



FLAT SHANK

E2492 SERIES

FLAT SHANK

EQ492 SERIES

HSSCo8, 2 FLUTE LONG LENGTH BALL NOSE

- HSSCo8, 2 SCHNEIDEN LANG STIRNRADIUS
- Fraise HSSCo8, 2 dents, hémisphérique, longue
- 2 TAGLIENTI, SEMISFERICA, SERIE LUNGA - HSSCo8



HSS Co8
DIN 1889
2
30°
R ±0.02
DIN 1835B
P.742~743

Unit : mm

EDP No.	Radius of Ball Nose		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	UNCOATED	TiAlN				
E2492020	EQ492020	R1.0	2.0	6	7	54
E2492030	EQ492030	R1.5	3.0	6	8	56
E2492040	EQ492040	R2.0	4.0	6	11	63
E2492050	EQ492050	R2.5	5.0	6	13	68
E2492060	EQ492060	R3.0	6.0	6	13	68
E2492070	EQ492070	R3.5	7.0	10	16	80
E2492080	EQ492080	R4.0	8.0	10	19	88
E2492090	EQ492090	R4.5	9.0	10	19	88
E2492100	EQ492100	R5.0	10.0	10	22	95
E2492110	EQ492110	R5.5	11.0	12	22	102
E2492120	EQ492120	R6.0	12.0	12	26	110
E2492130	EQ492130	R6.5	13.0	12	26	110
E2492140	EQ492140	R7.0	14.0	12	26	110
E2492150	EQ492150	R7.5	15.0	12	26	110
E2492160	EQ492160	R8.0	16.0	16	32	123
E2492170	EQ492170	R8.5	17.0	16	32	123
E2492180	EQ492180	R9.0	18.0	16	32	123
E2492190	EQ492190	R9.5	19.0	16	32	123
E2492200	EQ492200	R10.0	20.0	20	38	141
E2492220	EQ492220	R11.0	22.0	20	38	141
E2492240	EQ492240	R12.0	24.0	25	45	166
E2492250	EQ492250	R12.5	25.0	25	45	166
E2492260	EQ492260	R13.0	26.0	25	45	166
E2492280	EQ492280	R14.0	28.0	25	45	166
E2492300	EQ492300	R15.0	30.0	25	45	166

- ▶ Other shank design on your request.
- ▶ TiN and TiCN Coatings are available on your request.

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
0 ~ - 0.03	h6

◎ : Excellent ○ : Good

ISO Material Description	P											M			K					
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

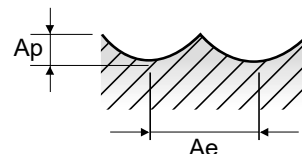
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

E2535, E2492 SERIES 2 FLUTE BALL NOSE

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)									
						3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0	
P	1	Non-alloy steel	0.7D	0.3D	Vc	40	40	40	40	40	40	40	40	40	40
					fz	0.011	0.018	0.031	0.05	0.069	0.085	0.094	0.117	0.13	
					RPM	4244	3183	2122	1592	1273	1061	796	637	509	
	2		Vc	30	30	30	30	30	30	30	30	30	30	30	
			fz	0.01	0.017	0.026	0.044	0.06	0.066	0.083	0.085	0.088			
			RPM	3183	2387	1592	1194	955	796	597	477	382			
	3-4		Vc	20	20	20	20	20	15	20	20	15			
			fz	0.008	0.013	0.023	0.036	0.054	0.061	0.079	0.083	0.091			
			RPM	2122	1592	1061	796	637	398	398	318	191			
	5		Vc	15	15	15	15	15	10	15	15	15			
			fz	0.007	0.013	0.018	0.03	0.044	0.055	0.07	0.088	0.094			
RPM		1592	1194	796	597	477	265	298	239	191					
6	Vc	30	30	30	30	30	30	30	30	30	30				
	fz	0.01	0.017	0.026	0.044	0.06	0.066	0.083	0.085	0.088					
	RPM	3183	2387	1592	1194	955	796	597	477	382					
7	Vc	20	20	20	20	20	15	20	20	15					
	fz	0.008	0.013	0.023	0.036	0.054	0.061	0.079	0.083	0.091					
	RPM	2122	1592	1061	796	637	398	398	318	191					
8-9	Vc	15	15	15	15	15	10	15	15	15					
	fz	0.007	0.013	0.018	0.03	0.044	0.055	0.07	0.088	0.094					
	RPM	1592	1194	796	597	477	265	298	239	191					
10	Vc	30	30	30	30	30	30	30	30	30					
	fz	0.01	0.017	0.026	0.044	0.06	0.066	0.083	0.085	0.088					
	RPM	3183	2387	1592	1194	955	796	597	477	382					
11.1	Vc	15	15	15	15	15	10	15	15	15					
	fz	0.007	0.013	0.018	0.03	0.044	0.055	0.07	0.088	0.094					
	RPM	1592	1194	796	597	477	265	298	239	191					
N	21-22	Aluminum-wrought alloy	0.7D	0.3D	Vc	105	100	105	100	100	95	100	100	100	
					fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.088	0.096	
					RPM	11141	7958	5570	3979	3183	2520	1989	1592	1273	
23-24	Aluminum-cast, alloyed	0.7D	0.3D	Vc	68	65	68	65	65	62	65	65	65		
				fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.088	0.096		
				RPM	7215	5173	3608	2586	2069	1645	1293	1035	828		

※The FEED, in long & extra long types, should be reduced by around 50%



EQ535, EQ492 SERIES

2 FLUTE BALL NOSE TiAlN COATED

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)																																							
						3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0																															
P	1	Non-alloy steel	0.7D	0.3D	Vc	60	55	60	55	55	55	55	55	55	fz	0.011	0.018	0.031	0.05	0.069	0.086	0.095	0.115	0.129	RPM	6366	4377	3183	2188	1751	1459	1094	875	700	FEED	140	158	197	219	242	251	208	201	181	
					Vc	45	40	45	45	45	40	45	45	45	45	fz	0.011	0.016	0.026	0.043	0.061	0.066	0.082	0.086	0.091	RPM	4775	3183	2387	1790	1432	1061	895	716	573	FEED	105	102	124	154	175	140	147	123	104
					Vc	25	25	25	25	25	25	25	25	25	25	25	25	fz	0.007	0.013	0.023	0.035	0.053	0.058	0.075	0.088	0.092	RPM	2653	1989	1326	995	796	663	497	398	318	FEED	37	52	61	70	84	77	75
	2		0.7D	0.3D	Vc	20	20	20	20	15	15	20	20	20	15	fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.1	RPM	2122	1592	1061	796	477	398	398	318	191	FEED	34	41	38	46	43	45	57	53	38
					Vc	45	40	45	45	45	40	45	45	45	45	45	fz	0.011	0.016	0.026	0.043	0.061	0.066	0.082	0.086	0.091	RPM	4775	3183	2387	1790	1432	1061	895	716	573	FEED	105	102	124	154	175	140	147	123
	3-4		0.7D	0.3D	Vc	25	25	25	25	25	25	25	25	25	25	fz	0.007	0.013	0.023	0.035	0.053	0.058	0.075	0.088	0.092	RPM	2653	1989	1326	995	796	663	497	398	318	FEED	37	52	61	70	84	77	75	70	59
					Vc	20	20	20	20	15	15	20	20	20	20	15	fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.1	RPM	2122	1592	1061	796	477	398	398	318	191	FEED	34	41	38	46	43	45	57	53
	5		0.7D	0.3D	Vc	45	40	45	45	45	40	45	45	45	45	fz	0.011	0.016	0.026	0.043	0.061	0.066	0.082	0.086	0.091	RPM	4775	3183	2387	1790	1432	1061	895	716	573	FEED	105	102	124	154	175	140	147	123	104
					Vc	25	25	25	25	25	25	25	25	25	25	25	fz	0.007	0.013	0.023	0.035	0.053	0.058	0.075	0.088	0.092	RPM	2653	1989	1326	995	796	663	497	398	318	FEED	37	52	61	70	84	77	75	70
	6		0.7D	0.3D	Vc	20	20	20	20	15	15	20	20	20	15	fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.1	RPM	2122	1592	1061	796	477	398	398	318	191	FEED	34	41	38	46	43	45	57	53	38
					Vc	45	40	45	45	45	40	45	45	45	45	45	fz	0.011	0.016	0.026	0.043	0.061	0.066	0.082	0.086	0.091	RPM	4775	3183	2387	1790	1432	1061	895	716	573	FEED	105	102	124	154	175	140	147	123
7	0.7D	0.3D	Vc	25	25	25	25	25	25	25	25	25	25	fz	0.007	0.013	0.023	0.035	0.053	0.058	0.075	0.088	0.092	RPM	2653	1989	1326	995	796	663	497	398	318	FEED	37	52	61	70	84	77	75	70	59		
			Vc	20	20	20	20	15	15	20	20	20	20	15	fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.1	RPM	2122	1592	1061	796	477	398	398	318	191	FEED	34	41	38	46	43	45	57	53	38	
8-9	0.7D	0.3D	Vc	45	40	45	45	45	40	45	45	45	45	fz	0.011	0.016	0.026	0.043	0.061	0.066	0.082	0.086	0.091	RPM	4775	3183	2387	1790	1432	1061	895	716	573	FEED	105	102	124	154	175	140	147	123	104		
			Vc	20	20	20	20	15	15	20	20	20	20	15	fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.1	RPM	2122	1592	1061	796	477	398	398	318	191	FEED	34	41	38	46	43	45	57	53	38	
10	0.7D	0.3D	Vc	45	40	45	45	45	40	45	45	45	45	fz	0.011	0.016	0.026	0.043	0.061	0.066	0.082	0.086	0.091	RPM	4775	3183	2387	1790	1432	1061	895	716	573	FEED	105	102	124	154	175	140	147	123	104		
			Vc	20	20	20	20	15	15	20	20	20	20	15	fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.1	RPM	2122	1592	1061	796	477	398	398	318	191	FEED	34	41	38	46	43	45	57	53	38	
11.1	0.7D	0.3D	Vc	145	140	150	140	140	130	140	140	140	140	fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.087	0.097	RPM	15385	11141	7958	5570	4456	3448	2785	2228	1783	FEED	308	357	398	490	499	469	418	388	346		
			Vc	94	91	98	91	91	85	91	91	91	91	91	fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.087	0.097	RPM	9974	7242	5199	3621	2897	2255	1810	1448	1159	FEED	199	232	260	319	324	307	272	252	225	
N	21-22	Aluminum-wrought alloy	0.7D	0.3D	Vc	145	140	150	140	140	130	140	140	140	fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.087	0.097	RPM	15385	11141	7958	5570	4456	3448	2785	2228	1783	FEED	308	357	398	490	499	469	418	388	346	
					Vc	94	91	98	91	91	85	91	91	91	91	91	fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.087	0.097	RPM	9974	7242	5199	3621	2897	2255	1810	1448	1159	FEED	199	232	260	319	324	307	272	252
23-24	Aluminum-cast, alloyed	0.7D	0.3D	Vc	94	91	98	91	91	85	91	91	91	fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.087	0.097	RPM	9974	7242	5199	3621	2897	2255	1810	1448	1159	FEED	199	232	260	319	324	307	272	252	225		

※The FEED, in long & extra long types, should be reduced by around 50%

