

50 YEARS

**NACHI**

NACHI EUROPE GmbH

OUR SYNERGY  
YOUR PERFORMANCE

SUPERIOR PERFORMANCE

# SG-TAP SERIES

FOR A VARIETY OF MATERIALS

CELEBRATE THE POLE POSITION



**TOP  
QUALITY  
LEADER**

Due to high grade powder  
HSS and SG-Coating

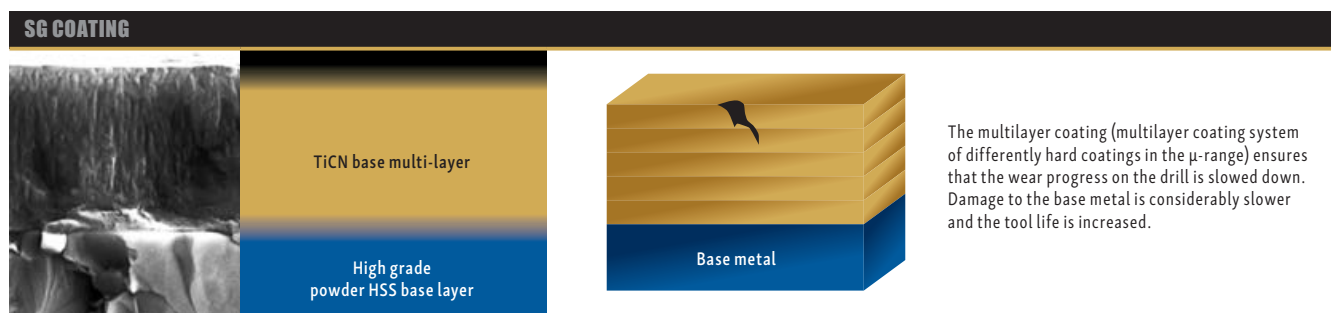
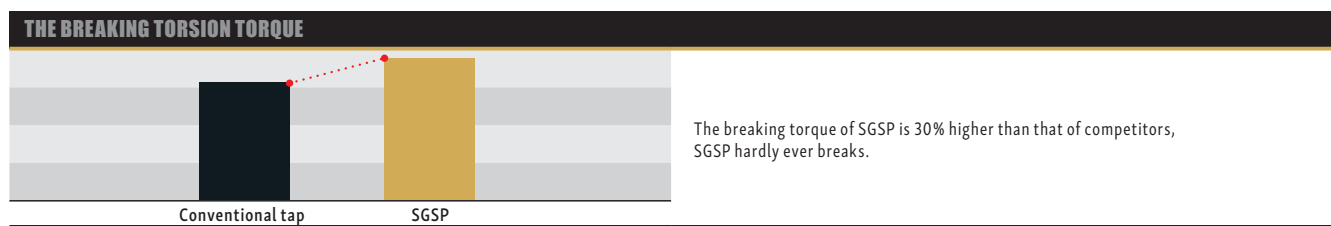
# SG-Tap Series

## High-Performance Taps for a Variety of Materials

- ▶ Covers a wide range of applications – Aluminum, Cast Iron, Carbon Steel, Alloy Steel and Stainless Steel
- ▶ DIN shank and DIN overall length

## Features

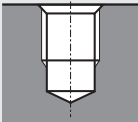


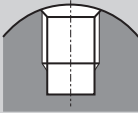
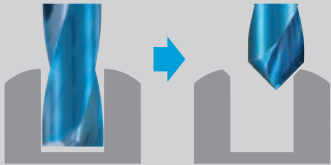

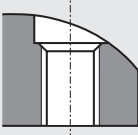





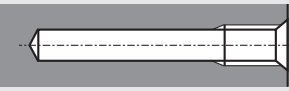
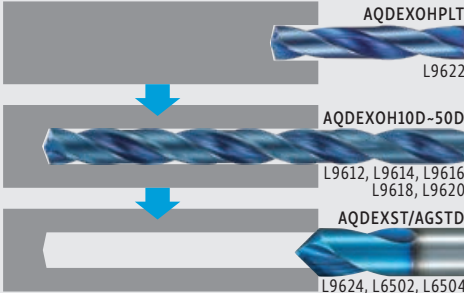

- ▶ Made from high-grade powder HSS and enhanced with the SG-Coating for longer tool life. NACHI's own, high-grade-powder-metal. Not available from competitors!
- ▶ Optimised edge and flute shape allow for stable cutting of screw threads, high rigidity and even chip ejection
- ▶ High flexibility for superior performance with a variety of materials, machines and cutting conditions
- ▶ Stable cutting threads and long tool life regardless of the cutting speed
- ▶ Achieves easy flow of chips while cutting on Stainless Steels, Structural Steels and Aluminum Alloys



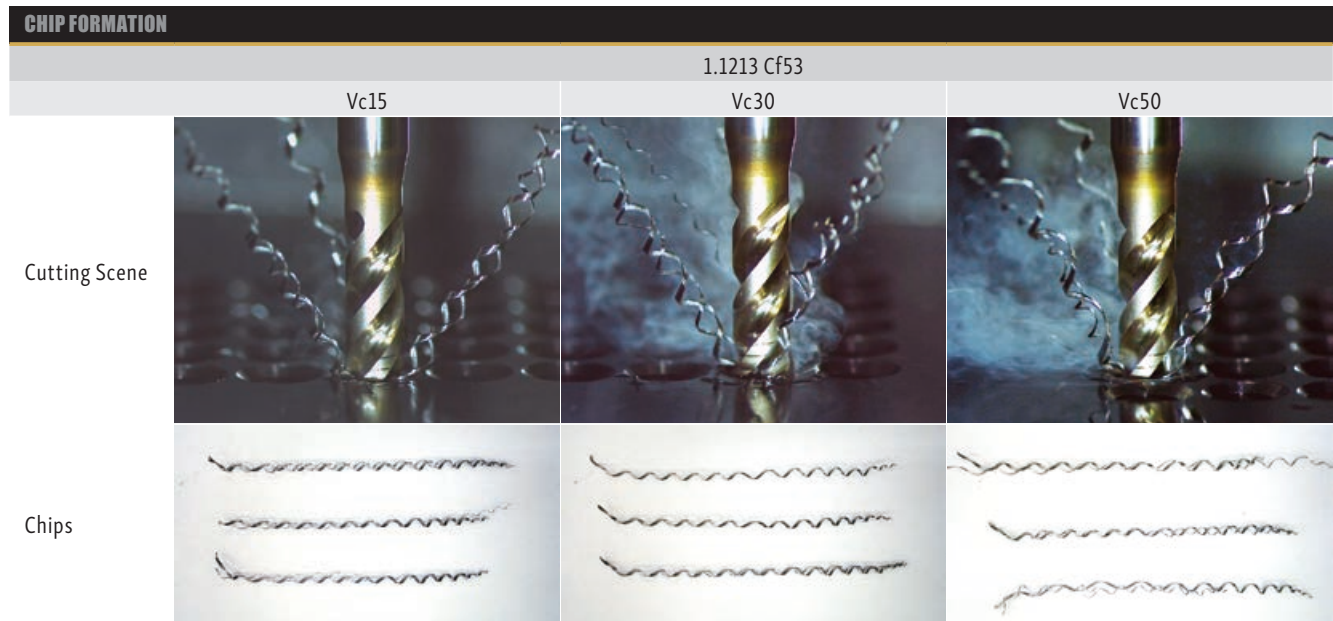
# NACHI Drills and Taps for Threaded Holes

Many processes are needed for the cutting of internal threads: chamfering, drilling prepared holes, tapping etc.

NACHI proposes the combination of drills and taps, which optimise your production by omitting processes.

CUTTING TOOLS		
	Drills	Taps
<b>Blind holes</b> 	 <p>AQDEXZ L9610 AQDEXZOH3D L9812</p> <p>AQDEXST L9624 AGSTD L6502, L6504</p>	 <p>SGSP L6806</p>
<b>Curved surface</b> 	 <p>AQDEXZ L9610 AQDEXZOH3D L9812</p> <p>AQDEXST L9624 AGSTD L6502, L6504</p>	 <p>SGSP L6806</p>
<b>Slop, Spot facing</b> 	 <p>AQDEXZ L9610 AQDEXVF1.5D+TVFZ</p> <p>AQDEXST L9624 AGSTD L6502, L6504</p> <p>AQDEXOH3D L9604 AQDEXS L9600 SGESS L7572P</p>	 <p>SGPO L6808</p>
<b>Thin board</b> 	 <p>AQDEXST L9624 AGSTD L6502, L6504</p> <p>AQDEXZ L9610 AQDEXZOH3D L9812</p>	 <p>SGPO L6808</p>
<b>Deep holes</b> 	 <p>AQDEXOHPLT L9622</p> <p>AQDEXOH10D-50D L9612, L9614, L9616, L9618, L9620</p> <p>AQDEXST/AGSTD L9624, L6502, L6504</p>	 <p>SGSP L6806</p>

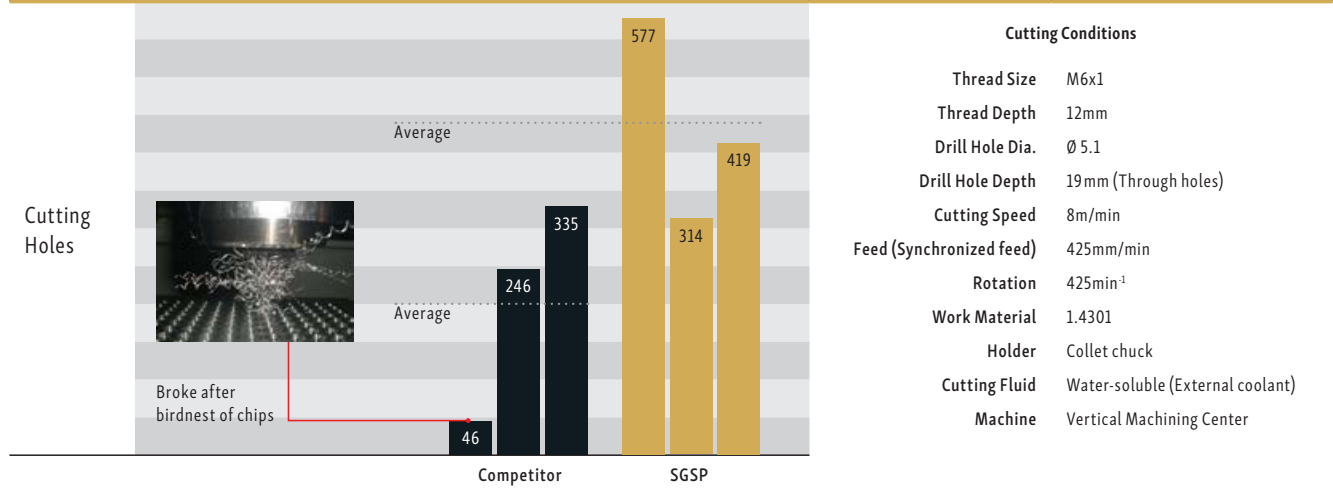
## Cutting Scenes and Chips at Every Cutting Speed



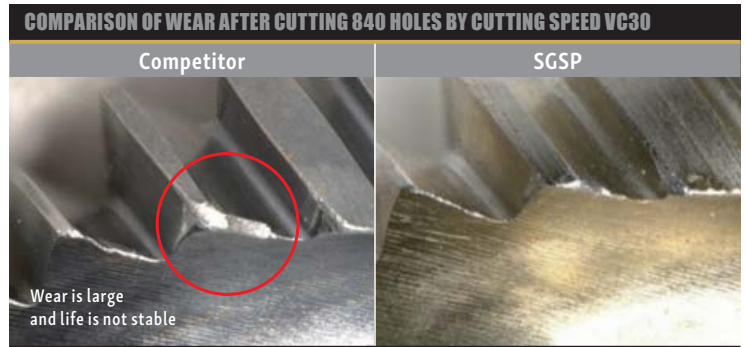
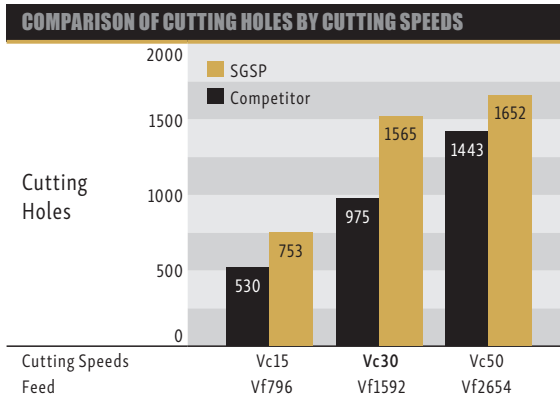
In dry process to take pictures.

Cutting Conditions	Tool	L6806 M6x1	Feed Speed	VC 15m/min, 30m/min, 50m/min
	Thread Length	12mm	Hole Depth	20mm
	Pre Hole Ø	5mm	Work Material	1.1213 Cf53

## LONG TOOL LIFE WITH STAINLESS STEEL



# SGSP Proved Stable Tapping in 304 Stainless Steel with Minimal Wear After 600 Holes



Cutting Conditions

Thread Size M6x1  
 Thread Depth 12mm  
 Drill Hole Dia. Ø 5.1  
 Drill Hole Depth 20mm (Blind holes)

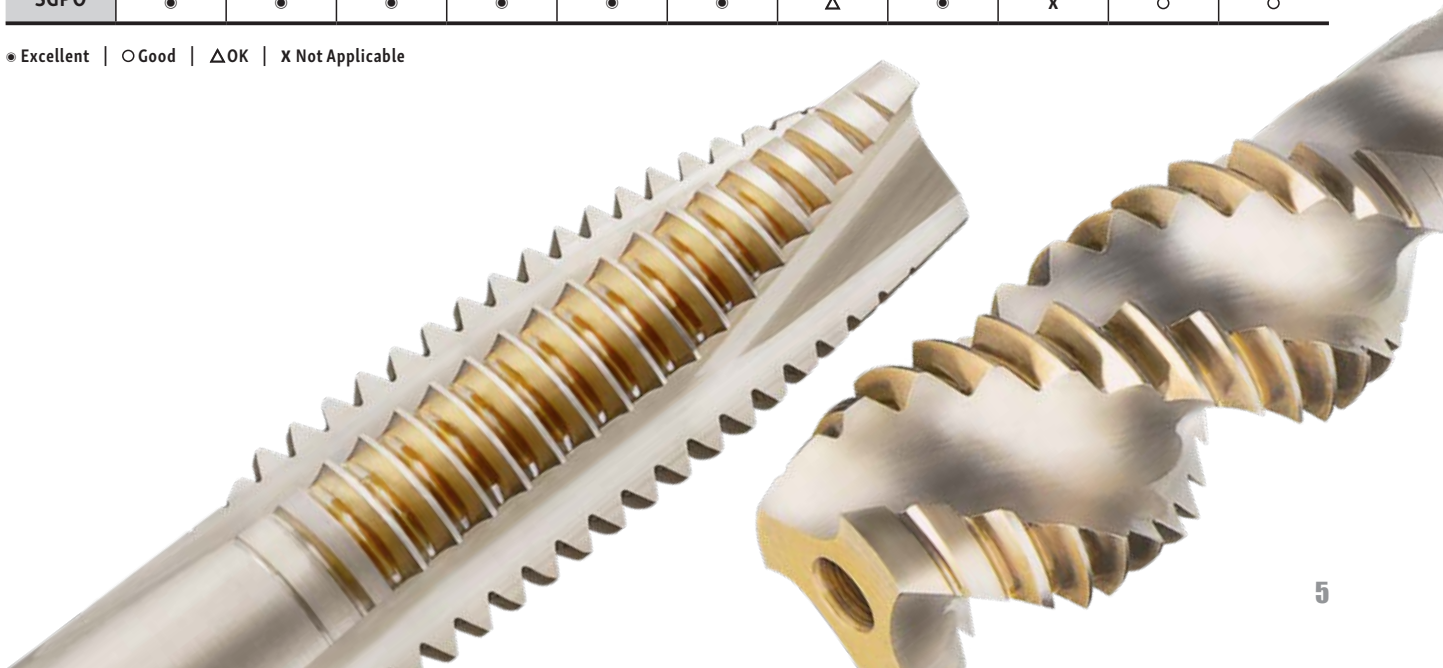
Work Material S50C(180HB)  
 Holder Collet chuck  
 Cutting Fluid Water-soluble cutting fluid (External coolant)  
 Machine Vertical Machining Center

## Suitable for Tapping Structural Steels to Stainless Steels and Aluminium Alloys

**APPLICABLE WORK MATERIALS**

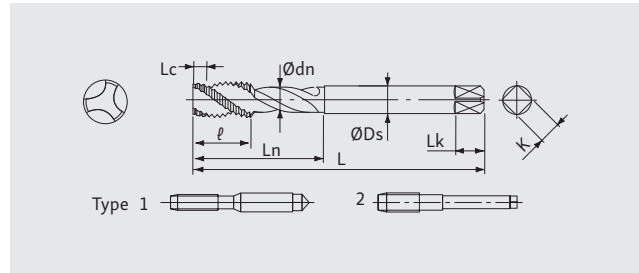
Work Materials	ST52(SS) Structural Steel	C15(S15C) Low Carbon Steel	C40(S40C) C < 0.45%	C50(S50C) C > 0.45%	20Cr.42CrMo (SCM.SCr) Alloy Steel		Hardened Steel	SUS Stainless Steel	GG(FC) Grey Cast Iron	GGG(FCD) Ductile Cast Iron	AC.ADC Aluminum Alloy
	~200HB	~200HB	~200HB	~200HB	~200HB	20~30HRC	30~40HRC				
SGSP	○	○	●	●	●	○	△	○	×	○	○
SGPO	●	●	●	●	●	●	△	●	×	○	○

● Excellent | ○ Good | △OK | × Not Applicable



## SGSP-DIN Spiral Tap

- ▶ Modified bottoming style 2.5 thread chamfer
- ▶ SG-Coating
- ▶ DIN overall length
- ▶ Premium powdered high-speed steel



### LIST: 6806

Ø	Pitch	Pitch Chamfer	OAL	Thread Length			Shank Ø	Square Width	Square Length	Z	Type	DIN	Stock
		Lc	L	ℓ	Ln	dn	Ds	K	LK				
3	0.5	2.5P	56	5.6	18	2.35	3.5	2.7	6	3	1	371	●
4	0.7	2.5P	63	8.1	21	3.15	4.5	3.4	6	3	1	371	●
5	0.8	2.5P	70	9.4	25	4.05	6.0	4.9	8	3	1	371	●
6	1	2.5P	80	12	30	4.75	6.0	4.9	8	3	1	371	●
8	1.25	2.5P	90	15.4	35	6.55	8.0	6.2	9	3	1*	371	●
10	1.5	2.5P	100	18.9	39	8.25	10.0	8.0	11	3	1*	371	●
12	1.75	2.5P	110	22.4	42	9.95	9.0	7.0	10	3	2	376	●
14	2	2.5P	110	25.9	49	11.65	11.0	9.0	12	3	2	376	●
16	2	2.5P	110	25.9	49	13.65	12.0	9.0	12	3	2	376	●
18	2.5	2.5P	125	32.6	55	15.15	14.0	11.0	14	4	2	376	●
20	2.5	2.5P	140	32.6	55	17.15	16.0	12.0	15	4	2	376	●
22	2.5	2.5P	140	32.6	55	19.15	18.0	14.5	17	4	2	376	●
24	3	2.5P	160	38.8	63	20.65	18.0	14.5	17	4	2	376	●

\* Without male center

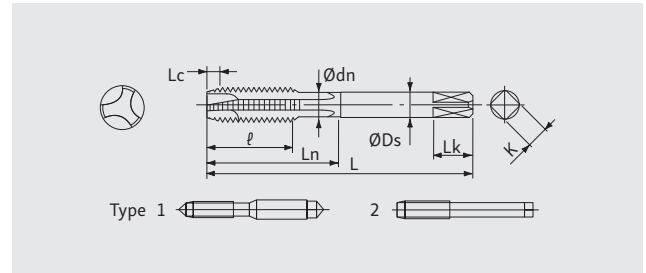


Ø	Pitch	Pitch Chamfer	OAL	Thread Length			Shank Ø	Square Width	Square Length	Z	Type	DIN	Stock
		Lc	L	ℓ	Ln	dn	Ds	K	LK				
6	0.75	2.5P	80	9.2	24.5	5.05	4.5	3.4	6	3	2*	374	●
8	0.75	2.5P	80	9.2	24.5	7.05	6.0	4.9	8	3	2	374	●
8	1	2.5P	90	12.4	27	6.75	6.0	4.9	8	3	2	374	●
10	1	2.5P	90	12.4	27	8.75	7.0	5.5	8	3	2	374	●
10	1.25	2.5P	100	15.7	33	8.55	7.0	5.5	8	3	2	374	●
12	1	2.5P	100	13.5	33	10.75	9.0	7.0	10	3	2	374	●
12	1.25	2.5P	100	17.2	35	10.55	9.0	7.0	10	3	2	374	●
12	1.5	2.5P	100	20.9	40	10.25	9.0	7.0	10	3	2	374	●
14	1.5	2.5P	100	20.9	40	12.25	11.0	9.0	12	3	2	374	●
16	1.5	2.5P	100	20.9	40	14.25	12.0	9.0	12	3	2	374	●
18	1.5	2.5P	110	20.9	40	16.25	14.0	11.0	14	4	2	374	●
20	1.5	2.5P	125	20.9	40	18.25	16.0	12.0	15	4	2	374	●

\* With male center

# SGPO – DIN Point Tap

- ▶ Plug style 5 thread chamfer
- ▶ SG-Coating
- ▶ DIN overall length
- ▶ Premium powdered high-speed steel



## LIST: 6808

Ø	Pitch	Pitch Chamfer	OAL	Thread Length	Ln	dn	Shank Ø	Square Width	Square Length	Z	Type	DIN	Stock
		Lc	L	ℓ				Ds	K				
3	0.5	5P	56	10	18	2.4	3.5	2.7	6	3	1	371	●
4	0.7	5P	63	12.5	21	3.1	4.5	3.4	6	3	1	371	●
5	0.8	5P	70	14.5	25	4.0	6.0	4.9	8	3	1	371	●
6	1	5P	80	17	30	4.8	6.0	4.9	8	3	1	371	●
8	1.25	5P	90	22	35	6.55	8.0	6.2	9	3	1*	371	●
10	1.5	5P	100	27	39	8.25	10.0	8.0	11	3	1*	371	●
12	1.75	5P	110	32	-	-	9.0	7.0	10	3	2	376	●
14	2	5P	110	32	-	-	11.0	9.0	12	3	2	376	●
16	2	5P	110	32	-	-	12.0	9.0	12	3	2	376	●
18	2.5	5P	125	37.5	-	-	14.0	11.0	14	3	2	376	●
20	2.5	5P	140	37.5	-	-	16.0	12.0	15	3	2	376	●
22	2.5	5P	140	37.5	-	-	18.0	14.5	17	3	2	376	●
24	3	5P	160	45	-	-	18.0	14.5	17	3	2	376	●

\* Without male center



Ø	Pitch	Pitch Chamfer	OAL	Thread Length	Ln	dn	Shank Ø	Square Width	Square Length	Z	Type	DIN	Stock
		Lc	L	ℓ				Ds	K				
6	0.75	5P	80	14	-	-	4.5	3.4	6	3	2*	374	●
8	0.75	5P	80	14	-	-	6.0	4.9	8	3	2	374	●
8	1	5P	90	17	-	-	6.0	4.9	8	3	2	374	●
10	1	5P	90	17	-	-	7.0	5.5	8	3	2	374	●
10	1.25	5P	100	22	-	-	7.0	5.5	8	3	2	374	●
12	1	5P	100	19	-	-	9.0	7.0	10	3	2	374	●
12	1.25	5P	100	22	-	-	9.0	7.0	10	3	2	374	●
12	1.5	5P	100	22	-	-	9.0	7.0	10	3	2	374	●
14	1.5	5P	100	22	-	-	11.0	9.0	12	3	2	374	●
16	1.5	5P	100	22	-	-	12.0	9.0	12	3	2	374	●
18	1.5	5P	110	25	-	-	14.0	11.0	14	3	2	374	●
20	1.5	5P	125	25	-	-	16.0	12.0	15	3	2	374	●

\* With male center

# Recommended NACHI Drills for Threaded Holes

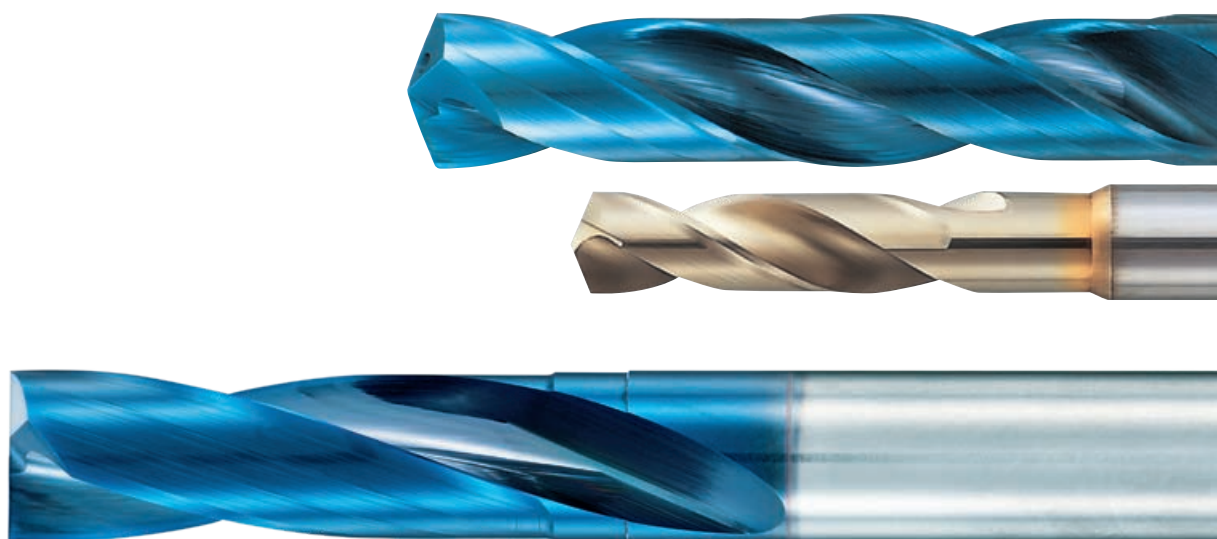
METRIC SIZES					
Thread	Pitch (mm)	Pre Hole Ø (mm)	Recommended Drills		
			Aqua Drills Ex Oil Hole 3D	SG Drills 3D/5D	Aqua Drills EX Flat
M3	0.5	2.5	9196040250	087572P0250 (3D)	9196100250
M4	0.7	3.3	9196040330	087572P0330 (3D)	9196100320
M5	0.8	4.2	9196040420	087572P0420 (3D)	9196100420
M6	1	5	9196040500	087572P0500 (3D)	9196100500
M8	1.25	6.8	9196040680	087572P0680 (3D)	9196100680
M10	1.5	8.5	9196040850	087572P0850 (3D)	9196100850
M12	1.75	10.2	9196041020	087572P1020 (3D)	9196101020
M14	2	12	9196041200	087572P1200 (3D)	9196101200
M16	2	14	9196041400	087572P1400 (3D)	9196101400
M20	2.5	17.5	-	087572P1750 (3D)	9196101750
M24	3	21	-	0875742100 (5D)	0865442100 HSS PM
M30	3.5	26.5	-	0875742650 (5D)	0865442650 HSS PM
M36	4	32	-	0875743200 (5D)	0865443200 HSS PM

METRIC FINE SIZES					
Thread	Pitch (mm)	Pre Hole Ø (mm)	Recommended Drills		
			Aqua Drills Ex Oil Hole 3D	SG Drills 3D/5D	Aqua Drills EX Flat
M3	0.35	2.65	9196040265	087572P0265 (3D)	-
M4	0.35	3.65	-	087572P0365 (3D)	-
M4	0.5	3.5	9196040350	087572P0350 (3D)	9196100350
M5	0.5	4.5	9196040450	087572P0450 (3D)	9196100450
M6	0.5	5.5	9196040550	087572P0550 (3D)	9196100550
M6	0.75	5.2	9196040520	087572P0520 (3D)	9196100520
M7	0.75	6.2	9196040620	087572P0620 (3D)	9196100620
M8	0.5	7.5	9196040750	087572P0750 (3D)	9196100750
M8	0.75	7.2	9196040720	087572P0720 (3D)	9196100720
M8	1.0	7.0	9196040700	087572P0700 (3D)	9196100700
M9	1.0	8.0	9196040800	087572P0800 (3D)	9196100800
M10	0.75	9.2	9196040920	087572P0920 (3D)	9196100920
M10	1.0	9.0	9196040900	087572P0900 (3D)	9196100900
M10	1.25	8.8	9196040880	087572P0880 (3D)	9196100880
M11	1.0	10.0	9196041000	087572P1000 (3D)	9196101000
M12	1.0	11.0	9196041100	087572P1100 (3D)	9196101100
M12	1.25	10.8	9196041080	087572P1080 (3D)	9196101080
M12	1.5	10.5	9196041050	087572P1050 (3D)	9196101050
M14	1.0	13.0	9196041300	087572P1300 (3D)	9196101300
M14	1.25	12.8	9196041280	087572P1280 (3D)	9196101280





Thread	Pitch (mm)	Pre Hole Ø (mm)	Recommended Drills		
			Aqua Drills Ex Oil Hole 3D	SG Drills 3D/5D	Aqua Drills EX Flat
M14	1.5	12.5	9196041250	087572P1250 (3D)	9196101250
M15	1.0	14.0	9196041400	087572P1400 (3D)	9196101400
M15	1.5	13.5	9196041350	087572P1350 (3D)	9196101350
M16	1.0	15.0	9196041500	087572P1500 (3D)	9196101500
M16	1.5	14.5	9196041450	087572P1450 (3D)	9196101450
M18	1.0	17.0	-	087572P1700 (3D)	9196101700
M18	1.5	16.5	-	087572P1650 (3D)	9196101650
M18	2.0	16.0	9196041600	087572P1600 (3D)	9196101600
M20	1.0	19.0	-	087572P1900 (3D)	9196101900
M20	1.5	18.5	-	087572P1850 (3D)	9196101850
M20	2.0	18.0	-	087572P1800 (3D)	9196101800
M22	1.0	21.0	-	0875742100 (5D)	0865442100 HSS PM
M22	1.5	20.5	-	0875742050 (5D)	-
M22	2.0	20.0	-	087572P2000 (3D)	9196102000
M24	1.5	22.5	-	0875742250 (5D)	-
M24	2.0	22.0	-	0875742200 (5D)	0865442200 HSS PM
M25	1.5	23.5	-	0875742350 (5D)	-
M26	1.5	24.5	-	0875742450 (5D)	-
M27	1.5	25.5	-	0875742550 (5D)	-
M27	2.0	25.0	-	0875742500 (5D)	0865442500 HSS PM
M28	1.5	26.5	-	0875742650 (5D)	0865442650 HSS PM
M30	1.0	29.0	-	0875742900 (5D)	0865442900 HSS PM
M30	1.5	28.5	-	0875742850 (5D)	-
M30	2.0	28.0	-	0875742800 (5D)	0865442800 HSS PM













## Cutting Condition

RECOMMENDED CUTTING SPEED & CUTTING FLUIDS												
		Recommended Cutting Speed m/min										
Work Materials	ST52(SS) Structural Steel	C15(S15C) Low Carbon Steel	C40(S40C) C<0.45%	C50(S50C) C>0.45%	20Cr.42CrMo (SCM.SCr) Alloy Steel		Hardened Steel	SUS Stainless Steel	GG(FC) Grey Cast Iron	GGG(FCD) Ductile Cast Iron	AC.ADC Aluminum Alloy	
	~200HB	~200HB	~200HB	~200HB	~200HB	20~30HRC	30~40HRC					
SG-Taps	SGSP	15~30	15~30	10~50	10~50	15~30	8~15	-	5~10	-	10~30	15~50
	SGPO	15~50	15~30	15~50	10~50	15~50	10~30	-	5~15	-	15~30	15~50
Cutting Fluids		Water-based emulsion from 7%										

1. These are general cutting recommendations and may be altered by your conditions.
2. These conditions are for thread depth of  $2 \times D_c$ .
3. Recommended are non-water-soluble cutting oils for Stainless Steel.



# Pictogram Overview

 Metric thread	 Chamfer length Form B (3.5 – 5.5 pitch)	 Tap with reinforced shaft
 Metric fine thread	 Chamfer length Form C (2 – 3 pitch)	 Metric fine tap with overflow shaft
 NACHI High Grade Powder Metal	 Thread tolerance ISO CLASS 2	 Metric tap with overflow shaft
 SG (TiCN multilayer) Coating		

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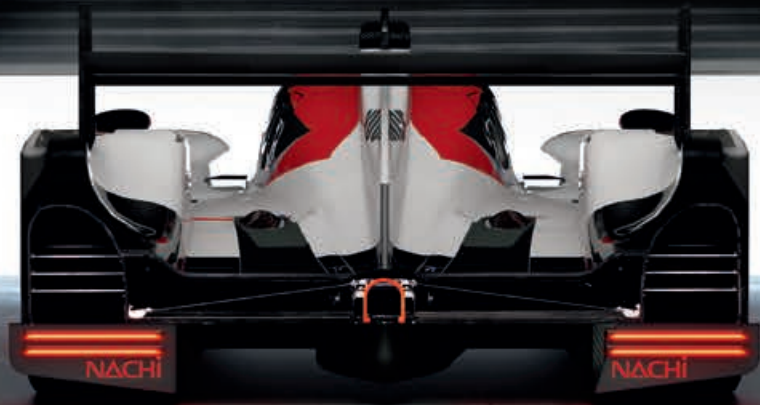
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**50 YEARS**  
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**YOUR PERFORMANCE**



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