Solid carbide drills & taps



Solid Carbide End Mills Identification System

P M K Steel、Cast Iron Stainless Steel Aluminium Alloy	PD20	PD20 Twist Drills for General Purpose ●Suitable for drilling steel,stainless steel,cast iron, non–ferrous material. ●Stub chisel, excellent self–center capability. ●Radial point,smaller cutting resistance. ●Unique edge preparation,higher feed rate,higher efficiency.
M S Stainless Steel Titanium Alloys	MD20	KD20 Twist Drills for Cast Iron ●Suitable for drilling cast iron of automobile industry and other industrier. ●Wave formed cutting lips provides lowered machining torque. ●Four margin,improves hole wall quality and accuracy. ●Increased Drilla point strength through optimized chisel edge.
K Aluminium Alloy	KD20	MD20 Twist Drills for Stainless Steel ●Suitable for drilling stainless steel. ●Excellent edge strength, excellent self–centering capability. ●Straight lips,precise edge preparation is adapted,reinforce the strenhth of edge. ●Small edge home,largeblack taper, reduce friction and torque impaction.
N Graphite	ND25UF	ND25UF Twist Drills for alloys ●Suitable for drilling cast iron,silicon–aluminium alloys. ●Surface Roughness Ra1–2 ●Increased Drilla point strength through optimized chisel edge.
H High Hardened Material	HD15UF	HD15UF Twist Drills for Hardened Steel ●Suitable for drilling hardened steel. ●Large core thickness, small helix angle, high rigidity and strength. ●X–shaped Drills tip, excellent self–center capability. ●Radius Drills point,excellent hole wall quality.

①	②	③	④	⑤
PD20	**A**	**3**	**N**	**0600**

Shank Type	
A	DIN6535HA
E	DIN6535HE
B	DIN6535HB
Y	Continuous Parallel Shank

Drilling Depth	
3	Drilling Depth≤3D
5	Drilling Depth≤5D
90	90° Point Angle
120	120° Point Angle
145	145° Point Angle

Coolant Type	
C	Inner Cooling
N	External Cooling

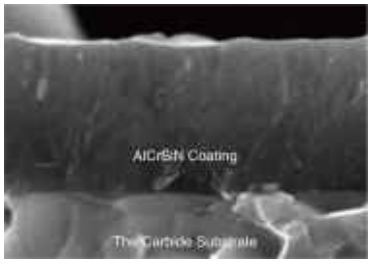
Drills Diameter	
0325	Dia:Φ3.25
0600	Dia:Φ6.00
1200	Dia:Φ12.00

Guidelines to Icons

	Mark	Description
Shank	SHANK h6	ISO Standard Shank
Coating	AlCrN	AlCrN Coating
	AlCrSiN	AlCrSiN Coating
	AlTiN nano	Nano Coating AlTiN
	AlTiN/ TiSiN	Nano Coating AlTiN/TiSiN
	U-DIA	Ultra Fine Grain Diamond Coating

	Mark	Description
Drilling Depth	3D	The Maximum Depth of Drilling is 3D
	5D	The Maximum Depth of Drilling is 5D
Drills Type		Twist Drills
		Twist Drills with Inner Cooling
		Straight Flute Drills
		Straight Flute Drills with Inner Cooling

	Mark	Description
Workpiece Material	P	Steels
	M	Stainless Steels
	K	Cast Iron
	N	Non-ferrous Materials
	S	Heat-resistant Super Alloys, Titanium Alloys
	H	High Hardened Materials

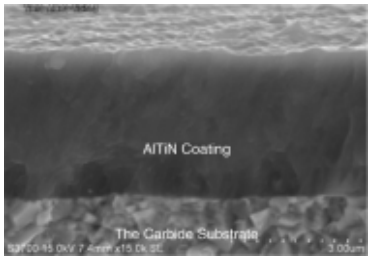


SEM Photograph of Coating

Universal High Performance Coating AlCrSiN

Characteristics and Function

- Productivity increase due to significantly higher cutting speed and feed for applications in a wide range of materials. Significantly enhanced productivity.
- Particular design of structure brings good balance between toughness, thermo-shock stability and residual stress.

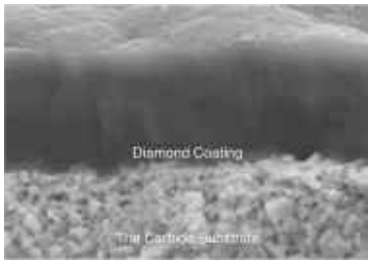


SEM Photograph of Coating

Nano Coating AlTiN

Characteristics and Function

- High aluminum content provides excellent hot hardness and oxidation resistance.
- Special method optimizes the structure of coating, significantly improvedstability, reducing the number of surface droplet.



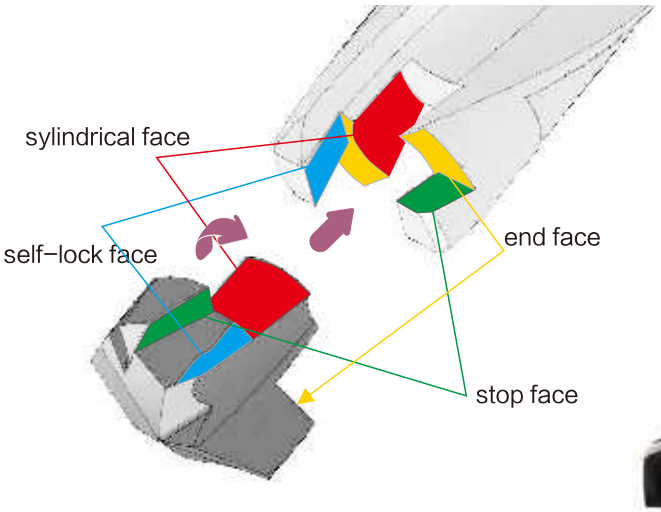
Cross-section Image

Ultra Fine Grain Diamond Coating

Characteristics and Function

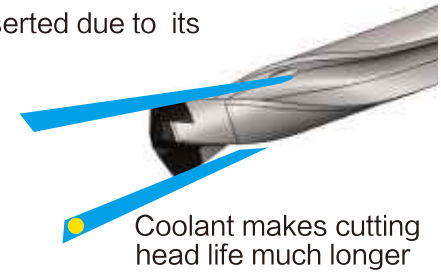
- High purity diamond coating, with hardness up to 80GPa.
- Ultra smooth and shiny surface, low coefficient friction.
- Suitable for finish machining nonferrous materials,such as graphite,aluminium,carbon fiber,ceramic,etc.

Self-Locked clamping system





- Centering by cylindrical faces
- The cutting head can be self-locked with toolholder while inserted due to its seat elastic deformation
- Axial drill fore is transferred to toolholder by end faces
- Drill torque is transferred to toolholder by stop faces



Coolant makes cutting head life much longer

How to attach cutting heads



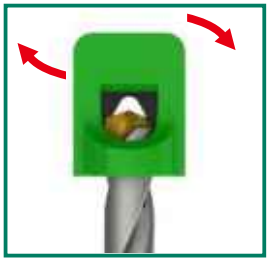
1

Remove dust using air blast



2

Turn lightly in a clockwise direction (Use gloves to protect your hand from any danger)



3

Turn the wrench in a clockwise direction slowly, then turn strongly while passing self-locked face untill cutting head won't move

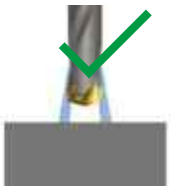


4

Complete

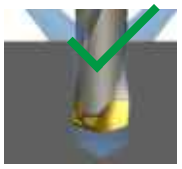
Cooling method

1



Suggest to select machine tools with inner cooling system

2

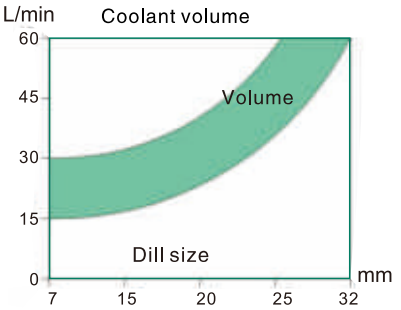


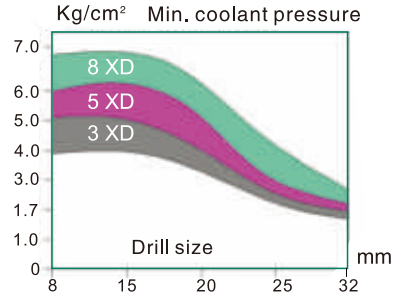
With outer cooling system, suggest to drill the hole size less than 3D diameter.

3

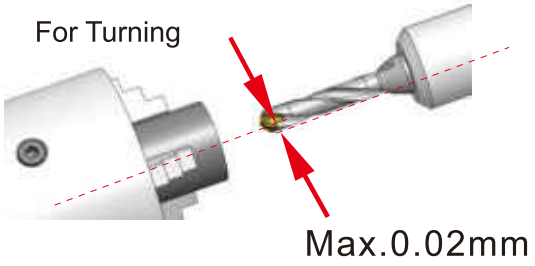


Do not dry cut

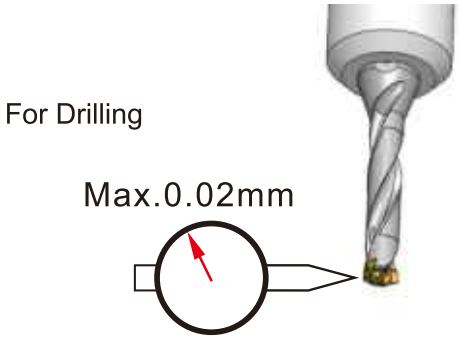




Usage precautions core deviation



Set deviation amount under0.02mm between the workpiece and the drill



Do not use any arbor with a deformed attachment surface.
Center of arbor deviation must be within 0.02mm

Indication of cutting head wear



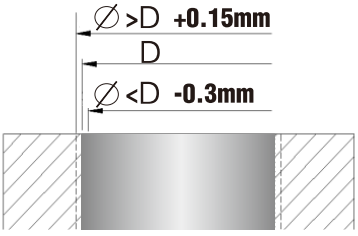
a) Wear Limit



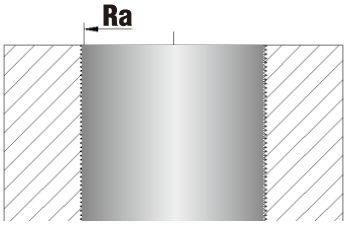
b) Power Restriction

(1) New cutting head

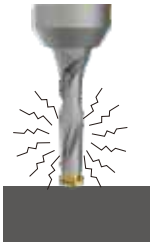
(2) Increase 25% for wore-out cutting head



c) Diameter Change



d) Surface Finish Deterioration



e) Vibration Noise Drastically Increases

Application

Application Recommendation	Workpiece Shape	Application Not Recommendation	Workpiece Shape
Flat Face Recommended		Hole Expansion Not Recommended	
Stacked Plates Recommended(absolutely don't move between plates)		Slanted Surface Not Recommended	
Concave Surface Recommended(reduce a half of feed tate as narmal)		Half Cylindrical Not Recommended	
Pipe Material Recommended		Cored Hole Not Recommended	

PM/PR head



J007–J008

Drill



J009–J010

PD20–A3N



J011

PD20–A3C



J012

PD20–A5N



J013

PD20–A5C



J014

KD20–A3N



J015

KD20–A3C



J015

KD20–A5N



J016

KD20–A5C



J016

MD20–A3N



J017

MD20–A3C



J018

MD20–A5C



J019

ND25UF–Y3N



J020

HD15UF–Y3N



J021

PD20–A90



J021

PD20–A120



J022

PD20–A145



J022

KZD20–A3N



J023

KZD20–A5C



J023

LJD20/SJD20



J024–J025

Forming tap



J032–J035

Cutting tap



J036–J038

Plug gauge



J039

PM head PR head PB head

New

P		M	K	N
Low-carbon steels	Steel	Stainless Steel	Cast Iron	Aluminium Alloy



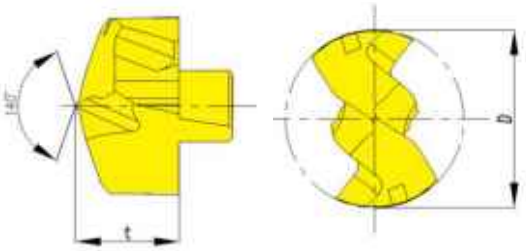
Recommend PM
Especially for less than 5D



Recommend PR
Especially for more than 5D



Recommend PB



Order No.	Dimensions (mm)		NS4125	NS9115	Tool holders
	D	t			
MSQD-080-PM/PR/PB	8.0	5.4	●	●	MSQD080-12
MSQD-081-PM/PR/PB	8.1	5.4	○	○	
MSQD-082-PM/PR/PB	8.2	5.4	○	○	
MSQD-083-PM/PR/PB	8.3	5.4	○	○	
MSQD-084-PM/PR/PB	8.4	5.4	○	○	
MSQD-085-PM/PR/PB	8.5	5.4	●	●	
MSQD-086-PM/PR/PB	8.6	5.4	○	○	
MSQD-087-PM/PR/PB	8.7	5.4	○	○	
MSQD-088-PM/PR/PB	8.8	5.4	○	○	
MSQD-089-PM/PR/PB	8.9	5.4	○	○	
MSQD-090-PM/PR/PB	9.0	5.8	●	●	MSQD090-12
MSQD-091-PM/PR/PB	9.1	5.8	○	○	
MSQD-092-PM/PR/PB	9.2	5.8	○	○	
MSQD-093-PM/PR/PB	9.3	5.8	○	○	
MSQD-094-PM/PR/PB	9.4	5.8	○	○	
MSQD-095-PM/PR/PB	9.5	5.8	●	●	
MSQD-096-PM/PR/PB	9.6	5.8	○	○	
MSQD-097-PM/PR/PB	9.7	5.8	○	○	
MSQD-098-PM/PR/PB	9.8	5.8	○	○	
MSQD-099-PM/PR/PB	9.9	5.8	○	○	
MSQD-100-PM/PR/PB	10.0	6.2	●	●	MSQD100-12
MSQD-101-PM/PR/PB	10.1	6.2	○	○	
MSQD-102-PM/PR/PB	10.2	6.2	○	○	
MSQD-103-PM/PR/PB	10.3	6.2	○	○	
MSQD-104-PM/PR/PB	10.4	6.2	○	○	
MSQD-105-PM/PR/PB	10.5	6.2	●	●	
MSQD-106-PM/PR/PB	10.6	6.2	○	○	
MSQD-107-PM/PR/PB	10.7	6.2	○	○	
MSQD-108-PM/PR/PB	10.8	6.2	○	○	
MSQD-109-PM/PR/PB	10.9	6.2	○	○	
MSQD-110-PM/PR/PB	11.0	6.6	●	●	MSQD110-12
MSQD-111-PM/PR/PB	11.1	6.6	○	○	
MSQD-112-PM/PR/PB	11.2	6.6	○	○	
MSQD-113-PM/PR/PB	11.3	6.6	○	○	
MSQD-114-PM/PR/PB	11.4	6.6	○	○	
MSQD-115-PM/PR/PB	11.5	6.6	●	●	
MSQD-116-PM/PR/PB	11.6	6.6	○	○	
MSQD-117-PM/PR/PB	11.7	6.6	○	○	
MSQD-118-PM/PR/PB	11.8	6.6	○	○	
MSQD-119-PM/PR/PB	11.9	6.6	○	○	

Order No.	Dimensions (mm)		NS4125	NS9115	Tool holders
	D	t			
MSQD-120-PM/PR/PB	12.0	7.0	●	●	MSQD120-12
MSQD-121-PM/PR/PB	12.1	7.0	○	○	
MSQD-122-PM/PR/PB	12.2	7.0	○	○	
MSQD-123-PM/PR/PB	12.3	7.0	○	○	
MSQD-124-PM/PR/PB	12.4	7.0	○	○	
MSQD-125-PM/PR/PB	12.5	7.0	●	●	
MSQD-126-PM/PR/PB	12.6	7.0	○	○	
MSQD-127-PM/PR/PB	12.7	7.0	○	○	
MSQD-128-PM/PR/PB	12.8	7.0	○	○	
MSQD-129-PM/PR/PB	12.9	7.0	○	○	
MSQD-130-PM/PR/PB	13.0	7.6	●	●	MSQD130-12
MSQD-131-PM/PR/PB	13.1	7.6	○	○	
MSQD-132-PM/PR/PB	13.2	7.6	○	○	
MSQD-133-PM/PR/PB	13.3	7.6	○	○	
MSQD-134-PM/PR/PB	13.4	7.6	○	○	
MSQD-135-PM/PR/PB	13.5	7.6	●	●	
MSQD-136-PM/PR/PB	13.6	7.6	○	○	
MSQD-137-PM/PR/PB	13.7	7.6	○	○	
MSQD-138-PM/PR/PB	13.8	7.6	○	○	
MSQD-139-PM/PR/PB	13.9	7.6	○	○	
MSQD-140-PM/PR/PB	14.0	8.1	●	●	
MSQD-141-PM/PR/PB	14.1	8.1	○	○	
MSQD-142-PM/PR/PB	14.2	8.1	○	○	
MSQD-143-PM/PR/PB	14.3	8.1	○	○	
MSQD-144-PM/PR/PB	14.4	8.1	○	○	
MSQD-145-PM/PR/PB	14.5	8.1	●	●	
MSQD-146-PM/PR/PB	14.6	8.1	○	○	
MSQD-147-PM/PR/PB	14.7	8.1	○	○	
MSQD-148-PM/PR/PB	14.8	8.1	○	○	
MSQD-149-PM/PR/PB	14.9	8.1	○	○	
MSQD-150-PM/PR/PB	15.0	8.7	●	●	
MSQD-151-PM/PR/PB	15.1	8.7	○	○	
MSQD-152-PM/PR/PB	15.2	8.7	○	○	
MSQD-153-PM/PR/PB	15.3	8.7	○	○	
MSQD-154-PM/PR/PB	15.4	8.7	○	○	
MSQD-155-PM/PR/PB	15.5	8.7	●	●	
MSQD-156-PM/PR/PB	15.6	8.7	○	○	
MSQD-157-PM/PR/PB	15.7	8.7	○	○	
MSQD-158-PM/PR/PB	15.8	8.7	○	○	
MSQD-159-PM/PR/PB	15.9	8.7	○	○	

●Stock ○Availabie upon Order

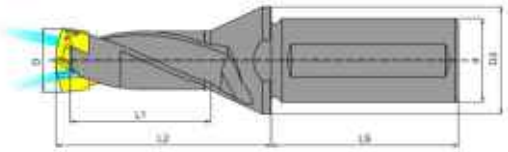
Order No.	Dimensions (mm)		NS4125	NS9115	Tool holders
	D	t			
MSQD-160-PM/PR	16.0	9.3	●	●	MSQD160-12
MSQD-161-PM/PR	16.1	9.3	○	○	
MSQD-162-PM/PR	16.2	9.3	○	○	
MSQD-163-PM/PR	16.3	9.3	○	○	
MSQD-164-PM/PR	16.4	9.3	○	○	
MSQD-165-PM/PR	16.5	9.3	●	●	
MSQD-166-PM/PR	16.6	9.3	○	○	
MSQD-167-PM/PR	16.7	9.3	○	○	
MSQD-168-PM/PR	16.8	9.3	○	○	
MSQD-169-PM/PR	16.9	9.3	○	○	
MSQD-170-PM/PR	17.0	9.9	●	●	MSQD170-12
MSQD-171-PM/PR	17.1	9.9	○	○	
MSQD-172-PM/PR	17.2	9.9	○	○	
MSQD-173-PM/PR	17.3	9.9	○	○	
MSQD-174-PM/PR	17.4	9.9	○	○	
MSQD-175-PM/PR	17.5	9.9	●	●	
MSQD-176-PM/PR	17.6	9.9	○	○	
MSQD-177-PM/PR	17.7	9.9	○	○	
MSQD-178-PM/PR	17.8	9.9	○	○	
MSQD-179-PM/PR	17.9	9.9	○	○	
MSQD-180-PM/PR	18.0	10.5	●	●	MSQD180-12
MSQD-181-PM/PR	18.1	10.5	○	○	
MSQD-182-PM/PR	18.2	10.5	○	○	
MSQD-183-PM/PR	18.3	10.5	○	○	
MSQD-184-PM/PR	18.4	10.5	○	○	
MSQD-185-PM/PR	18.5	10.5	●	●	
MSQD-186-PM/PR	18.6	10.5	○	○	
MSQD-187-PM/PR	18.7	10.5	○	○	
MSQD-188-PM/PR	18.8	10.5	○	○	
MSQD-189-PM/PR	18.9	10.5	○	○	
MSQD-190-PM/PR	19.0	11.0	●	●	MSQD190-12
MSQD-191-PM/PR	19.1	11.0	○	○	
MSQD-192-PM/PR	19.2	11.0	○	○	
MSQD-193-PM/PR	19.3	11.0	○	○	
MSQD-194-PM/PR	19.4	11.0	○	○	
MSQD-195-PM/PR	19.5	11.0	●	●	
MSQD-196-PM/PR	19.6	11.0	○	○	
MSQD-197-PM/PR	19.7	11.0	○	○	
MSQD-198-PM/PR	19.8	11.0	○	○	
MSQD-199-PM/PR	19.9	11.0	○	○	
MSQD-200-PM/PR	20.0	11.6	●	●	MSQD190-12
MSQD-201-PM/PR	20.1	11.6	○	○	
MSQD-202-PM/PR	20.2	11.6	○	○	
MSQD-203-PM/PR	20.3	11.6	○	○	
MSQD-204-PM/PR	20.4	11.6	○	○	
MSQD-205-PM/PR	20.5	11.6	●	●	
MSQD-206-PM/PR	20.6	11.6	○	○	
MSQD-207-PM/PR	20.7	11.6	○	○	
MSQD-208-PM/PR	20.8	11.6	○	○	
MSQD-209-PM/PR	20.9	11.6	○	○	

Order No.	Dimensions (mm)		NS4125	NS9115	Tool holders
	D	t			
MSQD-210-PM/PR	21.0	12.1	●	●	MSQD120-12
MSQD-211-PM/PR	21.1	12.1	○	○	
MSQD-212-PM/PR	21.2	12.1	○	○	
MSQD-213-PM/PR	21.3	12.1	○	○	
MSQD-214-PM/PR	21.4	12.1	○	○	
MSQD-215-PM/PR	21.5	12.1	●	●	
MSQD-216-PM/PR	21.6	12.1	○	○	
MSQD-217-PM/PR	21.7	12.1	○	○	
MSQD-218-PM/PR	21.8	12.1	○	○	
MSQD-219-PM/PR	21.9	12.1	○	○	
MSQD-220-PM/PR	22.0	12.7	●	●	MSQD130-12
MSQD-221-PM/PR	22.1	12.7	○	○	
MSQD-222-PM/PR	22.2	12.7	○	○	
MSQD-223-PM/PR	22.3	12.7	○	○	
MSQD-224-PM/PR	22.4	12.7	○	○	
MSQD-225-PM/PR	22.5	12.7	●	●	
MSQD-226-PM/PR	22.6	12.7	○	○	
MSQD-227-PM/PR	22.7	12.7	○	○	
MSQD-228-PM/PR	22.8	12.7	○	○	
MSQD-229-PM/PR	22.9	12.7	○	○	
MSQD-230-PM/PR	23.0	13.3	●	●	
MSQD-231-PM/PR	23.1	13.3	○	○	
MSQD-232-PM/PR	23.2	13.3	○	○	
MSQD-233-PM/PR	23.3	13.3	○	○	
MSQD-234-PM/PR	23.4	13.3	○	○	
MSQD-235-PM/PR	23.5	13.3	●	●	
MSQD-236-PM/PR	23.6	13.3	○	○	
MSQD-237-PM/PR	23.7	13.3	○	○	
MSQD-238-PM/PR	23.8	13.3	○	○	
MSQD-239-PM/PR	23.9	13.3	○	○	
MSQD-240-PM/PR	24.0	13.9	●	●	
MSQD-241-PM/PR	24.1	13.9	○	○	
MSQD-242-PM/PR	24.2	13.9	○	○	
MSQD-243-PM/PR	24.3	13.9	○	○	
MSQD-244-PM/PR	24.4	13.9	○	○	
MSQD-245-PM/PR	24.5	13.9	●	●	
MSQD-246-PM/PR	24.6	13.9	○	○	
MSQD-247-PM/PR	24.7	13.9	○	○	
MSQD-248-PM/PR	24.8	13.9	○	○	
MSQD-249-PM/PR	24.9	13.9	○	○	
MSQD-250-PM/PR	25.0	14.5	●	●	
MSQD-251-PM/PR	25.1	14.5	○	○	
MSQD-252-PM/PR	25.2	14.5	○	○	
MSQD-253-PM/PR	25.3	14.5	○	○	
MSQD-254-PM/PR	25.4	14.5	○	○	
MSQD-255-PM/PR	25.5	14.5	●	●	
MSQD-256-PM/PR	25.6	14.5	○	○	
MSQD-257-PM/PR	25.7	14.5	○	○	
MSQD-258-PM/PR	25.8	14.5	○	○	
MSQD-259-PM/PR	25.9	14.5	○	○	
MSQD-260-PM	26.0	14.5	●	●	

●Stock ○Availabie upon Order

Drills (coolant through center)





1.5D

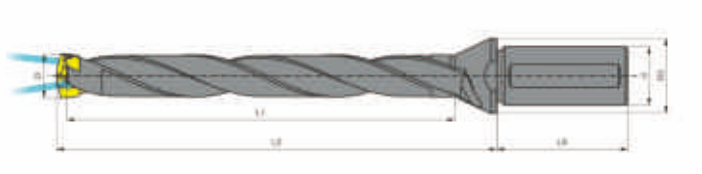
code number	Applicable cutting head Dia. (mm)	Dimensions (mm)					Wrench
		d	D3	L1	Ls	D	
MSQD-080/089-12-1.5D	8.0~8.9	12	16	16	45	7.8	8-11.9
MSQD-090/099-12-1.5D	9.0~9.9	12	16	18	45	8.8	
MSQD-100/109-16-1.5D	10.0~10.9	16	20	20	48	9.8	
MSQD-110/119-16-1.5D	11.0~11.9	16	20	22	48	10.8	
MSQD-120/129-16-1.5D	12.0~12.9	16	20	24	48	11.8	12-16.9
MSQD-130/139-16-1.5D	13.0~13.9	16	20	25	48	12.8	
MSQD-140/149-16-1.5D	14.0~14.9	16	20	27	48	13.8	
MSQD-150/159-20-1.5D	15.0~15.9	20	25	29	50	14.8	
MSQD-160/169-20-1.5D	16.0~16.9	20	25	30	50	15.8	
MSQD-170/179-20-1.5D	17.0~17.9	20	25	32	50	16.8	17-20.9
MSQD-180/189-25-1.5D	18.0~18.9	25	32	34	56	17.8	
MSQD-190/199-25-1.5D	19.0~19.9	25	32	36	56	18.8	
MSQD-200/209-25-1.5D	20.0~20.9	25	32	38	56	19.8	
MSQD-210/219-25-1.5D	21.0~21.9	25	32	40	56	20.8	21-26
MSQD-220/229-25-1.5D	22.0~22.9	25	32	42	56	21.8	
MSQD-230/239-32-1.5D	23.0~23.9	32	42	43	60	22.8	
MSQD-240/249-32-1.5D	24.0~24.9	32	42	45	60	23.8	
MSQD-250/259-32-1.5D	25.0~25.9	32	42	47	60	24.8	

3D

code number	Applicable cutting head Dia. (mm)	Dimensions (mm)					Wrench
		d	D3	L1	Ls	D	
MSQD-080/089-12-3D	8.0~8.9	12	16	32	45	7.8	8-11.9
MSQD-090/099-12-3D	9.0~9.9	12	16	35	45	8.8	
MSQD-100/109-16-3D	10.0~10.9	16	20	39	48	9.8	
MSQD-110/119-16-3D	11.0~11.9	16	20	42	48	10.8	
MSQD-120/129-16-3D	12.0~12.9	16	20	45	48	11.8	12-16.9
MSQD-130/139-16-3D	13.0~13.9	16	20	49	48	12.8	
MSQD-140/149-16-3D	14.0~14.9	16	20	53	48	13.8	
MSQD-150/159-20-3D	15.0~15.9	20	25	56	50	14.8	
MSQD-160/169-20-3D	16.0~16.9	20	25	60	50	15.8	
MSQD-170/179-20-3D	17.0~17.9	20	25	63	50	16.8	17-20.9
MSQD-180/189-25-3D	18.0~18.9	25	32	66	56	17.8	
MSQD-190/199-25-3D	19.0~19.9	25	32	70	56	18.8	
MSQD-200/209-25-3D	20.0~20.9	25	32	73	56	19.8	
MSQD-210/219-25-3D	21.0~21.9	25	32	77	56	20.8	21-26
MSQD-220/229-25-3D	22.0~22.9	25	32	80	56	21.8	
MSQD-230/239-32-3D	23.0~23.9	32	42	84	60	22.8	
MSQD-240/249-32-3D	24.0~24.9	32	42	88	60	23.8	
MSQD-250/259-32-3D	25.0~25.9	32	42	91	60	24.8	

Drills (coolant through center)





5D

code number	Applicable cutting head Dia. (mm)	Dimensions (mm)					Wrench
		d	D3	L1	Ls	D	
MSQD–080/089–12–5D	8.0~8.9	12	16	50	45	7.8	8–11.9
MSQD–090/099–12–5D	9.0~9.9	12	16	55	45	8.8	
MSQD–100/109–16–5D	10.0~10.9	16	20	60	48	9.8	
MSQD–110/119–16–5D	11.0~11.9	16	20	66	48	10.8	
MSQD–120/129–16–5D	12.0~12.9	16	20	71	48	11.8	12–16.9
MSQD–130/139–16–5D	13.0~13.9	16	20	77	48	12.8	
MSQD–140/149–16–5D	14.0~14.9	16	20	82	48	13.8	
MSQD–150/159–20–5D	15.0~15.9	20	25	88	50	14.8	
MSQD–160/169–20–5D	16.0~16.9	20	25	93	50	15.8	
MSQD–170/179–20–5D	17.0~17.9	20	25	99	50	16.8	17–20.9
MSQD–180/189–25–5D	18.0~18.9	25	32	104	56	17.8	
MSQD–190/199–25–5D	19.0~19.9	25	32	110	56	18.8	
MSQD–200/209–25–5D	20.0~20.9	25	32	115	56	19.8	
MSQD–210/219–25–5D	21.0~21.9	25	32	121	56	20.8	21–26
MSQD–220/229–25–5D	22.0~22.9	25	32	126	56	21.8	
MSQD–230/239–32–5D	23.0~23.9	32	42	132	60	22.8	
MSQD–240/249–32–5D	24.0~24.9	32	42	137	60	23.8	
MSQD–250/259–32–5D	25.0~25.9	32	42	143	60	24.8	

8D

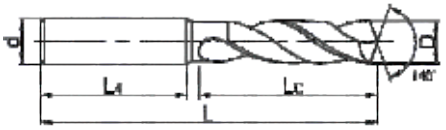
code number	Applicable cutting head Dia. (mm)	Dimensions (mm)					Wrench
		d	D3	L1	Ls	D	
MSQD–080/089–12–8D	8.0~8.9	12	16	76	45	7.8	8–11.9
MSQD–090/099–12–8D	9.0~9.9	12	16	85	45	8.8	
MSQD–100/109–16–8D	10.0~10.9	16	20	93	48	9.8	
MSQD–110/119–16–8D	11.0~11.9	16	20	102	48	10.8	
MSQD–120/129–16–8D	12.0~12.9	16	20	110	48	11.8	12–16.9
MSQD–130/139–16–8D	13.0~13.9	16	20	119	48	12.8	
MSQD–140/149–16–8D	14.0~14.9	16	20	127	48	13.8	
MSQD–150/159–20–8D	15.0~15.9	20	25	136	50	14.8	
MSQD–160/169–20–8D	16.0~16.9	20	25	144	50	15.8	
MSQD–170/179–20–8D	17.0~17.9	20	25	153	50	16.8	17–20.9
MSQD–180/189–25–8D	18.0~18.9	25	32	161	56	17.8	
MSQD–190/199–25–8D	19.0~19.9	25	32	170	56	18.8	
MSQD–200/209–25–8D	20.0~20.9	25	32	178	56	19.8	
MSQD–210/219–25–8D	21.0~21.9	25	32	187	56	20.8	21–26
MSQD–220/229–25–8D	22.0~22.9	25	32	195	56	21.8	
MSQD–230/239–32–8D	23.0~23.9	32	42	204	60	22.8	
MSQD–240/249–32–8D	24.0~24.9	32	42	212	60	23.8	
MSQD–250/259–32–8D	25.0~25.9	32	42	221	60	24.8	

PD20 Straight shank twist drill

Drill Diameter	3–20mm
Coolant Type	Outside
Maximum Depth	3D
Coating	TIAIN

P		M	K
Low-carbon steels	Steel	Stainless Steel	Cast Iron







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
PD20–A3N–0300	●	3.00		6	62	20	36
PD20–A3N–0325	●	3.25		6	62	20	36
PD20–A3N–0330	●	3.30	M4	6	62	20	36
PD20–A3N–0340	●	3.40		6	62	20	36
PD20–A3N–0350	●	3.50		6	62	20	36
PD20–A3N–0370	●	3.70		6	62	20	36
PD20–A3N–0400	●	4.00		6	66	24	36
PD20–A3N–0420	●	4.20	M5	6	66	24	36
PD20–A3N–0430	●	4.30		6	66	24	36
PD20–A3N–0450	●	4.50		6	66	24	36
PD20–A3N–0465	●	4.65		6	66	24	36
PD20–A3N–0480	●	4.80		6	66	28	36
PD20–A3N–0500	●	5.00	M6	6	66	28	36
PD20–A3N–0510	●	5.10		6	66	28	36
PD20–A3N–0520	●	5.20		6	68	28	36
PD20–A3N–0550	●	5.50		6	68	28	36
PD20–A3N–0555	●	5.55		6	68	28	38
PD20–A3N–0580	●	5.80		6	68	28	38
PD20–A3N–0600	●	6.00		6	68	28	38
PD20–A3N–0610	●	6.10		8	79	34	38
PD20–A3N–0620	●	6.20		8	79	34	38
PD20–A3N–0630	●	6.30		8	79	34	38
PD20–A3N–0650	●	6.50		8	79	34	38
PD20–A3N–0660	●	6.60		8	79	34	38
PD20–A3N–0680	●	6.80	M8	8	79	34	38
PD20–A3N–0690	●	6.90		8	79	34	38
PD20–A3N–0700	●	7.00	M8x1	8	79	34	38
PD20–A3N–0710	●	7.10		8	79	41	38
PD20–A3N–0740	●	7.40		8	79	41	38
PD20–A3N–0750	●	7.50		8	79	41	38
PD20–A3N–0780	●	7.80		8	79	41	38
PD20–A3N–0800	●	8.00		8	79	41	38
PD20–A3N–0810	●	8.10		10	89	47	40
PD20–A3N–0840	●	8.40		10	89	47	40
PD20–A3N–0850	●	8.50	M10	10	89	47	40
PD20–A3N–0860	●	8.60		10	89	47	40
PD20–A3N–0870	●	8.70		10	89	47	40
PD20–A3N–0880	●	8.80		10	89	47	40
PD20–A3N–0900	●	9.00	M10x1	10	89	47	40
PD20–A3N–0930	●	9.30		10	89	47	40
PD20–A3N–0950	●	9.50		10	89	47	40
PD20–A3N–0960	●	9.60		10	89	47	40
PD20–A3N–0980	●	9.80		10	89	47	40

Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
PD20–A3N–1000	●	10.00		10	89	47	40
PD20–A3N–1025	●	10.25	M12	12	102	55	45
PD20–A3N–1040	●	10.40		12	102	55	45
PD20–A3N–1050	●	10.50	M12x1.5	12	102	55	45
PD20–A3N–1060	●	10.60		12	102	55	45
PD20–A3N–1080	●	10.80		12	102	55	45
PD20–A3N–1100	●	11.00		12	102	55	45
PD20–A3N–1120	●	11.20		12	102	55	45
PD20–A3N–1150	●	11.50		12	102	55	45
PD20–A3N–1180	●	11.80		12	102	55	45
PD20–A3N–1200	●	12.00	M14	12	102	55	45
PD20–A3N–1225	●	12.25		14	107	60	45
PD20–A3N–1250	●	12.50	M14x1.5	14	107	60	45
PD20–A3N–1270	●	12.70		14	107	60	45
PD20–A3N–1275	●	12.75		14	107	60	45
PD20–A3N–1280	●	12.80		14	107	60	45
PD20–A3N–1300	●	13.00		14	107	60	45
PD20–A3N–1310	●	13.10		14	107	60	45
PD20–A3N–1350	●	13.50		14	107	60	45
PD20–A3N–1380	●	13.80		14	107	60	45
PD20–A3N–1400	●	14.00	M16	14	107	60	45
PD20–A3N–1425	●	14.25		16	115	65	48
PD20–A3N–1450	●	14.50	M16x1.5	16	115	65	48
PD20–A3N–1475	●	14.75		16	115	65	48
PD20–A3N–1480	●	14.80		16	115	65	48
PD20–A3N–1500	●	15.00		16	115	65	48
PD20–A3N–1510	●	15.10		16	115	65	48
PD20–A3N–1550	●	15.50		16	115	65	48
PD20–A3N–1580	●	15.80		16	115	65	48
PD20–A3N–1600	●	16.00		16	115	65	48
PD20–A3N–1650	●	16.50		18	123	73	48
PD20–A3N–1675	●	16.75		18	123	73	48
PD20–A3N–1680	●	16.80		18	123	73	48
PD20–A3N–1700	●	17.00		18	123	73	48
PD20–A3N–1750	●	17.50		18	123	73	48
PD20–A3N–1780	●	17.80		18	123	73	48
PD20–A3N–1800	●	18.00		18	123	73	48
PD20–A3N–1850	●	18.50		20	131	79	50
PD20–A3N–1880	●	18.80		20	131	79	50
PD20–A3N–1900	●	19.00		20	131	79	50
PD20–A3N–1950	●	19.50		20	131	79	50
PD20–A3N–1980	●	19.80		20	131	79	50
PD20–A3N–2000	●	20.00		20	131	79	50

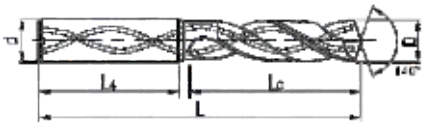
●Stock ○Availabie upon Order

PD20 Straight shank twist drill

Drill Diameter	5–20mm
Coolant Type	Inside
Maximum Depth	3D
Coating	TIAIN

P		M	K
Low-carbon steels	Steel	Stainless Steel	Cast Iron







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
PD20–A3C–0500	●	5.00	M6	6	66	28	36
PD20–A3C–0510	●	5.10		6	66	28	36
PD20–A3C–0520	●	5.20		6	66	28	36
PD20–A3C–0550	●	5.50		6	66	28	36
PD20–A3C–0555	●	5.55		6	66	28	36
PD20–A3C–0580	●	5.80		6	66	28	36
PD20–A3C–0600	●	6.00		6	66	28	36
PD20–A3C–0610	●	6.10		8	79	34	36
PD20–A3C–0620	●	6.20		8	79	34	36
PD20–A3C–0630	●	6.30		8	79	34	36
PD20–A3C–0650	●	6.50		8	79	34	36
PD20–A3C–0660	●	6.60		8	79	34	36
PD20–A3C–0680	●	6.80	M8	8	79	34	36
PD20–A3C–0690	●	6.90		8	79	34	36
PD20–A3C–0700	●	7.00	M8x1	8	79	34	36
PD20–A3C–0740	●	7.40		8	79	41	38
PD20–A3C–0750	●	7.50		8	79	41	38
PD20–A3C–0780	●	7.80		8	79	41	38
PD20–A3C–0800	●	8.00		8	79	41	38
PD20–A3C–0810	●	8.10		10	89	47	40
PD20–A3C–0840	●	8.40		10	89	47	40
PD20–A3C–0850	●	8.50	M10	10	89	47	40
PD20–A3C–0860	●	8.60		10	89	47	40
PD20–A3C–0870	●	8.70		10	89	47	40
PD20–A3C–0880	●	8.80		10	89	47	40
PD20–A3C–0900	●	9.00	M10x1	10	89	47	40
PD20–A3C–0930	●	9.30		10	89	47	40
PD20–A3C–0950	●	9.50		10	89	47	40
PD20–A3C–0960	●	9.60		10	89	47	40
PD20–A3C–0980	●	9.80		10	89	47	40

Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
PD20–A3C–1000	●	10.00	M12	10	89	47	40
PD20–A3C–1025	●	10.25		12	102	55	45
PD20–A3C–1040	●	10.40	M12x1.5	12	102	55	45
PD20–A3C–1050	●	10.50		12	102	55	45
PD20–A3C–1060	●	10.60		12	102	55	45
PD20–A3C–1080	●	10.80		12	102	55	45
PD20–A3C–1100	●	11.00		12	102	55	45
PD20–A3C–1120	●	11.20		12	102	55	45
PD20–A3C–1150	●	11.50		12	102	55	45
PD20–A3C–1180	●	11.80	M14	12	102	55	45
PD20–A3C–1200	●	12.00		12	102	55	45
PD20–A3C–1225	●	12.25	M14x1.5	14	107	60	45
PD20–A3C–1250	●	12.50		14	107	60	45
PD20–A3C–1270	●	12.70		14	107	60	45
PD20–A3C–1275	●	12.75		14	107	60	45
PD20–A3C–1280	●	12.80		14	107	60	45
PD20–A3C–1300	●	13.00		14	107	60	45
PD20–A3C–1310	●	13.10		14	107	60	45
PD20–A3C–1350	●	13.50		14	107	60	45
PD20–A3C–1380	●	13.80	M16	14	107	60	45
PD20–A3C–1400	●	14.00		14	107	60	45
PD20–A3C–1425	●	14.25	M18x1.5	16	115	65	48
PD20–A3C–1450	●	14.50		16	115	65	48
PD20–A3C–1475	●	14.75		16	115	65	48
PD20–A3C–1480	●	14.80		16	115	65	48
PD20–A3C–1500	●	15.00		16	115	65	48
PD20–A3C–1510	●	15.10		16	115	65	48
PD20–A3C–1550	●	15.50		16	115	65	48
PD20–A3C–1580	●	15.80		16	115	65	48
PD20–A3C–1600	●	16.00		16	115	65	48

●Stock ○Availabie upon Order

PD20 Straight shank twist drill

Drill Diameter	3–20mm
Coolant Type	Outside
Maximum Depth	5D
Coating	TIAIN

P		M	K
Low-carbon steels	Steel	Stainless Steel	Cast Iron







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
PD20–A5N–0300	●	3.00		6	68	28	36
PD20–A5N–0325	●	3.25		6	68	28	36
PD20–A5N–0330	●	3.30	M4	6	68	28	36
PD20–A5N–0340	●	3.40		6	68	28	36
PD20–A5N–0350	●	3.50		6	68	28	36
PD20–A5N–0370	●	3.70		6	68	28	36
PD20–A5N–0400	●	4.00		6	74	36	36
PD20–A5N–0420	●	4.20	M5	6	74	36	36
PD20–A5N–0430	●	4.30		6	74	36	36
PD20–A5N–0450	●	4.50		6	74	36	36
PD20–A5N–0465	●	4.65		6	74	36	36
PD20–A5N–0480	●	4.80		6	82	44	36
PD20–A5N–0500	●	5.00	M6	6	82	44	36
PD20–A5N–0510	●	5.10		6	82	44	36
PD20–A5N–0520	●	5.20		6	82	44	36
PD20–A5N–0550	●	5.50		6	82	44	36
PD20–A5N–0555	●	5.55		6	82	44	36
PD20–A5N–0580	●	5.80		6	82	44	36
PD20–A5N–0600	●	6.00		6	82	44	36
PD20–A5N–0610	●	6.10		8	91	53	36
PD20–A5N–0620	●	6.20		8	91	53	36
PD20–A5N–0630	●	6.30		8	91	53	36
PD20–A5N–0650	●	6.50		8	91	53	36
PD20–A5N–0660	●	6.60		8	91	53	36
PD20–A5N–0680	●	6.80	M6	8	91	53	36
PD20–A5N–0690	●	6.90		8	91	53	36
PD20–A5N–0700	●	7.00	M8x1	8	91	53	36
PD20–A5N–0710	●	7.10		8	91	53	36
PD20–A5N–0740	●	7.40		8	91	53	36
PD20–A5N–0750	●	7.50		8	91	53	36
PD20–A5N–0780	●	7.80		8	91	53	36
PD20–A5N–0800	●	8.00		8	91	53	36
PD20–A5N–0810	●	8.10		10	103	61	40
PD20–A5N–0840	●	8.40		10	103	61	40
PD20–A5N–0850	●	8.50	M10	10	103	61	40
PD20–A5N–0860	●	8.60		10	103	61	40
PD20–A5N–0870	●	8.70		10	103	61	40
PD20–A5N–0880	●	8.80		10	103	61	40
PD20–A5N–0900	●	9.00	M10x1	10	103	61	40
PD20–A5N–0930	●	9.30		10	103	61	40
PD20–A5N–0950	●	9.50		10	103	61	40
PD20–A5N–0960	●	9.60		10	103	61	40

Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
PD20–A5N–0980	●	9.80		10	103	61	40
PD20–A5N–1000	●	10.00		10	103	61	40
PD20–A5N–1025	●	10.25	M12	12	118	71	45
PD20–A5N–1040	●	10.40		12	118	71	45
PD20–A5N–1050	●	10.50	M12x1.5	12	118	71	45
PD20–A5N–1060	●	10.60		12	118	71	45
PD20–A5N–1080	●	10.80		12	118	71	45
PD20–A5N–1100	●	11.00		12	118	71	45
PD20–A5N–1120	●	11.20		12	118	71	45
PD20–A5N–1150	●	11.50		12	118	71	45
PD20–A5N–1180	●	11.80		12	118	71	45
PD20–A5N–1200	●	12.00	M14	12	118	71	45
PD20–A5N–1225	●	12.25		14	124	77	45
PD20–A5N–1250	●	12.50	M14x1.5	14	124	77	45
PD20–A5N–1270	●	12.70		14	124	77	45
PD20–A5N–1275	●	12.75		14	124	77	45
PD20–A5N–1280	●	12.80		14	124	77	45
PD20–A5N–1300	●	13.00		14	124	77	45
PD20–A5N–1350	●	13.50		14	124	77	45
PD20–A5N–1380	●	13.80		14	124	77	45
PD20–A5N–1400	●	14.00	M16	14	124	77	45
PD20–A5N–1425	●	14.25		14	133	83	48
PD20–A5N–1450	●	14.50	M16x1.5	16	133	83	48
PD20–A5N–1475	●	14.75		16	133	83	48
PD20–A5N–1480	●	14.80		16	133	83	48
PD20–A5N–1500	●	15.00		16	133	83	48
PD20–A5N–1510	●	15.10		16	133	83	48
PD20–A5N–1550	●	15.50		16	133	83	48
PD20–A5N–1580	●	15.80		16	133	83	48
PD20–A5N–1600	●	16.00		16	133	83	48
PD20–A5N–1650	●	16.50		16	143	93	48
PD20–A5N–1675	●	16.75		18	143	93	48
PD20–A5N–1680	●	16.80		18	143	93	48
PD20–A5N–1700	●	17.00		18	143	93	48
PD20–A5N–1750	●	17.50		18	143	93	48
PD20–A5N–1780	●	17.80		18	143	93	48
PD20–A5N–1800	●	18.00		18	143	93	48
PD20–A5N–1850	●	18.50		18	153	101	50
PD20–A5N–1900	●	19.00		20	153	101	50
PD20–A5N–1950	●	19.50		20	153	101	50
PD20–A5N–1980	●	19.80		20	153	101	50
PD20–A5N–2000	●	20.00		20	153	101	50

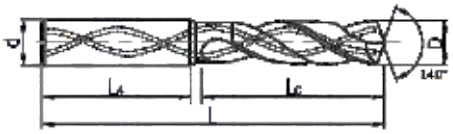
●Stock ○Availabie upon Order

PD20 Straight shank twist drill

Drill Diameter	5–20mm
Coolant Type	Inside
Maximum Depth	5D
Coating	TIAIN

P		M	K
Low-carbon steels	Steel	Stainless Steel	Cast Iron







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
PD20–A5C–0500	●	5.00	M6	6	82	44	36
PD20–A5C–0510	●	5.10		6	82	44	36
PD20–A5C–0520	●	5.20		6	82	44	36
PD20–A5C–0550	●	5.50		6	82	44	36
PD20–A5C–0555	●	5.55		6	82	44	36
PD20–A5C–0580	●	5.80		6	82	44	36
PD20–A5C–0600	●	3.00		6	82	44	36
PD20–A5C–0610	●	6.10		8	91	53	38
PD20–A5C–0620	●	6.20		8	91	53	38
PD20–A5C–0630	●	6.30		8	91	53	38
PD20–A5C–0650	●	6.50		8	91	53	38
PD20–A5C–0660	●	6.60		8	91	53	38
PD20–A5C–0680	●	6.80	M8	8	91	53	38
PD20–A5C–0690	●	6.90		8	91	53	38
PD20–A5C–0700	●	7.00	M8x1	8	91	53	38
PD20–A5C–0710	●	7.10		8	91	53	38
PD20–A5C–0740	●	7.40		8	91	53	38
PD20–A5C–0750	●	7.50		8	91	53	38
PD20–A5C–0780	●	7.80		8	91	53	38
PD20–A5C–0800	●	8.00		8	91	53	38
PD20–A5C–0810	●	8.10		10	103	61	40
PD20–A5C–0840	●	8.40		10	103	61	40
PD20–A5C–0850	●	8.50	M10	10	103	61	40
PD20–A5C–0860	●	8.60		10	103	61	40
PD20–A5C–0870	●	8.70		10	103	61	40
PD20–A5C–0880	●	8.80		10	103	61	40
PD20–A5C–0900	●	9.00	M10x1	10	103	61	40
PD20–A5C–0930	●	9.30		10	103	61	40
PD20–A5C–0950	●	9.50		10	103	61	40
PD20–A5C–0960	●	9.60		10	103	61	40
PD20–A5C–0980	●	9.80		10	103	61	40

Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
PD20–A5C–1000	●	10.00		10	103	61	40
PD20–A5C–1025	●	10.25	M12	12	118	71	45
PD20–A5C–1045	●	10.45		12	118	71	45
PD20–A5C–1050	●	10.50	M12x1.5	12	118	71	45
PD20–A5C–1060	●	10.60		12	118	71	45
PD20–A5C–1080	●	10.80		12	118	71	45
PD20–A5C–1100	●	11.00		12	118	71	45
PD20–A5C–1120	●	11.20		12	118	71	45
PD20–A5C–1150	●	11.50		12	118	71	45
PD20–A5C–1180	●	11.80		12	118	71	45
PD20–A5C–1200	●	12.00	M14	12	118	71	45
PD20–A5C–1220	●	12.20		14	124	77	45
PD20–A5C–1225	●	12.25		14	124	77	45
PD20–A5C–1250	●	12.50	M14x1.5	14	124	77	45
PD20–A5C–1270	●	12.70		14	124	77	45
PD20–A5C–1275	●	12.75		14	124	77	45
PD20–A5C–1280	●	12.80		14	124	77	45
PD20–A5C–1300	●	13.00		14	124	77	45
PD20–A5C–1310	●	13.10		14	124	77	45
PD20–A5C–1350	●	13.50		14	124	77	45
PD20–A5C–1380	●	13.80		14	124	77	45
PD20–A5C–1400	●	14.00	M16	14	124	77	45
PD20–A5C–1425	●	14.25		16	133	83	48
PD20–A5C–1450	●	14.50	M16x1.5	16	133	83	48
PD20–A5C–1475	●	14.75		16	133	83	48
PD20–A5C–1480	●	14.80		16	133	83	48
PD20–A5C–1500	●	15.00		16	133	83	48
PD20–A5C–1510	●	15.10		16	133	83	48
PD20–A5C–1550	●	15.50		16	133	83	48
PD20–A5C–1580	●	15.80		16	133	83	48
PD20–A5C–1600	●	16.00		16	133	83	48

●Stock ○Availabie upon Order

KD20 Straight shank twist drill

Drill Diameter	3–20mm
Coolant Type	Outside
Maximum Depth	3D
Coating	TIAIN

K

Cast Iron







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
KD20–A3N–0300	●	3.00		6	62	20	36
KD20–A3N–0330	●	3.30		6	62	20	36
KD20–A3N–0400	●	4.00	M4	6	66	20	36
KD20–A3N–0420	●	4.20	M5	6	66	24	36
KD20–A3N–0500	●	5.00	M6	6	66	28	36
KD20–A3N–0600	●	6.00		6	68	28	36
KD20–A3N–0680	●	6.80	M8	8	79	34	38
KD20–A3N–0700	●	7.00	M8x1	8	79	34	38
KD20–A3N–0800	●	8.00		8	79	34	38
KD20–A3N–0850	●	8.50	M10	10	89	47	40
KD20–A3N–0900	●	9.00	M10x1	10	89	47	40
KD20–A3N–1000	●	10.00		10	89	47	40
KD20–A3N–1025	●	10.25	M12	12	102	55	45

Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
KD20–A3N–1050	●	10.50		12	102	55	45
KD20–A3N–1100	●	11.00	M12	12	102	55	45
KD20–A3N–1200	●	12.00		12	102	55	45
KD20–A3N–1250	●	12.50	M12x1.5	14	107	60	45
KD20–A3N–1300	●	13.00	M14	14	107	60	45
KD20–A3N–1400	●	14.00	M14x1.5	14	107	60	45
KD20–A3N–1450	●	14.50		16	115	65	48
KD20–A3N–1500	●	15.00	M16	16	115	65	48
KD20–A3N–1600	●	16.00	M16x1.5	16	115	65	48
KD20–A3N–1700	●	17.00		18	123	73	48
KD20–A3N–1800	●	18.00		18	123	73	48
KD20–A3N–1900	●	19.00		20	131	79	50
KD20–A3N–2000	●	20.00		20	131	79	50

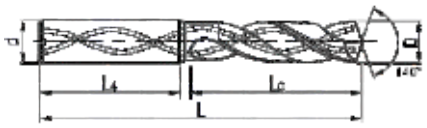
KD20 Straight shank twist drill

Drill Diameter	5–16mm
Coolant Type	Inside
Maximum Depth	3D
Coating	HELICA

K

Cast Iron







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
KD20–A3C–0500	●	5.00	M6	6	66	28	36
KD20–A3C–0600	●	6.00		6	66	28	36
KD20–A3C–0680	●	6.80	M8	8	79	34	38
KD20–A3C–0700	●	7.00	M8x1	8	79	34	38
KD20–A3C–0800	●	8.00		8	79	41	38
KD20–A3C–0850	●	8.50	M10	10	89	47	40
KD20–A3C–0900	●	9.00	M10x1	10	89	47	40
KD20–A3C–1000	●	10.00		10	89	47	40
KD20–A3C–1025	●	10.25	M12	12	102	55	45

Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
KD20–A3C–1050	●	10.50	M12x1.5	12	102	55	45
KD20–A3C–1100	●	11.00		12	102	55	45
KD20–A3C–1200	●	12.00	M14	12	102	55	45
KD20–A3C–1250	●	12.50	M14x1.5	14	107	60	45
KD20–A3C–1300	●	13.00		14	107	60	45
KD20–A3C–1400	●	14.00	M16	14	107	60	45
KD20–A3C–1450	●	14.50	M18x1.5	16	115	65	48
KD20–A3C–1500	●	15.00		16	115	65	48
KD20–A3C–1600	●	16.00		16	115	65	48

●Stock ○Availabie upon Order

KD20 Straight shank twist drill

Drill Diameter	5–16mm
Coolant Type	Outside
Maximum Depth	5D
Coating	HELICA

K
Cast Iron







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
KD20–A5N–0500	●	5.00	M6	6	82	44	36
KD20–A5N–0600	●	6.00		6	82	44	36
KD20–A5N–0680	●	6.80	M8	8	91	53	38
KD20–A5N–0700	●	7.00	M8x1	8	91	53	38
KD20–A5N–0800	●	8.00		8	91	53	38
KD20–A5N–0850	●	8.50	M10	10	103	61	40
KD20–A5N–0900	●	9.00	M10x1	10	103	61	40
KD20–A5N–1000	●	10.00		10	103	61	40
KD20–A5N–1025	●	10.25	M12	12	118	71	45

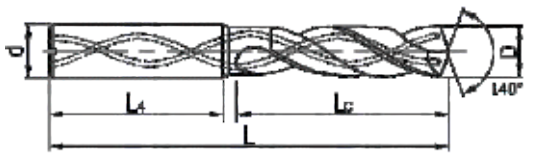
Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
KD20–A5N–1050	●	10.50	M12x1.5	12	118	71	45
KD20–A5N–1100	●	11.00		12	118	71	45
KD20–A5N–1200	●	12.00	M14	12	118	71	45
KD20–A5N–1250	●	12.50	M14x1.5	14	124	77	45
KD20–A5N–1300	●	13.00		14	124	77	45
KD20–A5N–1400	●	14.00	M16	14	124	77	45
KD20–A5N–1450	●	14.50	M18x1.5	16	133	83	48
KD20–A5N–1500	●	15.00		16	133	83	48
KD20–A5N–1600	●	16.00		16	133	83	48

KD20 Straight shank twist drill

Drill Diameter	5–16mm
Coolant Type	Inside
Maximum Depth	5D
Coating	HELICA

K
Cast Iron







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
KD20–A5C–0500	●	5.00	M6	6	82	44	36
KD20–A5C–0600	●	6.00		6	82	44	36
KD20–A5C–0680	●	6.80	M8	8	91	53	38
KD20–A5C–0700	●	7.00	M8x1	8	91	53	38
KD20–A5C–0800	●	8.00		8	91	53	38
KD20–A5C–0850	●	8.50	M10	10	103	61	40
KD20–A5C–0900	●	9.00	M10x1	10	103	61	40
KD20–A5C–1000	●	10.00		10	103	61	40
KD20–A5C–1025	●	10.25	M12	12	118	71	45

Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
KD20–A5C–1050	●	10.50	M12x1.5	12	118	71	45
KD20–A5C–1100	●	11.00		12	118	71	45
KD20–A5C–1200	●	12.00	M14	12	118	71	45
KD20–A5C–1250	●	12.50	M14x1.5	14	124	77	45
KD20–A5C–1300	●	13.00		14	124	77	45
KD20–A5C–1400	●	14.00	M16	14	124	77	45
KD20–A5C–1450	●	14.50	M18x1.5	16	133	83	48
KD20–A5C–1500	●	15.00		16	133	83	48
KD20–A5C–1600	●	16.00		16	133	83	48

●Stock ○Availabie upon Order

MD20 Straight shank twist drill for stainless steels

Drill Diameter	3–20mm
Coolant Type	Outside
Maximum Depth	3D
Coating	AlcrN/TisiN

M	S	
Stainless Steel	Titanium Alloys	Heal Resistant super Alloy







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
MD20–A3N–0300	●	3.00		6	62	20	36
MD20–A3N–0325	●	3.25		6	62	20	36
MD20–A3N–0330	●	3.30	M4	6	62	20	36
MD20–A3N–0340	●	3.40		6	62	20	36
MD20–A3N–0350	●	3.50		6	62	20	36
MD20–A3N–0370	●	3.70		6	62	20	36
MD20–A3N–0400	●	4.00		6	66	24	36
MD20–A3N–0420	●	4.20	M5	6	66	24	36
MD20–A3N–0430	●	4.30		6	66	24	36
MD20–A3N–0450	●	4.50		6	66	24	36
MD20–A3N–0465	●	4.65		6	66	24	36
MD20–A3N–0480	●	4.80		6	66	28	36
MD20–A3N–0500	●	5.00	M6	6	66	28	36
MD20–A3N–0510	●	5.10		6	66	28	36
MD20–A3N–0520	●	5.20		6	68	28	36
MD20–A3N–0550	●	5.50		6	68	28	36
MD20–A3N–0555	●	5.55		6	68	28	38
MD20–A3N–0580	●	5.80		6	68	28	38
MD20–A3N–0600	●	6.00		6	68	28	38
MD20–A3N–0610	●	6.10		8	79	34	38
MD20–A3N–0620	●	6.20		8	79	34	38
MD20–A3N–0630	●	6.30		8	79	34	38
MD20–A3N–0650	●	6.50		8	79	34	38
MD20–A3N–0660	●	6.60		8	79	34	38
MD20–A3N–0680	●	6.80	M8	8	79	34	38
MD20–A3N–0690	●	6.90		8	79	34	38
MD20–A3N–0700	●	7.00	M8x1	8	79	34	38
MD20–A3N–0710	●	7.10		8	79	41	38
MD20–A3N–0740	●	7.40		8	79	41	38
MD20–A3N–0750	●	7.50		8	79	41	38
MD20–A3N–0780	●	7.80		8	79	41	38
MD20–A3N–0800	●	8.00		8	79	41	38
MD20–A3N–0810	●	8.10		10	89	47	40
MD20–A3N–0840	●	8.40		10	89	47	40
MD20–A3N–0850	●	8.50	M10	10	89	47	40
MD20–A3N–0860	●	8.60		10	89	47	40
MD20–A3N–0870	●	8.70		10	89	47	40
MD20–A3N–0880	●	8.80		10	89	47	40
MD20–A3N–0900	●	9.00	M10x1	10	89	47	40
MD20–A3N–0930	●	9.30		10	89	47	40
MD20–A3N–0950	●	9.50		10	89	47	40
MD20–A3N–0960	●	9.60		10	89	47	40
MD20–A3N–0980	●	9.80		10	89	47	40

Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
MD20–A3N–1000	●	10.00	M12x1.5	10	89	47	40
MD20–A3N–1025	●	10.25		12	102	55	45
MD20–A3N–1040	●	10.40		12	102	55	45
MD20–A3N–1050	●	10.50		12	102	55	45
MD20–A3N–1060	●	10.60		12	102	55	45
MD20–A3N–1080	●	10.80		12	102	55	45
MD20–A3N–1100	●	11.00		12	102	55	45
MD20–A3N–1120	●	11.20	M14	12	102	55	45
MD20–A3N–1150	●	11.50		12	102	55	45
MD20–A3N–1180	●	11.80	M14x1.5	12	102	55	45
MD20–A3N–1200	●	12.00		12	102	55	45
MD20–A3N–1225	●	12.25		14	107	60	45
MD20–A3N–1250	●	12.50		14	107	60	45
MD20–A3N–1270	●	12.70		14	107	60	45
MD20–A3N–1275	●	12.75		14	107	60	45
MD20–A3N–1280	●	12.80		14	107	60	45
MD20–A3N–1300	●	13.00		14	107	60	45
MD20–A3N–1310	●	13.10	M16	14	107	60	45
MD20–A3N–1350	●	13.50		14	107	60	45
MD20–A3N–1380	●	13.80	M16x1.5	14	107	60	45
MD20–A3N–1400	●	14.00		14	107	60	45
MD20–A3N–1425	●	14.25		16	115	65	48
MD20–A3N–1450	●	14.50		16	115	65	48
MD20–A3N–1475	●	14.75		16	115	65	48
MD20–A3N–1480	●	14.80		16	115	65	48
MD20–A3N–1500	●	15.00		16	115	65	48
MD20–A3N–1510	●	15.10		16	115	65	48
MD20–A3N–1550	●	15.50		16	115	65	48
MD20–A3N–1580	●	15.80		16	115	65	48
MD20–A3N–1600	●	16.00		16	115	65	48
MD20–A3N–1650	●	16.50		18	123	73	48
MD20–A3N–1675	●	16.75		18	123	73	48
MD20–A3N–1680	●	16.80		18	123	73	48
MD20–A3N–1700	●	17.00		18	123	73	48
MD20–A3N–1750	●	17.50		18	123	73	48
MD20–A3N–1780	●	17.80		18	123	73	48
MD20–A3N–1800	●	18.00		18	123	73	48
MD20–A3N–1850	●	18.50		20	131	79	50
MD20–A3N–1880	●	18.80		20	131	79	50
MD20–A3N–1900	●	19.00		20	131	79	50
MD20–A3N–1950	●	19.50		20	131	79	50
MD20–A3N–1980	●	19.80		20	131	79	50
MD20–A3N–2000	●	20.00		20	131	79	50

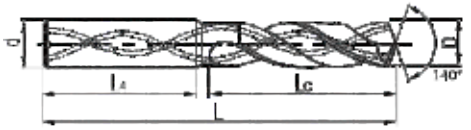
●Stock ○Availabie upon Order

MD20 Straight shank twist drill for stainless steels

Drill Diameter	5–20mm
Coolant Type	Inside
Maximum Depth	3D
Coating	AlcrN/TisiN

M	S	
Stainless Steel	Titanium Alloys	Heal Resistant super Alloy







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
MD20–A3C–0500	●	5.00	M6	6	66	28	36
MD20–A3C–0510	●	5.10		6	66	28	36
MD20–A3C–0520	●	5.20		6	66	28	36
MD20–A3C–0550	●	5.50		6	66	28	36
MD20–A3C–0555	●	5.55		6	66	28	36
MD20–A3C–0580	●	5.80		6	66	28	36
MD20–A3C–0600	●	6.00		6	66	28	36
MD20–A3C–0610	●	6.10		8	79	34	38
MD20–A3C–0620	●	6.20		8	79	34	38
MD20–A3C–0630	●	6.30		8	79	34	38
MD20–A3C–0650	●	6.50		8	79	34	38
MD20–A3C–0660	●	6.60		8	79	34	38
MD20–A3C–0680	●	6.80	M8	8	79	34	38
MD20–A3C–0690	●	6.90		8	79	34	38
MD20–A3C–0700	●	7.00	M8x1	8	79	34	38
MD20–A3C–0710	●	7.10		8	79	41	38
MD20–A3C–0740	●	7.40		8	79	41	38
MD20–A3C–0750	●	7.50		8	79	41	38
MD20–A3C–0780	●	7.80		8	79	41	38
MD20–A3C–0800	●	8.00		8	79	41	38
MD20–A3C–0810	●	8.10		10	89	47	40
MD20–A3C–0840	●	8.40		10	89	47	40
MD20–A3C–0850	●	8.50	M10	10	89	47	40
MD20–A3C–0860	●	8.60		10	89	47	40
MD20–A3C–0870	●	8.70		10	89	47	40
MD20–A3C–0880	●	8.80		10	89	47	40
MD20–A3C–0900	●	9.00	M10x1	10	89	47	40
MD20–A3C–0930	●	9.30		10	89	47	40
MD20–A3C–0950	●	9.50		10	89	47	40
MD20–A3C–0960	●	9.60		10	89	47	40
MD20–A3C–0980	●	9.80		10	89	47	40

Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
MD20–A3C–1000	●	10.00		10	89	47	40
MD20–A3C–1025	●	10.25	M12	12	102	55	45
MD20–A3C–1040	●	10.40		12	102	55	45
MD20–A3C–1050	●	10.50	M12x1.5	12	102	55	45
MD20–A3C–1060	●	10.60		12	102	55	45
MD20–A3C–1080	●	10.80		12	102	55	45
MD20–A3C–1100	●	11.00		12	102	55	45
MD20–A3C–1120	●	11.20		12	102	55	45
MD20–A3C–1150	●	11.50		12	102	55	45
MD20–A3C–1180	●	11.80		12	102	55	45
MD20–A3C–1200	●	12.00	M14	12	102	55	45
MD20–A3C–1225	●	12.25		14	107	60	45
MD20–A3C–1250	●	12.50		14	107	60	45
MD20–A3C–1270	●	12.70	M14x1.5	14	107	60	45
MD20–A3C–1275	●	12.75		14	107	60	45
MD20–A3C–1280	●	12.80		14	107	60	45
MD20–A3C–1300	●	13.00		14	107	60	45
MD20–A3C–1310	●	13.10		14	107	60	45
MD20–A3C–1350	●	13.50		14	107	60	45
MD20–A3C–1380	●	13.80		14	107	60	45
MD20–A3C–1400	●	14.00	M16	14	107	60	45
MD20–A3C–1425	●	14.25		16	115	65	48
MD20–A3C–1450	●	14.50	M16x1.5	16	115	65	48
MD20–A3C–1475	●	14.75		16	115	65	48
MD20–A3C–1480	●	14.80		16	115	65	48
MD20–A3C–1500	●	15.00		16	115	65	48
MD20–A3C–1510	●	15.10		16	115	65	48
MD20–A3C–1550	●	15.50		16	115	65	48
MD20–A3C–1580	●	15.80		16	115	65	48
MD20–A3C–1600	●	16.00		16	115	65	48

●Stock ○Availabie upon Order

MD20 Straight shank twist drill for stainless steels

Drill Diameter	5–20mm
Coolant Type	Inside
Maximum Depth	5D
Coating	AlcrN/TisiN

M	S	
Stainless Steel	Titanium Alloys	Heal Resistant super Alloy







Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
MD20–A5C–0500	●	5.00	M6	6	82	44	36
MD20–A5C–0510	●	5.10		6	82	44	36
MD20–A5C–0520	●	5.20		6	82	44	36
MD20–A5C–0550	●	5.50		6	82	44	36
MD20–A5C–0555	●	5.55		6	82	44	36
MD20–A5C–0580	●	5.80		6	82	44	36
MD20–A5C–0600	●	6.00		6	82	44	36
MD20–A5C–0610	●	6.10		8	91	53	38
MD20–A5C–0620	●	6.20		8	91	53	38
MD20–A5C–0630	●	6.30		8	91	53	38
MD20–A5C–0650	●	6.50		8	91	53	38
MD20–A5C–0660	●	6.60		8	91	53	38
MD20–A5C–0680	●	6.80	M8	8	91	53	38
MD20–A5C–0690	●	6.90		8	91	53	38
MD20–A5C–0700	●	7.00	M8x1	8	91	53	38
MD20–A5C–0710	●	7.10		8	91	53	38
MD20–A5C–0740	●	7.40		8	91	53	38
MD20–A5C–0750	●	7.50		8	91	53	38
MD20–A5C–0780	●	7.80		8	91	53	38
MD20–A5C–0800	●	8.00		8	91	53	38
MD20–A5C–0810	●	8.10		10	103	61	40
MD20–A5C–0840	●	8.40		10	103	61	40
MD20–A5C–0850	●	8.50	M10	10	103	61	40
MD20–A5C–0860	●	8.60		10	103	61	40
MD20–A5C–0870	●	8.70		10	103	61	40
MD20–A5C–0880	●	8.80		10	103	61	40
MD20–A5C–0900	●	9.00	M10x1	10	103	61	40
MD20–A5C–0930	●	9.30		10	103	61	40
MD20–A5C–0950	●	9.50		10	103	61	40
MD20–A5C–0960	●	9.60		10	103	61	40
MD20–A5C–0980	●	9.80		10	103	61	40

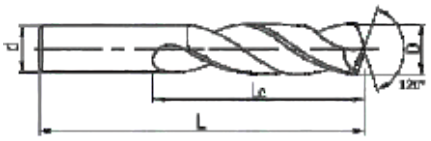
Ordering Code	Stock	D(h6)	Screw Thread Din	d(h6)	L	Lc	L4
MD20–A5C–1000	●	10.00		10	103	61	40
MD20–A5C–1025	●	10.25	M12	12	118	71	45
MD20–A5C–1040	●	10.40		12	118	71	45
MD20–A5C–1050	●	10.50	M12x1.5	12	118	71	45
MD20–A5C–1060	●	10.60		12	118	71	45
MD20–A5C–1080	●	10.80		12	118	71	45
MD20–A5C–1100	●	11.00		12	118	71	45
MD20–A5C–1120	●	11.20		12	118	71	45
MD20–A5C–1150	●	11.50		12	118	71	45
MD20–A5C–1180	●	11.80		12	118	71	45
MD20–A5C–1200	●	12.00	M14	12	118	71	45
MD20–A5C–1220	●	12.25		14	124	77	45
MD20–A5C–1225	●	12.50		14	124	77	45
MD20–A5C–1250	●	12.70	M14x1.5	14	124	77	45
MD20–A5C–1270	●	12.75		14	124	77	45
MD20–A5C–1275	●	12.80		14	124	77	45
MD20–A5C–1280	●	13.00		14	124	77	45
MD20–A5C–1300	●	13.10		14	124	77	45
MD20–A5C–1350	●	13.50		14	124	77	45
MD20–A5C–1380	●	13.80		14	124	77	45
MD20–A5C–1400	●	14.00	M16	14	124	77	45
MD20–A5C–1425	●	14.25		16	133	83	48
MD20–A5C–1450	●	14.50	M16x1.5	16	133	83	48
MD20–A5C–1475	●	14.75		16	133	83	48
MD20–A5C–1480	●	14.80		16	133	83	48
MD20–A5C–1500	●	15.00		16	133	83	48
MD20–A5C–1510	●	15.10		16	133	83	48
MD20–A5C–1550	●	15.50		16	133	83	48
MD20–A5C–1580	●	15.80		16	133	83	48
MD20–A5C–1600	●	16.00		16	133	83	48

●Stock ○Availabie upon Order

ND25UF Straight shank twist drill

Drill Diameter	2–16mm
Coolant Type	Outside
Maximum Depth	3D





N
Aluminium Alloy



Ordering Code	Stock	D(h6)	d(h6)	L	Lc
ND25UF-Y3N-0200	●	2.00	2.0	38	12
ND25UF-Y3N-0250	●	2.50	2.5	43	14
ND25UF-Y3N-0280	●	2.80	2.8	46	16
ND25UF-Y3N-0300	●	3.00	3.0	46	16
ND25UF-Y3N-0310	●	3.10	3.1	49	18
ND25UF-Y3N-0320	●	3.20	3.2	49	18
ND25UF-Y3N-0330	●	3.30	3.3	49	20
ND25UF-Y3N-0340	●	3.40	3.4	52	20
ND25UF-Y3N-0350	●	3.50	3.5	52	20
ND25UF-Y3N-0360	●	3.60	3.6	52	20
ND25UF-Y3N-0370	●	3.70	3.7	52	20
ND25UF-Y3N-0380	●	3.80	3.8	55	22
ND25UF-Y3N-0390	●	3.90	3.9	55	22
ND25UF-Y3N-0400	●	4.00	4.0	55	22
ND25UF-Y3N-0410	●	4.10	4.1	55	22
ND25UF-Y3N-0420	●	4.20	4.2	55	22
ND25UF-Y3N-0430	●	4.30	4.3	58	24
ND25UF-Y3N-0440	●	4.40	4.4	58	24
ND25UF-Y3N-0450	●	4.50	4.5	58	24
ND25UF-Y3N-0460	●	4.60	4.6	58	24
ND25UF-Y3N-0470	●	4.70	4.7	58	24
ND25UF-Y3N-0480	●	4.80	4.8	62	26
ND25UF-Y3N-0490	●	4.90	4.9	62	26
ND25UF-Y3N-0500	●	5.00	5.0	62	26
ND25UF-Y3N-0510	●	5.10	5.1	62	26
ND25UF-Y3N-0520	●	5.20	5.2	62	26
ND25UF-Y3N-0530	●	5.30	5.3	62	26
ND25UF-Y3N-0540	●	5.40	5.4	66	28
ND25UF-Y3N-0550	●	5.50	5.5	66	28
ND25UF-Y3N-0560	●	5.60	5.6	66	28
ND25UF-Y3N-0570	●	5.70	5.7	66	28
ND25UF-Y3N-0580	●	5.80	5.8	66	28
ND25UF-Y3N-0590	●	5.90	5.9	66	28
ND25UF-Y3N-0600	●	6.00	6.0	66	28
ND25UF-Y3N-0610	●	6.10	6.1	70	31
ND25UF-Y3N-0620	●	6.20	6.2	70	31
ND25UF-Y3N-0630	●	6.30	6.3	70	31
ND25UF-Y3N-0640	●	6.40	6.4	70	31
ND25UF-Y3N-0650	●	6.50	6.5	70	31
ND25UF-Y3N-0660	●	6.60	6.6	70	31
ND25UF-Y3N-0670	●	6.70	6.7	70	31
ND25UF-Y3N-0680	●	6.80	6.8	74	34
ND25UF-Y3N-0690	●	6.90	6.9	74	34
ND25UF-Y3N-0700	●	7.00	7.0	74	34
ND25UF-Y3N-0710	●	7.10	7.1	74	34
ND25UF-Y3N-0720	●	7.20	7.2	74	34
ND25UF-Y3N-0730	●	7.30	7.3	74	34
ND25UF-Y3N-0740	●	7.40	7.4	74	34

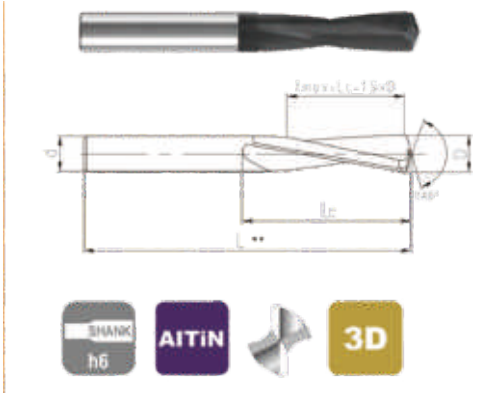
Ordering Code	Stock	D(h6)	d(h6)	L	Lc
ND25UF-Y3N-0750	●	7.50	7.5	74	34
ND25UF-Y3N-0760	●	7.60	7.6	79	37
ND25UF-Y3N-0770	●	7.70	7.7	79	37
ND25UF-Y3N-0780	●	7.80	7.8	79	37
ND25UF-Y3N-0790	●	7.90	7.9	79	37
ND25UF-Y3N-0800	●	8.00	8.0	79	37
ND25UF-Y3N-0810	●	8.10	8.1	79	37
ND25UF-Y3N-0820	●	8.20	8.2	79	37
ND25UF-Y3N-0830	●	8.30	8.3	79	37
ND25UF-Y3N-0840	●	8.40	8.4	79	37
ND25UF-Y3N-0850	●	8.50	8.5	79	37
ND25UF-Y3N-0860	●	8.60	8.6	84	40
ND25UF-Y3N-0870	●	8.70	8.7	84	40
ND25UF-Y3N-0880	●	8.80	8.8	84	40
ND25UF-Y3N-0890	●	8.90	8.9	84	40
ND25UF-Y3N-0900	●	9.00	9.0	84	40
ND25UF-Y3N-0910	●	9.10	9.1	84	40
ND25UF-Y3N-0920	●	9.20	9.2	84	40
ND25UF-Y3N-0930	●	9.30	9.3	84	40
ND25UF-Y3N-0940	●	9.40	9.4	84	40
ND25UF-Y3N-0950	●	9.50	9.5	84	40
ND25UF-Y3N-0960	●	9.60	9.6	89	43
ND25UF-Y3N-0970	●	9.70	9.7	89	43
ND25UF-Y3N-0980	●	9.80	9.8	89	43
ND25UF-Y3N-0990	●	9.90	9.9	89	43
ND25UF-Y3N-1000	●	10.00	10.0	89	43
ND25UF-Y3N-1010	●	10.10	10.1	89	43
ND25UF-Y3N-1020	●	10.20	10.2	89	43
ND25UF-Y3N-1030	●	10.30	10.3	89	43
ND25UF-Y3N-1040	●	10.40	10.4	89	43
ND25UF-Y3N-1050	●	10.50	10.5	89	43
ND25UF-Y3N-1060	●	10.60	10.6	89	43
ND25UF-Y3N-1070	●	10.70	10.7	95	47
ND25UF-Y3N-1080	●	10.80	10.8	95	47
ND25UF-Y3N-1100	●	11.00	11.0	95	47
ND25UF-Y3N-1150	●	11.50	11.5	95	47
ND25UF-Y3N-1200	●	12.00	12.0	102	51
ND25UF-Y3N-1250	●	12.50	12.5	102	51
ND25UF-Y3N-1280	●	12.80	12.8	102	51
ND25UF-Y3N-1300	●	13.00	13.0	102	51
ND25UF-Y3N-1310	●	13.10	13.1	102	51
ND25UF-Y3N-1350	●	13.50	13.5	107	54
ND25UF-Y3N-1400	●	14.00	14.0	107	54
ND25UF-Y3N-1430	●	14.30	14.3	111	56
ND25UF-Y3N-1450	●	14.50	14.5	111	56
ND25UF-Y3N-1500	●	15.00	15.0	111	56
ND25UF-Y3N-1600	●	16.00	16.0	115	56

●Stock ○Availabie upon Order

HD15UF Straight shank twist drill

Drill Diameter	4–16mm
Coolant Type	Outside
Maximum Depth	3D
Coating	TIAIN
The hole tolerance	IT8–9
The surface roughness	Ra 1–2
To adapt to the situation	Hardened steel(<55–60HRC)

K	H
Cast Iron	Hardened steel

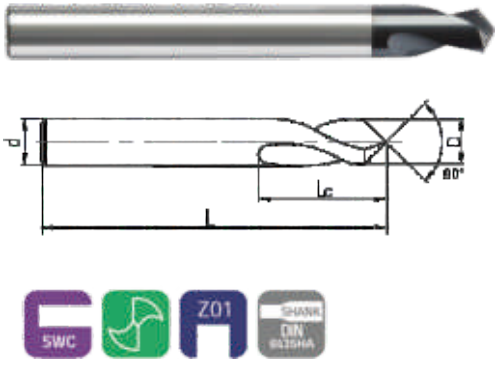


Ordering Code	Stock	D(h6)	d(h6)	L	Lc
HD15UF–Y3N–0400	●	4.00	4	55	22
HD15UF–Y3N–0500	●	5.00	5	62	26
HD15UF–Y3N–0600	●	6.00	6	66	28
HD15UF–Y3N–0700	●	7.00	7	74	34
HD15UF–Y3N–0800	●	8.00	8	79	37
HD15UF–Y3N–0900	●	9.00	9	84	40
HD15UF–Y3N–1000	●	10.00	10	89	43
HD15UF–Y3N–1100	●	11.00	11	95	47
HD15UF–Y3N–1200	●	12.00	12	102	51
HD15UF–Y3N–1300	●	13.00	13	102	51
HD15UF–Y3N–1400	●	14.00	14	107	54
HD15UF–Y3N–1500	●	15.00	15	111	56
HD15UF–Y3N–1600	●	16.00	16	115	58

PD20–A90 Straight Shank 90° NC center drill

Drill Diameter	5–20mm
Coolant Type	Outside
Coating	TIAIN

P		M	K
Low–carbon steels	Steel	Stainless Steel	Cast Iron



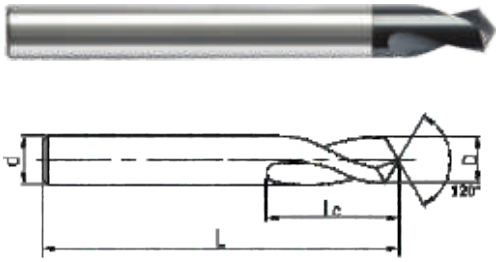
Ordering Code	Stock	D(h6)	d(h6)	L	Lc
PD20–A90–0500	●	5.00	5.0	62	10
PD20–A90–0600	●	6.00	6.0	66	15
PD20–A90–0800	●	8.00	8.0	79	17
PD20–A90–1000	●	10.00	10.0	89	20
PD20–A90–1200	●	12.00	12.0	102	25
PD20–A90–1400	●	14.00	14.0	107	30
PD20–A90–1600	●	16.00	16.0	115	35
PD20–A90–2000	●	20.00	10.0	131	40

●Stock ○Availabie upon Order

PD20–A120 Straight shank 120° NC center drill

Drill Diameter	5–20mm
Coolant Type	Outside
Coating	TIAIN

P		M	K
Low–carbon steels	Steel	Stainless Steel	Cast Iron

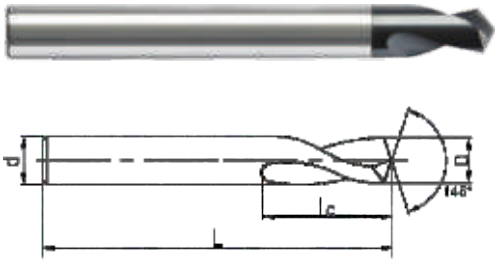


Ordering Code	Stock	D(h6)	d(h6)	L	Lc
PD20–A120–0500	●	5.00	5.0	62	10
PD20–A120–0600	●	6.00	6.0	66	15
PD20–A120–0800	●	8.00	8.0	79	17
PD20–A120–1000	●	10.00	10.0	89	20
PD20–A120–1200	●	12.00	12.0	102	25
PD20–A120–1400	●	14.00	14.0	107	30
PD20–A120–1600	●	16.00	16.0	115	35
PD20–A120–2000	●	20.00	20.0	131	40

PD20–A145 Straight Shank 145° NC center drill

Drill Diameter	5–20mm
Coolant Type	Outside
Coating	TIAIN

P		M	K
Low–carbon steels	Steel	Stainless Steel	Cast Iron



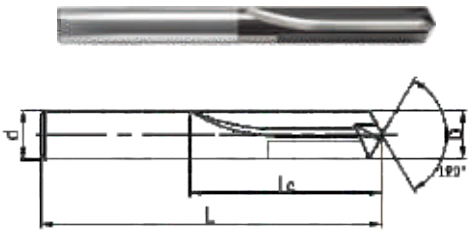
Ordering Code	Stock	D(h6)	d(h6)	L	Lc
PD20–A145–0500	●	5.00	5.0	62	10
PD20–A145–0600	●	6.00	6.0	66	15
PD20–A145–0800	●	8.00	8.0	79	17
PD20–A145–1000	●	10.00	10.0	89	20
PD20–A145–1200	●	12.00	12.0	102	25
PD20–A145–1400	●	14.00	14.0	107	30
PD20–A145–1600	●	16.00	16.0	115	35
PD20–A145–2000	●	20.00	20.0	131	40

●Stock ○Availabie upon Order

KZD20 Straight flute drill

Drill Diameter	4–20mm
Coolant Type	Outside
Maximum Depth	3D

K
Cast Iron





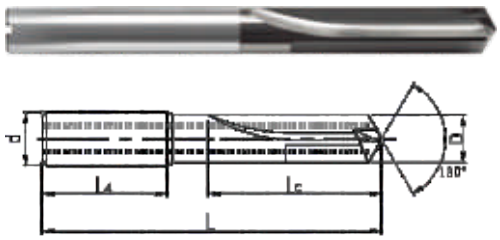
Ordering Code	Stock	D(h6)	d(h6)	L	Lc
KZD20–A3N–0400	●	4.00	4.00	55	22
KZD20–A3N–0420	●	4.20	4.20	55	22
KZD20–A3N–0500	●	5.00	5.00	62	26
KZD20–A3N–0600	●	6.00	6.00	66	28
KZD20–A3N–0680	●	6.80	6.80	74	34
KZD20–A3N–0700	●	7.00	7.00	74	34
KZD20–A3N–0800	●	8.00	8.00	79	37
KZD20–A3N–0850	●	8.50	8.50	79	37
KZD20–A3N–0900	●	9.00	9.00	84	40
KZD20–A3N–1000	●	10.00	10.00	89	43
KZD20–A3N–1025	●	10.25	10.25	89	43
KZD20–A3N–1100	●	11.00	11.00	95	47

Ordering Code	Stock	D(h6)	d(h6)	L	Lc
KZD20–A3N–1200	●	12.00	12.00	102	51
KZD20–A3N–1300	●	13.00	13.00	102	51
KZD20–A3N–1400	●	14.00	14.00	107	54
KZD20–A3N–1500	●	15.00	15.00	111	56
KZD20–A3N–1550	●	15.50	15.50	115	58
KZD20–A3N–1600	●	16.00	16.00	115	58
KZD20–A3N–1700	●	17.00	17.00	119	60
KZD20–A3N–1750	●	17.50	17.50	123	62
KZD20–A3N–1800	●	18.00	18.00	123	62
KZD20–A3N–1950	●	19.50	19.50	131	66
KZD20–A3N–2000	●	20.00	20.00	131	66

KZD20 Straight Flute Drill

Drill Diameter	4–20mm
Coolant Type	Inside
Maximum Depth	5D

K
Cast Iron





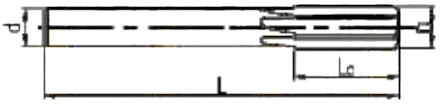
Ordering Code	Stock	D(h6)	d(h6)	L	Lc	L4
KZD20–A5C–0500	●	5.00	6.0	82	44	36
KZD20–A5C–0600	●	6.00	6.0	82	44	36
KZD20–A5C–0680	●	6.80	8.0	91	53	36
KZD20–A5C–0700	●	7.00	8.0	91	53	36
KZD20–A5C–0800	●	8.00	8.0	91	53	36
KZD20–A5C–0850	●	8.50	10.0	103	61	40
KZD20–A5C–0900	●	9.00	10.0	103	61	40
KZD20–A5C–1000	●	10.00	10.0	103	61	40

Ordering Code	Stock	D(h6)	d(h6)	L	Lc	L4
KZD20–A5C–1025	●	10.25	12.0	118	71	45
KZD20–A5C–1100	●	11.00	12.0	118	71	45
KZD20–A5C–1200	●	12.00	12.0	118	71	45
KZD20–A5C–1300	●	13.00	14.0	124	77	45
KZD20–A5C–1400	●	14.00	14.0	124	77	45
KZD20–A5C–1500	●	15.00	16.0	133	83	48
KZD20–A5C–1550	●	15.50	16.0	133	83	48
KZD20–A5C–1600	●	16.00	16.0	133	83	48

LJD20 Soild cabide straight flute reamer

Precision class	H7 H8
Type of shank	Straight shank
Flute type	Straight flute
Application	Suitable for silicon-aluminium alloys and cats iron







Ordering Code	Stock	D(h6)	d(h6)	L	Lc	L4
LJD20-H7-B-0400	●	4.00	3.55	56	20	4.0
LJD20-H7-B-0500	●	5.00	4.00	63	22	6.0
LJD20-H7-B-0600	●	6.00	5.00	63	22	6.0
LJD20-H7-B-0700	●	7.00	6.30	71	25	6.0
LJD20-H7-B-0800	●	8.00	6.30	71	25	6.0
LJD20-H7-B-0900	●	9.00	8.00	71	25	6.0
LJD20-H7-B-1000	●	10.00	8.00	71	25	6.0
LJD20-H7-B-1100	●	11.00	10.00	80	28	6.0
LJD20-H7-B-1200	●	12.00	10.00	80	28	6.0
LJD20-H7-B-1300	●	13.00	10.00	80	28	6.0
LJD20-H7-B-1400	●	14.00	12.50	90	32	6.0
LJD20-H7-B-1500	●	15.00	12.50	90	32	6.0
LJD20-H7-B-1600	●	16.00	12.50	90	32	6.0
LJD20-H7-B-1700	●	17.00	12.50	90	32	6.0
LJD20-H7-B-1800	●	18.00	16.00	100	36	6.0
LJD20-H7-B-1900	●	19.00	16.00	100	36	6.0
LJD20-H7-B-2000	●	20.00	16.00	100	36	6.0

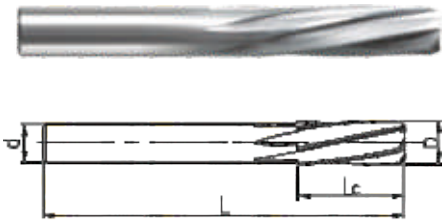


Ordering Code	Stock	D(h6)	d(h6)	L	Lc	L4
LJD20-H8-B-0400	●	4.00	3.55	56	20	4.0
LJD20-H8-B-0500	●	5.00	4.00	63	22	6.0
LJD20-H8-B-0600	●	6.00	5.00	63	22	6.0
LJD20-H8-B-0700	●	7.00	6.30	71	25	6.0
LJD20-H8-B-0800	●	8.00	6.30	71	25	6.0
LJD20-H8-B-0900	●	9.00	8.00	71	25	6.0
LJD20-H8-B-1000	●	10.00	8.00	71	25	6.0
LJD20-H8-B-1100	●	11.00	10.00	80	28	6.0
LJD20-H8-B-1200	●	12.00	10.00	80	28	6.0
LJD20-H8-B-1300	●	13.00	10.00	80	28	6.0
LJD20-H8-B-1400	●	14.00	12.50	90	32	6.0
LJD20-H8-B-1500	●	15.00	12.50	90	32	6.0
LJD20-H8-B-1600	●	16.00	12.50	90	32	6.0
LJD20-H8-B-1700	●	17.00	12.50	100	32	6.0
LJD20-H8-B-1800	●	18.00	16.00	100	36	6.0
LJD20-H8-B-1900	●	19.00	16.00	100	36	6.0
LJD20-H8-B-2000	●	20.00	16.00	100	36	6.0

●Stock ○Availabie upon Order

SJD20 Soild cabide straight flute reamer

Precision class	H7
Type of shank	Straight shank
Flute type	Left hand flute
Application	Suitable for silicon-aluminium alloys and cats iron





Ordering Code	Stock	D(h6)	d(h6)	L	Lc	L4
SJD20-H7-B-0400	●	4.00	3.55	56	20	4.0
SJD20-H7-B-0500	●	5.00	4.00	63	22	6.0
SJD20-H7-B-0600	●	6.00	5.00	63	22	6.0
SJD20-H7-B-0700	●	7.00	6.30	71	25	6.0
SJD20-H7-B-0800	●	8.00	6.30	71	25	6.0
SJD20-H7-B-0900	●	9.00	8.00	71	25	6.0
SJD20-H7-B-1000	●	10.00	8.00	71	25	6.0
SJD20-H7-B-1100	●	11.00	10.00	80	28	6.0
SJD20-H7-B-1200	●	12.00	10.00	80	28	6.0
SJD20-H7-B-1300	●	13.00	10.00	80	28	6.0
SJD20-H7-B-1400	●	14.00	12.50	90	32	6.0
SJD20-H7-B-1500	●	15.00	12.50	90	32	6.0
SJD20-H7-B-1600	●	16.00	12.50	90	32	6.0
SJD20-H7-B-1700	●	17.00	12.50	90	32	6.0
SJD20-H7-B-1800	●	18.00	16.00	100	36	6.0
SJD20-H7-B-1900	●	19.00	16.00	100	36	6.0
SJD20-H7-B-2000	●	20.00	16.00	100	36	6.0



Ordering Code	Stock	D(h6)	d(h6)	L	Lc	L4
SJD20-H8-B-0400	●	4.00	3.55	56	20	4.0
SJD20-H8-B-0500	●	5.00	4.00	63	22	6.0
SJD20-H8-B-0600	●	6.00	5.00	63	22	6.0
SJD20-H8-B-0700	●	7.00	6.30	71	25	6.0
SJD20-H8-B-0800	●	8.00	6.30	71	25	6.0
SJD20-H8-B-0900	●	9.00	8.00	71	25	6.0
SJD20-H8-B-1000	●	10.00	8.00	71	25	6.0
SJD20-H8-B-1100	●	11.00	10.00	80	28	6.0
SJD20-H8-B-1200	●	12.00	10.00	80	28	6.0
SJD20-H8-B-1300	●	13.00	10.00	80	28	6.0
SJD20-H8-B-1400	●	14.00	12.50	90	32	6.0
SJD20-H8-B-1500	●	15.00	12.50	90	32	6.0
SJD20-H8-B-1600	●	16.00	12.50	90	32	6.0
SJD20-H8-B-1700	●	17.00	12.50	100	32	6.0
SJD20-H8-B-1800	●	18.00	16.00	100	36	6.0
SJD20-H8-B-1900	●	19.00	16.00	100	36	6.0
SJD20-H8-B-2000	●	20.00	16.00	100	36	6.0

●Stock ○Availabie upon Order

PD20/A90/A120/A145 Cutting data recomendation

code number	ISO	Vc(m/min)		fn(mm/rev)							
		coolant type outside	coolant type inside	Φ5	Φ6	Φ8	Φ10	Φ12	Φ14	Φ16	Φ20
01–10	P	120	160	0.15	0.2	0.26	0.30	0.32	0.35	0.40	0.45
10–20	P	105	125	0.15	0.2	0.26	0.30	0.32	0.35	0.40	0.45
30–40	P	100	120	0.13	0.2	0.20	0.23	0.26	0.28	0.32	0.38
01–10	K	90	110	0.08	0.1	0.12	0.14	0.17	0.18	0.21	0.25
10–20	K	80	100	0.08	0.1	0.12	0.14	0.17	0.18	0.21	0.25
20–30	K	70	90	0.08	0.1	0.12	0.14	0.17	0.18	0.21	0.25
30–40	K	60	80	0.08	0.1	0.12	0.14	0.17	0.18	0.21	0.25
10–20	N	150	200	0.12	0.2	0.20	0.23	0.26	0.28	0.32	0.38
20–30	N	120	180	0.12	0.2	0.20	0.23	0.26	0.28	0.32	0.38

PD20/MD20/KD20/ND25UF Cutting data recomendation

code number	ISO	Vc(m/min)		fn(mm/rev)								
		coolant type outside	coolant type inside	Φ3	Φ4	Φ6	Φ8	Φ10	Φ12	Φ14	Φ16	Φ18	Φ20
01–10	P	135–110–80	160–135–45	0.09–0.13–0.16	0.11–0.15–0.19	0.14–0.19–0.23	0.19–0.25–0.31	0.23–0.30–0.38	0.24–0.30–0.38	0.28–0.38–0.45	0.30–0.42–0.50	0.33–0.42–0.50	0.34–0.43–0.51
10–20	P	140–120–70	170–145–55	0.09–0.13–0.16	0.11–0.15–0.19	0014–0.19–0.23	0.19–0.25–0.31	0.23–0.30–0.38	0.24–0.30–0.38	0.28–0.38–0.45	0.30–0.42–0.50	0.33–0.42–0.50	0.34–0.43–0.51
20–30	P	130–100–70	160–130–60	0.09–0.12–0.14	0.10–0.14–0.17	0.13–0.17–0.22	0.17–0.23–0.29	0.21–0.28–0.35	0.22–0.30–0.37	0.26–0.35–0.41	0.28–0.37–0.44	0.31–0.38–0.46	0.31–0.39–0.47
30–40	P	85–100–70	100–85–50	0.08–0.10–0.13	0.09–0.12–0.15	0.11–0.15–0.19	0.15–0.20–0.25	0.18–0.24–0.30	0.20–0.26–0.33	0.23–0.30–0.36	0.24–0.32–0.38	0.27–0.33–0.40	0.27–0.34–0.41
10–20	M	80–60–40	100–80–50	0.05–0.09–0.11	0.06–0.11–0.13	0.07–0.14–0.16	0.10–0.17–0.20	0.12–0.21–0.24	0.13–0.23–0.26	0.15–0.26–0.29	0.16–0.28–0.31	0.17–0.30–0.33	0.18–0.30–0.33
20–30	M	60–50–30	80–70–40	0.04–0.07–0.08	0.05–0.09–0.11	0.06–0.11–0.13	0.08–0.14–0.17	0.10–0.16–0.19	0.11–0.18–0.21	0.12–0.21–0.24	0.13–0.23–0.26	0.15–0.24–0.27	0.15–0.25–0.28
30–40	M	50–40–20	70–60–30	0.03–0.05–0.06	0.04–0.06–0.07	0.05–0.08–0.10	0.07–0.11–0.13	0.08–0.13–0.16	0.09–0.15–0.17	0.10–0.17–0.19	0.11–0.18–0.20	0.12–0.19–0.21	0.12–0.20–0.22
10–20	K	140–110–80	170–140–60	0.13–0.17–0.21	0.15–0.20–0.26	0.19–0.26–0.32	0.26–0.34–0.43	0.31–0.41–0.51	0.33–0.44–0.55	0.38–0.51–0.61	0.41–0.54–0.65	0.45–0.57–0.68	0.40–0.58–0.69
20–30	K	120–100–60	150–120–60	0.11–0.15–0.18	0.14–0.18–0.22	0.17–0.23–0.27	0.23–0.30–0.36	0.27–0.36–0.43	0.29–0.39–0.47	0.34–0.45–0.54	0.36–0.48–0.58	0.40–0.50–0.60	0.41–0.51–0.61
30–40	K	110–90–60	110–90–60	0.06–0.09–0.11	0.08–0.10–0.13	0.10–0.13–0.16	0.13–0.17–0.21	0.15–0.20–0.26	0.17–0.21–0.26	0.19–0.26–0.31	0.20–0.27–0.33	0.23–0.28–0.34	0.23–0.29–0.35
10–20	N	240–160–110	320–260–60	0.13–0.16–0.20	0.15–0.19–0.24	0.22–0.28–0.35	0.25–0.32–0.40	0.31–0.38–0.48	0.33–0.42–0.52	0.38–0.48–0.58	0.41–0.51–0.61	0.43–0.53–0.64	0.44–0.54–0.65
10–20	S	58–55–50	68–65–60	0.08–0.10–0.12	0.09–0.11–0.14	0.11–0.13–0.16	0.12–0.15–0.18	0.13–0.18–0.22	0.17–0.21–0.26	0.21–0.25–0.29	0.22–0.26–0.30	0.25–0.30–0.35	0.26–0.32–0.37
20–30	S	40–35–35	55–50–45	0.06–0.08–0.10	0.07–0.09–0.11	0.08–0.10–0.12	0.11–0.13–0.16	0.13–0.17–0.20	0.16–0.19–0.23	0.19–0.15–0.18	0.20–0.25–0.30	0.20–0.25–0.30	0.21–0.26–0.32
30–40	S	30–25–27	40–35–30	0.04–0.05–0.07	0.05–0.06–0.08	0.05–0.06–0.06	0.06–0.08–0.11	0.08–0.11–0.14	0.08–0.13–0.16	0.11–0.15–0.18	0.12–0.16–0.20	0.12–0.16–0.20	0.13–0.17–0.21
10–20	H	80–60–50	100–80–60	0.06–0.08–0.10	0.07–0.10–0.12	0.09–0.12–0.15	0.12–0.16–0.20	0.14–0.19–0.24	0.16–0.21–0.26	0.18–0.24–0.29	0.19–0.26–0.31	0.21–0.27–0.32	0.22–0.27–0.33

LJD20/SJD20–H7/H8 Cutting data recomendation

code number	ISO	Vc(m/min)		fn(mm/rev)								
		coolant type outside	coolant type inside	Φ4	Φ6	Φ8	Φ10	Φ12	Φ14	Φ16	Φ18	Φ20
01–10	K	45	45	0.16	0.19	0.26	0.30	0.33	0.35	0.40	0.43	0.45
10–20	K	35	35	0.16	0.19	0.26	0.30	0.33	0.35	0.40	0.43	0.45
20–30	K	28	28	0.13	0.15	0.20	0.24	0.26	0.28	0.32	0.36	0.40
30–40	K	26	26	0.05	0.08	0.10	0.12	0.13	0.14	0.15	0.18	0.20
01–10	N	40	40	0.20	0.24	0.32	0.40	0.43	0.45	0.51	0.58	0.64
10–20	N	35	35	0.20	0.24	0.32	0.40	0.43	0.45	0.51	0.58	0.64

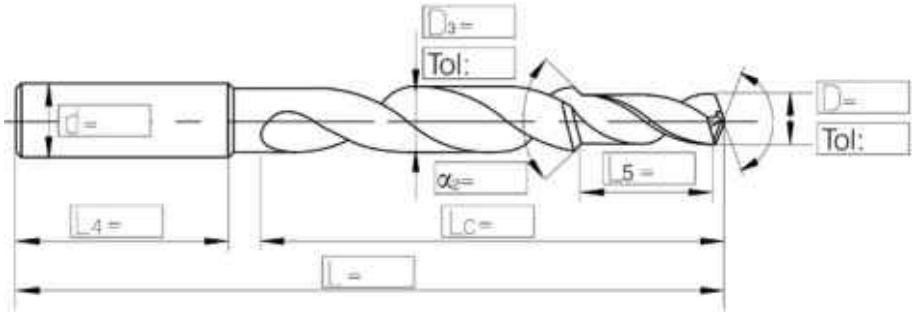
HD15UF Cutting data recomendation

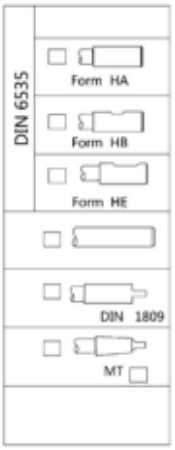
ISO	Nicecutt	Hardness	Vc(m/min)	fn(mm/rev)						
			coolant type outside	Φ4	Φ6	Φ8	Φ10	Φ12	Φ14	Φ16
H	H1	44–48HRC	20–40	0.06	0.08	0.10	0.12	0.14	0.15	0.16
H	H2	48–55HRC	15–30	0.05	0.06	0.08	0.10	0.12	0.13	0.14
H	H3	55–60HRC	10–20	0.04	0.04	0.04	0.06	0.06	0.08	0.08

● General Information

Coating		
	Y	
	N	

Coolant Type		
	Outside	
	Inside	

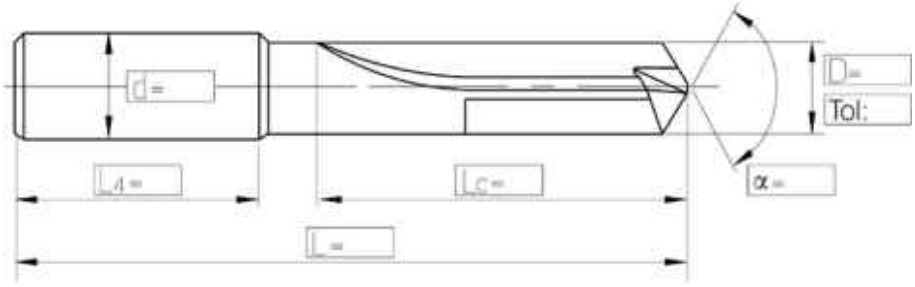


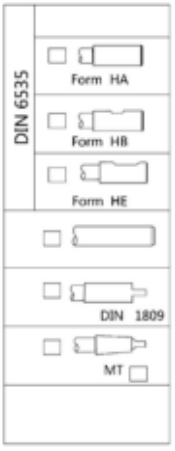


● General Information

Coating		
	Y	
	N	

Coolant Type		
	Outside	
	Inside	

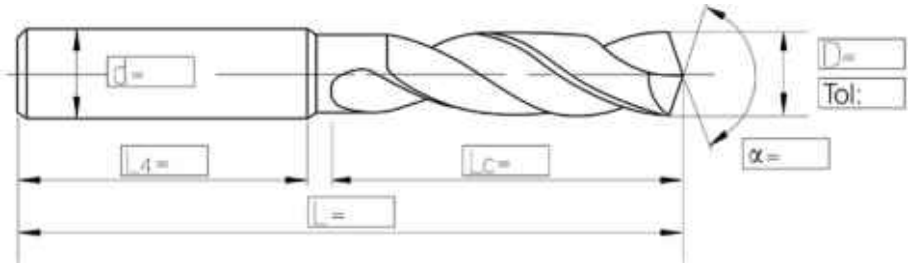


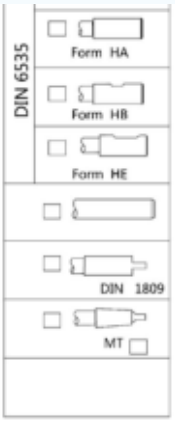


● General Information

Coating		
	Y	
	N	

Coolant Type		
	Outside	
	Inside	



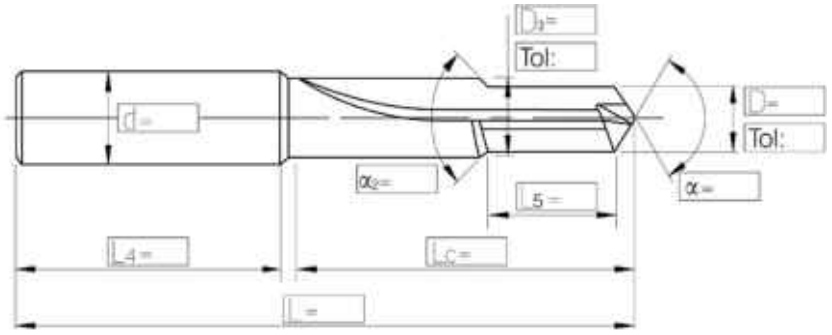


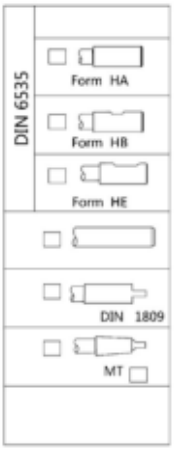
●Stock ○Availabie upon Order

● General Information

Coating		
	Y	
	N	

Coolant Type		
	Outside	
	Inside	

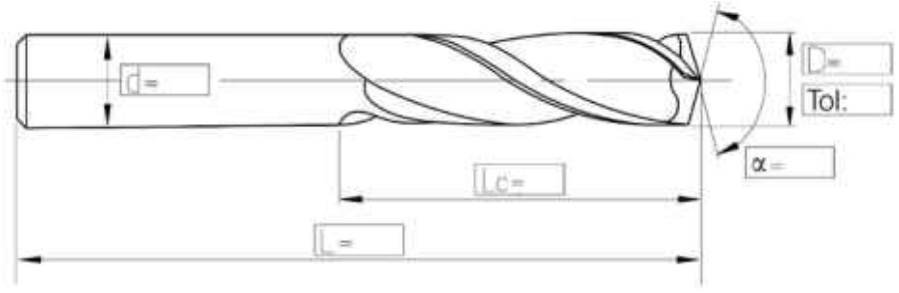


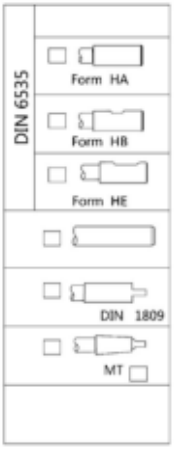


● General Information

Coating		
	Y	
	N	

Coolant Type		
	Outside	
	Inside	



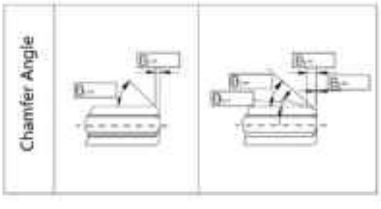


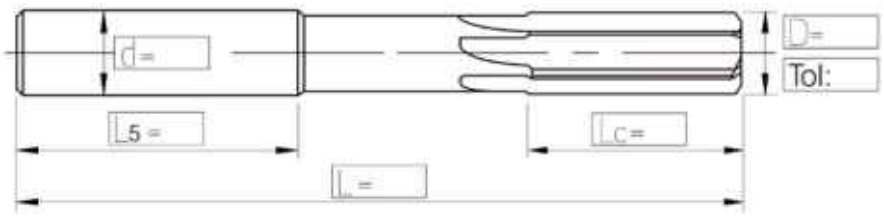
● General Information

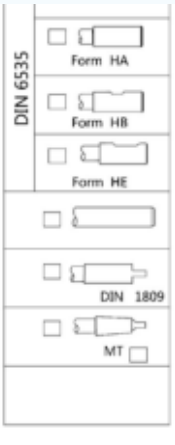
Coating		
	Y	
	N	

Coolant Type		
	Outside	
	Inside	

Type of the flute: Left □ Straight □ Right □



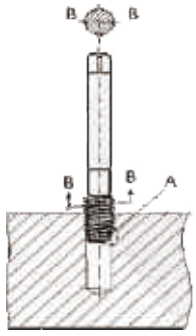




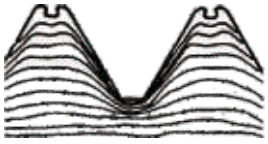
●Stock ○Availabie upon Order

Spiral point,spiral flute taps' Shape and features



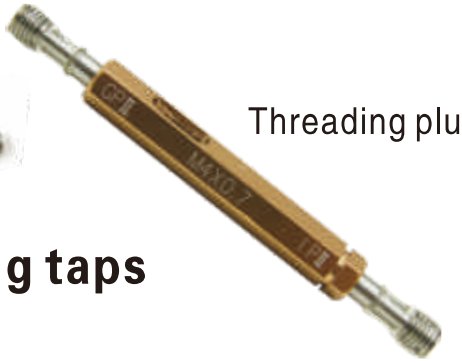








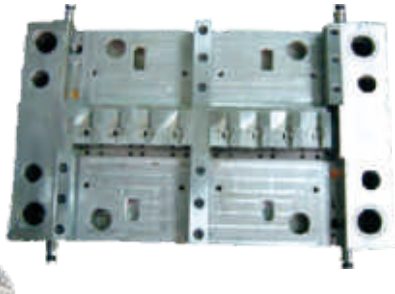




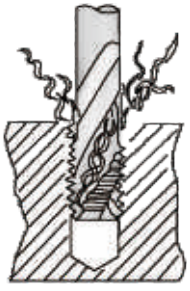
Threading plug

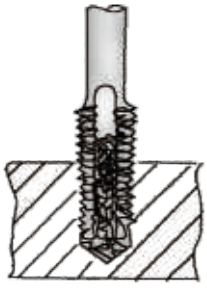
Shape and features of forming taps

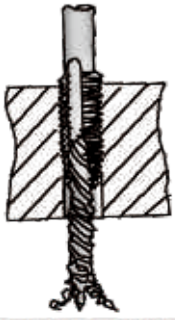












Surface treatment of taps and application



Tapping is limited for processing inside a hole. Since cooling and lubricaion with cutting fluids arie not easy and both cutting heat and frictional heat are generated, wear and galling are likely to occur. In addition, processing steel materials may result in affinity with tap materials, So that galling is easy to occur. Various kinds of surface treatment are available to address these problems.

Types	Color	Effects	Hardness	Application
Natural	Natural color		HV 900	Suitable for machining pure aluminum, pure zinc,aluminum alloy,etc
TIN	Gold	Improved wear resistance and galling–proofness	HV 2300	Suitable for machining low and medium carbon steel, sus etc
TICN	Blue gray	Improved wear resistance and galling–proofness	HV 3000	Suitable for machining sus,aluninum alloy(low aluminum),magneium alloy, zinc alloy etc
ALSIN–A	Black	Improved wear resistance and galling–proofness	HV 2000	Suitable for machining sus,titanium alloy, low and medium carbon steel,etc

Recommended tapping speeds

Work Material		Forming Tap v=(m/min)	Pointed Tap v=(m/min)	Fluted Tap v=(m/min)	Straight Fluted Tap v=(m/min)
Low Carbon Steel	~C0.2%	8~13	15~25	8~13	8~13
Medium Carbon Steel	C0.25%~0.40%	7~10	10~15	7~12	7~12
High Carbon Steel	C0.45%	5~8	8~13	6~9	6~9
Aloy Steel	SCM	5~8	10~15	7~12	7~12
Stainless Steel	SUS	5~10	8~13	5~8	4~7
Copper	CU	7~12	7~12	6~11	6~9
Brass · Brass Casting	Bs · BsC	7~12	15~25	10~20	10~15
Bronze · Bronze Casting	PB · PBC	7~12	10~15	7~12	7~12
Wrought Aluminum Alloy	AL	10~20	15~25	10~20	10~20
Aluminum Alloy Casting	AC · ADC	10~15	15~20	10~15	10~15
Zinc Casting	ZDC	7~12	10~15	7~12	7~12

●Stock ○Availabie upon Order

The difference between forming taps and cutting taps

Forming taps

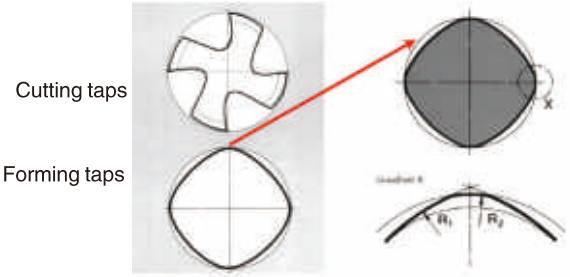
- no cutting,so no chip removal problem
- improved the thread surface quality
- increased the cutting speed(2 times)
- increased the taps' life

Forming taps limited on workpiece material

- Brittle materials(I.e.Grey cast iron)are not suitable
- workpiece's elongation at least to 10%

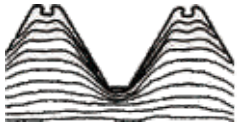
Remark: the bottom hole usual bigger than thread bottom hole

Feature comparison



Thread comparison

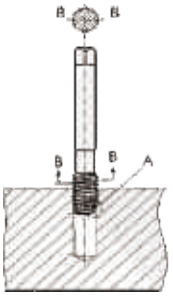
Extrusion molding



Cutting molding



Extrusion forming diagram

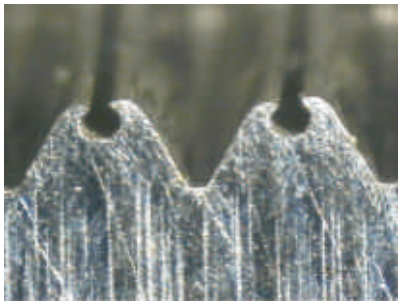




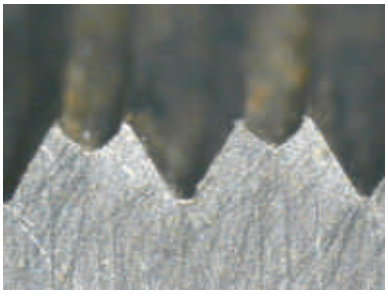
Extrusion forming cast diagram



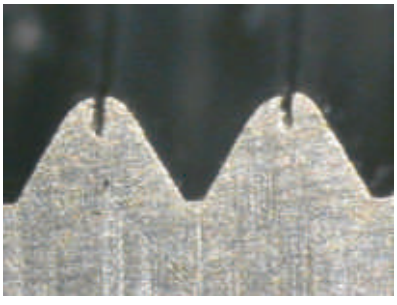
Normal extrusion thread(reasonable bottom hole)



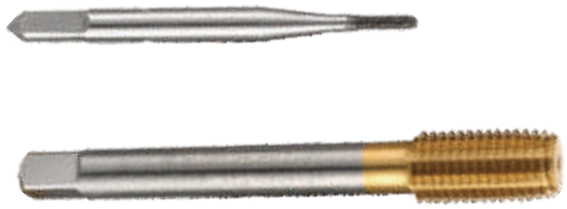
When the bottom hole is so big(molding not finish)

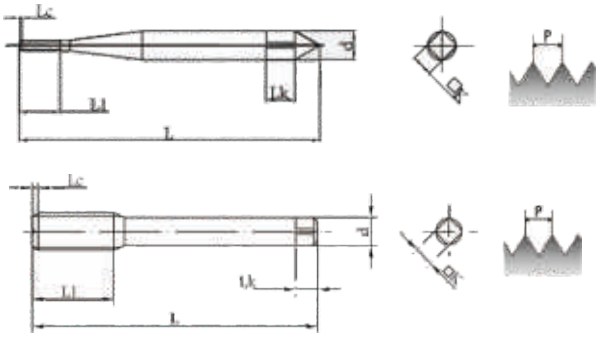


When the bottom hole is too small



Forming Taps





Material: HSSE Unit: mm

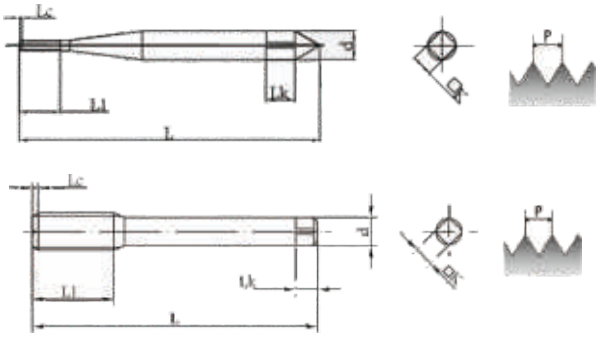
Ordering Code	L	L1	d	K	Natural color	Tin	Alsin-A	Ticn
NRTM1.0*0.25 RH4	32.5	3.5	3	2.5*3	●	○	○	○
NRTM1.0*0.25 RH4	32.5	4.5	3	2.5*3	●	○	○	○
NRTM1.2*0.25 RH4	32.5	3.5	3	2.5*3	●	○	○	○
NRTM1.2*0.25 RH4	32.5	4.5	3	2.5*3	●	○	○	○
NRTM1.4*0.30 RH4	37	6.5	3	2.5*3	●	○	○	○
NRTM1.6*0.35 RH4	37	8	3	2.5*3	●	○	○	○
NRTM1.7*0.35 RH4	37	8	3	2.5*3	●	○	○	○
NRTM1.8*0.35 RH4	37	8	3	2.5*3	●	○	○	○
NRTM2.0*0.40 RH5	45	10	3	2.5*3	●	○	○	○
NRTM2.3*0.40 RH5	45	10	3	2.5*3	●	○	○	○
NRTM2.5*0.45 RH5	45	13	3	2.5*3	●	○	○	○
NRTM2.6*0.45 RH5	45	13	3	2.5*3	●	○	○	○
NRTM3.0*0.50 RH7	50	16	4	3.2*6	●	○	○	○
NRTM3.5*0.60 RH7	50	16	4	3.2*6	●	○	○	○
NRTM4.0*0.70 RH7	57	18	5	4*7	●	○	○	○
NRTM5.0*0.80 RH7	66	20	5.5	4.5*7	●	○	○	○
NRTM6.0*1.00 RH7	62	24	6	4.5*7	●	○	○	○
NRTM7.0*1.00 RH7	70	13	6.2	5*8	●	○	○	○
NRTM8.0*1.00 RH7	70	13	6.2	5*8	●	○	○	○
NRTM8.0*1.25 RH7	70	13	6.2	5*8	●	○	○	○
NRTM10.0*1.00 RH7	75	13	7	5.5*8	●	○	○	○
NRTM10.0*1.25 RH7	75	13	7	5.5*8	●	○	○	○
NRTM10.0*1.50 RH7	75	15	7	5.5*8	●	○	○	○
NRTM12.0*1.00 RH7	82	13	8.5	6.5*9	●	○	○	○
NRTM12.0*1.25 RH8	82	13	8.5	6.5*9	●	○	○	○
NRTM12.0*1.50 RH8	82	17	8.5	6.5*9	●	○	○	○
NRTM12.0*1.75 RH8	82	17	8.5	6.5*9	●	○	○	○
NRTM14.0*1.00 RH7	88	13	10.5	8*11	●	○	○	○
NRTM14.0*1.25 RH7	88	13	10.5	8*11	●	○	○	○
NRTM14.0*1.50 RH8	88	20	10.5	8*11	●	○	○	○
NRTM14.0*2.00 RH8	88	20	10.5	10*13	●	○	○	○
NRTM16.0*1.00 RH8	95	13	12.5	10*13	●	○	○	○
NRTM16.0*1.25 RH8	95	13	12.5	10*13	●	○	○	○
NRTM16.0*1.50 RH8	95	20	12.5	10*13	●	○	○	○
NRTM16.0*2.00 RH9	95	20	12.5	10*13	●	○	○	○

●Stock ○Availabie upon Order

Forming Taps







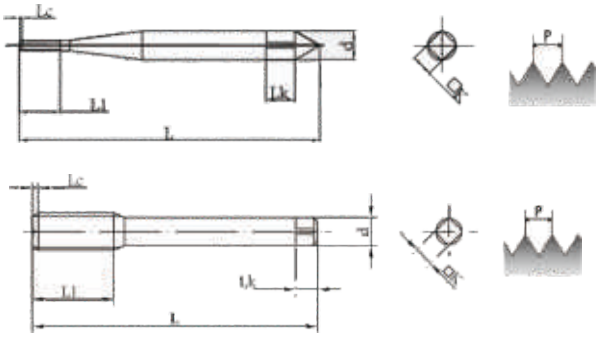
Material: HSSE Unit: mm

Ordering Code	L	L1	d	K	Natural color	Tin	Alsin-A	Ticn
NRTNO.0-80UNF RH4	37	6.5	3	2.5*3	●	○	○	○
NRTNO.1-64UNC RH4	37	9	3	2.5*3	●	○	○	○
NRTNO.1-72UNF RH4	37	9	3	2.5*3	●	○	○	○
NRTNO.2-56UNC RH4	45	12	3	2.5*3	●	○	○	○
NRTNO.3-48UNC RH4	45	15	3	2.5*3	●	○	○	○
NRTNO.4-40UNC RH4	45	15	3	2.5*3	●	○	○	○
NRTNO.5-40UNF RH5	50	15	4	3.2*6	●	○	○	○
NRTNO.6-32UNC RH6	50	16	4	3.2*6	●	○	○	○
NRTNO.8-32UNC RH7	57	18	5	4*7	●	○	○	○
NRTNO.10-24UNC RH7	66	20	5.5	4.5*7	●	○	○	○
NRTNO.10-32UNF RH7	66	20	5.5	4.5*7	●	○	○	○
NRTNO.12-24UNC RH7	66	20	5.5	4.5*7	●	○	○	○
NRTNO.12-28UNF RH7	66	20	5.5	4.5*7	●	○	○	○
NRT1/4-20UNC RH7	62	24	6	4.5*7	●	○	○	○
NRT1/4-28UNF RH7	62	24	6	4.5*7	●	○	○	○
NRT5/16-18UNC RH7	70	15	6.1	5*8	●	○	○	○
NRT5/16-24UNF RH7	70	11	6.1	5*8	●	○	○	○
NRT3/8-16UNC RH7	75	16	7	5.5*8	●	○	○	○
NRT3/8-24UNF RH7	75	11	7	5.5*8	●	○	○	○
NRT7/16-20UNF RH7	80	13	8	5*8	●	○	○	○
NRT1/2-13UNC RH8	85	21	9	7*10	●	○	○	○
NRT1/2-20UNF RH8	85	13	9	7*10	●	○	○	○
NRT9/16-18UNF RH7	90	15	10.5	8*11	●	○	○	○
NRT5/8-11UNC RH9	95	23	12	9*12	●	○	○	○
NRTW1/40 RH6	50	15	4	3.2*6	●	○	○	○
NRTW5/32-32 RH7	66	18	5	4*7	●	○	○	○
NRTW3/16-24 RH7	66	18	5.5	4.5*7	●	○	○	○
NRTW1/4-20 RH7	62	24	6	4.5*7	●	○	○	○
NRTW5/16-18 RH7	70	15	6.1	5*8	●	○	○	○
NRTW3/8-16 RH7	75	16	7	5.5*8	●	○	○	○
NRTW1/2-12 RH8	85	21	9	7*10	●	○	○	○
NRTW5/8-11 RH9	95	23	12	9*12	●	○	○	○

●Stock ○Availabie upon Order

Forming Taps





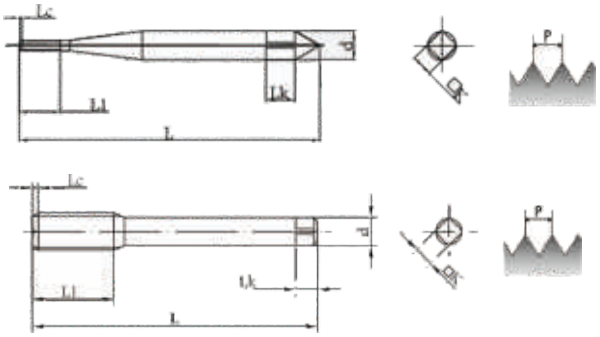
Material: HSSE Unit: mm

Ordering Code	L	L1	d	K	Natural color	Tin	Alsin-A	Ticn
NRTPM1.0*0.25 RH4	32.5	3.5	3	2.5*3	●	○	○	○
NRTPM1.0*0.25 RH4	32.5	4.5	3	2.5*3	●	○	○	○
NRTPM1.2*0.25 RH4	32.5	3.5	3	2.5*3	●	○	○	○
NRTPM1.2*0.25 RH4	32.5	4.5	3	2.5*3	●	○	○	○
NRTPM1.4*0.30 RH4	37	6.5	3	2.5*3	●	○	○	○
NRTPM1.6*0.35 RH4	37	8	3	2.5*3	●	○	○	○
NRTPM1.7*0.35 RH4	37	8	3	2.5*3	●	○	○	○
NRTPM1.8*0.35 RH4	37	8	3	2.5*3	●	○	○	○
NRTPM2.0*0.40 RH5	45	10	3	2.5*3	●	○	○	○
NRTPM2.3*0.40 RH5	45	10	3	2.5*3	●	○	○	○
NRTPM2.5*0.45 RH5	45	13	3	2.5*3	●	○	○	○
NRTPM2.6*0.45 RH5	45	13	3	2.5*3	●	○	○	○
NRTPM3.0*0.50 RH7	50	16	4	3.2*6	●	○	○	○
NRTPM3.5*0.60 RH7	50	16	4	3.2*6	●	○	○	○
NRTPM4.0*0.70 RH7	57	18	5	4*7	●	○	○	○
NRTPM5.0*0.80 RH7	66	20	5.5	4.5*7	●	○	○	○
NRTPM6.0*1.00 RH7	62	24	6	4.5*7	●	○	○	○
NRTPM7.0*1.00 RH7	70	13	6.2	5*8	●	○	○	○
NRTPM8.0*1.00 RH7	70	13	6.2	5*8	●	○	○	○
NRTPM8.0*1.25 RH7	70	13	6.2	5*8	●	○	○	○
NRTPM10.0*1.00 RH7	75	13	7	5.5*8	●	○	○	○
NRTPM10.0*1.25 RH7	75	13	7	5.5*8	●	○	○	○
NRTPM10.0*1.50 RH7	75	15	7	5.5*8	●	○	○	○
NRTPM12.0*1.00 RH7	82	13	8.5	6.5*9	●	○	○	○
NRTPM12.0*1.25 RH8	82	13	8.5	6.5*9	●	○	○	○
NRTPM12.0*1.50 RH8	82	17	8.5	6.5*9	●	○	○	○
NRTPM12.0*1.75 RH8	82	17	8.5	6.5*9	●	○	○	○
NRTPM14.0*1.00 RH7	88	13	10.5	8*11	●	○	○	○
NRTPM14.0*1.25 RH7	88	13	10.5	8*11	●	○	○	○
NRTPM14.0*1.50 RH8	88	20	10.5	8*11	●	○	○	○
NRTPM14.0*2.00 RH8	88	20	10.5	10*13	●	○	○	○
NRTPM16.0*1.00 RH8	95	13	12.5	10*13	●	○	○	○
NRTPM16.0*1.25 RH8	95	13	12.5	10*13	●	○	○	○
NRTPM16.0*1.50 RH8	95	20	12.5	10*13	●	○	○	○
NRTPM16.0*2.00 RH9	95	20	12.5	10*13	●	○	○	○

●Stock ○Availabie upon Order

Forming Taps





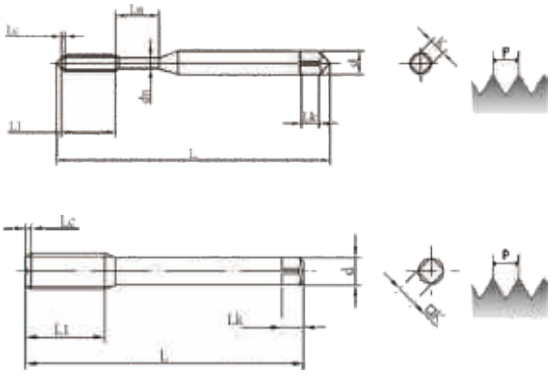
Material: HSSE Unit: mm

Ordering Code	L	L1	d	K	Natural color	Tin	Alsin-A	Ticn
NRTPNO.0-80UNF RH4	37	6.5	3	2.5*3	●	○	○	○
NRTPNO.1-64UNC RH4	37	9	3	2.5*3	●	○	○	○
NRTPNO.1-72UNF RH4	37	9	3	2.5*3	●	○	○	○
NRTPNO.2-56UNC RH4	45	12	3	2.5*3	●	○	○	○
NRTPNO.3-48UNC RH4	45	15	3	2.5*3	●	○	○	○
NRTPNO.4-40UNC RH4	45	15	3	2.5*3	●	○	○	○
NRTPNO.5-40UNF RH5	50	15	4	3.2*6	●	○	○	○
NRTPNO.6-32UNC RH6	50	16	4	3.2*6	●	○	○	○
NRTPNO.8-32UNC RH7	57	18	5	4*7	●	○	○	○
NRTPNO.10-24UNC RH7	66	20	5.5	4.5*7	●	○	○	○
NRTPNO.10-32UNF RH7	66	20	5.5	4.5*7	●	○	○	○
NRTPNO.12-24UNC RH7	66	20	5.5	4.5*7	●	○	○	○
NRTPNO.12-28UNF RH7	66	20	5.5	4.5*7	●	○	○	○
NRTP1/4-20UNC RH7	62	24	6	4.5*7	●	○	○	○
NRTP1/4-28UNF RH7	62	24	6	4.5*7	●	○	○	○
NRTP5/16-18UNC RH7	70	15	6.1	5*8	●	○	○	○
NRTP5/16-24UNF RH7	70	11	6.1	5*8	●	○	○	○
NRTP3/8-16UNC RH7	75	16	7	5.5*8	●	○	○	○
NRTP3/8-24UNF RH7	75	11	7	5.5*8	●	○	○	○
NRTP7/16-20UNF RH7	80	13	8	5*8	●	○	○	○
NRTP1/2-13UNC RH8	85	21	9	7*10	●	○	○	○
NRTP1/2-20UNF RH8	85	13	9	7*10	●	○	○	○
NRTP9/16-18UNF RH7	90	15	10.5	8*11	●	○	○	○
NRTP5/8-11UNC RH9	95	23	12	9*12	●	○	○	○
NRTPW1/40 RH6	50	15	4	3.2*6	●	○	○	○
NRTPW5/32-32 RH7	66	18	5	4*7	●	○	○	○
NRTPW3/16-24 RH7	66	18	5.5	4.5*7	●	○	○	○
NRTPW1/4-20 RH7	62	24	6	4.5*7	●	○	○	○
NRTPW5/16-18 RH7	70	15	6.1	5*8	●	○	○	○
NRTPW3/8-16 RH7	75	16	7	5.5*8	●	○	○	○
NRTPW1/2-12 RH8	85	21	9	7*10	●	○	○	○
NRTPW5/8-11 RH9	95	23	12	9*12	●	○	○	○

●Stock ○Availabie upon Order

Cutting Taps





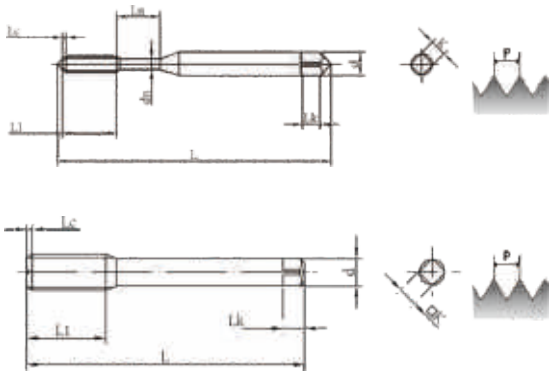
Material: HSSE Unit: mm

Ordering Code	L	L1	d	K	LK	dn	ln	Natural color	Tin	Alsin-A	Ticn
SFTJM1.0*0.25 P1	32	6.5	3	2.5	3			●	○	○	○
SFTJM1.2*0.25 P1	32	6.5	3	2.5	3			●	○	○	○
SFTJM1.4*0.30 P1	37	9.5	3	2.5	3			●	○	○	○
SFTJM1.6*0.35 P1	37	10	3	2.5	3			●	○	○	○
SFTJM2.0*0.40 P1	45	9	3	2.5	3	1.4	6	●	○	○	○
SFTJM2.5*0.45 P2	45	9	3	2.5	3	1.9	6	●	○	○	○
SFTJM3.0*0.50 P2	50	12	4	3.2	6	2.3	7	●	○	○	○
SFTJM3.5*0.60 P2	50	13	4	3.2	6	2.6	7	●	○	○	○
SFTJM4.0*0.70 P2	57	14	5	4	7	3	7	●	○	○	○
SFTJM5.0*0.80 P2	66	16	5.5	4.5	7	4	9	●	○	○	○
SFTJM6.0*1.00 P2	62	19.5	6	4.5	7	4.6	9.5	●	○	○	○
SFTJM8.0*1.25 P3	70	22	6.2	5	8			●	○	○	○
SFTJM8.0*1.00 P3	70	22	6.2	5	8			●	○	○	○
SFTJM10.0*1.50 P3	75	24	7	5.5	8			●	○	○	○
SFTJM10.0*1.25 P3	75	24	7	5.5	8			●	○	○	○
SFTJM10.0*1.00 P3	75	24	7	5.5	8			●	○	○	○
SFTJM12.0*1.75 P3	82	29	8.5	6.5	9			●	○	○	○
SFTJM12.0*1.50 P3	82	29	8.5	6.5	9			●	○	○	○
SFTJM12.0*1.25 P3	82	29	8.5	6.5	9			●	○	○	○
SFTJM12.0*1.00 P3	82	29	8.5	6.5	9			●	○	○	○
SFTJM14.0*2.00 P4	88	20	10.5	8	11			●	○	○	○
SFTJM14.0*1.50 P4	88	20	10.5	8	11			●	○	○	○
SFTJM14.0*1.25 P4	88	20	10.5	8	11			●	○	○	○
SFTJM14.0*1.00 P4	88	20	10.5	8	11			●	○	○	○
SFTJM16.0*2.00 P4	95	20	12.5	10	13			●	○	○	○
SFTJM16.0*1.50 P4	95	20	12.5	10	13			●	○	○	○
SFTJM16.0*1.25 P4	95	20	12.5	10	13			●	○	○	○
SFTJM16.0*1.00 P4	95	19.5	12.5	10	13			●	○	○	○
SFTJNO.4-40UNC P2	45	10	3	2.5	3	2	6	●	○	○	○
SFTJNO.5-40UNC P2	50	12	4	3.2	6	2.3	7	●	○	○	○
SFTJNO.6-32UNC P2	50	13	4	3.2	6	2.4	7	●	○	○	○
SFTJNO.8-32UNC P2	57	13.5	5	4	7	3	8	●	○	○	○
SFTJNO.10-24UNC P2	66	16.5	5.5	4.5	7	3.4	9.5	●	○	○	○
SFTJNO.12-24UNC P2	66	16.5	5.5	4.5	7	4	9.5	●	○	○	○
SFTJ1/4-20UNC P2	62	19.5	6	4.5	7	4.6	9.5	●	○	○	○
SFTJ5/16-18UNC P3	70	23	6.1	5	8			●	○	○	○
SFTJ3/8-16UNC P3	75	24	7	5.5	8			●	○	○	○
SFTJ7/16-14UNC P3	80	29	8	6	9			●	○	○	○
SFTJ1/2-13UNC P3	85	30	9	7	10			●	○	○	○
SFTJ9/16-12UNC P4	90	30	10.5	8	11			●	○	○	○
SFTJ5/8-11UNC P4	95	23	12	9	12			●	○	○	○

●Stock ○Availabie upon Order

Cutting Taps





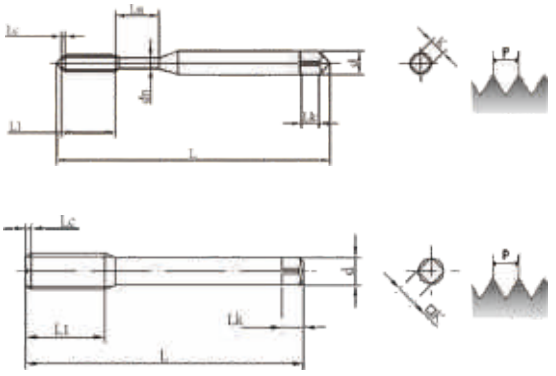
Material: HSSE Unit: mm

Ordering Code	L	L1	d	K	LK	dn	ln	Natural color	Tin	Alsin-A	Ticn
POTM1.0*0.25 P1	32	6.5	3	2.5	3			●	○	○	○
POTM1.2*0.25 P1	32	6.5	3	2.5	3			●	○	○	○
POTM1.4*0.30 P1	37	9.5	3	2.5	3			●	○	○	○
POTM1.6*0.35 P1	37	10	3	2.5	3			●	○	○	○
POTM2.0*0.40 P1	45	9	3	2.5	3	1.4	6	●	○	○	○
POTM2.5*0.45 P2	45	9	3	2.5	3	1.9	6	●	○	○	○
POTM3.0*0.50 P2	50	12	4	3.2	6	2.3	7	●	○	○	○
POTM3.5*0.60 P2	50	13	4	3.2	6	2.6	7	●	○	○	○
POTM4.0*0.70 P2	57	14	5	4	7	3	7	●	○	○	○
POTM5.0*0.80 P2	66	16	5.5	4.5	7	4	9	●	○	○	○
POTM6.0*1.00 P2	62	19.5	6	4.5	7	4.6	9.5	●	○	○	○
POTM8.0*1.25 P3	70	22	6.2	5	8			●	○	○	○
POTM8.0*1.00 P3	70	22	6.2	5	8			●	○	○	○
POTM10.0*1.50 P3	75	24	7	5.5	8			●	○	○	○
POTM10.0*1.25 P3	75	24	7	5.5	8			●	○	○	○
POTM10.0*1.00 P3	75	24	7	5.5	8			●	○	○	○
POTM12.0*1.75 P3	82	29	8.5	6.5	9			●	○	○	○
POTM12.0*1.50 P3	82	29	8.5	6.5	9			●	○	○	○
POTM12.0*1.25 P3	82	29	8.5	6.5	9			●	○	○	○
POTM12.0*1.00 P3	82	29	8.5	6.5	9			●	○	○	○
POTM14.0*2.00 P4	88	20	10.5	8	11			●	○	○	○
POTM14.0*1.50 P4	88	20	10.5	8	11			●	○	○	○
POTM14.0*1.25 P4	88	20	10.5	8	11			●	○	○	○
POTM14.0*1.00 P4	88	20	10.5	8	11			●	○	○	○
POTM16.0*2.00 P4	95	20	12.5	10	13			●	○	○	○
POTM16.0*1.50 P4	95	20	12.5	10	13			●	○	○	○
POTM16.0*1.25 P4	95	20	12.5	10	13			●	○	○	○
POTM16.0*1.00 P4	95	19.5	12.5	10	13			●	○	○	○
POTNO.4-40UNC P2	45	10	3	2.5	3	2	6	●	○	○	○
POTNO.5-40UNC P2	50	12	4	3.2	6	2.3	7	●	○	○	○
POTNO.6-32UNC P2	50	13	4	3.2	6	2.4	7	●	○	○	○
POTNO.8-32UNC P2	57	13.5	5	4	7	3	8	●	○	○	○
POTNO.10-24UNC P2	66	16.5	5.5	4.5	7	3.4	9.5	●	○	○	○
POTNO.12-24UNC P2	66	16.5	5.5	4.5	7	4	9.5	●	○	○	○
POT1/4-20UNC P2	62	19.5	6	4.5	7	4.6	9.5	●	○	○	○
POT5/16-18UNC P3	70	23	6.1	5	8			●	○	○	○
POT3/8-16UNC P3	75	24	7	5.5	8			●	○	○	○
POT7/16-14UNC P3	80	29	8	6	9			●	○	○	○
POT1/2-13UNC P3	85	30	9	7	10			●	○	○	○
POT9/16-12UNC P4	90	30	10.5	8	11			●	○	○	○
POT5/8-11UNC P4	95	23	12	9	12			●	○	○	○

●Stock ○Availabie upon Order

Cutting Taps





Material: HSSE Unit: mm

Ordering Code	L	L1	d	K	LK	dn	ln	Natural color	Tin	Alsin-A	Ticn
SFTM1.0*0.25 P1	32	6.5	3	2.5	3			●	○	○	○
SFTM1.2*0.25 P1	32	6.5	3	2.5	3			●	○	○	○
SFTM1.4*0.30 P1	37	9.5	3	2.5	3			●	○	○	○
SFTM1.6*0.35 P1	37	10	3	2.5	3			●	○	○	○
SFTM2.0*0.40 P1	45	9	3	2.5	3	1.4	6	●	○	○	○
SFTM2.5*0.45 P2	45	9	3	2.5	3	1.9	6	●	○	○	○
SFTM3.0*0.50 P2	50	12	4	3.2	6	2.3	7	●	○	○	○
SFTM3.5*0.60 P2	50	13	4	3.2	6	2.6	7	●	○	○	○
SFTM4.0*0.70 P2	57	14	5	4	7	3	7	●	○	○	○
SFTM5.0*0.80 P2	66	16	5.5	4.5	7	4	9	●	○	○	○
SFTM6.0*1.00 P2	62	19.5	6	4.5	7	4.6	9.5	●	○	○	○
SFTM8.0*1.25 P3	70	22	6.2	5	8			●	○	○	○
SFTM8.0*1.00 P3	70	22	6.2	5	8			●	○	○	○
SFTM10.0*1.50 P3	75	24	7	5.5	8			●	○	○	○
SFTM10.0*1.25 P3	75	24	7	5.5	8			●	○	○	○
SFTM10.0*1.00 P3	75	24	7	5.5	8			●	○	○	○
SFTM12.0*1.75 P3	82	29	8.5	6.5	9			●	○	○	○
SFTM12.0*1.50 P3	82	29	8.5	6.5	9			●	○	○	○
SFTM12.0*1.25 P3	82	29	8.5	6.5	9			●	○	○	○
SFTM12.0*1.00 P3	82	29	8.5	6.5	9			●	○	○	○
SFTM14.0*2.00 P4	88	20	10.5	8	11			●	○	○	○
SFTM14.0*1.50 P4	88	20	10.5	8	11			●	○	○	○
SFTM14.0*1.25 P4	88	20	10.5	8	11			●	○	○	○
SFTM14.0*1.00 P4	88	20	10.5	8	11			●	○	○	○
SFTM16.0*2.00 P4	95	20	12.5	10	13			●	○	○	○
SFTM16.0*1.50 P4	95	20	12.5	10	13			●	○	○	○
SFTM16.0*1.25 P4	95	20	12.5	10	13			●	○	○	○
SFTM16.0*1.00 P4	95	19.5	12.5	10	13			●	○	○	○
SFTNO.4-40UNC P2	45	10	3	2.5	3	2	6	●	○	○	○
SFTNO.5-40UNC P2	50	12	4	3.2	6	2.3	7	●	○	○	○
SFTNO.6-32UNC P2	50	13	4	3.2	6	2.4	7	●	○	○	○
SFTNO.8-32UNC P2	57	13.5	5	4	7	3	8	●	○	○	○
SFTNO.10-24UNC P2	66	16.5	5.5	4.5	7	3.4	9.5	●	○	○	○
SFTNO.12-24UNC P2	66	16.5	5.5	4.5	7	4	9.5	●	○	○	○
SFT1/4-20UNC P2	62	19.5	6	4.5	7	4.6	9.5	●	○	○	○
SFT5/16-18UNC P3	70	23	6.1	5	8			●	○	○	○
SFT3/8-16UNC P3	75	24	7	5.5	8			●	○	○	○
SFT7/16-14UNC P3	80	29	8	6	9			●	○	○	○
SFT1/2-13UNC P3	85	30	9	7	10			●	○	○	○
SFT9/16-12UNC P4	90	30	10.5	8	11			●	○	○	○
SFT5/8-11UNC P4	95	23	12	9	12			●	○	○	○

●Stock ○Availabie upon Order

Plug gauge’s specification





Material：HSSE Unit：mm

Ordering Code	Precision	Ordering Code	Precision
M1.0*0.25	5H	M7.0*1.00	6H
M1.2*0.25	5H	M8.0*1.25	6H
M1.4*0.30	6H	M8.0*1.00	6H
M1.6*0.35	6H	M10.0*1.50	6H
M1.7*0.35	6H	M10.0*1.25	6H
M1.8*0.35	6H	M10.0*1.00	6H
M2.0*0.40	6H	M12.0*1.75	6H
M2.3*0.40	6H	M12.0*1.50	6H
M2.5*0.45	6H	M12.0*1.25	6H
M2.6*0.45	6H	M12.0*1.00	6H
M3.0*0.50	6H	M14.0*2.00	6H
M3.5*0.60	6H	M14.0*1.50	6H
M4.0*0.70	6H	M16.0*2.00	6H
M5.0*0.80	6H	M16.0*1.50	6H
M6.0*1.00	6H		

Material：HSSE Unit：mm

Ordering Code	Precision	Ordering Code	Precision
M0.1–40 UNC	2B	1/2–13 UNC	2B
M0.5–40 UNC	2B	1/2–20 UNF	2B
M0.6–32 UNC	2B	9/16–12 UNC	2B
M0.8–32 UNC	2B	5/8–11 UNC	2B
M0.10–24 UNC	2B	5/8–18 UNF	2B
M0.10–32 UNF	2B	5/8–24 UNF	2B
M0.12–24 UNC	2B	W1/8–40	2B
M0.12–28 UNF	2B	W5/32–32	2B
1/4–20 UNC	2B	W3/16–24	2B
1/4–28 UNF	2B	W1/4–20	2B
5/16–18 UNC	2B	W5/16–18	2B
5/16–24 UNF	2B	W3/8–16	2B
3/8–16 UNC	2B	W1/2–12	2B
2/8–24 UNF	2B	W5/8–11	2B
7/16–14 UNC	2B		
7/16–20 UNF	2B		

plug gauge use HSS material,the size ⩾3mm' shardness in HRC53–60°, > 3mm in HRC58–60°,
GO–NO GO FIXED GAUGES's precision can be 5H,6H,also can be 6G,7H.size⩽M1.4 can be 5H,
go gauge use GP to mark T=GO=GR,not–go–end USD IP to mark Z=NO=NR

NRT hole diameter calculating mode

1.dN=D–P*0.45 2.dN=D–0.2P–0.00403・P・f1+0.0127・n Eg: M3*0.5 Rh6 JIS class 2 drill hole Thread overlap ratio 90% dN=3–0.2*0.5–0.00403・0.5・90+0.0127・6=2.79	dN=Hole diameter D=Diameter P=Pitch f1=Thread overlap ratio n=RH

●Stock ○Availabie upon Order

Recommended drill hole size for forming taps

Material: HSSE Unit: mm

Ordering Code	For JIS class 1B drill hole dia		For JIS class 2B drill hole dia	
	RH	MIN~MAX	RH	MIN~MAX
	Precision	Thread Overlap Ratio:%	Precision	Thread Overlap Ratio:%
M1.0*0.25	2	0.87~0.89(100~85)	4	0.90~0.82(100~80)
M1.2*0.25	2	1.07~1.09(100~85)	4	1.10~1.12(100~80)
M1.4*0.30	2	1.244~1.263(100~85)	4	1.270~1.294(100~80)
M1.6*0.35	2	1.40~1.44(100–80)	4	1.44~1.48(100–75)
M1.7*0.35	2	1.51~1.54(100–80)	4	1.54~1.58(100–75)
M2.0*0.40	2	1.78~1.82(100–80)	4	1.81~1.85(100–75)
M2.3*0.40	2	2.08~2.12(100–80)	4	2.11~2.15(100–75)
M2.5*0.45	2	2.25~2.29(100–80)	4	2.28~2.33(100–75)
M2.6*0.45	2	2.35~2.39(100–80)	4	2.38~2.43(100–75)
M3.0*0.50	3	2.74~2.78(100–80)	5	2.76~2.81(100–75)
M3.5*0.60	3	3.18~3.21(100~85)	5	3.20~3.26(100~75)
M4.0*0.70	4	3.63~3.67(100~85)	6	3.65~3.70(100~85)
M5.0*0.80	4	4.57~4.62(100~85)	6	4.59~4.66(100~80)
M6.0*1.00	4	5.45~5.51(100~85)	7	5.48~5.57(100~80)
M7.0*1.00	4	6.45~6.51(100~85)	7	6.48~6.57(100~80)
M8.0*1.25	5	7.31~7.38(100~85)	7	7.34~7.41(100~85)
M10.0*1.50	5	9.19~9.22(100~90)	7	9.18~9.28(100~85)
M12.0*1.75	5	11.01~11.08(100~90)	8	11.05~11.15(100~85)
M14.0*2.00	6	12.83~12.95(100~90)	10	12.92~13.04(100~85)
M16*2.00	6	14.87~14.95(100~90)	10	14.92~15.04(100~85)

Material: HSSE Unit: mm

Ordering Code	For JIS class 1B drill hole dia		For JIS class 2B drill hole dia	
	RH	MIN~MAX	RH	MIN~MAX
	Precision	Thread Overlap Ratio:%	Precision	Thread Overlap Ratio:%
NO.2~56UNC	4	1.96~2.02(100~65)	3	1.95~2.01(100~65)
2~64	3	1.98~2.04(100~65)	2	1.97~2.03(100~65)
3~48	4	2.25~2.60(100~65)	3	2.23~2.31(100~65)
4~40	5	2.52~2.60(100~70)	3	2.50~2.58(100~70)
4~48	4	2.57~2.64(100~70)	3	2.56~2.63(100~70)
6~32	5	3.09~3.17(100~75)	3	3.06~3.14(100~75)
6~40	5	3.19~3.26(100~70)	3	3.16~3.22(100~75)
8~32	6	3.75~3.83(100~75)	4	3.74~3.82(100~75)
10~24	6	4.26~4.35(100~80)	4	4.24~4.32(100~80)
10~32	5	4.41~4.48(100~80)	4	4.40~4.46(100~80)
12~28	5	5.00~5.08(100~80)	4	4.99~5.06(100~80)
1/4~20	6	5.66~5.76(100~80)	4	5.64~5.74(100~80)
1/4~28	5	5.86~5.93(100~80)	4	5.85~5.92(100~80)
5/16~18	7	7.18~7.29(100~80)	5	7.15~7.24(100~80)
5/16~24	6	7.38~7.46(100~80)	5	7.36~7.43(100~85)
3/8~16	7	8.66~8.78(100~80)	5	8.63~8.73(100~85)
3/8~24	6	8.96~9.05(100~80)	5	8.95~9.02(100~85)
7/16~20	7	10.44~10.54(100~80)	5	10.41~10.49(100~85)
1/2~13	8	11.62~11.78(100~80)	6	11.60~11.68(100~90)
1/2~20	7	12.02~12.12(100~80)	5	12.00~12.05(100~90)
5/8~11	11	14.62~14.76(100~85)	8	14.58~14.67(100~90)
5/8~18	9	15.14~15.25(100~80)	7	15.11~15.17(100~90)

●Stock ○Availabie upon Order

Recommended drill hole size for cutting taps

Specification(M)		Standard Hole Dia	For JIS Class2 Drill Hole Dia	
			Max	Min
M1.0	0.25	0.75	0.785	0.729
M1.1	0.25	0.85	0.885	0.829
M1.2	0.25	0.95	0.985	0.929
M1.4	0.30	1.10	1.142	1.075
M1.6	0.35	1.25	1.321	1.221
M1.7	0.35	1.35	1.421	1.321
M1.8	0.35	1.45	1.521	1.421
M2.0	0.40	1.60	1.679	1.567
M2.2	0.45	1.75	1.838	1.713
M2.3	0.40	1.90	1.979	1.867
M2.5	0.45	2.10	2.138	2.013
M2.6	0.45	2.20	2.238	2.113
M3.0	0.50	2.50	2.599	2.459
M3.5	0.60	2.90	3.010	2.850
M4.0	0.70	3.30	3.422	3.242
M4.5	0.75	3.80	3.878	3.688
M5.0	0.80	4.20	4.334	4.134
M6.0	1.00	5.00	5.153	4.917
M7.0	1.00	6.00	6.153	5.917
M8.0	1.25	6.80	6.912	6.647
M8.0	1.00	7.00	7.153	6.917
M9.0	1.25	7.80	7.912	7.647
M10	1.50	8.50	8.676	8.376
M10	1.25	8.80	8.912	8.647
M10	1.00	9.00	9.153	8.917
M11	1.50	9.50	9.676	9.376
M12	1.75	10.30	10.441	10.106
M12	1.50	10.50	10.676	10.376
M12	1.25	10.80	10.912	10.647
M12	1.00	11.00	11.153	10.917
M14	2.00	12.00	12.210	11.835
M14	1.50	12.50	12.676	12.376
M14	1.00	13.00	13.153	12.917
M16	2.00	14.00	14.210	13.835
M16	1.50	14.50	14.676	14.376
M16	1.00	15.00	15.153	14.917

Specification(M) (UNC)		Standard Hole Dia	For JIS Class2 Drill Hole Dia	
			Max	Min
NO.1	–64	1.55	1.582	1.425
NO.2	–56	1.80	1.871	1.695
NO.3	–48	2.10	2.146	1.941
NO.4	–40	2.30	2.385	2.157
NO.5	–40	2.60	2.697	2.487
NO.6	–32	2.80	2.895	2.642
NO.8	–32	3.40	3.530	3.302
NO.10	–24	3.90	3.962	3.683
NO.12	–24	4.50	4.597	4.344
1/4	–20	5.10	5.257	4.979
5/16	–18	6.60	6.731	6.401
3/8	–16	8.00	8.153	7.798
7/16	–14	9.40	9.550	9.144
1/2	–13	10.90	11.023	10.592
9/16	–12	12.20	12.466	11.989
5/8	–11	13.60	13.868	13.386

Specification(M) (UNC)		Standard Hole Dia	For JIS Class2 Drill Hole Dia	
			Max	Min
NO.0	–80	1.25	1.305	1.182
NO.1	–72	1.55	1.612	1.474
NO.2	–64	1.85	1.912	1.756
NO.3	–56	2.10	2.197	2.025
NO.4	–48	2.40	2.458	2.271
NO.5	–44	2.70	2.740	2.551
NO.6	–40	2.90	3.022	2.820
NO.8	–36	3.50	3.606	3.404
NO.10	–32	4.10	4.165	3.963
NO.12	–28	4.60	4.724	4.496
1/4	–28	5.50	5.588	5.360
5/16	–24	6.90	7.035	6.782
3/8	–24	8.50	8.636	8.382
7/16	–20	9.90	10.033	9.729
1/2	–20	11.50	11.607	11.329
9/16	–18	12.90	13.081	12.751
5/8	–18	14.50	14.681	14.351