



**WINSFEED**

**DIFFEED<sup>WIN-V</sup>**

UNLV INSERT WITH  
V-SHAPED CONTACT FACE

**NEXT GENERATION HIGH FEED MILLING LINE  
WITH V-BOTTOM FOR STRONGER CLAMPING**

- 4-edged insert
- Stronger clamping due to insert's V-shaped design
- Improved tool life
- Excellent machining performance
- Various application range
- Good ramping ability



**Product Overview**

DiFeed<sup>WIN-V</sup>'s UNLV inserts and cutters are the next-generation high feed milling solution.

Building on the success of the DiPosFeed series, Ingersoll has unveiled the powerful premium high feed milling solution DiFeed<sup>WIN-V</sup> that includes UNLV inserts and dedicated cutters.

The UNLV line's V-shaped contact face, which prevents insert rotation during ramping and plunging operations, contributes to its steady machining performance and increased productivity. These features not only ensure a high ramping angle but also enable deeper step-down machining, boost productivity, and provide a range of machining entry operations.

The insert comes in an M type chip former and has a 6 mm I.C. size. There are 3 different types of cutters: a shell-type milling cutter Ø32-63mm, a screw-in milling cutter Ø16-40mm and a cylindrical end mill Ø16-40mm.

**DiFeed<sup>WIN-V</sup> Insert and Cutters**



UNLV 06



1TG1V...T/U  
(Ø16-Ø40)



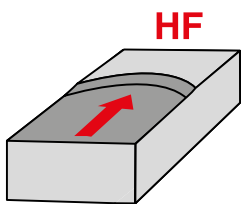
1TG1V...X  
(Ø16-Ø40)



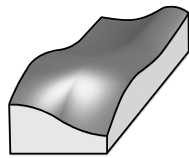
TG1V  
(Ø32-Ø63)

**Variable Applications**

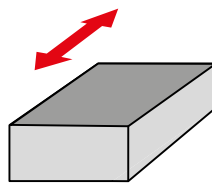
- Plunging, step down machining and UNLV machining applications



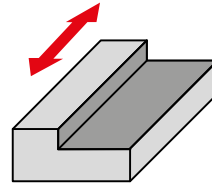
High feed milling



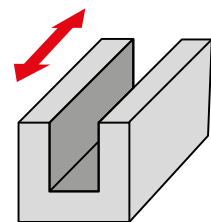
Profiling



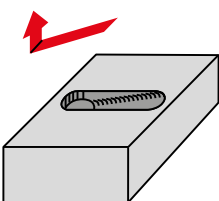
Facing



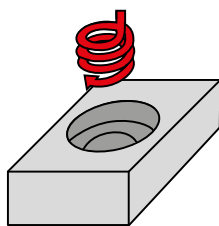
Shouldering



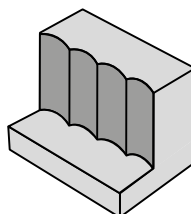
Slotting



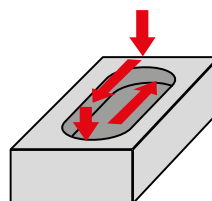
Straight ramping



Helical ramping



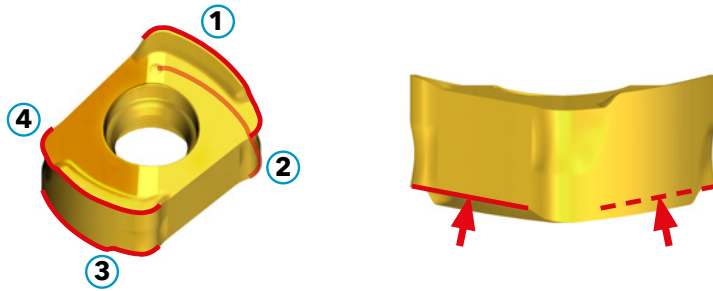
Plunging



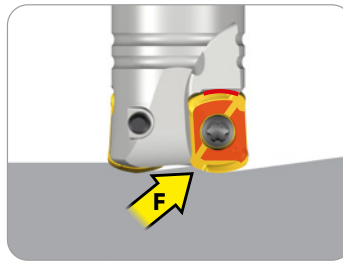
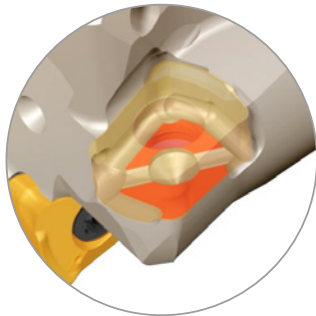
Step down

**Technical Features**

- 4-edged insert
- Stronger clamping due to the insert's top and bottom face V-shaped design



- Improved tool life even in ramping operations due to the form-fitting contact of the insert



Ramping

- Insert design includes a higher ramping angle for improved productivity



UNLV

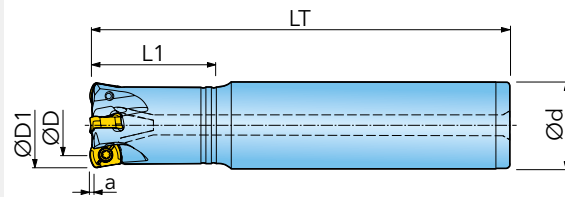
Cutter Diameter	Straight ramp down max. ramping angle	
	Competitor high feed insert	UNLV <b>NEW</b>
Ø16	2.0°	5.1°
Ø17	2.0°	4.5°
Ø20	1.5°	2.5°
Ø21	1.5°	2.3°
Ø25	1.3°	2.5°
Ø26	1.2°	2.2°
Ø32	0.9°	1.4°
Ø40	0.7°	1.2°
Ø50	0.6°	1.1°
Ø52	0.6°	0.7°
Ø63	0.5°	0.6°

- Excellent machining performance is made possible by the insert's higher rake angle



# DIFFEED<sup>WIN-V</sup> HIGH FEED CUTTER 1TG1V..T/U

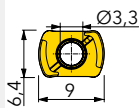
ADAPTION ACC. TO DIN 1835 A



Designation	D	D1	d	LT	L1	a	Rp	Z			
1TG1V016030T3R00	9,1	16	16	100	30	1	1,5	2	5,1	✓	0,14
1TG1V020050T4R00	12	20	20	130	50	1	2,0	3	2,5	✓	0,26
1TG1V025060T5R00	17	25	25	140	60	1	2,0	4	2,5	✓	0,44
1TG1V032070U7R00	24	32	32	150	70	1	2,0	5	1,4	✓	0,81
1TG1V040040U7R00	32	40	32	150	40	1	2,0	6	1,2	✓	0,96

Rp = programming radius

UNLV0603MOTR



Designation	fz(min/max)	Design	Grade	IN2504	IN2505	IN2530	IN6537				
UNLV0603MOTR	0,30/2,50	semi-positive geometry									

● = P ● = M ● = K ● = N ● = S ○ = H

SPARE PARTS

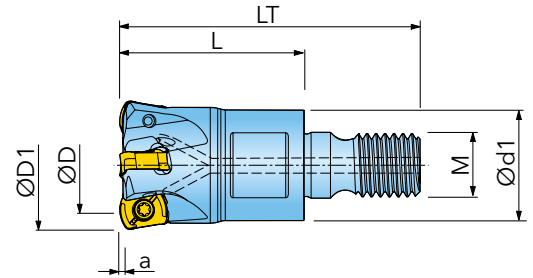


SM25-064-01 (1,1Nm) TXPLUS08x90-B

1 = insert screw 2 = Torx-bit

# DIFFEED<sup>WIN-V</sup> HIGH FEED CUTTER 1TG1V...X

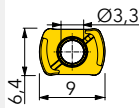
WITH SCREW-IN TYPE ADAPTION



Designation	D	D1	d1	LT	L	Rp	M	Z			
1TG1V016025X5R00	9,1	16	13	42,5	25	1,5	M8	2	5,1	✓	0,09
1TG1V020030X6R00	12	20	18	50	30	2,0	M10	3	2,5	✓	0,12
1TG1V025035X7R00	17	25	21	57	35	2,0	M12	4	2,5	✓	0,16
1TG1V032040X8R00	24	32	29	65	40	2,0	M16	5	1,4	✓	0,27
1TG1V035043X8R00	27	35	29	68	43	2,0	M16	5	1,3	✓	0,30
1TG1V040043X8R00	32	40	29	68	43	2,0	M16	6	1,2	✓	0,33

Rp = programming radius

## UNLV0603M0TR



Designation	fz(min/max)	Design	Grade	IN2504	IN2505	IN2530	IN6537				
UNLV0603M0TR	0,30/2,50	semi-positive geometry									

● = P ● = M ● = K ● = N ● = S ○ = H

## SPARE PARTS

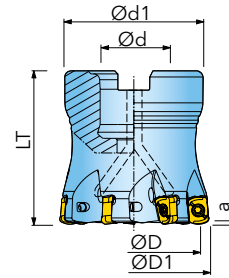


SM25-064-01 (1,1Nm) TXPLUS08x90-B

1 = insert screw 2 = Torx-bit

# DIFFEED<sup>WIN-V</sup> HIGH FEED CUTTER TG1V

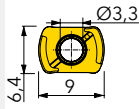
ADAPTION ACC. TO DIN 8030



Designation	D	D1	d	d1	LT	Rp	Z			
TG1V032R00	24	32	16	30	40	2,0	5	1,4	✓	0,12
TG1V040R00	32	40	16	30	40	2,0	6	1,2	✓	0,19
TG1V050R00	42	50	22	45	50	2,0	6	1,1	✓	0,39
TG1V050R01	42	50	22	45	50	2,0	7	1,1	✓	0,39
TG1V052R00	44	52	22	45	40	2,0	7	0,7	✓	0,37
TG1V063R00	55	63	22	47	50	2,0	8	0,6	✓	0,67

Rp = programming radius

## UNLV0603MOTR



Designation	fz(min/max)	Design	Grade	IN2504	IN2505	IN2530	IN6537				
UNLV0603MOTR	0,30/2,50	semi-positive geometry									

● = P ● = M ● = K ● = N ● = S ○ = H

## SPARE PARTS



SM25-064-01 (1,1Nm) TXPLUS08x90-B

1 = insert screw 2 = Torx-bit

**UNLV0603MOTR**



Insert:	UNLV0603MOTR
average chip thickness:	ap = 0,8 mm
max. cutting depth:	ap = 1,0 mm

**Recommended cutting data:**

ISO	Material	cutting speed Vc [m/min]				feed per tooth fz [mm]
		1st choice dry machining resp. wear resistant carbide		1st choice wet machining resp. rough carbide		
P	unalloyed steel	IN2505 / IN2504	160 - 220	IN2530	130 - 180	0,7 - 1,6
	alloyed steel 800 N/mm <sup>2</sup>	IN2505 / IN2504	140 - 200	IN2530	110 - 160	0,6 - 1,5
	alloyed steel 1100 N/mm <sup>2</sup>	IN2505 / IN2504	120 - 180	IN2530	100 - 150	0,5 - 1,3
M	stainless steel	IN2530 / IN6537	90 - 150	IN2530 / IN6537	80 - 130	0,6 - 1,2
K	gray cast iron	IN2505 / IN2504	160 - 250	IN2530	140 - 200	0,7 - 1,6
	nodular cast iron	IN2505 / IN2504	140 - 200	IN2530	120 - 170	0,5 - 1,3
N	aluminum	-	-	-	-	-
S	high temperature alloys	IN2530	50 - 80	IN2530	50 - 70	0,4 - 1,0
	titanium alloys	-	-	IN2530 / IN6537	30 - 40	0,3 - 0,9
H	hard machining < 54 HRC	IN2504	60 - 100	-	-	0,2 - 0,7
	hard machining < 63 HRC	-	-	-	-	-

**Tips:**

- The worse the material machinability, the smaller the tool engagement should be chosen.
- The smaller the cutting tool diameter, the higher the cutting speed can be.
- Approach feed should be reduced by 30%.
- With tool diameter 16 mm, max. feed is ap = 0,7 mm.
- 4-edged insert
- Programmierradius R2

**Ramping data and circular interpolation:**

Tool diameter [mm]	straight ramp down			helical ramp down			
	max. ramp angle [°]	max. ap [mm]	min. length L [mm]	min. bore dia. [mm]	max. ap/rev. [mm]	max. bore dia. [mm]	max. ap/rev. [mm]
16	5,1	0,7	7,9	26	0,7	32	0,7
20	2,5	1,0	23,0	33	1,0	40	1,0
25	2,5	1,0	23,0	43	1,0	50	1,0
32	1,4	1,0	41,0	57	1,0	64	1,0
40	1,2	1,0	47,8	73	1,0	80	1,0
50	1,1	1,0	52,2	93	1,0	100	1,0
52	0,7	1,0	81,9	97	1,0	104	1,0
63	0,6	1,0	95,6	119	1,0	126	1,0

**General information::**

Insert screw: **SM25-064-01**

Torque: **1,1 Nm**

Torque wrench: **DTN011S with bit DS-TP08TB**

**Ingersoll Cutting Tools**

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