN D100-0810-27R-CALN12⁽²⁾	100.00	6	3	27.00	55.00	26.00	30.2	31.5	42.0	43.2	0.54	LNET 1248...	8.0-8.7
												LNET 1250...	8.4-9.2
												LNET 1255...	8.9-10.5
FDN D100-1014-27R-CALN12⁽³⁾	100.00	6	3	27.00	55.00	26.00	32.0	34.0	44.5	46.5	0.47	LNET 1265...	10.5-12.2
												LNET 1277...	11.9-14.6
FDN D125-0608-32R-CALN12⁽¹⁾	125.00	8	4	32.00	65.00	34.00	30.2	31.3	45.0	46.1	0.80	LNET 1235...	6.0-6.5
												LNET 1240...	6.5-7.2
												LNET 1245...	7.0-8.2
FDN D125-0810-32R-CALN12⁽²⁾	125.00	8	4	32.00	65.00	34.00	32.0	33.3	47.0	48.2	1.36	LNET 1248...	8.0-8.7
												LNET 1250...	8.4-9.2
												LNET 1255...	8.9-10.5
FDN D160-0608-40R-CALN12⁽¹⁾	160.00	12	6	40.00	80.00	44.00	29.6	30.7	45.0	46.1	1.29	LNET 1235...	6.0-6.5
												LNET 1240...	6.5-7.2
												LNET 1245...	7.0-8.2
FDN D160-0810-40R-CALN12⁽²⁾	160.00	12	6	40.00	80.00	44.00	29.5	30.7	45.0	46.2	1.46	LNET 1248...	8.0-8.7
												LNET 1250...	8.4-9.2
												LNET 1255...	8.9-10.5
FDN D160-1014-40R-CALN12⁽³⁾	160.00	12	6	40.00	80.00	44.00	31.2	33.2	47.5	49.5	2.15	LNET 1265...	10.5-12.2
												LNET 1277...	11.9-14.6

• Slot width depends on the selected insert width; verify use of correct screw for the insert being used • For adaptation options, see page 548

• For cartridges see page 363

⁽¹⁾ For a_p=6.0 use screw SR 14-500-L4.9 • For a_p=6.5 use screw SR 14-500-L5.3 • For a_p=7.0 use screw SR 14-500-L5.9

⁽²⁾ For a_p=8.0 use screw SR 14-500-L6.7 • For a_p=8.4 use screw SR 14-500-L7.0 • For a_p=8.9 use screw SR 14-500-L7.5

⁽³⁾ For a_p=10.5 use screw SR 14-500-L9.0 • For a_p=11.9 use screw SR 14-500-L9.0

⁽⁴⁾ Number of inserts

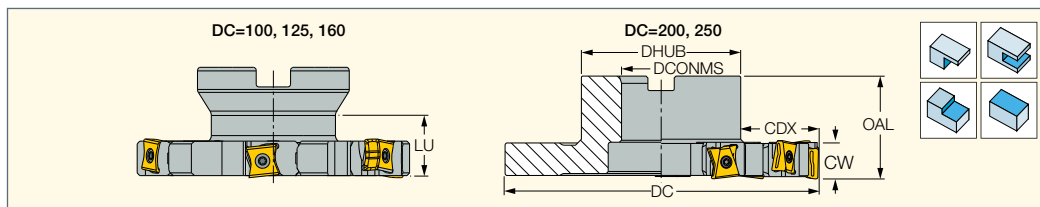
For inserts, see pages: LNET 12-TN (493) • LNET 12-TN-MM (493)

Spare Parts

Designation	
FDN D100-0608-27R-CALN12	CA 0608-R/L-LNET12
FDN D100-0810-27R-CALN12	CA 0810-R/L-LNET12
FDN D100-1014-27R-CALN12	CA 1014-R/L-LNET12
FDN D125-0608-32R-CALN12	CA 0608-R/L-LNET12
FDN D125-0810-32R-CALN12	CA 0810-R/L-LNET12
FDN D160-0608-40R-CALN12	CA 0608-R/L-LNET12
FDN D160-0810-40R-CALN12	CA 0810-R/L-LNET12
FDN D160-1014-40R-CALN12	CA 1014-R/L-LNET12

FDN-CALN11

Full Slot Flange Type Slotting
Cutters with Cartridges
Carrying Tangentially Mounted
LN.. 1106.. Inserts



Designation	CWN ⁽¹⁾	CWX ⁽²⁾	CDX ⁽³⁾	OAL	LU	DC	DHUB	DCONMS	CICT ⁽⁴⁾	ZEFP	Arbor ⁽⁵⁾	kg
FDN D100-1419-27R-CALN11	14.00	19.50	27.00	40.00	23.4	100.00	55.00	27.00	6	3	B	0.83
FDN D125-1419-32R-CALN11	14.00	19.50	34.00	40.00	28.2	125.00	65.00	32.00	8	4	B	1.18
FDN D160-1419-40R-CALN11	14.00	19.50	44.00	50.00	28.9	160.00	80.00	40.00	10	5	B	2.14
FDN D200-1419-40R-CALN11	14.00	19.50	54.00	50.00	-	200.00	92.00	40.00	14	7	C	3.39
FDN D250-1419-60R-CALN11	14.00	19.50	58.00	50.00	-	250.00	132.00	60.00	16	8	C	5.85

• The cutter will be set to the minimum width range, unless a specific width is requested by the user • Half of the inserts are used on right-hand cartridges and half on left-hand cartridges

• For cartridge details, see page 363

⁽¹⁾ Minimum cutting width

⁽²⁾ Maximum cutting width

⁽³⁾ Cutting depth maximum

⁽⁴⁾ Number of inserts

⁽⁵⁾ For adaptation, see page 548

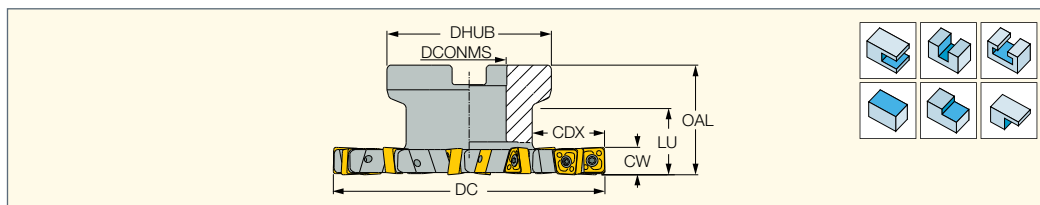
For inserts, see pages: LNAR 1106 (482) • LNHT 1106 PN-N HT (482) • LNHT 1106 PN-R HT (481) • LNKX/LNMT 1106 (481)

Spare Parts

Designation	
FDN-CALN11	CA90 1419-R/L-LN11

HELISLOT
FDN-XN09

Full Slot Flange Type Slotting
Cutters Carrying XNMU 0904
Square Inserts with 4 Right- and
4 Left-Hand Cutting Edges



Designation	DC	CW	CICT ⁽¹⁾	ZEFP	CDX ⁽²⁾	DHUB	DCONMS	LU	OAL	Arbor ⁽³⁾	kg
FDN D080-10-22-XN09	80.00	10.00	10	10	22.50	48.00	22.00	27.0	40.00	A	0.40
FDN D080-12-22-XN09	80.00	12.00	10	5	22.50	48.00	22.00	27.0	40.00	A	0.43
FDN D100-10-27-XN09	100.00	10.00	12	12	26.00	60.00	27.00	25.0	40.00	B	0.64
FDN D100-12-27-XN09	100.00	12.00	12	6	26.00	60.00	27.00	25.0	40.00	B	0.92
FDN D125-10-32-XN09	125.00	10.00	14	14	33.00	65.00	32.00	31.0	45.00	B	1.19
FDN D125-12-32-XN09	125.00	12.00	14	7	33.00	65.00	32.00	31.0	45.00	B	1.08
FDN D160-10-40-XN09	160.00	10.00	18	18	45.00	80.00	40.00	35.0	50.00	B	1.45
FDN D160-12-40-XN09	160.00	12.00	18	9	45.00	80.00	40.00	35.0	50.00	B	1.78

• For user guide, see pages 377-383

⁽¹⁾ Number of inserts

⁽²⁾ Cutting depth maximum

⁽³⁾ For adaptation options, see page 548

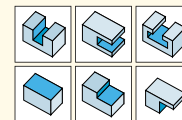
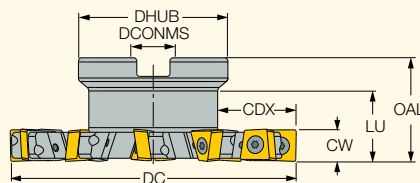
For inserts, see pages: XNMU 0904PN (514)

Spare Parts

Designation		
FDN-XN09	SR 10508600	T-9/51

HELISLOT**FDN-XN13**

Full Slot Flange Type Slotting
Cutters Carrying XN1306
Square Inserts with 4 Right- and
4 Left-Hand Cutting Edges



Designation	DC	CW	CICT ⁽¹⁾	ZEFP	CDX ⁽²⁾	DHUB	DCONMS	LU	OAL	Arbor ⁽³⁾	kg
FDN D100-14-27-XN13	100.00	14.00	10	10	26.00	55.00	27.00	26.5	40.00	B	0.61
FDN D125-14-32-XN13	125.00	14.00	12	12	33.00	65.00	32.00	30.5	45.00	B	1.04
FDN D125-16-32-XN13	125.00	16.00	12	6	33.00	65.00	32.00	30.5	45.00	B	1.13
FDN D160-18-40-XN13	160.00	18.00	14	7	45.00	80.00	40.00	44.0	60.00	B	2.24
FDN D200-20-40-XN13	200.00	20.00	16	8	53.00	92.00	40.00	-	63.00	C	3.81

• For user guide, see pages 377-383

⁽¹⁾ Number of inserts

⁽²⁾ Cutting depth maximum

⁽³⁾ For adaptation options, see page 548

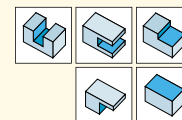
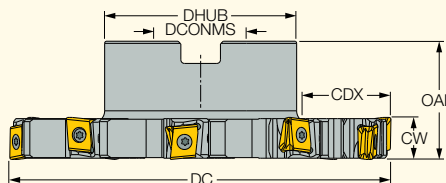
For inserts, see pages: XN13 (514)

Spare Parts

Designation			
FDN-XN13	SR M4-L15-D4.5	BLD IP15/S7	SW6-T-SH

HELITANG
T490 LINE**FDN-CALN13**

Full Slot Adjustable Slotting
Cutters with Cartridges Carrying
T490 LNHT 1306PNTR/L Inserts
(17.5-23.0 mm width range)



Designation	CWN ⁽¹⁾	CWX ⁽²⁾	CDX ⁽³⁾	DC	DHUB	DCONMS	CICT ⁽⁴⁾	ZEFP	OAL	Arbor ⁽⁵⁾	kg
FDN D125-1723-32R-CALN13	17.50	23.00	30.00	126.00	65.00	32.00	8	4	39.25	B	1.43
FDN D160-1723-40R-CALN13	17.50	23.00	39.00	161.00	80.00	40.00	10	5	49.25	B	2.61
FDN D200-1723-40R-CALN13	17.50	23.00	53.00	201.00	92.00	40.00	14	7	49.25	C	3.82
FDN D250-1723-60R-CALN13	17.50	23.00	59.00	251.00	132.00	60.00	16	8	49.25	C	6.55

• Half of the inserts are used on right-hand cartridges and half on left-hand cartridges • For cartridge details, see page 363

• The cutter will be set to the minimum width range unless a specific width is requested by the user

⁽¹⁾ Minimum cutting width

⁽²⁾ Maximum cutting width

⁽³⁾ Cutting depth maximum

⁽⁴⁾ Number of inserts

⁽⁵⁾ For adaptation options, see page 548

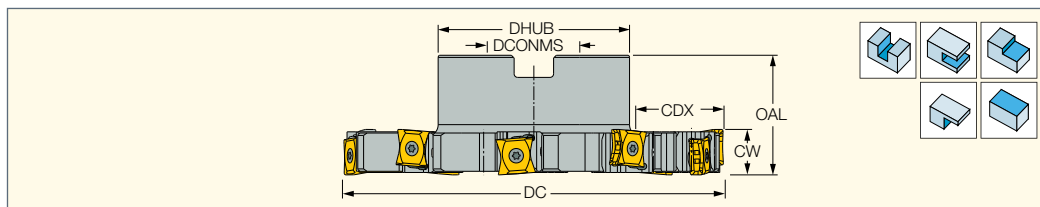
For inserts, see pages: T490 LNMT/LNHT/LNAR 1306 (478)

Spare Parts

Designation	
FDN-CALN13	CA90 1723-R/L-T490-13

FDN-CAPM15

Full Slot Adjustable Slotting
Cutters with Cartridges Carrying
LNAT 1506...-PM Inserts
(18.9-25.6 mm width range)



Designation	CWN ⁽¹⁾	CWX ⁽²⁾	CDX ⁽³⁾	DC	DHUB	DCONMS	CICT ⁽⁴⁾	ZEFP	OAL	Arbor ⁽⁵⁾	kg
FDN D125-1925-32R-CAPM15	18.90	25.60	29.00	125.00	65.00	32.00	8	4	40.00	B	1.42
FDN D160-1925-40R-CAPM15	18.90	25.60	39.00	160.00	80.00	40.00	10	5	50.00	B	2.59
FDN D200-1925-40R-CAPM15	18.90	25.60	53.00	200.00	92.00	40.00	14	7	50.00	C	3.79
FDN D250-1925-60R-CAPM15	18.90	25.60	58.00	250.00	132.00	60.00	16	8	50.00	C	6.55

• Use A type cartridges for inserts with 0.8-1.6 mm radii, B type cartridges for inserts with 2.5-3.2 mm radii and C type cartridges for inserts with 4.0 mm radius

• For cartridge details, see page 363

⁽¹⁾ Minimum cutting width • The cutter will be set to the minimum width range, unless a specific width is requested by the user

⁽²⁾ Maximum cutting width

⁽³⁾ Cutting depth maximum

⁽⁴⁾ Number of inserts

⁽⁵⁾ For adaptation options, see page 548

For inserts, see pages: LNAT 1506-PM (490)

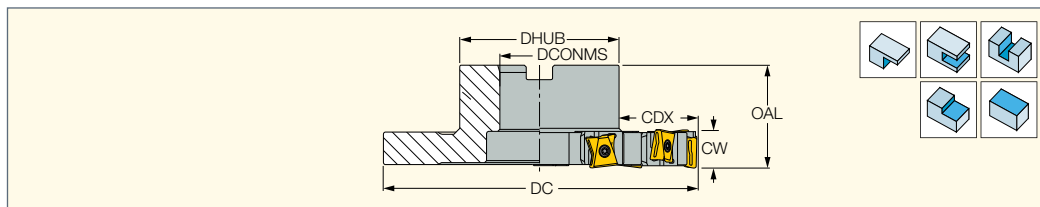
Spare Parts

Designation			
FDN-CAPM15	CA90 1928-R/L-PM15-A	CA90 1928-R/L-PM15-B*	CA90 1928-R/L-PM15-C*

* Optional, should be ordered separately

FDN-CALN15

Full Slot Adjustable Slotting
Cutters with Cartridges
Carrying LN.. 1506... Inserts
(18.9-25.6 mm width range)



Designation	CWN ⁽¹⁾	CWX ⁽²⁾	CDX ⁽³⁾	CICT ⁽⁴⁾	ZEFP	DC	DHUB	DCONMS	Arbor ⁽⁵⁾	OAL	kg
FDN D125-1925-32R-CALN15	18.90	25.60	30.00	8	4	125.00	65.00	32.00	B	40.00	1.43
FDN D160-1925-40R-CALN15	18.90	25.60	40.00	10	5	160.00	80.00	40.00	B	50.00	2.61
FDN D200-1925-40R-CALN15	18.90	25.60	54.00	14	7	200.00	92.00	40.00	C	50.00	0.38
FDN D250-1925-60R-CALN15	18.90	25.60	59.00	16	8	250.00	132.00	60.00	C	50.00	6.56

• Each cutter body can be changed into full slot, bottom or top milling configuration by mounting the cartridges accordingly

• For cartridge details, see page 363

⁽¹⁾ Minimum cutting width • The cutter will be set to the minimum width range, unless a specific width is requested by the user

⁽²⁾ Maximum cutting width

⁽³⁾ Cutting depth maximum

⁽⁴⁾ Number of inserts

⁽⁵⁾ For adaptation options, see page 548

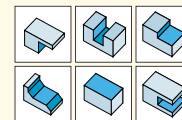
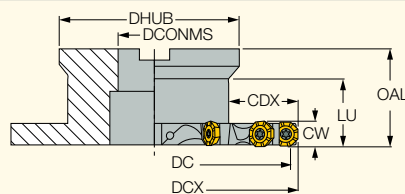
For inserts, see pages: LNKX 1506PN-N PL (486) • LNKX/LNMT 1506PNTN/PN-N MM (486) • LNMT/LNHT 1506...-N HT (488) • LNMW 1506 PNTN (486)

Spare Parts

Designation	
FDN-CALN15	CA90 1928-R/L-LN15

ISCAR^{MILL}
FDN-CM

Flange Type Full Width Slotting
Cutters Carrying Round
and Octagonal Inserts



Designation													
	CICT ⁽²⁾	ZEFP	DCX	DC	CW	Dimensions			LU	OAL	Arbor ⁽³⁾		
FDN CM-D080-12-22-FE ⁽¹⁾	6	6		80.51	68.60	12.15	23.25			28.2	40	A	0.35
				80.00	72.77	11.70	23.00	22	45				
				81.20	68.50	12.85	23.60						
FDN CM-D100-12-27-FE ⁽¹⁾	8	8		100.51	88.60	12.15	26.75			28.5	40	B	0.57
				100.00	92.77	11.70	26.50	27	55				
				101.20	88.50	12.85	27.10						
FDN CM-D125-12-32-FE ⁽¹⁾	10	10		125.51	113.60	12.15	35.25			32.0	45	B	0.94
				125.00	117.77	11.70	35.00	32	65				
				126.20	113.50	12.85	35.60						

 R90MT 1205  O45MT 050505  R90MT 43

⁽¹⁾ Fully effective cutter

⁽⁴⁾ Number of inserts

⁽⁵⁾ For adaptation options, see page 548

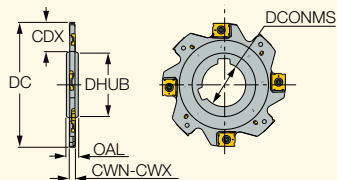
Spare Parts

Designation			
FDN-CM	SR 14-544/S	BLD T15/M7	SW6-T





● With adjustable cartridges

MINI-TANGSLOT**SDN-LN08**Disk Type Grooving and
Slitting Cutters

Designation	DC	CWN ⁽¹⁾	CWX ⁽²⁾	CDX ⁽³⁾	CICT ⁽⁴⁾	ZEFP	DHUB	DCONMS	THUB
SDN D063-03-22-LN08	63.00	3.00 ⁽⁵⁾	3.00 ⁽⁵⁾	14.80	8	4	32.00	22.00	6.00
SDN D063-04-22-LN08	63.00	4.00 ⁽⁶⁾	4.50 ⁽⁹⁾	14.80	8	4	32.00	22.00	6.00
SDN D063-05-22-LN08	63.00	5.00 ⁽⁷⁾	5.50 ⁽¹⁰⁾	14.80	8	4	32.00	22.00	7.00
SDN D063-06-22-LN08	63.00	6.00 ⁽⁸⁾	6.50 ⁽¹¹⁾	14.80	8	4	32.00	22.00	7.00
SDN D080-04-22-LN08	80.00	4.00 ⁽⁶⁾	4.50 ⁽⁹⁾	22.00	10	5	34.00	22.00	6.00
SDN D080-05-22-LN08	80.00	5.00 ⁽⁷⁾	5.50 ⁽¹⁰⁾	22.00	10	5	34.00	22.00	7.00
SDN D080-06-22-LN08	80.00	6.00 ⁽⁸⁾	6.50 ⁽¹¹⁾	22.00	10	5	34.00	22.00	7.00
SDN D100-03-27-LN08	100.00	3.00 ⁽⁵⁾	3.00 ⁽⁵⁾	27.00	12	6	42.00	27.00	8.00
SDN D100-04-27-LN08	100.00	4.00 ⁽⁶⁾	4.50 ⁽⁹⁾	27.00	12	6	42.00	27.00	8.00
SDN D100-05-27-LN08	100.00	5.00 ⁽⁷⁾	5.50 ⁽¹⁰⁾	26.50	12	6	42.00	27.00	10.00
SDN D125-03-32-LN08	125.00	3.00 ⁽⁵⁾	3.00 ⁽⁵⁾	36.50	16	8	48.00	32.00	8.00
SDN D125-04-32-LN08	125.00	4.00 ⁽⁶⁾	4.50 ⁽⁹⁾	36.00	16	8	48.00	32.00	8.00
SDN D125-05-32-LN08	125.00	5.00 ⁽⁷⁾	5.50 ⁽¹⁰⁾	36.00	16	8	48.00	32.00	10.00
SDN D160-04-40-LN08	160.00	4.00 ⁽⁶⁾	4.50 ⁽⁹⁾	48.60	20	10	56.00	40.00	10.00

• For user guide, see pages 377-383

⁽¹⁾ Minimum cutting width⁽²⁾ Maximum cutting width⁽³⁾ Cutting depth maximum⁽⁴⁾ Number of inserts⁽⁵⁾ Use LNET 0818.. insert with SR 114-018-L2.50 screw⁽⁶⁾ Use LNET 0826.. insert with SR 114-018-L3.40 screw⁽⁷⁾ Use LNET 0830.. insert with SR 114-018-L4.40 screw⁽⁸⁾ Use LNET 0835.. insert with SR 114-018-L5.30 screw⁽⁹⁾ Use LNET 0828.. insert with SR 114-018-L3.40 screw⁽¹⁰⁾ Use LNET 0832.. insert with SR 114-018-L4.40 screw⁽¹¹⁾ Use LNET 0837.. insert with SR 114-018-L5.30 screw**For inserts, see pages: LNET 08 (492)****SDN-LN08**

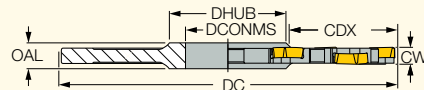
Cutter Designation	CWN-CWX	Insert			
SDN D...-03...-LN08	3.0	LN08 081804-TN-N	SR 114-018-L2.50	T-6/3-L	T-6/51
SDN D...-04...-LN08	4.0	LN08 082604-TN-N	SR 114-018-L3.40	T-6/3-L	T-6/51
	4.5	LN08 082804-TN-N	SR 114-018-L3.40	T-6/3-L	T-6/51
SDN D...-05...-LN08	5.0	LN08 083004-TN-N	SR 114-018-L4.40	T-6/3-L	T-6/51
	5.5	LN08 083204-TN-N	SR 114-018-L4.40	T-6/3-L	T-6/51
SDN D...-06...-LN08	6.0	LN08 083504-TN-N	SR 114-018-L5.30	T-6/3-L	T-6/51
	6.5	LN08 083704-TN-N	SR 114-018-L5.30	T-6/3-L	T-6/51

Spare Parts

Designation			
SDN D063-03-22-LN08	SR 114-018-L2.50	T-6/3-L	T-6/51
SDN D063-04-22-LN08	SR 114-018-L3.40	T-6/3-L	T-6/51
SDN D063-05-22-LN08	SR 114-018-L4.40	T-6/3-L	T-6/51
SDN D063-06-22-LN08	SR 114-018-L5.30	T-6/3-L	T-6/51
SDN D080-04-22-LN08	SR 114-018-L3.40	T-6/3-L	T-6/51
SDN D080-05-22-LN08	SR 114-018-L4.40	T-6/3-L	T-6/51
SDN D080-06-22-LN08	SR 114-018-L5.30	T-6/3-L	T-6/51
SDN D100-03-27-LN08	SR 114-018-L2.50	T-6/3-L	T-6/51
SDN D100-04-27-LN08	SR 114-018-L3.40	T-6/3-L	T-6/51
SDN D100-05-27-LN08	SR 114-018-L4.40	T-6/3-L	T-6/51
SDN D125-03-32-LN08	SR 114-018-L2.50	T-6/3-L	T-6/51
SDN D125-04-32-LN08	SR 114-018-L3.40	T-6/3-L	T-6/51
SDN D125-05-32-LN08	SR 114-018-L4.40	T-6/3-L	T-6/51
SDN D160-04-40-LN08	SR 114-018-L3.40	T-6/3-L	T-6/51

SDN-LN12

Full Slot Disk Type Slotting
Cutters Carrying LNET 12
Tangentially Mounted Inserts



Designation	CICT ⁽⁴⁾	ZEFP	DC	DCONMS	CDX	DHUB	CW	kg	OAL	Inserts
SDN D080-07-27-LN12 ⁽¹⁾	8	4	80.00	27.00	17.00	41.0	12.0	0.78	7.0	LN12 1240..
									8.0	LN12 1245..
									8.5	LN12 1248..
SDN D080-10-27-LN12 ⁽²⁾	8	4	80.00	27.00	17.00	41.0	12.0	0.21	10.0	LN12 1255..
									10.5	LN12 1257..
									12.0	LN12 1265..
SDN D100-07-32-LN12 ⁽¹⁾	10	5	100.00	32.00	24.00	47.0	12.0	0.51	7.0	LN12 1240..
									8.0	LN12 1245..
									8.5	LN12 1248..
SDN D100-10-32-LN12 ⁽²⁾	10	5	100.00	32.00	24.00	47.0	12.0	0.50	10.0	LN12 1255..
									10.5	LN12 1257..
									12.0	LN12 1265..
SDN D125-07-40-LN12 ⁽¹⁾	12	6	125.00	40.00	31.00	55.0	14.0	0.49	7.0	LN12 1240..
									8.0	LN12 1245..
									8.5	LN12 1248..
SDN D125-10-40-LN12 ⁽²⁾	12	6	125.00	40.00	31.00	55.0	14.0	0.60	10.0	LN12 1255..
									10.5	LN12 1257..
									12.0	LN12 1265..
SDN D160-10-40-LN12 ⁽²⁾	16	8	160.00	40.00	50.00	55.0	14.0	1.10	10.0	LN12 1255..
									10.5	LN12 1257..
									12.0	LN12 1265..
SDN D200-08-50-LN12 ⁽³⁾	20	10	200.00	50.00	62.50	70.0	12.0	1.75	8.0	LN12 1245..
									8.5	LN12 1248..
									9.0	LN12 1250..
SDN D200-10-50-LN12 ⁽²⁾	20	10	200.00	50.00	62.50	69.0	14.0	1.90	10.0	LN12 1255..
									10.5	LN12 1257..
									12.0	LN12 1265..
SDN D250-08-50-LN12 ⁽³⁾	26	13	250.00	60.00	84.00	87.0	12.0	3.06	8.0	LN12 1245..
									8.5	LN12 1248..
									9.0	LN12 1250..
SDN D250-08-60-LN12 ⁽³⁾	26	13	250.00	60.00	80.30	84.0	12.0	2.22	10.0	LN12 1255..
									8.0	LN12 1245..
									8.5	LN12 1248..
SDN D250-10-50-LN12 ⁽²⁾	26	13	250.00	60.00	87.00	84.0	14.0	2.13	9.0	LN12 1250..
									10.0	LN12 1255..
									10.5	LN12 1257..
SDN D250-10-60-LN12 ⁽²⁾	26	13	250.00	60.00	80.00	84.0	14.0	2.83	12.0	LN12 1265..
									10.0	LN12 1255..
									10.5	LN12 1257..

- Each tool is supplied with screws for the thinnest specified insert; verify use of the correct screw for the insert being used
 - For more than one insert option, slot width depends on the selected insert width • Gang-mill assembly SDN and left-hand SSB cutters feature two keyways
 - To reduce vibration, it is recommended to assemble gang-mills with alternating keyway position. • For user guide, see pages 377-383
- ⁽¹⁾ For $a_p=7.0$ use screw SR 14-500-L5.9 • For $a_p=8.0$ use screw SR 14-500-L6.5 • For $a_p=8.5$ use screw SR 14-500-L7.0
⁽²⁾ For $a_p=10.0$ and 10.5 use screw SR 14-500-L8.5 • For $a_p=12.0$ use screw SR 14-500-L10.0
⁽³⁾ For $a_p=8.0$ and 8.5 use screw SR 14-500-L7.0 • For $a_p=9.0$ use screw SR 14-500-L8.0 • For $a_p=10.0$ use screw SR 14-500-L8.5
⁽⁵⁾ Number of inserts

For inserts, see pages: LNET 12-TN (493) • LNET 12-TN-MM (493)

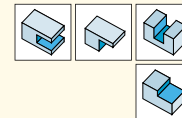
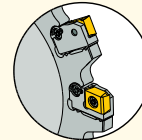
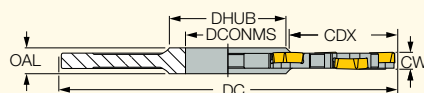
Designation	Insert			⁽¹⁾
SDN-LN12	LN12 1240...	SR 14-500-L5.9	T-15/51-BE	ratchet wrench key
	LN12 1245 D=80-125	SR 14-500-L6.5	T-15/51-BE	
	LN12 1245 D=160-250	SR 14-500-L7.0	T-15/51-BE	
	LN12 1248...	SR 14-500-L7.0	T-15/51-BE	
	LN12 1250...	SR 14-500-L8.0	T-15/51-BE	
	LN12 1255...	SR 14-500-L8.5	T-15/51-BE	
	LN12 1257...	SR 14-500-L8.5	T-15/51-BE	
	LN12 1265...	SR 14-500-L10	T-15/51-BE	

⁽¹⁾ Should be ordered separately, not supplied with the tool

TANGSLOT

SDN-CALN12

Full Slot Disk Type Slotting Cutters
with Cartridges Carrying LNET
12... Tangentially Mounted Inserts



Designation	DC	CICT ⁽⁴⁾	ZEFP	DCONMS	DHUB	CDX	OAL		Inserts	Width of Range [CW]
SDN D100-0608-27-CALN12 ⁽¹⁾	100.00	6	3	27.00	42.0	25.00	16.0	0.63	LNET 1235... LNET 1240... LNET 1245...	6.0-6.5 6.5-7.2 7.0-8.2
SDN D100-0810-27-CALN12 ⁽²⁾	100.00	6	3	27.00	42.0	25.00	18.0	0.82	LNET 1248... LNET 1250... LNET 1255...	8.0-8.7 8.4-9.2 8.9-10.5
SDN D100-1014-27-CALN12 ⁽³⁾	100.00	6	3	27.00	42.0	25.00	20.0	0.48	LNET 1265... LNET 1277...	10.5-12.2 11.9-14.6
SDN D125-0608-40-CALN12 ⁽¹⁾	125.00	8	4	40.00	55.0	32.00	12.0	0.48	LNET 1235... LNET 1240... LNET 1245...	6.0-6.5 6.5-7.2 7.0-8.2
SDN D125-0810-40-CALN12 ⁽²⁾	125.00	8	4	40.00	55.0	32.00	14.0	0.95	LNET 1248... LNET 1250... LNET 1255...	8.0-8.7 8.4-9.2 8.9-10.5
SDN D125-1014-40-CALN12 ⁽³⁾	125.00	8	4	40.00	55.0	32.00	18.0	0.48	LNET 1265... LNET 1277...	10.5-12.2 11.9-14.6
SDN D160-0608-40-CALN12 ⁽¹⁾	160.00	12	6	40.00	55.0	50.00	12.0	1.11	LNET 1235... LNET 1240... LNET 1245...	6.0-6.5 6.5-7.2 7.0-8.2
SDN D160-0810-40-CALN12 ⁽²⁾	160.00	12	6	40.00	55.0	50.00	14.0	0.48	LNET 1248... LNET 1250... LNET 1255...	8.0-8.7 8.4-9.2 8.9-10.5
SDN D160-1014-40-CALN12 ⁽³⁾	160.00	12	6	40.00	55.0	50.00	18.0	1.61	LNET 1265... LNET 1277...	10.5-12.2 11.9-14.6
SDN D200-0608-50-CALN12 ⁽¹⁾	200.00	16	8	50.00	70.0	63.00	12.0	1.50	LNET 1235... LNET 1240... LNET 1245...	6.0-6.5 6.5-7.2 7.0-8.2
SDN D200-0810-50-CALN12 ⁽²⁾	200.00	16	8	50.00	70.0	63.00	14.0	1.70	LNET 1248... LNET 1250... LNET 1255...	8.0-8.7 8.4-9.2 8.9-10.5

• For user guide, see page 377-383 • For cartridge details, see page 363

⁽¹⁾ For $a_p=6.0$ use screw SR 14-500-L4.9 • For $a_p=6.5$ use screw SR 14-500-L5.3 • For $a_p=7.0$ use screw SR 14-500-L5.9

⁽²⁾ For $a_p=8.0$ use screw SR 14-500-L6.7 • For $a_p=8.4$ use screw SR 14-500-L7.0 • For $a_p=8.9$ use screw SR 14-500-L7.5

⁽³⁾ For $a_p=10.5$ use screw SR 14-500-L9.0 • For $a_p=11.9$ use screw SR 14-500-L9.0

⁽⁴⁾ Number of inserts

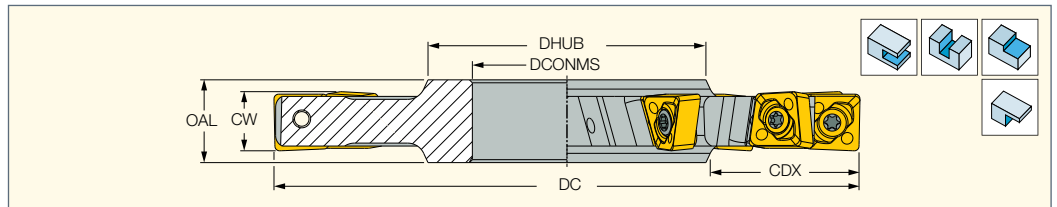
For inserts, see pages: LNET 12-TN (493) • LNET 12-TN-MM (493)

Spare Parts

Designation						
SDN-CALN12	LNET 1235...	SR 14-500-L4.9	CA 0608 R/L-LNET12	T-15/51-BE	SR 14-500-L4.5	ratchet wrench key
	LNET 1240...	SR 14-500-L5.3	CA 0608 R/L-LNET12	T-15/51-BE	SR 14-500-L4.5	
	LNET 1245...	SR 14-500-L5.9	CA 0608 R/L-LNET12	T-15/51-BE	SR 14-500-L4.5	
	LNET 1248...	SR 14-500-L6.7	CA 0810 R/L-LNET12	T-15/51-BE	SR 14-500-L6.1	
	LNET 1250...	SR 14-500-L7.0	CA 0810 R/L-LNET12	T-15/51-BE	SR 14-500-L6.1	
	LNET 1255...	SR 14-500-L7.5	CA 0810 R/L-LNET12	T-15/51-BE	SR 14-500-L6.1	
	LNET 1265...	SR 14-500-L10	CA 1014 R/L-LNET12	T-15/51-BE	SR 14-500-L8.5	
	LNET 1277..	SR 14-500-L10	CA 1014 R/L-LNET12	T-15/51-BE	SR 14-500-L8.5	

SDN-XN09

Full Slot Disk Type Slotting
Cutters Carrying XNMU 0904
Square Inserts with 4 Right- and
4 Left-Hand Cutting Edges



Designation	DC	CW	CICT ⁽¹⁾	ZEFP	CDX	DHUB	DCONMS	OAL	kg
SDN D080-10-27-XN09	80.00	10.00	10	10	20.00	38.00	27.00	14.00	0.20
SDN D080-12-27-XN09	80.00	12.00	10	5	20.00	38.00	27.00	16.00	0.24
SDN D100-10-32-XN09	100.00	10.00	12	12	25.00	47.00	32.00	14.00	0.34
SDN D100-12-32-XN09	100.00	12.00	12	6	25.00	47.00	32.00	16.00	0.42
SDN D125-10-40-XN09	125.00	10.00	14	14	34.00	55.00	40.00	14.00	0.61
SDN D125-12-40-XN09	125.00	12.00	14	7	34.00	55.00	40.00	16.00	0.69
SDN D160-10-40-XN09	160.00	10.00	18	18	51.00	55.00	40.00	14.00	0.61
SDN D160-12-40-XN09	160.00	12.00	18	9	51.00	55.00	40.00	16.00	1.10

• For user guide, see pages 377-383

⁽¹⁾ Number of inserts

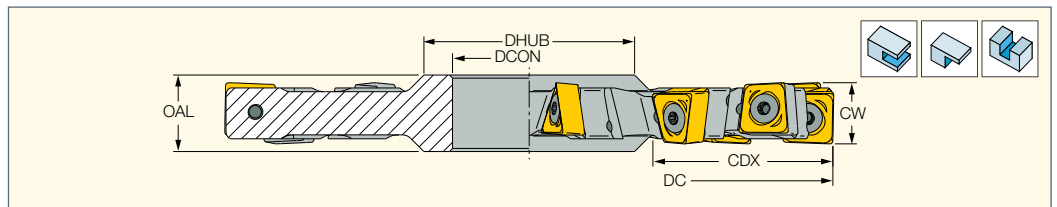
For inserts, see pages: XNMU 0904PN (514)

Spare Parts

Designation		
SDN-XN09	SR 10508600	T-9/51

SDN-XN13

Full Slot Disk Type Slotting
Cutters Carrying XNMU 1306
Square Inserts with 4 Right- and
4 Left-Hand Cutting Edges



Designation	DC	CICT ⁽¹⁾	ZEFP	CW	CDX ⁽²⁾	DHUB	DCONMS	OAL	kg			
SDN D100-14-32-XN13	100.00	10	10	14.00	23.00	47.00	32.00	18.00	0.42	SR M4-L15-D4.5	BLD IP15/S7	SW6-T-SH
SDN D125-14-40-XN13	125.00	12	12	14.00	33.00	55.00	40.00	18.00	0.66	SR M4-L15-D4.5	BLD IP15/S7	SW6-T-SH
SDN D125-16-40-XN13	125.00	12	6	16.00	33.00	55.00	40.00	20.00	0.79	SR M4-L15-D4.5	BLD IP15/S7	SW6-T-SH
SDN D160-16-40-XN13	160.00	14	7	16.00	50.50	55.00	40.00	20.00	1.44	SR M4-L15-D4.5	BLD IP15/S7	SW6-T-SH
SDN D200-20-50-XN13	200.00	16	8	20.00	59.00	69.00	50.00	26.00	2.61	SR M4-L15-D4.5	BLD IP15/S7	SW6-T-SH

• For user guide, see pages 377-383

⁽¹⁾ Number of inserts

⁽²⁾ Cutting depth maximum

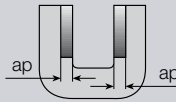
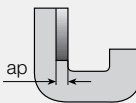
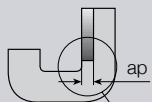
For inserts, see pages: XNMU 13 (514)

Inserts

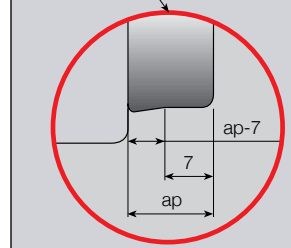
LNHT 1106...HT inserts should be used if a straight groove or shoulder are needed.

When using the other inserts, the machined surface is grooved due to the butterfly insert shape.

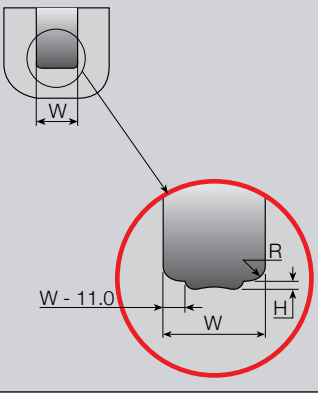
Side Wall Flatness Depending on the Inserts Being Used

Designation	Number of Cutting Edges	Side Flatness $a_{p5} H$ (mm)	Side Flatness $a_{p=10} H$ (mm)	Application	Half Side Tools Axial Depth of Cut a_p (mm)
LNKX 1106...	4R+4L	Flat	0.45		Stock=0-10
LNMT 1106...	4R+4L	Flat	0.45		Stock=0-10
LNHT 1106 - N ⁽¹⁾	2R+2L	Flat	Flat		Stock=0-10
LNKX 1106...	4R	Flat	0.45		Stock=0-10
LNMT 1106...	4R	Flat	0.45		Stock=0-10
LNHT 1106 - R ⁽²⁾	4R	Flat	Flat		Stock=0-10
LNKX 1106...	4L	Flat	0.45		Stock=0-10
LNMT 1106...	4L	Flat	0.45		Stock=0-10
LNHT 1106 - N ⁽¹⁾	2L	Flat	Flat		Stock=0-10

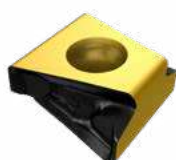
⁽¹⁾ Use of 8 cutting edges (4R+4L) is possible only when $a_p \leq 5$ mm, otherwise 4 cutting edges (2R+2L) can be used



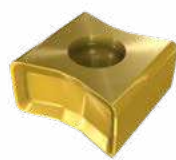
Configuration Guide for Full Slot FDN/SDN... CALN11 Cutters

Designation	Number of Cutting Edges	Bottom Slot Flatness H (mm)	Insert Radius R (mm)	Application	Half Side Tools Axial Depth of Cut W (mm)
LNHT 1106... LNKX 1106...	2R+2L	0.45	0.8		W=14-19.5
LNMT 1106...	2R+2L	0.45	0.8		W=14-19.5
LNHT 1106 - N ⁽¹⁾	2R+2L	Flat	0.8		W=14-19.5

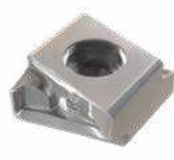
LNHT	1106... - N R.H./L.H.	LNKX 1106... LNMT 1106... R.H./L.H.	(LNHT 1106... - R R.H. only
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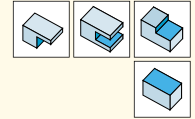
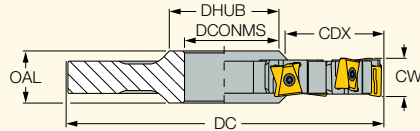
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SDN-CALN11

Full Slot Disk Type Slotting
Cutters with Cartridges
Carrying Tangentially Mounted
LN.. 1106.. Inserts



Designation	CWN ⁽¹⁾	CWX ⁽²⁾	CDX ⁽³⁾	DC	DHUB	DCONMS	CICT ⁽⁴⁾	ZEFP	OAL	kg
SDN D100-1419-27-CALN11	14.00	19.50	26.80	100.00	42.00	27.00	6	3	20.00	0.58
SDN D125-1419-40-CALN11	14.00	19.50	31.50	125.00	56.00	40.00	8	4	20.00	0.90
SDN D160-1419-40-CALN11	14.00	19.50	48.00	160.00	56.00	40.00	10	5	22.00	1.51
SDN D200-1419-50-CALN11	14.00	19.50	61.00	200.00	70.00	50.00	14	7	22.00	2.38
SDN D250-1419-60-CALN11	14.00	19.50	78.00	250.00	85.00	60.00	16	8	26.00	3.88

- Each cutter body can be changed into full slot, bottom or top milling configuration by mounting the cartridges accordingly
- Half of the inserts are used on right-hand cartridges and half on left-hand cartridges • Gang-mill assembly SDN and left-hand SSB cutters feature two keyways
- To reduce vibration, it is recommended to assemble gang-mills with alternating keyway position. • For cartridge details, see page 363

⁽¹⁾ Minimum cutting width • The cutter will be set to the minimum width range, unless a specific width is requested by the user

⁽²⁾ Maximum cutting width

⁽³⁾ Cutting depth maximum

⁽⁴⁾ Number of inserts

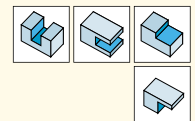
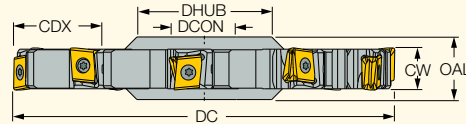
For inserts, see pages: LNAR 1106 (482) • LNHT 1106 PN-N HT (482) • LNHT 1106 PN-R HT (481) • LNKX/LNMT 1106 (481)

Spare Parts

Designation	
SDN-CALN11	CA90 1419-R/L-LN11

SDN-CALN13

Full Slot Adjustable Slotting
Cutters with Cartridges Carrying
T490 LNHT 1306PNTR/L Inserts



Designation	DC	OAL	CWN ⁽¹⁾	CWX ⁽²⁾	CDX ⁽³⁾	CICT ⁽⁴⁾	ZEFP	DHUB	DCON	kg
SDN D125-1723-40-CALN13	126.00	26.00	17.50	23.00	32.00	8	4	56.00	40.00	1.13
SDN D160-1723-40-CALN13	161.00	26.00	17.50	23.00	49.50	10	5	56.00	40.00	1.90
SDN D200-1723-50-CALN13	201.00	26.00	17.50	23.00	61.00	14	7	70.00	50.00	3.01
SDN D250-1723-50-CALN13	251.00	26.00	17.50	23.00	86.00	16	8	70.00	50.00	4.82
SDN D250-1723-60-CALN13	251.00	26.00	17.50	23.00	78.00	16	8	85.00	60.00	4.83

- Each cutter body can be changed into full slot, bottom or top milling configuration by mounting the cartridges accordingly
- Half of the inserts are used on right-hand cartridges and half on left-hand cartridges • Gang-mill assembly SDN and left-hand SSB cutters feature two keyways
- To reduce vibration, it is recommended to assemble gang-mills with alternating keyway position. • For cartridge details, see page 363

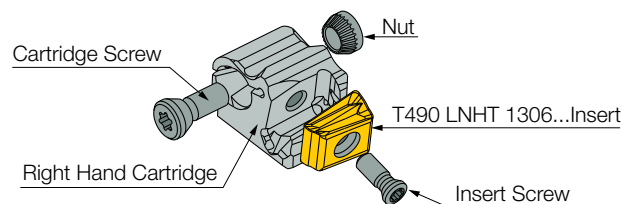
⁽¹⁾ Minimum cutting width • The cutter will be set to the minimum width range, unless a specific width is requested by the user

⁽²⁾ Maximum cutting width

⁽³⁾ Cutting depth maximum

⁽⁴⁾ Number of inserts

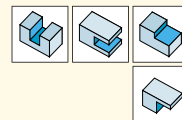
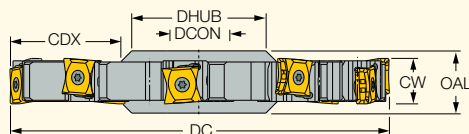
For inserts, see pages: T490 LNMT/LNHT/LNAR 1306 (478)


Spare Parts

Designation	
SDN-CALN13	CA90 1723-R/L-T490-13

SDN-CAPM15

Full Slot Adjustable Slotting
Cutters with Cartridges Carrying
LNAT 1506...-PM Inserts



Designation	DC	OAL	CWN ⁽¹⁾	CWX ⁽²⁾	CDX ⁽³⁾	CICT ⁽⁴⁾	ZEFP	DHUB	DCON	kg
SDN D125-1925-40-CAPM15	125.00	26.00	18.90	25.60	32.50	8	4	56.00	40.00	1.30
SDN D160-1925-40-CAPM15	160.00	26.00	18.90	25.60	48.50	10	5	56.00	40.00	1.90
SDN D250-1925-60-CAPM15	250.00	26.00	18.90	25.60	79.00	16	8	85.00	60.00	4.81

- Each cutter can be changed into full slot, bottom or top milling configuration
- Use A type cartridges for inserts with 0.8-1.6 mm radii, B type cartridges for inserts with 2.5-3.2 mm radii and C type cartridges for inserts with 4.0 mm radius

- Each cutter features two keyways.
- To reduce vibration, it is recommended to assemble gang-mills with alternating keyway position.

- For cartridge details, see page 363

- ⁽¹⁾ Minimum cutting width
- The cutter will be set to the minimum width range, unless a specific width is requested by the user

- ⁽²⁾ Maximum cutting width

- ⁽³⁾ Cutting depth maximum

- ⁽⁴⁾ Number of inserts

For inserts, see pages: LNAT 1506-PM (490)

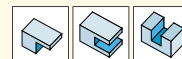
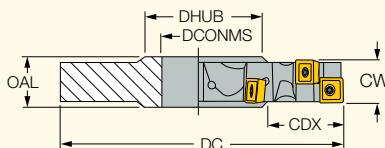
Spare Parts

Designation			
SDN-CAPM15	CA90 1928-R/L-PM15-A	CA90 1928-R/L-PM15-B*	CA90 1928-R/L-PM15-C*

* Optional, should be ordered separately

HELIQUAD
SDN

Full Slot Disk Type Slotting Cutters



Designation	DC	CW	CICT ⁽¹⁾	ZEFP	CDX ⁽²⁾	DHUB	DCONMS	OAL
SDN D080-08-27-06	80.00	8.00	12	6	17.00	41.00	27.00	12.00
SDN D100-08-32-06	100.00	8.00	14	7	24.00	47.00	32.00	12.00
SDN D100-10-32-06	100.00	10.00	14	7	24.00	47.00	32.00	14.00
SDN D125-12-40-10	125.00	12.00	12	6	33.00	55.00	40.00	16.00
SDN D160-12-40-10	160.00	12.00	14	7	50.00	55.00	40.00	16.00
SDN D160-16-40-10	160.00	16.00	14	7	50.00	55.00	40.00	20.00
SDN D160-16-40-12	160.00	16.00	12	6	50.00	55.00	40.00	20.00
SDN D200-18-50-12	200.00	18.00	14	7	50.00	69.00	50.00	24.00
SDN D200-20-50-12	200.00	20.00	14	7	63.00	69.00	50.00	26.00

- For user guide, see pages 377-383

- ⁽¹⁾ Number of inserts

- ⁽²⁾ Cutting depth maximum

For inserts, see pages: QDCT-PDN (497) • QDMT 1205..PDTN-M (498) • QOMT-HQ (494) • QPMT 100408PDTN (495) • XOMT-HQ (494)

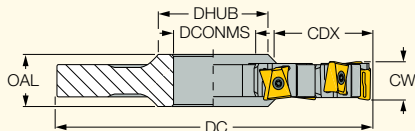
- XPMT-HQ (496)

Spare Parts

Designation					
SDN D080-08-27-06	SR 34-514	T-7/51			
SDN D100-08-32-06	SR 34-514	T-7/51			
SDN D100-10-32-06	SR 34-514	T-7/51			
SDN D125-12-40-10	SR 14-544/S	T-15/51			
SDN D160-12-40-10	SR 14-544/S	T-15/51			
SDN D160-16-40-10	SR 14-544/S	T-15/51			
SDN D160-16-40-12	SR 34-510		PN 3-4	BLD T15/M7	SW6-T
SDN D200-18-50-12	SR 34-510		PN 3-4	BLD T15/M7	SW6-T
SDN D200-20-50-12	SR 34-510		PN 3-4	BLD T15/M7	SW6-T

SDN-CALN15

Full Slot Disk Type Slotting
Cutters with Cartridges
Carrying Tangentially Mounted
LN.. 1506.. Inserts



Designation	CWN ⁽¹⁾	CWX ⁽²⁾	CDX ⁽³⁾	CICT ⁽⁴⁾	ZEFP	DC	DHUB	DCONMS	OAL	kg
SDN D125-1925-40-CALN15	18.90	25.60	32.50	8	4	125.00	56.00	40.00	26.00	0.39
SDN D160-1925-40-CALN15	18.90	25.60	48.50	10	5	160.00	56.00	40.00	26.00	0.00
SDN D200-1925-50-CALN15	18.90	25.60	61.50	14	7	200.00	70.00	50.00	26.00	3.03
SDN D250-1925-60-CALN15	18.90	25.60	79.00	16	8	250.00	85.00	60.00	26.00	4.80

- Each cutter body can be changed into full slot, bottom or top milling configuration by mounting the cartridges accordingly
- Half of the inserts are used on right-hand cartridges and half on left-hand cartridges • Gang-mill assembly SDN and left-hand SSB cutters feature two keyways.
- To reduce vibration, it is recommended to assemble gang-mills with alternating keyway position. • For cartridge details, see page 363

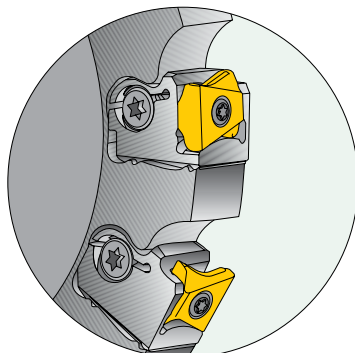
⁽¹⁾ Minimum cutting width • The cutter will be set to the minimum width range, unless a specific width is requested by the user

⁽²⁾ Maximum cutting width

⁽³⁾ Cutting depth maximum

⁽⁴⁾ Number of inserts

For inserts, see pages: LNKX 1506PN-N PL (486) • LNKX/LNMT 1506PNTN/PN-N MM (486) • LNMT/LNHT 1506...-N HT (488) • LNMW 1506 PNTN (486)



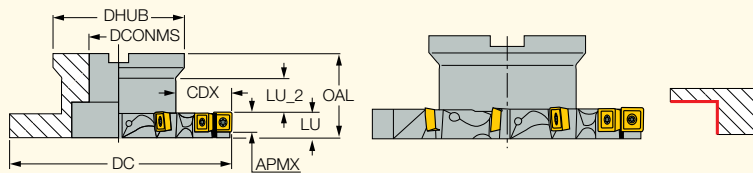
SDN-CALN

Spare Parts

Designation	
SDN-CALN15	CA90 1928-R/L-LN15

ISCARMILL
FST

Top-Side Cutting, Flanged
Type Slotting Cutters



Designation	DC	APMX	CICT ⁽¹⁾	CDX ⁽²⁾	DHUB	DCONMS	LU_2	LU	OAL	Arbor ⁽³⁾		
FST D100-12-27-R10	100.00	9.00	11	25.00	55.00	27.00	17.5	12.00	40.00	B	SR 14-544/S	T-15/51
FST D125-12-32-R10	125.00	9.00	13	34.00	65.00	32.00	20.0	12.00	45.00	B	SR 14-544/S	T-15/51

⁽¹⁾ Number of inserts

⁽²⁾ Cutting depth maximum

⁽³⁾ For adaptation options, see page 548

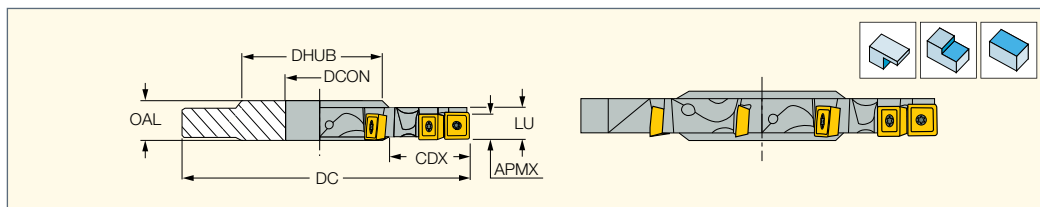
For inserts, see pages: ADKR 1505PDR/L-HM (456) • ADKT 1505..R/L-HM (459) • ADKT 1505PDR/L-HM (458) • ADKT 1505PDTR/L-RM (458)

• QDCT-PDN (497) • QDMT 1205..PDTN-M (498) • QPMT 100408PDTN (495) • XPMT-HQ (496)

ISCAR^{MILL}

SSB

Single-Side Cutting, Disk
Type Slotting Cutters



Designation	APMX	DC	CICT ⁽¹⁾	CDX ⁽²⁾	DHUB	DCONMS	LU	OAL		
SSB D100-12-32-R/L10	9.00	100.00	9	26.00	47.00	32.00	12.00	16.00	SR 14-544/S	T-15/51
SSB D125-12-40-R/L10	9.00	125.00	11	35.00	55.00	40.00	12.00	16.00	SR 14-544/S	T-15/51
SSB D160-16-40-R/L10	9.00	160.00	13	52.00	55.00	40.00	16.00	20.00	SR 14-544/S	T-15/51

⁽¹⁾ Number of inserts

⁽²⁾ Cutting depth maximum

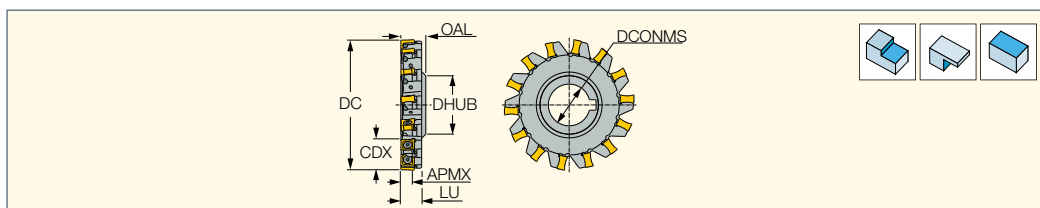
For inserts, see pages: QDCT-PDN (497) • QDMT 1205..PDTN-M (498) • QPMT 100408PDTN (495) • SPCT/SPMR PDR (496) • SPMT-HQ (495)

• XPMT-HQ (496)

HELIDO^{890 LINE}

S890 SSB-13

Half Side / Face Disk Milling
Cutters Carrying HELIDO
S890 SNMU 1305 Inserts



Designation	DC	APMX	NOF ⁽¹⁾	CDX ⁽²⁾	DHUB	DCONMS	LU	OAL	kg			
S890 SSB D125-20-40-R/L13	125.00	9.00	14	33.00	56.00	40.00	20.00	24.00	1.20	SR 11800745	BLD IP15/S7	SW6-T-SH

⁽¹⁾ Number of flutes

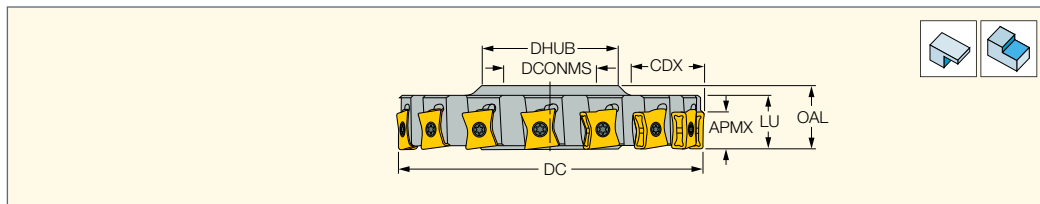
⁽²⁾ Cutting depth maximum

For inserts, see pages: S890 SNMU 1305PN... (504)

TANGMILL^{TANGENTIAL LINE}

SSB-LN15-R/L

Single-Side Cutting, Disk
Type Slotting Cutters



Designation	DC	CICT ⁽¹⁾	CDX ⁽²⁾	APMX	DHUB	DCONMS	LU	OAL	kg			
SSB D080-22-27-LN15-R/L	80.00	10	18.00	14.00	42.00	27.00	22.00	24.00	0.56	SR 34-535	BLD T15/M7	SW6-T-SH
SSB D100-22-32-LN15-R/L	100.00	12	26.00	14.00	48.00	32.00	22.00	26.00	0.95	SR 34-535	BLD T15/M7	SW6-T-SH
SSB D125-22-40-LN15-R/L	125.00	15	35.00	14.00	56.00	40.00	22.00	26.00	1.51	SR 34-535	BLD T15/M7	SW6-T-SH
SSB D160-22-40-LN15-R/L	160.00	20	52.00	14.00	56.00	40.00	22.00	26.00	2.64	SR 34-535	BLD T15/M7	SW6-T-SH
SSB D200-24-50-LN15-R/L	200.00	25	65.00	14.00	70.00	50.00	24.00	28.00	4.66	SR 34-535	BLD T15/M7	SW6-T-SH

• Note: Left-hand cutters are designated by a yellow groove

⁽¹⁾ Number of inserts

⁽²⁾ Cutting depth maximum

For inserts, see pages: LNAT 1506-W (489) • LNAT 1506..PN-N MM (489) • LNAW-15 (CBN) (485) • LNHW 1506 PNTN (ceramic) (488)

• LNKX 1506 1.5X45 PN-N (487) • LNKX 1506PN-N PL (486) • LNKX/LNMT 1506PNTN/PN-N MM (486) • LNMT/LNHT 1506...-N HT (488)

• LNMT/LNHT 1506PN-R HT (487) • LNMT 1506 PNTN (486)



LNMT 1506PTNT-HT
R.H./L.H.



LNKX 1506...
LNMT 1506...
R.H./L.H.

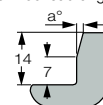


LNMT 1506PN-R-HT
R.H. only

Gang-Mill Assembly

SDN and left-hand SSB cutters feature two keyways. It is recommended to assemble gang-mills with alternating keyway position. This practice reduces vibration.

90° lead angle cutter
For DC=80 lead angle cutter a=6°
For DC≥100 lead angle cutter a=4.5°

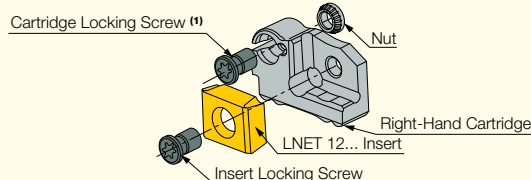


CA	08	10	R	LN	12
CA - Cartridge					
Range of Adjustment					
Minimum Width of Cut					
Maximum Width of Cut					
R.H. / L.H.					
Type of Insert: LNET/R 12					
Insert Size					

TANGSLOT

CA-R/L-LNET 12

Adjustable Cartridge for FDN/
SDN-CALN 12 Full Slot
Adjustable Slotting Cutters



Cartridge	Cartridge Locking Screw	Nut	Width of Cut Min.	Insert Max.	Insert Designation	Clamping Screw
CA 0608-R/L-LNET 12	SR 14-500-L4.5	NUT M4-2.2	6.00	6.50	LNET 1235...	SR 14-500/L4.9
			6.50	7.20	LNET 1240...	SR 14-500/L5.3
			7.00	8.20	LNET 1245..	SR 14-500/L5.9
CA 0810-R/L-LNET 12	SR 14-500-L6.1	NUT M4-2.2	8.00	8.70	LNET 1248..	SR 14-500/L6.7
			8.40	9.20	LNET 1250..	SR 14-500/L7.0
			8.90	10.5	LNET 1255..	SR 14-500/L7.5
CA 1014-R/L-LNET 12	SR 14-500-L8.5	NUT M4-2.2	10.5	12.2	LNET 1265..	SR 14-500/L9.0
			11.9	14.6	LNET 1277..	

Each insert size should be ordered with its appropriate screw. When changing insert size, a new screw has to be ordered

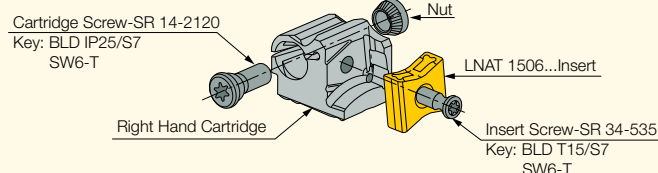
Keys: Torx T-15/51-BE Ratchet wrench key

(1) Tightening torque: $4.5 \div 5 \text{ Nm}$

TANGMILL

CA90 1928-R/L-PM15

Adjustable Cartridge for SDN and
FDN-CAPM15 Slotting Cutters



Designation	a_p min	a_p max			
CA90 1928-R/L-PM15-A (1)	18.90	25.60	SR 34-535	NUT M5-4.5	SR 14-2120
CA90 1928-R/L-PM15-B (2)	18.90	25.60	SR 34-535	NUT M5-4.5	SR 14-2120
CA90 1928-R/L-PM15-C (3)	18.90	25.60	SR 34-535	NUT M5-4.5	SR 14-2120

(1) For inserts with 0.8-1.6 mm radii

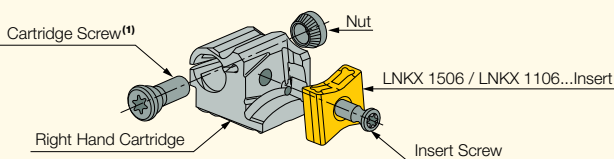
(2) For inserts with 2.5-3.2 mm radii

(3) For inserts with 4.0 mm radius

TANGMILL

CA90-R/L-LN11/15

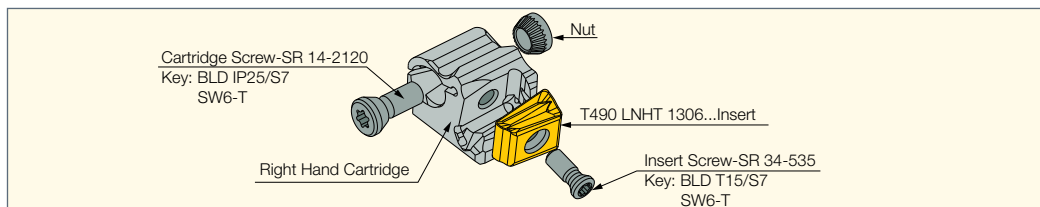
Adjustable Cartridge for SDN
and FDN-CALN11/CALN15



Designation	a_p min	a_p max			
CA90 1419-R/L-LN11	14.00	19.50	SR 34-550	SR 14-2120/L11.2	NUT M5-4.5
CA90 1928-R/L-LN15	18.90	25.60	SR 34-535	SR 14-2120	NUT M5-4.5

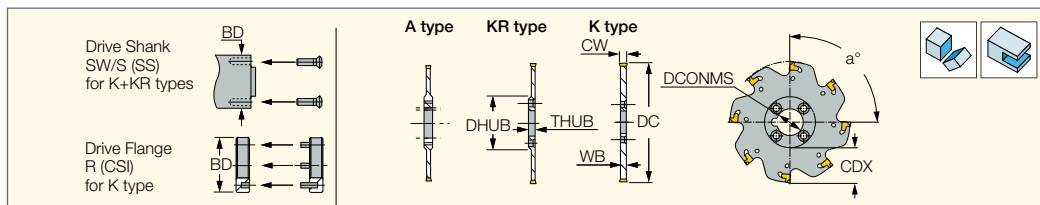
HELITANG
T490 LINE

CA90 1723-R/L-T490-13

Adjustable Cartridge for
SDN and FDN-CALN13


Designation	a_p min	a_p max			
CA90 1723-R/L-T490-13	17.50	23.00	SR 34-535-SN	SR 14-2120	NUT M5-4.5

TANGSLIT
TGSF

Slitting Cutters Carrying
TANG-GRIP Inserts


Designation	DC	CICT ⁽²⁾	CWN ⁽³⁾	CWX ⁽⁴⁾	WB	BD	DCONMS	CDX ⁽⁵⁾	RPMX ⁽⁶⁾	a° ⁽⁷⁾	MIID ⁽⁸⁾	
TGSF 50-3-8K	50.00	4	3.00	3.05	2.50	-	8.00	10.00	6300	90	TAG N3C	ETG 3-4-SH*
TGSF 50-1.6-8KR	50.00	5	1.60	1.65	1.30	28.00	8.00	10.00	1600	90	TAG N1.6C	ETG 2-SH-T*
TGSF 50-2-8KR	50.00	5	2.00	2.05	1.65	28.00	8.00	10.00	1600	90	TAG N2C	ETG 2-SH-T*
TGSF 63-3-10K	63.00	5	3.00	3.05	2.50	-	10.00	14.50	5000	90	TAG N3C	ETG 3-4-SH*
TGSF 63-4-10K	63.00	5	4.00	4.05	3.30	-	10.00	14.50	5000	90	TAG N4C	ETG 3-4-SH*
TGSF 63-1.6-10KR	63.00	6	1.60	1.65	1.30	32.00	10.00	15.00	1200	90	TAG N1.6C	ETG 1.4/1.6*
TGSF 63-2-10KR	63.00	6	2.00	2.05	1.65	32.00	10.00	14.50	1260	90	TAG N2C	ETG 2*
TGSF 76-1.6-22A	76.00	8	1.60	1.65	1.30	39.00	22.00	18.00	1050	90	TAG N1.6C	ETG 1.4/1.6*
TGSF 80-3-22K	80.00	7	3.00	3.05	2.50	-	22.00	19.00	3900	90	TAG N3C	ETG 3-4-SH*
TGSF 80-4-22K	80.00	7	4.00	4.05	3.30	-	22.00	19.00	3900	90	TAG N4C	ETG 3-4-SH*
TGSF 80-2-22KR	80.00	8	2.00	2.05	1.65	40.00	22.00	19.00	1000	90	TAG N2C	ETG 2*
TGSF 100-3-22K ⁽¹⁾	100.00	8	3.00	3.05	2.50	-	22.00	29.00	4770	90	TAG N3C	ETG 3-4-SH*
TGSF 100-4-22K ⁽¹⁾	100.00	8	4.00	4.05	3.30	-	22.00	29.00	4770	90	TAG N4C	ETG 3-4-SH*
TGSF 100-1.6-22A	100.00	10	1.60	1.65	1.30	39.00	22.00	30.00	800	90	TAG N1.6C	ETG 1.4/1.6*
TGSF 100-2-22KR	100.00	11	2.00	2.05	1.65	40.00	22.00	29.00	800	90	TAG N2C	ETG 2*
TGSF 125-3-32K	125.00	10	3.00	3.05	2.50	-	32.00	34.00	3820	90	TAG N3C	ETG 3-4-SH*
TGSF 125-4-32K	125.00	10	4.00	4.05	3.30	-	32.00	34.00	3820	90	TAG N4C	ETG 3-4-SH*
TGSF 125-1.6-27A	125.00	12	1.60	1.65	1.30	64.00	27.00	30.00	640	90	TAG N1.6C	ETG 1.4/1.6*
TGSF 125-2-32KR	125.00	13	2.00	2.05	1.65	55.00	32.00	34.00	640	90	TAG N2C	ETG 2*
TGSF 160-3-32K	160.00	12	3.00	3.05	2.50	-	32.00	52.00	2980	90	TAG N3C	ETG 3-4-SH*
TGSF 160-4-40K	160.00	12	4.00	4.05	3.30	-	40.00	39.00	2980	90	TAG N4C	ETG 3-4-SH*

• ETG extractor should be ordered separately • For drive flange set dimensions, refer to Drive Flange R

⁽¹⁾ CDX=26 and BD=46 when used with drive flange

⁽²⁾ Number of inserts

⁽³⁾ Minimum cutting width

⁽⁴⁾ Maximum cutting width

⁽⁵⁾ Cutting depth maximum

⁽⁶⁾ Maximum RPM

⁽⁷⁾ Angle between the key slots

⁽⁸⁾ Master insert identification

* Optional, should be ordered separately

For inserts, see pages: TAG N-A (367) • TAG N-C/W/M (366) • TAG N-J/JS/JT (367)

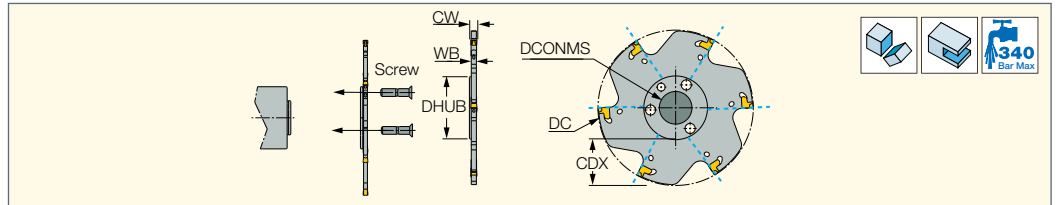
For holders, see pages: BT-SEMC (647) • C#-SEMC (623) • DIN2080-SEMC (655) • DIN69871-SEMC (578) • HSK A-SEMC (605) • SW/S (371)


Insert
Insertion

Insert
Extraction


TGSF-JHP

Slitting Cutters with
Coolant Channels Carrying
TANG-GRIP Inserts



Designation	CW	DC	CICT ⁽¹⁾	WB	DHUB	DCONMS	CDX	RPMX ⁽²⁾	MIID ⁽³⁾	
TGSF 63-3-10K-JHP	3.00	63.00	6	2.50	32.00	10.00	14.00	5000	TAG N3C	ETG 3-4-SH*
TGSF 80-3-22K-JHP	3.00	80.00	6	2.50	40.00	22.00	19.00	3900	TAG N3C	ETG 3-4-SH*
TGSF 100-3-22K-JHP	3.00	100.00	6	2.50	40.00	22.00	29.00	3820	TAG N3C	ETG 3-4-SH*
TGSF 125-3-32K-JHP	3.00	125.00	8	2.50	55.00	32.00	34.00	3820	TAG N3C	ETG 3-4-SH*
TGSF 63-4-10K-JHP	4.00	63.00	6	3.30	32.00	10.00	14.00	5000	TAG N4C	ETG 3-4-SH*
TGSF 80-4-22K-JHP	4.00	80.00	6	3.30	40.00	22.00	19.00	3900	TAG N4C	ETG 3-4-SH*
TGSF 100-4-22K-JHP	4.00	100.00	6	3.30	40.00	22.00	29.00	3820	TAG N4C	ETG 3-4-SH*
TGSF 125-4-32K-JHP	4.00	125.00	8	3.30	55.00	32.00	34.00	3820	TAG N4C	ETG 3-4-SH*

• ETG extractor should be ordered separately

⁽¹⁾ Number of inserts

⁽²⁾ Maximum RPM

⁽³⁾ Master insert identification

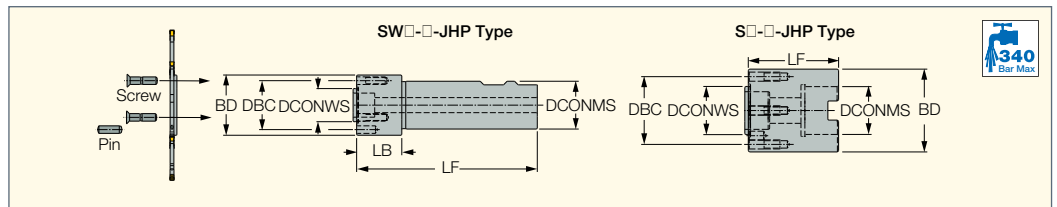
* Optional, should be ordered separately

For inserts, see pages: TAG N-A (367) • TAG N-C/W/M (366) • TAG N-J/JS/JT (367)

For holders, see pages: SW/S-JHP (365)

TANGSLIT
SW/S-JHP

Drive Shanks with Coolant
Channels for TANG-GRIP
Slitting Cutters

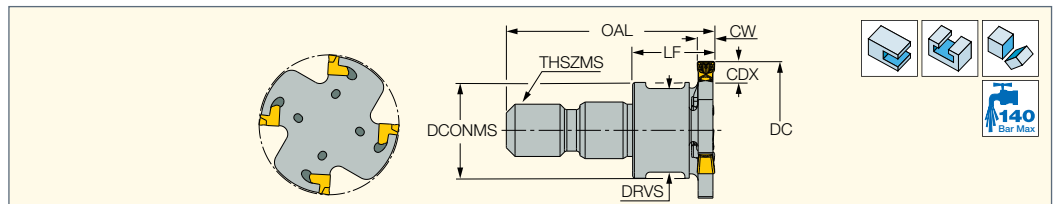


Designation	DCONMS	BD	DBC	DCONWS	LB	LF	kg			
SW 25-32-JHP	25.00	32.00	25.40	10.00	25.00	110.00	0.43	SR 76-961		T-15/5
SW 32-40-JHP	32.00	40.00	32.50	22.00	30.00	120.00	0.77	SR 76-963		T-15/5
S 32-55-JHP	32.00	55.00	45.00	32.00	-	60.00	0.83	SR 76-943	SR M16X40-JHP	T-20/5

For tools, see pages: TGSF-JHP (365)

TANGSLIT FLEXFIT
TGSF-M-JHP

Grooving and Slitting Small
Diameter Cutters with FLEXFIT
Threaded Adaptation



Designation	DC	CW	CDX	CICT ⁽¹⁾	DCONMS	THSZMS	LF	OAL	DRVS ⁽²⁾	Insert	TQ_3 ⁽³⁾	
TGSF 50-2-M12 5Z-JHP	50.00	2.00	13.00	5	21.00	M12	10.80	24.00	17.0	TAG 2	33	ETG 2*
TGSF 50-3-M12 5Z-JHP	50.00	3.00	13.00	5	21.00	M12	10.70	24.70	17.0	TAG 3	33	ETG 3-4-SH*

• For best performance use internal coolant with "CH" type shanks • When mounting items with FLEXFIT threaded adaptation to their holders, the mating surfaces and threaded areas must be thoroughly cleaned. Apply appropriate tightening torque to eliminate a gap between the mating faces. Estimated torque values are specified in the TQ_3 parameter

⁽¹⁾ Number of inserts

⁽²⁾ Torque key size

⁽³⁾ Tool tightening torque NxM (lbf·in)

* Optional, should be ordered separately

For inserts, see pages: TAG N-A (367) • TAG N-C/W/M (366) • TAG N-J/JS/JT (367)

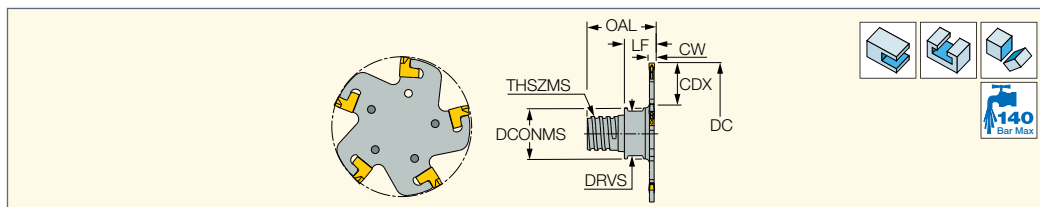
For holders, see pages: BT-ODP (FLEXFIT) (314) • C#-ODP (FLEXFIT) (314) • CAB M-M (FLEXFIT) (312) • DIN69871-ODP (315) • ER-ODP (315)

• HSK A-ODP (FLEXFIT) (316) • S M (312) • S M-C-H (312) • S M-CF (313)

TANGSLIT MULTI-MASTER

TGSF-MM-JHP

Grooving and Slitting Small
Diameter Cutters with
MULTI-MASTER
Threaded Adaptation



Designation	DC	CW	CDX	CICT ⁽¹⁾	DCONMS	THSZMS	LF	OAL	DRVS ⁽²⁾	Insert	
TGSF 50-2-MMT12-5Z-JHP	50.00	2.00	14.00	5	19.00	T12	10.70	24.00	16.0	TAG 2	ETG 2*
TGSF 50-3-MMT12-5Z-JHP	50.00	3.00	14.00	5	19.00	T12	11.50	24.70	16.0	TAG 3	ETG 3-4-SH*

• For best performance use internal coolant with "CH" type shanks

⁽¹⁾ Number of inserts

⁽²⁾ Torque key size

* Optional, should be ordered separately

For inserts, see pages: TAG N-A (367) • TAG N-C/W/M (366) • TAG N-J/JS/JT (367)

For holders, see pages: MM CAB-T-T (91) • MM S-A (stepped shanks) (84) • MM S-A (straight shanks) (87) • MM S-A-C# (86) • MM S-A-HSK (609)

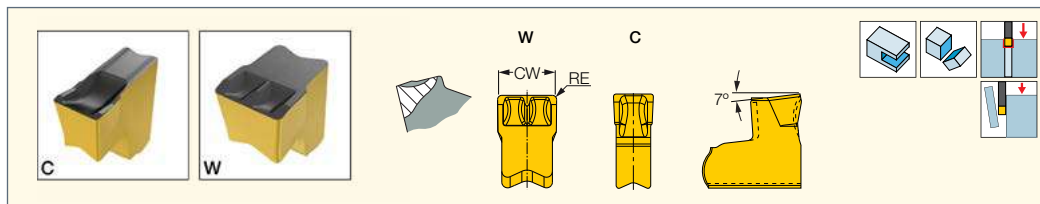
• MM S-A-SK (90)

• MM S-B (85° conical shanks) (87) • MM S-D (89° conical shanks) (88) • MM S-ER (89) • MM S-ER-H (89) • MM TS-A (86)

TANGGRIP PARTING LINE

TAG N-C/W/M

Single-Ended Inserts for Parting,
Grooving and Slitting Bars, Hard
Materials and Tough Applications



Designation	Dimensions			Tough ↔ Hard										Recommended Machining Data
	CW	CWTOL ⁽³⁾	RE	IC830	IC928	IC1030	IC5400	IC1010	IC808	IC908	IC30N	IC20	IC807	f groove (mm/rev)
TAG N1.4C	1.40	0.04	0.16											0.04-0.10
TAG N1.6C	1.60	0.04	0.16	•					•					0.04-0.14
TAG N2C	2.00	0.04	0.20	•		•	•	•	•		•	•		0.05-0.16
TAG N2.4C	2.40	0.04	0.16	•					•					0.06-0.18
TAG N3CB ⁽¹⁾	3.00	0.04	0.35	•					•					0.12-0.30
TAG N3C	3.05	0.04	0.20	•	•	•	•	•	•	•	•	•	•	0.10-0.25
TAG N3M ⁽²⁾	3.05	0.04	0.20	•					•	•				0.06-0.18
TAG N3W	3.05	0.04	0.20	•					•	•				0.10-0.25
TAG N4C	4.00	0.04	0.24	•	•	•	•	•	•	•		•	•	0.10-0.30
TAG N4CB ⁽¹⁾	4.00	0.04	0.40	•					•	•				0.10-0.33
TAG N4M ⁽²⁾	4.00	0.04	0.24	•					•	•				0.06-0.20
TAG N4W	4.00	0.04	0.24	•					•	•				0.10-0.30

• Feed values for grade IC20 should be decreased by 50% • For cutting speed recommendations and user guide, see pages 542-547

⁽¹⁾ Larger corner radii for interrupted cut and high feed applications

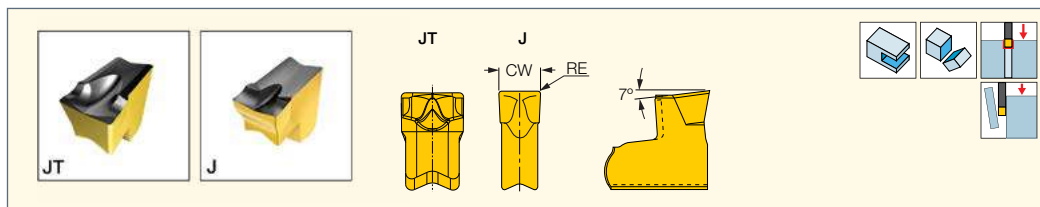
⁽²⁾ Similar to C-type, but with a modified edge; improved chip control at medium feeds

⁽³⁾ Cutting width tolerance (+/-)

For tools, see pages: • TGSF (364) • TGSF-JHP (365) • TGSF-M-JHP (365) • TGSF-MM-JHP (366)

TAG N-J/JS/JT

Single-Ended Inserts for Parting, Grooving and Slitting Soft Materials



Designation	Dimensions				Tough ↔ Hard									Recommended Machining Data
	CW	RE	CWTOL ⁽²⁾	RETOL ⁽³⁾	IC830	IC928	IC1030	IC5400	IC1010	IC808	IC908	IC20	IC807	f groove (mm/rev)
TAG N1.4J	1.40	0.16	0.04	0.030	●					●			●	0.03-0.10
TAG N1.6J	1.60	0.16	0.04	0.030	●					●				0.03-0.12
TAG N2JS ⁽¹⁾	2.00	0.02	0.04	0.020	●					●				0.03-0.08
TAG N2J	2.00	0.20	0.04	0.040	●		●	●	●	●		●		0.04-0.12
TAG N2JT	2.00	0.20	0.04	0.040	●	●		●		●	●			0.04-0.14
TAG N3JS ⁽¹⁾	3.05	0.02	0.04	0.020	●					●				0.04-0.10
TAG N3J	3.05	0.20	0.04	0.030	●	●	●	●	●	●	●	●	●	0.04-0.16
TAG N3JT	3.05	0.20	0.04	0.030	●			●		●	●			0.05-0.18
TAG N3.2JT	3.25	0.20	0.04	0.030	●					●				0.05-0.18
TAG N4J	4.00	0.24	0.04	0.030	●	●	●	●	●	●	●		●	0.04-0.18
TAG N4JT	4.05	0.24	0.04	0.030	●			●		●	●			0.06-0.20

• JT chipformer has the basic positive configuration of the J-type and a reinforced negative frontal edge; most suitable for soft materials at low to medium feeds.

• For cutting speed recommendations and user guide, see pages 542-547

⁽¹⁾ Sharp corners cannot be used on TGSF slitting cutters

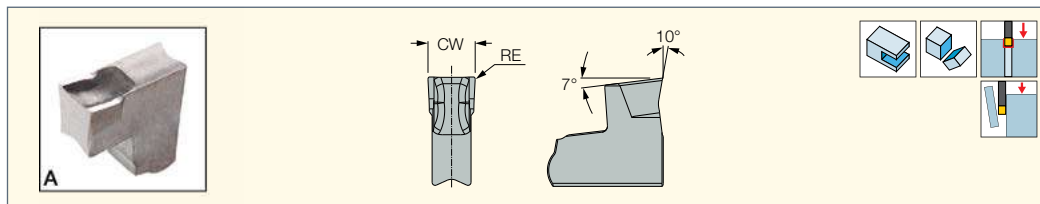
⁽²⁾ Cutting width tolerance (+/-)

⁽³⁾ Corner radius tolerance (+/-)

For tools, see pages: TGSF (364) • TGSF-JHP (365) • TGSF-M-JHP (365) • TGSF-MM-JHP (366)

TAG N-A

Single-Ended Inserts for Parting, Grooving and Slitting Aluminum



Designation	Dimensions				IC20	Recommended Machining Data
	CW	RE	CWTOL ⁽¹⁾	RETOL ⁽²⁾		f groove (mm/rev)
TAG N2A	2.00	0.20	0.04	0.040	•	0.02-0.10
TAG N3A	3.00	0.20	0.04	0.040	•	0.03-0.14
TAG N4A	4.00	0.24	0.04	0.030	•	0.03-0.16

• For cutting speed recommendations and user guide, see pages 542-547

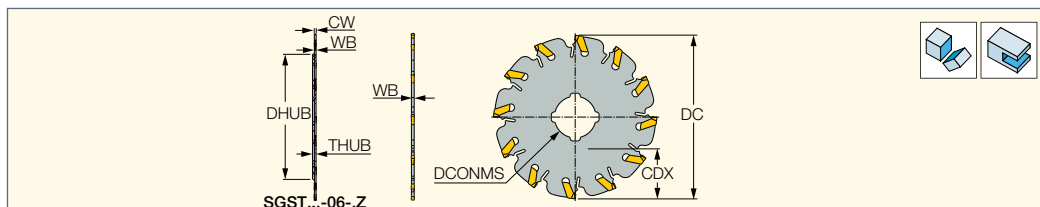
⁽¹⁾ Cutting width tolerance (+/-)

⁽²⁾ Corner radius tolerance (+/-)

For tools, see pages: TGSF (364) • TGSF-JHP (365) • TGSF-M-JHP (365) • TGSF-MM-JHP (366) • TGSF (364)

SLIMSLIT
NARROW SLITTING

SGST

Thin Slitting Cutters Carrying
SLIMGRIP Inserts


Designation	DC	CW	CICT ⁽¹⁾	WB	DCONMS	CDX	RPMX ⁽²⁾	DHUB	THUB	Insert	MIID ⁽³⁾	
SGST 32-8-0.6-4Z	32.00	0.60	4	0.50	8.00	6.00	2490	19.00	1.06	GFT 0.6		ESG-SLM*
SGST 32-8-0.8-4Z	32.00	0.80	4	0.69	8.00	8.00	2490	-	-	GFT 0.8J-0.1	GFT 0.8J-0.1	ESG-SLM*
SGST 32-8-1.0-4Z	32.00	1.00	4	0.90	8.00	8.00	2490	-	-	GFT 1.0J-0.1	GFT 1.0J-0.1	ESG-SLM*
SGST 32-8-1.2-4Z	32.00	1.20	4	1.06	8.00	8.00	2490	-	-	GFT 1.2J-0.14	GFT 1.2J-0.14	ESG-SLM*
SGST 40-10-0.6-6Z	40.00	0.60	6	0.50	10.00	6.00	1990	27.00	1.06	GFT 0.6		ESG-SLM*
SGST 40-10-0.8-6Z	40.00	0.80	6	0.69	10.00	12.00	1990	-	-	GFT 0.8J-0.1	GFT 0.8J-0.1	ESG-SLM*
SGST 40-10-1.0-6Z	40.00	1.00	6	0.90	10.00	12.00	1990	-	-	GFT 1.0J-0.1	GFT 1.0J-0.1	ESG-SLM*
SGST 40-10-1.2-6Z	40.00	1.20	6	1.06	10.00	12.00	1990	-	-	GFT 1.2J-0.14	GFT 1.2J-0.14	ESG-SLM*
SGST 50-13-0.6-9Z	50.00	0.60	9	0.50	13.00	6.00	1590	37.00	1.06	GFT 0.6		ESG-SLM*
SGST 50-13-0.8-9Z	50.00	0.80	9	0.69	13.00	12.50	1590	-	-	GFT 0.8J-0.1	GFT 0.8J-0.1	ESG-SLM*
SGST 50-13-1.0-9Z	50.00	1.00	9	0.90	13.00	12.50	1590	-	-	GFT 1.0J-0.1	GFT 1.0J-0.1	ESG-SLM*
SGST 50-13-1.2-9Z	50.00	1.20	9	1.06	13.00	12.50	1590	-	-	GFT 1.2J-0.14	GFT 1.2J-0.14	ESG-SLM*
SGST 63-16-1.0-12Z	63.00	1.00	12	0.90	16.00	19.00	1260	-	-	GFT 1.0J-0.1	GFT 1.0J-0.1	ESG-SLM*
SGST 63-16-1.2-12Z	63.00	1.20	12	1.06	16.00	19.00	1260	-	-	GFT 1.2J-0.14	GFT 1.2J-0.14	ESG-SLM*

⁽¹⁾ Number of inserts

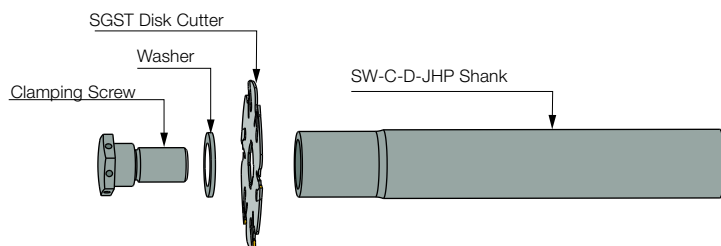
⁽²⁾ Maximum RPM

⁽³⁾ Master insert identification

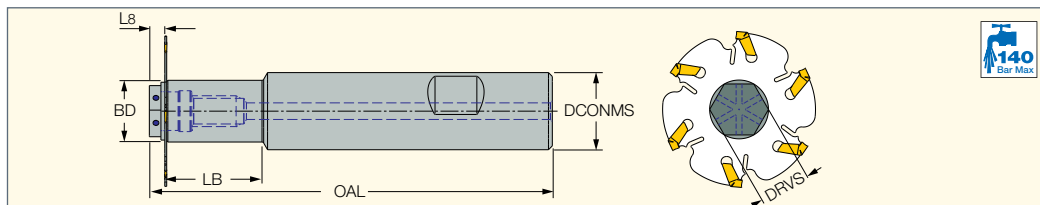
* Optional, should be ordered separately

For inserts, see pages: GFT-J (369)

For holders, see pages: SW-C-D-JHP (368)


SLIMSLIT
NARROW SLITTING

SW-C-D-JHP

Shanks for SGST Slim Slot
Milling Disk Cutters


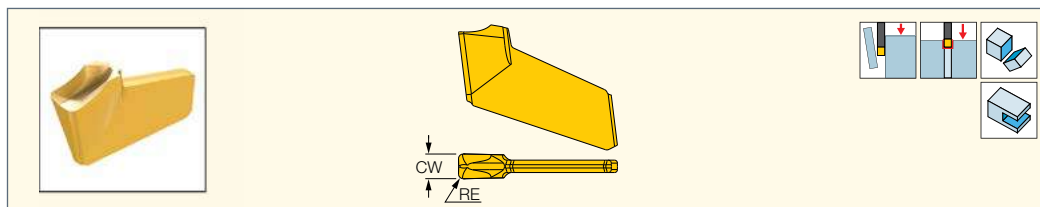
Designation	DCONMS	BD	LB	OAL	L8	DRVS ⁽¹⁾			
SW 16C-D32-JHP	16.00	15.00	25.00	104.00	4.00	13.0	SCREW CLAMP-D32-JHP	MM KEY 13X8*	WASHER 8X14.5-D32
SW 20C-D40-JHP	20.00	16.00	25.00	104.00	4.00	13.0	SCREW CLAMP-D40-JHP	MM KEY 13X8*	WASHER 10X15-D40
SW 25C-D50-JHP	25.00	25.00	-	115.00	5.00	20.0	SCREW CLAMP-D50-JHP		WASHER 13X24-D50
SW 25C-D63-JHP	25.00	25.00	-	115.00	5.00	20.0	SCREW CLAMP-D63-JHP	MM KEY 20*	WASHER 16X24-D63

⁽¹⁾ Clamping wrench size

* Optional, should be ordered separately

For tools, see pages: SGST (368)

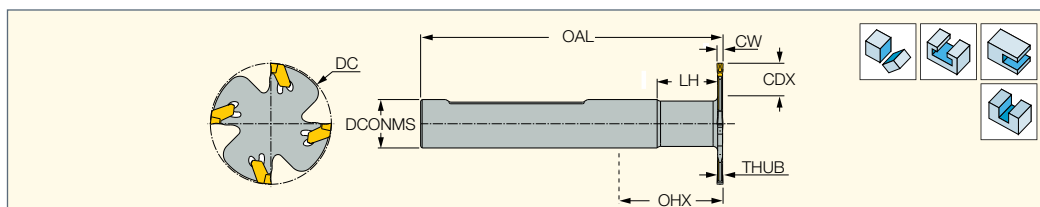
GFT-J

 Thin Parting, Grooving
 and Slitting Single-Ended
 Inserts for Soft Materials


Designation	Dimensions		Tough ↔ Hard		Recommended Machining Data
	CW	RE	IC1028	IC1008	f groove (mm/rev)
GFT 0.6J-0.1	0.60	0.10	•	•	0.03-0.05
GFT 0.8J-0.1	0.80	0.10	•	•	0.03-0.07
GFT 1.0J-0.1	1.00	0.10	•	•	0.03-0.09
GFT 1.2J-0.14	1.20	0.14	•	•	0.03-0.10
GFT 1.6J-0.16	1.60	0.16	•	•	0.03-0.12

For tools, see pages: • SGST (368)

SELFGRIP
SGSF-W

 Grooving and Slitting Cutters
 with Integral Weldon Shanks


Designation	CWN ⁽²⁾	CWX ⁽³⁾	DC	DCONMS	CDX ⁽⁴⁾	NOF ⁽⁵⁾	THUB	LH ⁽⁶⁾	OHX ⁽⁷⁾	OAL	MIID ⁽⁸⁾	
SGSF 32-1.6-W16	1.50	1.79	32.00	16.00	7.00	3	1.32	20.0	49.0	100.00	GSFN 1.6	ESG 1.4-2
SGSF 32-2-W16 ⁽¹⁾	1.80	2.69	32.00	16.00	7.00	3	1.62	20.0	49.0	100.00	GSFN 2	ESG 1.4-2
SGSF 40-1.6-W16	1.50	1.79	40.00	16.00	11.00	4	1.32	34.0	63.0	100.00	GSFN 1.6	ESG 1.4-2
SGSF 40-2-W16 ⁽¹⁾	1.80	2.69	40.00	16.00	11.00	4	1.62	34.0	63.0	100.00	GSFN 2	ESG 1.4-2

• For user guide, see pages 377-383

⁽¹⁾ Standard GSFN 2.4 mm inserts are not suitable for this tool; for suitable tool, see specific pocket size.

⁽²⁾ Minimum cutting width

⁽³⁾ Maximum cutting width

⁽⁴⁾ Cutting depth maximum

⁽⁵⁾ Number of flutes

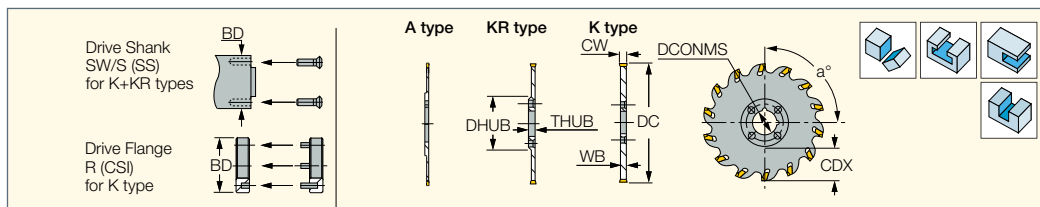
⁽⁶⁾ Minimum overhang range

⁽⁷⁾ Maximum overhang range

⁽⁸⁾ Master insert identification

For inserts, see pages: GSFN (373) • GSFU (373)



SELFGRIP**SGSF**Slitting Cutters Carrying
Self-Clamped Inserts

Designation	DC	CWN ⁽⁴⁾	CWX ⁽⁵⁾	CDX ⁽⁶⁾	CICT ⁽⁷⁾	WB	THUB	DHUB	DCONMS	RPMX ⁽⁸⁾	a°	MIID ⁽⁹⁾	
SGSF 76-1.4-22A	76.00	1.34	1.34	18.00	8	1.10	2.4	39.00	22.00	1050	112.5	GSFU 1.4	ESG 1.4-2
SGSF 100-1.4-22A	100.00	1.34	1.34	25.00	10	1.10	2.4	49.00	22.00	800	90	GSFU 1.4	ESG 1.4-2
SGSF 125-1.4-27A	125.00	1.34	1.34	25.00	12	1.10	2.4	74.00	27.00	640	75	GSFU 1.4	ESG 1.4-2
SGSF 50-1.6-8KR	50.00	1.50	1.79	10.00	5	1.24	2.4	28.00	8.00	1600	-	GSFN 1.6	ESG 1.4-2
SGSF 63-1.6-10KR	63.00	1.50	1.79	14.00	6	1.24	2.4	32.00	10.00	1260	-	GSFN 1.6	ESG 1.4-2
SGSF 76-1.6-22A	76.00	1.50	1.79	18.00	8	1.24	2.4	39.00	22.00	1050	112.5	GSFN 1.6	ESG 1.4-2
SGSF 100-1.6-22A	100.00	1.50	1.79	30.00	10	1.24	2.4	39.00	22.00	800	90	GSFN 1.6	ESG 1.4-2
SGSF 125-1.6-27A	125.00	1.50	1.79	29.00	12	1.24	2.4	60.00	27.00	640	75	GSFN 1.6	ESG 1.4-2
SGSF 50-2-8KR ⁽¹⁾	50.00	1.80	2.69	10.00	5	1.60	2.4	28.00	8.00	1600	-	GSFN 2	ESG 1.4-2
SGSF 63-2-10KR ⁽¹⁾	63.00	1.80	2.69	15.00	6	1.60	2.4	32.00	10.00	1260	-	GSFN 2	ESG 1.4-2
SGSF 76-2-22A ⁽¹⁾	76.00	1.80	2.69	18.00	8	1.60	2.4	39.00	22.00	1050	112.5	GSFN 2	ESG 1.4-2
SGSF 80-2-22KR ⁽¹⁾	80.00	1.80	2.69	20.00	8	1.60	2.4	40.00	22.00	1000	-	GSFN 2	ESG 1.4-2
SGSF 100-2-22A ⁽¹⁾	100.00	1.80	2.69	30.00	10	1.60	2.4	39.00	22.00	800	90	GSFN 2	ESG 1.4-2
SGSF 100-2-22KR ⁽¹⁾	100.00	1.80	2.69	29.00	10	1.60	2.4	40.00	22.00	800	-	GSFN 2	ESG 1.4-2
SGSF 125-2-27A ⁽¹⁾	125.00	1.80	2.69	32.00	12	1.60	2.4	60.00	27.00	640	75	GSFN 2	ESG 1.4-2
SGSF 125-2-32KR ⁽¹⁾	125.00	1.80	2.69	34.00	12	1.60	2.4	55.00	32.00	640	-	GSFN 2	ESG 1.4-2
SGSF 80-2.4-22A	80.00	2.38	2.42	20.00	6	1.90	2.4	39.00	22.00	1000	90	GSFN 2.4	ESG 11
SGSF 100-2.4-22K	100.00	2.38	2.42	26.00	6	1.90	2.4	46.00	22.00	800	90	GSFN 2.4	ESG 11
SGSF 125-2.4-32K	125.00	2.38	2.42	34.00	8	1.90	2.4	55.00	32.00	640	-	GSFN 2.4	ESG 11
SGSF 160-2.4-32K	160.00	2.38	2.42	52.00	10	1.90	2.4	55.00	32.00	500	90	GSFN 2.4	ESG 11
SGSF 50-3-8K	50.00	2.70	3.53	10.00	4	2.40	2.4	28.00	8.00	1600	-	GSFN 3	ESG 11
SGSF 63-3-10K	63.00	2.70	3.53	15.00	5	2.40	2.4	32.00	10.00	1260	-	GSFN 3	ESG 11
SGSF 80-3-22K ⁽²⁾	80.00	2.70	3.53	19.00	6	2.40	2.4	40.00	22.00	1000	-	GSFN 3	ESG 11
SGSF 100-3-22K ⁽³⁾	100.00	2.70	3.53	29.00	6	2.40	2.4	40.00	22.00	800	90	GSFN 3	ESG 11
SGSF 125-3-27K	125.00	2.70	3.53	34.00	8	2.40	2.4	0.00	27.00	640	-	GSFN 3	ESG 11
SGSF 125-3-32K	125.00	2.70	3.53	34.00	8	2.40	2.4	55.00	32.00	640	-	GSFN 3	ESG 11
SGSF 160-3-32K	160.00	2.70	3.53	52.00	10	2.40	2.4	55.00	32.00	500	90	GSFN 3	ESG 11
SGSF 160-3-40K	160.00	2.70	3.53	39.00	10	2.40	2.4	80.00	40.00	500	90	GSFN 3	ESG 11
SGSF 200-3-40K	200.00	2.70	3.54	59.00	14	2.40	2.4	80.00	40.00	400	90	GSFN 3	ESG 11
SGSF 250-3-40K	250.00	2.70	3.53	84.00	18	2.40	2.4	80.00	40.00	320	90	GSFN 3	ESG 11
SGSF 50-4-8K	50.00	3.54	4.52	10.00	4	3.20	3.2	28.00	8.00	1600	-	GSFN 4	ESG 11
SGSF 63-4-10K	63.00	3.54	4.52	15.00	5	3.20	3.2	32.00	10.00	1260	-	GSFN 4	ESG 11
SGSF 80-4-22K ⁽²⁾	80.00	3.54	4.52	19.00	6	3.20	3.2	40.00	22.00	1000	-	GSFN 4	ESG 11
SGSF 100-4-22K ⁽³⁾	100.00	3.54	4.52	26.00	6	3.20	3.2	45.00	22.00	800	90	GSFN 4	ESG 11
SGSF 125-4-32K	125.00	3.54	4.52	34.00	8	3.20	3.2	55.00	32.00	640	-	GSFN 4	ESG 11
SGSF 160-4-40K	160.00	3.54	4.52	39.00	10	3.20	3.2	80.00	40.00	500	90	GSFN 4	ESG 11
SGSF 200-4-40K	200.00	3.54	4.52	59.00	14	3.20	3.2	80.00	40.00	400	90	GSFN 4	ESG 11
SGSF 250-4-40K	250.00	3.54	4.52	84.00	18	3.20	3.2	80.00	40.00	320	90	GSFN 4	ESG 11
SGSF 350-4M-50K-38Z	350.00	3.54	4.52	119.00	38	3.20	3.2	110.00	50.00	230	90	GSFN 4	ESG 11
SGSF 425-4M-50K-38Z	425.00	3.54	4.52	140.00	38	3.20	3.2	110.00	50.00	190	90	GSFN 4	ESG 11
SGSF 80-5-22K ⁽²⁾	80.00	4.53	5.50	19.00	6	4.00	4.0	40.00	22.00	1000	90	GSFN 5	ESG 11
SGSF 100-5-22K ⁽³⁾	100.00	4.53	5.50	29.00	6	4.00	5.0	40.00	22.00	800	90	GSFN 5	ESG 11
SGSF 125-5-32K	125.00	4.53	5.50	34.00	8	4.00	4.0	55.00	32.00	640	-	GSFN 5	ESG 11
SGSF 160-5-40K	160.00	4.53	5.50	39.00	10	4.00	4.0	80.00	40.00	500	90	GSFN 5	ESG 11
SGSF 200-5-40K	200.00	4.53	5.50	59.00	14	4.00	4.0	80.00	40.00	400	90	GSFN 5	ESG 11
SGSF 250-5-40K	250.00	4.53	5.50	84.00	18	4.00	4.0	80.00	40.00	320	90	GSFN 5	ESG 11
SGSF 125-6-32K	125.00	5.51	6.50	34.00	8	5.20	5.2	55.00	32.00	640	-	GSFN 6C	ESG 1
SGSF 160-6-40K	160.00	5.51	6.50	39.00	10	5.20	5.2	80.00	40.00	500	90	GSFN 6C	ESG 1
SGSF 200-6-40K	200.00	5.51	6.50	59.00	14	5.20	5.2	80.00	40.00	400	90	GSFN 6C	ESG 1
SGSF 250-6-40K	250.00	5.51	6.50	84.00	18	5.20	5.2	80.00	40.00	320	90	GSFN 6C	ESG 1
SGSF 315-6-40K	315.00	5.51	6.50	117.00	22	5.20	5.2	80.00	40.00	250	90	GSFN 6C	SET ESG 1
SGSF 350-6-50K	350.00	5.51	6.50	119.00	26	5.20	5.2	110.00	50.00	230	90	GSFN 6	ESG 1

- Only the K type cutters feature 4 driving holes around the central hole; they can be driven by the R drive shanks • Refer to SW/S drive shanks and R driving flange set
- Maximum RPM may not be exceeded • For user guide, see pages 377-383

⁽¹⁾ Standard GSFN 2.4 inserts are not suitable for this tool; for suitable tool, see specific pocket size.

⁽²⁾ CDX=16, DHUB=46 when used with drive flange

⁽³⁾ CDX=26, DHUB=46 when used with drive flange

⁽⁴⁾ Minimum cutting width

⁽⁵⁾ Maximum cutting width

⁽⁶⁾ Cutting depth maximum

⁽⁷⁾ Number of inserts

⁽⁸⁾ Maximum RPM

⁽⁹⁾ Master insert identification

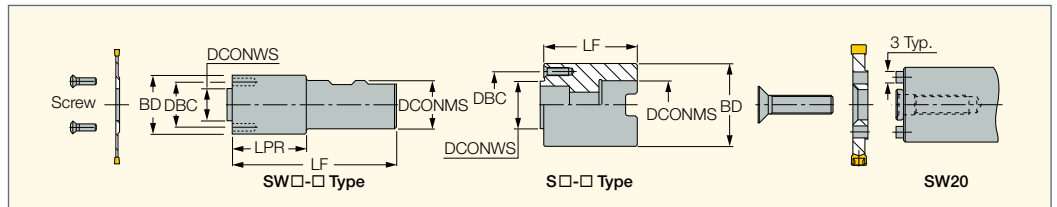
For inserts, see pages: GSFN (373) • GSFU (373)

For holders, see pages: BT-SEMC (647) • C#-SEMC (623) • DIN2080-SEMC (655) • DIN69871-SEMC (578) • HSK A-SEMC (605) • SW/S (371)

SELF-GRIP

SW/S

Drive Shanks for SELF-GRIP
Slitting Cutters



Designation	DCONMS	BD	DBC	DCONWS	LPR	LF	kg
SW 20	20.00	20.00	14.40	8.00	-	100.00	0.24
SW 25-23	25.00	23.00	13.60	6.00	25.0	110.00	0.00
SW 25-28	25.00	28.00	18.00	8.00	25.0	110.00	0.43
SW 25-32	25.00	32.00	22.00	10.00	25.0	110.00	0.51
SW 32-40	32.00	40.00	32.00	22.00	30.0	120.00	0.60
S 32-55	32.00	55.00	45.00	32.00	-	60.00	0.84
S 40-80	40.00	80.00	63.00	40.00	-	60.00	1.78

For tools, see pages: GM-DG (374) • SGSA (372) • SGSF (370) • TGSF (364)

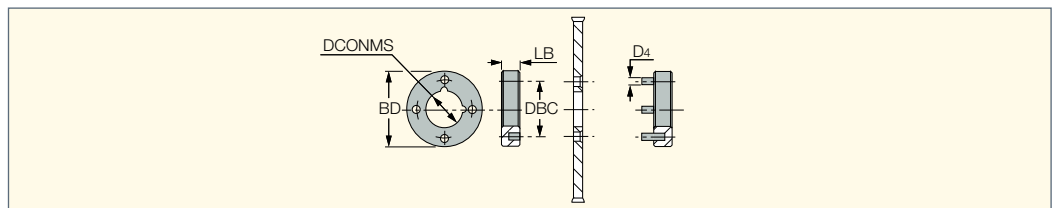
Spare Parts

Designation					
SW 20	SR M5X20 DIN7991		HW 3.0		
SW 25-23	SR 34-510	T-15/5			
SW 25-28	SR 76-961	T-15/5			
SW 25-32	SR 76-961	T-15/5			
SW 32-40	SR 76-963	T-15/5			
S 32-55	SR 76-943		BLD T20/M7	SW6-T	
S 40-80	SR 76-944		HW 6.0		

SELF-GRIP

R (drive flange set)

Drive Flange Set for
Slitting Cutters

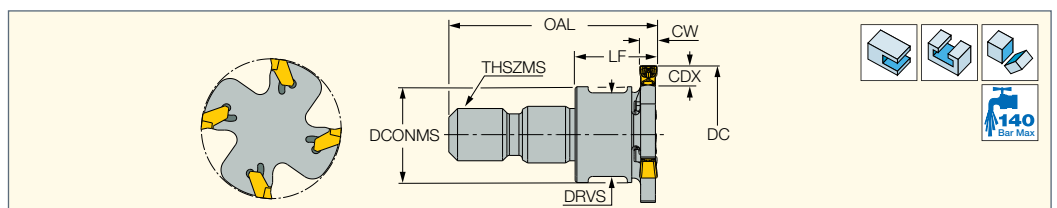


Designation	DCONMS	BD	DBC	D4	LB
R 22-46	22.00	46.00	32.00	5.00	10.00
R 32-55	32.00	55.00	45.00	6.00	10.00
R 40-80	40.00	80.00	63.00	11.00	12.00
R 50-110	50.00	110.00	80.00	14.00	14.00

SELF-GRIP FLEXFIT

SGSF/A-M-JHP

Grooving and Slitting Small
Diameter Cutters with FLEXFIT
Threaded Adaptation



Designation	DC	CW	CDX	CICT ⁽¹⁾	DCONMS	THSZMS	LF	OAL	DRVS ⁽²⁾	Insert	TQ_3 ⁽³⁾	
SGSF 32-2-M08-3Z-JHP	32.00	2.00	7.80	3	13.00	M08	12.00	29.50	9.6	GSFN 2/GSFU 2.2	20	ESG 1.4-2*
SGSA 32-3-M08-4Z-JHP	32.00	3.00	7.80	4	13.00	M08	12.87	30.37	9.6	GSAN 3...	20	ESG 1.4-2*
SGSF 40-2-M10-4Z-JHP	40.00	2.00	11.80	4	18.00	M10	12.00	29.50	15.0	GSFN 2/GSFU 2.2	29	ESG 1.4-2*
SGSA 40-3-M10-6Z-JHP	40.00	3.00	11.80	6	18.00	M10	12.10	32.10	15.0	GSAN 3...	29	ESG 1.4-2*

• For best performance use internal coolant with "CH" type shanks • When mounting items with FLEXFIT threaded adaptation to their holders, the mating surfaces and threaded areas must be thoroughly cleaned. Apply appropriate tightening torque to eliminate a gap between the mating faces. Estimated torque values are specified in the TQ_3 parameter

⁽¹⁾ Number of inserts

⁽²⁾ Torque key size

⁽³⁾ Tool tightening torque Nxm (lbfxin)

* Optional, should be ordered separately

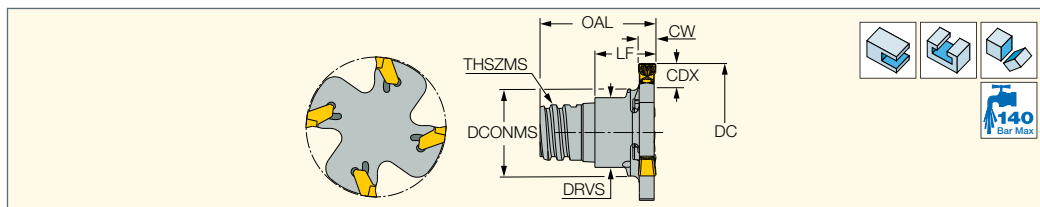
For inserts, see pages: GSAN (372) • GSFN (373) • GSFU (373)

For holders, see pages: BT-ODP (FLEXFIT) (314) • C#-ODP (FLEXFIT) (314) • CAB M-M (FLEXFIT) (312) • DIN69871-ODP (315) • ER-ODP (315)

• HSK A-ODP (FLEXFIT) (316) • S M (312) • S M-C-H (312)

SELF-GRIP MULTI-MASTER

SGSF/A-MM-JHP
Grooving and Slitting Small
Diameter Cutters with
MULTI-MASTER
Threaded Adaptation



Designation	DC	CW	CDX	CICT ⁽¹⁾	DCONMS	THSZMS	LF	OAL	DRVS ⁽²⁾	Insert	
SGSF 32-2-MMT08-3Z-JHP	32.00	2.00	9.00	3	11.70	T08	10.60	18.10	10.0	GSFN 2...	ESG 1.4-2*
SGSA 32-3-MMT08-4Z-JHP	32.00	3.00	9.00	4	11.70	T08	11.60	19.20	10.0	GSAN 3...	ESG 1.4-2*
SGSF 40-2-MMT10-4Z-JHP	40.00	2.00	11.30	4	15.30	T10	10.60	21.90	13.0	GSFN 2...	ESG 1.4-2*
SGSA 40-3-MMT10-6Z-JHP	40.00	3.00	11.30	6	15.30	T10	11.40	22.70	13.0	GSAN 3...	ESG 1.4-2*

• For best performance use internal coolant with "CH" type shanks

⁽¹⁾ Number of inserts

⁽²⁾ Torque key size

* Optional, should be ordered separately

For inserts, see pages: GSAN (372) • GSFN (373) • GSFU (373)

For holders, see pages: MM CAB (667) • MM CAB-T-T (91) • MM GRT (shanks) (86) • MM S-A (stepped shanks) (84) • MM S-A (straight shanks) (87)

• MM S-A-C# (86)

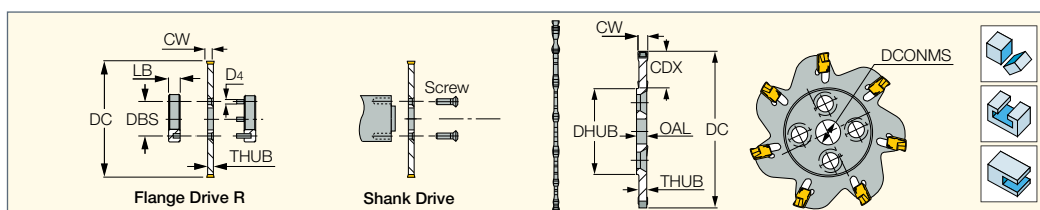
• MM S-A-HSK (609) • MM S-A-N (85) • MM S-A-SK (90) • MM S-B (85° conical shanks) (87) • MM S-D (89° conical shanks) (88)

• MM S-ER (89) • MM S-ER-H (89)

• MM TS-A (86)

SELF-GRIP

SGSA
Slitting Cutters Carrying GSAN
Self-Clamped Inserts



Designation	CWN ⁽¹⁾	CWX ⁽²⁾	DC	CICT ⁽³⁾	DHUB	DCONMS	OAL	THUB	CDX ⁽⁴⁾	RPMX ⁽⁵⁾	MIID ⁽⁶⁾	
SGSA 32-3	2.70	3.53	32.00	4	18.20	8.00	4.0	2.40	5.50	2400	GSAN 3	ESG 1.4-2
SGSA 40-3-6K	2.70	3.53	40.00	5	21.00	6.00	3.2	2.40	8.00	2000	GSAN 3	ESG 1.4-2
SGSA 50-3-8K	2.70	3.53	50.00	7	27.00	8.00	3.2	2.40	10.50	1600	GSAN 3	ESG 1.4-2
SGSA 80-3-22K-10Z-FP	2.70	3.53	80.00	10	-	22.00	2.4	2.40	16.00	995	GSAN 3	ESG 1.4-2
SGSA 100-3-22K-12Z-FP	2.70	3.53	100.00	12	-	22.00	2.4	2.40	20.00	795	GSAN 3	ESG 1.4-2
SGSA 125-3-32K-16Z-FP	2.70	3.53	125.00	16	-	32.00	2.4	2.40	25.00	635	GSAN 3	ESG 1.4-2
SGSA 32-4	3.54	4.52	32.00	4	18.20	8.00	4.0	3.20	5.50	2400	GSAN 4	ESG 1.4-2
SGSA 40-4-6K	3.54	4.52	40.00	5	21.00	6.00	3.2	3.20	8.00	2000	GSAN 4	ESG 1.4-2
SGSA 50-4-8K	3.54	4.52	50.00	7	-	8.00	3.2	3.20	10.50	1600	GSAN 4	ESG 1.4-2
SGSA 80-4-22K-10Z-FP	3.54	4.52	80.00	10	-	22.00	3.2	3.20	16.00	995	GSAN 4	ESG 1.4-2
SGSA 100-4-22K-12Z-FP	3.54	4.52	100.00	12	-	22.00	3.2	3.20	20.00	795	GSAN 4	ESG 1.4-2

• For LB, DBS, D4 refer to SW/S drive shanks and R drive flange set • Maximum RPM may not be exceeded • For user guide, see pages 377-383

⁽¹⁾ Minimum cutting width

⁽²⁾ Maximum cutting width

⁽³⁾ Number of inserts

⁽⁴⁾ Cutting depth maximum

⁽⁵⁾ Maximum RPM

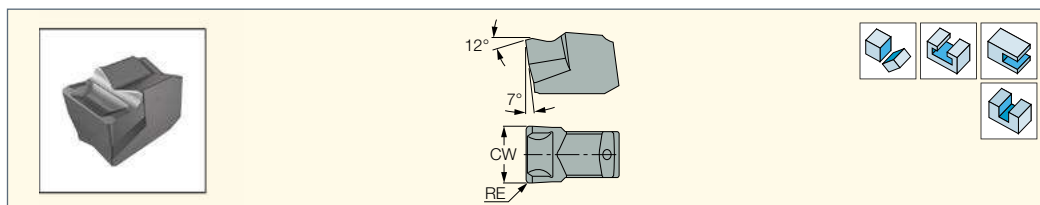
⁽⁶⁾ Master insert identification

For inserts, see pages: GSAN (372)

For holders, see pages: SW/S (371)

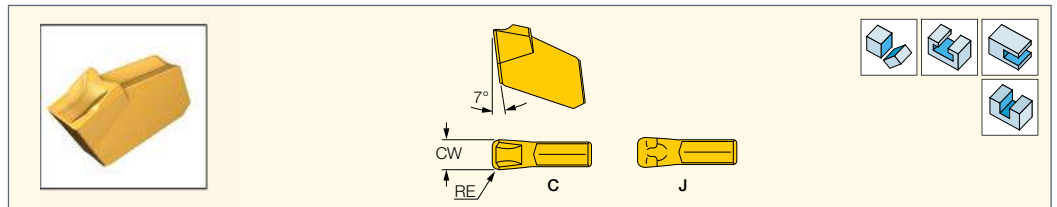
SELF-GRIP

GSAN
SELF-GRIP Slitting Inserts



Designation	Dimensions		Tough ↔ Hard	
	CW	RE	IC328	IC908
GSAN 3	3.00	0.20	•	•
GSAN 4	4.00	0.24	•	•

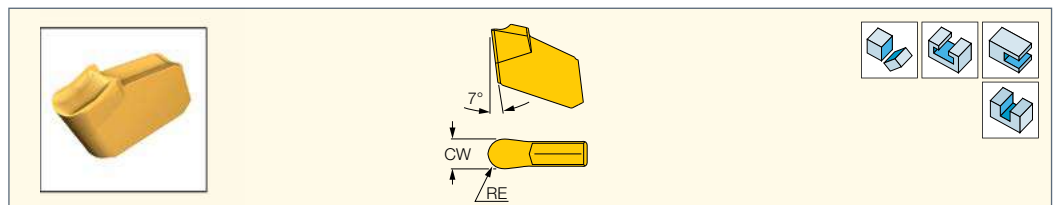
For tools, see pages: SGSA (372) • SGSF/A-M-JHP (371) • SGSF/A-MM-JHP (372)



Designation	Dimensions		Tough ↔ Hard			
	CW	RE	IC328	IC928	IC908	IC20
GSFN 1.6	1.60	0.16	•	•	•	•
GSFN 2	2.00	0.20	•	•	•	•
GSFN 2.4J	2.39	0.20	•	•	•	•
GSFN 2.4	2.41	0.20	•	•	•	•
GSFN 3J	3.00	0.25	•	•	•	•
GSFN 3	3.02	0.20	•	•	•	•
GSFN 3.2	3.20	0.22	•	•	•	•
GSFN 4J	4.02	0.30	•	•	•	•
GSFN 4	4.04	0.30	•	•	•	•
GSFN 4.8J	4.78	0.25	•	•	•	•
GSFN 4.8	4.80	0.25	•	•	•	•
GSFN 4.8-1.52	4.80	1.52	•	•	•	•
GSFN 5	4.98	0.26	•	•	•	•
GSFN 5J	5.00	0.25	•	•	•	•
GSFN 5.2-1.5	5.22	1.50	•	•	•	•
GSFN 5.78	5.77	0.40	•	•	•	•
GSFN 5.98	5.98	0.20	•	•	•	•
GSFN 6C	6.35	0.50	•	•	•	•
GSFN 6	6.37	0.50	•	•	•	•

• Tolerance: W±0.05

For tools, see pages: SGSF (370) • SGSF-W (369) • SGSF/A-M-JHP (371) • SGSF/A-MM-JHP (372)



Designation	Dimensions		Tough ↔ Hard	
	CW	RE	IC328	IC20
GSFU 1.4	1.34	0.67	•	•
GSFU 1.6	1.61	0.80	•	•
GSFU 1.7	1.73	0.85	•	•
GSFU 2.2	2.16	1.11	•	•
GSFU 3	3.02	1.50	•	•

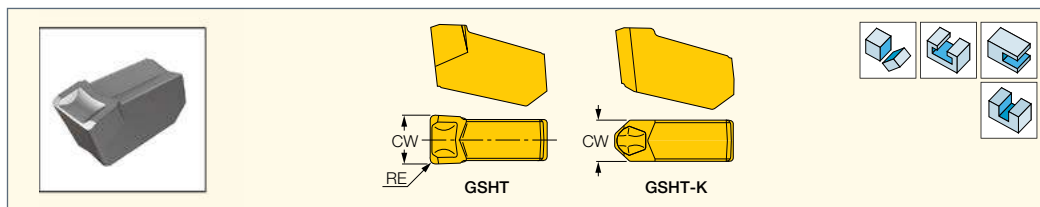
• Tolerance: W±0.05

For tools, see pages: SGSF (370) • SGSF-W (369) • SGSF/A-M-JHP (371) • SGSF/A-MM-JHP (372)

SELF-GRIP

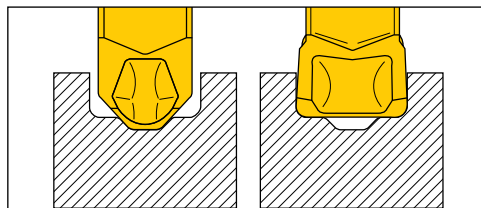
GSHT

Slitting Inserts for
Specially Tailored Heavy
Duty Slitting Cutters



Designation	Dimensions		Tough $\longleftrightarrow$ Hard		
	CW	RE	IC328	IC928	IC908
GSHT 6K ⁽¹⁾	5.40	0.00	•		•
GSHT 6	6.35	0.50	•		•
GSHT 7	7.00	0.50		•	
GSHT 8	8.00	0.50		•	

⁽¹⁾ To be used in combination with GSHT regular inserts (6-8 mm) for half-effective cutter configuration



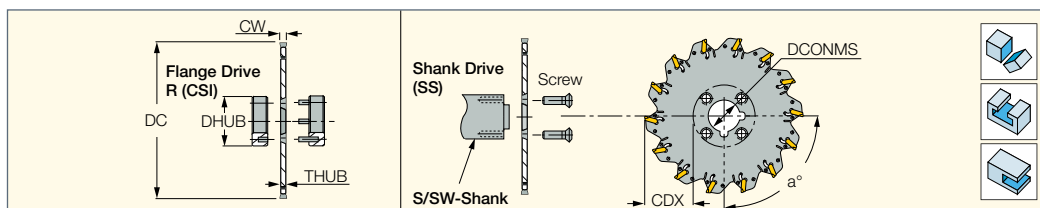
Inserts for **heavy duty** applications for use on **specially tailored** cutters, diameter range:

425-810 mm. GSHT-6K chamfered inserts, can be used in a half-effective configuration to reduce overload, eliminate chatter, and improve chip flow.

CUT-GRIP

GM-DG

Slitting Cutters Carrying
Self-Clamped Inserts



Designation	CWN ⁽²⁾	CWX ⁽³⁾	DC	CICT ⁽⁴⁾	DCONMS	THUB	CDX	RPMX ⁽⁵⁾	a°	SS	CSI	Inserts
GM D100-3DG-22K	2.70	3.35	100.00	6	22.00	2.40	29.00	800	90	SW 32-40	R 22-46	Single-ended: GIM 3C/3/J/3.2, GIMY.. Double ended: for Tmax=12.5mm
GM D125-3DG-32K ⁽¹⁾	2.70	3.35	125.00	8	32.00	2.40	34.00	640	-	S 32-55	R 32-55	
GM D160-3DG-32K	2.70	3.35	160.00	10	32.00	2.40	39.00	500	90	S 32-55	R 32-55	
GM D200-3DG-40K	2.70	3.35	200.00	14	40.00	2.40	59.00	400	90	S 40-80	R 40-80	Single-ended: GIM 4C/4/J, GIMY.. Double ended: for Tmax=12.5mm
GM D100-4DG-22K	3.36	4.35	100.00	6	22.00	3.20	29.00	800	90	SW 32-40	R 22-46	
GM D125-4DG-32K ⁽¹⁾	3.36	4.35	125.00	8	32.00	3.20	34.00	640	-	S 32-55	R 32-55	
GM D200-4DG-40K	3.36	4.35	200.00	14	40.00	3.20	59.00	400	90	S 40-80	R 40-80	

• DHUB refers to SW/S drive shanks and R drive flange set • Maximum RPM may not be exceeded • For user guide, see pages 377-383

⁽¹⁾ Only one key slot

⁽²⁾ Minimum cutting width

⁽³⁾ Maximum cutting width

⁽⁴⁾ Number of inserts

⁽⁵⁾ Cutting depth maximum

⁽⁶⁾ Maximum RPM

For inserts, see pages: GIM-C (375) • GIM-J (375) • GIM-UT () • GIM-W (375)

For holders, see pages: BT-SEMC (647) • C#-SEMC (623) • DIN2080-SEMC (655) • DIN69871-SEMC (578) • HSK A-SEMC (605) • SW/S (371)

Spare Parts

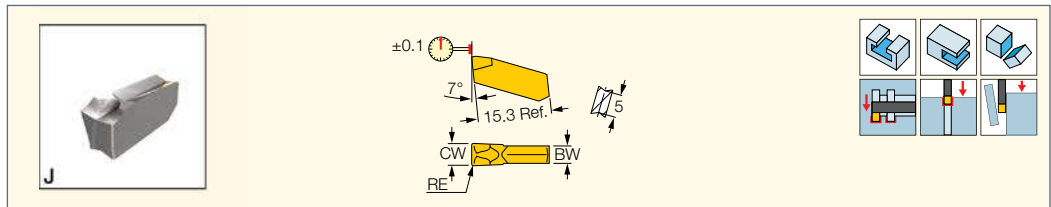
Designation	
GM-DG	EDG 44A*

* Optional, should be ordered separately

CUTGRIP

GIM-J

Utility Single-Sided Inserts
for Parting and Grooving
Soft Materials, Tubes
and Small Diameters



Designation	Dimensions				Tough ↔ Hard					Recommended Machining Data
	CW	RE	CWTOL ⁽¹⁾	BW	IC328	IC830	IC354	IC908	IC20	f groove (mm/rev)
GIM 2.2J	2.20	0.17	0.05	1.70	•	•	•	•	•	0.06-0.13
GIM 3J	3.00	0.25	0.05	2.40	•	•	•	•	•	0.08-0.15
GIM 4J	4.00	0.25	0.05	3.20	•	•	•	•	•	0.08-0.18

• For cutting speed recommendations and user guide, see pages 542-547

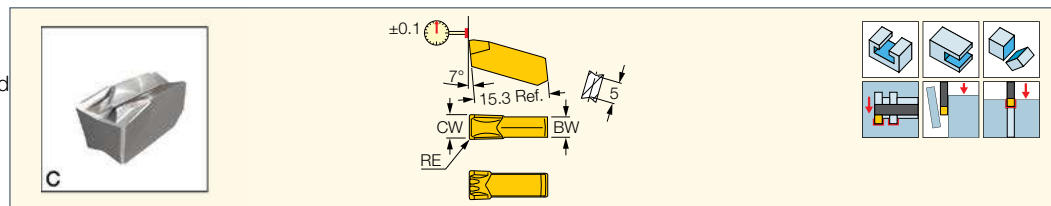
⁽¹⁾ Cutting width tolerance (+/-)

For tools, see pages: GM-DG (374)

CUTGRIP

GIM-C

Parting and Grooving Single-Sided
Inserts for Parting Bars, Hard
Materials and Tough Applications



Designation	Dimensions				Tough ↔ Hard					Recommended Machining Data
	CW	RE	CWTOL ⁽¹⁾	BW	IC328	IC830	IC354	IC908	IC20	f groove (mm/rev)
GIM 3C	3.00	0.22	0.05	2.40	•	•	•	•	•	0.15-0.25
GIM 4C	4.00	0.25	0.05	3.40	•	•	•	•	•	0.15-0.25
GIM 5C	5.00	0.40	0.05	4.00	•	•	•	•	•	0.15-0.30
GIM 6C	6.00	0.40	0.05	4.80	•	•	•	•	•	0.15-0.30

• For cutting speed recommendations and user guide, see pages 542-547

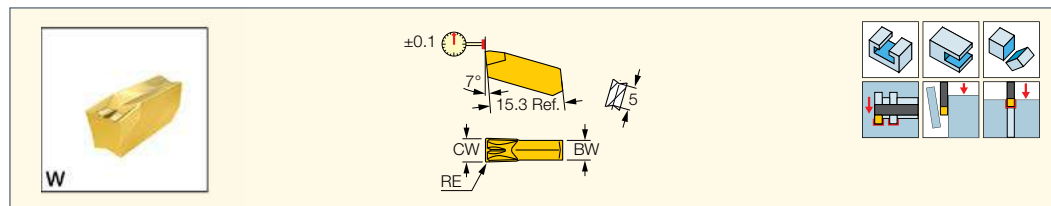
⁽¹⁾ Cutting width tolerance (+/-)

For tools, see pages: GM-DG (374)

CUTGRIP

GIM-W

Single-Sided Inserts with
Central Ridged Chipformer and
Reinforced Edge for Parting
and Grooving Alloy Steel

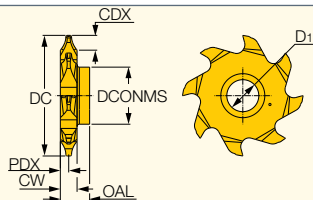


Designation	Dimensions				Tough ↔ Hard					Recommended Machining Data
	CW	RE	CWTOL ⁽¹⁾	BW	IC328	IC830	IC354	IC908	IC20	f groove (mm/rev)
GIM 2.4	2.40	0.18	0.05	2.40	•	•	•	•	•	0.10-0.18
GIM 3	3.00	0.22	0.05	2.40	•	•	•	•	•	0.10-0.18
GIM 3.2	3.20	0.22	0.05	2.40	•	•	•	•	•	0.10-0.20
GIM 4	4.00	0.25	0.05	3.20	•	•	•	•	•	0.15-0.20

• For cutting speed recommendations and user guide, see pages 542-547

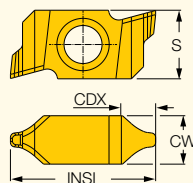
⁽¹⁾ Cutting width tolerance (+/-)

For tools, see pages: GM-DG (374)

T-GEAR
GEAR MILLING**SD-M-N-SP**Interchangeable Solid Carbide
Heads for Involute Gear
Profile Milling According to
DIN 3972 Basic Profile II

Designation	Dimensions										IC908
	Module	T range ⁽¹⁾	DC	PDX	CW	CDX	CEDC ⁽²⁾	DCONMS	D1	OAL	
SD D32-M1.00-N01-SP15	1.00	12-13	32.00	2.20	4.40	2.50	8	15.00	8.40	7.70	●
SD D32-M1.00-N02-SP15	1.00	14-16	32.00	2.20	4.40	2.50	8	15.00	8.40	7.70	●
SD D32-M1.25-N03-SP15	1.25	17-20	32.00	2.20	4.40	3.00	8	15.00	8.40	7.70	●
SD D32-M1.25-N04-SP15	1.25	21-25	32.00	2.20	4.40	3.00	8	15.00	8.40	7.70	●
SD D32-M1.50-N05-SP15	1.50	26-34	32.00	2.20	4.40	3.50	8	15.00	8.40	7.70	●
SD D32-M1.50-N06-SP15	1.50	35-54	32.00	2.20	4.40	3.50	8	15.00	8.40	7.70	●
SD D32-M1.75-N07-SP15	1.75	55-134	32.00	2.70	5.40	4.25	8	15.00	8.40	7.70	●
SD D32-M1.75-N08-SP15	1.75	>134	32.00	2.70	5.40	4.25	8	15.00	8.40	7.70	●
SD D32-M2.00-N04-SP15	2.00	21-25	32.00	3.20	6.40	4.50	8	15.00	8.40	7.70	●
SD D32-M2.00-N05-SP15	2.00	26-34	32.00	3.20	6.40	4.50	8	15.00	8.40	7.70	●
SD D32-M2.25-N06-SP15	2.25	35-54	32.00	3.20	6.40	5.00	8	15.00	8.40	7.70	●
SD D32-M2.25-N07-SP15	2.25	55-134	32.00	3.20	6.40	5.00	8	15.00	8.40	7.70	●

• Tightening torque 4 Nxm • For user guide, see pages 377-383 • For shanks, see pages 329-331

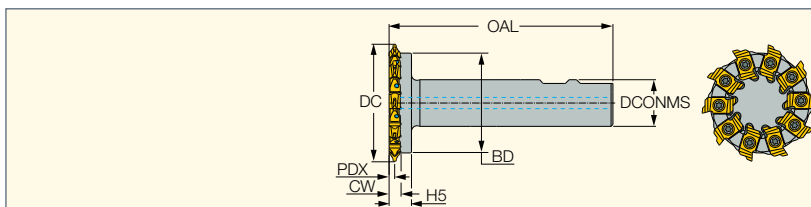
⁽¹⁾ Gear teeth range⁽²⁾ Number of cutting edges**MODUGEAR**
INDEXABLE GEAR MILLING**LNET 18-M**Indexable Inserts for Involute
Gear Profile Milling According
to DIN 3972 Basic Profile II

Designation	Dimensions						IC908
	Module	T range ⁽¹⁾	CW	CDX	INSL	S	
LNET 18-M1.50-N03-C-CL10	1.50	17-20	6.00	4.00	18.00	8.50	●

• Other gear profiles within module 1.0-1.75 mm range can be provided on request

⁽¹⁾ Gear teeth range

For tools, see pages: ETS Gear Mill (376)

MODUGEAR
INDEXABLE GEAR MILLING**ETS Gear Mill**Tools for Milling Gear
Profile Carrying Tangentially
Clamped Inserts

Designation	DC	PDX	CW	BD	CICT ⁽¹⁾	H5	DCONMS	OAL	MIID ⁽²⁾
ETS D63-M1-1.75-W25-C	63.00	3.00	6.00	53.50	10	12.00	25.00	120.00	LNET 18

• Other cutter diameters with alternative connection options (shank or arbor-type) can be provided on request

⁽¹⁾ Number of inserts⁽²⁾ Master insert identification

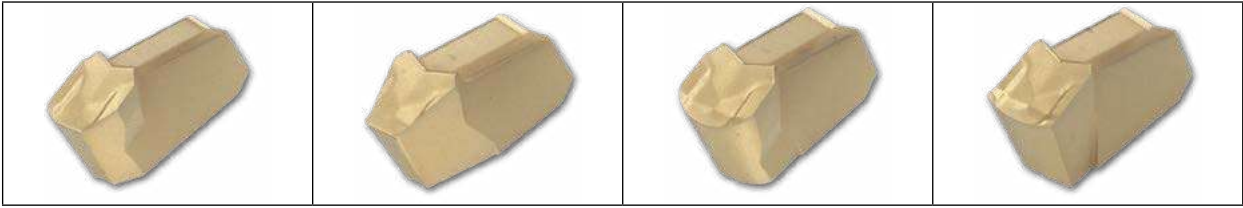
For inserts, see pages: LNET 18-M (376)

Spare Parts

Designation			
ETS Gear Mill	SR 14-500-L11.5	BLD T15/S7	SW6-T

Specially Tailored Inserts for Grooving

Possible Insert Width for Each Cutter's Seat Size

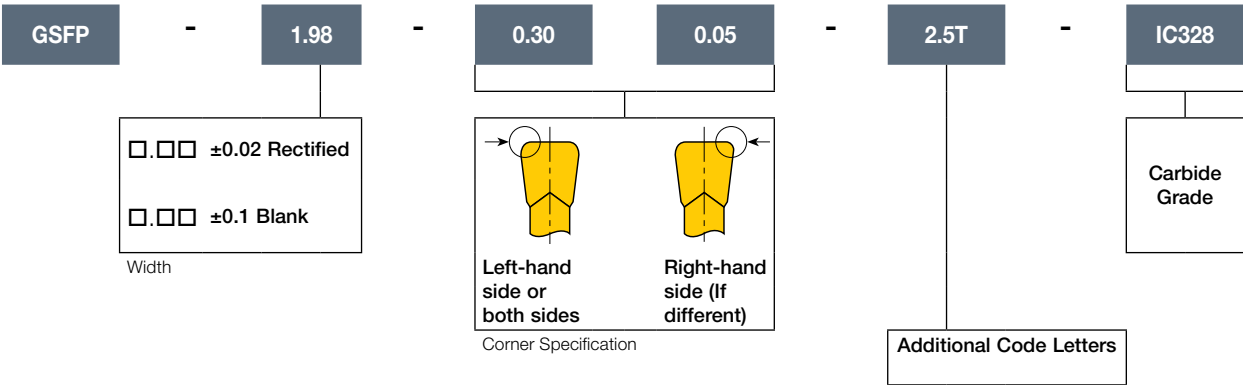


Possible Insert Width for Each Cutter's Seat Size

W±0.02 Range	Seat GSFN	M
1.50-1.79	1.6	1.1
1.80-2.69	2	1.6
2.70-3.53	3	2.4
3.54-4.52	4	3.2
4.53-5.50	5	4.1
5.51-6.50	6	5.2

GIPI	GSFP
Repeatability ±0.025 	Repeatability ±0.025

Designation for Specially Tailored Inserts



Specially Tailored Inserts for Grooving

Examples	Designation	
	E1 GSFP-4.00-0.25	
	E2 GSFP-3.95-4.00	
	E3 GSFP-1.98-0.3-0.05-3.5T	
	E4A GSFP-5.28-1.20-0.00-25A4.10	A-Chamfer Preceding digits: Chamfer angle to center line A-Followed by digits - representing the nominal width location of chamfer
	E4B GSFP-5.28-25A4.10-0.00-1.20	
	E5 GSFP-5.28A4.10-0.00-0.20-45A2.05	
	E7 GIP-4.4-MT-0.15	MT – Metric thread 60° MT◻ – With corner radius ◻ WT – Whitworth thread 55° WT◻ – With corner radius ◻
	E8 GSFP-5.4-90V0.15	V – V shape inclusive angle (Blank width 5.4 not rectified)
	E9 GSFP-4.40-29V1.82K-0.35	K – Frontal straight width of trapezoid (Width 4.40 rectified)
	E10 GIP-5.4-80V0.10-10RS	V shape 80° at 10° slant angle (Blank width 5.4 not rectified)
	E13 GSFP-4.00-0.00-0.30-5LA	LA – Lead angle Lefthand RA – Lead angle Righthand
	E14 GIP-1.98-0.00-4.50T0.20B GFP-1.98-0.00-4.50T0.20B	T – Depth of groove (nominal) B – Break corners width of chamfers, 45° Note: Blank width > 2B+W

When ordering inserts, include carbide grade with designation.

Machining Data for MULTI-MASTER Groove Milling Heads

ISO	Material	Condition	Tensile Strength [N/mm ²]	Hardness HB	Group No.	MM-TS			MM-GRIT K-TYPE			MM-GRIT P-TYPE		
						Speed		Feed	Speed		Feed mm/t	Speed		Feed mm/t
						V m/min	F _z (min)	F _z (max)	V m/min	F _z (min)	F _z (max)	V m/min	F _z (min)	F _z (max)
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C Annealed	420	125	1	110-140	0.08	0.20	110-160	0.05	0.15	-	-	-
		>= 0.25 %C Annealed	650	190	2	100-120	0.08	0.18	100-150	0.05	0.15	-	-	-
		< 0.55 %C Quenched and tempered	850	250	3	70-100	0.08	0.15	80-100	0.05	0.15	-	-	-
		>= 0.55 %C Annealed	750	220	4	70-100	0.08	0.15	80-100	0.05	0.15	-	-	-
		Quenched and tempered	1000	300	5	60-80	0.08	0.15	60-80	0.05	0.15	-	-	-
	Low alloy and cast steel (less than 5% of alloying elements)	Annealed	600	200	6	100-120	0.08	0.15	110-150	0.05	0.15	-	-	-
		Quenched and tempered	930	275	7	90-120	0.08	0.15	100-120	0.05	0.15	-	-	-
			1000	300	8	80-110	0.08	0.15	70-110	0.05	0.15	-	-	-
			1200	350	9	70-100	0.05	0.12	70-100	0.05	0.15	-	-	-
	High alloyed steel, cast steel and tool steel	Annealed	680	200	10	60-80	0.05	0.18	60-80	0.05	0.15	-	-	-
		Quenched and tempered	1100	325	11	55-70	0.08	0.15	55-70	0.05	0.15	-	-	-
	Stainless steel and cast steel	Ferritic/martensitic	680	200	12	100-130	0.06	0.12	100-130	0.03	0.15	100-130	0.03	0.10
		Martensitic	820	240	13	100-120	0.08	0.15	100-130	0.03	0.15	100-130	0.03	0.10
M	Stainless steel	Austenitic	600	180	14	80-120	0.05	0.10	90-120	0.03	0.12	90-120	0.03	0.10
K	Grey cast iron (GG)	Ferritic/pearlitic		180	15	160-220	0.10	0.20	160-220	0.03	0.12	-	-	-
		Pearlitic		260	16	120-200	0.10	0.15	120-200	0.03	0.12	-	-	-
	Cast iron nodular (GGG)	Ferritic		160	17	100-140	0.10	0.20	-	-	-	-	-	-
		Pearlitic		250	18	80-100	0.10	0.15	-	-	-	-	-	-
	Malleable cast iron	Ferritic		130	19	180-250	0.10	0.20	180-250	0.03	0.15	-	-	-
		Pearlitic		230	20	160-220	0.10	0.15	160-220	0.03	0.15	-	-	-
N	Aluminum-wrought alloy	Not cureable		60	21	800-1200	0.10	0.20	-	-	-	800-1200	0.05	0.15
		Cured		100	22	800-1200	0.10	0.20	-	-	-	800-1200	0.05	0.15
	Aluminum-cast alloys	<=12% Si Not cureable		75	23	-	-	-	-	-	-	600-1000	0.05	0.15
		Cured		90	24	-	-	-	-	-	-	500-1000	0.05	0.15
		>12% Si High temperature		130	25	-	-	-	-	-	-	200-400	0.05	0.15
	Copper alloys	>1% Pb Free cutting		110	26	-	-	-	-	-	-	-	-	-
		Brass		90	27	-	-	-	-	-	-	-	-	-
		Electrolytic copper		100	28	-	-	-	-	-	-	-	-	-
	Non-metallic	Duroplastics, fiber plastics			29	-	-	-	-	-	-	-	-	-
		Hard rubber			30	-	-	-	-	-	-	-	-	-
S	High temp. alloys	Fe based Annealed		200	31	-	-	-	30-40	0.02	0.12	-	-	-
		Cured		280	32	25-35	0.05	0.12	25-40	0.02	0.12	-	-	-
		Ni or Co based Annealed		250	33	25-35	0.05	0.12	25-40	-	-	-	0.01	0.12
		Cured		350	34	25-35	0.05	0.12	25-40	-	-	-	0.01	0.12
		Cast		320	35	40-60	0.05	0.12	25-40	-	-	-	0.01	0.12
	Titanium Ti alloys		RM 400		36	40-60	0.05	0.12	40-60	-	-	-	0.05	0.12
		Alpha+beta alloys cured	RM 1050		37	40-60	0.05	0.10	40-60	-	-	-	0.05	0.10
H	Hardened steel	Hardened		55 HRC	38									
		Hardened		60 HRC	39									
	Chilled cast iron	Cast		400	40									
	Cast iron	Hardened		55 HRC	41									

Feed Direction

Down (climb) milling is recommended.
Up milling or plunging are possible.
(In down milling or plunging, backlash should be eliminated.)

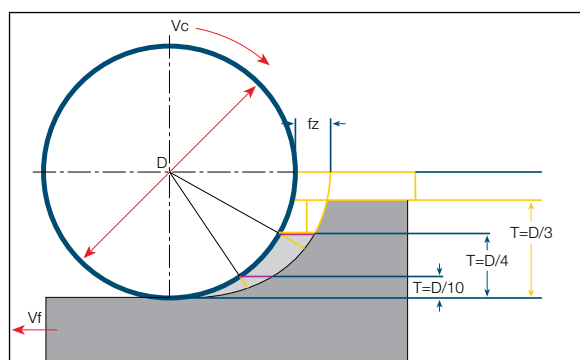
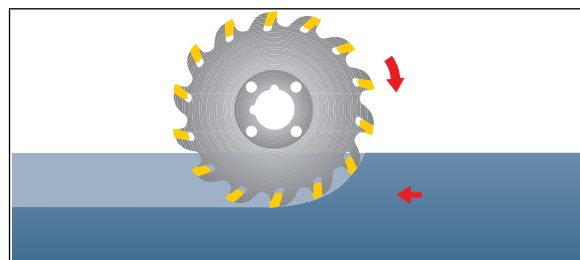
Defining Actual Feed

Chip thickness decreases as the depth of cut decreases. Therefore, recommended feed (f_z) can be increased as shown in the table.

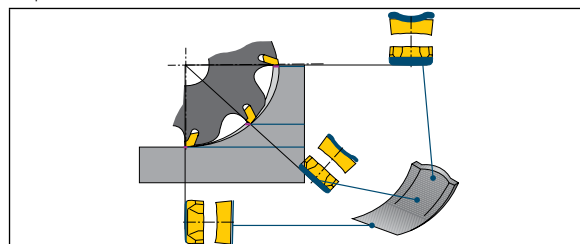
T/D Increase	1/6	1/8	1/10	1/20
recommended feed by	15%	30%	45%	100%

Chip Formation in Slot Milling

Chip shape is a function of the depth of cut.
Down milling starts with large chip selection and exits with reduced chip selection. Down milling is recommended for improved tool life under stable conditions.



Chip Thickness as a Function of D.O.C. to Diameter Ratio



Stacked Cutters⁽¹⁾

Milling Wider Slots with Two Stacked Cutters

- In accordance with the required width of cut ($W1+W2$), choose the recommended **SGSF** cutter combination (**A**, **B**, or **C**) from the table on the next page.
- The diameters and coupling holes must fit properly.
- All cutters (with the exception of $\varnothing 125$ mm type) have two key slots enabling staggered stacking.
- Maximum value of shim ΔS (see table below) refers to maximum size of $\Delta S1 + \Delta S2$ defined for a complete overlap of radii. When a projection is allowed at the bottom of the groove, $\Delta S1$ and $\Delta S2$ may be increased theoretically up to the corner size of the insert.
- Pins of the driving flange set should be lengthened to ensure contact length of at least 8 mm into one flange and 3 mm into the other.
- When coupling cutters $W=6.35$, a shim (**S**) of 0.16 mm minimum thickness must be used.
- The tolerance of effective widths is up to ± 0.2 mm. Due to the accumulation of tolerances, a step of 0.1 mm may occur at the groove bottom.

Insert Width and Possible Modification

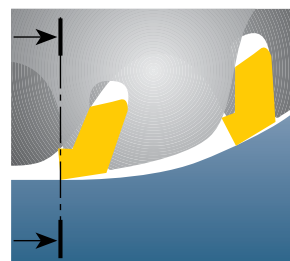
See sketches on next page

W	A	R	ΔA_{max}	ΔS_{max}
2.40	2.40	0.16	0.33	—
3.00	2.40	0.20	0.24	0.10
3.18	2.40	0.22	0.24	0.17
4.05	3.20	0.24	0.32	0.19
4.78	4.00	0.28	0.40	0.11
5.00	4.00	0.28	0.40	0.22
5.20	4.00	1.50	0.40	—
6.35	5.20	0.50	— ⁽¹⁾	0.13

ΔA_{max} - Maximum possible side ground for each cutter

ΔS_{max} - Maximum possible shim width for each cutter

W, W1, W2 - Normal width of insert



Milling Wider Slots with Stacked, Double Cutters

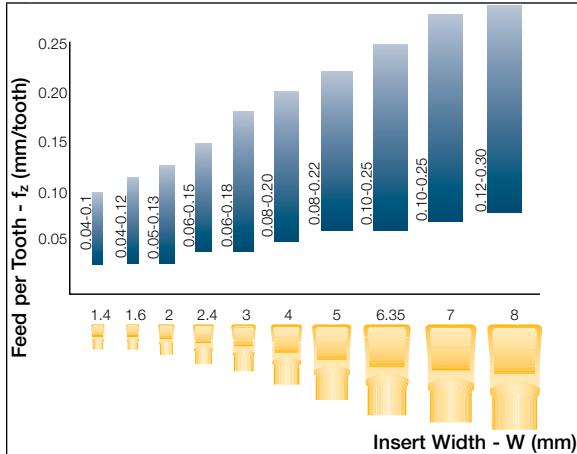
⁽¹⁾ Only cutters with 160-250 diameter sizes can be stacked.

Stacked Cutters⁽¹⁾

Requires modification of the cutter.

Note: Tables on this page and the next apply only to standard **SELF-GRIP** inserts which appear in this catalog. The number of options increases with the use of specially tailored inserts.

Feed Range per Insert Size



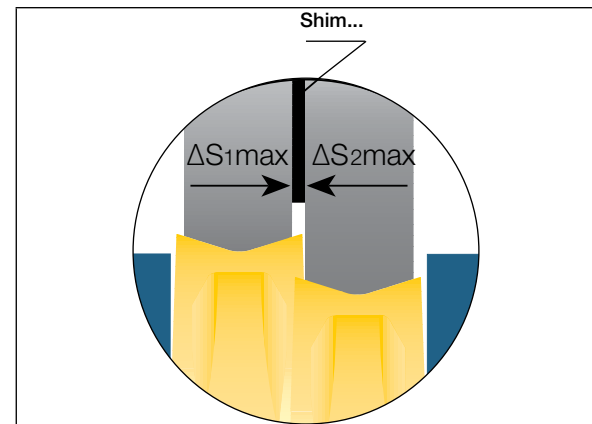
The recommended values refer to C-type chipformer. For J-type, reduce feed by 30%.

	Single cutter, standard
	A - Double cutters with modified body thicknesses stacked for smaller widths
	B - Unmodified, stacked double cutters of nominal width
	C - Stacked, double cutters with spacer for larger widths

Table 1: Effective Width of Cut

W1	W2	WA		WB	Wc ⁽¹⁾
2.40	2.40	4.14	-	4.48	—
3.00	2.40	4.53	-	5.04	—
3.00	3.00	4.92	-	5.39	5.43-5.60
3.18	2.40	4.62	-	5.18	—
3.18	3.00	5.01	-	5.48	5.52-5.76
3.18	3.18	5.10	-	5.57	5.61-5.92
4.05	2.40	5.38	-	6.02	—
4.05	3.00	5.77	-	6.32	6.36-6.62
4.05	3.18	5.86	-	6.41	6.45-6.78
4.05	4.05	6.61	-	7.24	7.28-7.63
4.78	2.40	6.06	-	6.74	—
4.78	3.00	6.45	-	7.08	7.12-7.30
4.78	3.18	6.54	-	7.17	7.21-7.46
4.78	4.05	7.30	-	8.01	8.05-8.32
4.78	4.78	7.98	-	8.77	8.81-9.00
5.00	2.40	6.17	-	6.89	6.93-7.12
5.00	3.00	6.56	-	7.19	7.23-7.52
5.00	3.18	6.65	-	7.28	7.32-7.68
5.00	4.05	7.41	-	8.12	8.16-8.54
5.00	4.78	8.09	-	8.88	8.92-9.22
5.00	5.00	8.2	-	8.99	9.03-9.44
5.20	5.00	8.3	-	8.42	—
6.35	3.00	—	—	8.64-8.71	—
6.35	3.18	—	—	8.73-8.87	—
6.35	4.05	—	—	9.56-9.72	—
6.35	4.78	—	—	10.33-10.41	—
6.35	5.00	—	—	10.44-10.63	—
6.35	6.35	—	—	11.71-11.81	—

⁽¹⁾ Only cutters with 160-250 diameter sizes can be stacked.



1 The higher values in the width-of-cut range shown provide complete overlap of corner radii.

ΔA max - Maximum possible side ground for each cutter

ΔS max - Maximum possible shim width for each cutter

W, W1, W2 - Normal width of insert

Machining Data for Slitting with SELF-GRIP and TANGSLIT Cutters & Recommended Cutting Speed (m/min)

ISO	Material		Condition	Tensile Strength [N/mm²]	Hardness HB	Group No. ⁽¹⁾	Coated			Uncoated
							IC328	IC928 / IC830	IC908 / IC808	IC20
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C	Annealed	420	125	1	A 80-150	A 80-160	B 120-220	
		>= 0.25 %C	Annealed	650	190	2	A 80-130	A 80-180	B 120-200	
		< 0.55 %C	Quenched and tempered	850	250	3	A 80-130	A 80-180	B 120-200	
		>= 0.55 %C	Annealed	750	220	4	A 60-110	A 70-150	B 100-170	
			Quenched and tempered	1000	300	5	A 60-100	A 70-160	B 100-180	
	Low alloy and cast steel (less than 5% of alloying elements)		Annealed	600	200	6	A 80-140	A 70-160	B 120-190	
		Quenched and tempered		930	275	7	A 60-120	A 70-140	B 100-180	
				1000	300	8	A 60-120	A 70-140	B 100-180	
				1200	350	9	A 60-110	A 70-110	B 80-120	
	High alloyed steel, cast steel and tool steel	Annealed	680	200	10	A 60-80	A 70-90	B 80-120		
		Quenched and tempered	1100	325	11	A 50-70	A 50-80	B 60-100		
	Stainless steel and cast steel	Ferritic/martensitic	680	200	12	50-110	60-140	70-180		
		Martensitic	820	240	13	50-100	60-120	60-160		
M	Stainless steel	Austenitic	600	180	14	50-100	60-120	60-160		
K	Grey cast iron (GG)	Ferritic/pearlitic		180	15			115-140	95-110	
		Pearlitic		260	16			90-120	70-100	
	Cast iron nodular (GGG)	Ferritic		160	17			90-140	70-110	
		Pearlitic		250	18			70-100	55-80	
	Malleable cast iron	Ferritic		130	19			115-140	95-110	
		Pearlitic		230	20			90-120	70-100	
N	Aluminum-wrought alloys	Not cureable		60	21				250max	
		Cured		100	22				250max	
	Aluminum-cast alloys	<=12% Si	Not cureable	75	23				250max	
			Cured	90	24				250max	
		>12% Si	High temperature	130	25				250max	
	Copper alloys	>1% Pb	Free cutting	110	26				250max	
			Brass	90	27				250max	
			Electrolitic copper	100	28				250max	
	Non-metallic	Duroplastics, fiber plastics			29					
Hard rubber				30						
S	High temp. alloys	Fe based	Annealed		200	31			40-50	30-40
			Cured		280	32			30-40	20-30
		Ni or Co based	Annealed		250	33			30-40	20-30
			Cured		350	34			30-40	20-30
			Cast		320	35			20-30	15-25
	Titanium Ti alloys		RM 400		36			30-40	15-25	
		Alpha+beta alloys cured	RM 1050		37			30-40	20-30	
H	Hardened steel	Hardened		55 HRC	38			25-50		
		Hardened		60 HRC	39			30-40		
	Chilled cast iron	Cast		400	40			50-60	10-20	
	Cast iron	Hardened		55 HRC	41			30-50		

For machining aluminum, use IC20, maximum cutting speed corresponds to the maximum RPM indicated on the cutter A - First choice B - Second choice

Recommendations are for normal machining conditions

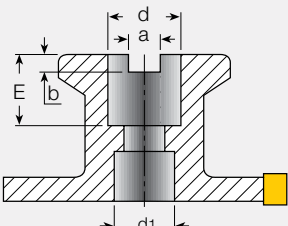
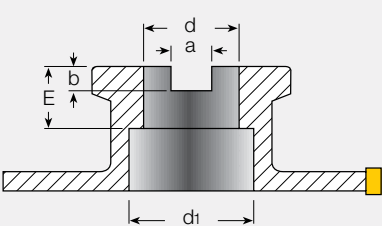
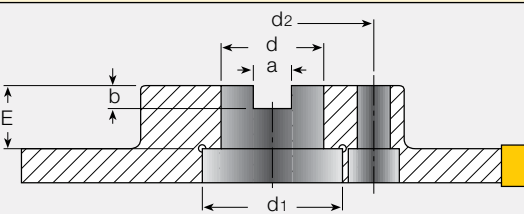
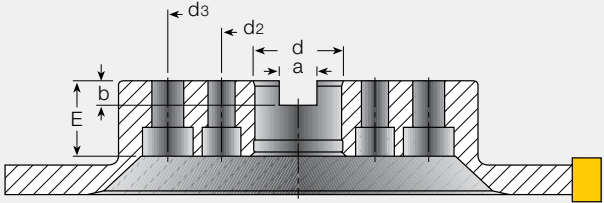
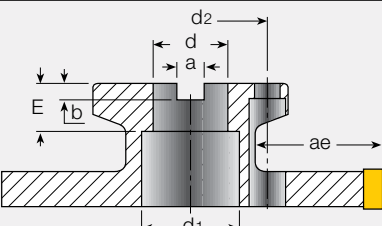
If excessive wear occurs, select insert with higher hardness

If chipping or breakage occurs, select insert with more toughness

⁽¹⁾ For workpiece materials list, see pages 728-757

Slot Milling Cutters

Arbor Hole Styles and Dimensions

Style A	d [DCONMS]	E	d1		a	b
	16	18	14		8.4	5.6
	22	20	18		10.4	6.5
	27	22	20		12.4	7.0
	32	25	27		14.4	8.1
Style B	d [DCONMS]	E	d1		a	b
	22	20	29		10.9	6.5
	27	28	36		12.4	7.0
	32	30	43		14.4	8.0
	40	33	53		16.4	8.0
Style C	d [DCONMS]	E	d1	d2	a	b
	40	33	55	66.7	16.4	9.0
	60	45	90	101.6	25.7	14.0
Style D	d [DCONMS]	E	d1	d3	a	b
	60	45	101.6	177.8	25.7	14.0
Style E	d [DCONMS]	E	d1	d3	a	b
	40	33	55	66.7	16.4	9.0
	60	45	63	101.6	25.7	14.0