7745VSE12 Feeds f_z (inch/tooth)

Geometry	Grade	Operation	Unalloyed Steel	Alloyed Steel	Stainless Steel	Stainless Steel Refractory PH	Gray Iron	Spheroidal-Ductile Iron	Malleable Iron	Aluminum & Alloys <16% Si 116 HBN	Aluminum & Silicon >16% Si 92 HBN	HTA Iron Based Alloys	HTA Cobalt Based Alloys	HTA Nickel Based Alloys	HTA Titanium Based Alloys	Hard Steel >1400 N/mm² >415 HBN	Chilled Cast Iron >1400 N/mm² >400 HBN
			Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.	Min. - Max.
Insert selection with facet																	
FN-701	SP4019	Facing	-	-	0.002 - 0.010	0.002 - 0.008	-	-	-	0.002 - 0.010	0.002 - 0.010	0.002 - 0.008	0.002 - 0.008	0.002 - 0.008	0.002 - 0.008	-	-
FN-701	GH1	Facing	-	-	-	-	-	-	-	0.002 - 0.012	0.002 - 0.012	-	-	-	-	-	-
FN	GH1	Facing	-	-	-	-	-	-	-	0.002 - 0.012	0.002 - 0.012	-	-	-	-	-	-
EN-421	X500	Facing	-	-	0.002 - 0.009	0.002 - 0.008	-	-	-	-	-	0.002 - 0.008	0.002 - 0.008	0.002 - 0.008	0.002 - 0.009	-	-
EN-421	SP6519	Facing	0.002 - 0.012	0.002 - 0.010	0.002 - 0.009	0.002 - 0.008	0.002 - 0.011	0.002 - 0.011	0.002 - 0.011	-	-	0.002 - 0.008	0.002 - 0.008	0.002 - 0.008	0.002 - 0.009	-	-
EN-421	MP91M	Facing	0.002 - 0.012	0.002 - 0.010	-	-	0.002 - 0.011	0.002 - 0.011	0.002 - 0.011	-	-	-	-	-	-	-	-
EN-45	X500	Facing	-	-	0.003 - 0.010	0.003 - 0.009	-	-	-	-	-	0.003 - 0.007	0.003 - 0.007	0.003 - 0.007	0.003 - 0.008	-	-
EN-45	SP6519	Facing	0.003 - 0.014	0.003 - 0.012	-	-	-	-	-	-	-	-	-	-	-	-	-
EN-45	MP91M	Facing	-	-	-	-	0.003 - 0.012	0.003 - 0.012	0.003 - 0.012	-	-	-	-	-	-	-	-
TN-42	X500	Facing	-	-	0.006 - 0.011	0.006 - 0.010	-	-	-	-	-	0.006 - 0.009	0.006 - 0.009	0.006 - 0.009	0.006 - 0.010	-	-
TN-42	SP6519	Facing	0.006 - 0.014	0.006 - 0.012	0.006 - 0.011	0.006 - 0.010	0.006 - 0.012	0.006 - 0.012	0.006 - 0.012	-	-	0.006 - 0.009	0.006 - 0.009	0.006 - 0.009	0.006 - 0.010	-	-
TN-42	MP91M	Facing	0.006 - 0.014	0.006 - 0.012	-	-	0.007 - 0.012	0.007 - 0.012	0.007 - 0.012	-	-	-	-	-	-	0.003 - 0.005	0.003 - 0.005
TN	X400	Facing	0.006 - 0.015	0.006 - 0.013	-	-	-	-	-	-	-	-	-	-	-	0.003 - 0.005	0.003 - 0.005
TN	X500	Facing	-	-	-	0.006 - 0.011	-	-	-	-	-	0.006 - 0.008	0.006 - 0.008	0.006 - 0.008	0.006 - 0.010	-	-
TN	SP4019	Facing	-	-	0.006 - 0.012	0.006 - 0.011	0.006 - 0.012	0.006 - 0.012	0.006 - 0.012	-	-	-	-	-	-	0.003 - 0.005	0.003 - 0.005
TN	MP91M	Facing	0.006 - 0.015	0.006 - 0.013	-	-	0.006 - 0.012	0.006 - 0.012	0.006 - 0.012	-	-	-	-	-	-	-	-
TN	SA9808	Facing	0.007 - 0.010	0.007 - 0.009	-	-	-	-	-	-	-	-	-	-	-	-	-
Insert selection with corner radius																	
EN-422	X500	Facing	-	-	0.002 - 0.010	0.002 - 0.009	-	-	-	-	-	0.002 - 0.007	0.002 - 0.007	0.002 - 0.007	0.002 - 0.008	-	-
EN-422	SP6519	Facing	-	-	0.002 - 0.010	0.002 - 0.009	-	-	-	-	-	0.002 - 0.007	0.002 - 0.007	0.002 - 0.007	0.002 - 0.008	-	-
EN-423	X500	Facing	-	-	0.002 - 0.010	0.002 - 0.009	-	-	-	-	-	0.002 - 0.007	0.002 - 0.007	0.002 - 0.007	0.002 - 0.008	-	-
EN-423	SP6519	Facing	-	-	0.002 - 0.010	0.002 - 0.009	-	-	-	-	-	0.002 - 0.007	0.002 - 0.007	0.002 - 0.007	0.002 - 0.008	-	-
EN-41	X500	Facing	0.002 - 0.014	0.002 - 0.012	0.002 - 0.010	0.002 - 0.009	0.002 - 0.012	0.002 - 0.012	0.002 - 0.012	-	-	0.002 - 0.007	0.002 - 0.007	0.002 - 0.007	0.002 - 0.008	-	-
EN-41	SP6519	Facing	0.002 - 0.014	0.002 - 0.012	-	-	0.002 - 0.012	0.002 - 0.012	0.002 - 0.012	-	-	-	-	-	-	-	-
EN-41	MP91M	Facing	0.002 - 0.014	0.002 - 0.012	-	-	0.002 - 0.012	0.002 - 0.012	0.002 - 0.012	-	-	-	-	-	-	-	-
TN	X500	Facing	-	-	-	0.006 - 0.011	-	-	-	-	-	0.006 - 0.007	0.006 - 0.007	0.006 - 0.007	0.006 - 0.008	-	-
TN	SP6519	Facing	0.006 - 0.015	0.006 - 0.013	-	-	0.006 - 0.012	0.006 - 0.012	0.006 - 0.012	-	-	-	-	-	-	-	-

Note: HTA = High Temperature Alloys

Speed recommendations can be found on page A104.

Speed v_c (SFM)

7745VSE Series

Wear Resistance: – ⟵ +

Speed min. - max.

Coolant Recommendation
Recommended ● Possible ⦿

ISO	Materials	Rm and Hardness	PVD X Grade		CVD X Grade		PVD Standard		PVD Standard		CVD Standard		Uncoated Micrograin		Uncoated Cermet
				X400		X500		SP6519		SP4019		MP91M		GH1		SA9808
P	Unalloyed Steel	<600 N/mm² <180 HBN	⦿	●	⦿	●	⦿	●	425 - 970			●	460 - 1130			●	870 -1245
		<950 N/mm² <280 HBN							375 - 855				395 - 1000				770 - 1100
	Alloyed Steel	700-950 N/mm² 200-280 HBN	⦿	●	⦿	●	⦿	●	330 - 755			●	345 - 885			●	675 - 970
		950-1200 N/mm² 280-355 HBN							245 - 575				260 - 675				510 - 740
		1200-1400 N/mm² 355-415 HBN		●		●		●	165 - 360			●	165 - 425			●	330 - 475
M	Stainless Steel	Austenitic + Ferritic 300 series			⦿	●	⦿	●	375 - 885	⦿	●	395 - 920					
		Martensitic 400 series							345 - 770			360 - 820					
	PH Stainless	Refractory P.H.			●		●		165 - 395	●		165 - 425					
K	Cast Iron	Grey GG-Ft							460 - 970			475 - 1085					
		Spheroidal-Ductile GGG-FGS			⦿	●	⦿	●	360 - 785		●	375 - 835	●	375 - 935			
		Malleable GTS - MN/MP							330 - 720			345 - 770		345 - 855			
N	Aluminum & Alloys	Aluminum & Alloys < 16% Si 116 HBN										1310 - 9500			●	1310 - 10005	
		Aluminum + Silicon > 16% Si 92 HBN								●		970 - 7615		●		970 - 8005	
S	High Temperature Alloys	Iron Based							75 - 180			80 - 210					
		Cobalt Based			●		●		70 - 160	●		75 - 170					
		Nickel Based							80 - 180			85 - 190					
		Titanium Based							120 - 260			120 - 275					
H	Hard Materials	Hard Steel >1400 N/mm² >415 HBN										165 - 330		165 - 345			
		Chilled Cast Iron >1400 N/mm² > 400 HBN		●					115 - 260	●	●	130 - 295	●	130 - 310			