



WINSFEED

DIPOSQUAD^F

8-EDGED INSERTS SQGU11/14 AND CUTTERS

8-EDGED SQGU11/14 INSERTS FOR HIGH PRODUCTIVITY FACE MILLING

- *Two different lead angles cutters for roughing and high feed machining*
- *Wiper edge for excellent surface roughness*
- *Reinforced edge optimized for high feed machining*
- *Excellent chip evacuation due to reduced chip volume*
- *Enhanced body rigidity for excellent machining performance*
- *Fine pitch cutter maximizes productivity*



Product Overview

Ingersoll has introduced the **DiPosQuad^F** line for rough milling (45°) and **DiPosQuad^F** for high feed face milling operations with 20° lead angle.

Due to the reinforced cutting edges and the high feed face milling option, face milling is more productive than with conventional double-sided 8-edged inserts. Excellent chip evacuation is obtained due to the high negative radial rake angle and high positive axial rake angle. Thanks to the higher rigidity of the cutter body, excellent machining performance is achieved under difficult cutting conditions.

The SQGU11/14 insert can be used interchangeably with 45° roughing cutters and 20° high feed cutters.



SQGU11/14

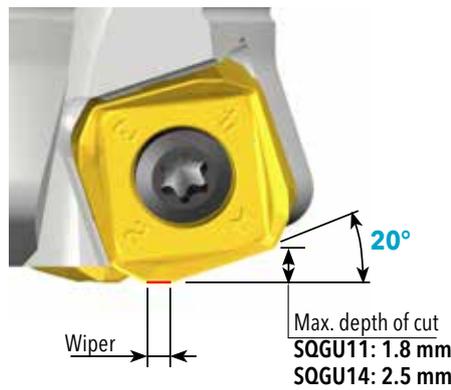
Features & Advantages

- Economical double-sided 8-edged insert
- Two lead angle cutters for roughing and high feed machining

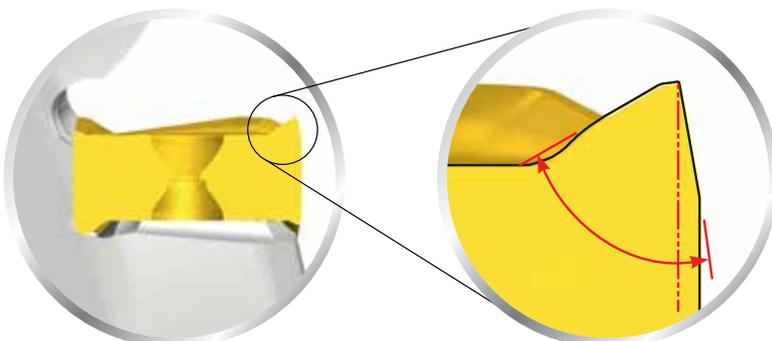
45° cutters: depth of cut for roughing



20° cutters: for high feed milling

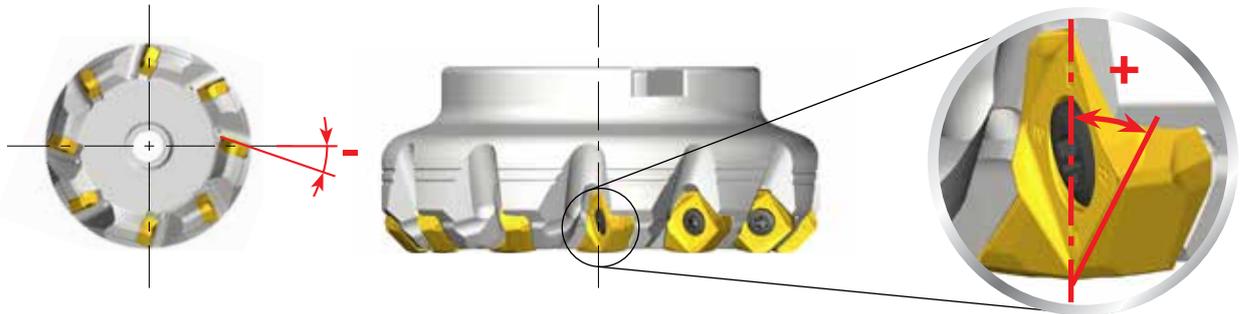


- Wiper edge for excellent surface roughness
Note: Good visual roughness requires feed rate adjustment
- Reinforced edge optimized for high feed machining



Features & Advantages

- High negative radial rake angle and high positive axial rake angle



- Excellent chip evacuation due to reduced chip volume
- Enhanced body rigidity for excellent machining performance under harsh cutting conditions
- Fine pitch cutter maximizes productivity

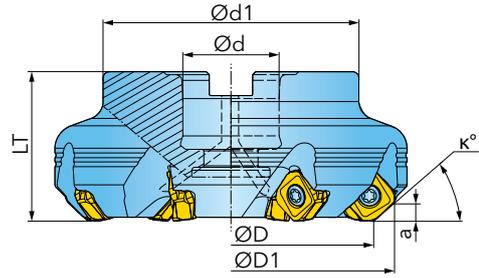


Conventional cutter	DiPosQuad ^F cutter	
	Normal pitch	Fine pitch
<p>Reduced body rigidity due to the wider space for insert clamping and chip evacuation</p>	<p>Improved body rigidity and ideal chip evacuation in the narrowest space</p>	<p>Larger number of teeth for higher productivity</p>



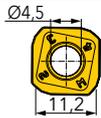
DIPOSQUAD^F FACE MILL DN_G

ADAPTION ACC. TO DIN 8030



Designation	D	D1	d	d1	LT	LK	κ	a	Z		
DN6G040R00	40	51	16	38	40	-	45	4,2	4	✓	0,4
DN5G040R00	40	51	16	38	40	-	45	4,2	6	✓	0,4
DN6G050R00	50	61	22	45	40	-	45	4,2	6	✓	0,5
DN5G050R00	50	61	22	45	40	-	45	4,2	8	✓	0,5
DN6G063R00	63	74	22	47	50	-	45	4,2	7	✓	1,0
DN5G063R00	63	74	22	47	50	-	45	4,2	10	✓	1,0
DN6G080R00	80	91	27	70	50	-	45	4,2	8	✓	1,6
DN5G080R00	80	91	27	70	50	-	45	4,2	12	✓	1,6
DN6G100R00	100	111	32	85	50	-	45	4,2	9	✓	2,4
DN5G100R00	100	111	32	85	50	-	45	4,2	14	✓	2,5
DN6G125R00	125	136	40	85	63	-	45	4,2	12	✓	4,0
DN5G125R00	125	136	40	85	63	-	45	4,2	18	✓	4,1
DN6G160R00	160	171	40	110	63	66,1	45	4,2	16		5,6
DN5G160R00	160	171	40	110	63	66,1	45	4,2	24		5,6

SQGU1105ANR-M



Designation	fz(min/max)	Design	Grade	IN2505	IN2510	IN6537					
SQGU1105ANR-M ¹⁾	0,20/1,50	positive geometry									

¹⁾* Cutting data dependent on cutter type!

● = P ● = M ● = K ● = N ● = S ○ = H

SPARE PARTS

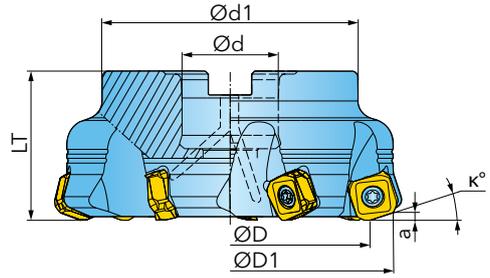


SM40-115-00 (4,5Nm) TX15x90-B

① = insert screw ② = Torx-bit

DIPOSQUAD[®] HIGH FEED MILL DG6G

ADAPTION ACC. TO DIN 8030



Designation	D	D1	d	d1	LT	κ	a	Z	IK	kg
DG6G050R00	50	63,5	22	45	40	20	1,8	4	✓	0,50
DG6G063R00	63	76,5	22	47	50	20	1,8	5	✓	0,90
DG6G080R00	80	93,5	27	70	50	20	1,8	6	✓	1,50
DG6G100R00	100	113,5	32	85	50	20	1,8	8	✓	2,20

SQGU1105ANR-M



Designation	fz(min/max)	Design	Grade	IN2505	IN2510	IN6537				
SQGU1105ANR-M ¹⁾	0,20/1,50	positive geometry		●	●	●				

¹⁾* Cutting data dependent on cutter type!

● = P ● = M ● = K ● = N ● = S ○ = H

SPARE PARTS



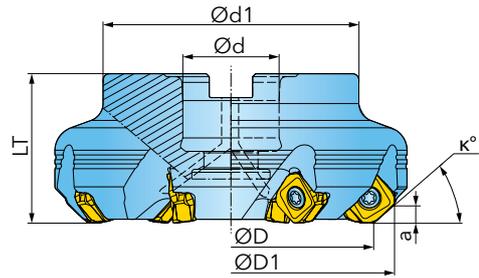
SM40-115-00 (4,5Nm)

TX15x90-B

① = insert screw ② = Torx-bit

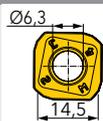
DIPOSQUAD^F FACE MILL DN_K

ADAPTION ACC. TO DIN 8030



Designation	D	D1	d	d1	LT	LK	κ	a	Z		
DN6K050R00	50	65,5	22	45	40	-	45	6,0	4	✓	0,6
DN5K050R00	50	65,5	22	45	40	-	45	6,0	6	✓	0,6
DN6K063R00	63	78,5	22	47	50	-	45	6,0	6	✓	1,1
DN5K063R00	63	78,5	22	47	50	-	45	6,0	8	✓	1,0
DN6K080R00	80	95,5	27	70	50	-	45	6,0	7	✓	1,7
DN5K080R00	80	95,5	27	70	50	-	45	6,0	10	✓	1,7
DN6K100R00	100	115,5	32	85	50	-	45	6,0	8	✓	2,6
DN5K100R00	100	115,5	32	85	50	-	45	6,0	12	✓	2,5
DN6K125R00	125	140,5	40	85	63	-	45	6,0	10	✓	4,4
DN5K125R00	125	140,5	40	85	63	-	45	6,0	16	✓	4,3
DN6K160R00	160	175,5	40	110	63	66,7	45	6,0	12		5,9
DN5K160R00	160	175,5	40	110	63	66,7	45	6,0	20		5,9
DN6K200R00	200	215,5	60	130	63	101,6	45	6,0	18		8,4
DN5K200R00	200	215,5	60	130	63	101,6	45	6,0	26		8,3

SQGU1406ANR-M



Designation	fz(min/max)	Design	Grade	IN2505	IN2510	IN6537					
SQGU1406ANR-M ¹⁾	0,25/2,30	positive geometry									

¹⁾* Cutting data dependent on cutter type!

● = P ● = M ● = K ● = N ● = S ○ = H

SPARE PARTS

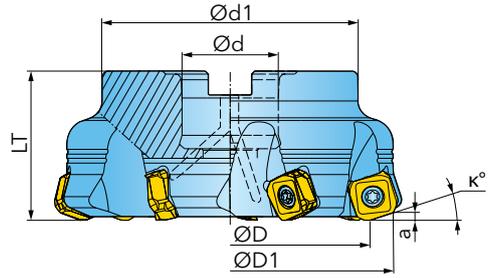


TS 50C130I/HG (6,0 Nm) TX20x90-B

① = insert screw ② = Torx-bit

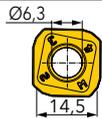
DIPOSQUAD^F HIGH FEED MILL DG6K

ADAPTION ACC. TO DIN 8030



Designation	D	D1	d	d1	LT	κ	a	Z		
DG6K063R00	63	80,6	22	47	50	20	2,5	5	✓	1,0
DG6K080R00	80	97,6	27	70	50	20	2,5	6	✓	1,7
DG6K100R00	100	117,5	32	85	50	20	2,5	7	✓	2,5
DG6K125R00	125	142,5	40	85	63	20	2,5	8	✓	4,3

SQGU1406ANR-M



Designation	fz(min/max)	Design	Grade	IN2505	IN2510	IN6537					
SQGU1406ANR-M ¹⁾	0,25/2,30	positive geometry									

¹⁾* Cutting data dependent on cutter type!

● = P ● = M ● = K ● = N ● = S ○ = H

SPARE PARTS



TS 50C130I/HG (6,0 Nm) TX20x90-B

① = insert screw ② = Torx-bit

Recommended Cutting Data for SQGU11

DIPOSQUAD^F

SQGU11_ (face milling)



Insert:	SQGU1105ANR-M
Average chip thickness:	hm = 0,20 mm
max. cutting depth:	ap = 4,2 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. tough carbide		
P	unalloyed steel	IN2505	250 - 290	IN6537	200 - 240	0,20 - 0,35
	alloyed steel 800 N/mm ²	IN2505	210 - 250	IN6537	160 - 200	0,20 - 0,30
	alloyed steel 1100 N/mm ²	IN2505	160 - 180	IN6537	110 - 130	0,20
M	stainless steel	IN2505	120 - 180	IN6537	80 - 130	0,20 - 0,30
K	gray cast iron	IN2510	180 - 250	IN2510	150 - 200	0,20 - 0,35
	nodular cast iron	IN2510	140 - 210	IN2510	110 - 160	0,20 - 0,30
N	aluminum	-	-	-	-	-
S	high temperature alloys	IN2505	110 - 125	IN2505	60 - 80	0,20
	titanium alloys	IN2505	40 - 50	IN2505	30 - 40	0,20
H	hard machining < 54 HRC	-	-	-	-	-
	hard machining < 63 HRC	-	-	-	-	-

DIPOSQUAD^F

SQGU11_ (high feed milling)



Insert:	SQGU1105ANR-M
Average chip thickness:	hm = 0,30 mm
max. cutting depth:	ap = 1,8 mm

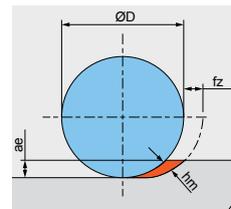
Recommended Cutting Data:

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. tough carbide		
P	unalloyed steel	IN2505	250 - 290	IN6537	200 - 240	0,30 - 1,50
	alloyed steel 800 N/mm ²	IN2505	210 - 250	IN6537	160 - 200	0,30 - 1,00
	alloyed steel 1100 N/mm ²	IN2505	160 - 180	IN6537	110 - 130	0,30 - 1,00
M	stainless steel	IN2505	120 - 180	IN6537	80 - 130	0,30 - 1,00
K	gray cast iron	IN2510	180 - 250	IN2510	150 - 200	0,30 - 1,50
	nodular cast iron	IN2510	140 - 210	IN2510	110 - 160	0,30 - 1,50
N	aluminum	-	-	-	-	-
S	high temperature alloys	IN2505	110 - 125	IN2505	60 - 80	0,30 - 1,00
	titanium alloys	IN2505	40 - 50	IN2505	30 - 40	0,30 - 1,00
H	hard machining < 54 HRC	-	-	-	-	-
	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.
- If tool engagement is less than 1/3 of cutting tool diameter, the feed per tooth should be calculated with the following formula:

$$fz = hm \times \sqrt{\frac{D}{ae}}$$



General Information:

Insert screw: **SM40-115-00**

Torque: **4,5 Nm**

Torque wrench: **DTN045F with bit DS-T15B1**

Recommended Cutting Data for SQGU14

DIPOSQUAD[®]

SQGU14_ (face milling)



Insert:	SQGU1406ANR-M
Average chip thickness:	hm = 0,25 mm
max. cutting depth:	ap = 6,0 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. tough carbide		
P	unalloyed steel	IN2505	250 - 290	IN6537	200 - 240	0,25 - 0,40
	alloyed steel 800 N/mm ²	IN2505	210 - 250	IN6537	160 - 200	0,25 - 0,35
	alloyed steel 1100 N/mm ²	IN2505	160 - 180	IN6537	110 - 130	0,25
M	stainless steel	IN2505	120 - 180	IN6537	80 - 130	0,25 - 0,30
K	gray cast iron	IN2510	180 - 250	IN2510	150 - 200	0,25 - 0,40
	nodular cast iron	IN2510	140 - 210	IN2510	110 - 160	0,25 - 0,35
N	aluminum	-	-	-	-	-
S	high temperature alloys	IN2505	110 - 125	IN2505	60 - 80	0,25
	titanium alloys	IN2505	40 - 50	IN2505	30 - 40	0,25
H	hard machining < 54 HRC	-	-	-	-	-
	hard machining < 63 HRC	-	-	-	-	-

DIPOSQUAD[®]

SQGU14_ (high feed milling)



Insert:	SQGU1406ANR-M
Average chip thickness:	hm = 0,40 mm
max. cutting depth:	ap = 2,5 mm

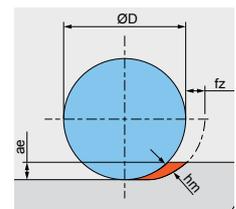
Recommended Cutting Data:

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. tough carbide		
P	unalloyed steel	IN2505	250 - 290	IN6537	200 - 240	0,40 - 2,30
	alloyed steel 800 N/mm ²	IN2505	210 - 250	IN6537	160 - 200	0,40 - 1,80
	alloyed steel 1100 N/mm ²	IN2505	160 - 180	IN6537	110 - 130	0,40 - 1,80
M	stainless steel	IN2505	120 - 180	IN6537	80 - 130	0,40 - 1,80
K	gray cast iron	IN2510	180 - 250	IN2510	150 - 200	0,40 - 2,30
	nodular cast iron	IN2510	140 - 210	IN2510	110 - 160	0,40 - 2,30
N	aluminum	-	-	-	-	-
S	high temperature alloys	IN2505	110 - 125	IN2505	60 - 80	0,40 - 1,80
	titanium alloys	IN2505	40 - 50	IN2505	30 - 40	0,40 - 1,80
H	hard machining < 54 HRC	-	-	-	-	-
	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.
- If tool engagement is less than 1/3 of cutting tool diameter, the feed per tooth should be calculated with the following formula:

$$fz = hm \times \sqrt{\frac{D}{ae}}$$



General Information:

Insert screw: **TS 50C130I/HG** Torque: **6,0 Nm**

Torque wrench: **DTNV00S** with bit **DS-T20TB**

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