NEW LINE OF TOOLS FOR ECONOMICAL SHOULDER MILLING

Introducing a versatile new range of tools for 90° shoulder milling.
Featuring 6 cutting edges, the TNGX10 inserts promote low machining costs.
Cutters with high number of teeth, even for small diameters, can increase productivity.

FEATURES

- Double-sided inserts
- 6 cutting edges
- 3 positive geometries for steel, stainless steel, cast iron and alloys
- Depth of cut up to 5 mm
- Wide range of cutters, including small diameters from 18 mm up to 80 mm - offering high-performance tools with up to 10 teeth
- End mills produced from heat-treated tool steel ensuring high operational reliability

BENEFITS

- **Cost savings** - more cutting edges
- **Higher productivity** – high number of teeth
- **Process security** - reduced cutting forces and quiet running
- **Versatile** - wide range of tools suitable for a variety of machined materials and applications, including: shoulder and slot milling, face milling, helical interpolation, ramping and progressive plunging

TNGX10 INSERT GEOMETRIES

F

GEOMETRY F

First choice for low to medium carbon content steel

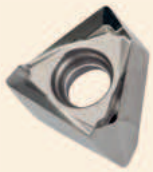
- High positive geometry with narrow peripheral land
- Particularly suited to light and medium machining

M

GEOMETRY M

Machining carbon steel, standard stainless steels and cast iron

- High positive geometry with medium T-land
- Particularly suited to light and medium machining



FA

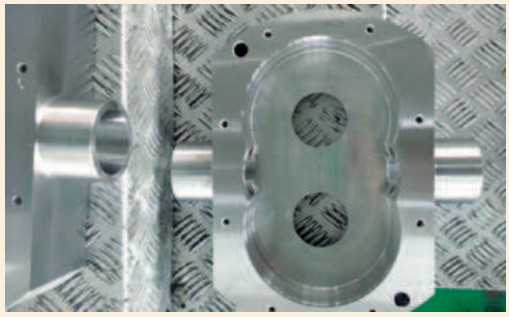
GEOMETRY FA

Particularly suited for non-ferrous metals

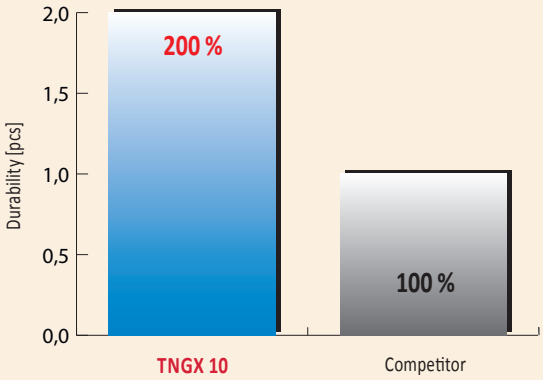
- High positive geometry with a sharp cutting edge
- Polished insert face to reduce sticking of the machined material

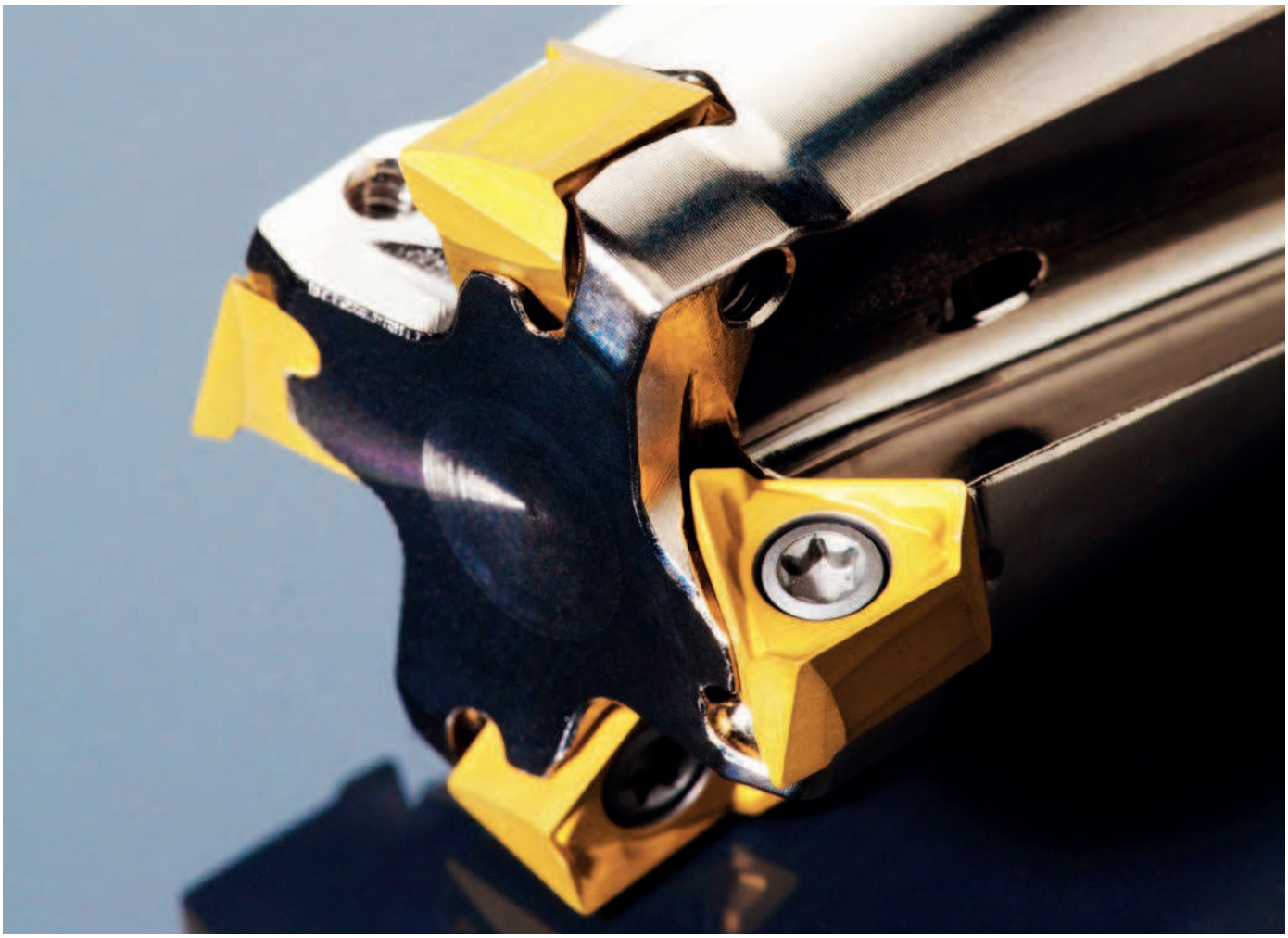
TNGX 10 - MACHINING EXAMPLE

Material: SUS304/316
Material group: M3
Workpiece: Pump parts
Insert: **TNGX 100404SR-F: M9340**
Coolant: Yes



			PRAMET	Competitor
Operation			**Face milling**	
Tool			63A09R -S90TN10-C	D=63 mm; 4 teeth
Cutting speed	v_c	m/min	120	120
Feed tooth	f_z	mm/tooth	0,12	0,26
Feed	f	mm/min	655	631
Axial depth of cut	a_p	mm	1	1
Radial depth of cut	a_e	mm	50	50
Durability	T	psc	2	1
Flank wear	VB	min	0,2	0,2
Surface roughness	R_a	µm	0,8	0,8



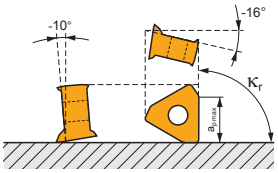


STN10

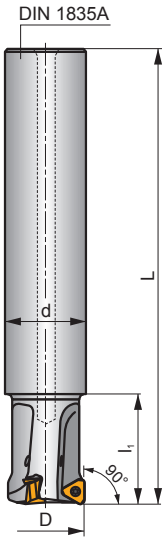
P M K N S

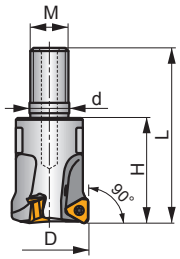
S

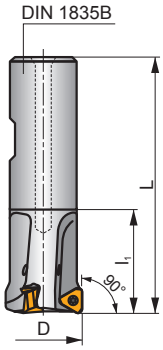
κ_r	90°
a_{pmax}	5 mm

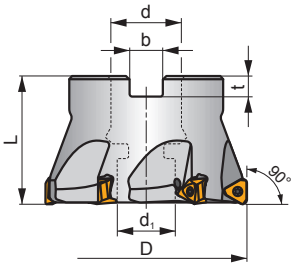


FMR F M









h_m	0,03 - 0,08
h_m	0,03 - 0,06

	ISO	D	L	d	d_1	l_1	H	M	b	t			max.		kg			
DIN 1835A	18A2R050A20-STN10-C	18	180	20	-	50	-	-	-	-	2	-	29100	✓	0,4	GI292	SQ300	
	20A2R029A20-STN10-C	20	150	20	-	29	-	-	-	-	2	-	27600	✓	0,3	GI292	SQ300	
	20A3R029A20-STN10-C	20	150	20	-	29	-	-	-	-	3	-	27600	✓	0,3	GI292	SQ300	
	22A3R050A25-STN10-C	22	180	25	-	50	-	-	-	-	3	-	26300	✓	0,6	GI292	SQ300	
	25A3R034A25-STN10-C	25	170	25	-	34	-	-	-	-	3	-	24700	✓	0,6	GI292	SQ300	
	25A4R034A25-STN10-C	25	170	25	-	34	-	-	-	-	4	✓	24700	✓	0,6	GI292	SQ300	
	30A4R050A32-STN10-C	30	200	32	-	50	-	-	-	-	4	✓	22500	✓	1,0	GI292	SQ300	
	32A4R037A32-STN10-C	32	195	32	-	37	-	-	-	-	4	✓	21800	✓	1,1	GI292	SQ300	
	32A5R037A32-STN10-C	32	195	32	-	37	-	-	-	-	5	✓	21800	✓	1,1	GI292	SQ300	
	35A5R080A32-STN10-C	35	200	32	-	80	-	-	-	-	5	✓	20800	✓	1,1	GI292	SQ300	
DIN 1835B	20A2R032B20-STN10-C	20	90	16	-	32	-	-	-	-	2	-	27600	✓	0,2	GI292	SQ300	
	20A3R032B20-STN10-C	20	90	20	-	32	-	-	-	-	3	-	27600	✓	0,2	GI292	SQ300	
	25A3R042B25-STN10-C	25	100	20	-	42	-	-	-	-	3	-	24700	✓	0,3	GI292	SQ300	
	25A4R042B25-STN10-C	25	100	25	-	42	-	-	-	-	4	✓	24700	✓	0,3	GI292	SQ300	
	32A4R042B32-STN10-C	32	110	25	-	42	-	-	-	-	4	✓	21800	✓	0,6	GI292	SQ300	
	32A5R042B32-STN10-C	32	110	32	-	42	-	-	-	-	5	✓	21800	✓	0,6	GI292	SQ300	
MODULAR	20A2R026M10-STN10-C	20	45	10,5	-	-	26	M10	-	-	2	-	27600	✓	0,1	GI292	SQ300	
	20A3R026M10-STN10-C	20	45	10,5	-	-	26	M10	-	-	3	-	27600	✓	0,1	GI292	SQ300	
	25A3R033M12-STN10-C	25	55	12,5	-	-	33	M12	-	-	3	-	24700	✓	0,1	GI292	SQ300	
	25A4R033M12-STN10-C	25	55	12,5	-	-	33	M12	-	-	4	✓	24700	✓	0,1	GI292	SQ300	
	32A4R043M16-STN10-C	32	66	17	-	-	43	M16	-	-	4	✓	21800	✓	0,2	GI292	SQ300	
	32A5R043M16-STN10-C	32	66	17	-	-	43	M16	-	-	5	✓	21800	✓	0,2	GI292	SQ300	

PRAMET

	ISO	D	L	d	d_1	l_1	H	M	b	t			max.		kg			
ISO 6462 DIN 8030	**40A04R-S90TN10-C**	40	40	16	14	-	-	-	8,4	5,6	4	✓	19500	✓	0,2	GI292	SQ302	
	40A06R-S90TN10-C	40	40	16	14	-	-	-	8,4	5,6	6	✓	19500	✓	0,2	GI292	SQ302	
	50A05R-S90TN10-C	50	40	22	18	-	-	-	10,4	6,3	5	✓	17400	✓	0,3	GI292	SQ303	
	50A07R-S90TN10-C	50	40	22	18	-	-	-	10,4	6,3	7	✓	17400	✓	0,3	GI292	SQ303	
	63A06R-S90TN10-C	63	40	22	18	-	-	-	10,4	6,3	6	✓	15500	✓	0,5	GI292	SQ303	
	63A09R-S90TN10-C	63	40	22	18	-	-	-	10,4	6,3	9	✓	15500	✓	0,5	GI292	SQ303	
	80A10R-S90TN10-C	80	50	27	38	-	-	-	12,4	7	10	✓	13800	✓	1,0	GI292	SQ301	AC001

GI292

TNGX 1004..

SQ300	US 52506-T07P			Flag T07P	
SQ302	US 52506-T07P	D-T07P/T09P	FG-15		HS 0830C
SQ303	US 52506-T07P	D-T07P/T09P	FG-15		HS 1030C
SQ301	US 52506-T07P	D-T07P/T09P	FG-15		

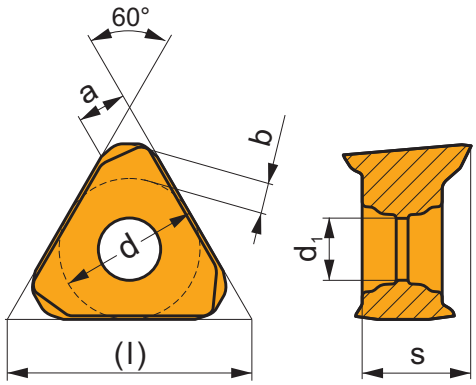
AC001

KS 1230

K.FMH27

TNGX 10

	d	d_1	l	s
1004	6,000	2,8	10,390	4,69



		ISO		P	M	K	N	S	H			r_e	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
		TNGX 100402SR-F	**M8340**	■	■	◪		◪		●	+ / -	0,2	0,03	0,11	0,1	5,0
			8230	■	■	◪		◪		●	-	0,2	0,03	0,11	0,1	5,0
		TNGX 100404SR-F	**M9340**	◪	■			◪		●	- - -	0,4	0,03	0,11	0,1	5,0
			M8340	■	■	◪		◪		●	+ / -	0,4	0,03	0,11	0,1	5,0
			8215	■	◪	◪		◪		●	-	0,4	0,03	0,11	0,1	5,0
			8230	■	■	◪		◪		●	-	0,4	0,03	0,11	0,1	5,0
		TNGX 100408SR-F	**M9340**	◪	■			◪		●	- - -	0,8	0,03	0,11	0,1	5,0
			M8340	■	■	◪		◪		●	+ / -	0,8	0,03	0,11	0,1	5,0
			8215	■	◪	◪		◪		●	-	0,8	0,03	0,11	0,1	5,0
			8230	■	■	◪		◪		●	-	0,8	0,03	0,11	0,1	5,0