TOP DRILL S • TDS202 Series • WP20PD™ • Flood Coolant • Inch

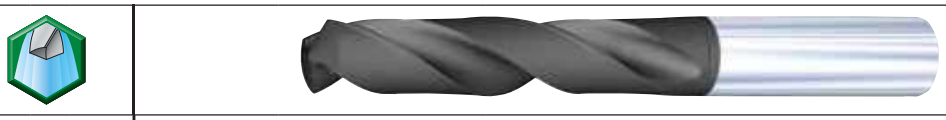
Material Group		Cutting Speed — vc Range — SFM min – max	Tool Diameter (inch)	Recommended Feed Rate (f) by Diameter .125–1/8	.188–3/16	.250–1/4	.313–5/16	.375–3/8	.500–1/2	.625–5/8	.750–3/4
P	1	230 – 460	IPR	.003–.006	.004–.007	.005–.010	.006–.012	.006–.013	.008–.015	.009–.018	.011–.022
P	2, 3, 4, 6, 7	230 – 460	IPR	.003–.006	.004–.007	.005–.010	.006–.012	.007–.013	.009–.015	.011–.019	.013–.024
P	5, 9, 10, 11	200 – 390	IPR	.003–.006	.004–.007	.005–.010	.006–.012	.007–.013	.008–.015	.009–.019	.011–.024
P	12, 13.1, 13.2	130 – 200	IPR	.002–.004	.003–.005	.004–.008	.004–.009	.005–.009	.005–.011	.007–.012	.009–.017
M	14.1	100 – 160	IPR	.002–.004	.002–.004	.003–.005	.004–.006	.004–.007	.005–.008	.006–.009	.006–.010
M	14.3	130 – 200	IPR	.002–.004	.003–.005	.004–.005	.004–.007	.004–.008	.005–.009	.006–.010	.006–.011
M	14.2, 14.4	100 – 160	IPR	.002–.004	.003–.004	.003–.005	.004–.006	.004–.007	.005–.007	.006–.008	.006–.010

TOP DRILL S • TDS401/TDS402/TDS403 Series • WP20PD • Through Coolant • Inch

Material Group		Cutting Speed — vc Range — SFM min – max	Tool Diameter (inch)	Recommended Feed Rate (f) by Diameter .125–1/8	.188–3/16	.250–1/4	.313–5/16	.375–3/8	.500–1/2	.625–5/8	.750–3/4
P	1	260 – 590	IPR	.003–.006	.004–.007	.005–.010	.006–.012	.006–.014	.008–.016	.010–.019	.012–.023
P	2, 3, 4, 6, 7	260 – 520	IPR	.003–.007	.004–.008	.005–.010	.006–.012	.008–.014	.009–.016	.012–.020	.014–.025
P	5, 9, 10, 11	260 – 460	IPR	.003–.007	.004–.008	.005–.010	.006–.012	.007–.014	.008–.016	.010–.020	.012–.025
P	12, 13.1, 13.2	160 – 260	IPR	.002–.004	.003–.005	.004–.008	.004–.009	.005–.010	.006–.011	.007–.013	.010–.017
M	14.1	130 – 200	IPR	.002–.004	.002–.005	.003–.005	.004–.006	.004–.007	.005–.008	.006–.009	.007–.010
M	14.3	130 – 230	IPR	.002–.004	.003–.005	.004–.005	.004–.007	.004–.008	.005–.009	.006–.010	.007–.012
M	14.2, 14.4	110 – 160	IPR	.002–.004	.003–.005	.003–.005	.004–.006	.004–.007	.005–.008	.006–.009	.007–.010

	Inch tolerance	
nominal size range	D1 tolerance m7	D tolerance h6
>.1181–.2362	.0000/.0005	.0000/-.0003
>.2360–.3937	.0000/.0006	.0000/-.0004
>.3937–.7087	.0000/.0007	.0000/-.0004
>.7078–1.0000	.0000/.0009	.0000/-.0005

TOP DRILL S • TDS202 Series • WP20PD™ • Flood Coolant • Metric



Material Group		Cutting Speed — vc Range — m/min min	–	max	Tool Diameter (mm)	Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	70	–	140	mm/r	0,08–0,15	0,10–0,18	0,12–0,25	0,15–0,30	0,15–0,34	0,20–0,38	0,23–0,45	0,28–0,55
P	2, 3, 4, 6, 7	70	–	140	mm/r	0,08–0,16	0,10–0,19	0,12–0,25	0,15–0,30	0,19–0,34	0,22–0,38	0,28–0,48	0,34–0,60
P	5, 9, 10, 11	60	–	120	mm/r	0,08–0,16	0,10–0,19	0,12–0,25	0,14–0,30	0,17–0,33	0,20–0,38	0,24–0,48	0,29–0,60
P	12, 13.1, 13.2	40	–	60	mm/r	0,06–0,10	0,08–0,12	0,10–0,20	0,10–0,22	0,13–0,24	0,14–0,27	0,18–0,32	0,24–0,42
M	14.1	30	–	50	mm/r	0,05–0,09	0,06–0,11	0,08–0,13	0,09–0,15	0,10–0,17	0,12–0,20	0,14–0,22	0,16–0,25
M	14.3	40	–	60	mm/r	0,05–0,10	0,07–0,12	0,09–0,13	0,10–0,18	0,10–0,20	0,12–0,22	0,14–0,25	0,16–0,28
M	14.2, 14.4	30	–	50	mm/r	0,05–0,09	0,07–0,11	0,08–0,12	0,09–0,15	0,10–0,17	0,12–0,19	0,14–0,21	0,16–0,25

TOP DRILL S • TDS401/TDS402/TDS403 Series • WP20PD • Through Coolant • Metric

Material Group		Cutting Speed — vc Range — m/min min	–	max	Tool Diameter (mm)	Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	80	–	180	mm/r	0,08–0,16	0,11–0,19	0,13–0,26	0,16–0,32	0,16–0,36	0,21–0,40	0,24–0,47	0,29–0,58
P	2, 3, 4, 6, 7	80	–	160	mm/r	0,09–0,17	0,11–0,20	0,13–0,26	0,16–0,32	0,20–0,36	0,23–0,40	0,29–0,50	0,36–0,63
P	5, 9, 10, 11	80	–	140	mm/r	0,08–0,17	0,11–0,20	0,12–0,26	0,15–0,32	0,18–0,35	0,21–0,40	0,25–0,50	0,30–0,63
P	12, 13.1, 13.2	50	–	80	mm/r	0,06–0,11	0,08–0,13	0,11–0,21	0,10–0,23	0,13–0,25	0,14–0,28	0,29–0,33	0,25–0,44
M	14.1	40	–	60	mm/r	0,05–0,09	0,06–0,12	0,08–0,14	0,09–0,16	0,11–0,18	0,13–0,21	0,15–0,23	0,17–0,26
M	14.3	40	–	70	mm/r	0,05–0,11	0,07–0,13	0,09–0,14	0,11–0,19	0,11–0,21	0,13–0,23	0,15–0,26	0,17–0,29
M	14.2, 14.4	35	–	50	mm/r	0,05–0,09	0,07–0,12	0,08–0,13	0,09–0,16	0,11–0,18	0,13–0,20	0,15–0,22	0,17–0,26

	Metric tolerance	
nominal size range	D1 tolerance m7	D tolerance h6
>3–6	0,004/0,016	0,000/-0,008
>6–10	0,006/0,021	0,000/-0,009
>10–18	0,007/0,025	0,000/-0,011
>18–25,4	0,008/0,029	0,000/-0,013

TOP DRILL S • TDS212 Series • WK15PD™ • Flood Coolant • Inch

Material Group		Cutting Speed — vc Range — SFM			Recommended Feed Rate (f) by Diameter							
		min	–	max	Tool Diameter (inch)	.125–1/8	.188–3/16	.250–1/4	.313–5/16	.375–3/8	.500–1/2	.625–5/8	.750–3/4
K	15, 16	230	–	560	IPR	.004–.009	.005–.009	.006–.012	.008–.015	.009–.017	.010–.019	.012–.024	.015–.029
	17, 18, 19	260	–	460	IPR	.005–.006	.005–.007	.006–.010	.008–.012	.009–.014	.010–.016	.012–.019	.015–.024
	20	230	–	430	IPR	.003–.007	.004–.007	.005–.010	.006–.012	.007–.014	.007–.016	.009–.019	.012–.024

TOP DRILL S • TDS411/TDS412/TDS413 Series • WK15PD • Through Coolant • Inch

Material Group		Cutting Speed — vc Range — SFM			Recommended Feed Rate (f) by Diameter							
		min	–	max	Tool Diameter (inch)	.125–1/8	.188–3/16	.250–1/4	.313–5/16	.375–3/8	.500–1/2	.625–5/8	.750–3/4
K	15, 16	260	–	620	IPR	.004–.009	.005–.009	.006–.012	.008–.015	.009–.017	.010–.019	.012–.024	.015–.029
	17, 18, 19	300	–	560	IPR	.005–.006	.005–.007	.006–.010	.008–.012	.009–.014	.010–.016	.012–.019	.015–.024
	20	260	–	490	IPR	.003–.007	.004–.007	.005–.010	.006–.012	.007–.014	.007–.016	.009–.019	.012–.024

Inch tolerance

nominal size range	D1 tolerance m7	D tolerance h6
>.1181–.2362	.0000/.0005	.0000/-.0003
>.2360–.3937	.0000/.0006	.0000/-.0004
>.3937–.7087	.0000/.0007	.0000/-.0004
>.7078–1.0000	.0000/.0009	.0000/-.0005

TOP DRILL S • TDS212 Series • WK15PD™ • Flood Coolant • Metric

Material Group		Cutting Speed — vc Range — m/min min	–	max	Tool Diameter (mm)	Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
K	15, 16	70	–	170	mm/r	0,16–0,31	0,20–0,38	0,23–0,44	0,25–0,49	0,31–0,60	0,38–0,74	0,31–0,60	0,38–0,74
K	17, 18, 19	80	–	140	mm/r	0,16–0,25	0,20–0,31	0,23–0,36	0,25–0,40	0,31–0,48	0,38–0,60	0,31–0,48	0,38–0,60
K	20	70	–	130	mm/r	0,12–0,25	0,14–0,30	0,17–0,35	0,19–0,40	0,24–0,48	0,30–0,60	0,24–0,48	0,30–0,60

TOP DRILL S • TDS411/TDS412/TDS413 Series • WK15PD • Through Coolant • Metric

Material Group		Cutting Speed — vc Range — m/min min	–	max	Tool Diameter (mm)	Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
K	15, 16	80	–	190	mm/r	0,11–0,22	0,12–0,24	0,16–0,31	0,20–0,38	0,23–0,44	0,25–0,49	0,31–0,60	0,38–0,74
K	17, 18, 19	90	–	170	mm/r	0,12–0,16	0,13–0,19	0,16–0,25	0,20–0,31	0,23–0,36	0,25–0,40	0,31–0,48	0,38–0,60
K	20	80	–	150	mm/r	0,08–0,17	0,09–0,19	0,12–0,25	0,14–0,30	0,17–0,35	0,19–0,40	0,24–0,48	0,30–0,60

	Metric tolerance	
nominal size range	D1 tolerance m7	D tolerance h6
>3–6	0,004/0,016	0,000/-0,008
>6–10	0,006/0,021	0,000/-0,009
>10–18	0,007/0,025	0,000/-0,011
>18–25,4	0,008/0,029	0,000/-0,013