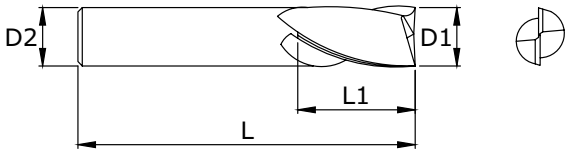
2 Flute

Centre cutting high performance end mill for Non ferrous material

Carbide | REG | 30° | 6535 HA | BF



N1-N4

Unit : mm

ØD1 (mm)	L1 (mm)	L (mm)	ØD2 (mm)	EDP No
4	14	51	4	FBK0501238
5	20	51	5	FBK0501315
6	20	64	6	FBK0501355
8	20	64	8	FBK0503383
10	25	70	10	FBK0500829
12	20	76	12	FBK0503384
14	30	89	14	FBK0503522
16	30	89	16	FBK0501605
20	30	102	20	FBK0501613

Application data on page no 2.139

TOTEM

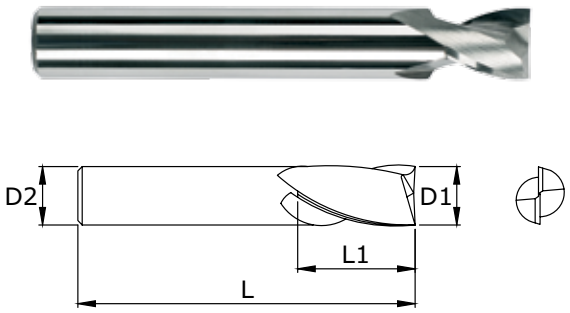
Solid Carbide End Mills

F136 HP Series

2 Flute

Centre cutting high performance end mill for non ferrous material

Carbide | REG | 45° | 6535 HA | BF



N1-N4

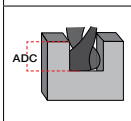
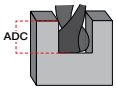
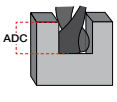
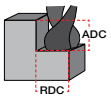
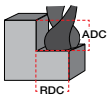
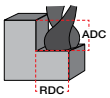
Unit : mm

ØD1 (mm)	L1 (mm)	L (mm)	ØD2 (mm)	EDP Code
4	14	51	4	FBK0501239
5	13	51	5	FBK0501316
6	20	64	6	FBK0501356
8	20	64	8	FBK0501618
10	25	70	10	FBK0500830
12	26	76	12	FBK0504889
16	30	89	16	FBK0501606

Application data on page no 2.140

Cutting speed chart

Series F135 METRIC

Workpiece Material Group		Example	Coolant	Slotting			Small Radial Depth ==> Large Radial Depth 1 x Diameter Axial Depth Profile Milling		
				25% Axial	50% Axial	100% Axial	25% Dia.	50% Dia.	100% Dia.
			Max						
			Type	Vc (m/min)					
Non-Ferrous	N	Aluminium < 10% Si	•	305 - 610			610	495	305
		Aluminium > 10% Si	•	245 - 460			460	375	245
		Brass	•	150 - 275			900	230	155
		Plastic	•	245 - 365			365	320	245

Feed rate chart

Series F135 METRIC

Workpiece Material Group		Example	Milling Type	Tool Diameter (mm)								
				1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
				mm/Tooth								
Non-Ferrous	N	Aluminium / Aluminium Alloys < 10% Si Aluminium / Aluminium Alloys > 10% Si Brass Plastics	Slotting	0.03	0.046	0.064	0.081	0.094	0.127	0.165	0.191	0.254
			Profile Milling	.076 - 0.102	.102 - 0.152	.102 - 0.203	.152 - 0.229	.178 - 0.305	0.254 - 1.143	.381 - 1.1016	.381 - 1.1016	.381 - 1.1016

During Profile Milling less than 50% of the cutter diameter's Radial depth, the actual chipload at the cutting edge is less than the programmed chip load. Below are Chip Load factors depending on Radial Depth Percentage. Multiply your inches per tooth by the factor before figuring your IPM.

Radial Depth in Percentage of Cutter Diameter	Increase Chip Load Factor
50%	1
30%	1.1
20%	1.2
15%	1.4
10%	1.8
5%	2.3
1%	5

Example: Profile Milling

1) Select material from chart
2) Select tool size
3) Select feed per tooth
4) Figure percentage of cutter diameter radial cut depth
5) Select chip load factor for radial depth
6) Select chip load factor x Feed per tooth
7) Answer: New feed per tooth
8) New feed per tooth x Number of teeth x RPM = mm/min

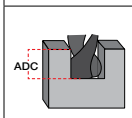
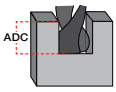
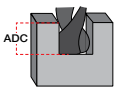
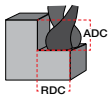
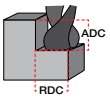
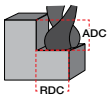
Spindle Max.

Should the calculated Spindle Speed be more than your actual Spindle Max., Use the Formula given below:

$$\frac{\text{Calculated Feed x Spindle Max.}}{\text{Calculated Speed}}$$

Cutting speed chart

Series F136 METRIC

Workpiece Material Group		Example	Coolant	Slotting			Small Radial Depth ==> Large Radial Depth 1 x Diameter Axial Depth Profile Milling		
				25% Axial	50% Axial	100% Axial	25% Dia.	50% Dia.	100% Dia.
			Max						
			Type	Vc					
Non-Ferrous	N	Aluminium < 10% Si	•	425-610			610	540	425
		Aluminium > 10% Si	•	305-460			460	400	305
		Brass	•	150-275			275	230	150
		Plastic	•	245-365			365	320	245

Feed rate chart

Series F136 METRIC

Workpiece Material Group		Example	Milling Type	Tool Diameter (mm)								
				3	5	6	8	10	14	16	18	25
				mm/Tooth								
Non-Ferrous	N	Aluminium / Aluminium Alloys < 10% Si Aluminium / Aluminium Alloys > 10% Si Brass Plastics	Slotting	0.03	0.046	0.064	0.081	0.094	0.127	0.165	0.191	0.254
			Profile Milling	0.061	0.091	0.127	0.163	0.188	0.254	0.305	0.356	0.508

During Profile Milling less than 50% of the cutter diameter's Radial depth, the actual chipload at the cutting edge is less than the programmed chip load. Below are Chip Load factors depending on Radial Depth Percentage. Multiply your inches per tooth by the factor before figuring your IPM.

Radial Depth in Percentage of Cutter Diameter	Increase Chip Load Factor
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20%	1.2
15%	1.4
10%	1.8
5%	2.3
1%	5

Example: Profile Milling

1) Select material from chart
2) Select tool size
3) Select feed per tooth
4) Figure percentage of cutter diameter radial cut depth
5) Select chip load factor for radial depth
6) Select chip load factor x Feed per tooth
7) Answer: New feed per tooth
8) New feed per tooth x Number of teeth x RPM = mm/min

Spindle Max.

Should the calculated Spindle Speed be more than your actual Spindle Max., Use the Formula given below:

$$\frac{\text{Calculated Feed x Spindle Max.}}{\text{Calculated Speed}}$$