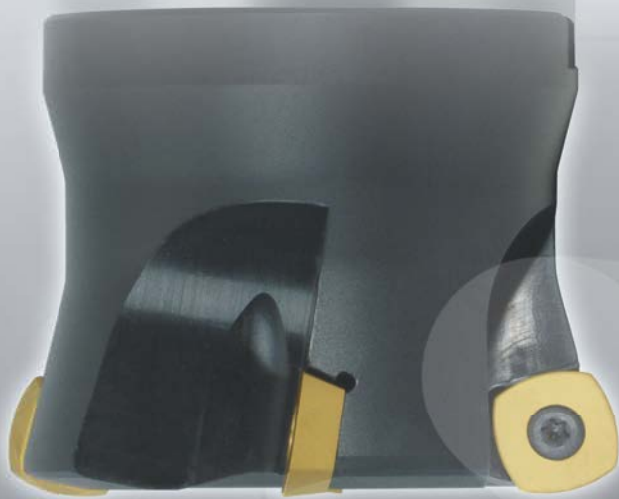


# **ASF Turbo Face**

## **A New Generation Face Mill**

**Metal Removal Rate up to 2,000 cm<sup>3</sup>/min**



**D63mm ~ D315mm**

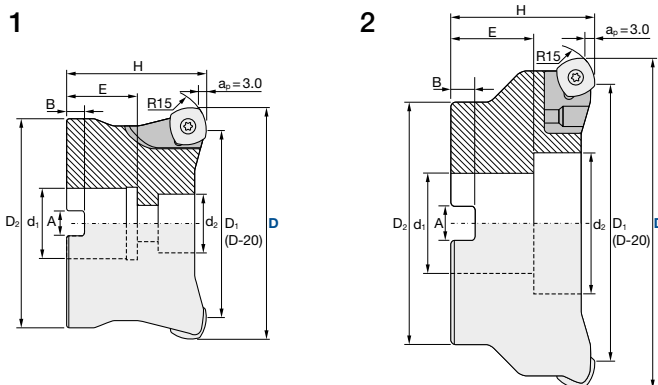
- Unique R shaped cutting edge
- Depth of cut up to 3mm
- For Materials ≤ 60HRC



[www.moldino.eu](http://www.moldino.eu)







## ASF | Turbo Face

<b>Q max</b> High Efficient	<b>▽</b> Roughing	<b>▽▽▽</b> Finishing	<b>HRC</b> 60	<b>No. of Teeth</b> 4 ~ 14
--------------------------------	----------------------	-------------------------	------------------	-------------------------------



Diameter Holder only [mm]	Fastening Torque [Nm]
<b>+/-0.2 mm</b>	<b>4.9 Nm</b>

ID Code	Item Code	Z	D	D <sub>1</sub>	H	E	A	B	d <sub>1</sub>	d <sub>2</sub>	D <sub>2</sub>	Shape	Coolant hole	Inserts
FH498	<b>ASF-5063RM</b>	4	<b>63</b>	43	50	20	10.4	6.3	22	17	60	1	•	SDNW1505 ZDTN-R15
FH499	<b>ASF-5080RM</b>		<b>80</b>	60	63	22	12.4	7	27	20	70			
FH500	<b>ASF-5100RM</b>	5	<b>100</b>	80		25.5	14.4	8	32	26	90	2	-	SDMT1505 ZDTN-C15
FH501	<b>ASF-5125RM</b>	6	<b>125</b>	105		30	16.4	9	40	32	100			
FH502	<b>ASF-5160RM</b>	8	<b>160</b>	140				9.5		69	105			
FH503	<b>ASF-5200RM</b>	10	<b>200</b>	180		32	25.7	14	60	105	150			
FH504	<b>ASF-5250RM</b>	12	<b>250</b>	230						140	200			
FH505	<b>ASF-5315RM</b>	14	<b>315</b>	295						220	265			

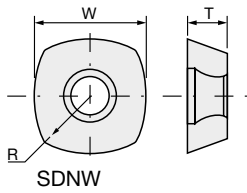
Parts					
Clamp Screw	Locator	Locator Screw	Wedge Screw	Wedge	Wrench
					
ID-/ Item-Code	ID-/ Item-Code	ID-/ Item-Code	ID-/ Item-Code	ID-/ Item-Code	ID-/ Item-Code
ET162 / <b>555-141</b>	ET170 / <b>351-111</b>	ET171 / <b>156-161</b>	ET6 / <b>100-143</b>	ET172 / <b>176-121</b>	ET14 / <b>105-T20</b>

Cutting Conditions | Schnittwerte | Condizioni di taglio | Condiciones de Corte | Conditions de coupe | Valores de corte:

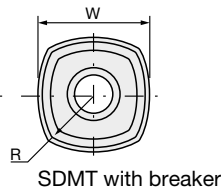
Page 4-5

## INSERTS | Turbo Face

### Type A



### Type B

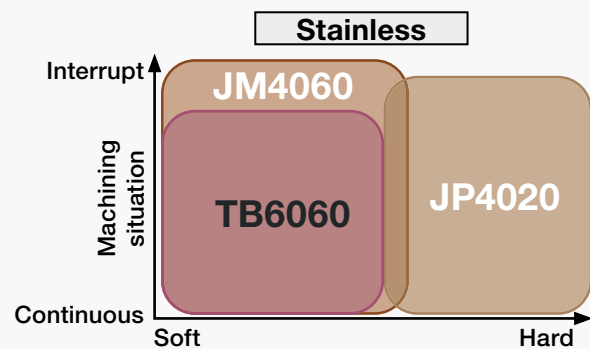
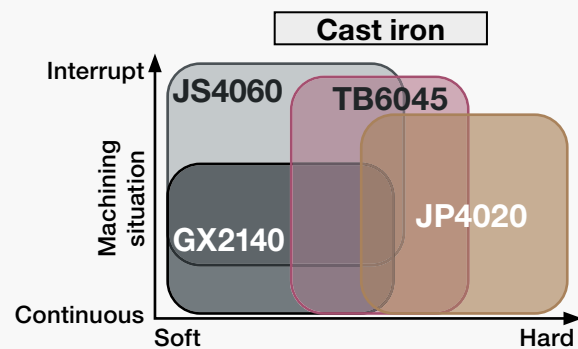
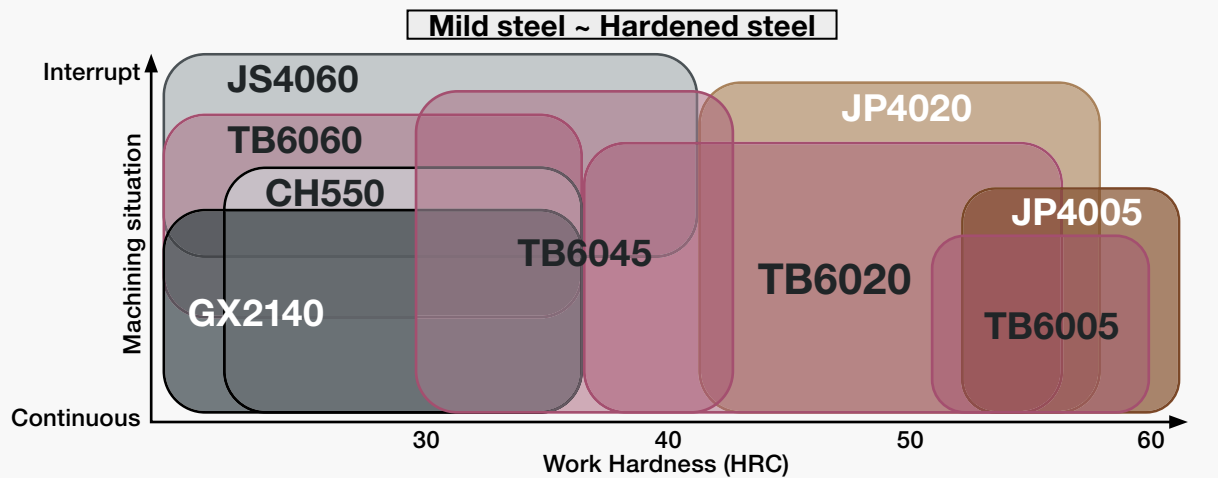


Soft ← Target Hardness of Workpiece → Hard

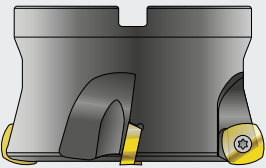
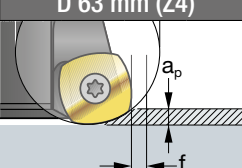
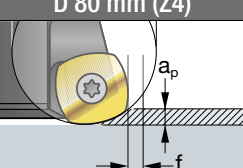
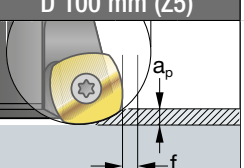
Inserts	Grade										Size (mm)			Chip-breaker	Type
	CH550	GX2140	JM4060	JS4060	TB6060	TB6045	TB6020	JP4020	TB6005	JP4005	R	T	W		
Item code	ID-Code										R	T	W		
SDNW-1505ZDTN-R15		WF241		WF338	WF625	WF624	WF644	WF337	WF639	WF336	15	5.56	15.875	no	A
SDMT-1505ZDTN-R15	WF640	WF240	WF341	WF340				WF339						yes	B

CH550	Cermet
GX2140	CVD · For heavy roughing of mild steels   Recommended for dry cutting
JM4060	PVD · For stainless steels and carbon steel
JS4060	PVD · Thick layer for soft materials
TB 6060 - 6005	PVD · Hybrid Coating
JP4020	PVD · For pre-hardened steels 40 – 55 HRC
JP4005	PVD · For hardened steels > 50 HRC

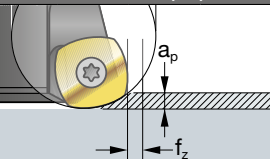
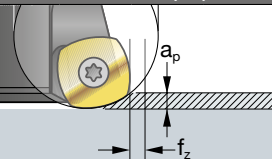
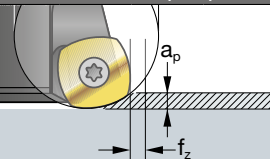
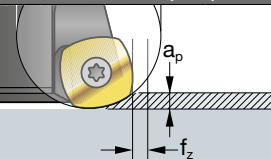
### ASF Insert grade – target material



## ASF | Recommended Cutting Conditions

		D 63 mm (Z4)				D 80 mm (Z4)				D 100 mm (Z5)											
																					
Work piece material		Recommend grade & Target hardness (HRC)			Emulsion	Mist	Air	Parameter	Q max 3D - 5D 5D - 7D > 7D				Q max 3D - 5D 5D - 7D > 7D				Q max 3D - 5D 5D - 7D > 7D				
		30	40	50																	
I II	Carbon-Steel Alloy-Steel <30HRC	CH550							• V <sub>c</sub> m/min	200	160	130	100	200	160	130	100	200	160	130	100
		GX2140							• n min <sup>-1</sup>	1010	810	660	510	800	640	520	400	640	510	410	320
		JS4060					•	•	• f <sub>z</sub> mm/t	2.5	2.5	1.8	1.8	2.5	2.5	1.8	1.8	2.5	2.5	1.8	1.8
		TB6045					•	•	• V <sub>f</sub> mm/min	10110	8080	4730	3640	7960	6370	3720	2860	7960	6370	3720	2860
		TB6060					•	•	• a <sub>p</sub> mm	2.5	2.5	1.6	1.3	2.5	2.5	1.6	1.3	2.5	2.5	1.6	1.3
									• a <sub>e</sub> mm	44	44	44	44	56	56	56	56	70	70	70	70
III	Alloy-Steel Tool-Steel 30~40HRC							• Q cm <sup>3</sup> /min	1112	889	338	200	1114	892	339	200	1393	1115	423	250	
		GX2140							• V <sub>c</sub> m/min	160	128	104	80	160	128	104	80	160	128	104	80
		JS4060					•	•	• n min <sup>-1</sup>	810	650	530	400	640	510	410	320	510	410	330	250
		TB6045					•	•	• f <sub>z</sub> mm/t	2	2	1.5	1.5	2	2	1.5	1.5	2	2	1.5	1.5
		TB6060					•	•	• V <sub>f</sub> mm/min	6470	5170	3150	2430	5090	4070	2480	1910	5090	4070	2480	1910
		JP4020					•	•	• a <sub>p</sub> mm	1.8	1.8	1.2	0.9	1.8	1.8	1.2	0.9	1.8	1.8	1.2	0.9
IV	Pre-Hardened Steel Tool-Steel 40~50HRC							• a <sub>e</sub> mm	44	44	44	44	56	56	56	56	70	70	70	70	
								• Q cm <sup>3</sup> /min	512	409	162	96	513	410	162	96	641	513	203	120	
								• V <sub>c</sub> m/min	120	96	78	60	120	96	78	60	120	96	78	60	
		TB6045					•	•	• n min <sup>-1</sup>	610	490	390	300	480	380	310	240	380	310	250	190
								• f <sub>z</sub> mm/t	1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2	
		JP4020					•	•	• V <sub>f</sub> mm/min	3640	2910	1890	1460	2860	2290	1490	1150	2860	2290	1490	1150
V	Hardened steel Tool-Steel 50~55HRC							• a <sub>p</sub> mm	1.2	1.2	0.8	0.6	1.2	1.2	0.8	0.6	1.2	1.2	0.8	0.6	
								• a <sub>e</sub> mm	44	44	44	44	56	56	56	56	70	70	70	70	
		JP4020					•	•	• Q cm <sup>3</sup> /min	192	154	65	39	192	154	65	39	240	192	81	48
								• V <sub>c</sub> m/min	100	80	65	50	100	80	65	50	100	80	65	50	
								• n min <sup>-1</sup>	510	400	330	250	400	320	260	200	320	250	210	160	
								• f <sub>z</sub> mm/t	1	1	0.7	0.7	1	1	0.7	0.7	1	1	0.7	0.7	
VI	Hardened steel Tool-Steel > 55HRC							• V <sub>f</sub> mm/min	2020	1620	920	710	1590	1270	720	560	1590	1270	720	560	
								• a <sub>p</sub> mm	0.7	0.7	0.5	0.35	0.7	0.7	0.5	0.35	0.7	0.7	0.5	0.35	
		JP4020					•	•	• a <sub>e</sub> mm	44	44	44	44	56	56	56	56	70	70	70	70
		JP4005					•	•	• Q cm <sup>3</sup> /min	62	50	18	11	62	50	18	11	78	62	23	14
								• V <sub>c</sub> m/min	80	64	52	40	80	64	52	40	80	64	52	40	
								• n min <sup>-1</sup>	400	320	260	200	320	250	210	160	250	200	170	130	
VII	Cast-Iron GG EN-JL10** EN-GJL-***							• f <sub>z</sub> mm/t	0.8	0.8	0.5	0.5	0.8	0.8	0.5	0.5	0.8	0.8	0.5	0.5	
								• V <sub>f</sub> mm/min	1290	1030	530	400	1020	810	410	320	1020	810	410	320	
								• a <sub>p</sub> mm	0.5	0.5	0.3	0.25	0.5	0.5	0.3	0.25	0.5	0.5	0.3	0.25	
		JP4020					•	•	• a <sub>e</sub> mm	44	44	44	44	56	56	56	56	70	70	70	70
		JP4005					•	•	• Q cm <sup>3</sup> /min	28	23	8	4	29	23	7	4	36	28	9	6
								• V <sub>c</sub> m/min	200	160	130	100	200	160	130	100	200	160	130	100	
VIII	Cast-Iron GGG EN-JS10** EN-GJS-***	GX2140						• n min <sup>-1</sup>	1010	810	660	510	800	640	520	400	640	510	410	320	
		JS4060					•	•	• f <sub>z</sub> mm/t	2.5	2.5	1.8	1.8	2.5	2.5	1.8	1.8	2.5	2.5	1.8	1.8
		TB6045					•	•	• V <sub>f</sub> mm/min	10110	8080	4730	3640	7960	6370	3720	2860	7960	6370	3720	2860
		TB6060					•	•	• a <sub>p</sub> mm	2.5	2.5	1.6	1.3	2.5	2.5	1.6	1.3	2.5	2.5	1.6	1.3
		JP4020					•	•	• a <sub>e</sub> mm	44	44	44	44	56	56	56	56	70	70	70	70
								• Q cm <sup>3</sup> /min	1112	889	338	200	1114	892	339	200	1393	1115	423	250	
IX	Cast-Iron GGG EN-JS10** EN-GJS-***							• V <sub>c</sub> m/min	160	128	104	80	160	128	104	80	160	128	104	80	
		GX2140						• n min <sup>-1</sup>	810	650	530	400	640	510	410	320	510	410	330	250	
		JS4060					•	•	• f <sub>z</sub> mm/t	1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2
		TB6045					•	•	• V <sub>f</sub> mm/min	4850	3880	2520	1940	3820	3060	1990	1530	3820	3060	1990	1530
		TB6060					•	•	• a <sub>p</sub> mm	2.5	2.5	1.6	1.3	2.5	2.5	1.6	1.3	2.5	2.5	1.6	1.3
		JP4020					•	•	• a <sub>e</sub> mm	44	44	44	44	56	56	56	56	70	70	70	70
X	Stainless Steels High alloy Steels							• Q cm <sup>3</sup> /min	534	427	180	107	535	428	181	107	669	536	226	134	
								• V <sub>c</sub> m/min	160	128	104	80	160	128	104	80	160	128	104	80	
		JM4060					•	•	• n min <sup>-1</sup>	810	650	530	400	640	510	410	320	510	410	330	250
								• f <sub>z</sub> mm/t	1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2	
		TB6045					•	•	• V <sub>f</sub> mm/min	4850	3880	2520	1940	3820	3060	1990	1530	3820	3060	1990	1530
		TB6060					•	•	• a <sub>p</sub> mm	1.5	1.5	1.0	0.75	1.5	1.5	1.0	0.75	1.5	1.5	1.0	0.75
XI	Stainless Steels High alloy Steels							• a <sub>e</sub> mm	44	44	44	44	56	56	56	56	70	70	70	70	
								• Q cm <sup>3</sup> /min	320	256	108	64	321	257	109	64	401	321	136	80	

## ASF | Recommended Cutting Conditions

D 125 mm (Z6)				D 160 mm (Z8)				D 200 mm (Z10)				D 250 mm (Z12)			
															
Q max	3D - 5D	5D - 7D	> 7D	Q max	3D - 5D	5D - 7D	> 7D	Q max	3D - 5D	5D - 7D	> 7D	Q max	3D - 5D	5D - 7D	> 7D
200	160	130	100	200	160	130	100	200	160	130	100	200	160	130	100
510	410	330	250	400	320	260	200	320	250	210	160	250	200	170	130
2.5	2.5	1.8	1.8	2.5	2.5	1.8	1.8	2.5	2.5	1.8	1.8	2.5	2.5	1.8	1.8
7640	6110	3580	2750	7960	6370	3720	2860	7960	6370	3720	2860	7640	6110	3580	2750
2.5	2.5	1.6	1.3	2.5	2.5	1.6	1.3	2.5	2.5	1.6	1.3	2.5	2.5	1.6	1.3
88	88	88	88	112	112	112	112	140	140	140	140	175	175	175	175
1681	1344	512	303	2229	1784	677	400	2786	2230	846	501	3343	2673	1018	602
160	128	104	80	160	128	104	80	160	128	104	80	160	128	104	80
410	330	260	200	320	250	210	160	250	200	170	130	200	160	130	100
2	2	1.5	1.5	2	2	1.5	1.5	2	2	1.5	1.5	2	2	1.5	1.5
4890	3910	2380	1830	5090	4070	2480	1910	5090	4070	2480	1910	4890	3910	2380	1830
1.8	1.8	1.2	0.9	1.8	1.8	1.2	0.9	1.8	1.8	1.2	0.9	1.8	1.8	1.2	0.9
88	88	88	88	112	112	112	112	140	140	140	140	175	175	175	175
775	619	245	145	1026	821	325	193	1283	1026	406	241	1540	1232	487	288
120	96	78	60	120	96	78	60	120	96	78	60	120	96	78	60
310	240	200	150	240	190	160	120	190	150	120	100	150	120	100	80
1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2
2750	2200	1430	1100	2860	2290	1490	1150	2860	2290	1490	1150	2750	2200	1430	1100
1.2	1.2	0.8	0.6	1.2	1.2	0.8	0.6	1.2	1.2	0.8	0.6	1.2	1.2	0.8	0.6
88	88	88	88	112	112	112	112	140	140	140	140	175	175	175	175
290	232	98	58	384	308	130	77	480	385	163	97	578	462	195	116
100	80	65	50	100	80	65	50	100	80	65	50	100	80	65	50
250	200	170	130	200	160	130	100	160	130	100	80	130	100	80	60
1	1	0.7	0.7	1	1	0.7	0.7	1	1	0.7	0.7	1	1	0.7	0.7
1530	1220	700	530	1590	1270	720	560	1590	1270	720	560	1530	1220	700	530
0.7	0.7	0.5	0.35	0.7	0.7	0.5	0.35	0.7	0.7	0.5	0.35	0.7	0.7	0.5	0.35
88	88	88	88	112	112	112	112	140	140	140	140	175	175	175	175
94	75	28	16	125	100	37	22	156	124	46	27	187	149	56	32
80	64	52	40	80	64	52	40	80	64	52	40	80	64	52	40
200	160	130	100	160	130	100	80	130	100	80	60	100	80	70	50
0.8	0.8	0.5	0.5	0.8	0.8	0.5	0.5	0.8	0.8	0.5	0.5	0.8	0.8	0.5	0.5
980	780	400	310	1020	810	410	320	1020	810	410	320	980	780	400	310
0.5	0.5	0.3	0.25	0.5	0.5	0.3	0.25	0.5	0.5	0.3	0.25	0.5	0.5	0.3	0.25
88	88	88	88	112	112	112	112	140	140	140	140	175	175	175	175
43	34	11	7	57	45	15	9	71	57	19	11	86	68	23	14
200	160	130	100	200	160	130	100	200	160	130	100	200	160	130	100
510	410	330	250	400	320	260	200	320	250	210	160	250	200	170	130
2.5	2.5	1.8	1.8	2.5	2.5	1.8	1.8	2.5	2.5	1.8	1.8	2.5	2.5	1.8	1.8
7640	6110	3580	2750	7960	6370	3720	2860	7960	6370	3720	2860	7640	6110	3580	2750
2.5	2.5	1.6	1.3	2.5	2.5	1.6	1.3	2.5	2.5	1.6	1.3	2.5	2.5	1.6	1.3
88	88	88	88	112	112	112	112	140	140	140	140	175	175	175	175
1681	1344	512	303	2229	1784	677	400	2786	2230	846	501	3343	2673	1018	602
160	128	104	80	160	128	104	80	160	128	104	80	160	128	104	80
410	330	260	200	320	250	210	160	250	200	170	130	200	160	130	100
1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2
3670	2930	1910	1470	3820	3060	1990	1530	3820	3060	1990	1530	3670	2930	1910	1470
2.5	2.5	1.6	1.3	2.5	2.5	1.6	1.3	2.5	2.5	1.6	1.3	2.5	2.5	1.6	1.3
88	88	88	88	112	112	112	112	140	140	140	140	175	175	175	175
807	645	273	162	1070	857	362	214	1337	1071	453	268	1606	1282	543	322
160	128	104	80	160	128	104	80	160	128	104	80	160	128	104	80
410	330	260	200	320	250	210	160	250	200	170	130	200	160	130	100
1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2
3670	2930	1910	1470	3820	3060	1990	1530	3820	3060	1990	1530	3670	2930	1910	1470
1.5	1.5	1.0	0.75	1.5	1.5	1.0	0.75	1.5	1.5	1.0	0.75	2	2	1.3	1
88	88	88	88	112	112	112	112	140	140	140	140	175	175	175	175
484	387	164	97	642	514	217	129	802	643	272	161	1285	1026	435	257

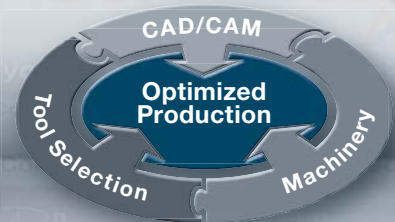


The electronic MOLDINO Tool product catalogue

**Quickly find the tools you need for best performance in machining**

**P50QF PRODUCTION50<sup>®</sup>**  
**QuickFinder**

[www.production50.com](http://www.production50.com)



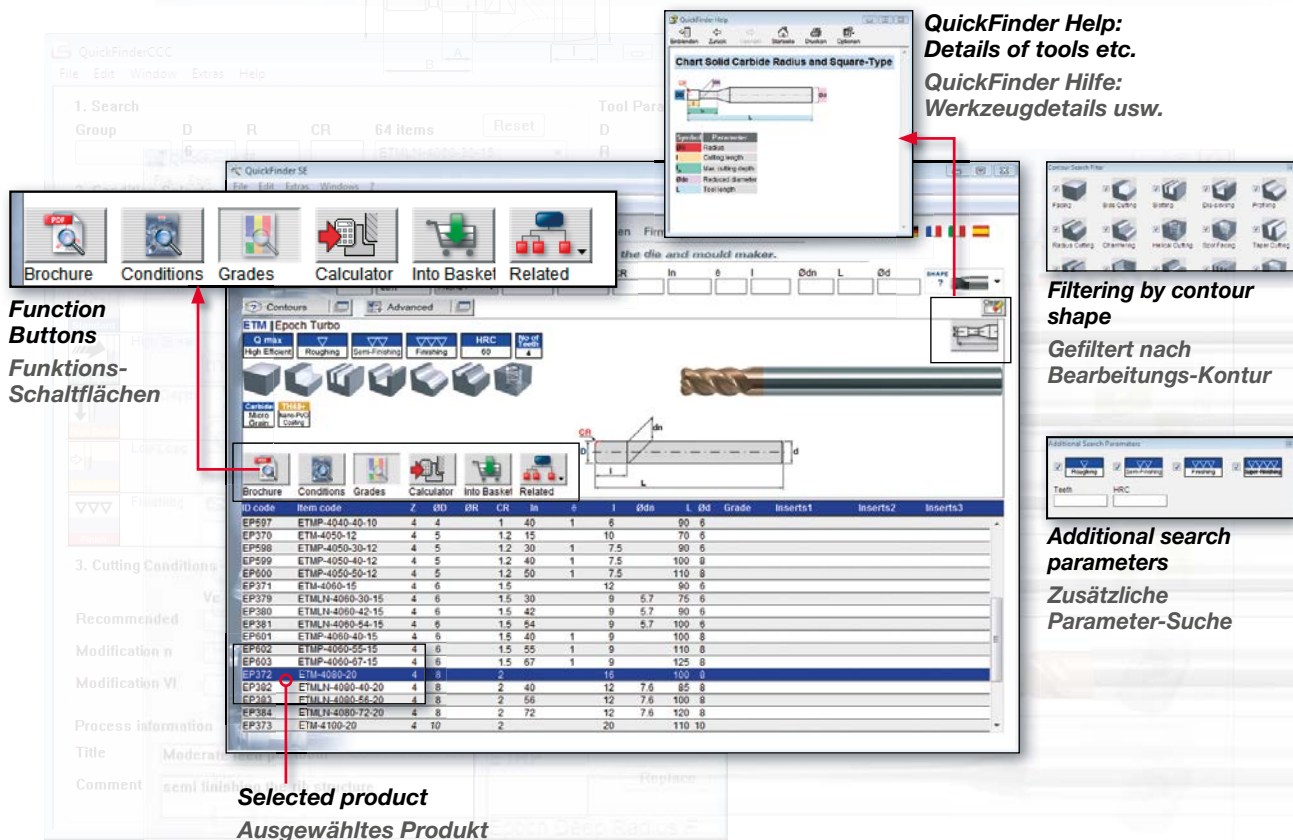
## P50QF | Production50 QuickFinder

**The Quickly-Finding Software for Tools and Tool Accessories**

- Real-time search with catalogue browser
- Cutting conditions calculation with project planning
- Shop system
- Online update

### Die Software zum schnellen Finden von Werkzeugen und Zubehör

- Suche in Echtzeit mit Katalog-Browser
- Schnittwerte-Berechnung mit Projektierung
- Bestellsystem
- Online-Update
- Komplett in Deutsch & Englisch



**Function Buttons**  
Funktions-Schaltflächen

**QuickFinder Help:**  
Details of tools etc.  
**QuickFinder Hilfe:**  
Werkzeugdetails usw.

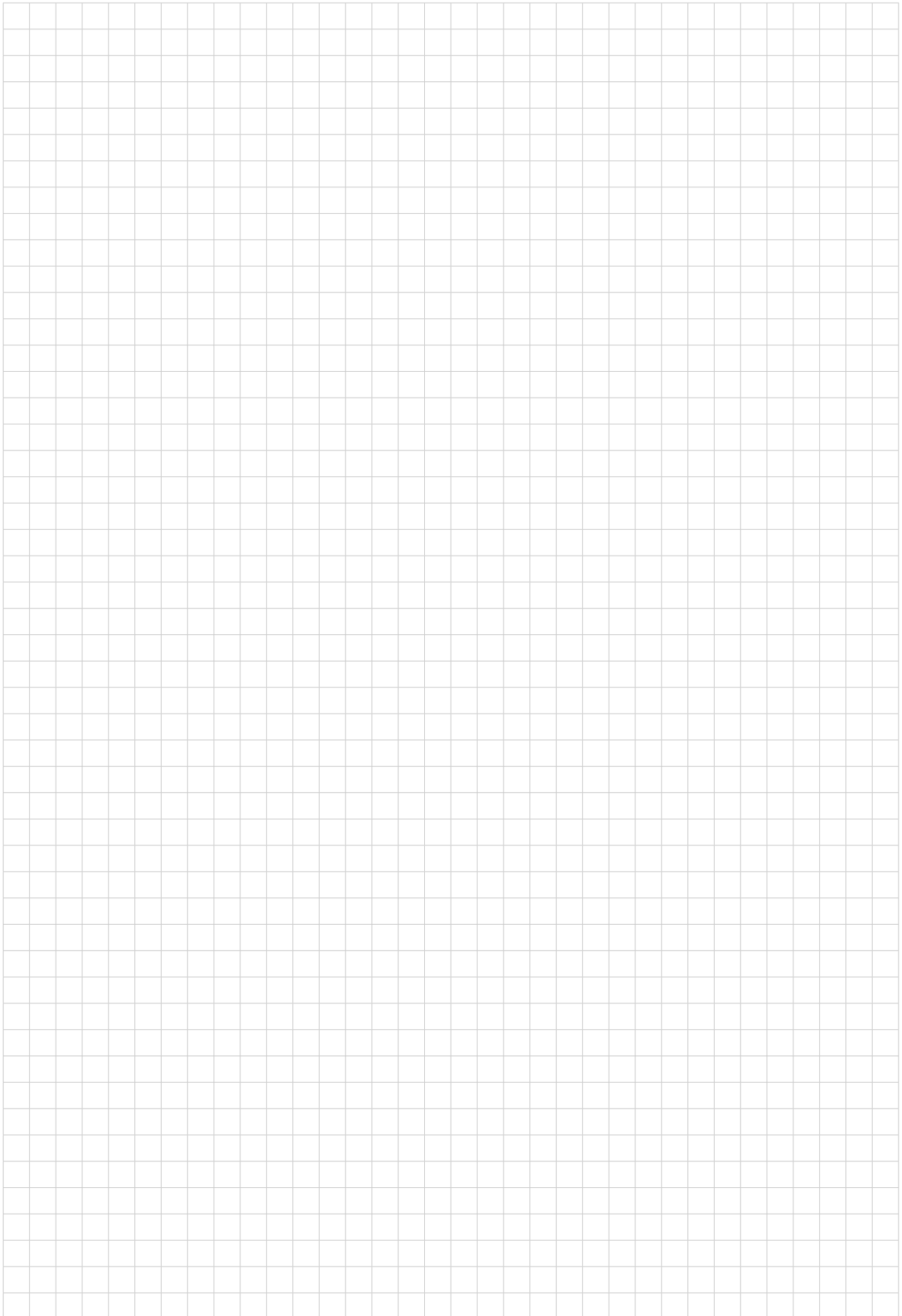
**Filtering by contour shape**  
Gefiltert nach Bearbeitungs-Kontur

**Additional search parameters**  
Zusätzliche Parameter-Suche

**Selected product**  
Ausgewähltes Produkt

ID code	Item code	Z	ØD	ØH	CH	Ln	s	l	Ødn	L	Ød	Grade	Inserts1	Inserts2	Inserts3
EP697	ETMP-4040-40-10	4	4	1	40	1	6	10	90	8					
EP370	ETM-4050-12	4	5	1.2	15	1	10	70	6						
EP598	ETMP-4050-30-12	4	5	1.2	30	1	7.5	90	6						
EP599	ETMP-4050-40-12	4	5	1.2	40	1	7.5	100	8						
EP600	ETMP-4050-50-12	4	5	1.2	50	1	7.5	110	8						
EP371	ETM-4050-15	4	6	1.5			12	90	6						
EP379	ETMLN-4050-30-15	4	6	1.5	30		9	5.7	75	6					
EP380	ETMLN-4050-42-15	4	6	1.5	42		9	5.7	90	6					
EP381	ETMLN-4050-54-15	4	6	1.5	54		9	5.7	100	6					
EP601	ETMP-4050-40-15	4	6	1.5	40	1	9	100	8						
EP602	ETMP-4050-55-15	4	6	1.5	55	1	9	110	8						
EP603	ETMP-4050-67-15	4	6	1.5	67	1	9	125	8						
EP372	ETM-4050-20	4	8	2			16	100	8						
EP282	ETMLN-4080-40-20	4	8	2	40		12	7.6	85	8					
EP383	ETMLN-4080-68-20	4	8	2	68		12	7.6	100	8					
EP384	ETMLN-4080-72-20	4	8	2	72		12	7.6	120	8					
EP373	ETM-4100-20	4	10	2			20		110	10					

Download: [www.moldino.eu/quickfinder](http://www.moldino.eu/quickfinder)



**Always up to date: Please check our P50 QuickFinder**



### **Attentions on Safety**

#### **1. Cautions regarding handling**

- (1) When removing the tool from its case (packaging), be careful that the tool does not pop out or is dropped. Be particularly careful regarding contact with the tool flutes.
- (2) When handling tools with sharp cutting flutes, be careful not to touch the cutting flutes directly with your bare hands.

#### **2. Cautions regarding mounting**

- (1) Before use, check the outside appearance of the tool for scratches, cracks, etc. and that it is firmly mounted in the collet chuck, etc.
- (2) When preparing for use, be sure that the inserts are firmly mounted in place and that they are firmly mounted on the arbor, etc.
- (3) If abnormal chattering, etc. occurs during use, stop the machine immediately and remove the cause of the chattering.

#### **3. Cautions during use**

- (1) Before use, confirm the dimensions and direction of rotation of the tool and milling work material.
- (2) The numerical values in the standard cutting conditions table should be used as criteria when starting new work. The cutting conditions should be adjusted as appropriate when the cutting depth is large, the rigidity of the machine being used is low, or according to the conditions of the work material.
- (3) Cutting tools are made of a hard material. During use, they may break and fly off. In addition, cutting chips may also fly off. Since there is a danger of injury to workers, fire, or eye damage from such flying pieces, a safety cover should be attached when work is performed and safety equipment such as safety goggles should be worn to create a safe environment for work.
- (4) There is a risk of fire or inflammation due to sparks, heat due to breakage, and cutting chips. Do not use where there is a risk of fire or explosion. Please caution of fire while using oil base coolant, fire prevention is necessary.
- (5) Do not use the tool for any purpose other than that for which it is intended.

#### **4. Cautions regarding regrinding**

- (1) If regrinding is not performed at the proper time, there is a risk of the tool breaking. Replace the tool with one in good condition, or perform regrinding.
- (2) Grinding dust will be created when regrinding a tool. When regrinding, be sure to attach a safety cover over the work area and wear safety clothes such as safety goggles, etc.
- (3) This product contains the specified chemical substance cobalt and its inorganic compounds. When performing regrinding or similar processing, be sure to handle the processing in accordance with the local laws and regulations regarding prevention of hazards due to specified chemical substances.

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**Specifications for the products listed in this catalog are subject to change without notice due to replacement or modification.**

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