



GÜHRING

Fluteless taps XF

High-performance tool
for forming steel materials



Fluteless taps XF

The specialist for forming steel materials

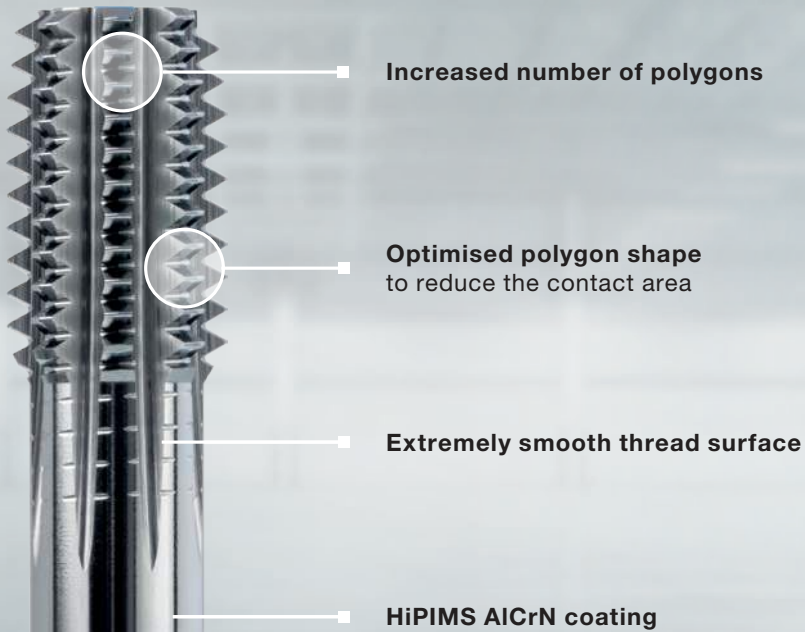
High performance
in steel materials

**The new XF fluteless tap is the high-performance
fluteless tap for all steel materials in ISO group P.**

The tool is characterised by its newly developed polygon geometry. The combination of an increased number of polygons, an extremely smooth thread surface and the HiPIMS AlCrN coating – which is characterised by extremely high temperature resistance – helps to achieve outstanding tool life in steel materials.

- x **Tool life** increased by 60 %
 - x **Processing time** reduced by 25 %
-

- X Outstanding tool lives
- X Shorter machining times
- X Coating & polygon geometry adapted to the challenge



Application example

Component: Axle journal, 1.7225 (42CrMo4)

Tool: #8325, Ø 8.00 mm

Customer target: Increased tool life

Difficulty: Material deformation rate

Cutting data:	Gühring	Competition
	v_c 20 m/min	v_c 15 m/min

Tool life:	3,840 threads	2,400 threads
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Fluteless taps XF

Fluteless taps with coolant ducts for ISO metric threads

Article no. **8325**

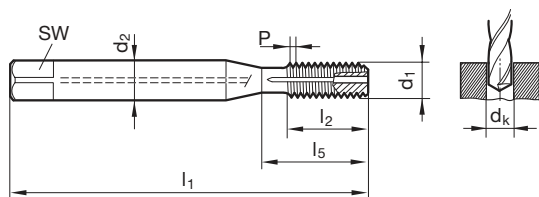


cutting data see page 6



with internal cooling \geq M5 • maximum performance • optimised polygon shape • for steel materials

P	M	K	N	S	H
•					



Standard ~DIN 371/~DIN 376
Article no. **8325**

d1	P mm	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l5 mm		Order no.
M3	0.500	3.50	2.70	2.80	56.00	6.00	18.00	~DIN 371	8325 3.000
M4	0.700	4.50	3.40	3.70	63.00	7.50	21.00	~DIN 371	8325 4.000
M5	0.800	6.00	4.90	4.65	70.00	8.50	25.00	~DIN 371	8325 5.000
M6	1.000	6.00	4.90	5.55	80.00	11.00	30.00	~DIN 371	8325 6.000
M8	1.250	8.00	6.20	7.40	90.00	14.00	35.00	~DIN 371	8325 8.000
M10	1.500	10.00	8.00	9.30	100.00	16.00	39.00	~DIN 371	8325 10.000
M12	1.750	9.00	7.00	11.20	110.00	18.50	49.00	~DIN 376	8325 12.000
M14	2.000	11.00	9.00	13.10	110.00	20.00	53.00	~DIN 376	8325 14.000
M16	2.000	12.00	9.00	15.10	110.00	20.00	54.00	~DIN 376	8325 16.000
M20	2.500	16.00	12.00	18.90	140.00	25.00	62.00	~DIN 376	8325 20.000
M24	3.000	18.00	14.50	22.70	160.00	30.00	73.00	~DIN 376	8325 24.000

Fluteless taps with coolant ducts for ISO metric threads

Article no. **8327**

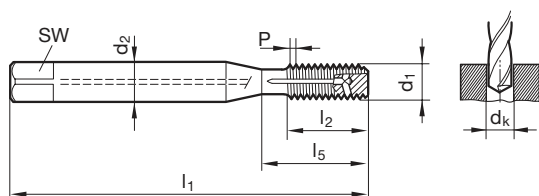


cutting data see page 6



maximum performance • optimised polygon shape • for steel materials

P	M	K	N	S	H
•					



Standard ~DIN 371/~DIN 376
Article no. **8327**

d1	P mm	d2 mm	SW mm	dk mm	l1 mm	l2 mm	l5 mm		Order no.
M5	0.800	6.00	4.90	4.65	70.00	8.50	25.00	~DIN 371	8327 5.000
M6	1.000	6.00	4.90	5.55	80.00	11.00	30.00	~DIN 371	8327 6.000
M8	1.250	8.00	6.20	7.40	90.00	14.00	35.00	~DIN 371	8327 8.000
M10	1.500	10.00	8.00	9.30	100.00	16.00	39.00	~DIN 371	8327 10.000
M12	1.750	9.00	7.00	11.20	110.00	18.50	49.00	~DIN 376	8327 12.000
M14	2.000	11.00	9.00	13.10	110.00	20.00	53.00	~DIN 376	8327 14.000
M16	2.000	12.00	9.00	15.10	110.00	20.00	54.00	~DIN 376	8327 16.000
M20	2.500	16.00	12.00	18.90	140.00	25.00	62.00	~DIN 376	8327 20.000
M24	3.000	18.00	14.50	22.70	160.00	30.00	73.00	~DIN 376	8327 24.000



Fluteless taps with coolant ducts for ISO metric fine threads

Article no. 8326

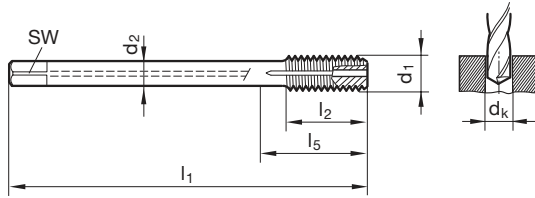


cutting data see page 6



maximum performance • optimised polygon shape • for steel materials

P	M	K	N	S	H
•					



								Standard	~DIN 374
								Article no.	8326
d1	P	d2	SW	dk	l1	l2	l5	Order no.	
M8 x 1	1.000	6.00	4.90	7.55	90.00	11.00	35.00	8326 8.005	
M10 x 1	1.000	7.00	5.50	9.55	90.00	11.00	35.00	8326 10.005	
M12 x 1,25	1.250	9.00	7.00	11.40	100.00	15.00	40.00	8326 12.006	
M12 x 1,5	1.500	9.00	7.00	11.30	100.00	15.00	40.00	8326 12.007	
M14 x 1,25	1.250	11.00	9.00	13.40	100.00	15.00	40.00	8326 14.006	
M14 x 1,5	1.500	11.00	9.00	13.30	100.00	15.00	40.00	8326 14.007	
M16 x 1,5	1.500	12.00	9.00	15.30	100.00	15.00	44.00	8326 16.007	
M20 x 1,5	1.500	16.00	12.00	19.30	125.00	16.00	44.00	8326 20.007	
M22 x 1,5	1.500	18.00	14.50	21.30	125.00	16.00	44.00	8326 22.007	
M24 x 1,5	1.500	18.00	14.50	23.30	140.00	16.00	48.00	8326 24.007	

Fluteless taps with coolant ducts for ISO metric fine threads

Article no. 8328

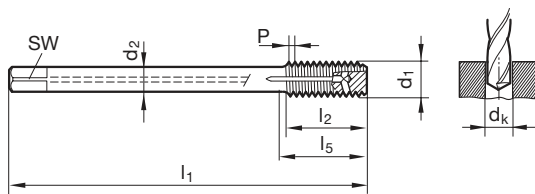


cutting data see page 6



maximum performance • optimised polygon shape • for steel materials

P	M	K	N	S	H
•					



								Standard	~DIN 374
								Article no.	8328
d1	P	d2	SW	dk	l1	l2	l5	Order no.	
M8 x 1	1.000	6.00	4.90	7.55	90.00	11.00	35.00	8328 8.005	
M10 x 1	1.000	7.00	5.50	9.55	90.00	11.00	35.00	8328 10.005	
M12 x 1,25	1.250	9.00	7.00	11.40	100.00	15.00	40.00	8328 12.006	
M12 x 1,5	1.500	9.00	7.00	11.30	100.00	15.00	40.00	8328 12.007	
M14 x 1,25	1.250	11.00	9.00	13.40	100.00	15.00	40.00	8328 14.006	
M14 x 1,5	1.500	11.00	9.00	13.30	100.00	15.00	40.00	8328 14.007	
M16 x 1,5	1.500	12.00	9.00	15.30	100.00	15.00	44.00	8328 16.007	
M20 x 1,5	1.500	16.00	12.00	19.30	125.00	16.00	44.00	8328 20.007	
M22 x 1,5	1.500	18.00	14.50	21.30	125.00	16.00	44.00	8328 22.007	
M24 x 1,5	1.500	18.00	14.50	23.30	140.00	16.00	48.00	8328 24.007	



Fluteless taps XF, ISO P M/MF

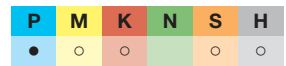
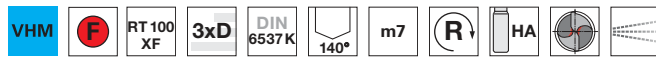


Machining group	HSS-E-PM
	P
	v_c (m/min)
P1.1.1 Unalloyed steel, annealed, 0.15 % C, Rm 420 N/mm ² , 125 HB	31
P1.1.2 Unalloyed steel, heat-treated, 0.15 % C, Rm 420 N/mm ² , 125 HB	31
P1.1.3 Unalloyed steel, annealed, 0.45 % C, Rm 640 N/mm ² , 190 HB	31
P1.1.4 Unalloyed steel, heat-treated, 0.45 % C, Rm 640 N/mm ² , 190 HB	31
P1.1.5 Unalloyed steel, heat-treated, 0.45 % C, Rm 850 N/mm ² , 250 HB	31
P1.1.6 Unalloyed steel, annealed, 0.75 % C, Rm 915 N/mm ² , 270 HB	31
P1.1.7 Unalloyed steel, heat-treated, 0.75 % C, Rm 1020 N/mm ² , 300 HB	31
P2.1.1 Low-alloy steel, annealed, Rm 610 N/mm ² , 180 HB	25
P2.1.2 Low-alloy steel, heat-treated, Rm 930 N/mm ² , 275 HB	25
P2.1.3 Low-alloy steel, heat-treated, Rm 1020 N/mm ² , 300 HB	25
P2.1.4 Low-alloy steel, heat-treated, Rm 1190 N/mm ² , 350 HB	25
P3.1.1 High-alloy steel and tool steel, annealed, Rm 680 N/mm ² , 200 HB	19
P3.1.2 High-alloy steel and tool steel, hardened and tempered, Rm 1100 N/mm ² , 325 HB	19
M1.1.1 Stainless steel, ferritic/martensitic, with machining additives	
M1.1.2 Stainless steel, ferritic/martensitic, annealed, Rm 680 N/mm ² , 200 HB	
M1.1.3 Stainless steel, ferritic/martensitic, heat-treated, Rm 810 N/mm ² , 240 HB	
M2.1.1 Stainless steel, austenitic, quenched, 180 HB	
M2.2.1 Duplex steel, high-strength stainless steels	
K1.1.1 Grey cast iron, pearlitic/ferritic, 180 HB	
K1.1.2 Grey cast iron, pearlitic/martensitic, 260 HB	
K1.2.1 Cast iron with spheroidal graphite, ferritic, 160 HB	
K1.2.2 Cast iron with spheroidal graphite, pearlitic, 250 HB	
K1.3.1 Malleable cast iron, ferritic, 130 HB	
K1.3.2 Malleable cast iron, pearlitic, 230 HB	
K2.1.1 Vermicular graphite cast iron (GJV)	
K2.2.1 Austenitic-ferritic spheroidal graphite cast iron (ADI)	
N1.1.1 Wrought aluminium alloys, non-hardened, 60 HB	
N1.1.2 Wrought aluminium alloys, hardened, 100 HB	
N2.1.1 Aluminium casting alloys, non-hardened, ≤ 12 % Si, 75 HB	
N2.1.2 Aluminium casting alloys, hardened, ≤ 12 % Si, 90 HB	
N2.1.3 Aluminium casting alloys, non-hardened, > 12 % Si, 130 HB	
N3.1.1 Copper and copper alloys: Free-machining alloy, Pb > 1 %	
N3.1.2 Copper and copper alloys: CuZn, CuSnZn	
N3.1.3 Copper and copper alloys: CuSn, lead-free copper and copper electrolyte	
N4.1.1 Non-metallic materials: Duroplastics, fibre-reinforced plastics	
N4.1.2 Non-metallic materials: Hard rubber, wood, etc.	
N4.1.3 Non-metallic materials: Graphite	
S1.1.1 Heat-resistant alloys, Fe-based, annealed, 200 HB	
S1.1.2 Heat-resistant alloys, Fe-based, hardened, 280 HB	
S1.1.3 Heat-resistant alloys, Ni- or Co-based, annealed, 250 HB	
S1.1.4 Heat-resistant alloys, Ni- or Co-based, hardened, 350 HB	
S1.1.5 Heat-resistant alloys, Ni- or Co-based, cast, 320 HB	
S2.1.1 Titanium alloys, pure titanium, Rm 400 N/mm ²	
S2.1.2 Titanium alloys, Alpha and Beta alloys, hardened, Rm 1050 N/mm ²	
H1.1.1 Hardened steel, hardened and tempered, < 55 HRC	
H1.1.2 Hardened steel, hardened and tempered, < 60 HRC	
H1.1.3 Hardened steel, hardened and tempered, > 60 HRC	
H2.1.1 Chilled cast iron, 400 HB	
H2.1.2 Chilled cast iron, hardened and tempered, < 55 HRC	

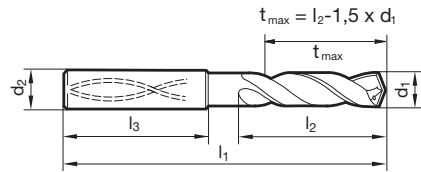


Ratio drills with coolant ducts

Article no. 6498



ideal for core hole drilling • web thinning $\geq \varnothing 3.000$ • relieved cone • main cutting edge form concave
 • optimised cutting edge geometry • maximum performance • double margin



Article no. 6498

Article no. 6498

d1 mm	inch	d2 h6 mm	l1 mm	l2 mm	l3 mm	Order no.
3.700		6.0	62.0	20.0	36.0	6498 3.700
4.650		6.0	66.0	24.0	36.0	6498 4.650
5.550		6.0	66.0	28.0	36.0	6498 5.550
7.400		8.0	79.0	41.0	36.0	6498 7.400
7.550		8.0	79.0	41.0	36.0	6498 7.550
9.300		10.0	89.0	47.0	40.0	6498 9.300
9.550		10.0	89.0	47.0	40.0	6498 9.550
11.200		12.0	102.0	55.0	45.0	6498 11.200
11.300		12.0	102.0	55.0	45.0	6498 11.300

d1 mm	inch	d2 h6 mm	l1 mm	l2 mm	l3 mm	Order no.
11.400		12.0	102.0	55.0	45.0	6498 11.400
13.100	33/64	14.0	107.0	60.0	45.0	6498 13.100
13.300		14.0	107.0	60.0	45.0	6498 13.300
13.400		14.0	107.0	60.0	45.0	6498 13.400
15.100		16.0	115.0	65.0	48.0	6498 15.100
15.300		16.0	115.0	65.0	48.0	6498 15.300
18.900		20.0	131.0	79.0	50.0	6498 18.900
19.300		20.0	131.0	79.0	50.0	6498 19.300

Machining group	f (mm/rev) with nom. Ø								
	v _c (m/min)	F							
		3	6	8	10	12	14	16	20
P1.1.1 Unalloyed steel, annealed, 0.15 % C, Rm 420 N/mm ² , 125 HB	180	0.190	0.325	0.405	0.480	0.550	0.620	0.685	0.815
P1.1.2 Unalloyed steel, heat-treated, 0.15 % C, Rm 420 N/mm ² , 125 HB	160	0.175	0.295	0.365	0.430	0.495	0.560	0.615	0.730
P1.1.3 Unalloyed steel, annealed, 0.45 % C, Rm 640 N/mm ² , 190 HB	160	0.175	0.295	0.365	0.430	0.495	0.560	0.615	0.730
P1.1.4 Unalloyed steel, heat-treated, 0.45 % C, Rm 640 N/mm ² , 190 HB	155	0.165	0.275	0.345	0.410	0.470	0.525	0.585	0.690
P1.1.5 Unalloyed steel, heat-treated, 0.45 % C, Rm 850 N/mm ² , 250 HB	155	0.165	0.275	0.345	0.410	0.470	0.525	0.585	0.690
P1.1.6 Unalloyed steel, annealed, 0.75 % C, Rm 915 N/mm ² , 270 HB	145	0.155	0.260	0.325	0.385	0.440	0.495	0.550	0.650
P1.1.7 Unalloyed steel, heat-treated, 0.75 % C, Rm 1020 N/mm ² , 300 HB	135	0.145	0.245	0.305	0.360	0.415	0.465	0.515	0.610
P2.1.1 Low-alloy steel, annealed, Rm 610 N/mm ² , 180 HB	120	0.155	0.260	0.325	0.385	0.440	0.495	0.550	0.650
P2.1.2 Low-alloy steel, heat-treated, Rm 930 N/mm ² , 275 HB	120	0.155	0.260	0.325	0.385	0.440	0.495	0.550	0.650
P2.1.3 Low-alloy steel, heat-treated, Rm 1020 N/mm ² , 300 HB	100	0.130	0.220	0.275	0.325	0.375	0.420	0.465	0.555
P2.1.4 Low-alloy steel, heat-treated, Rm 1190 N/mm ² , 350 HB	90	0.115	0.195	0.245	0.290	0.330	0.370	0.410	0.490
P3.1.1 High-alloy steel and tool steel, annealed, Rm 680 N/mm ² , 200 HB	90	0.125	0.210	0.260	0.305	0.355	0.395	0.440	0.520
P3.1.2 High-alloy steel and tool steel, hardened and tempered, Rm 1100 N/mm ² , 325 HB	75	0.105	0.175	0.220	0.260	0.300	0.335	0.375	0.440
M1.1.1 Stainless steel, ferritic/martensitic, with machining additives	80	0.075	0.130	0.160	0.190	0.220	0.250	0.275	0.325
M1.1.2 Stainless steel, ferritic/martensitic, annealed, Rm 680 N/mm ² , 200 HB	70	0.070	0.115	0.145	0.175	0.200	0.225	0.245	0.295
M1.1.3 Stainless steel, ferritic/martensitic, heat-treated, Rm 810 N/mm ² , 240 HB	70	0.065	0.110	0.140	0.165	0.185	0.210	0.235	0.275
K1.1.1 Grey cast iron, pearlitic/ferritic, 180 HB	110	0.155	0.260	0.325	0.385	0.440	0.495	0.550	0.650
K1.1.2 Grey cast iron, pearlitic/martensitic, 260 HB	95	0.130	0.220	0.275	0.325	0.375	0.420	0.465	0.555
K1.2.1 Cast iron with spheroidal graphite, ferritic, 160 HB	95	0.130	0.220	0.275	0.325	0.375	0.420	0.465	0.555
K1.2.2 Cast iron with spheroidal graphite, pearlitic, 250 HB	90	0.125	0.210	0.260	0.305	0.355	0.395	0.440	0.520
K1.3.1 Malleable cast iron, ferritic, 130 HB	90	0.125	0.210	0.260	0.305	0.355	0.395	0.440	0.520
K1.3.2 Malleable cast iron, pearlitic, 230 HB	75	0.110	0.180	0.225	0.270	0.310	0.345	0.385	0.455
K2.1.1 Vermicular graphite cast iron (GJV)	90	0.155	0.260	0.325	0.385	0.440	0.495	0.550	0.650
K2.2.1 Austenitic-ferritic spheroidal graphite cast iron (ADI)	70	0.115	0.195	0.245	0.290	0.330	0.370	0.410	0.490
S1.1.1 Heat-resistant alloys, Fe-based, annealed, 200 HB	40	0.060	0.105	0.130	0.155	0.175	0.200	0.220	0.260
S1.1.2 Heat-resistant alloys, Fe-based, hardened, 280 HB	30	0.050	0.085	0.105	0.120	0.140	0.160	0.175	0.205
S1.1.3 Heat-resistant alloys, Ni- or Co-based, annealed, 250 HB	35	0.060	0.105	0.130	0.155	0.175	0.200	0.220	0.260
S1.1.4 Heat-resistant alloys, Ni- or Co-based, hardened, 350 HB	20	0.045	0.075	0.090	0.105	0.125	0.140	0.155	0.180
S1.1.5 Heat-resistant alloys, Ni- or Co-based, cast, 320 HB	25	0.045	0.075	0.090	0.105	0.125	0.140	0.155	0.180
S2.1.1 Titanium alloys, pure titanium, Rm 400 N/mm ²	40	0.060	0.105	0.130	0.155	0.175	0.200	0.220	0.260
S2.1.2 Titanium alloys, Alpha and Beta alloys, hardened, Rm 1050 N/mm ²	30	0.050	0.085	0.105	0.120	0.140	0.160	0.175	0.205
H1.1.1 Hardened steel, hardened and tempered, < 55 HRC	55	0.050	0.080	0.100	0.120	0.140	0.155	0.175	0.205



Fluteless taps XF

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GÜHRING

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