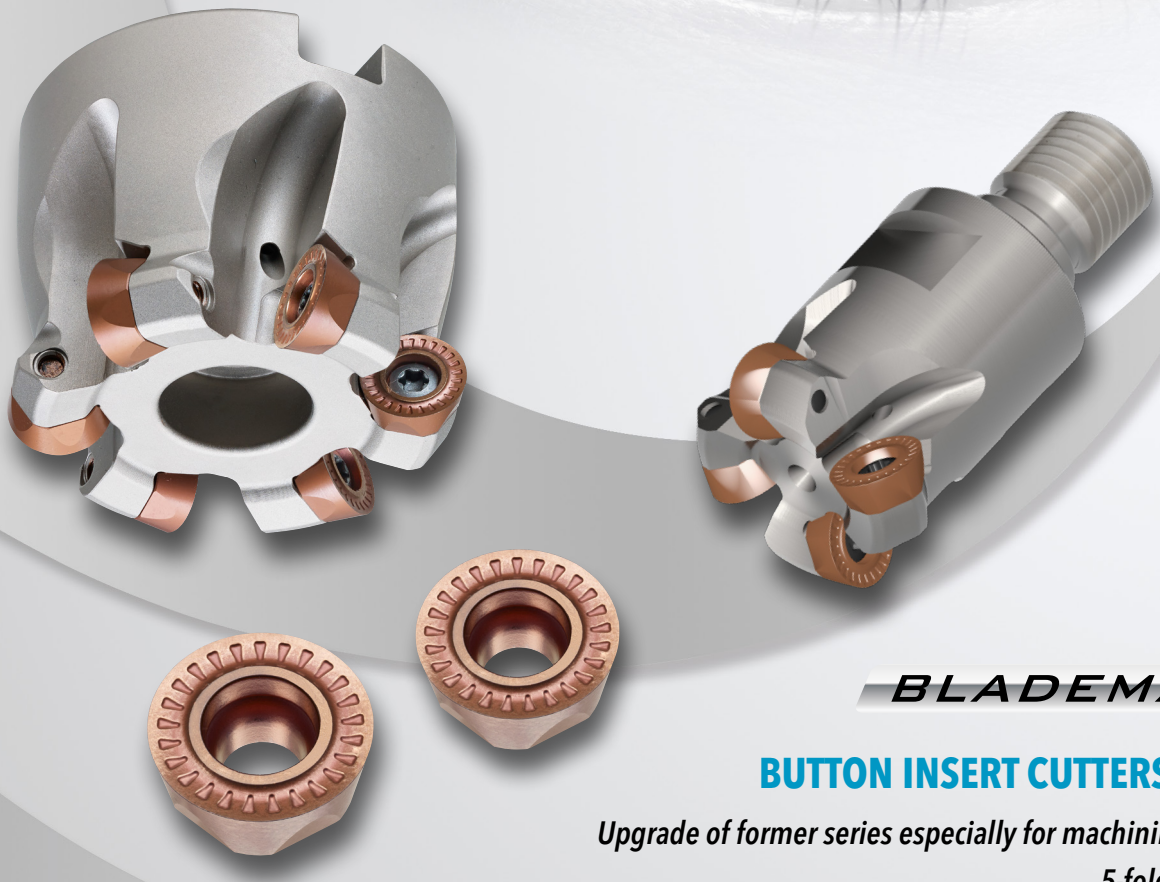
NEW

INNOTOOL

LOOK FORWARD



BLADEMAKER+

BUTTON INSERT CUTTERS PS10 / PS12

- *Upgrade of former series especially for machining turbine blades*
- *5-fold indexable insert*
- *3 different insert geometries*
- *2 different insert sizes*
- *3 different carbide grades*
- *Shell-type and screw-in type mills*
- *Tool diameter 20 - 80 mm*

Design Upgrade of Former Series (Insert Ø 10 mm)

BLADEMAKER becomes BLADEMAKER+
(Insert Ø 10 mm)

BLADEMAKER Designation		BLADEMAKER+ Designation
PR.020.009 (Z=2)	→	PR.020.010 (Z=2)
PR.025.008 (Z=2)	→	PR.025.012 (Z=3)
PR.025.009 (Z=3)	→	
PR.030.004 (Z=3)	→	PR.030.006 (Z=4)
PR.032.007 (Z=4)	→	PR.032.010 (Z=4)
PR.035.006 (Z=4)	→	PR.035.010 (Z=5)
PR.035.007 (Z=5)	→	
PR.040.005 (Z=4)	→	***PR.040.011*(Z=5)*** / PR.040.012 (Z=6)
PR.040.006 (Z=5)	→	PR.040.012 (Z=6)
PR.042.008 (Z=4)	→	***PR.040.014*(Z=5)*** / PR.040.015 (Z=6)
PR.042.009 (Z=5)	→	PR.040.015 (Z=6)
PR.050.004 (Z=5)	→	***PR.050.009* (Z=6)*** / PR.050.010 (Z=7)
PR.050.005 (Z=6)	→	PR.050.010 (Z=7)
PR.052.009 (Z=6)	→	***PR.052.014* (Z=6)*** / PR.052.015 (Z=7)
new Ø52 / Z=7	→	PR.052.015 (Z=7)
semi-standard Ø63 / Z=8	→	***PR.063.008* (Z=8)***
semi-standard Ø80 / Z=10	→	***PR.080.012* (Z=10)***

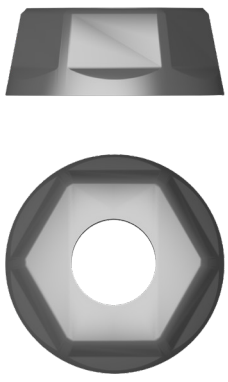
BLADEMAKER Designation		BLADEMAKER+ Designation
RPLT10T3M0TN-HR1	→	RPLX10T3M0N-HR / RPLX12T3M0TN-FL
RPLT10T3M0TN-HR3	→	
RPLT10T3M0TN-HR2	→	RPLX10T3M0TN-HR

**semi-standard*

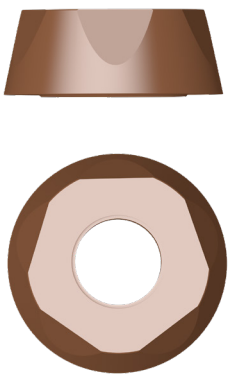
BLADEMAKER (e.g. Ø35 mm)

BLADEMAKER+ (e.g. Ø35 mm)

BLADEMAKER RPLT10



BLADEMAKER+ RPLX10

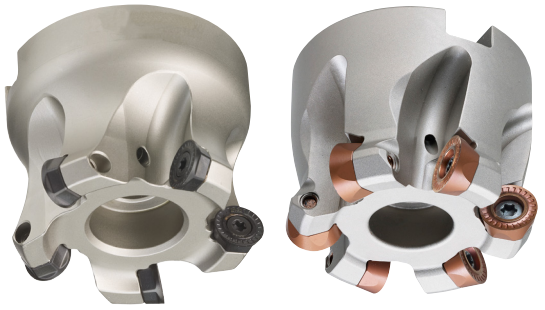


Design Upgrade of Former Series (Insert Ø 12 mm)

BLADEMAKER becomes BLADEMAKER+
(Insert Ø 12 mm)

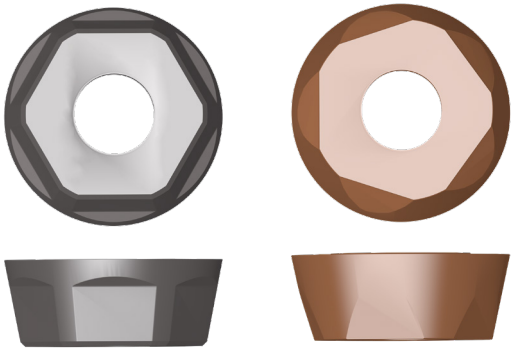
BLADEMAKER Designation		BLADEMAKER+ Designation
PR.024.004	→	PR.025.011 (Ø25)
new Ø30	→	PR.030.005
PR.032.008	→	PR.032.009
PR.035.008	→	PR.035.009
PR.040.007	→	PR.040.008
PR.042.010	→	PR.042.011
PR.050.006	→	PR.050.007 / PR.050.008
new Ø50 / Z=6	→	PR.050.008
PR.052.010	→	PR.052.012 / PR.052.013
new Ø52 / Z=6	→	PR.052.013
PR.063.005	→	PR.063.006 / PR.063.007
new Ø63 / Z=7	→	PR.063.007
PR.066.009	→	PR.066.011 / PR.066012
new Ø66 / Z=7	→	PR.066.012
PR.080.009	→	PR.080.010 / PR.080.011
new Ø80 / Z=9	→	PR.080.011

BLADEMAKER (Bsp. Ø52 mm) | BLADEMAKER+ (Bsp. Ø52 mm)



BLADEMAKER Designation		BLADEMAKER+ Designation
RPLT1204M0TN-HR1	→	RPLX1204M0N-HR1 / RPLX1204M0TN-FL
RPLT1204M0TN-HR3	→	
RPLT1204M0TN-HR2	→	RPLX1204M0TN-HR

BLADEMAKER RPLT12 | BLADEMAKER+ RPLX12



Application Range

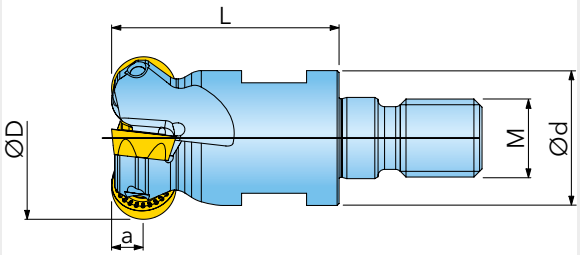
Especially suitable for difficult-to-cut materials out of the material groups **M** and **S**.
Particularly recommended for machining turbine blades with insert grades IN7035 and IN2535.
Inserts with grade IN2505 are also suitable for machining of cast iron and steel out of material groups **K** and **P**.

Advantages

- **Smoother cutting, axial more positive rake angle compared to BladeMaker**
- **More rigid cutting edge than BladeMaker**
- **Cutting depths up to 3 mm**
- **5-fold indexable inserts**
- **3 different insert geometries in 2 sizes**
- **3 different carbide grades**
- **Shell-type and screw-in type milling cutters**
- **Tool diameter 20 – 80 mm in close and coarse pitch**

BLADEMAKER+ PR10E01BM+

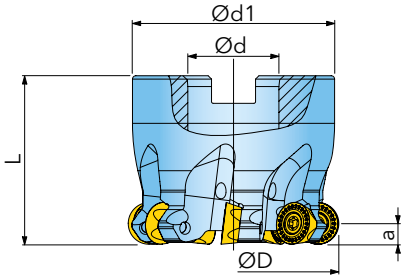
SCREW-IN TYPE ADAPTION



Designation	D	L	a	M	Z	Insert Ø		IK	kg
PR.020.010	20	30	2,5	10	2	10	6,0	✓	0,06
PR.025.012	25	35	2,5	12	3	10	4,4	✓	0,10
PR.030.006	30	43	2,5	16	4	10	4,0	✓	0,19
PR.032.010	32	43	2,5	16	4	10	2,2	✓	0,20
PR.035.010	35	43	2,5	16	5	10	2,0	✓	0,22

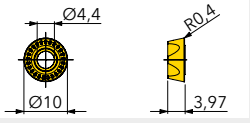
BLADEMAKER+ PR10D10BM+

ADAPTION ACC. TO DIN 8030

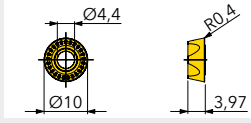


Designation	D	d	d1	L	a	Z	Insert Ø		IK	kg
PR.040.012	40	16	38	40	2,5	6	10	5,6	✓	0,25
PR.042.015	42	16	40	40	2,5	6	10	5,8	✓	0,28
PR.050.010	50	22	48	40	2,5	7	10	5,0	✓	0,38
PR.052.015	52	22	50	40	2,5	7	10	4,7	✓	0,40
PR.063.008	63	22	61	40	2,5	8	10	3,6	✓	0,70

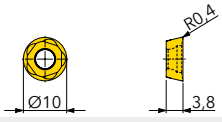
RPLX10T3M0N-HR



RPLX10T3M0TN-HR



RPLX10T3M0TN-FL



Designation	fz(min/max)	Design	Grade	IN2505	IN2535	IN7035
RPLX10T3M0N-HR	0,10/0,60	positive geometry				
RPLX10T3M0TN-HR	0,10/0,60	positive geometry, neg. K-land				
RPLX10T3M0TN-FL	0,10/0,60	positive geometry, K-land				

Spare Parts: insert screw SM35-076-10 (3,0 Nm) screw driver DS-T15S

● = P ● = M ● = K ● = N ● = S ○ = H

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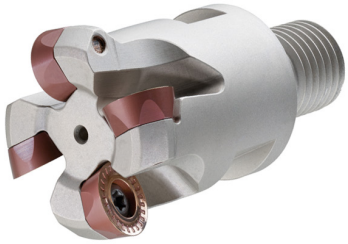
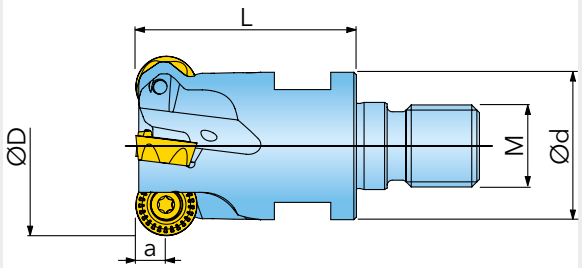
BLADEMAKER+ PR12E01BM+

SCREW-IN TYPE ADAPTION

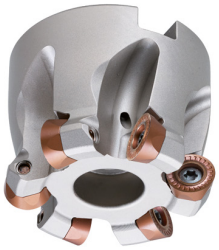


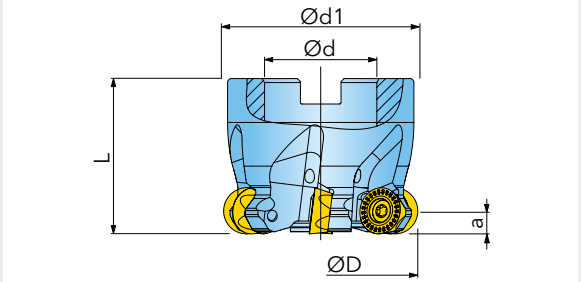


Designation	D	d1	L	a	M	Z	Insert Ø		IK	kg
PR.025.011	25	21	35	3	12	2	12	6	✓	0,10
PR.032.009	32	29	43	3	16	3	12	3,9	✓	0,20
PR.035.009	35	29	43	3	16	4	12	2,6	✓	0,21

BLADEMAKER+ PR12D10BM+

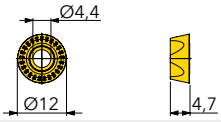
ADAPTION ACC. TO DIN 8030



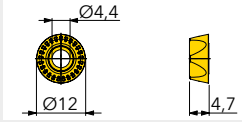


Designation	D	d	d1	L	a	Z	Insert Ø		IK	kg
PR.040.009	40	16	38	40	3	4	12	2,4	✓	0,27
PR.040.010	40	16	38	40	3	5	12	2,4	✓	0,24
PR.042.012	42	16	40	40	3	4	12	4	✓	0,29
PR.042.013	42	16	40	40	3	5	12	4	✓	0,27
PR.050.007	50	22	48	40	3	5	12	5,6	✓	0,39
PR.050.008	50	22	48	40	3	6	12	5,6	✓	0,37
PR.052.012	52	22	50	40	3	5	12	5,3	✓	0,42
PR.052.013	52	22	50	40	3	6	12	5,3	✓	0,40
PR.063.006	63	22	61	40	3	6	12	4	✓	0,70
PR.063.007	63	22	61	40	3	7	12	4	✓	0,64
PR.066.011	66	27	64	50	3	6	12	3,7	✓	0,95
PR.066.012	66	27	64	50	3	7	12	3,7	✓	0,90
PR.080.010	80	27	78	50	3	8	12	2,9	✓	1,50
PR.080.011	80	27	78	50	3	9	12	2,9	✓	1,44

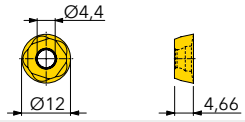
RPLX1204M0N-HR1



RPLX1204M0TN-HR



RPLX1204M0TN-FL



Designation	fz(min/max)	Design	Grade	IN2505	IN2535	IN7035
RPLX1204M0N-HR1	0,20/0,75	positive geometry				
RPLX1204M0TN-HR	0,20/0,75	positive geometry, neg. K-land				
RPLX1204M0TN-FL	0,20/0,75	positive geometry, K-land				

Spare Parts: insert screw SO 35080I (3.0 Nm) screw driver DS-T15S

● = P ● = M ● = K ● = N ● = S ○ = H

insert geometry:	RPLX10T3MON-HR positive geometry	RPLX10T3MOTN-HR pos. geometry, neg. chamfered	RPLX10T3MOTN-FL pos. geometry, chamfered	RPLX1204MON-HR1 positive geometry	RPLX1204MOTN-HR pos. geometry, neg. chamfered	RPLX1204MOTN-FL pos. geometry, chamfered
						
						
recom. cutting depth:	ap = 0.8 - 1.5 mm	ap = 0.8 - 1.5 mm	ap = 0.8 - 1.5 mm	ap = 1.5 - 2.3 mm	ap = 1.5 - 2.3 mm	ap = 1.5 - 2.3 mm
max. cutting depth:	ap = 2.5 mm	ap = 2.5 mm	ap = 2.5 mm	ap = 3.0 mm	ap = 3.0 mm	ap = 3.0 mm

Recommended Cutting Data:

material			grade	cutting speed Vc [m/min]		feed per tooth fz [mm]		cutting depth ap [mm]	
				dry machining	wet machining	RPLX10	RPLX12	RPLX10	RPLX12
unalloyed steel			IN2505	150 - 350	120 - 250	0.15 - 0.40	0.25 - 0.50	0.80 - 2.50	1.00 - 3.00
alloyed steel 1100 N/mm²			IN2505	130 - 280	110 - 220	0.15 - 0.35	0.25 - 0.40	0.80 - 2.50	1.00 - 3.00
stainless steel	1.4021	X20Cr13	IN2535 / IN7035	150 - 280	120 - 250	0.15 - 0.40	0.25 - 0.50	0.80 - 2.50	1.00 - 3.00
	1.4418	X4CrNiMo16-5-1	IN2535 / IN7035	130 - 200	110 - 180	0.15 - 0.40	0.25 - 0.50	0.80 - 2.50	1.00 - 3.00
	1.4301	X5CrNi18-10	IN2535 / IN7035	120 - 180	100 - 160	0.15 - 0.40	0.25 - 0.50	0.80 - 2.50	1.00 - 3.00
	1.4534	X3CrNiMoAl13-8-2	IN2535 / IN7035	80 - 150	60 - 120	0.15 - 0.40	0.25 - 0.50	0.80 - 2.50	1.00 - 3.00
	1.4541	X6CrNiTi18-10	IN2535 / IN7035	80 - 150	60 - 120	0.15 - 0.40	0.25 - 0.50	0.80 - 2.50	1.00 - 3.00
	1.4542	X5CrNiCuNb16-4	IN2535 / IN7035	80 - 150	60 - 120	0.15 - 0.40	0.25 - 0.50	0.80 - 2.50	1.00 - 3.00
	1.4571	X6CrNiMoTi17-12-2	IN2535 / IN7035	80 - 150	60 - 120	0.15 - 0.40	0.25 - 0.50	0.80 - 2.50	1.00 - 3.00
	1.4507	X2CrNiMoCuN25-6-3	IN2535 / IN7035	50 - 150	40 - 80	0.10 - 0.30	0.15 - 0.40	0.80 - 2.50	1.00 - 3.00
	1.4529	X1NiCrMoCuN25-20-7	IN2535 / IN7035	50 - 150	40 - 80	0.10 - 0.30	0.15 - 0.40	0.80 - 2.50	1.00 - 3.00
	1.4531	GX2NiCrMoCuN20-18	IN2535 / IN7035	50 - 150	40 - 80	0.10 - 0.30	0.15 - 0.40	0.80 - 2.50	1.00 - 3.00
gray cast iron			IN2505	200 - 250	140 - 180	0.15 - 0.40	0.25 - 0.50	0.80 - 2.50	1.00 - 3.00
nodular cast iron			IN2505	200 - 250	140 - 180	0.15 - 0.40	0.25 - 0.50	0.80 - 2.50	1.00 - 3.00
high temperature materials	1.4826	GX40CrNiSi22-10	IN2535 / IN7035	70 - 140	60 - 120	0.08 - 0.25	0.10 - 0.35	0.80 - 2.50	1.00 - 3.00
	1.4837	GX40CrNiSi25-12	IN2535 / IN7035	70 - 140	60 - 120	0.08 - 0.25	0.10 - 0.35	0.80 - 2.50	1.00 - 3.00
	1.4848	GX40CrNiSi22-20	IN2535 / IN7035	70 - 140	60 - 120	0.08 - 0.25	0.10 - 0.35	0.80 - 2.50	1.00 - 3.00
	1.4849	GX40NiCrSiNb38-19	IN2535 / IN7035	70 - 140	60 - 120	0.08 - 0.25	0.10 - 0.35	0.80 - 2.50	1.00 - 3.00
	1.4923	X22CrMoV12-1	IN2535 / IN7035	150 - 280	120 - 250	0.15 - 0.40	0.25 - 0.50	0.80 - 2.50	1.00 - 3.00
	1.4938	X12CrNiMoV12-3	IN2535 / IN7035	150 - 280	120 - 250	0.15 - 0.40	0.25 - 0.50	0.80 - 2.50	1.00 - 3.00
	1.4913	X19CrMoVbN11-1	IN2535 / IN7035	120 - 210	90 - 160	0.10 - 0.30	0.15 - 0.40	0.80 - 2.50	1.00 - 3.00
	1.4939	X12CrNiMo12	IN2535 / IN7035	120 - 210	90 - 160	0.10 - 0.30	0.15 - 0.40	0.80 - 2.50	1.00 - 3.00
	1.4962	X12CrNiWTiB16-13	IN2535 / IN7035	80 - 180	60 - 150	0.10 - 0.30	0.12 - 0.40	0.80 - 2.50	1.00 - 3.00
	1.4980	X5NiCrTi26-15	IN2535 / IN7035	50 - 110	40 - 80	0.10 - 0.30	0.12 - 0.40	0.80 - 2.50	1.00 - 3.00
titanium alloys			IN2535 / IN7035	-	40 - 60	0.08 - 0.25	0.10 - 0.35	0.80 - 2.50	1.00 - 3.00
nickel alloys			IN2535 / IN7035	-	20 - 50	0.08 - 0.25	0.10 - 0.35	0.80 - 2.50	1.00 - 3.00

At max. extension lengths the cutting speed v_c has to be reduced!

Successful machining results depend on many factors, so cutting data recommendations can only be a rough guideline. Therefore in any case of doubt do not hesitate to contact your Innotool partner.

Ramping Angle and Circular Interpolation:

tool diameter [mm]	max. ramping angle [°]	min. boring dia. [mm]	max. boring dia. [mm]	boring dia even ground [mm]	max. feed per revolution [mm]	recommm. feed per revolution [mm]
Ø20R5	6.0	25.5	40.0	30.2	5.0	1.0
Ø25R5	4.4	35.5	50.0	40.2	5.0	1.0
Ø25R6	6.0	29.0	50.0	38.3	6.0	1.5
Ø30R5	4.0	44.0	60.0	50.2	5.0	1.0
Ø30R6	4.4	35.0	60.0	48.3	6.0	1.5
Ø32R5	2.2	49.0	64.0	60.2	5.0	1.0
Ø32R6	3.9	41.0	64.0	52.3	6.0	1.5
Ø35R5	2.0	55.0	70.0	60.2	5.0	1.0
Ø35R6	2.6	47.0	70.0	58.3	6.0	1.5
Ø40R5	5.6	62.0	80.0	70.2	5.0	1.0
Ø40R6	2.4	57.0	80.0	68.3	6.0	1.5
Ø42R5	5.8	65.5	84.0	74.2	5.0	1.0
Ø42R6	4.0	61.0	84.0	72.3	6.0	1.5
Ø50R5	5.0	81.5	100.0	90.2	5.0	1.0
Ø50R6	5.6	77.0	100.0	88.3	6.0	1.5
Ø52R5	4.7	85.5	104.0	94.2	5.0	1.0
Ø52R6	5.3	81.0	104.0	92.3	6.0	1.5
Ø63R5	3.6	107.5	126.0	106.2	5.0	1.0
Ø63R6	4.0	103.0	126.0	114.3	6.0	1.5
Ø66R6	3.7	109.0	132.0	120.3	6.0	1.5
Ø80R5	2.6	141.5	160.0	150.2	5.0	1.0
Ø80R6	2.9	137.0	160.0	148.3	6.0	1.5

Recommended ramping angle for all diameters: **2°**

General Information:

insert screw: **SM35-076-10**
torque: **3.0 Nm**
torque wrench: **DS-T15S**

insert screw: **SO 3580I**
torque: **3.0 Nm**
torque wrench: **DS-T15S**

Successful machining results depend on many factors, so cutting data recommendations can only be a rough guideline. Therefore in any case of doubt do not hesitate to contact your Innotool partner.

INNOTOOL

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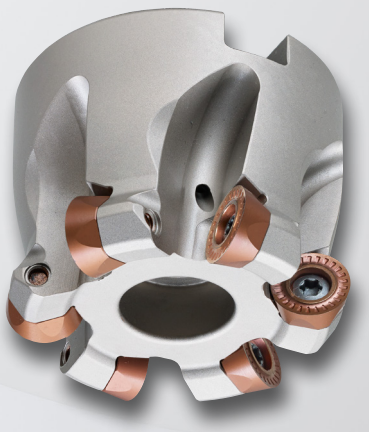

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