

**RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER**
EH915, EH916 SERIES
6&8 FLUTE - SIDE CUTTING

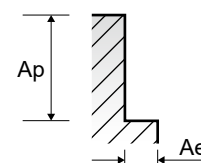
Vc = m/min.
fz = mm/tooth
RPM = rev/min.
FEED = mm/min.

NORMAL SPEED

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)						
						6.0	8.0	10.0	12.0	16.0	20.0	25.0
P	1-4	Non-alloy steel	0.1D	1.5D	Vc	105	105	105	105	105	105	120
					fz	0.06	0.079	0.099	0.099	0.1	0.075	0.075
					RPM	5570	4178	3342	2785	2089	1671	1528
	5	Non-alloy steel	0.05D	1.5D	FEED	2005	1980	1985	1654	1253	1003	917
					Vc	75	75	75	75	75	75	85
					fz	0.059	0.078	0.098	0.097	0.099	0.074	0.068
	6-7	Low alloy steel	0.1D	1.5D	RPM	3979	2984	2387	1989	1492	1194	1082
					FEED	1409	1397	1404	1158	886	707	589
	8-9	Low alloy steel	0.05D	1.5D	Vc	105	105	105	105	105	105	120
					fz	0.06	0.079	0.099	0.099	0.1	0.075	0.075
					RPM	5570	4178	3342	2785	2089	1671	1528
	10	High alloyed steel, and tool steel	0.1D	1.5D	FEED	2005	1980	1985	1654	1253	1003	917
					Vc	75	75	75	75	75	75	85
					fz	0.059	0.078	0.098	0.097	0.099	0.074	0.068
M	11.1	High alloyed steel, and tool steel	0.05D	1.5D	RPM	3979	2984	2387	1989	1492	1194	1082
					FEED	1409	1397	1404	1158	886	707	589
					Vc	65	65	60	60	60	55	65
	14.1	Stainless steel	0.05D	1.5D	fz	0.054	0.074	0.095	0.104	0.111	0.086	0.079
					RPM	3448	2586	1910	1592	1194	875	828
					FEED	1117	1148	1089	993	795	602	523
	31-35	Heat Resistant Super Alloys	0.02D	1.0D	Vc	25	25	15	15	15	15	15
					fz	0.035	0.047	0.106	0.104	0.102	0.078	0.077
					RPM	1326	995	477	398	298	239	191
	36-37	Titanium Alloys	0.05D	1.5D	FEED	279	281	304	248	183	149	118
					Vc	65	65	60	60	60	55	65
					fz	0.054	0.074	0.095	0.104	0.111	0.086	0.079
S	40	Chilled Cast Iron	0.05D	1.5D	RPM	3448	2586	1910	1592	1194	875	828
					FEED	1117	1148	1089	993	795	602	523
					Vc	75	75	75	75	75	75	85
	40	Chilled Cast Iron	0.05D	1.5D	fz	0.059	0.078	0.098	0.097	0.099	0.074	0.068
					RPM	3979	2984	2387	1989	1492	1194	1082
					FEED	1409	1397	1404	1158	886	707	589

HIGH SPEED

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)						
						6.0	8.0	10.0	12.0	16.0	20.0	25.0
P	1-4	Non-alloy steel	0.1D	1.5D	Vc	420	420	420	430	420	420	470
					fz	0.060	0.079	0.100	0.099	0.100	0.075	0.075
					RPM	22282	16711	13369	11406	8356	6685	5984
	5	Non-alloy steel	0.05D	1.5D	FEED	8021	7921	8021	6775	5013	4011	3591
					Vc	315	315	315	315	315	315	355
					fz	0.060	0.081	0.100	0.100	0.100	0.076	0.075
	6-7	Low alloy steel	0.1D	1.5D	RPM	16711	12533	10027	8356	6267	5013	4520
					FEED	6016	6091	6016	5013	3760	3048	2712
	8-9	Low alloy steel	0.05D	1.5D	Vc	420	420	420	430	420	420	470
					fz	0.060	0.079	0.100	0.099	0.100	0.075	0.075
					RPM	22282	16711	13369	11406	8356	6685	5984
	10	High alloyed steel, and tool steel	0.1D	1.5D	FEED	8021	7921	8021	6775	5013	4011	3591
					Vc	315	315	315	315	315	315	355
					fz	0.060	0.081	0.100	0.100	0.100	0.076	0.075
H	11.1	High alloyed steel, and tool steel	0.05D	1.5D	RPM	16711	12533	10027	8356	6267	5013	4520
					FEED	6016	6091	6016	5013	3760	3048	2712
					Vc	315	315	315	315	315	315	355
	14.1	Stainless steel	0.05D	1.5D	fz	0.060	0.081	0.100	0.100	0.100	0.076	0.075
					RPM	16711	12533	10027	8356	6267	5013	4520
					FEED	6016	6091	6016	5013	3760	3048	2712





RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

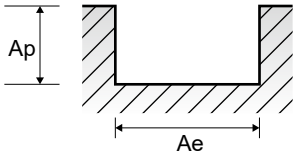
EH917
EH918

EH921
EH942

MULTI FLUTES ROUGHING - **S**LOTING

Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)					
						6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Non-alloy steel	1.0D	0.5D	Vc	294	292	289	302	302	302
					fz	0.022	0.03	0.038	0.045	0.048	0.045
					RPM	15597	11618	9199	8011	6008	4806
					FEED	1373	1394	1398	1442	1442	1298
	5	Non-alloy steel	1.0D	0.5D	Vc	234	231	239	226	241	226
					fz	0.01	0.014	0.016	0.02	0.019	0.016
					RPM	12414	9191	7608	5995	4795	3597
					FEED	497	515	487	480	455	345
	6-7	Low alloy steel	1.0D	0.5D	Vc	294	292	289	302	302	302
					fz	0.022	0.03	0.038	0.045	0.048	0.045
					RPM	15597	11618	9199	8011	6008	4806
					FEED	1373	1394	1398	1442	1442	1298
	8-9	Low alloy steel	1.0D	0.5D	Vc	234	231	239	226	241	226
					fz	0.01	0.014	0.016	0.02	0.019	0.016
					RPM	12414	9191	7608	5995	4795	3597
					FEED	497	515	487	480	455	345
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	294	292	289	302	302	302
					fz	0.022	0.03	0.038	0.045	0.048	0.045
					RPM	15597	11618	9199	8011	6008	4806
					FEED	1373	1394	1398	1442	1442	1298
	11.1 11.2	High alloyed steel, and tool steel	1.0D	0.5D	Vc	234	231	239	226	241	226
					fz	0.01	0.014	0.016	0.02	0.019	0.016
					RPM	12414	9191	7608	5995	4795	3597
					FEED	497	515	487	480	455	345
M	14.1	Stainless steel	1.0D	Ø4 ~10:0.25D Ø12~16:0.15D Ø18~25:0.10D	Vc	158	158	160	158	166	151
					fz	0.01	0.013	0.017	0.02	0.019	0.015
					RPM	8382	6287	5093	4191	3302	2403
					FEED	335	327	346	335	314	216
S	31-35	Heat Resistant Super Alloys	1.0D	0.5D	Vc	45	45	41	45	40	41
					fz	0.012	0.015	0.022	0.024	0.016	0.015
					RPM	2387	1790	1305	1194	796	653
					FEED	115	107	115	115	64	59
S	36-37	Titanium Alloys	1.0D	Ø4 ~10:0.25D Ø12~16:0.15D Ø18~25:0.10D	Vc	158	158	160	158	166	151
					fz	0.01	0.013	0.017	0.02	0.019	0.015
					RPM	8382	6287	5093	4191	3302	2403
					FEED	335	327	346	335	314	216
H	40	Chilled Cast Iron	1.0D	0.5D	Vc	234	231	239	226	241	226
					fz	0.01	0.014	0.016	0.02	0.019	0.016
					RPM	12414	9191	7608	5995	4795	3597
					FEED	372	386	487	480	455	345



RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

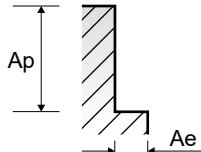
EH917
EH918

EH921
EH942

MULTI FLUTES ROUGHING - **S**IDE CUTTING

Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)					
						6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Non-alloy steel	0.3D	1.5D	Vc	294	292	289	302	302	302
					fz	0.037	0.05	0.063	0.075	0.08	0.075
					RPM	15597	11618	9199	8011	6008	4806
					FEED	2308	2324	2318	2403	2403	2163
	5	Non-alloy steel	0.3D	1.5D	Vc	234	231	239	226	241	226
					fz	0.017	0.023	0.028	0.033	0.032	0.026
					RPM	12414	9191	7608	5995	4795	3597
					FEED	844	846	852	791	767	561
	6-7	Low alloy steel	0.3D	1.5D	Vc	294	292	289	302	302	302
					fz	0.037	0.05	0.063	0.075	0.08	0.075
					RPM	15597	11618	9199	8011	6008	4806
					FEED	2308	2324	2318	2403	2403	2163
	8-9	Low alloy steel	0.3D	1.5D	Vc	234	231	239	226	241	226
					fz	0.017	0.023	0.028	0.033	0.032	0.026
					RPM	12414	9191	7608	5995	4795	3597
					FEED	844	846	852	791	767	561
	10	High alloyed steel, and tool steel	0.3D	1.5D	Vc	294	292	289	302	302	302
					fz	0.037	0.05	0.063	0.075	0.08	0.075
					RPM	15597	11618	9199	8011	6008	4806
					FEED	2308	2324	2318	2403	2403	2163
	11.1 11.2	High alloyed steel, and tool steel	0.3D	1.5D	Vc	234	231	239	226	241	226
					fz	0.017	0.023	0.028	0.033	0.032	0.026
					RPM	12414	9191	7608	5995	4795	3597
					FEED	844	846	852	791	767	561
M	14.1	Stainless steel	Ø4 ~10:0.15D Ø12~16:0.10D Ø18~25:0.05D	1.5D	Vc	158	158	160	158	166	151
					fz	0.017	0.023	0.028	0.034	0.031	0.025
					RPM	8382	6287	5093	4191	3302	2403
					FEED	570	578	570	570	512	360
S	31-35	Heat Resistant Super Alloys	0.05D	1.0D	Vc	45	45	41	45	40	41
					fz	0.02	0.025	0.037	0.04	0.028	0.025
					RPM	2387	1790	1305	1194	796	653
					FEED	191	179	193	191	111	98
S	36-37	Titanium Alloys	Ø4 ~10:0.15D Ø12~16:0.10D Ø18~25:0.05D	1.5D	Vc	158	158	160	158	166	151
					fz	0.017	0.023	0.028	0.034	0.031	0.025
					RPM	8382	6287	5093	4191	3302	2403
					FEED	570	578	570	570	512	360
H	40	Chilled Cast Iron	0.3D	1.5D	Vc	234	231	239	226	241	226
					fz	0.017	0.023	0.028	0.033	0.032	0.026
					RPM	12414	9191	7608	5995	4795	3597
					FEED	844	846	852	791	767	561



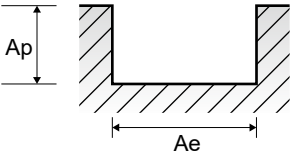


RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EH919, EH920 SERIES MULTI FLUTES ROUGHING - SLOTTING

Vc = m/min.
fz = mm/tooth
RPM = rev/min.
FEED = mm/min.

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)								
						4.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0	25.0
P	1-4	Non-alloy steel	1.0D	0.5D	Vc	294	294	292	289	302	299	302	302	338
					fz	0.02	0.022	0.03	0.038	0.045	0.042	0.048	0.045	0.05
					RPM	23396	15597	11618	9199	8011	6798	6008	4806	4304
					FEED	1404	1373	1394	1398	1442	1428	1442	1298	1291
	5		1.0D	0.5D	Vc	234	234	231	239	226	229	241	226	251
					fz	0.009	0.01	0.014	0.016	0.02	0.019	0.019	0.016	0.019
					RPM	18621	12414	9191	7608	5995	5207	4795	3597	3196
					FEED	503	497	515	487	480	495	455	345	364
	6-7	Low alloy steel	1.0D	0.5D	Vc	294	294	292	289	302	299	302	302	338
					fz	0.02	0.022	0.03	0.038	0.045	0.042	0.048	0.045	0.05
					RPM	23396	15597	11618	9199	8011	6798	6008	4806	4304
					FEED	1404	1373	1394	1398	1442	1428	1442	1298	1291
	8-9		1.0D	0.5D	Vc	234	234	231	239	226	229	241	226	251
					fz	0.009	0.01	0.014	0.016	0.02	0.019	0.019	0.016	0.019
					RPM	18621	12414	9191	7608	5995	5207	4795	3597	3196
					FEED	503	497	515	487	480	495	455	345	364
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	294	294	292	289	302	299	302	302	338
					fz	0.02	0.022	0.03	0.038	0.045	0.042	0.048	0.045	0.05
RPM					23396	15597	11618	9199	8011	6798	6008	4806	4304	
FEED					1404	1373	1394	1398	1442	1428	1442	1298	1291	
11.1-11.2	1.0D		0.5D	Vc	234	234	231	239	226	229	241	226	251	
				fz	0.009	0.01	0.014	0.016	0.02	0.019	0.019	0.016	0.019	
				RPM	18621	12414	9191	7608	5995	5207	4795	3597	3196	
				FEED	503	497	515	487	480	495	455	345	364	
M	14.1	Stainless steel	1.0D	Ø4 ~10:0.25D Ø12~16:0.15D Ø18~25:0.10D	Vc	158	158	158	160	158	158	166	151	170
					fz	0.009	0.01	0.013	0.017	0.02	0.019	0.019	0.015	0.019
					RPM	12573	8382	6287	5093	4191	3592	3302	2403	2165
					FEED	339	335	327	346	335	341	314	216	247
S	31-35	Heat Resistant Super Alloys	1.0D	0.05D	Vc	45	45	45	41	45	40	40	41	47
					fz	0.011	0.012	0.015	0.022	0.024	0.018	0.016	0.015	0.018
					RPM	3581	2387	1790	1305	1194	909	796	653	598
					FEED	118	115	107	115	115	82	64	59	65
	36-37	Titanium Alloys	1.0D	Ø4 ~10:0.25D Ø12~16:0.15D Ø18~25:0.10D	Vc	158	158	158	160	158	158	166	151	170
					fz	0.009	0.01	0.013	0.017	0.02	0.019	0.019	0.015	0.019
					RPM	12573	8382	6287	5093	4191	3592	3302	2403	2165
					FEED	339	335	327	346	335	341	314	216	247
H	40	Chilled Cast Iron	1.0D	0.5D	Vc	234	234	231	239	226	229	241	226	251
					fz	0.009	0.01	0.014	0.016	0.02	0.019	0.019	0.016	0.019
					RPM	18621	12414	9191	7608	5995	5207	4795	3597	3196
					FEED	503	497	515	487	480	495	455	345	364



RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EH919, EH920 SERIES MULTI FLUTES ROUGHING - SIDE CUTTING

Vc = m/min.
fz = mm/tooth
RPM = rev/min.
FEED = mm/min.

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)								
						4.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0	25.0
P	1-4	Non-alloy steel	0.3D	1.5D	Vc	294	294	292	289	302	299	302	302	338
					fz	0.033	0.037	0.05	0.063	0.075	0.071	0.08	0.075	0.083
					RPM	23396	15597	11618	9199	8011	6798	6008	4806	4304
					FEED	2316	2308	2324	2318	2403	2413	2403	2163	2143
	5		0.3D	1.5D	Vc	234	234	231	239	226	229	241	226	251
					fz	0.015	0.017	0.023	0.028	0.033	0.032	0.032	0.026	0.032
					RPM	18621	12414	9191	7608	5995	5207	4795	3597	3196
					FEED	838	844	846	852	791	833	767	561	614
	6-7	Low alloy steel	0.3D	1.5D	Vc	294	294	292	289	302	299	302	302	338
					fz	0.033	0.037	0.05	0.063	0.075	0.071	0.08	0.075	0.083
					RPM	23396	15597	11618	9199	8011	6798	6008	4806	4304
					FEED	2316	2308	2324	2318	2403	2413	2403	2163	2143
	8-9		0.3D	1.5D	Vc	234	234	231	239	226	229	241	226	251
					fz	0.015	0.017	0.023	0.028	0.033	0.032	0.032	0.026	0.032
					RPM	18621	12414	9191	7608	5995	5207	4795	3597	3196
					FEED	838	844	846	852	791	833	767	561	614
	10	High alloyed steel, and tool steel	0.3D	1.5D	Vc	294	294	292	289	302	299	302	302	338
					fz	0.033	0.037	0.05	0.063	0.075	0.071	0.08	0.075	0.083
RPM					23396	15597	11618	9199	8011	6798	6008	4806	4304	
FEED					2316	2308	2324	2318	2403	2413	2403	2163	2143	
11.1 - 11.2	0.3D		1.5D	Vc	234	234	231	239	226	229	241	226	251	
				fz	0.015	0.017	0.023	0.028	0.033	0.032	0.032	0.026	0.032	
				RPM	18621	12414	9191	7608	5995	5207	4795	3597	3196	
				FEED	838	844	846	852	791	833	767	561	614	
M	14.1	Stainless steel	Ø4 ~10:0.15D Ø12~16:0.10D Ø18~25:0.05D	1.5D	Vc	158	158	158	160	158	158	166	151	170
					fz	0.015	0.017	0.023	0.028	0.034	0.032	0.031	0.025	0.032
					RPM	12573	8382	6287	5093	4191	3592	3302	2403	2165
					FEED	566	570	578	570	570	575	512	360	416
S	31-35	Heat Resistant Super Alloys	0.05D	1.0D	Vc	45	45	45	41	45	40	40	41	47
					fz	0.018	0.02	0.025	0.037	0.04	0.029	0.028	0.025	0.031
					RPM	3581	2387	1790	1305	1194	909	796	653	598
					FEED	193	191	179	193	191	132	111	98	111
	36-37	Titanium Alloys	Ø4 ~10:0.15D Ø12~16:0.10D Ø18~25:0.05D	1.0D	Vc	158	158	158	160	158	158	166	151	170
					fz	0.015	0.017	0.023	0.028	0.034	0.032	0.031	0.025	0.032
					RPM	12573	8382	6287	5093	4191	3592	3302	2403	2165
					FEED	566	570	578	570	570	575	512	360	416
H	40	Chilled Cast Iron	0.3D	1.5D	Vc	234	234	231	239	226	229	241	226	251
					fz	0.015	0.017	0.023	0.028	0.033	0.032	0.032	0.026	0.032
					RPM	18621	12414	9191	7608	5995	5207	4795	3597	3196
					FEED	838	844	846	852	791	833	767	561	614